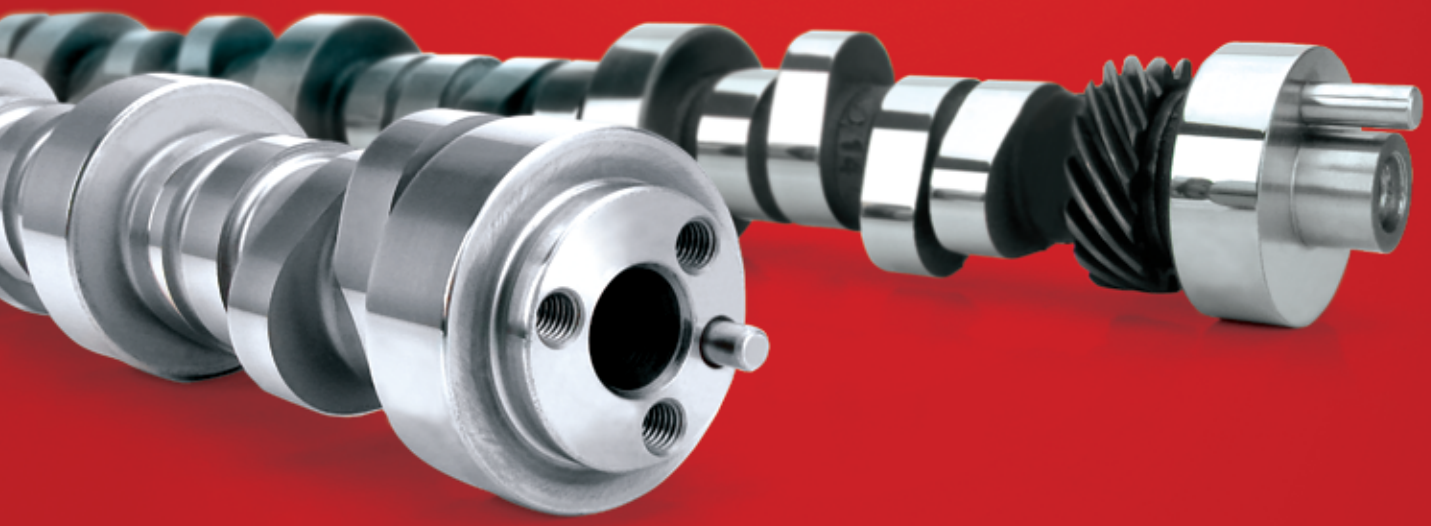
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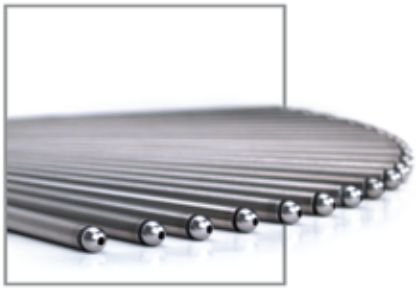
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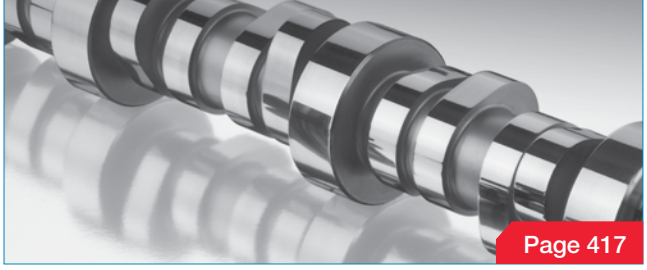
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Camshaft Section

This catalog is divided into two major sections: camshafts and components. The camshaft section begins on page 14 and the component section begins on page 274.

The part numbered cams are listed by corporate sections according to engine make and model. The facing pages of these listings show the components that are designed to complement overall performance of the cam. Below are portions of two sample pages.

Camshaft Listing By Lifter Type

Hydraulic Flat Tappet
Hydraulic Roller
Solid/Mechanical Flat Tappet
Solid/Mechanical Roller

Camshaft Family Designation

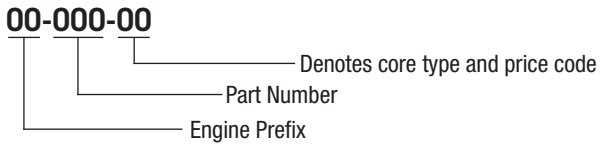
After lifter type, the camshafts are listed by cam family: Pure Energy™, High Energy™, Magnum, Xtreme Energy™, Thumpr™, Xtreme 4x4™, Xtreme Marine™, Dual Energy™, Nostalgia Plus™, Nitrous HP™, Computer Controlled, XFI™, Tri-Power Xtreme™, Blower/Turbo and LS_R™.

Part Numbered Camshafts

The camshafts listed on the following pages are "part numbered" cams. These are the most popular cams that COMP® offers, however this is not a complete listing. COMP® has an almost infinite number of cams available, so a permanent part number has been assigned to the cams that are kept in stock at all times. The part numbers consist of three distinct sections.

Camshaft Numbering System

1. The first "00" denotes engine prefix.
2. The three middle numbers denote the part number. A "000" denotes a custom grind or a "999" denotes a regrind.
3. The final "00" denotes the core type (flat tappet, roller, etc.) and price code. Refer to the COMP Cams® price sheet for price codes.

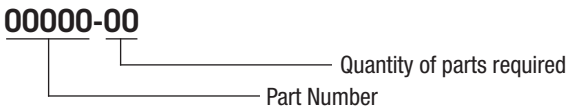


Component Section

This section provides a complete list of all recommended valve train related components that COMP Cams® offers, along with detailed descriptions, application information and part numbers.

Component Numbering System

1. All numbers before the dash "-" make up the actual part number.
2. All numbers after the dash "-" represent the quantity of parts required.



Emission-Sensitive Product Information

SEMA (Specialty Equipment Marketing Association) member manufacturers have developed a program whereby all emission products can be identified by placing color coded labels on product packaging and listing a corresponding numeric code next to each of the affected part numbers in catalogs and price sheets.

The product identification color codes are as follows:

1. The product accompanying this document has been granted a California Air Resources Board (C.A.R.B.) exemption, an "EO" number, direct or it may be a consolidated replacement part. It is 50-state legal, per the manufacturer's application guide.

2. The manufacturer of the product accompanying this document represents that it has not been found nor is believed to be unlawful for use under the provisions of the Clean Air Act, per the manufacturer's application guide, this product is not legal for sale in the state of California (or in states which have adopted California emission standards) except on pre-emission controlled motor vehicles/motor vehicle engines (pre-1966 models).

3. The product accompanying this document is legal only for off-highway use (except in California or states that have adopted California emission standards), racing use or for use on pre-emission controlled motor vehicles/motor vehicle engines (pre-1966 domestic vehicles certified to California standards, pre-1968 domestic vehicles certified to federal standards and all 1968 foreign vehicles), per the manufacturer's application guide.

For more than three decades, the COMP Cams® mission has never changed: produce the highest performing products possible, provide superior customer service and lead the industry in technological development. Today COMP Cams® is part of the COMP Performance Group™ family and has grown to include multiple companies and hundreds of employees, yet we still retain the competitive spirit and desire that has positioned COMP Cams® as the absolute leader in valve train technology.





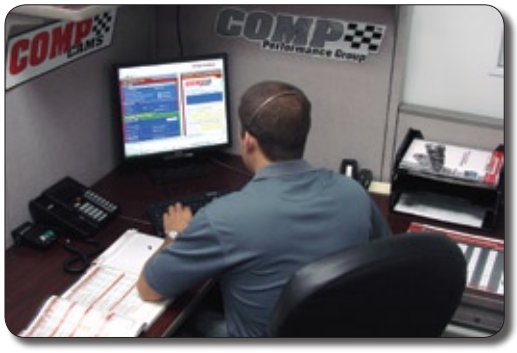
Performance

By selecting a COMP Cams® product you can have confidence in knowing that we spend thousands of hours and millions of dollars working with individuals, race teams and companies to ensure that our products provide superior performance and reliability. Whether we're working with a race team to generate race-winning power and reliability or putting thousands of grueling miles on one of our Pro Touring or street/strip components, we test our products in real world environments to make certain they deliver what we advertise. No shortcuts, no compromised solutions will do. It is through our commitment to excellence that we know every COMP Cams® product will perform at the high standards we demand.



Service

Choosing the perfect valve train products for your application isn't a simple process. Every part of your valve train is a critical piece of a complex interlocking system that needs to match perfectly in order for your engine to generate peak performance. That's why we provide expert technical assistance to our customers – free of charge – through our toll free tech help lines or our online feedback system. Our staff of highly trained, expert technical advisors, backed by a vast inventory of precision-manufactured valve train components, makes sure that our customers have the proper parts for their specific applications the first time. Customer satisfaction is not only gauged by dyno performance numbers but by repeated customer loyalty built through years of personal, one-on-one contact.



Services Available:

- Toll free technical assistance – six days a week
- Highly trained, professional sales and technical personnel
- Extensive online product information and resources
- On-site product support at race and enthusiast events
- Custom product design and manufacturing service
- Highest order fill rates and fastest shipping in the business

Technology & Engineering

The continued industry leadership by COMP Cams® is driven by advanced technology. We employ the industry's largest and most highly trained engineering staff and have the most sophisticated manufacturing processes and test equipment in the world. COMP Cams® seeks out the brightest engineering minds and joins them together with advanced testing and measuring equipment to create a powerful research and development facility that is unmatched in the industry. Because of the wide array of applications we service, the lessons learned through the creation of high performance parts for racing often find their way into our street-based products. This integration of research and engineering is what we call "System Technology", and it is infinitely beneficial. Our #1 goal is never forgotten: to achieve total performance success and pursue excellence to the benefit of our customers. It is the unwavering mission that defines COMP Cams® engineering.



Research & Testing

COMP Cams® has developed and engineered literally thousands of product innovations for the performance automotive aftermarket. The first step in producing these products is research and development, and for over 30 years the world's elite motorsports teams have turned to COMP Cams® for advanced valve train design technology and product manufacture. When provided with the most sophisticated design resources, test equipment and manufacturing processes available, great things happen and what was once impossible becomes yesterday's limitations.



Research & Testing Equipment:

- 3 Engine Dynamometers/ 2 Chassis Dynamometers
- 2 Spintron® Cells w/ Proprietary Instrumentation
- Adcole Model 911
- CMM (Coordinate Measuring Machine)
- High Speed Data Acquisition
- Laser Tracking
- Strain Gauging
- Load Cells
- Proximity Sensors
- Optron Vision Tracking System
- CFIA (Computerized Fuel Injector Analysis) Station
- SuperFlow 1020 Airflow Bench

Results

COMP Cams® has never forgotten that the criteria for achieving performance "success" is judged by results – both at the track and on the street. COMP Cams® has produced more champions than any other camshaft manufacturer by working directly with the best teams in circle track, drag racing, road racing and off-road racing. Whether you are looking for horsepower, reliability or gas mileage, COMP Cams® has the parts that will deliver.



UNDERSTANDING VALVE TIMING

You will often hear the camshaft dubbed the "heart" or "mind" of a performance engine. One of the main reasons for this is the dramatic effect the valve timing events have on a four stroke internal combustion engine. Our goal is to show you the effect of each valve event and how you can tailor these to the requirements of your engine.

Exhaust Opening

This occurs near the middle of the power stroke, after the spark plug has fired and the flame front expanded, pushing the piston downward (Fig. 1). Once the exhaust valve is open, the exhaust begins exiting the chamber and cylinder pressure drops rapidly. The combustion pressure is now used to force the burned mixture out of the exhaust – NOT force down the piston. During the exhaust stroke (Fig. 2), the remaining exhaust gasses will be pushed out by the piston, making room for the next charge of the air/gas mixture.

The later the exhaust opens, the more low rpm torque you gain by lengthening the power stroke. The earlier the exhaust opens, the more the power curve will carry past the point of peak horsepower, due to both reduced exhaust "pumping losses" and the exhaust having more time to free itself of the chamber.

Intake Opening

The next point on the graph is the intake opening where overlap begins, which is very critical to vacuum, throttle response, emissions and gas mileage. The exhaust stroke of the piston has pushed out nearly all of the burned mixture, and as the piston approaches the top, the intake valve opens, starting a siphon or "scavenge" effect through the chamber. This occurs at the end of the exhaust stroke.

The earlier the intake opens, the easier it is to maximize valve lift at peak piston velocity. For most rod-to-stroke ratios, peak piston velocity (and peak air demand) occurs at about 70° after Top Dead Center (TDC). The intake needs to be open as much as possible by that point, in order to not restrict airflow.

Overlap

During this period, both valves are open, allowing the intake and exhaust systems to affect one another. Here, the intake and exhaust systems communicate, resulting in a complex system where small changes on one side can greatly affect the other. The shape of the overlap is often just as important as its duration or the area. An engine's overlap requirements are highly dependent on the design of the combustion chamber, air inlet and exhaust systems.

Once the piston passes through TDC and starts back down, the intake charge is pulled in quickly so the exhaust valve must close at exactly the right point, after TDC, to keep burned gas from re-entering while not allowing too much of the "good" inlet charge to escape with the exhaust.

Exhaust Closing

We have now passed through overlap. The exhaust valve closed just after the piston started down, and the intake valve is opening quickly. This is called the intake stroke (Fig. 3), where the engine "breathes in" and fills itself with another charge of the air/gas mixture.

Slower closing exhaust lobes may be preferred for various applications, due to the exhaust closing period having high airflow velocity at the exhaust valve seat. Like air flowing over the top of a wing, rapidly exiting exhaust will result in a low pressure signal to help draw in more air from the inlet.

Intake Closing

This is the most important valve event. The piston goes all the way to the bottom, and as it starts back up, the intake valve rushes to the seat. The closing point of the intake valve will determine where the cylinder begins to build pressure, as we are now into the compression stroke (Fig. 4).

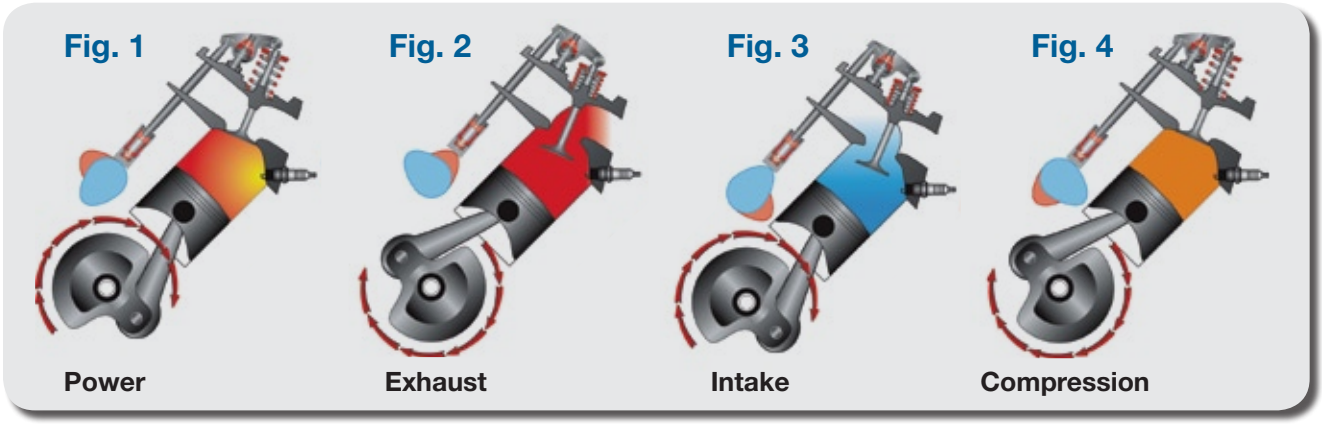
Earlier intake closings will trap more air in the chamber at low speeds, making better low rpm torque; later intake closings give the air more time to enter the chamber at higher rpm. Lift at Bottom Dead Center is important because there is still a substantial amount of airflow during this time. For a given rpm, you want to close the intake valve as soon as the rapidly increasing cylinder pressure overcomes the momentum of the inlet charge and air begins to rush back out of the chamber and into the intake manifold.

Duration & Lift

A cam's duration is the number of degrees of crankshaft rotation a cam maintains beyond a given tappet lift. Although 0.050" lift is the most common, duration can be measured at many points. Lift is simply the rise of the tappet from its position on the base circle. The engine actually responds to the duration and lift at the valve, not the tappet.

Valve Lift = (Tappet Lift x Actual Rocker Ratio) – Lash – Deflection

In our example, a .313" tappet lift and 1.5:1 rocker ratio results in 0.470" valve lift, assuming no lash or deflection. 0.050" lift duration is the most common because it's easy to measure and indicates the resulting combination's "power band". The advertised lift duration (0.020" solid/0.006" hydraulic) provides better "seat-to-seat" numbers. The duration at 0.200" lift gives a better measurement of



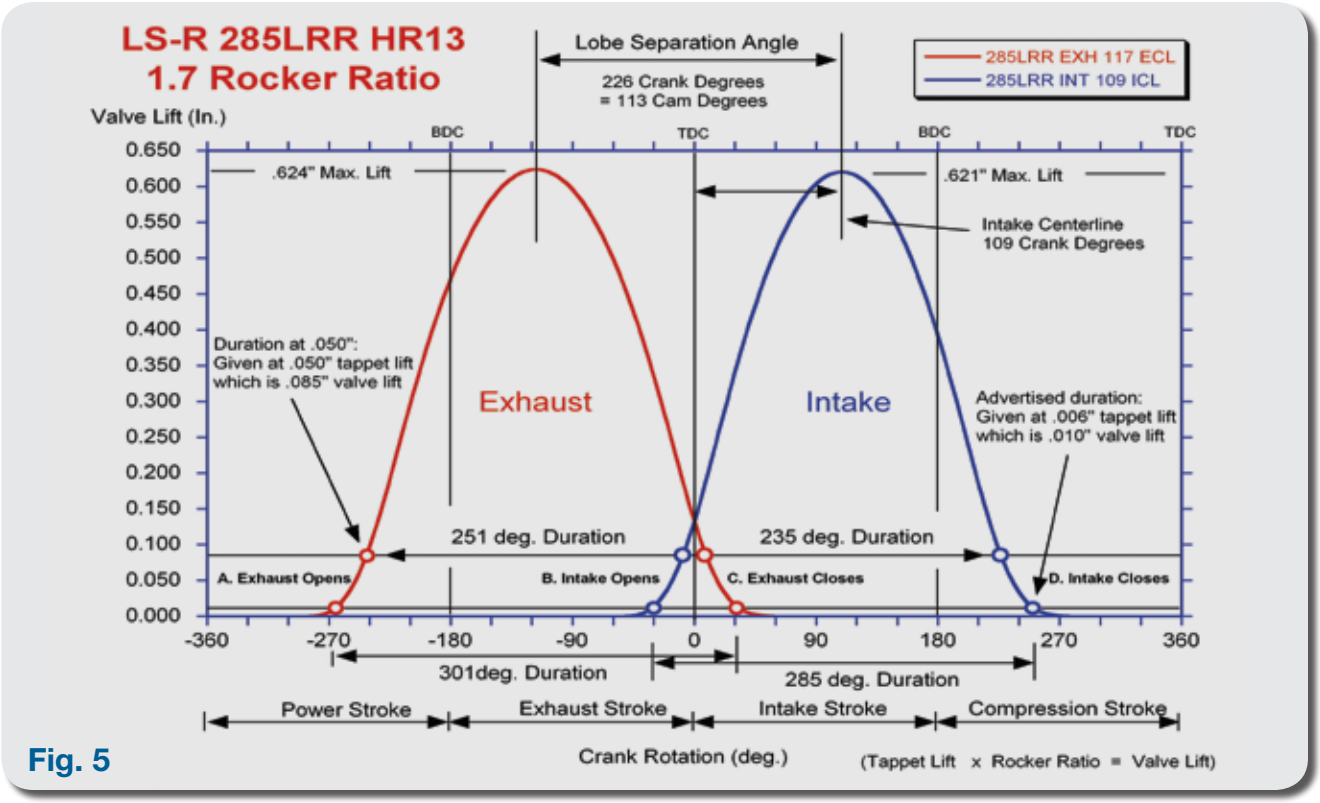


Fig. 5

area under the curve and maximum power potential. Comparing advertised, 0.050" and 0.200" durations gives engine builders an idea of the profile's "aggressiveness". Tappet durations do not take into account rocker ratio and valve lash effects.

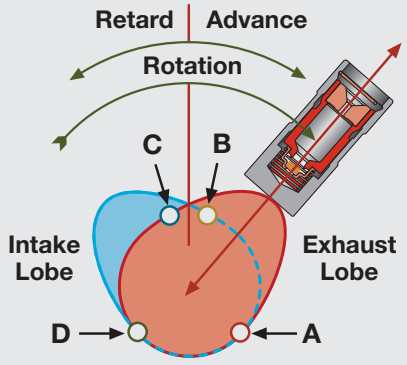
Valve durations will typically be larger than tappet durations and will increase with the rocker arm ratio. In the example, the rated duration is .006" tappet lift: .006" x 1.5 = .009". We now use .009" valve lift. Some cam manufacturers rate their cams at .050" lift. Multiply this by the 1.5:1 rocker arm ratio and we get .075". For the given diagram, the duration at .075" lift shows around 224°, standard for a 270H cam.

Lobe Separation & Centerlines

Lobe separation and intake centerline are often confused, although they are very different measurements that control different events in the engine. The lobe separation angle is equal to ½ the angle in crankshaft degrees of rotation between the maximum exhaust valve lift and maximum intake lift. It cannot be changed after the initial cam grind.

The intake centerline is the angle in crank degrees between a cylinder's piston coming to TDC and the event of maximum intake lift. Exhaust centerline is the angle in crank degrees between the event of maximum exhaust lift and that cylinder's piston coming to TDC. Advance measures the angle of rotation in crankshaft degrees between the point where both centerlines would be the same and the actual intake centerline. These can be changed when degreeing the camshaft. Fig. 5 shows a Magnum 270 cam with a lobe separation of 110°. We show it installed in the engine 4° advanced, at 106° intake centerline.

Fig. 6



A. Exhaust Valve Opens - Power Stroke
B. Intake Valve Opens - Exhaust Stroke
C. Exhaust Valve Closes - Intake Stroke
D. Intake Valve Closes - Compression Stroke

Fig. 6 shows the end of the same cam with all opening and closing points marked. All points are in the same order as in Fig. 5. This figure shows how a cam must be laid out to give the timing points we aim to achieve. It's important to note that as we design a camshaft, what we are actually designing is the valve motion and valve events required for optimal engine performance. Therefore, Fig. 6 shows the result of the design - NOT the design itself.

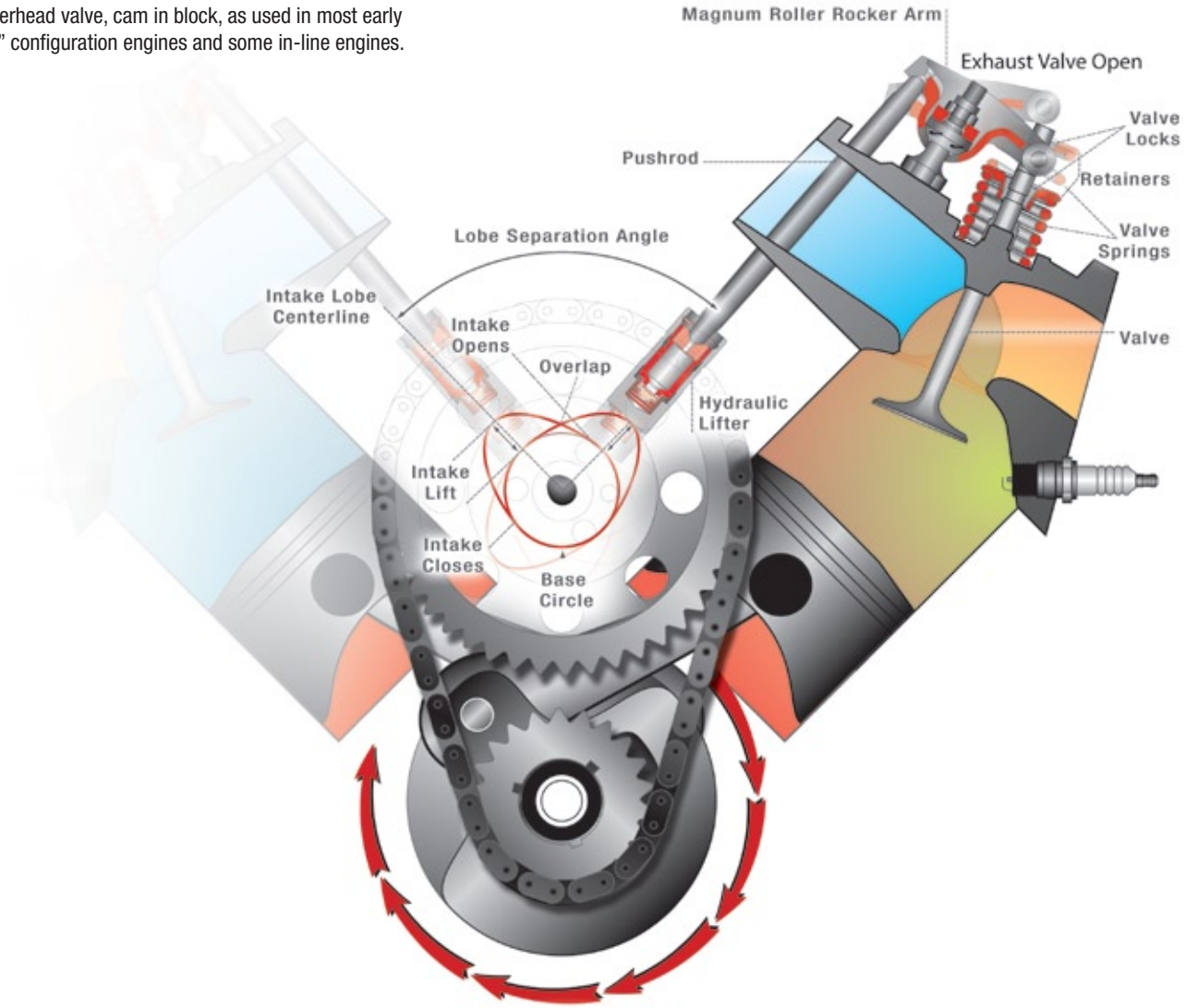
Finishing Touches

As far as the mechanics of degreeing, the COMP Cams® DVD "The Proper Procedure to Install and Degree a Camshaft" (#190DVD) takes you step-by-step through the process. The previous pages discuss theory; the video shows you how to get the job done.

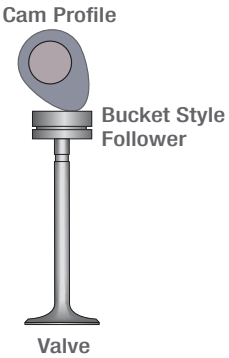
At COMP Cams®, we put a lot of pride and effort into designing and engineering our camshafts. Camshaft design is not just some "black art" but rather a series of decisions and compromises based on the engine application. Only years of experience can say whether a certain combination of lobes will work. Take a look at the decals of the top race teams – it's obvious they trust the experts at COMP Cams®.

Conventional Pushrod Valve Train Configuration

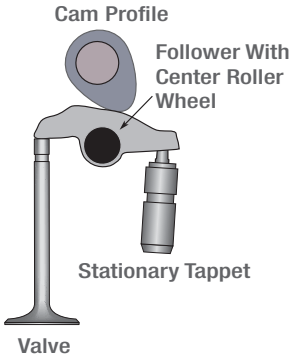
Overhead valve, cam in block, as used in most early "V" configuration engines and some in-line engines.



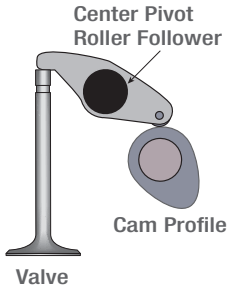
Conventional Over Head Cam Configuration



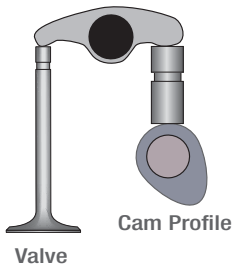
Bucket Style Follower OHC,
as used in:
Ford Ztec
Olds Quad 4



Finger Type Follower OHC,
as used in:
Ford Modular, Pinto and Ranger 4 Cyl.
Mitsubishi 4G63, GM Ecotec
Chrysler 2.2L



Center Pivot OHC,
as used in:
Honda B18
Porsche



Center Pivot with Lifter OHC,
as used in:
Ford Escort CVH

Camshaft Selection Process

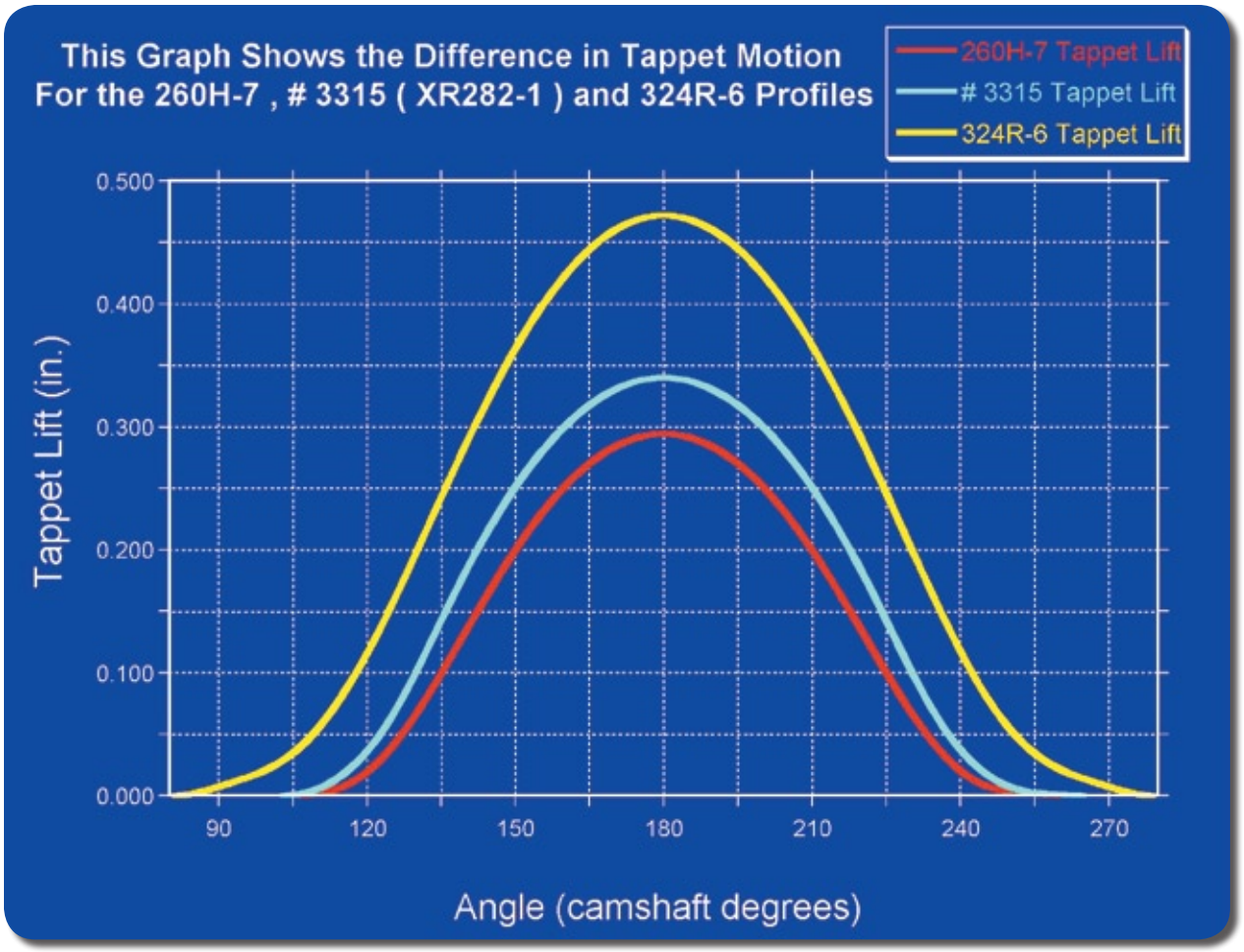
When selecting a cam there are a number of important points to consider, but one outshines the rest – being realistic and honest about what you expect your engine to do. Even if you love the lope of a monster cam, requiring that characteristic from a daily street driver is unrealistic. By selecting the right cam for your engine, you can generate tons of torque, extend your engine's rpm limit, retain reliability, and in some cases, even pick up a few extra miles per gallon.

Part of the cam selection process has nothing to do with power generation. In a street driven vehicle with various engine accessories, it is important to select a camshaft that generates the proper amount of engine vacuum. Next, honestly determine the rpm range in which you require your engine to operate. This will also help you choose the matching valve train components required to build the most power, torque and reliability.

At the core of the cam selection process is determining the lifter style that fits your needs. If you are looking for an inexpensive and uncomplicated lifter, then hydraulic flat tappet lifters are a good choice. Solid flat tappet lifters offer a great nostalgic sound and great performance but must be adjusted on a periodic basis. Today's newest alternative is the long lasting and low maintenance hydraulic roller lifter, a favorite of many performance engine builders. But remember, when in doubt, our CAM HELP® experts are here to make sure you find the right cam for your engine, regardless of your application, so call us toll free at 1-800-999-0853.

The Proper Camshaft For Your Application

The chart below represents three different lobe designs and points out the differences between a mechanical roller (yellow), a hydraulic roller (blue) and a hydraulic flat tappet (red). The mechanical roller has a higher lift and a greater valve opening than the others, putting it at the top of the list of extreme racing applications. They hydraulic roller in the middle has a greater opening than the hydraulic flat tappet and is better suited in high performance street applications where power is the main concern. At the bottom of the chart is a lobe from a hydraulic flat tappet camshaft. This is a street cam with good vacuum and a mild idle. This camshaft was designed with low-end torque and mid-range power and is excellent for daily driven street machines.



HYDRAULIC FLAT TAPPET CAMS

Common Usage: Mild street performance to mild race

Key Benefits: Minimal maintenance, little or no valve train noise and economical cost

Limitations: Long-term wear, limited rpm range, lobe profile limitations

A popular street camshaft used with original overhead valve OEM engines, the hydraulic flat tappet cam is commonly used up to mildly aggressive performance profiles. The flat tappet lifter has a flat appearing base (this surface is actually slightly crowned) that rides on the cam lobe face, rotating slowly within the lifter bore to promote proper oiling. Internally, the lifter features a cavity that fills with oil and a piston that is depressed by the pushrod (and valve spring). This "hydraulic chamber" provides a cushion of fluid to soften the impact on the valve train, creating room for expansion as the engine reaches operating temperature. Hydraulic flat tappet camshafts deliver quiet operation at street to mild racing engine speeds. The biggest advantage to hydraulic flat tappet lifters is that they do not require constant maintenance to ensure proper valve lash. Hydraulic flat tappet camshafts/lifters are pre-loaded at initial start-up and require little, if any, maintenance from that point forward. Flat tappet lifters can only be used once per camshaft and must be replaced due to wear patterns created by the direct contact of the cam with the lifter base.

SOLID/MECHANICAL FLAT TAPPET CAMSHAFTS

Common Usage: Moderate street performance to serious race

Key Benefits: Increased engine rpm and profile aggressiveness vs. economical cost of hydraulic flat tappet

Limitations: Long-term wear, periodic valve adjustment required

The original race engine lifter, solid (also referred to as mechanical) flat tappet camshafts feature more aggressive street performance or racing profiles and are capable of higher engine rpm than hydraulic flat tappet camshafts. As with the hydraulic flat tappet camshaft, the flat appearing lifter bottom follows the contours of the camshaft to operate the valve train components at the appropriate time, rotating within the lifter bore in a similar fashion to the hydraulic flat tappet lifter. The solid lifter does not have the internal cavity and piston found with the hydraulic lifter and does not expand or contract with engine temperature. Because of this feature, the solid lifter requires an initial cold valve lash setting and then adjustment after the engine has reached operating temperature (hot lash setting) to deliver the engine's top performance potential. Solid flat tappet lifters also feature a signature performance "ticking" sound, particularly when cold, that many performance fans like.

The lash setting is adjusted by using a set of feeler gauges to set the proper distance between the rocker arm tip and top of the valve stem when the lifter is on the base circle of the camshaft. Solid lifter camshafts require a certain level of valve lash maintenance at regular intervals. Flat tappet lifters can only be used once per camshaft and must be replaced due to wear patterns created by the direct contact of the camshaft with the lifter base.

Special Note: Flat tappet camshafts require a special break-in process to allow the lifters and camshaft to properly mate. These steps include (but are not limited to) using a suitable engine oil with a high Zinc (ZDDP) content and reducing valve spring pressure during break-in. For a complete, step-by-step break-in procedure, please call us toll free at 1-800-999-0853.



Flat Tappet Camshaft

Solid/Mechanical Flat Tappet Lifters

Hydraulic Flat Tappet Lifters

HYDRAULIC ROLLER CAMSHAFTS

Common Usage: Mild street performance to mild race

Key Benefits: Modern, aggressive roller profiles, reduced friction, low maintenance, reduced valve train noise, more power than conventional hydraulic flat tappet camshafts

Limitations: Increased cost, limited rpm range

Frequently used in today's OEM factory engines and mild to moderately aggressive performance engines, hydraulic roller cams use lifters equipped with a roller wheel that tracks along the camshaft lobe, reducing wear and friction and enabling faster lobe ramp rates than flat tappet cams. These quiet operation lifters feature the same internal design as hydraulic flat tappet lifters with internal cavities and pistons but do not rotate within the lifter bore. Suited for typical street or moderate race engine speeds, the lifters are pre-loaded and do not require a lash setting. Most OEM hydraulic roller camshafts are limited to 6200 rpm and performance aftermarket systems to approximately 6800 rpm. Hydraulic roller lifters require an appropriately selected valve spring to maintain control and avoid lifter float at higher engine rpm. Hydraulic roller lifters can be re-used with multiple camshafts, however they are more costly than flat tappet lifters.

RETRO-FIT HYDRAULIC ROLLER CAMS

Common Usage: Mild street performance to mild race

Key Benefits: Modern, aggressive roller profiles, reduced friction, low maintenance, reduced valve train noise, more power than conventional hydraulic flat tappet camshafts

Limitations: Increased cost, limited rpm range

These cams contain all of the same benefits and limitations as a standard hydraulic roller cam; however they include a specialized base circle to accommodate the taller hydraulic roller lifters in blocks that were factory equipped with a flat tappet valve train set-up.

SOLID/MECHANICAL ROLLER CAMSHAFTS

Common Usage: Serious street performance to all-out racing

Key Benefits: Maximum performance, reduced friction, most aggressive profiles

Limitations: Increased cost, periodic valve adjustment required, not well suited for extended low rpm operation

The highest of all performance level camshafts; solid rollers are designed for both high performance street through all-out racing applications. They feature the most aggressive camshaft lobe profiles and withstand the highest valve spring pressures. As with their solid flat tappet camshaft cousins, they are noisier than hydraulic camshaft systems, particularly when cold, yet they deliver more performance and throttle response, especially when adjusted to "tight" lash settings of 0.010"-0.012". The solid roller camshaft also uses roller lifters that do not include an adjustment for valve train component expansion due to internal engine heat and requires regular lash adjustment service to deliver top performance. Solid roller lifters can be re-used, however they are more costly than flat tappet lifters.

Roller Camshaft



Hydraulic Roller Lifters

Solid Roller Lifters

CAMSHAFT FAMILY DESIGNATIONS

Pure Energy™
Benefits:
- 50-State legal emissions for carbureted engines
- Mild performance gains over the factory camshafts

Important Considerations:
- Work with factory stock components
- Great daily driver style camshafts

High Energy™
Benefits
- Work well with mainly stock components (rockers, manifolds, heads, compression, converters, gears, etc.)
- Good blend of efficiency and performance
- Perfect choice for performance rebuilds

Important Considerations:
- Not the optimum choice for racing applications
- Great choice for engines where performance upgrades are not planned

High Energy™ Marine
Benefits:
- Good for OEM replacement with mild performance gain
- Increased torque and power improvement
- Easy drop-in installation

Important Considerations:
- Great for stock rebuilds
- Camshafts deliver improved performance over stock
- Works with factory configuration engine components

Magnum
Benefits:
- Great high rpm power
- Easy on valve train parts
- Can be used with mild ratio rocker arms and traditional performance valve springs

Important Considerations:
- Really needs converter and gear changes
- These like compression (9.5:1 & up)
- Larger Magnums are a little lazy at low rpm

Xtreme Energy™
Benefits:
- Quicker opening lobe profiles deliver increased responsiveness & more area under the lift curve
- More vacuum allows a step up in duration for greater performance
- Best seller; Excellent all around performance in street carbureted applications

Important Considerations:
- Work best with COMP Cams® roller rockers and matched valve springs
- Require other performance parts (intake manifold, headers, etc.) for best performance

CAMHELP®
800.999.0853

Thumpr™
Benefits:
- Three unique cam designs for each application that deliver excellent horsepower gains & broad torque curve; perfect choice for muscle cars & street rods
- Early intake valve opening & long exhaust duration create optimum overlap for powerful, hard-hitting exhaust note

Important Considerations:
- Minimal engine vacuum – requires mods for any vacuum accessories such as power brakes
- Designed for use only with valve train upgrades, including COMP Cams® Beehive™ Valve Springs and roller rockers
- Works best with looser converters, more rear end gear and other performance engine modifications

Xtreme 4x4™
Benefits:
- Improved throttle response and low and mid-range rpm horsepower
- Designed for use with common restrictive factory exhaust system including OEM exhaust manifolds
- Feature latest camshaft technology in lobe design

Important Considerations:
- Both towing and off-roading camshaft profiles available
- Features aggressive lobe profiles with short duration specs
- Excellent for Jeeps and off-road vehicle use

Xtreme Marine™
Benefits:
- Extremely wide powerband helps get boat on plane while making max horsepower
- Power enhancement helps maintain top end speed

Important Considerations:
- Intended for applications where low idle speeds are required
- Work well against exhaust systems with restrictive back pressure
- Available for Small and Big Block Chevy as well as Big Block Ford

Dual Energy™
Benefits:
- Similar to High Energy Cams™ but may work better at high rpm when coupled with headers because of added exhaust duration
- Work great with most stock components
- Very flat torque curve for great streetability

Important Considerations:
- Do not work well with restrictive exhaust systems
- Larger exhaust does not give a sharp early torque peak
- Other COMP® cams make more power if other components are changed

Nostalgia Plus™
Benefits:
- Specifically designed to capture the essence of the original 1960s muscle car style
- Delivers improved muscle car sound and horsepower
- Newer lobe designs deliver increased throttle response & torque

Important Considerations:
- Combines famous factory cam performance with modern technology
- Excellent sound improvement through camshaft specifications (with similar vacuum characteristics to its muscle car era counterparts)

CAMSHAFT FAMILY DESIGNATIONS

Factory Muscle™

Benefits:

- Reproduction of factory original muscle car camshaft
- Produce more torque and horsepower than original factory camshaft
- Maintain efficiency and drivability of the engine

Important Considerations:

- New computer controlled aided design avoids previous factory design compromises
- Tailored to work with high compression engine of the 1960s and 70s
- Best choice for "era-correct" engine rebuilds

Nitrous HP™

Benefits:

- Wider lobe separation and added exhaust duration from base XE series help shift the power to higher rpm where it can be used in nitrous applications
- Early exhaust opening helps scavenge the extra spent gasses out from nitrous or forced induction
- Better time slips for nitrous passes at the strip

Important Considerations:

- Slight sacrifice of some torque and responsiveness to the base XE family for improved performance with nitrous oxide
- Works best with COMP Cams® roller rockers and matched valve springs
- The big question is which time slip matters more to you (normally aspirated or N_2O-assisted)?

Computer Controlled

Benefits:

- Replacement camshafts for OEM EFI engines
- Wide variety of camshaft sizes available for significant power gains
- Available for electronic fuel injected, throttle body injected and tuned port injected engines

Important Considerations:

- Available for both stock and modified computer systems

XFI™

Benefits:

- Newest and quickest lobe profiles in the Xtreme family and provide a terrific increase in performance
- Tuned for use in EFI applications where extra air flow signal through the carburetor is not required (feature wider lobe separation without loss of responsiveness)
- Work well with aftermarket cylinder heads and feature high lift

Important Considerations:

- Xtreme Energy™ Cams are more responsive in carbureted applications
- Designed for use with COMP Cams® Beehive™ Springs and roller rockers
- Require other performance parts for best performance

Tri-Power Xtreme™

Benefits:

- Three different camshafts offered for each engine platform
- Camshaft designs are targeted to improve horsepower, torque or fuel efficiency
- By decreasing pumping losses, efficiency and performance are enhanced, regardless of camshaft selected

Important Considerations:

- Made for factory fuel injected engines
- Best mileage gains require use of programmer

Blower/Turbo

Benefits:

- Specifically designed for maximum power on supercharged and turbocharged street and street/strip applications
- Available in mild to aggressive cam specifications

Important Considerations:

- Custom grinds available for more efficient turbo applications
- Turbo grinds avoid excessive exhaust valve opening duration, which is not required

Xtreme Turbo

Benefits:

- Helps build pressure between engine and turbo for faster spool up
- Delivers wide powerband without compromising peak power
- Designed to focus on systems with similar boost to back pressure ratios as seen on most modern turbo systems

Important Considerations:

- Limited to 6500 rpm peak
- Requires lower back pressure system

LSR™

Benefits:

- Take advantage of today's newer and better flowing aftermarket cylinder heads
- Feature higher exhaust duration and overall to provide broadest powerband and most top end power of any COMP® LS cam
- 27 Unique grinds for both cathedral and rectangle port cylinder heads

Important Considerations:

- Require Part# 26926-16 high pressure valve springs
- Available in different cores. Please refer to chart on pages 186-187 to make sure you order the correct part number.

Racing Cams

Benefits:

- Features a wide assortment of racing camshafts for all application requirements of drag, oval track and puller & mud competitors

Important Considerations:

- Require accurate assessment of rear end gearing and other vehicle-based equipment to deliver top performance
- Not made for street use or vehicles requiring accessory drive equipment, such as power brakes, air conditioning, etc.

Cam Kits

COMP Cams® offers four levels of complete component-matched cam kits that deliver unbeatable performance, durability and ease of installation.

- **K-Kit – Complete Kit**
- **SK-Kit – Small Kit**
- **GK-Kit – Gear Drive Kit**
- **CL-Kit – Cam and Lifter Kit**

All cam kits are fully tested and manufactured to the strictest standards. Beyond the performance benefits of these "Power Engineered Systems", they instill confidence in knowing that you are installing components that were designed specifically for your new performance camshaft.

Ordering is easy. Upon selecting the proper camshaft for your application, simply add the kit prefix ("K", "SK", "GK" or "CL") in front of your cam part number. For example, if you choose cam Part #12-206-2 and you want the complete kit, you should order Part #K12-206-2.

*** Please note that not all kits are available for every part numbered camshaft. See the application charts on the following pages to determine which kits are available for your application.**

K-Kit – Complete Kit Includes:

- Camshaft
- Lifters
- Valve Springs
- Retainers
- Valve Locks
- Valve Stem Seals
- Timing Chain Set
- Assembly Lube
- Decals
- Instructions



****Contents of kits may vary from application to application; components shown are typical examples. Ask for specific kit contents before ordering.**

SK-Kit – Small Kit Includes:

- Camshaft
- Lifters
- Timing Chain Set
- Assembly Lube
- Decals
- Instructions



GK-Kit – Cam & Gear Kit Includes:

- Camshaft
- Lifters
- Gear Drive
- Assembly Lube
- Decals
- Instructions



CL-Kit – Cam & Lifter Kit Includes:

- Camshaft
- Lifters
- Assembly Lube
- Decals
- Instructions



Rocker Arm Kits

All rocker arm kits (RP-Kit) include quality COMP Cams® roller rocker arms and matching pushrods. Some applications also come with precision guide plates and rocker arm studs. Consult the application charts on the following pages to determine if an RP-Kit is available for your application.

****Contents of kits may vary from application to application; components shown are typical examples. Ask for specific kit contents before ordering.**



1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
3 Standard weight and lightweight retainers
4 Requires .150" longer pushrod
5 Requires distributor gear upgrade
6 Offset lifters available
7 Stock springs cannot be used
8 Fits only certain years
9 50-State legal for 1993 & earlier Chevrolet V6 200-229c.i. C.A.R.B. E.O. #D-279-4
10 Requires thrust button & wear plate
11 Lifters only, does not include lifter retainers or guides
12 Hi-Tech™ Lite Lifters. No chamfers.
13 Requires machining on block
14 Requires upgraded gear, thrust button & wear plate
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400c.i. C.A.R.B. E.O. #D-279-4
16 Truck engines have .400" taller block
17 Mark V and Mark VI heads must use kit w/ studs
18 50-State legal for 1993 & earlier BB Chevrolet V8, 396-454c.i. C.A.R.B. E.O. #D-279-4
19 K-Kit includes pushrods and cam button
20 Tall block engines require Part #4005
21 Add an "A" to the end of the part number for the 1938-48 core with no gear
22 Fits 1981-87 models only
23 Includes special shafts & spacers
24 Special 10° 4 groove lock. Single groove use Part #612-16.
25 Includes special shafts & spacers
26 1/2 set 2 groove; 1/2 set 4 groove
27 Special 10° locks, 1/2 2 groove, 1/2 set 4 groove. Single groove use Part #612-16.
28 3-bolt core available. Change first 2 digits of part # to 23.
29 May require cylinder head machining
30 Other lifters & pushrod heights available
31 These cams can only be used in 289-302 engines. NOT 302 H.O. blocks due to base circle size.
32 Requires lifter installation kit Part #31-1000 for retro-fit applications
33 Pre-1972 engines use Part #3220
34 K-Kit also includes pushrod & lifter installation kit Part #31-1000 for retro-fit applications
35 Part #4504 studs required for 1978-present
36 1962-69 use Part #7632-16
37 Adjustable valve train required
38 For 1.7:1 ratio use Part #RP1453-16
39 For 1.7:1 ratio use Part #RPM1453-16
40 Includes special shafts
41 Use screw-in studs & guide plates. May require longer pushrods.
42 Olds 400-455 use Part #7582-16
43 Olds 260-403 use Part #7842-16
44 For 260-403 engines only. 455 use kit Part #1442-KIT.
45 265-301 use Part #864-16
46 Special design (NOT a GM part)
47 1.65:1 ratio available
48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain
49 50-State legal for 1987 & earlier carbureted V8 SB Chevrolet 262-400 C.A.R.B. E.O. #D-279-3, #D-279-5, #D-279-6
50 Camshaft retaining plate Part #3120TB recommended
51 Pushrod length may vary depending on combination, check for proper length
52 Engines with self-aligning rocker arms must use Part #1417-16 or #1617-16
53 These specs are measured with a stock length valve and .010" lash between the cam and follower
54 These specs are measured with a .060" longer than stock valve and .010" lash between cam and follower
55 For 351M and 400M engines, use Part #7824-16 pushrods on retro-fit cams
56 If equipped with studs and guide plates, use Part #1442-16
57 K-Kit includes Part #4514-KIT rocker arm adjusting kit and pushrods
58 Requires Part #4514-KIT, except on factory aluminum heads
59 Requires 7/16" rocker arm studs
60 1989 and later use .312" diameter valve with bead type locks
61 Pre-1968 use Part #824-16 lifters
62 Part #7833 only works with non-adjustable factory rocker arms, use Part #7533 for adjustable rockers
63 For non-standard valve stems see page 361
64 For non-standard valve locks see page 356-357
65 K-Kit does not include lifters
66 For 455 use Part #7783-16
67 Requires lifter installation kit Part #35-1001 to install Part #851-16 lifters in blocks with OE hyd. flat tappet cams
68 Kit includes installation kit Part #35-1001
69 Includes special rockers & shafts Part #1047-2
70 Works with two-piece fuel pump eccentric
71 For engines with multi-groove valves, use Part #624-16 locks. CAN NOT be used with lash caps.
72 Fits only certain heads
73 Fits only 350-455
74 Fits only 302/351C Boss & SVO heads
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.
76 Oils through pushrods
77 Engines with self-aligning rocker arms must use Part #1418-16 or #1618-16
78 K-Kits do not include timing sets
79 For 1995 and later engines only
80 K-Kits will only work in 1964-88 models due to different valve stem diameters
81 Some early applications use larger diameter lifters and non-oiling pushrods
82 This kit includes Pro Magnum™ Hydraulic Roller Lifters
83 Requires machining to heads for 1995 & older models
84 Will not work in 1998-99 models
85 For a camshaft w/ NO timing gear, simply add NG to the end of the part #
86 P-Kit contains cam, pushrods and camshaft bearing
87 SP-Kit contains cam, pushrods, camshaft bearing, springs, locks, retainers & seats
88 SP+Kit is an upgrade of the SP-Kit
89 Black lifter set, use Part #7100-KIT for stroker engines
90 Chrome lifter set, use Part #7600-KIT for stroker engines
91 Use Part #7002S for stroker engines & Part #7002R for engines using stock lifters
92 Spring kit includes springs, retainers, locks & spring seats
93 GK-Kit contains cam, lifters & gear drive
94 Change last digit of part number to -20 for nitrided version of cam
95 Must use #8931-16 lifters with this cam
96 Works in 1964-88 models only
97 Must use timing set #3219 in 1999 and newer applications
98 Will not work with stock length pushrods
99 Will not work in fuel injected applications
100 Kit includes 1.8 ratio rocker arms, for 1.7 ratio use Part #1500
101 Kit includes 1.8 ratio rockers

IMPORTANT NOTICE

This catalog has been completed using our best efforts. We assume no liability for errors contained herein. The catalog on our website is updated on a regular basis and should be used to supplement the information contained herein.

It is the responsibility of the installer to ensure that all of the components are correct before installation. Proper assembly always requires that the installer measure all tolerances for proper clearance. We assume no liability for any errors made in components selection or installation.

This catalog, the information contained herein, and our part numbers used are copywritten by COMP Cams®, Inc. 2009.

Technology

Performance

Results





CAMS

From the asphalt tracks of NASCAR to local dirt tracks and drag strips to your personal garage, COMP Cams® has made a promise to all performance enthusiasts to engineer and produce the best camshafts available for your application.







CHRYSLER, one of the most dominant names during the early "Muscle Car" era, has developed five basic series of engines that are popular choices in racing, street performance and towing applications. For our purposes we will refer to the 273-360 Small Block Chrysler engines as the "A" engines and the 383-440 big block standard head engines as the "B" engines. In recent years, the engineers at Chrysler have introduced three versions of the V10 engine platform, as well as a new 5.7L and 6.1L Hemi design. In the following information we have attempted to pass along some common tips learned during our many years of engine building, as well as the experiences of many of our customers. We will not attempt to cover all of the little things, only the more unique and aggravating trouble spots. If ever in doubt, there are many excellent reference manuals. Mopar Performance has one of the best. It goes into great detail about Chrysler engines. Finally, there is the toll free CAM HELP® tech line at 1-800-999-0853 or you can email us at tech@compcams.com

ENGINE TYPES

Small Block, "A", Uses "20" Prefix

The basic 273-360 engines produced in the mid 1960s have remained relatively unchanged as far as the valve train is concerned. The 1964-1991 engines used shaft type rocker arms, which required some special changes in the camshaft design to allow oil to flow to the top of the engine and into the rocker arm shafts. Most of these early engines featured either grooved or offset holes in the second and fourth cam journals. In some instances a combination of both grooves and holes were employed. You must remember that if your engine has shaft type rockers arms, there must be some groove or oiling hole combination on the cam journals. In 1992 the Magnum version of the "A" engine was changed to a pedestal style individual rocker arm design.

Magnum

The Magnum engines utilize a pedestal mount rocker arm system. They come from the factory with a non-adjustable valve train and have 5/16" bolts fastening the rockers to pedestals on the heads.

5.7L and 6.1L Hemi, Uses "112" Prefix

In 2003 Chrysler called on the legendary Hemi cylinder head design to begin a new era in Mopar performance. This new engine has the same familiar perpendicular valve arrangement but does not share any parts with the classic Hemi engines. Rocker arms are shaft mounted with a 1.6 ratio on intake and exhaust. Two rocker shafts per head are used, which is similar to the earlier Hemi. Because of this design, different length intake and exhaust pushrods are used. The newer engine also used smaller, .842" diameter hydraulic roller lifters and a single bolt cam sprocket.

There are concerns when installing aftermarket camshafts in these engines. The factory piston has a dome and no valve reliefs. Extra caution should be taken to ensure adequate piston to valve clearance. It is also necessary to deactivate the MDS (multiple displacement system) when installing and using a performance camshaft. Computer tuning must be performed to enhance drivability.

V10, Uses "97" and "111" Prefixes (Viper)

We have two different cores for this engine, depending on the year model. The 2002 and older blocks use a single-bolt core, and the 2003 and later cores are a three-bolt design.

Big Block "B" or "RB", Uses "21" and "23" Prefixes

The "B" and "RB" engines use two different deck height blocks. They require different length pushrods, so when considering pushrod length, remember that the 383-400 engines use a shorter pushrod than the 413-440 engines. The larger engines with the taller blocks use a pushrod that is approximately ¾" longer than the other.

When converting either of these engines to adjustable rocker arms, you must also replace the pushrods. The standard pushrod used with non-adjustable rocker has a ball on each end. COMP Cams® aluminum roller rocker arms use a pushrod with a ball on the lifter end and a cup on the rocker arm end. The COMP Cams® Pro Magnum Rocker Arm™ Kit for these engines requires a ball-ball pushrod like the standard setup, but the length is different. In either case, the correct pushrods must be used for the rocker arm type selected.

Hemi, Uses "24" and "26" Prefixes

There are two basic versions of the original Hemi engine. The most common is the 426 Hemi, which was introduced in 1964 and uses the "24" prefix. Derivatives of this engine can be found in almost all Alcohol and Fuel cars racing today. One of the most popular drag racing engines, it is easily recognizable by the distributor location, which is in the front of the block. As far as production engines are concerned, most of the parts are interchangeable. Hybrid Hemis, however, have relatively few interchangeable parts because most are custom made.

The old style 301-392 Hemi engine, which uses the "26" prefix, is most readily recognized by the location of the distributor at the rear of the block. There were several versions of this engine; therefore it is likely highly recommended that before ordering any parts you make sure exactly which engine you are working on. These engines were very popular in the 60s and 70s and can still be found in many street machines and street rods, but they are becoming very hard to maintain due to the lack of replacement parts available.

GENERAL TIPS

High Lift Cams

When changing to a higher than stock lift cam, several items must be checked to ensure long engine life and high performance.

Spring coil bind, correct pressures, retainer to guide clearance and piston to valve clearance are just a few of the more common considerations. There is no exact formula to tell when you are getting into trouble, so to avoid serious problems, it is better to double check these things when installing a cam. If ever unsure, contact CAM HELP® at 1-800-999-0853 or email us at tech@compcams.com

Springs
By far, the most common problem encountered when installing a new high performance camshaft is the incompatibility of the existing valve springs to the new cam. Factory valve springs are designed to work with a certain lift cam, and since most aftermarket cams have higher lift, the springs must be addressed. It is highly recommended and a requirement of the warranty that the suggested springs be installed along with any COMP Cams® camshaft.

Valve Stem Oil Seals
When changing to a higher than stock lift camshaft, it is common to have a clearance problem between the bottom of the spring retainer and the top of the valve stem oil seal. Before final assembly of the heads, install one seal, one valve and one retainer without the spring. Measure the distance between the top of the seal and the bottom of the retainer to be sure that it is greater than the lift of the valve by at least .050"-.060". Be sure to take into account any extra lift due to high ratio rocker arms.

Flat Tappet Break-In
All flat tappet cams require special attention during the break-in process. Special springs and some extra attention will be required to ensure long life of the cam. Please refer to the instructions in your cam box for complete procedures and use COMP Cams® Engine Break-In Oil Additive Part #159 to provide added protection for the cam and other engine components during break-in. If ever in doubt, please call the COMP Cams® CAM HELP® line at 1-800-999-0853 or email us at tech@ompcams.com

High Ratio Rocker Arm
A higher than standard ratio rocker arm moves the pushrod closer to the rocker arm shaft. It then becomes necessary to check the clearance between the pushrod and the head where the pushrod passes through the head. This is a very common problem and should be checked when a rocker arm ratio change or pushrod diameter change is made.

Rocker Arm Geometry
Proper rocker arm geometry is necessary to ensure the maximum benefit from any cam design. Camshaft base circle, block deck height, cylinder head design and lifter design all contribute to possible errors in geometry, which must be compensated for with pushrod length and shaft height. Usually, a longer than stock pushrod will be necessary in a high performance engine, but care must be taken to choose the correct length.

Fuel Pump Pushrod
All Chrysler “B”, “RB” and Hemi engines use a fuel pump pushrod to actuate the fuel pump. The fuel pump must be removed and the rod dropped away from the cam prior to camshaft removal. Failure to do so will result in damage to the cam, pushrod or both. Fuel pump pushrods can be found on page 374 of this catalog.

Rocker Arm Adjustment/Lifter Preload
All but a few Chrysler engines were equipped at the factory with non-adjustable rocker arms. Anytime a solid lifter camshaft (either roller or flat tappet) is used, you must also use the adjustable rocker arms and appropriate pushrods.

When installing any high performance hydraulic camshaft, the lifter pre-load is something which must be considered. Too little pre-load will result in a noisy valve train while too much pre-load will result in tight valves and a poor running engine. Either condition can hurt the performance or cause engine failure. After the cam, lifter and rocker arms are installed, and prior to the installing the intake manifold, you must check the plunger depression in the lifter. With the cam on the base circle (valve closed), the plunger in the lifter should be depressed .040"-060". With non-adjustable rocker arms, you must change pushrod lengths to obtain proper lifter pre-load. There are also some hydraulic lifters that require different amounts of pre-load so be sure to contact the COMP Cams® CAM HELP® line at 1-800-999-0853 or email tech@compcams.com to make sure you know the proper pre-load for your lifters.

Rocker Arm Shafts
When installing the rocker arms on a shaft type system of a Chrysler engine, the shafts must be installed correctly. There is a difference in the top and bottom, as well as side to side. The shafts must be installed with the oil holes pointed to the bottom and the outside of the engine, toward the valve. This is the only way the shafts can adequately oil the rocker arms. Premature wear will result if the shafts are installed improperly.

Lifters
The pushrod seat location is different in hydraulic and solid lifters in most applications. For this reason pushrod length must be checked and may need to be changed when switching from hydraulic to solid camshafts.

When installing a roller cam and tappets into a Chrysler engine, you must be careful to ensure that the roller lifter sits in the lifter bore correctly. Most brands of roller lifters are designed with a cutout in the lifter body around the lifter wheel. If this is installed toward the oil galley in the block, the result will be a loss of oil pressure and definite engine damage. COMP Cams® roller lifters do not incorporate this cutout, so there is no problem when using them. When installing roller lifters in the block, remember to install the link bar side of the lifters to the cylinder side in small blocks and to the inside in big blocks and Hemis.

COMP Cams® produces a special lifter for oval track use in the “A” engines. This lifter is still the standard .904" diameter but is made to oil through the pushrod. This is for use in special highly modified blocks only and will not work in a standard block.

There are several different roller lifters listed for the Hemi engines. The only difference is the location of the pushrod seat. We have basically developed a drop-in replacement for most of the popular brand lifters available. Be sure to measure the height of the pushrod seat prior to ordering lifters.

Lifter Bore/Oiling Modifications
Even though COMP Cams® roller lifters will work without oil system or lifter bore modifications, it is highly recommended that on any racing engine the lifter bore be modified. This will ensure that in the case of pushrod failure and the lifter coming out of the bore, adequate oil pressure will be maintained. The proper procedure for this modification can be found in any of the materials available directly from Chrysler, or any top engine builder can perform this modification.

Camshaft Journal Diameter

Many of the newer racing engines utilize a larger than standard cam bearing journal diameter. The advantages of the larger diameter are less flex and a larger base circle to smooth out the lobe design, making this a very desirable addition to any extreme racing engine. It is very common to use a 2.125" Ford babbit bearing in the Hemi engine. Some of the latest oval track blocks feature a roller bearing and require a 1.968" (50mm) journal diameter. Make sure to specify journal size when ordering your cam. If no special size is requested, the standard journal will be chosen.

Camshaft Cores/Timing Chains

On the big block “B” and “RB” engines there are two designs of the cam snout/upper timing sprocket where the cam attaches to the gear. The most common design is the single-bolt type, which means that the cam is attached to the timing chain with one single-bolt. There is also the three-bolt type, more common in high performance applications. These designs are totally interchangeable, as long as the proper cam is used with the correct timing chain set. The three-bolt design is available for both roller and flat tappet camshaft applications, but the single-bolt design is only available for flat tappet cams.

Multi-Groove Valves

No longer is it necessary to convert Chevrolet style single groove valves to benefit from the superior strength of COMP Cams® machined steel 10° Super Locks™ and the variety of spring retainers available with this lock. Super Locks™ are now available for the multi-groove applications. They are available in pairs or in a kit that is made up of equal parts of two groove and four groove locks. See page 357 for details.

Lifter Bank Angles

The latest version of the “A” engine block features a different lifter bore angle. This block is commonly called the “R” block. The angle of the lifter bore is changed to help straighten out the pushrod angle. The standard lifter angle on the “A” engine is 57° from vertical. This points the lifter away from the center of the block and angles the pushrod toward the outside. Most of the “R” blocks and some highly modified versions of the “A” engine have a 48° lifter angle. This points the lifter more directly at the rocker arm and helps to eliminate deflection at very high engine speeds. No standard production blocks were made with this modification, so if your block is not a special “race only” part from Chrysler, you probably have the 57° lifter angles. These cams are not interchangeable, so it is important to note the lifter bank angle prior to ordering any race cam. If no special lifter bank angle is stated, the standard 57° cam will be used.

The same changes are common on some of the newer aluminum Hemi blocks, the difference being much more subtle, from 45° to 48°. It is extremely important to make sure which lifter angle your block is machined for prior to ordering a cam. As with the small block, if no special lifter angle is requested the cam will be ground as with the standard 45° lifter angle.



AMC/JEEP/CHRYSLER

AMERICAN MOTORS 199-258 C.I. 4.0L 6 CYL. 1964-1998

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts (NOT FOR FUEL INJECTION)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Our best cam for gas mileage. Strong low end torque. Good stock replacement with very smooth idle.	Hyd.	Hyd.	800 to 4000	68-115-4[97]	240H	240	248	192	200	.416	.416	108°
HYDRAULIC – Excellent torque and throttle response. Good for towing. Smooth idle.	Hyd.	Hyd.	1000 to 4200	68-200-4[97]	252H	252	252	206	206	.433	.433	110°
HYDRAULIC – Good power for Cherokees and Jeeps. Great for towing, 4WD and off-road. Smooth idle.	Hyd.	Hyd.	1200 to 4400	68-201-4[97]	260H	260	260	212	212	.447	.447	110°

XTREME 4X4™ Hydraulic Flat Tappet Camshafts (NOT FOR FUEL INJECTION)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Excellent torque and throttle response, great stock replacement cam.	Hyd.	Hyd.	800 to 5000	68-231-4	X4250H	250	258	206	214	.462	.485	111°
HYDRAULIC-Good torque and excellent mid-range power. Best with lower gear ratios.	Hyd.	Hyd.	1000 to 5300	68-235-4[97]	X4254H	254	262	210	218	.477	.493	111°
HYDRAULIC – Good mid to upper torque, needs increased compression, headers and gears.	Hyd.	Hyd.	1400 to 5700	68-239-4	X4262H	262	270	218	226	.493	.512	111°

XTREME 4X4™ Hydraulic Flat Tappet Camshafts (FUEL INJECTION)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Excellent torque and throttle response, great stock replacement cam.	Hyd.	Hyd.	800 to 4800	68-232-4	X4250H-13	250	256	206	212	.460	.476	113°

AMERICAN MOTORS 290-401 C.I. 8 CYL. 1966-1991

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Strong torque, excellent mileage for 290-304, has smooth idle, good for stock replacement.	Hyd.	Hyd.	800 to 4800	10-200-4	252H	252	252	206	206	.433	.433	110°
HYDRAULIC – Good low end torque. Strong mid-range power. Excellent for towing or performance. Smooth idle in 304 and up.	Hyd.	Hyd.	1200 to 5200	10-201-4	260H	260	260	212	212	.447	.447	110°
HYDRAULIC – Great for mild daily driven street machines. Slightly rough idle, broad powerband. Use lower gears in 290-304.	Hyd.	Hyd.	1500 to 5500	10-202-4	268H	268	268	218	218	.456	.456	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

AMERICAN MOTORS 199-258 C.I. 4.0L 6 CYL. 1964-1998

Hydraulic Flat Tappet Camshafts (NOT FOR FUEL INJECTION) HIGH ENERGY™											
K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K68-115-4[80]	SK68-115-4	CL68-115-4	N/A	822-12	3219	N/A	N/A	926-12[96]	744-12	603-12[60]	504-12
K68-200-4[80]	SK68-200-4	CL68-200-4	N/A	822-12	3219	N/A	N/A	926-12[96]	744-12	603-12[60]	504-12
K68-201-4[80]	SK68-201-4	CL68-201-4	N/A	822-12	3219	N/A	N/A	926-12[96]	744-12	603-12[60]	504-12
Hydraulic Flat Tappet Camshafts (NOT FOR FUEL INJECTION) XTREME 4X4™											
K68-231-4[80]	SK68-231-4[7]	CL68-231-4[7]	N/A	822-12	3219	N/A	N/A	926-12[96]	744-12	603-12[60]	504-12
K68-235-4[80]	SK68-235-4[7]	CL68-235-4[7]	N/A	822-12	3219	N/A	N/A	926-12[96]	744-12	603-12[60]	504-12
K68-239-4[80]	SK68-239-4[7]	CL68-239-4[7]	N/A	822-12	3219	N/A	N/A	926-12[96]	744-12	603-12[60]	504-12
Hydraulic Flat Tappet Camshafts (FUEL INJECTION) XTREME 4X4™											
K68-232-4[80]	SK68-232-4[7]	CL68-232-4[7]	N/A	822-12	3219	N/A	N/A	926-12[96]	744-12	603-12[60]	504-12

AMERICAN MOTORS 290-401 C.I. 8 CYL. 1966-1991

Hydraulic Flat Tappet Camshafts HIGH ENERGY™											
K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K10-200-4	SK10-200-4	CL10-200-4	RPM1410-16[1]	822-16	3218	1442-16[1,4]	7812-16	940-16	744-16	603-16	504-16
K10-201-4	SK10-201-4	CL10-201-4	RPM1410-16[1]	822-16	3218	1442-16[1,4]	7812-16	940-16	744-16	603-16	504-16
K10-202-4	SK10-202-4[7]	CL10-202-4[7]	RPM1410-16[1]	822-16	3218	1442-16[1,4]	7812-16	940-16	744-16	603-16	504-16

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
4 Requires .150" longer pushrod
7 Stock springs cannot be used
60 1989 and later use .312" diameter valve with bead type locks
80 K-Kits will only work in 1964-88 models due to different valve stem diameters
96 Works in 1964-88 models only
97 Must use timing set #3219 in 1999 and newer applications

RED NUMBERS ARE THE PREMIUM CHOICE

AMERICAN MOTORS 290-401 C.I. 8 CYL. 1966-1991

MAGNUM Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Best cam for 360-401 with stock converter. Works well with headers and aftermarket intake. Mild rough idle.	Hyd.	Hyd.	1800 to 5800	10-203-4	270H	270	270	224	224	.480	.480	110°
HYDRAULIC – Great street machine cam. Needs manifold, 2500 converter and lower gears. 9:1 compression. Rough idle.	Hyd.	Hyd.	2000 to 6000	10-204-4	280H	280	280	230	230	.490	.490	110°
HYDRAULIC – Street/strip cam for 360 and up. Use 10:1 compression with 3000+ converter and low gears. Very rough idle.	Hyd.	Hyd.	2500 to 6500	10-210-4	292H	292	292	244	244	.518	.518	110°
HYDRAULIC – Excellent for Pro Street or mild bracket racing. 3500+ stall, 10.5:1 compression, 4.10 gear or lower. Radical idle.	Hyd.	Hyd.	3000 to 7000	10-211-4	305H	305	305	253	253	.541	.541	110°

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Strong torque thru low end and mid-range, good idle.	Hyd.	Hyd.	1200 to 5200	10-214-5	XE256H	256	268	212	218	.477	.484	110°
HYDRAULIC – Excellent response, good mid-range, noticeable idle.	Hyd.	Hyd.	1800 to 5800	10-215-5	XE262H	262	270	218	224	.493	.500	110°
HYDRAULIC – Very strong mid-range and throttle response, 2200+ stall. Rough Idle.	Hyd.	Hyd.	2000 to 6000	10-216-5	XE274H	274	286	230	236	.520	.523	110°

New THUMPR™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	2000 to 5800	10-600-5	279TH7	279	296	227	241	.491	.476	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 6100	10-603-5	287TH7	287	304	235	249	.500	.486	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6400	10-604-5	295TH7	295	312	243	257	.512	.497	107°

CAM HELP® 800.999.0853

TRANS HELP™ 888.776.9824

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AMERICAN MOTORS 290-401 C.I. 8 CYL. 1966-1991

	K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
Hydraulic Flat Tappet Camshafts — MAGNUM												
	K10-203-4	SK10-203-4[7]	CL10-203-4[7]	RPM1410-16[1]	822-16	3118	1442-16[1,4]	7694-16	926-16	740-16	612-16	504-16
	K10-204-4	SK10-204-4[7]	CL10-204-4[7]	RPM1410-16[1]	822-16 867-16[37]	3118	1442-16[1,4]	7694-16	926-16	740-16	612-16	504-16
	K10-210-4	SK10-210-4[7]	CL10-210-4[7]	RPM1410-16[1]	822-16 867-16[37]	3118	1442-16[1,4]	7694-16	986-16[2]	740-16	612-16	505-16[2]
	K10-211-4	SK10-211-4[7]	CL10-211-4[7]	RPM1410-16[1]	822-16 867-16[37]	3118	1442-16[1,4]	7694-16	986-16[2]	740-16	612-16	505-16[2]
Hydraulic Flat Tappet Camshafts — XTREME ENERGY™												
	K10-214-5	SK10-214-5	CL10-214-5	RPM1410-16[1]	822-16	3118	1442-16[1,4]	7694-16	926-16	740-16	612-16	504-16
	K10-215-5	SK10-215-5[7]	CL10-215-5[7]	RPM1410-16[1]	822-16	3118	1442-16[1,4]	7694-16	926-16	740-16	612-16	504-16
	K10-216-5	SK10-216-5[7]	CL10-216-5[7]	RPM1410-16[1]	822-16 867-16[37]	3118	1442-16[1,4]	7694-16	986-16[2]	740-16	612-16	505-16[2]
Hydraulic Flat Tappet Camshafts — THUMPR™												
	K10-600-5	N/A	CL10-600-5[7]	RPM1410-16[1]	822-16 867-16[37]	3118	1442-16[1,4]	7694-16	986-16[2]	740-16	612-16	505-16[2]
	K10-603-5	N/A	CL10-603-5[7]	RPM1410-16[1]	822-16 867-16[37]	3118	1442-16[1,4]	7694-16	986-16[2]	740-16	612-16	505-16[2]
	K10-604-5	N/A	CL10-604-5[7]	RPM1410-16[1]	822-16 867-16[37]	3118	1442-16[1,4]	7694-16	986-16[2]	740-16	612-16	505-16[2]

NITROUS HELP™
888.817.1008

RACING HEADHELP™
877.776.4323

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
4 Requires .150" longer pushrod
7 Stock springs cannot be used
37 Adjustable valve train required

RED NUMBERS ARE THE PREMIUM CHOICE

AMERICAN MOTORS 290-401 C.I. 8 CYL. 1966-1991

RACE Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Best in heavy car with 3500+ stall and 10:1 + compression.	Hyd.	Hyd.	3500 to 7000	10-212-5	312H-8	312	312	260	260	.565	.565	108°
HYDRAULIC – Our best racing hydraulic, 4500+ stall or 4 speed with 11:1 compression.	Hyd.	Hyd.	4000 to 7500	10-213-5	320H-8	320	320	268	268	.565	.565	108°

RACE Mechanical Flat Tappet Camshafts

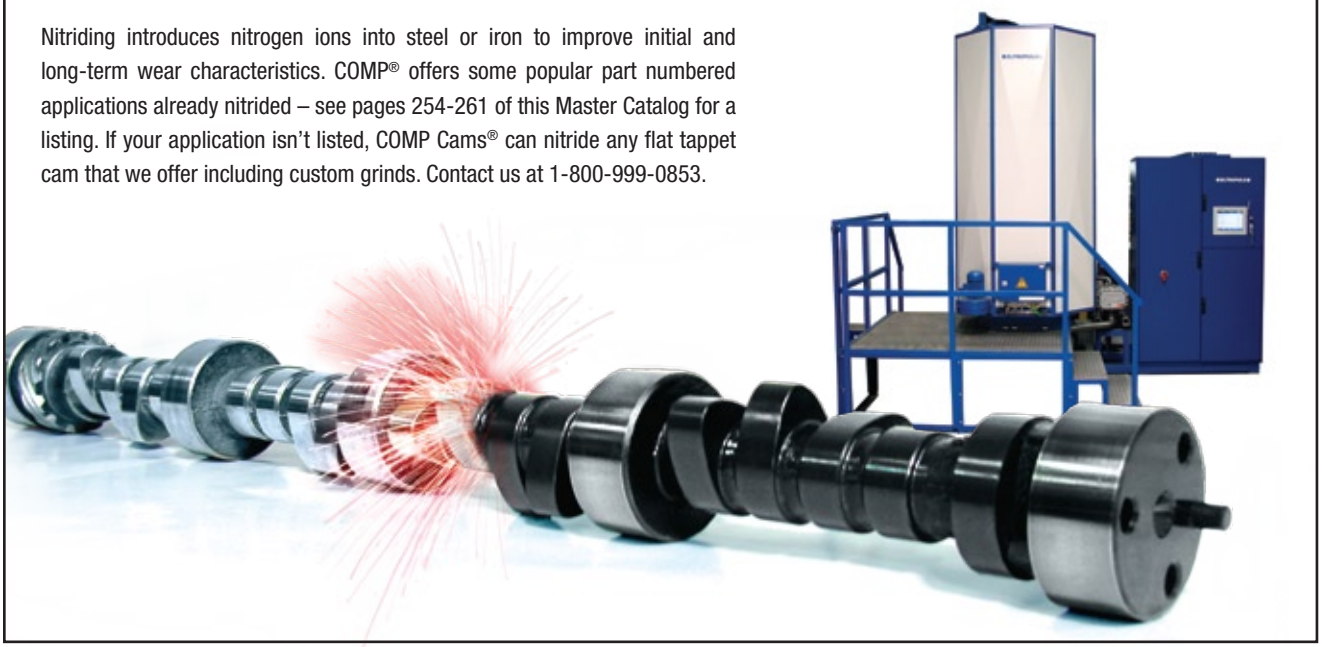
APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Great for mid-range torque in a heavy car with a 4000 converter and 10.5:1 compression.	.026	.028	3800 to 6800	10-601-5	290B-6	290	304	255	266	.576	.570	106°
SOLID – Best in 360 or larger engine with a 5000 converter or a 4 speed and 11:1 compression.	.026	.028	4500 to 7500	10-602-5	300B-8	300	314	265	276	.600	.594	108°
SOLID – Bracket race and mud racing. Works best with 5000+ converter in 390 or larger engine.	.018	.020	5000 to 7500	10-610-5	304S-8	304	320	274	282	.629	.624	108°

RACE Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Bracket race and super classes. Smooth profile, easy on parts, use with 390+ and 5500 converter.	.024	.026	5500 to 7500	10-800-9[5]	316AR-8	316	326	280	288	.672	.672	108°

Pro Plasma™ Nitriding

Nitriding introduces nitrogen ions into steel or iron to improve initial and long-term wear characteristics. COMP® offers some popular part numbered applications already nitrided – see pages 254-261 of this Master Catalog for a listing. If your application isn't listed, COMP Cams® can nitride any flat tappet cam that we offer including custom grinds. Contact us at 1-800-999-0853.



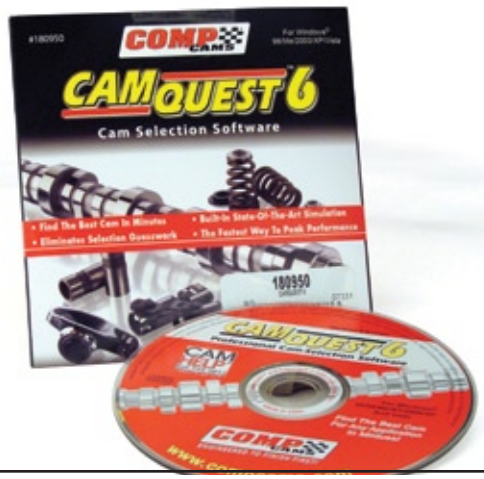
Except as noted, not legal for sale or use on pollution-controlled motor vehicles

AMERICAN MOTORS 290-401 C.I. 8 CYL. 1966-1991

	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
Hydraulic Flat Tappet Camshafts												**RACE**
	867-16[37]	3118	1442-16[1,4]	7694-16	986-16[2]	740-16	612-16	505-16[2]	622-16	N/A	N/A	N/A
	867-16[37]	3118	1442-16[1,4]	7694-16	986-16[2]	740-16	612-16	505-16[2]	622-16	N/A	N/A	N/A
Mechanical Flat Tappet Camshafts												**RACE**
	801-16[37]	3118	1442-16[1,4]	7994-16	987-16[2] 950-16[2]	740-16 730-16	612-16	505-16[2]	622-16	N/A	N/A	N/A
	801-16[37]	3118	1442-16[1,4]	7994-16	987-16[2] 950-16[2]	740-16 730-16	612-16	505-16[2]	622-16	N/A	N/A	N/A
	801-16[37]	3118	1442-16[1,4]	7994-16	950-16[2]	730-16	612-16	505-16[2]	622-16	N/A	N/A	N/A
Mechanical Roller Camshafts												**RACE**
	848-16[37]	3118	1442-16[1,4]	7994-16	999-16[2] 944-16[2]	732-16 731-16	612-16	505-16[2]	622-16	N/A	N/A	N/A

CamQuest™ 6 Cam Selection Software

With the CamQuest™ 6 Cam Selection Software, users can answer a few application specific questions about engine/vehicle combinations and the program instantly provides the top matching COMP® camshafts and related valve train components, cam spec card and projected horsepower and torque output.



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or

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CamQuest™ 6 on CD

COMP Cams® Racing T-Shirt (S-XXXL)

Free Standard Ground Shipping in Continental United States

Only $15 (#CQ106-Size)

See Page 396

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
4 Requires .150" longer pushrod
5 Requires distributor gear upgrade
37 Adjustable valve train required

RED NUMBERS ARE THE PREMIUM CHOICE

CHRYSLER 2.2L, 2.5L SOHC 4 CYL. 1981-1987

HIGH ENERGY™ Hydraulic SOHC Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT IN.	VALVE LIFT EX.	LOBE SEP. ANGLE
HYDRAULIC – Good torque and power. Good OEM replacement. Smooth idle.	Hyd.	Hyd.	1200 to 5000	22-123-6	260H	260	260	212	212	.460	.460	108°
HYDRAULIC – Great cam for everyday street driving. Broad powerband.	Hyd.	Hyd.	1500 to 5200	22-127-6	268H	268	268	224	224	.460	.460	108°

MAGNUM Hydraulic SOHC Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT IN.	VALVE LIFT EX.	LOBE SEP. ANGLE
HYDRAULIC – Best cam for performance usage. Slightly choppy idle.	Hyd.	Hyd.	1800 to 5500	22-131-6	280H	280	280	234	234	.460	.460	108°

TURBO Hydraulic SOHC Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT IN.	VALVE LIFT EX.	LOBE SEP. ANGLE
HYDRAULIC – For use in turbo engines with modifications.	Hyd.	Hyd.	3000 to 6000	22-124-6	260MT	260	260	218	218	.499	.499	112°

DODGE NEON SOHC 2.0L 8 CYL. 1995-2003

HIGH ENERGY™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT IN.	VALVE LIFT EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – For use with stock Neon cylinder heads. More power throughout and substantial gains above 5000 rpm.	Hyd.	Hyd.	2500 to 6200	107-200-8	NE 256 HR8	256	266	200	206	Rocker 1.57:1 .356	Ratio 1.52:1 .336	108°
HYDRAULIC ROLLER – For use with Neon RT or ported cylinder heads. More power throughout and substantial gains above 5300 rpm.	Hyd.	Hyd.	2600 to 6400	107-400-8	NE 259 HR8	259	266	205	206	Rocker 1.60:1 .384	Ratio 1.52:1 .336	108°

CHRYSLER 170-225 C.I. 6 CYL. 1960-1987

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good stock replacement for mileage and power increase. Low rpm torque. Smooth idle.	Hyd.	Hyd.	800 to 4500	64-246-4	252H	252	252	206	206	.425	.425	110°
HYDRAULIC – Great power in mid-range rpm. Good choice for trucks and tow vehicles. Smooth idle.	Hyd.	Hyd.	1200 to 5000	64-247-4	260H	260	260	212	212	.440	.440	110°

HIGH ENERGY™ Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Great power and mileage increases. Smooth idle.	.010	.012	800 to 4500	64-240-4	252S	252	252	215	215	.435	.435	110°
SOLID – Excellent choice for trucks and towing. Good power in low-mid rpm. Smooth idle.	.010	.012	1200 to 5000	64-241-4	264S	264	264	220	220	.440	.440	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHRYSLER 2.2L, 2.5L SOHC 4 CYL. 1981-1987

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
Hydraulic SOHC Camshafts — HIGH ENERGY™											
N/A	N/A	CL22-123-6	N/A	842-8	N/A	1222-8[22]	N/A	N/A	N/A	N/A	N/A
N/A	N/A	CL22-127-6	N/A	842-8	N/A	1222-8[22]	N/A	N/A	N/A	N/A	N/A
Hydraulic SOHC Camshafts — MAGNUM											
N/A	N/A	CL22-131-6	N/A	842-8	N/A	1222-8[22]	N/A	N/A	N/A	N/A	N/A
Hydraulic SOHC Camshafts — TURBO											
N/A	N/A	CL22-124-6	N/A	842-8	N/A	1222-8[22]	N/A	N/A	N/A	N/A	N/A

DODGE NEON SOHC 2.0L 8 CYL. 1995-2003

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
Hydraulic Roller Camshafts — HIGH ENERGY™											
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

CHRYSLER 170-225 C.I. 6 CYL. 1960-1987

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
Hydraulic Flat Tappet Camshafts — HIGH ENERGY™											
K64-246-4	SK64-246-4	CL64-246-4	N/A	820-12	3205	N/A	N/A	970-12	N/A	604-12	504-12
K64-247-4	SK64-247-4	CL64-247-4	N/A	820-12	3205	N/A	N/A	970-12	N/A	604-12	504-12
Mechanical Flat Tappet Camshafts — HIGH ENERGY™											
K64-240-4	SK64-240-4	CL64-240-4	N/A	821-12 801-12	3205	N/A	7864-12	970-12	N/A	604-12	504-12
K64-241-4	SK64-241-4	CL64-241-4	N/A	821-12 801-12	3205	N/A	7864-12	970-12	N/A	604-12	504-12

Footnotes: Master Footnote Index on page 15.

22 Fits 1981-87 models only

RED NUMBERS ARE THE PREMIUM CHOICE

CHRYSLER 273-360 C.I. 8 CYL. 1964-2003

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Smooth idle. Great replacement for 318 or 360 2 BBL or 4 BBL passenger car or truck. High vacuum and excellent low speed torque.	Hyd.	Hyd.	800 to 4800	20-208-2	252H	252	252	206	206	.425	.425	110°
HYDRAULIC – Great for 360 4 BBL in medium to heavy-duty applications. Great performance cam for 318 with power brakes and air.	Hyd.	Hyd.	1200 to 5200	20-210-2	260H	260	260	212	212	.440	.440	110°
HYDRAULIC – Replacement for hp 340 and 360 4 BBL motors. Noticeable idle in 318. Works with 3.23-3.55 gear, dual exhaust and 9:1 compression.	Hyd.	Hyd.	1500 to 5500	20-212-2	268H	268	268	218	218	.454	.454	110°

MAGNUM Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Mild high performance in 340, 3.53-3.91 gears, dual exhaust and 9:1 compression.	Hyd.	Hyd.	1800 to 5800	20-214-4	270H	270	270	224	224	.470	.470	110°
HYDRAULIC – Use in 340-360 street machine. Dual exhaust, 3.53-3.91 gear, 9:1 compression. Headers and aftermarket intake, 2500 stall.	Hyd.	Hyd.	2500 to 6000	20-232-4	280H	280	280	230	230	.480	.480	110°
HYDRAULIC – Serious street/strip effort. 9.5:1 to 10.5:1 compression. Aftermarket manifold, headers and 3.91 gear. 3000-3500 stall in automatic cars.	Hyd.	Hyd.	3000 to 6500	20-243-4	292H	292	292	244	244	.501	.501	110°
HYDRAULIC – Pro Street/all out bracket racing. 3500 to 4000 stall, 10:1 to 11:1 compression. Aftermarket manifold with 750 CFM carb.	Hyd.	Hyd.	3500 to 6800	20-244-4	305H	305	305	253	253	.525	.525	110°

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Very strong torque excellent mileage, smooth idle.	Hyd.	Hyd.	800 to 4800	20-220-3	XE250H	250	260	206	212	.432	.444	110°
HYDRAULIC – Strong torque through low end and mid-range, good idle.	Hyd.	Hyd.	1000 to 5200	20-221-3	XE256H	256	268	212	218	.447	.455	110°
HYDRAULIC – Excellent response, good mileage, stock converter, 3.23-4.10 gear.	Hyd.	Hyd.	1300 to 5600	20-222-3	XE262H	262	270	218	224	.462	.470	110°
HYDRAULIC – Great for street machines, largest cam for stock converter, 273-318 works best with 2000 stall.	Hyd.	Hyd.	1600 to 5800	20-223-3	XE268H	268	280	224	230	.477	.480	110°
HYDRAULIC – Very strong torque and throttle response, 2200+ stall.	Hyd.	Hyd.	1800 to 6000	20-224-4	XE274H	274	286	230	236	.488	.491	110°
HYDRAULIC – Street/strip, needs 3000+ stall, headers, gears, rough idle.	Hyd.	Hyd.	2300 to 6500	20-225-4	XE284H	284	296	240	246	.507	.510	110°
HYDRAULIC – Pro Street/bracket, good intake, headers, gear, 3500+ stall.	Hyd.	Hyd.	3000 to 7000	20-226-4	XE294H	294	306	250	256	.519	.524	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHRYSLER 273-360 C.I. 8 CYL. 1964-2003

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K20-208-2	SK20-208-2	CL20-208-2	RP1622-16	822-16	3203 2103	1622-16[23]	7958-16	901-16	744-16	604-16	504-16
K20-210-2	SK20-210-2	CL20-210-2	RP1622-16	822-16	3203 2103	1622-16[23]	7958-16	901-16	744-16	604-16	504-16
K20-212-2	SK20-212-2[7]	CL20-212-2[7]	RP1622-16	822-16	3203 2103	1622-16[23]	7958-16	901-16	744-16	604-16	504-16

Hydraulic Flat Tappet Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K20-214-4	SK20-214-4[7]	CL20-214-4[7]	RP1622-16	822-16 867-16[37]	2103 3103	1622-16[23]	7958-16	901-16	747-16	626-16[24]	504-16
K20-232-4	SK20-232-4[7]	CL20-232-4[7]	RP1622-16	822-16 867-16[37]	2103 3103	1622-16[23] 1074-KIT[23]	7958-16	901-16	747-16	626-16[24]	504-16
K20-243-4	SK20-243-4[7]	CL20-243-4[7]	RP1622-16	822-16 867-16[37]	2103 3103	1622-16[23] 1074-KIT[23]	7958-16	995-16[2] 26995-16[2]	740-16 795-16	626-16[24]	505-16[2]
K20-244-4	SK20-244-4[7]	CL20-244-4[7]	RP1622-16	822-16 867-16[37]	2103 3103	1622-16[23] 1074-KIT[23]	7958-16	995-16[2] 26995-16[2]	740-16 795-16	626-16[24]	505-16[2]

Hydraulic Flat Tappet Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K20-220-3	SK20-220-3	CL20-220-3	RP1622-16	822-16	3203 2103	1622-16[23]	7958-16	901-16	744-16	604-16	504-16
K20-221-3	SK20-221-3[7]	CL20-221-3[7]	RP1622-16	822-16	3203 2103	1622-16[23]	7958-16	901-16	744-16	604-16	504-16
K20-222-3	SK20-222-3[7]	CL20-222-3[7]	RP1622-16	822-16 867-16[37]	3203 2103	1622-16[23]	7958-16	901-16	744-16	604-16	504-16
K20-223-3	SK20-223-3[7]	CL20-223-3[7]	RP1622-16	822-16 867-16[37]	3203 2103	1622-16[23]	7958-16	901-16	744-16	604-16	504-16
K20-224-4	SK20-224-4[7]	CL20-224-4[7]	RP1622-16	822-16 867-16[37]	2103 3103	1622-16[23] 1074-KIT[23]	7958-16	995-16[2] 26995-16[2]	740-16 795-16	626-16[24]	505-16[2]
K20-225-4	SK20-225-4[7]	CL20-225-4[7]	RP1622-16	822-16 867-16[37]	2103 3103	1622-16[23] 1074-KIT[23]	7958-16	995-16[2] 26995-16[2]	740-16 795-16	626-16[24]	505-16[2]
K20-226-4	SK20-226-4[7]	CL20-226-4[7]	RP1622-16	822-16 867-16[37]	2103 3103	1622-16[23] 1074-KIT[23]	7958-16	995-16[2] 26995-16[2]	740-16 795-16	626-16[24]	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
23 Includes special shafts & spacers
24 Special 10° 4 groove lock. Single groove use Part #612-16.
37 Adjustable valve train required

RED NUMBERS ARE THE PREMIUM CHOICE

CHRYSLER 273-360 C.I. 8 CYL. 1964-2003

THUMPR™ Hydraulic Flat Tappet Camshafts

New APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	3	Hyd.	Hyd.	2000 to 5800	20-600-4	279TH7	279	296	227	241	.486	.473	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	3	Hyd.	Hyd.	2200 to 6100	20-601-4	287TH7	287	304	235	249	.497	.483	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	3	Hyd.	Hyd.	2500 to 6400	20-602-4	295TH7	295	312	243	257	.507	.494	107°

XTREME ENERGY™ HI-LIFT Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Best all around performance cam. Extra lift to help engine breathe at higher rpm, 2500+ stall with 9:1 compression.	3	Hyd.	Hyd.	2000 to 6000	20-227-4	XE275HL	275	287	231	237	.525	.525	110°
HYDRAULIC – Serious street/strip cam. Strong mid-range and upper rpm power. Hi-lift design to take advantage of ported heads and single plane intake, 3000+ stall with 9.5:1 compression.	3	Hyd.	Hyd.	2500 to 6500	20-228-4	XE285HL	285	297	241	247	.545	.545	110°
HYDRAULIC – Max effort street/bracket race cam. Likes ported heads and single plane intake, 3500+ stall with 10:1 compression.	3	Hyd.	Hyd.	3000 to 6800	20-229-4	XE295HL	295	307	251	257	.564	.564	110°

DUAL ENERGY™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – Good torque and mileage. Good RV and towing cam. Works with stock exhaust.	3	Hyd.	Hyd.	1200 to 5500	20-416-3	255DEH	255	275	203	219	.422	.462	110°
HYDRAULIC – Very strong mid-range. Everyday performance for stock exhaust.	3	Hyd.	Hyd.	1600 to 5750	20-417-3	265DEH	265	276	211	227	.442	.462	110°
HYDRAULIC – High performance street. Superior high end. Works with stock converter. Choppy idle.	3	Hyd.	Hyd.	2000 to 6000	20-418-3	275DEH	275	284	219	235	.462	.482	110°

NOSTALGIA PLUS™/PURPLE PLUS Hydraulic Flat Tappet Camshafts

HYDRAULIC – Best all around street/strip cam with the performance sound of the sixties and early seventies. 2500+ stall with 9.5:1 compression.	3	Hyd.	Hyd.	2200 to 6000	20-670-4	PP280H	280	287	233	240	.474	.474	110°
HYDRAULIC – Choppy idle for serious street and mild race applications. 3000+ stall with 10:1 compression.	3	Hyd.	Hyd.	2500 to 6400	20-671-4	PP284H	284	291	239	246	.484	.484	108°
HYDRAULIC – Strong mid-range with a radical idle. Best replacement for the factory street/bracket race cam, 3500+ converter with 10:1 compression.	3	Hyd.	Hyd.	3000 to 6600	20-672-4	PP292H	292	299	247	254	.508	.508	108°

CHRYSLER 273-360 C.I. 8 CYL. 1964-2003

Hydraulic Flat Tappet Camshafts — THUMPR™

K-KIT	GK-KIT	CL-KIT	LIFTERS	TIMING SET	GEAR DRIVE	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K20-600-4	N/A	CL20-600-4[7]	822-16 867-16[37]	2103 3103	N/A	1622-16[23]	7958-16	995-16[2] 26995-16[2]	740-16 795-16	626-16[24]	505-16[2]
K20-601-4	N/A	CL20-601-4[7]	822-16 867-16[37]	2103 3103	N/A	1622-16[23]	7958-16	995-16[2] 26995-16[2]	740-16 795-16	626-16[24]	505-16[2]
K20-602-4	N/A	CL20-602-4[7]	822-16 867-16[37]	2103 3103	N/A	1622-16[23]	7958-16	995-16[2] 26995-16[2]	740-16 795-16	626-16[24]	505-16[2]

Hydraulic Flat Tappet Camshafts — XTREME ENERGY™ HI-LIFT

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K20-227-4	N/A	CL20-227-4	RP1622-16	822-16 867-16[37]	2103 3103	1622-16[23] 1074-KIT[23]	7958-16	995-16[2]	740-16	626-16[24]	505-16[2]
K20-228-4	N/A	CL20-228-4	RP1622-16	822-16 867-16[37]	2103 3103	1622-16[23] 1074-KIT[23]	7958-16	978-16[2]	740-16	626-16[24]	505-16[2]
K20-229-4	N/A	CL20-229-4	RP1622-16	822-16 867-16[37]	2103 3103	1622-16[23] 1074-KIT[23]	7958-16	978-16[2]	740-16	626-16[24]	505-16[2]

Hydraulic Flat Tappet Camshafts — DUAL ENERGY™

K20-416-3	SK20-416-3[7]	CL20-416-3[7]	RP1622-16	822-16 867-16[37]	3203 2103	1622-16[23]	7958-16	901-16	744-16	604-16	504-16
K20-417-3	SK20-417-3[7]	CL20-417-3[7]	RP1622-16	822-16 867-16[37]	3203 2103	1622-16[23]	7958-16	901-16	744-16	604-16	504-16
K20-418-3	SK20-418-3[7]	CL20-418-3[7]	RP1622-16	822-16 867-16[37]	3203 2103	1622-16[23]	7958-16	901-16	744-16	604-16	504-16

Hydraulic Flat Tappet Camshafts — NOSTALGIA PLUS™/PURPLE PLUS

K20-670-4	N/A	CL20-670-4	RP1622-16	822-16 867-16[37]	2103 3103	1622-16[23]	7958-16	995-16[2] 26995-16[2]	740-16 795-16	626-16[24]	505-16[2]
K20-671-4	N/A	CL20-671-4	RP1622-16	822-16 867-16[37]	2103 3103	1622-16[23]	7958-16	995-16[2] 26995-16[2]	740-16 795-16	626-16[24]	505-16[2]
K20-672-4	N/A	CL20-672-4[7]	RP1622-16	822-16 867-16[37]	2103 3103	1622-16[23]	7958-16	995-16[2] 26995-16[2]	740-16 795-16	626-16[24]	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
23 Includes special shafts & spacers
24 Special 10° 4 groove lock. Single groove use Part #612-16.
37 Adjustable valve train required

RED NUMBERS ARE THE PREMIUM CHOICE

CHRYSLER 273-360 C.I. 8 CYL. 1964-2003

MAGNUM MUSCLE — Hydraulic Flat Tappet Camshafts (Today's Version Of Yesterday's Muscle Car Cams)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Factory I.D. #2899206 for: 340c.i., 1968-71, factory 275 hp 340c.i., 1970, factory 290 hp 340c.i., 1972-73, factory 240 hp	Hyd.	Hyd.	1800 to 5800	20-309-4[7]	268AH-10	268	276	222	226	.464	.464	110°

DRAG RACE — Hydraulic Flat Tappet Camshafts

HYDRAULIC – Needs 4000+ stall. Headers, manifold. 750 CFM.	Hyd.	Hyd.	3500 to 6500	20-244-4[7]	305H	305	305	253	253	.525	.525	110°

XTREME ENERGY™ — Retro-Fit Hydraulic Roller Camshafts

HYDRAULIC ROLLER – 3.23-3.91 gears, stock converter in 340 and 360, mild converter in 318, 9:1 compression, street machine.	Hyd.	Hyd.	1400 to 5500	20-810-9	XR268HR-10	268	276	218	224	.535	.531	110°
HYDRAULIC ROLLER – 3.55-4.10 gears, 2200+ stall, 9:1 compression, headers, high performance street.	Hyd.	Hyd.	1800 to 5800	20-811-9	XR274HR-10	274	282	224	230	.538	.534	110°
HYDRAULIC ROLLER – 3.91+ gears, 9.5:1 compression, 2500+ stall, aftermarket intake, headers.	Hyd.	Hyd.	2200 to 6000	20-812-9	XR280HR-10	280	288	230	236	.541	.537	110°
HYDRAULIC ROLLER – 3.91+ gears, 2800+ stall, 9.5:1 compression, needs headers rough idle, street strip.	Hyd.	Hyd.	2500 to 6200	20-813-9	XR286HR-10	286	294	236	242	.544	.541	110°
HYDRAULIC ROLLER – 4.10 gear, 3000+ stall, 10:1 compression, Pro Street applications, very rough idle.	Hyd.	Hyd.	2800 to 6400	20-814-9	XR292HR-10	292	300	242	248	.549	.544	110°

New THUMPR™ — Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears, choppy/thumping idle.	Hyd.	Hyd.	1900 to 5600	20-600-9	283THR7	283	303	227	241	.513	.498	107°
HYDRAULIC ROLLER – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 5900	20-601-9	291THR7	291	311	235	249	.522	.509	107°
HYDRAULIC ROLLER – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6200	20-603-9	299THR7	299	319	243	257	.533	.519	107°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHRYSLER 273-360 C.I. 8 CYL. 1964-2003

Hydraulic Flat Tappet Camshafts (Today's Version Of Yesterday's Muscle Car Cams) — MAGNUM MUSCLE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
822-16	2103	1622-16[23] 1074-KIT[23]	7958-16	901-16	740-16	604-16	504-16	622-16	N/A	N/A	N/A

Hydraulic Flat Tappet Camshafts — DRAG RACE

822-16 867-16[37]	3103	1622-16[23] 1074-KIT[23]	7958-16	995-16[2] 978-16[2]	740-16 730-16	626-16[24]	505-16[2]	622-16	N/A	N/A	N/A

Retro-Fit Hydraulic Roller Camshafts — XTREME ENERGY™

8920-16	2103 3103	1622-16[23] 1074-KIT[23]	N/A	987-16[2] 26986-16[2]	740-16 795-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
8920-16	2103 3103	1622-16[23] 1074-KIT[23]	N/A	987-16[2] 26986-16[2]	740-16 795-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
8920-16	2103 3103	1622-16[23] 1074-KIT[23]	N/A	987-16[2] 26986-16[2]	740-16 795-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
8920-16	2103 3103	1622-16[23] 1074-KIT[23]	N/A	987-16[2] 26986-16[2]	740-16 795-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
8920-16	2103 3103	1622-16[23] 1074-KIT[23]	N/A	987-16[2] 26986-16[2]	740-16 795-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A

Retro-Fit Hydraulic Roller Camshafts — THUMPR™

K-KIT	GK-KIT	CL-KIT	LIFTERS	TIMING SET	GEAR DRIVE	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K20-600-9	N/A	CL20-600-9[7]	8920-16	2103 3103	N/A	1622-16[23] 1074-KIT[23]	N/A	995-16[2] 26995-16[2]	740-16 795-16	626-16	505-16[2]
K20-601-9	N/A	CL20-601-9[7]	8920-16	2103 3103	N/A	1622-16[23] 1074-KIT[23]	N/A	995-16[2] 26995-16[2]	740-16 795-16	626-16	505-16[2]
K20-603-9	N/A	CL20-603-9[7]	8920-16	2103 3103	N/A	1622-16[23] 1074-KIT[23]	N/A	995-16[2] 26995-16[2]	740-16 795-16	626-16	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
23 Includes special shafts & spacers
24 Special 10° 4 groove lock. Single groove use Part #612-16.
37 Adjustable valve train required

RED NUMBERS ARE THE PREMIUM CHOICE

CHRYSLER 273-360 C.I. 8 CYL. 1964-2003

COMPUTER CONTROLLED Hydraulic Roller Camshafts (1985-92 w/ Shaft Rockers & Mech. Fuel Pump, Long Snout)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Best in a 318 Magnum engine. Good towing cam for Dakota P/U. This cam has oil holes and a long snout.	Hyd.	Hyd.	700 to 4800	20-618-9[7]	254HR-12	254	262	199	206	.450	.450	112°
HYDRAULIC ROLLER – Best in a 360 Magnum engine. Good towing cam for full size P/U. Good performance cam for Dakota. This cam has oil holes and a long snout, may require computer modifications.	Hyd.	Hyd.	800 to 5000	20-612-9[7]	262HR-12	262	264	206	210	.450	.480	112°
HYDRAULIC ROLLER – Best performance cam for 360 Magnum engine. This cam has oil holes and a long snout, will require computer modifications.	Hyd.	Hyd.	900 to 5200	20-614-9[7]	264HR-12	264	274	210	220	.480	.480	112°

COMPUTER CONTROLLED Hydraulic Roller Camshafts (1988-91 w/ Shaft Rockers & Electric Fuel Pump, Short Snout)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Factory replacement for fuel injected engines with shaft mounted rocker arms. Good torque cam in 318.	Hyd.	Hyd.	700 to 4800	20-628-9[7]	254HR-12	254	262	199	206	.450	.450	112°
HYDRAULIC ROLLER – Performance cam for 318. Good towing cam for 360. May require computer modifications.	Hyd.	Hyd.	800 to 5000	20-622-9[7]	262HR-12	262	264	206	210	.450	.480	112°
HYDRAULIC ROLLER – High performance cam for 360. Will require computer modifications.	Hyd.	Hyd.	900 to 5200	20-624-9[7]	264HR-12	264	274	210	220	.480	.480	112°

XTREME ENERGY™ Computer Controlled Hydraulic Roller Camshafts For 1992-02 Magnum Engines (WITH 1.6 ROCKERS)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Super strong torque cam for 318, idle to 4500 rpm.	Hyd.	Hyd.	700 to 4800	20-744-9[7]	XR258HR-12	258	264	206	212	.480	.480	112°
HYDRAULIC ROLLER – Strong towing cam for 360, performance cam for 318 with better exhaust and computer modifications.	Hyd.	Hyd.	1000 to 5000	20-745-9[7]	XR264HR-14	264	270	212	218	.480	.480	114°
HYDRAULIC ROLLER – Performance cam for 360. 1200-5400 rpm. Likes lower gears and exhaust. Will require computer modifications.	Hyd.	Hyd.	1200 to 5400	20-746-9[7]	XR265HR-14	265	273	216	224	.506	.506	114°

COMPUTER CONTROLLED Hydraulic Roller Camshafts For 1992-02 Magnum Engines (WITH 1.6 ROCKERS)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Factory replacement for 318 with strong torque.	Hyd.	Hyd.	700 to 4800	20-608-9[7]	254HR-12	254	262	199	206	.480	.480	112°
HYDRAULIC ROLLER – Performance street cam for 318. Excellent torque in 360. May require computer modifications.	Hyd.	Hyd.	800 to 5000	20-602-9[7]	262HR-12	262	264	206	210	.480	.512	112°
HYDRAULIC ROLLER – High performance cam for 360. Will require computer modifications.	Hyd.	Hyd.	900 to 5200	20-604-9[7]	264HR-12	264	274	210	220	.512	.512	112°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHRYSLER 273-360 C.I. 8 CYL. 1964-2003

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
Hydraulic Roller Camshafts (1985-92 w/ Shaft Rockers & Mech. Fuel Pump, Long Snout)											**COMPUTER CONTROLLED**
N/A	N/A	N/A	N/A	N/A	3203 2103	1622-16[23]	7937-16	901-16	747-16	626-16[24]	504-16
N/A	N/A	N/A	N/A	N/A	3203 2103	1622-16[23]	7937-16	901-16	747-16	626-16[24]	504-16
N/A	N/A	N/A	N/A	N/A	3203 2103	1622-16[23]	7937-16	901-16	747-16	626-16[24]	504-16
Hydraulic Roller Camshafts (1988-91 w/ Shaft Rockers & Electric Fuel Pump, Short Snout)											**COMPUTER CONTROLLED**
N/A	N/A	N/A	N/A	N/A	3203 2103	1622-16[23]	7937-16	901-16	747-16	626-16[24]	504-16
N/A	N/A	N/A	N/A	N/A	3203 2103	1622-16[23]	7937-16	901-16	747-16	626-16[24]	504-16
N/A	N/A	N/A	N/A	N/A	3203 2103	1622-16[23]	7937-16	901-16	747-16	626-16[24]	504-16
Computer Controlled Hydraulic Roller Camshafts For 1992-02 Magnum Engines (WITH 1.6 ROCKERS)											**XTREME ENERGY™**
N/A	N/A	N/A	1425-KIT	N/A	3203 2103	1425-KIT	7632-16	N/A	N/A	N/A	N/A
N/A	N/A	N/A	1425-KIT	N/A	3203 2103	1425-KIT	7632-16	N/A	N/A	N/A	N/A
N/A	N/A	N/A	1425-KIT	N/A	3203 2103	1425-KIT	7632-16	N/A	N/A	N/A	N/A
Hydraulic Roller Camshafts For 1992-02 Magnum Engines (WITH 1.6 ROCKERS)											**COMPUTER CONTROLLED**
N/A	N/A	N/A	1425-KIT	N/A	3203 2103	1425-KIT	7632-16	N/A	N/A	N/A	N/A
N/A	N/A	N/A	1425-KIT	N/A	3203 2103	1425-KIT	7632-16	N/A	N/A	N/A	N/A
N/A	N/A	N/A	1425-KIT	N/A	3203 2103	1425-KIT	7632-16	N/A	N/A	N/A	N/A

Footnotes: Master Footnote Index on page 15.

7 Stock springs cannot be used
23 Includes special shafts & spacers
24 Special 10° 4 groove lock. Single groove use Part #612-16.

RED NUMBERS ARE THE PREMIUM CHOICE

CHRYSLER 273-360 C.I. 8 CYL. 1964-2003

MAGNUM Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Great in 340 and 360 with 9:1 to 9.5:1 compression, 650 to 750 CFM carb and 3.55 to 3.91 gear. Largest cam to use with stock converter.	.022	.022	1800 to 5800	20-246-4	270S	270	270	224	224	.468	.468	110°
SOLID – 340-360 street machine/bracket race with 2500 stall, 9.5:1 to 10.5:1 compression and 3.91 to 4.10 gear. Aftermarket manifold & 650 to 750 CFM carb.	.022	.022	2500 to 6000	20-247-4	282S	282	282	236	236	.495	.495	110°
SOLID – Excellent for Pro Street bracket race 9.5:1 compression, 3000-3500 stall, 4.10 to 4.30 gear, aftermarket intake.	.022	.022	3000 to 6500	20-248-4	294S	294	294	248	248	.525	.525	110°
SOLID – Max effort bracket racing or Pro Street. 10:1 to 11:1 compression with 4000 to 4500 stall and 4.30 to 4.88 gear.	.022	.022	4000 to 7000	20-249-4	306S	306	306	260	260	.555	.555	110°

XTREME ENERGY™ Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – 340-360 street/strip use. 9:1 compression with 2500 stall, strong mid-range.	.016	.018	2000 to 6000	20-233-4	XS268S	268	274	230	236	.488	.501	110°
SOLID – Great for street machines and mild bracket racing, 9.5:1 compression with 2800 stall, lopey idle.	.016	.018	2200 to 6200	20-230-4	XS274S	274	280	236	242	.502	.511	110°
SOLID – Serious street/strip effort, needs 10:1 compression, single plane intake and 3000 stall. Radical idle.	.016	.018	2500 to 6500	20-231-4	XS282S	282	290	244	252	.520	.540	110°

DRAG RACE Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – 3500+ converter in 360 or 3800+ in 340. Needs single plane intake and 10.5:1 compression. Excellent low end and mid-range torque.	.020	.022	3500 to 6500	20-635-5	XTQ281S-6	281	299	252	262	.542	.555	106°
SOLID – 318-340. 4000+ stall 750 CFM, manifold. 4.88 gear. 10.5:1 + compression.	.026	.028	4000 to 7000	20-618-5	290A-6	290	290	255	255	.540	.540	106°
SOLID – Best all around bracket cam. 4000+ converter in 360 or 4300+ stall in 340, min. compression ratio is 11:1.	.020	.022	4000 to 7000	20-633-5	XTQ290S-6	290	304	260	266	.558	.555	106°
SOLID – 4500 converter in 360 or 4800+ stall in 340, 11.5:1 compression.	.018	.020	4300 to 7400	20-634-5	TL295S-6	295	312	266	274	.570	.572	106°
SOLID – Good Super Street or fast bracket cam. Works best with 12:1 compression and 5000+ converter.	.018	.020	4500 to 7500	20-632-5	TL300S-8	300	316	270	278	.579	.578	108°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHRYSLER 273-360 C.I. 8 CYL. 1964-2003

Mechanical Flat Tappet Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K20-246-4	SK20-246-4[7]	CL20-246-4[7]	RP1623-16	821-16	2103 3103	1622-16[23]	7970-16	901-16 995-16[2]	747-16 740-16	626-16[24]	504-16 505-16[2]
K20-247-4	SK20-247-4[7]	CL20-247-4[7]	RP1623-16	821-16	2103 3103	1622-16[23]	7970-16	995-16[2] 26995-16[2]	740-16 795-16	626-16[24]	505-16[2]
K20-248-4	SK20-248-4[7]	CL20-248-4[7]	RP1623-16	821-16	2103 3103	1622-16[23] 1074-KIT[23]	7970-16	995-16[2] 26995-16[2]	740-16 795-16	626-16[24]	505-16[2]
K20-249-4	SK20-249-4[7]	CL20-249-4[7]	RP1623-16	821-16	2103 3103	1622-16[23] 1074-KIT[23]	7970-16	995-16[2] 26995-16[2]	740-16 795-16	626-16[24]	505-16[2]

Mechanical Flat Tappet Camshafts — XTREME ENERGY™

K20-233-4	N/A	CL20-233-4	RP1623-16	821-16	2103 3103	1622-16[23] 1074-KIT[23]	7970-16	986-16[2] 26986-16[2]	740-16 795-16	626-16[24]	505-16[2]
K20-230-4	N/A	CL20-230-4	RP1623-16	821-16	2103 3103	1622-16[23] 1074-KIT[23]	7970-16	986-16[2] 26986-16[2]	740-16 795-16	626-16[24]	505-16[2]
K20-231-4	N/A	CL20-231-4[7]	RP1623-16	821-16	2103 3103	1622-16[23] 1074-KIT[23]	7970-16	986-16[2] 26986-16[2]	740-16 795-16	626-16[24]	505-16[2]

Mechanical Flat Tappet Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
821-16 801-16[76]	3103	1622-16[23] 1074-KIT[23]	7970-16	928-16[2]	1732-16 732-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
821-16 801-16[76]	3103	1622-16[23] 1074-KIT[23]	7970-16	928-16[2]	732-16 721-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
821-16 801-16[76]	3103	1622-16[23] 1074-KIT[23]	7970-16	928-16[2]	732-16 721-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
821-16 801-16[76]	3103	1622-16[23] 1074-KIT[23]	7970-16	928-16[2]	732-16 721-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
821-16 801-16[76]	3103	1622-16[23] 1074-KIT[23]	7970-16	928-16[2]	732-16 721-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
23 Includes special shafts & spacers
24 Special 10° 4 groove lock. Single groove use Part #612-16.
76 Oils through pushrods

RED NUMBERS ARE THE PREMIUM CHOICE

CHRYSLER 273-360 C.I. 8 CYL. 1964-2003

OVAL TRACK Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Good for short tracks. 1/4, 3/8 track w/ tight corners. Best with rules limiting intake and carburetor.	.018	.020	3500 to 6500	20-616-5	FL272B-6	272	280	242	250	.540	.556	106°
SOLID – Good short track cam for 340 or 360. Will turn more rpm in 340. Needs 10:1 compression and 4 BBL carb.	.020	.022	3500 to 6500	20-635-5	XTQ281S-6	281	299	252	262	.542	.555	106°
SOLID – Strong mid-range and upper rpm power needs 11:1 compression with open carb and intake.	.020	.022	4000 to 7000	20-633-5	XTQ290S-6	290	304	260	266	.558	.555	106°
SOLID – Good for medium sized tracks with sustained rpm.	.018	.020	4300 to 7400	20-634-5	TL295S-6	295	312	266	274	.570	.572	106°
SOLID – Very aggressive late model stock cam for long rod engine.	.018	.020	3500 to 6500	20-629-5	269MM-8	269	273	243	247	.549	.560	108°
SOLID – Very aggressive late model stock cam for shorter rod or larger track.	.018	.020	3700 to 6700	20-630-5	273MM-8	273	277	247	251	.560	.570	108°
SOLID – Very aggressive late model stock cam for shorter rod and larger track.	.018	.020	4000 to 7000	20-631-5	277MM-8	277	281	251	255	.570	.582	108°

MAGNUM Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Excellent for street/strip effort for 9.5:1 to 10:1 compression in 340 and 360. 3500 Stall, aftermarket intake with 750+ CFM carb.	.020	.020	3000 to 6500	20-701-9[5]	288R	288	288	243	243	.550	.550	110°
MECHANICAL ROLLER – Max effort street roller. 10:1 up with 750 CFM carb on aftermarket intake. 4.30-4.88 gear suggested with 4000-4500+ converter. Headers.	.020	.020	4000 to 7200	20-702-9[5]	308R	308	308	262	262	.575	.575	110°

XTREME ENERGY™ Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Good for mild street/strip use with 9:1 compression and a 2500 stall. Noticeable idle.	.016	.018	2000 to 6000	20-743-9[5]	XR268R	268	274	230	236	.552	.564	110°
MECHANICAL ROLLER – Serious street/strip use. 9.5:1 compression with 2800+ stall. Lopey idle.	.016	.018	2200 to 6300	20-742-9[5]	XR274R	274	280	236	242	.564	.570	110°
MECHANICAL ROLLER – 3000 stall with 10:1 compression, strong mid-range with a radical idle.	.016	.018	2500 to 6500	20-741-9[5]	XR280R	280	286	242	248	.570	.576	110°
MECHANICAL ROLLER – 3300 + stall with 10:1 compression. Strong top end with a racey idle.	.016	.018	2800 to 6800	20-740-9[5]	XR286R	286	292	248	254	.576	.582	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHRYSLER 273-360 C.I. 8 CYL. 1964-2003

Mechanical Flat Tappet Camshafts — OVAL TRACK

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
821-16 801-16[76]	3103	1622-16[23]	7970-16	928-16[2]	1732-16 732-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
821-16 801-16[76]	3103	1622-16[23]	7970-16	928-16[2]	732-16 721-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
821-16 801-16[76]	3103	1622-16[23]	7970-16	928-16[2]	732-16 721-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
821-16 801-16[76]	3103	1622-16[23]	7970-16	928-16[2]	732-16 721-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
821-16 801-16[76]	3103	1622-16[23]	7970-16	26094-16[2]	732-16 721-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
821-16 801-16[76]	3103	1622-16[23]	7970-16	26094-16[2]	732-16 721-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
821-16 801-16[76]	3103	1622-16[23]	7970-16	26094-16[2]	732-16 721-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A

Mechanical Roller Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K20-701-9[5]	SK20-701-9[5,7]	CL20-701-9[5,7]	RP1623-16	828-16[13]	2103 3103	1622-16[23]	7970-16	914-16[2]	748-16 1732-16	626-16[24]	505-16[2]
K20-702-9[5]	SK20-702-9[5,7]	CL20-702-9[5,7]	RP1623-16	828-16[13]	2103 3103	1622-16[23]	7970-16	914-16[2]	748-16 1732-16	626-16[24]	505-16[2]

Mechanical Roller Camshafts — XTREME ENERGY™

K20-743-9[5]	N/A	CL20-743-9[5,7]	RP1623-16	828-16[13]	2103 3103	1622-16[23]	7970-16	914-16[2]	748-16 1732-16	626-16[24]	505-16[2]
K20-742-9[5]	N/A	CL20-742-9[5,7]	RP1623-16	828-16[13]	2103 3103	1622-16[23]	7970-16	914-16[2]	748-16 1732-16	626-16[24]	505-16[2]
K20-741-9[5]	N/A	CL20-741-9[5,7]	RP1623-16	828-16[13]	2103 3103	1622-16[23]	7970-16	914-16[2]	748-16 1732-16	626-16[24]	505-16[2]
K20-740-9[5]	N/A	CL20-740-9[5,7]	RP1623-16	828-16[13]	2103 3103	1622-16[23]	7970-16	914-16[2]	748-16 1732-16	626-16[24]	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
5 Requires distributor gear upgrade
7 Stock springs cannot be used
13 Requires machining on block
23 Includes special shafts & spacers
24 Special 10° 4 groove lock. Single groove use Part #612-16.
76 Oils through pushrods

RED NUMBERS ARE THE PREMIUM CHOICE

CHRYSLER 273-360 C.I. 8 CYL. 1964-2003

DRAG RACE — Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Good all around bracket cam. 4200+ stall in 360 or 4500+ stall in 340, 11.5:1 compression.	.020	.022	4200 to 7400	20-719-9[5]	RX296S-R6	296	303	263	270	.649	.651	106°
MECHANICAL ROLLER – Good Super Street or bracket cam. 11.5:1 compression with 4500+ stall.	.020	.022	4500 to 7500	20-718-9[5]	RX302S-R6	302	309	269	276	.654	.655	106°
MECHANICAL ROLLER – Good Super Gas or Fast Bracket cam. 12:1 compression with 5500+ stall.	.026	.028	4800 to 7800	20-717-9[5]	RX308R-8	308	317	275	284	.658	.661	108°
MECHANICAL ROLLER – Good Super Gas, Super Comp or Fast Bracket cam, medium to large cubic inch engines with 6000+ converter.	.026	.028	5500 to 8000	20-716-9[5]	314R-10	314	321	281	288	.661	.664	110°
MECHANICAL ROLLER – Fast bracket, high compression.	.026	.028	5000 to 8000	20-721-9[5]	307-R6	307	310	274	279	.693	.645	106°

OVAL TRACK — Mechanical Roller Camshafts

MECHANICAL ROLLER – Standard cam for late model with 360, strong mid-range.	.020	.022	4200 to 7400	20-719-9[5]	RX296S-R6	296	303	263	270	.649	.651	106°
MECHANICAL ROLLER – Good for medium to large tracks with sustained rpm.	.020	.022	4500 to 7500	20-718-9[5]	RX302S-R6	302	309	269	276	.654	.655	106°

DODGE 5.7L & 6.1L HEMI 2003-PRESENT

XTREME FUEL INJECTION (XFI™) — Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Slight noticeable idle, slight tuning modifications, excellent torque throughout range. Needs programmer.	Hyd.	Hyd.	1000 to 5500	112-500-11	260H-13	260	264	208	212	.522	.525	113°
HYDRAULIC ROLLER – Noticeable idle, moderate tuning modifications, strong mid-range. Needs programmer.	Hyd.	Hyd.	1500 to 5800	112-501-11	268H-13	268	272	216	220	.528	.531	113°
HYDRAULIC ROLLER – Needs extended rev limit and better exhaust, strongest power over 2500 rpm. Requires tuning of the ECM. Needs programmer.	Hyd.	Hyd.	2000 to 6200	112-502-11	273H-14	273	277	224	228	.547	.550	114°

TRI-POWER XTREME™ — Hydraulic Roller Camshafts

HYDRAULIC ROLLER – Optimized fuel mileage with good torque and horsepower. Needs programmer.	Hyd.	Hyd.	800 to 5000	112-525-11	TPX 246HR-16	246	258	194	206	.470	.464	116°
HYDRAULIC ROLLER – Exceptional torque with good horsepower and moderate fuel economy. Needs programmer.	Hyd.	Hyd.	1000 to 5400	112-530-11	TPX 254HR-15	254	264	202	212	.477	.470	115°
HYDRAULIC ROLLER – Optimized horsepower with good torque and average fuel economy. Needs programmer.	Hyd.	Hyd.	1200 to 5700	112-535-11	TPX 262HR-14	262	270	210	218	.483	.477	114°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHRYSLER 273-360 C.I. 8 CYL. 1964-2003

Mechanical Roller Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
828-16[13] 843-16[76]	3103	1622-16[23]	7970-16	943-16[2] 26099-16[2]	731-16 733-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
828-16[13] 843-16[76]	3103	1622-16[23]	7970-16	943-16[2] 26099-16[2]	731-16 733-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
828-16[13] 843-16[76]	3103	1622-16[23]	7970-16	943-16[2] 951-16[2]	731-16 733-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
828-16[13] 843-16[76]	3103	1622-16[23]	7970-16	943-16[2] 951-16[2]	731-16 733-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
828-16[13] 843-16[76]	3103	1622-16[23]	7970-16	943-16[2] 951-16[2]	731-16 733-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A

Mechanical Roller Camshafts — OVAL TRACK

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
828-16[13] 843-16[76]	3103	1622-16[23]	7970-16	943-16[2] 26099-16[2]	731-16 733-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A
828-16[13] 843-16[76]	3103	1622-16[23]	7970-16	943-16[2] 26099-16[2]	731-16 733-16	626-16[24]	505-16[2]	622-16	N/A	420	N/A

DODGE 5.7L & 6.1L HEMI 2003-PRESENT

Hydraulic Roller Camshafts — XTREME FUEL INJECTION (XFI™)

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
N/A	7114	N/A	7914-16	26918-16	761-16 762-16	N/A	N/A	N/A	N/A	N/A	N/A
N/A	7114	N/A	7914-16	26918-16	761-16 762-16	N/A	N/A	N/A	N/A	N/A	N/A
N/A	7114	N/A	7914-16	26918-16	761-16 762-16	N/A	N/A	N/A	N/A	N/A	N/A

Hydraulic Roller Camshafts — TRI-POWER XTREME™

N/A	7114	N/A	7914-16	26918-16	761-16 762-16	N/A	N/A	N/A	N/A	N/A	N/A
N/A	7114	N/A	7914-16	26918-16	761-16 762-16	N/A	N/A	N/A	N/A	N/A	N/A
N/A	7114	N/A	7914-16	26918-16	761-16 762-16	N/A	N/A	N/A	N/A	N/A	N/A

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
5 Requires distributor gear upgrade
13 Requires machining on block
23 Includes special shafts & spacers
24 Special 10° 4 groove lock. Single groove use Part #612-16.
76 Oils through pushrods

RED NUMBERS ARE THE PREMIUM CHOICE

CHRYSLER 383-440 C.I. 8 CYL. 1959-1980

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED @ .050" IN.	DURATION ADVERTISED @ .050" EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Excellent torque and mileage for 383-400 2 or 4 BBL. Smooth idle. Light towing, 9:1 compression. OEM replacement. 625 CFM carb.	Hyd.	Hyd.	800 to 4800	21-212-4 Single-Bolt	252H	252	252	206	206	.425	.425	110°
HYDRAULIC – OEM replacement for 383, 440. 9:1 compression. Smooth idle. Good for towing. Use 625 CFM carb and dual plane manifold.	Hyd.	Hyd.	1000 to 5000	21-213-4 Single-Bolt	260H	260	260	212	212	.440	.440	110°
HYDRAULIC – Great replacement for 383 Magnum with 650-750 CFM carb, dual plane manifold, etc. Smooth idle 440, super torque.	Hyd.	Hyd.	1200 to 5200	21-215-4 Single-Bolt	268H	268	268	218	218	.454	.454	110°

MAGNUM Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED @ .050" IN.	DURATION ADVERTISED @ .050" EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Great replacement for 440 with 700-800 CFM or six pack, noticeable idle in 383. Slight idle in 440. Largest cam w/ stock converter.	Hyd.	Hyd.	1800 to 5500	21-306-4 Single-Bolt	270H	270	270	224	224	.470	.470	110°
HYDRAULIC – For 9:1 to 10:1 compression. 383 needs 2500 stall. 440 needs 2000+ stall. Use 700-800 CFM carburetor, headers, 3.91+ gears.	Hyd.	Hyd.	2500 to 5800	21-237-4 Single-Bolt	280H	280	280	231	231	.480	.480	110°
HYDRAULIC – Serious street/strip effort. 383 needs 3000-3500+ stall. 440 needs 2500-3000. 750 to 800 CFM carb and headers, 3.91+ gear.	Hyd.	Hyd.	3000 to 6200	21-242-4[28] Single-Bolt	292H	292	292	244	244	.501	.501	110°
HYDRAULIC – Pro Street. 383 needs 3500-3700+ stall. 440 needs 3000-3300+ stall. 850 CFM carb, 10:1 + compression. Headers and good int, 3.90-4.30 gear.	Hyd.	Hyd.	3500 to 6500	21-243-4[28] Single-Bolt	305H	305	305	253	253	.525	.525	110°

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED @ .050" IN.	DURATION ADVERTISED @ .050" EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Very strong torque excellent mileage, smooth idle.	Hyd.	Hyd.	600 to 4800	21-220-4 Single-Bolt	XE250H	250	260	206	212	.432	.444	110°
HYDRAULIC – Strong torque through low end and mid-range, good idle.	Hyd.	Hyd.	1000 to 5200	21-221-4 Single-Bolt	XE256H	256	268	212	218	.447	.455	110°
HYDRAULIC – Excellent response, good mileage, stock converter, 3.23 gear.	Hyd.	Hyd.	1300 to 5600	21-222-4 Single-Bolt	XE262H	262	270	218	224	.462	.470	110°
HYDRAULIC – Great for street machines, slightly rough idle, works with stock converter.	Hyd.	Hyd.	1600 to 5800	21-223-4[28] Single-Bolt	XE268H	268	280	224	230	.477	.480	110°
HYDRAULIC – High performance street. Very strong mid-range with headers, 2200+ stall.	Hyd.	Hyd.	1800 to 6000	21-224-4[28] Single-Bolt	XE274H	274	286	230	236	.488	.491	110°
HYDRAULIC – Street/strip, needs 2800+ stall, 9:1 compression, rough idle.	Hyd.	Hyd.	2300 to 6500	21-225-4[28] Single-Bolt	XE284H	284	296	240	246	.507	.510	110°
HYDRAULIC – Pro Street/bracket, good intake, headers, gear, 3200+ stall.	Hyd.	Hyd.	2800 to 6800	21-226-4[28] Single-Bolt	XE294H	294	306	250	256	.519	.524	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHRYSLER 383-440 C.I. 8 CYL. 1959-1980

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K21-212-4	SK21-212-4	CL21-212-4	N/A	822-16[61]	3204 2104	1621-16[23]	N/A	926-16	744-16	606-16[26]	504-16
K21-213-4	SK21-213-4[7]	CL21-213-4[7]	N/A	822-16[61]	3204 2104	1621-16[23]	N/A	926-16	744-16	606-16[26]	504-16
K21-215-4	SK21-215-4[7]	CL21-215-4[7]	N/A	822-16[61]	3204 2104	1621-16[23]	N/A	926-16	744-16	606-16[26]	504-16

Hydraulic Flat Tappet Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K21-306-4	SK21-306-4[7]	21-306-4[7]	N/A	822-16[61] 867-16[37]	2104 3104	1621-16[23]	N/A	911-16 924-16[2]	748-16 741-16	627-16[26]	504-16 505-16[2]
K21-237-4	SK21-237-4[7]	21-237-4[7]	N/A	822-16[61] 867-16[37]	2104 3104	1621-16[23]	N/A	911-16 924-16[2]	748-16 741-16	627-16[26]	504-16 505-16[2]
K21-242-4	SK21-242-4[7]	21-242-4[7]	N/A	822-16[61] 867-16[37]	2104 3104	1621-16[23] 1071-KIT[23]	N/A	924-16[2] 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]
K21-243-4	SK21-243-4[7]	21-243-47[7]	N/A	822-16[61] 867-16[37]	2104 3104	1621-16[23] 1071-KIT[23]	N/A	924-16[2] 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]

Hydraulic Flat Tappet Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K21-220-4	SK21-220-4[7]	CL21-220-4[7]	N/A	822-16[61]	3204 2104	1621-16[23]	N/A	926-16	744-16	606-16[26]	504-16
K21-221-4	SK21-221-4[7]	CL21-221-4[7]	N/A	822-16[61]	3204 2104	1621-16[23]	N/A	926-16	744-16	606-16[26]	504-16
K21-222-4	SK21-222-4[7]	CL21-222-4[7]	N/A	822-16[61] 867-16[37]	3204 2104	1621-16[23]	N/A	911-16 925-16[2]	748-16 741-16	627-16[26]	504-16 505-16[2]
K21-223-4	SK21-223-4[7]	CL21-223-4[7]	N/A	822-16[61] 867-16[37]	3204 2104	1621-16[23]	N/A	911-16 925-16[2]	748-16 741-16	627-16[26]	504-16 505-16[2]
K21-224-4	SK21-224-4[7]	CL21-224-4[7]	N/A	822-16[61] 867-16[37]	3204 2104	1621-16[23] 1071-KIT[23]	N/A	911-16 925-16[2]	748-16 741-16	627-16[26]	504-16 505-16[2]
K21-225-4	SK21-225-4[7]	CL21-225-4[7]	N/A	822-16[61] 867-16[37]	3204 2104	1621-16[23] 1071-KIT[23]	N/A	911-16 925-16[2]	748-16 741-16	627-16[26]	504-16 505-16[2]
K21-226-4	SK21-226-4[7]	CL21-226-4[7]	N/A	822-16[61] 867-16[37]	3204 2104	1621-16[23] 1071-KIT[23]	N/A	925-16[2] 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
23 Includes special shafts & spacers
26 1/2 set 2 groove; 1/2 set 4 groove
28 3-Bolt core available. Change first 2 digits of part # to 23.
37 Adjustable valve train required
61 Pre-1968 use Part #824-16 lifters

RED NUMBERS ARE THE PREMIUM CHOICE

CHRYSLER 383-440 C.I. 8 CYL. 1959-1980

THUMPR™ Hydraulic Flat Tappet Camshafts

New APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	2000 to 5800	21-600-5[28]	279TH7	279	296	227	241	.486	.473	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 6100	21-601-5[28]	287TH7	287	304	235	249	.497	.483	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6400	21-602-5[28]	295TH7	295	312	243	257	.507	.494	107°

XTREME ENERGY™ HI-LIFT Hydraulic Flat Tappet Camshafts

HYDRAULIC – Best all around street performance cam. 9:1 compression with 2500+ stall. Extra lift for upper rpm power.	Hyd.	Hyd.	2000 to 5800	21-227-4[28] Single-Bolt	XE275HL	275	287	231	237	.525	.525	110°
HYDRAULIC – Hot street cam. 10:1 compression lower gears, headers and 3000+ stall. Strong mid-range with a rough idle.	Hyd.	Hyd.	2500 to 6200	21-228-4[28] Single-Bolt	XE285HL	285	297	241	247	.545	.545	110°
HYDRAULIC – Serious street and bracket race cam. 10:1 compression, lower gears, headers and 3500+ stall.	Hyd.	Hyd.	3000 to 6500	21-229-4[28] Single-Bolt	XE295HL	295	307	251	257	.564	.564	110°

DUAL ENERGY™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – Good torque and mileage, good RV and towing cam.	Hyd.	Hyd.	1000 to 5000	21-402-4 Single-Bolt	255DEH	255	275	205	219	.422	.462	110°
HYDRAULIC – Very strong mid-range and torque, mild performance cam.	Hyd.	Hyd.	1500 to 5250	21-404-4 Single-Bolt	265DEH	265	277	214	229	.442	.482	110°
HYDRAULIC – High performance street, good mid-range and high end, choppy idle.	Hyd.	Hyd.	1800 to 5500	21-406-4 Single-Bolt	275DEH	275	284	219	235	.462	.482	110°

NOSTALGIA PLUS™/PURPLE PLUS Hydraulic Flat Tappet Camshafts

HYDRAULIC – 2500 stall with 9.5:1 compression, strong mid-range with early muscle car sound.	Hyd.	Hyd.	2000 to 6000	21-670-4 Single-Bolt	PP280H	280	287	233	240	.474	.474	110°
HYDRAULIC – Strong mid-range with a lopey idle, 2800 + stall with 9.5:1 compression, replaces the popular 484 cam.	Hyd.	Hyd.	2300 to 6300	21-671-4 Single-Bolt	PP284H	284	291	239	246	.484	.484	108°
HYDRAULIC – Strong bracket/street cam. 10:1 compression. 3500+ stall. Excellent replacement for the "509" cam.	Hyd.	Hyd.	3000 to 6500	21-672-4 Single-Bolt	PP292H	292	299	247	254	.509	.509	108°

MAGNUM MUSCLE Hydraulic Flat Tappet Camshafts (Today's Version Of Yesterday's Muscle Car Cams)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Factory I.D. #2899206 for: 383c.i., 1968-70, factory 335 hp 383c.i., 1971, factory 300 hp 440c.i., 1967-70, factory 375/390 440c.i., 1971, factory 370/385.	Hyd.	Hyd.	1600 to 5600	21-305-4[7] Single-Bolt	268AH-10	268	276	222	226	.464	.464	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHRYSLER 383-440 C.I. 8 CYL. 1959-1980

Hydraulic Flat Tappet Camshafts — THUMPR™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K21-600-5	N/A	CL21-600-5[7]	N/A	822-16 867-16[37]	2104 3104	1621-16[23] 1071-KIT[23]	N/A	911-16 925-16[2]	748-16 741-16	627-16[26]	505-16[2]
K21-601-5	N/A	CL21-601-5[7]	N/A	822-16 867-16[37]	2104 3104	1621-16[23] 1071-KIT[23]	N/A	911-16 925-16[2]	748-16 741-16	627-16[26]	505-16[2]
K21-602-5	N/A	CL21-602-5[7]	N/A	822-16 867-16[37]	2104 3104	1621-16[23] 1071-KIT[23]	N/A	911-16 925-16[2]	748-16 741-16	627-16[26]	505-16[2]

Hydraulic Flat Tappet Camshafts — XTREME ENERGY™ HI-LIFT

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K21-227-4	SK21-227-4[7]	CL21-227-4[7]	N/A	822-16[61] 867-16[37]	2104 3104	1621-16[23] 1071-KIT[23]	N/A	924-16[2] 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]
K21-228-4	SK21-228-4[7]	CL21-228-4[7]	N/A	822-16[61] 867-16[37]	2104 3104	1621-16[23] 1071-KIT[23]	N/A	924-16[2] 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]
K21-229-4	SK21-229-4[7]	CL21-229-4[7]	N/A	822-16[61] 867-16[37]	2104 3104	1621-16[23] 1071-KIT[23]	N/A	924-16[2] 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]

Hydraulic Flat Tappet Camshafts — DUAL ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K21-402-4	SK21-402-4[7]	CL21-402-4[7]	N/A	822-16[61]	2104 3104	1621-16[23]	N/A	911-16 924-16[2]	748-16 741-16	627-16[26]	504-16 505-16[2]
K21-404-4	SK21-404-4[7]	CL21-404-4[7]	N/A	822-16[61]	2104 3104	1621-16[23]	N/A	911-16 924-16[2]	748-16 741-16	627-16[26]	504-16 505-16[2]
K21-406-4	SK21-406-4[7]	CL21-406-4[7]	N/A	822-16[61] 867-16[37]	2104 3104	1621-16[23]	N/A	911-16 924-16[2]	748-16 741-16	627-16[26]	504-16 505-16[2]

Hydraulic Flat Tappet Camshafts — NOSTALGIA PLUS™/PURPLE PLUS

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K21-670-4	N/A	CL21-670-4[7]	N/A	822-16[61] 867-16[37]	2104 3104	1621-16[23]	N/A	911-16 924-16[2]	748-16 741-16	627-16[26]	504-16 505-16[2]
K21-671-4	N/A	CL21-671-4[7]	N/A	822-16[61] 867-16[37]	2104 3104	1621-16[23]	N/A	911-16 924-16[2]	748-16 741-16	627-16[26]	504-16 505-16[2]
K21-672-4	N/A	CL21-672-4[7]	N/A	822-16[61] 867-16[37]	2104 3104	1621-16[23] 1071-KIT[23]	N/A	924-16[2] 26120-16[2]	741-16 741-16	627-16[26]	505-16[2]

Hydraulic Flat Tappet Camshafts (Today's Version Of Yesterday's Muscle Car Cams) — MAGNUM MUSCLE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
822-16[61] 867-16[37]	2104 3104	1621-16[23] 1071-KIT[23]	N/A	926-16 924-16[2]	744-16 741-16	606-16 627-16[26]	504-16 505-16[2]	622-16	N/A	424	N/A

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
23 Includes special shafts & spacers
26 1/2 set 2 groove; 1/2 set 4 groove
28 3-Bolt core available. Change first 2 digits of part # to 23.
37 Adjustable valve train required
61 Pre-1968 use Part #824-16 lifters

RED NUMBERS ARE THE PREMIUM CHOICE

CHRYSLER 383-440 C.I. 8 CYL. 1959-1980

XTREME ENERGY™ Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – 3.55-4.10 gear, 2000 stall in 440, 2200+ in 383, 9:1 compression, high performance street.	Hyd.	Hyd.	1800 to 5800	23-710-9[7]	XR274HR-10	274	282	224	230	.538	.534	110°
HYDRAULIC ROLLER – 3.91+ gear, 2500+ stall, 9.5:1 compression, aftermarket intake, headers.	Hyd.	Hyd.	2200 to 6000	23-711-9[7]	XR280HR-10	280	288	230	236	.541	.537	110°
HYDRAULIC ROLLER – 3.91+ gear, 9.5:1+ compression, 2800+ stall, needs headers, rough idle.	Hyd.	Hyd.	2500 to 6200	23-712-9[7]	XR286HR-10	286	294	236	242	.544	.541	110°
HYDRAULIC ROLLER – 4.10 gear, 3000+ stall, 10:1 compression, very rough idle, Pro Street/bracket race applications.	Hyd.	Hyd.	2800 to 6400	23-713-9[7]	XR292HR-10	292	300	242	248	.549	.544	110°

New THUMPR™ Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears, choppy/thumping idle.	Hyd.	Hyd.	1900 to 5600	23-600-9[7]	283THR7	283	303	227	241	.513	.498	107°
HYDRAULIC ROLLER – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 5900	23-601-9[7]	291THR7	291	311	235	249	.522	.508	107°
HYDRAULIC ROLLER – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6200	23-602-9[7]	299THR7	299	319	243	257	.532	.519	107°

MAGNUM Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Good with stock converter. Near smooth idle in 440. Works good with 650-750 CFM carb. Excellent torque.	.022	.022	2000 to 5500	21-246-4 Single-Bolt	270S	270	270	224	224	.468	.468	110°
SOLID – Excellent solid for street/strip. 383 needs 2800 stall. 440 use 2400 stall, 700-800 CFM carb and headers.	.022	.022	2500 to 5800	21-247-4 Single-Bolt	282S	282	282	236	236	.495	.495	110°
SOLID – Max street 383. 3500 converter. 10:1 compression. 750 CFM up and headers. 3000+ stall for 440, 800 CFM, 3.91-4.30 gear.	.022	.022	3000 to 6200	21-248-4[28] Single-Bolt	294S	294	294	250	250	.525	.525	110°
SOLID – Serious street/strip effort for 440. 3500 converter. 10.5:1+ compression. 800-850 CFM. 383 requires 4000+ converter.	.022	.022	3500 to 6500	21-249-4[28] Single-Bolt	306S	306	306	262	262	.555	.555	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHRYSLER 383-440 C.I. 8 CYL. 1959-1980

Retro-Fit Hydraulic Roller Camshafts — XTREME ENERGY™

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
8921-16	3125 3125KT	1621-16[23] 1071-KIT[23]	N/A	925-16[2] 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]	622-16	N/A	N/A	N/A
8921-16	3125 3125KT	1621-16[23] 1071-KIT[23]	N/A	925-16[2] 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]	622-16	N/A	N/A	N/A
8921-16	3125 3125KT	1621-16[23] 1071-KIT[23]	N/A	925-16[2] 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]	622-16	N/A	N/A	N/A
8921-16	3125 3125KT	1621-16[23] 1071-KIT[23]	N/A	925-16[2] 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]	622-16	N/A	N/A	N/A

Retro-Fit Hydraulic Roller Camshafts — THUMPR™

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
8921-16	3125 3125KT	1621-16[23] 1071-KIT[23]	N/A	925-16[2] 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]	622-16	N/A	N/A	N/A
8921-16	3125 3125KT	1621-16[23] 1071-KIT[23]	N/A	925-16[2] 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]	622-16	N/A	N/A	N/A
8921-16	3125 3125KT	1621-16[23] 1071-KIT[23]	N/A	925-16[2] 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]	622-16	N/A	N/A	N/A

Mechanical Flat Tappet Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K21-246-4	SK21-246-4[7]	CL21-246-4[7]	N/A	821-16 801-16[76]	2104 3104	1621-16[23]	N/A	911-16 924-16[2]	748-16 741-16	627-16[26]	504-16 505-16[2]
K21-247-4	SK21-247-4[7]	CL21-247-4[7]	N/A	821-16 801-16[76]	2104 3104	1621-16[23]	N/A	911-16 924-16[2]	748-16 741-16	627-16[26]	504-16 505-16[2]
K21-248-4	SK21-248-4[7]	CL21-248-4[7]	N/A	821-16 801-16[76]	2104 3104	1621-16[23]	N/A	924-16[2] 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]
K21-249-4	SK21-249-4[7]	CL21-249-4[7]	N/A	821-16 801-16[76]	2104 3104	1621-16[23] 1071-KIT[23]	N/A	924-16[2] 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
23 Includes special shafts & spacers
26 1/2 set 2 groove; 1/2 set 4 groove
28 3-bolt core available. Change first 2 digits of part # to 23.
76 Oils through pushrods

RED NUMBERS ARE THE PREMIUM CHOICE

CHRYSLER 383-440 C.I. 8 CYL. 1959-1980

XTREME ENERGY™ Mechanical Flat Tappet Camshafts (WITH 1.5 ROCKERS)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Excellent for street and mild strip, 2200+ stall or 4 speed.	.016	.018	1800 to 5800	21-230-4[28] Single-Bolt	XS268S	268	274	230	236	.488	.501	110°
SOLID – Serious street/strip, 9.5:1 compression with 2800+ stall. Strong mid-range.	.016	.018	2200 to 6200	21-231-4[28] Single-Bolt	XS274S	274	280	236	242	.502	.511	110°
SOLID – Very strong mid and upper rpm power. 10:1 compression with 3000+ stall.	.016	.018	2500 to 6500	21-232-4[28] Single-Bolt	XS282S	282	290	244	252	.520	.540	110°
SOLID – Max effort street/bracket race cam. 10.5:1 compression, 3500+ stall and low gears.	.016	.018	3200 to 7000	21-233-4[28] Single-Bolt	XS290S	290	298	252	260	.540	.558	110°

DRAG RACE Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Good bracket cam. 10.5:1+ compression, 3500+ stall in 440, 3800+ in 383.	.018	.020	3500 to 6500	23-631-5 Three-Bolt	XTQ286S-8	286	296	256	266	.550	.570	108°
SOLID – Best with 11:1 compression in 383 with 4500+ stall, 4200+ stall with 440. Strong mid-range.	.018	.020	3800 to 6800	23-362-5 Three-Bolt	XTQ294S-8	294	299	264	270	.567	.579	108°
SOLID – Good Super Street, Super Gas or bracket cam. Best with 12:1 compression in 440 with 5000+ stall or 5500+ stall in 383.	.018	.020	4500 to 7200	23-633-5 Three-Bolt	TL304S-8	302	311	274	282	.590	.609	108°
SOLID – Good Super Street, Super Gas or bracket cam. Best in 470+ engines with 12:1 compression and 5500 stall.	.020	.022	5000 to 7500	23-634-5 Three-Bolt	MM 305S-10	305	320	279	287	.650	.630	110°
SOLID – 440 with 5000+ stall, 513 gear, 11:1+ compression, 850+ CFM carb.	.028	.030	5000 to 7200	23-630-5 Three-Bolt	324A-8	324	324	290	290	.650	.650	108°

MAGNUM Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Great all around power in 383 and 400. 750-830 CFM carb. 3500+ converter in 383. 3000+ in 440. Super torque and driveability, 4.10-4.56 gear.	.020	.020	3000 to 6200	23-741-9[5] Three-Bolt	288R-10	288	288	243	243	.550	.550	110°
MECHANICAL ROLLER – Max street effort. 383 requires 4000+ converter. 750-830 CFM. 4.30-4.88 gear. 440 needs 3500+ converter. 800-850 CFM carb, headers. 4.10-4.56 gear.	.020	.020	3500 to 6500	23-742-9[5] Three-Bolt	308R-10	308	308	262	262	.575	.575	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHRYSLER 383-440 C.I. 8 CYL. 1959-1980

Mechanical Flat Tappet Camshafts (WITH 1.5 ROCKERS) — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K21-230-4	N/A	CL21-230-4[7]	N/A	821-16 801-16[76]	2104 3104	1621-16[23] 1071-KIT[23]	N/A	911-16 924-16[2]	748-16 741-16	627-16[26]	504-16 505-16[2]
K21-231-4	N/A	CL21-231-4[7]	N/A	821-16 801-16[76]	2104 3104	1621-16[23] 1071-KIT[23]	N/A	924-16 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]
K21-232-4	N/A	CL21-232-4[7]	N/A	821-16 801-16[76]	2104 3104	1621-16[23] 1071-KIT[23]	N/A	924-16 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]
K21-233-4	N/A	CL21-233-4[7]	N/A	821-16 801-16[76]	2104 3104	1621-16[23] 1071-KIT[23]	N/A	924-16 26120-16[2]	741-16 795-16	627-16[26]	505-16[2]

Mechanical Flat Tappet Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
821-16 801-16[76]	3125 3125KT	1621-16[23] 1071-KIT[23]	N/A	925-16[2]	1732-16 732-16	627-16[26]	505-16[2]	622-16	N/A	N/A	N/A
821-16 801-16[76]	3125 3125KT	1621-16[23] 1071-KIT[23]	N/A	925-16[2]	732-16	627-16[26]	505-16[2]	622-16	N/A	N/A	N/A
821-16 801-16[76]	3125 3125KT	1621-16[23] 1071-KIT[23]	N/A	925-16[2]	732-16	627-16[26]	505-16[2]	622-16	N/A	N/A	N/A
821-16 801-16[76]	3125 3125KT	1621-16[23] 1071-KIT[23]	N/A	925-16[2]	732-16	627-16[26]	505-16[2]	622-16	N/A	N/A	N/A
821-16 801-16[76]	3125 3125KT	1621-16[23] 1071-KIT[23]	N/A	925-16[2]	732-16	627-16[26]	505-16[2]	622-16	N/A	N/A	N/A

Mechanical Roller Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RET.	VALVE LOCKS	VALVE SEALS
K23-741-9	SK23-741-9[7]	CL23-741-9[7]	N/A	829-16	2109 3125	1621-16[23] 1071-KIT[23]	N/A	929-16[2] 938-16[2]	749-16 738-16	627-16[26]	505-16[2]
K23-742-9	SK23-742-9[7]	CL23-742-9[7]	N/A	829-16	2109 3125	1621-16[23] 1071-KIT[23]	N/A	929-16[2] 938-16[2]	749-16 738-16	627-16[26]	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
5 Requires distributor gear upgrade
7 Stock springs cannot be used
23 Includes special shafts & spacers
26 1/2 set 2 groove; 1/2 set 4 groove
28 3-bolt core available. Change first 2 digits of part # to 23.
76 Oils through pushrods

RED NUMBERS ARE THE PREMIUM CHOICE

CHRYSLER 383-440 C.I. 8 CYL. 1959-1980

XTREME ENERGY™ Mechanical Street Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Best all around street roller. 9.5:1 compression with 2500+ stall.	.016	.018	2000 to 6000	23-700-9[5] Three-Bolt	XR274R	274	280	236	242	.564	.570	110°
MECHANICAL ROLLER – 9.5:1 with 3000+ stall. Strong mid-range with a lopey idle.	.016	.018	2500 to 6200	23-701-9[5] Three-Bolt	XR280R	280	286	242	248	.570	.576	110°
MECHANICAL ROLLER – Serious street/strip effort, 10:1 compression with 3200+ stall.	.016	.018	3000 to 6500	23-702-9[5] Three-Bolt	XR286R	286	292	248	254	.576	.582	110°
MECHANICAL ROLLER – Strong mid to upper rpm power, 10.5:1 compression with 3500+ stall. Radical idle.	.016	.018	3500 to 6600	23-703-9[5] Three-Bolt	XR292R	292	297	254	260	.582	.588	110°

DRAG RACE Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Super strong low end torque. Best with 10.5:1 compression and single plane intake. 3500+ stall in 440, 3800 in 383.	.026	.028	3500 to 6300	23-705-9[5] Three-Bolt	283R-8	283	291	252	263	.660	.660	108°
MECHANICAL ROLLER – Best all around bracket or Super Street cam. Best in light to medium weight car with 11:1 compression, 4200+ stall in 440, 4500+ stall in 383.	.026	.028	4000 to 6500	23-706-9[5] Three-Bolt	RX296R-8	296	303	263	270	.650	.651	108°
MECHANICAL ROLLER – 383 Super Gas Super Street, 12:1+ compression, 5000+ stall.	.028	.030	4000 to 7000	23-758-9[5] Three-Bolt	306BR-8	306	306	273	273	.625	.625	108°
MECHANICAL ROLLER – Good Super Gas, Super Street with 12:1 compression and 850+ CFM carb. 5000+ stall with 440, 5400+ with 383.	.026	.028	4500 to 7000	23-707-9[5] Three-Bolt	RX308R-8	308	315	275	282	.657	.659	108°
MECHANICAL ROLLER – Quick 16, Super Comp for medium to large cubic inch.	.026	.028	5500 to 7800	23-704-9[5] Three-Bolt	REV315R-6	315	321	282	288	.693	.665	106°
MECHANICAL ROLLER – Fast Bracket, Super Gas or Super Comp. Best with 12.5:1 compression and ported iron or aftermarket heads. 5500+ stall in 440.	.026	.028	4800 to 7200	23-708-9[5] Three-Bolt	RX316R-8	316	321	283	288	.660	.663	108°
MECHANICAL ROLLER – Super Gas, Super Comp, Fast Brackets. 5000+ stall.	.028	.030	5000 to 7200	23-732-9[5] Three-Bolt	320TR-8	320	320	288	288	.692	.692	108°
MECHANICAL ROLLER – Super Quick, Super Gas, Super Comp or Fast Brackets. For use in medium to large engines with aftermarket heads. 12.5:1 compression with 5500-6000 stall.	.026	.028	5500 to 7500	23-709-9[5] Three-Bolt	RX322R-10	318	330	285	292	.705	.705	110°
MECHANICAL ROLLER – Super Gas, Super Street, 12:1 compression, 5000+ stall, 5.13 gear.	.028	.030	5000 to 7200	23-770-9[5] Three-Bolt	323BR-8	323	323	289	289	.690	.690	108°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHRYSLER 383-440 C.I. 8 CYL. 1959-1980

Mechanical Street Roller Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K23-700-9	SK23-700-9[7]	CL23-700-9	N/A	829-16	2109 3125	1621-16[23] 1071-KIT[23]	N/A	953-16 938-16[2]	741-16 1741-16	627-16[26]	505-16[2]
K23-701-9	SK23-701-9[7]	CL23-701-9	N/A	829-16	2109 3125	1621-16[23] 1071-KIT[23]	N/A	953-16 938-16[2]	741-16 1741-16	627-16[26]	505-16[2]
K23-702-9	SK23-702-9[7]	CL23-702-9	N/A	829-16	2109 3125	1621-16[23] 1071-KIT[23]	N/A	953-16 938-16[2]	741-16 1741-16	627-16[26]	505-16[2]
K23-703-9	SK23-703-9[7]	CL23-703-9	N/A	829-16	2109 3125	1621-16[23] 1071-KIT[23]	N/A	953-16 938-16[2]	741-16 1741-16	627-16[26]	505-16[2]

Mechanical Roller Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
829-16	3125 3125KT	1071-KIT[23]	N/A	943-16[2]	731-16	627-16[26]	505-16[2]	622-16	N/A	424	N/A
829-16	3125 3125KT	1071-KIT[23]	N/A	943-16[2]	731-16	627-16[26]	505-16[2]	622-16	N/A	424	N/A
829-16	3125 3125KT	1071-KIT[23]	N/A	943-16[2]	731-16	627-16[26]	505-16[2]	622-16	N/A	424	N/A
829-16	3125 3125KT	1071-KIT[23]	N/A	943-16[2]	731-16	627-16[26]	505-16[2]	622-16	N/A	424	N/A
829-16	3125 3125KT	1071-KIT[23] 1073-KIT[23]	N/A	947-16[2] 26082-16[2]	739-16 722-16	627-16[26] 612-16	512-16[2]	622-16	N/A	424	N/A
829-16	3125 3125KT	1071-KIT[23]	N/A	943-16[2]	731-16	627-16[26]	505-16[2]	622-16	N/A	424	N/A
829-16	3125 3125KT	1071-KIT[23]	N/A	943-16[2]	731-16	627-16[26]	505-16[2]	622-16	N/A	424	N/A
829-16	3125 3125KT	1071-KIT[23] 1073-KIT[23]	N/A	947-16[2] 26082-16[2]	739-16 722-16	627-16[26] 612-16	512-16[2]	622-16	N/A	424	N/A
829-16	3125 3125KT	1071-KIT[23]	N/A	943-16[2]	731-16	627-16[26]	505-16[2]	622-16	N/A	424	N/A

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
5 Requires distributor gear upgrade.
7 Stock springs cannot be used
23 Includes special shafts & spacers
26 1/2 set 2 groove; 1/2 set 4 groove

RED NUMBERS ARE THE PREMIUM CHOICE

CHRYSLER 426 HEMI 8 CYL. 1966-1971

STREET AND STRIP — Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ROCKER 1.57/1.52 IN.	VALVE LIFT W/ROCKER 1.57/1.52 EX.	LOBE SEP. ANGLE
HYDRAULIC – Good torque and power for daily driven street engines, stock converter. Slightly rough idle.	Hyd.	Hyd.	2000 to 5000	24-278-4[7] Three-Bolt	278A-8	278	278	227	227	.502	.486	108°
HYDRAULIC – Street/strip use. 3000+ stall or 4 speed, has rough idle.	Hyd.	Hyd.	3000 to 6200	24-292-4[7] Three-Bolt	292A-8	292	292	244	244	.534	.517	108°

New THUMPR™ — Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ROCKER 1.57/1.52 IN.	VALVE LIFT W/ROCKER 1.57/1.52 EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	2000 to 5800	24-600-5[7]	279TH7	279	296	227	241	.508	.478	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 6100	24-601-5[7]	287TH7	287	304	235	249	.521	.489	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6400	24-602-5[7]	295TH7	295	312	243	257	.532	.501	107°

XTREME ENERGY™ — Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ROCKER 1.57/1.52 IN.	VALVE LIFT W/ROCKER 1.57/1.52 EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – 3.91+ gear, 2500+ stall, 9.5:1 compression, aftermarket intake, headers. High performance street.	Hyd.	Hyd.	2200 to 6000	24-710-9[5,7] Three-Bolt	XR280HR-10	280	288	230	236	.566	.544	110°
HYDRAULIC ROLLER – 3.91+ gear, 2800+ stall, 9.5:1+ compression, needs headers, rough idle.	Hyd.	Hyd.	2500 to 6200	24-711-9[5,7] Three-Bolt	XR286HR-10	286	294	236	242	.569	.548	110°
HYDRAULIC ROLLER – 4.10 gear, 3000+ stall, 10:1 compression, very rough idle. Pro Street/bracket.	Hyd.	Hyd.	2800 to 6400	24-712-9[5,7] Three-Bolt	XR292HR-10	292	300	242	248	.574	.551	110°

New THUMPR™ — Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ROCKER 1.57/1.52 IN.	VALVE LIFT W/ROCKER 1.57/1.52 EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears, choppy/thumping idle.	Hyd.	Hyd.	1900 to 5600	24-600-9[5,7]	283THR7	283	303	227	241	.536	.504	107°
HYDRAULIC ROLLER – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 5900	24-601-9[5,7]	291THR7	291	311	235	249	.546	.515	107°
HYDRAULIC ROLLER – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6200	24-603-9[5,7]	299THR7	299	319	243	257	.557	.525	107°

TIP

See our Master Lobe Profile Reference Guide on page 417 of this Master Catalog.

CHRYSLER 426 HEMI 8 CYL. 1966-1971

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
Hydraulic Flat Tappet Camshafts — STREET AND STRIP											
824-16	3125 3125KT	N/A	N/A	924-16[2] 26120-16[2]	741-16 795-16	610-16	500-16[2]	619-16	N/A	424	N/A
824-16	3125 3125KT	N/A	N/A	924-16[2] 26120-16[2]	741-16 795-16	610-16	500-16[2]	619-16	N/A	424	N/A
Hydraulic Flat Tappet Camshafts — THUMPR™											
824-16	3125 3125KT	N/A	N/A	924-16[2] 26120-16[2]	741-16 795-16	610-16	500-16[2]	619-16	N/A	424	N/A
824-16	3125 3125KT	N/A	N/A	924-16[2] 26120-16[2]	741-16 795-16	610-16	500-16[2]	619-16	N/A	424	N/A
824-16	3125 3125KT	N/A	N/A	924-16[2] 26120-16[2]	741-16 795-16	610-16	500-16[2]	619-16	N/A	424	N/A
Retro-Fit Hydraulic Roller Camshafts — XTREME ENERGY™											
8921-16	3125 3125KT	N/A	N/A	925-16[2] 26120-16[2]	741-16 795-16	610-16	500-16[2]	619-16	N/A	424	N/A
8921-16	3125 3125KT	N/A	N/A	925-16[2] 26120-16[2]	741-16 795-16	610-16	500-16[2]	619-16	N/A	424	N/A
8921-16	3125 3125KT	N/A	N/A	925-16[2] 26120-16[2]	741-16 795-16	610-16	500-16[2]	619-16	N/A	424	N/A
Retro-Fit Hydraulic Roller Camshafts — THUMPR™											
8921-16	3125 3125KT	N/A	N/A	925-16[2] 26120-16[2]	741-16 795-16	610-16	500-16[2]	619-16	N/A	424	N/A
8921-16	3125 3125KT	N/A	N/A	925-16[2] 26120-16[2]	741-16 795-16	610-16	500-16[2]	619-16	N/A	424	N/A
8921-16	3125 3125KT	N/A	N/A	925-16[2] 26120-16[2]	741-16 795-16	610-16	500-16[2]	619-16	N/A	424	N/A

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
5 Requires distributor gear upgrade.
7 Stock springs cannot be used

RED NUMBERS ARE THE PREMIUM CHOICE

CHRYSLER 426 HEMI 8 CYL. 1966-1971

STREET AND STRIP — Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ROCKER 1.57/1.52 IN.	VALVE LIFT W/ROCKER 1.57/1.52 EX.	LOBE SEP. ANGLE
SOLID – Good torque and power for daily driven street engines, stock converter. Has slightly rough idle.	.020	.022	2500 to 5800	24-300-4	270S-8	270	270	235	235	.518	.502	108°
SOLID – Street/strip use. 3200+ stall or 4 speed, has rough idle.	.020	.022	3000 to 6200	24-308-4	285S-8	285	285	250	250	.557	.540	108°

DRAG RACE — Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ROCKER 1.57/1.52 IN.	VALVE LIFT W/ROCKER 1.57/1.52 EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Super Stock race Hemi with latest design intake and welded heads, auto transmission.	.026	.028	5500 to 8500	24-725-9[5]	317SSR-8	317	337	285	294	.822	.793	108°
MECHANICAL ROLLER – Super Stock race Hemi with latest design intake and welded heads, manual transmission.	.026	.028	5800 to 8800	24-726-9[5]	322SSR-12	322	337	292	294	.811	.793	112°
MECHANICAL ROLLER – Blown Alcohol/Pro Mod 500-550 inch, high boost blower 45° bank block.	.026	.028	5000 to 8500	24-723-9[5]	331BAR-16	331	342	296	304	.785	.760	116°
MECHANICAL ROLLER – Blown Alcohol/Pro Mod 48° bank, journal 2.124".	.026	.028	5000 to 8500	24-721-10[5]	331BAR-16	331	342	296	304	.785	.760	116°

DODGE VIPER 10 CYL. 1992-2002

XTREME ENERGY™ — Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Strong torque with good mileage, needs computer work. Head modifications necessary for related components.	Hyd.	Hyd.	1000 to 5800	97-310-10[7] Single-Bolt	XR264HR	264	269	212	218	.520	.528	114°
HYDRAULIC ROLLER – High performance street cam, needs improved computer. Head modifications necessary for related components.	Hyd.	Hyd.	1200 to 6200	97-320-10[7] Single-Bolt	XR270HR	269	276	218	224	.528	.536	114°

DODGE VIPER 10 CYL. 2003-PRESENT

XTREME ENERGY™ — Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Strong torque with good mileage, needs computer work. Head modifications necessary for related components.	Hyd.	Hyd.	1000 to 5800	111-310-10[7] Three-Bolt	XR264HR	264	269	212	218	.520	.528	114°
HYDRAULIC ROLLER – High performance street cam, needs improved computer. Head modifications necessary for related components.	Hyd.	Hyd.	1200 to 6200	111-320-10[7] Three-Bolt	XR270HR	269	276	218	224	.528	.536	114°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHRYSLER 426 HEMI 8 CYL. 1966-1971

Mechanical Flat Tappet Camshafts — STREET AND STRIP

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
821-16 801-16[76]	3125 3125KT	N/A	N/A	924-16[2] 26120-16[2]	741-16 795-16	610-16	500-16[2]	619-16	N/A	424	N/A
821-16 801-16[76]	3125 3125KT	N/A	N/A	924-16[2] 26120-16[2]	741-16 795-16	610-16	500-16[2]	619-16	N/A	424	N/A

Mechanical Roller Camshafts — DRAG RACE

830-16[30]	3125 3125KT	N/A	N/A	948-16[2] 26082-16[2]	739-16 722-16	610-16	509-16[2]	619-16	N/A	424	N/A
830-16[30]	3125 3125KT	N/A	N/A	948-16[2] 26082-16[2]	739-16 722-16	610-16	509-16[2]	619-16	N/A	424	N/A
830-16[30]	3125 3125KT	N/A	N/A	948-16[2] 26082-16[2]	739-16 722-16	610-16	509-16[2]	619-16	N/A	424	N/A
830-16[30]	3125 3125KT	N/A	N/A	948-16[2] 26082-16[2]	739-16 722-16	610-16	509-16[2]	619-16	N/A	424	N/A

DODGE VIPER 10 CYL. 1992-2002

Hydraulic Roller Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
N/A	N/A	N/A	N/A	N/A	N/A	1105-20[1]	7693-20	924-20[2]	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	1105-20[1]	7693-20	924-20[2]	N/A	N/A	N/A

DODGE VIPER 10 CYL. 2003-PRESENT

Hydraulic Roller Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
N/A	N/A	N/A	N/A	N/A	N/A	1105-20[1]	7693-20	924-20[2]	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	1105-20[1]	7693-20	924-20[2]	N/A	N/A	N/A

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
5 Requires distributor gear upgrade.
7 Stock springs cannot be used
30 Other lifters & pushrod heights available
76 Oils through pushrods

RED NUMBERS ARE THE PREMIUM CHOICE

FORD has produced some of the most powerful engines to ever come out of Detroit. With the V8 engine sizes ranging from 221-460, there is an engine size and configuration to cover just about any need or application. Ford engines do have some unique characteristics not found in any other make, so in this section we will try to familiarize you with some of the more common differences. This valve train related information should help you when choosing parts or assembling your engine.

ENGINE TYPES

Small Block, Uses "31" and "35" Prefixes

This is the standard engine in most V8 applications. It has been around since the early 1960s and remains very popular today in many configurations. The Small Block Ford engine is commonly referred to as the 5.0L engine found in the Mustang for many years. This engine has become one of the most frequently modified engines Ford has ever produced. There are a few differences in the valve train of this design, but for the most part, they are the same. One thing to remember is that the 221-302 engines have a very short deck height, requiring a short pushrod. The 351W engine, on the other hand, has a tall deck and a longer pushrod. The 1985-1995 5.0L blocks differ from the earlier blocks in that the lifter bosses are taller to accommodate the hydraulic roller lifters. The base circles of the cams for these blocks are larger because of the higher position of the lifters. These engines use either a prefix "31" (289-302) or a "35" (5.0L or 351W) camshaft, depending on the firing order.

SVO V8 Race Engine, Uses "35" Prefix

This engine is almost always found in all out racing, and is a cross between the Windsor and Cleveland designs. It utilizes a Windsor type block and a Cleveland type head. The newest of the head designs is referred to as the "Yates" head.

Cleveland/Modified, Uses "32" Prefix

This design was introduced in 1969 and was available as a 351 Cleveland, a 351C Boss or a 351/400 Modified. The easiest way to tell these engines from the standard small block is by looking at the front covers. The small block/SVO engines have a cast aluminum front cover and water pump housing. The Cleveland/Modified engines have a stamped steel flat front cover. Other than a few rocker arm differences, the valve train in all of these engines is very similar.

Big Block FE, Uses "33" Prefix

Ford's FE engine family was introduced in 1958 and was available as either a 332 or a 352 version. Later, the range was expanded to include 390-428 versions. They have been out of production since the mid 70s but remain popular today. These engines utilize a shaft rocker arm system and can be most easily recognized but the fact that the intake manifold is very wide and extends part way under the valve covers. Almost all of the parts in the FE series are used only in this engine and are not interchangeable with other engine families.

Big Block "FF", Uses "34" Prefix

The engine commonly referred to as the Ford Big Block is the 429-460 and was used in light trucks and motorhomes. It is an outstanding engine for boats, bracket racing or towing and typically has a similar but larger "Cleveland" style valve train.

Modular Type Engines

The Ford "Modular Engine" was introduced in the early 1990's, with the idea of designing a new generation of engines from scratch, rather than basing them on then-current production engines. They were developed to replace all existing Ford V8 pushrod engines. The "Modular" term came about because of the many interchangeable components between the SOHC and DOHC engines, as well as the ability of Ford to machine and assemble the various engines on the same assembly lines.

The design focuses on low friction, excellent sealing and increased block stiffness. With a modern block and head design in 2 valve, 3 valve and 4 valve configurations, the engines are both versatile and powerful. They have a sophisticated overhead cam design in both single and dual overhead cam versions that utilize a roller finger follower to reduce friction, increase rpm potential and reduce maintenance.

All of the cylinder blocks have deep skirts, and nearly all of the main caps are cross bolted. SOHC engines have cast iron blocks; DOHC engines have aluminum blocks. All cylinder heads are aluminum, with very long head bolts to reduce distortion of the cylinder bores and improve sealing. The newer design also allows the accessories to be rigidly mounted directly to the block.

4.6L & 5.4L 2 Valve SOHC, Uses "102" Prefix

The 4.6L version of this engine first came out in the 1991 Lincoln Town Car and later was installed in the Crown Victoria, Grand Marquis, Thunderbird, and Cougar. In 1997 the 5.4L version of the 2 valve SOHC engine was introduced. This engine, known as the "Triton" truck engine, has numerous parts that are interchangeable with the modular car engines. However, not all are identical since the truck engines are built to handle more severe duty.

4.6L and 5.4L 3 Valve SOHC, Uses "127" Prefix

The 4.6L SOHC 3 Valve engine is available in today's Mustangs and trucks. The engine features variable cam timing, allowing the valves to open and close earlier or later as needed for optimum power. This technology was first introduced in 2004 in the 5.4L 3 Valve DOHC engines. This engine, also known as the "Triton", is primarily in the F-150 trucks.

4.6L 4 Valve DOHC, Uses "106" Prefix

This engine showed up first in the 1993 Lincoln Mark VIII and later in the front wheel drive Continental. It has since been put in performance cars, such as the Mustang Cobra.

GENERAL TIPS

Firing Order, Small Block & SVO

This is one of the most common questions asked by Ford customers. The firing order for the early 221-302 engines and the early 5.0 engines is 1-5-4-2-6-3-7-8. This is the firing order for all prefix "31" cams and is the standard replacement cam for all early engines. The later 5.0L engine and all 351 engines are designed to use the 1-3-7-2-6-5-4-8 firing order. This is the firing order for all prefix "35" cams, and cams ordered for these engines should use this prefix. Other than the firing order, the cams are identical. By changing the spark plug wiring at the distributor these cams can be interchanged.

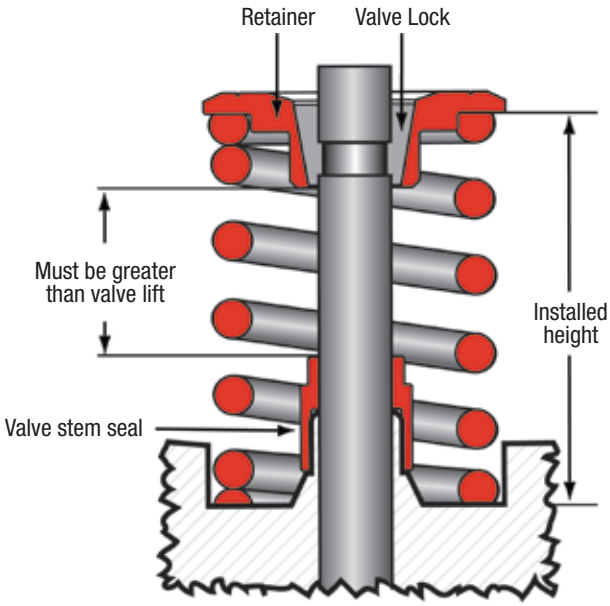
******EXCEPT IN MASS AIR VEHICLES******

Valve Springs

By far, the most common problem encountered when installing a new high performance camshaft is the incompatibility of the existing valve springs to the new cam. Factory valve springs are designed to work with a certain lift cam, and since most aftermarket cams have higher lift, the springs must be addressed. It is highly recommended and a requirement of the warranty that the suggested springs be installed along with any COMP Cams® camshaft.

Most Ford cylinder heads utilized a step cast into the head that acted as the valve spring locator. When installing a dual spring, it is highly recommended that this step be removed by machining to minimize the possibility of coil binding the inner spring.

Whenever installing a high-tech racing cam in any engine, the cylinder heads must be equipped with the correct valve springs, screw-in studs, guide plates and hardened pushrods. The increased loads and ultra-high speeds of the racing engines make this a necessity for valve train stability.



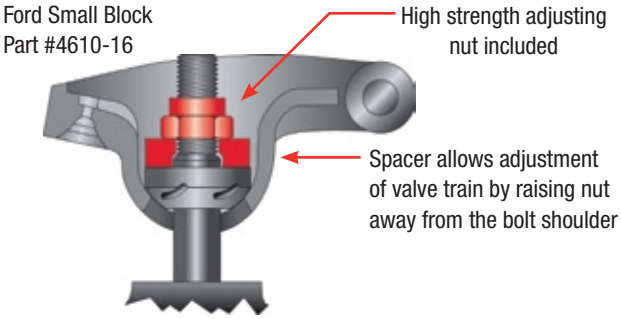
Rocker Studs

When you are using a high performance camshaft and have problems with the valves not staying properly adjusted, one of the first things to check is the rocker arm studs. Many early model heads utilize pressed in studs. When high spring loads and high engine speeds are used with these stock type studs, they tend to pull out of the heads. You can check for this by laying a straight edge across the top of the studs to see if any of the studs are too high and out of alignment. If so, the heads should be removed and machined for screw in-studs.

Positive Stop Stud

This type stud was used on 1969-76 302 and 351W engines, as well as 1968-72 429 engines with hydraulic cams. They do not allow for lifter adjustment and work only with smaller cams when the dimensions of the engine (block, head deck height, etc.) remain close to stock. They also don't work on solid lifter cams.

COMP Cams® offers an adjustment kit (Part #4610-16 on page 324) for use with the stock positive stop studs. For high performance applications, this type of stud should be replaced with the more conventional screw-in type, along with the pushrod guide plates.



Self-Aligning Rail Type Rocker Arms

Originally the small block engine used a machined slot in the head to guide the rocker arm on the valve. It has been common to enlarge this hole and install a guide plate when switching to a high performance valve train. Later model engines utilize a small alignment slot or "ears" on the valve tip end of the rocker where it contacts the valve. These rockers must be used with long stem valves. These applications can be easily identified by a large (½") hole where the pushrod passes through the head and the fact that there is no guide plate. If the head in question has either a guide plate or a slot to guide the pushrod, the rail type rocker arms cannot be used.

Conventional Rocker Arms

This type rocker arm was used on 289 hp and 1963-1966 289 engines. The cylinder head had a slot cast in the head where the pushrod passed through. This slot guided the pushrod and aligned the rocker arm with the tip of the valve. Some heads have been modified to use a pushrod guide plate instead of this slot. Since there are no rails on the end of the rocker arm, a shorter tip is used on the valve. This type of rocker arm can be used only in conjunction with either a slot in the head or a guide plate but not both.

FORD TECH

Fulcrum Style Rocker Arms

Fulcrum type rocker arms are used on most 351C and 351-400M engines originally equipped with hydraulic cams as well as 429-460 engines made without guide plates. These rocker arms used a fulcrum or "sled" in conjunction with a bolt to secure the rocker arm to the head. Pre-1977 models used a slotted pedestal cast into the head to keep the rocker arm aligned with the tip of the valve, while later 5.0L, 351W engines and many of the modified engines used a stamped steel guide plate under the rocker arm fulcrum to align the rocker arm. To replace rocker arms of this type with the adjustable Magnum or any roller rocker arm, screw-in studs and guide plates will be necessary. These engines can be easily converted by using Part #4504-16 studs which feature a 5/16" thread on the lower portion of the stud. This will screw directly into the holes in the head, and since these engines use a long tip valve, the rail type Magnum (Part #1431-16) adjustable rocker arm can be installed.

FE Shaft Rocker Arms

The 332-428 FE engines use a shaft rocker arm design. The standard non-adjustable rocker arms will work well with the smaller hydraulic cams, but when installing any solid lifter cams or any hydraulic cam larger than a 292H, the rocker arms must be replaced with adjustable rockers. They can be found on pages 318 and 321.

Timing Chain Sets

When installing a cam in any small block engine, be sure to check items such as the upper and lower cam gears, cam gear spacer, fuel pump eccentric, cam retention plate and front cover clearance. Ford has changed the arrangement of these items through the years and interference and misfits can occur. A Part #3220 timing chain set should be used on pre-1972 351W engines. On 1972 and later engines, a Part #3230 chain set should be used. Hydraulic roller equipped 5.0L engines (1985 and later) must use a Part #2138 timing set to ensure proper upper gear fit to the nose of the camshaft.

Camshaft Dowel Pin/Fuel Pump Eccentric

Two different length dowel pins were used in the front of the cams in 221-351W engines. In 1972 and earlier engines, a longer (1.375") dowel pin was used so that it would extend through the one-piece fuel pump eccentric used on these engines. The 1973 and later engines utilized a two-piece fuel pump eccentric which required a shorter (1.125") dowel pin. If no eccentric is used, a thicker than standard retaining washer must be used to make up for the thickness of the eccentric. The cam gear MUST be pulled tightly against the snout of the cam. If the gear is not tight against the step at the front of the cam, the cam bolt will come loose, and engine failure is sure to occur.

Dowel pin failure is fairly common is Small Block Ford engines. This is almost never the result of a defective or soft dowel pin. It is most often caused by the bolt in the center of the cam loosening and allowing the dowel pin to be loaded and shear. The center bolt should always be torqued to the manufacturer's specifications and a suitable thread lock used to prevent the bolt from backing out.

Cam Phasers

Cam phasers are specially designed, computer-controlled cam gears for all 2005 and newer, 3 Valve Ford Modular engines that have the ability to adjust camshaft position up to 60° while the engine is running. This helps to increase the engine's fuel efficiency. Another power benefit is that the cam phasers allow the camshafts to always be in the best position for maximum power, regardless of the engine's rpm. The engine makes more torque and horsepower and extends the high rpm power-band by an additional 800-1000 rpm. But because there is such a wide range of movement, only fairly small cam profiles can be used without causing piston to valve clearance issues.

COMP Cams® has developed the COMP Cams® Phaser Limiter Kit to eliminate this problem. These limiter plates replace the factory back-plate on the cam phaser. They have posts which extend into the cam gear's control chambers, limiting their movement to no more than 20°. This allows you to install bigger, more powerful camshafts with safe piston to valve clearances. While keeping up to 20° of movement available, all of the wide-open throttle benefits of the cam phasing is retained, since the normal retard the cams see at wide-open throttle is only around 9°. You MUST reprogram your engine's computer for it to operate properly after installing the cam phaser limiters.

Valve Stem Oil Seals

When changing to a higher than stock lift camshaft, it is common to have a clearance problem between the bottom of the spring retainer and the top of the valve stem oil seal. Before final assembly of the heads, install one seal, one valve and one retainer without the spring. Measure the distance between the top of the seal and the bottom of the retainer to be sure that it is greater than the lift of the valve by at least .050"-.060". Be sure to take into account any extra lift due to high ratio rocker arms.

Flat Tappet Break-In

All flat tappet cams require special attention during the break-in process. Special springs and some TLC will be required to ensure long life of the cam. Please refer to the instructions in your cam box for complete procedures and use COMP Cams® Engine Break-In Oil Additive Part #159 to provide added protection for the cam and other engine components during break-in. If ever in doubt, please call the COMP Cams® CAM HELP® line at 1-800-999-0853.

High Ratio Rocker Arms

A higher than standard ratio rocker arm moves the pushrod closer to the rocker arm stud. This makes it necessary to check the clearance between the pushrod and the head where the pushrod passes through the head. This is a very common problem and should be carefully checked whenever a rocker arm ratio change or pushrod diameter change is made.

Rocker Arm Geometry

Proper rocker arm geometry is necessary to ensure the maximum benefit from any cam design. Camshaft base circle, block deck height, cylinder head design and lifter design all contribute to possible errors in valve train geometry. It is simple to make compensation with pushrod length.

Usually a longer than stock pushrod will be necessary in a high performance engine, but care must be taken to choose the correct length. A comprehensive explanation of the checking procedure can be found on pages 293-294.

Multi Groove Valves

No longer is it necessary to convert "Chevrolet" style single groove valves to benefit from the superior strength of COMP Cams® Super Locks™ and the variety of spring retainers available with this lock. Super Locks™ are now available for the multi-groove valves used in most 351C and 351M-400M applications. They are available in pairs or in sets and can be found on pages 356-357.

Hydraulic Roller Cams

In those engines originally equipped with hydraulic roller camshafts, conventional flat tappet hydraulic and solid lifter cams can be used. It will be necessary when making this change to use the corresponding cam, lifters, pushrods, rocker arms, valve springs and timing chain set.

Retro-Fit Hydraulic Roller Cams

COMP Cams® has developed a special kit to allow the installation of hydraulic roller cams and factory style hydraulic roller lifters in standard Ford V8 engines (289-351W, 351C, 351-400M) not originally equipped with hydraulic roller cams. This kit uses many of the same parts as the factory roller cam equipped 5.0L engines, including the lifter guides and retention tray. This kit can be used only with the specially designed COMP Cams® Retro-fit Hydraulic Roller Camshafts with special base circle size.

To ensure that you have the correct base circle size: install the cam, lifters and all lifter retention hardware. Slowly rotate the camshaft, looking closely at the top of the lifter where it contacts the guide bar. As the lifters move up and down, the lifter guides should remain flat on the top of the lifter bores. The lifters must not push the guides up as the lifters rise, and the lifters must not drop below the guide bar as they go all the way down. If either of these conditions exists, the base circle of the camshaft is incorrect and must be changed prior to complete installation.

COMP Cams® has developed hydraulic roller lifters that will eliminate the need for different base circles. This lifter, Part #8931-16, is a captured link bar style lifter that is a simple drop-in design for most Small Block Ford applications. We also offer a Big Block Ford version, Part #8934-16.

Camshaft Retention Bolt

Most V8 Ford engines used a 3/8" bolt to secure the upper cam gear to the cam. Almost all racing engines use a 7/16" bolt for this application. Be sure to check the compatibility of the bolt to the cam, as a 3/8" bolt in a 7/16" cam will almost certainly result in catastrophic engine failure. Most of the COMP Cams® racing roller cams will come with the 7/16" hole in the cam.

Camshaft Journal Diameter

Many of the newer racing engines utilize a larger than standard cam bearing journal diameter. The advantages of the larger diameter are less flex and a larger base circle to smooth out the lobe design, making this a very desirable addition to any extreme racing engine. The most common sizes other than stock are: 2.051" (babbit bearing, all five common size journals), 2.081" (roller bearing, all five common size journals) and 2.165"/1.968" (roller bearing, commonly referred to as the "large roller bearing").

Any of these sizes should be available, but none are interchangeable. Make sure to specify journal size when ordering your cam. If no special size is requested, the standard journal will be chosen.



FORD/LINCOLN/MERCURY

FORD 2000-2300 OHC 4 CYL. (4 JOURNAL) 1971-1991

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT IN.	VALVE LIFT EX.	LOBE SEP. ANGLE
HYDRAULIC – Excellent torque and good mileage. Perfect cam for OEM replacement.	Hyd.	Hyd.	800 to 4800	70-115-6	240H	247	247	201	201	.400	.400	110°
HYDRAULIC – Power and mileage increase in low to mid rpm range. Great for highway driving.	Hyd.	Hyd.	1000 to 5000	70-119-6	252H	256	256	210	210	.410	.410	110°
HYDRAULIC – Good for towing in trucks and sedans. Excellent torque. Smooth idle.	Hyd.	Hyd.	1200 to 5200	70-123-6	260H	264	264	218	218	.420	.420	110°

MAGNUM Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT IN.	VALVE LIFT EX.	LOBE SEP. ANGLE
HYDRAULIC – Good all around street performance. Can be used in daily driver. Mid-range power.	Hyd.	Hyd.	1500 to 5500	70-127-6	268H	272	272	226	226	.440	.440	110°
HYDRAULIC – Great power in mid-range and high rpm. Performance cam for street use.	Hyd.	Hyd.	1800 to 5800	70-131-6	280H	280	280	236	236	.460	.460	110°

OVAL TRACK Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT IN.	VALVE LIFT EX.	LOBE SEP. ANGLE
SOLID – Aftermarket intake and headers needed. 500 CFM carb., 11:1+ compression.	.010	.010	3500 to 7400	70-202-6[53]	294S	300	300	270	270	.503	.503	112°
SOLID – Ported cylinder head, longer valves. 12:1+ compression.	.010	.010	3800 to 7800	70-204-6[54]	300S	315	315	285	285	.638	.638	110°

FORD ZETEC 2.0L DOHC 4 CYL. 1995-1997 AND 2000-2003

XR SERIES Solid Direct Acting Camshafts (Custom Sets Available)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT IN.	VALVE LIFT EX.	LOBE SEP. ANGLE
SERIOUS STREET/RACE – Pulls strong through rpm range. Responds well to bolt-ons.	.010	.010	1400 to 6000	108100[84]	Z273	273	273	220	220	.381	.381	112°
SEVERE STREET/COMPETITION – Strong improvement in torque and horsepower from mid-range and up. Responds well to cold air intakes and exhaust upgrades.	.010	.010	1800 to 7000	108200[84]	Z281	281	281	228	228	.381	.381	112°
COMPETITION/PRO RACE – High rpm power. Maximize hp gains with aftermarket intake and exhaust upgrades.	.010	.010	2200 to 7400	108300[84]	Z289	289	289	236	236	.381	.381	112°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 2000-2300 OHC 4 CYL. (4 JOURNAL) 1971-1991

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™											
K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
N/A	N/A	CL70-115-6	N/A	846-8	N/A	1270-8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	CL70-119-6	N/A	846-8	N/A	1270-8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	CL70-123-6	N/A	846-8	N/A	1270-8	N/A	N/A	N/A	N/A	N/A
Hydraulic Flat Tappet Camshafts — MAGNUM											
N/A	N/A	CL70-127-6[7]	N/A	846-8	N/A	1270-8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	CL70-131-6[7]	N/A	846-8	N/A	1270-8	N/A	N/A	N/A	N/A	N/A
Mechanical Flat Tappet Camshafts — OVAL TRACK											
N/A	N/A	N/A	N/A	N/A	N/A	1270-8	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	1270-8	N/A	N/A	N/A	N/A	N/A

FORD ZETEC 2.0L DOHC 4 CYL. 1995-1997 AND 2000-2003

Solid Direct Acting Camshafts (Custom Sets Available) — XR SERIES											
K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Footnotes: Master Footnote Index on page 15.

7 Stock springs cannot be used
53 These specs are measured with a stock length valve and .010" lash between the cam and follower
54 These specs are measured with a .060" longer than stock valve and .010" lash between cam and follower
84 Will not work in 1998-99 models

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 144-250 C.I. 6 CYL. 1960-1983 (7.808" DECK)

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Best cam for low rpm torque or for use in 200c.i. and smaller engines. Economy and smooth idle.	Hyd.	Hyd.	500 to 4500	65-235-4	252H	252	252	206	206	.425	.425	110°
HYDRAULIC – Good for towing in 200-250c.i., mid-range torque and power. Smooth idle.	Hyd.	Hyd.	1000 to 5000	65-236-4	260H	260	260	212	212	.440	.440	110°

FORD 240-300 C.I. 6 CYL. 1965-1996 (10" DECK)

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good torque and mileage for 240-300. Excellent throttle response.	Hyd.	Hyd.	500 to 4500	66-236-4	252H	252	252	206	206	.433	.433	110°
HYDRAULIC – Excellent torque and power for towing in 300c.i. Smooth idle.	Hyd.	Hyd.	1000 to 5000	66-237-4	260H	260	260	212	212	.447	.447	110°
HYDRAULIC – Moderate performance camshaft for 300c.i. Strong in mid-range rpm. Noticeable idle.	Hyd.	Hyd.	1200 to 5200	66-248-4	268H	268	268	218	218	.456	.456	110°

FORD 2600-2800 OHV 6 CYL. 1972-1980 PASSENGER CARS

HIGH ENERGY™ Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.46 ROCKER IN.	VALVE LIFT W/ 1.46 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Good for OEM replacement or rebuild. Low rpm torque with good economy. Very smooth idle.	.010	.012	500 to 4500	36-101-4	244S	244	244	200	200	.388	.388	108°
SOLID – Power increase in low to mid rpm range. Economy with performance. Smooth idle.	.010	.012	800 to 4800	36-240-4	252S	252	252	210	210	.423	.423	110°
SOLID – Moderate performance camshaft. Strong in mid-range rpm. Noticeable idle.	.010	.012	1200 to 5200	36-241-4	264S	264	264	220	220	.428	.428	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 144-250 C.I. 6 CYL. 1960-1983 (7.808" DECK)

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K65-235-4	SK65-235-4	CL65-235-4	N/A	834-12	3223[8]	N/A	7865-12	902-12	N/A	601-12	502-12
K65-236-4	SK65-236-4	CL65-236-4	N/A	834-12	3223[8]	N/A	7865-12	902-12	N/A	601-12	502-12

FORD 240-300 C.I. 6 CYL. 1965-1996 (10" DECK)

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K66-236-4	SK66-236-4	CL66-236-4	N/A	832-12	3224 3141	1266-12	7866-12	903-12	N/A	901-12	502-12
K66-237-4	SK66-237-4	CL66-237-4	N/A	832-12	3224 3141	1266-12	7866-12	903-12	N/A	901-12	502-12
K66-248-4	SK66-248-4	CL66-248-4[7]	N/A	832-12	3224 3141	1266-12	7866-12	903-12	N/A	901-12	502-12

FORD 2600-2800 OHV 6 CYL. 1972-1980 PASSENGER CARS

Mechanical Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
N/A	SK36-101-4	CL36-101-4	N/A	835-12	3236	1236-12	7836-12	906-12	N/A	N/A	N/A
N/A	SK36-240-4	CL36-240-4	N/A	835-12	3236	1236-12	7836-12	906-12	N/A	N/A	N/A
N/A	SK36-241-4	CL36-241-4	N/A	835-12	3236	1236-12	7836-12	906-12	N/A	N/A	N/A

Footnotes: Master Footnote Index on page 15.

8 Fits only certain years

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 2800 OHV 6 CYL. 1983-1986 BRONCO II/RANGER

HIGH ENERGY™ Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.46 ROCKER IN.	VALVE LIFT W/ 1.46 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Good cam for OEM replacement or rebuild. Low rpm torque with good economy. Very smooth idle.	.010	.012	500 to 4500	38-101-4	244S	244	244	200	200	.388	.388	108°
SOLID – Performance with economy, power increase in low to mid rpm range. Smooth idle.	.010	.012	800 to 4800	38-240-4	252S	252	252	210	210	.423	.423	110°
SOLID – Moderate performance camshaft. Strong in mid-range rpm. Noticeable idle.	.010	.012	1200 to 5200	38-241-4	264S	264	264	220	220	.428	.428	110°

FORD 3.8L & 4.2L 6 CYL. 1989-2004

XTREME ENERGY™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Excellent stock replacement with strong torque and mid-range.	Hyd.	Hyd.	1000 to 5000	44-700-9	255HR112	255	263	200	208	.480	.480	112°
HYDRAULIC ROLLER – Excellent stock replacement for Super Coupe, strong torque.	Hyd.	Hyd.	1200 to 5800	44-701-9	259HR115	259	271	204	216	.480	.480	115°
HYDRAULIC ROLLER – Mild performance cam, needs spring upgrade and may require computer modifications.	Hyd.	Hyd.	1500 to 5800	44-702-9	268HR112	265	273	210	218	.500	.500	112°
HYDRAULIC ROLLER – Serious street cam for Super Coupe or nitrous, needs spring and computer upgrades.	Hyd.	Hyd.	1500 to 6000	44-703-9	265HR115	265	281	210	226	.500	.500	115°
HYDRAULIC ROLLER – Max strip/street cam, requires spring and computer modifications.	Hyd.	Hyd.	1800 to 6200	44-704-9	273HR112	273	281	218	226	.500	.500	112°

FORD 4.0L 6 CYL. 1990-2001

HIGH ENERGY™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Good OEM replacement in Explorers and Rangers. Good torque and mileage. Great for towing.	Hyd.	Hyd.	800 to 4800	49-410-8[98]	256HR	256	266	200	210	.465	.500	112°
HYDRAULIC ROLLER – Good in Explorers and Rangers with aftermarket chip. Strong torque and mid-range.	Hyd.	Hyd.	1200 to 5200	49-422-8[98]	270HR	270	284	215	224	.500	.500	112°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 2800 OHV 6 CYL. 1983-1986 BRONCO II/RANGER

Mechanical Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
N/A	SK38-101-4	CL38-101-4	N/A	835-12	3236	1236-12	7836-12	906-12	N/A	N/A	N/A
N/A	SK38-240-4	CL38-240-4	N/A	835-12	3236	1236-12	7836-12	906-12	N/A	N/A	N/A
N/A	SK38-241-4	CL38-241-4	N/A	835-12	3236	1236-12	7836-12	906-12	N/A	N/A	N/A

FORD 3.8L & 4.2L 6 CYL. 1989-2004

Hydraulic Roller Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
N/A	N/A	N/A	N/A	851-12	N/A	N/A	7635-12	26918-12[83]	786-12	N/A	N/A
N/A	N/A	N/A	N/A	851-12	N/A	N/A	7635-12	26918-12[83]	786-12	N/A	N/A
N/A	N/A	N/A	N/A	851-12	N/A	N/A	7635-12	26918-12[83]	786-12	N/A	N/A
N/A	N/A	N/A	N/A	851-12	N/A	N/A	7635-12	26918-12[83]	786-12	N/A	N/A
N/A	N/A	N/A	N/A	851-12	N/A	N/A	7635-12	26918-12[83]	786-12	N/A	N/A

FORD 4.0L 6 CYL. 1990-2001

Hydraulic Roller Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	988-12	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	988-12	N/A	N/A	N/A

Footnotes: Master Footnote Index on page 15.

83 Requires machining to heads for 1995 & older models
98 Will not work with stock length pushrods

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 4.6L & 5.4L SOHC MODULAR 2 VALVE 8 CYL. 1991-PRESENT

XTREME ENERGY™ Hydraulic Roller Swinging Follower Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.825 ROCKER IN.	VALVE LIFT W/ 1.825 ROCKER EX.	LOBE SEP. ANGLE
SOHC – Excellent upgrade from stock cam. Improved torque and power. Works with stock computer, best with programmer. Smooth idle.	Hyd.	Hyd.	1200 to 5200	102100*	XE262H	262	270	224	232	.500	.500	114°
SOHC – Mild street performance, 3.23-3.55 gears. Good torque and power. Noticeable idle. Programmer upgrade required.	Hyd.	Hyd.	1600 to 5600	102200*	XE268H	268	274	230	236	.500	.500	114°
SOHC – Hot street, 3.55-3.73 gears, 2000+ stall, computer upgrade required. Rough idle.	Hyd.	Hyd.	2000 to 6000	102300*	XE274H	274	278	236	240	.500	.500	114°

XTREME ENERGY™ Hydraulic Roller Swinging Follower Camshafts (1999-Up Perf. Improvement Heads)

SOHC – Excellent torque. Better low- and mid-range torque with more power. Will work with stock computer. Programmer required.	Hyd.	Hyd.	1400 to 5400	102500*	XE262AH	262	266	226	230	.550	.550	113°
SOHC – Hot street cam, needs higher gear ratio. 2000+ stall. Intake, exhaust, computer upgrade recommended. Noticeable idle. Programmer required.	Hyd.	Hyd.	1800 to 5800	102600*	XE270AH	270	274	234	238	.550	.550	113°
SOHC – Street/strip, needs higher gear ratio, 2400+ stall. Intake, exhaust, computer upgrade required. Rough idle.	Hyd.	Hyd.	2200 to 6200	102700*	XE278AH	278	282	242	246	.550	.550	113°

New XTREME ENERGY™ Blower Hydraulic Roller Swinging Follower Camshafts (1999-Up Perf. Improvement Heads)

SOHC – Good torque with powerful mid-range when using a blower. Programming required.	Hyd.	Hyd.	1600 to 5600	102560*	XE262BH-16	262	266	226	230	.550	.550	116°

TRI-POWER XTREME™ Hydraulic Roller Swinging Follower Camshafts

SOHC – Optimized fuel mileage with good torque and horsepower. Programmer upgrade required.	Hyd.	Hyd.	800 to 4800	102525*	TPX248HR-16	247	257	212	222	.484	.475	116°
SOHC – Exceptional torque with good horsepower and good fuel economy. Programmer upgrade required.	Hyd.	Hyd.	1000 to 5000	102530*	TPX254HR-15	253	261	218	226	.484	.475	115°
SOHC – Optimized combination for power and torque with acceptable fuel economy for your daily driver or highway cruiser. Programmer upgrade required.	Hyd.	Hyd.	1200 to 5200	102535*	TPX262HR-14	261	267	224	230	.495	.495	114°

**** Requires cam gear set (#10246SET), valve springs (#26113-16), steel retainers (#792-16) or titanium retainers (#791-16). High load valve springs (#26125-16) are also available for these applications.***

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 4.6L DOHC MODULAR 4 VALVE 8 CYL. 1993-PRESENT

XTREME RPM SERIES — Hydraulic Roller Swinging Follower Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.825 ROCKER IN.	VALVE LIFT W/ 1.825 ROCKER EX.	LOBE SEP. ANGLE
DOHC – Excellent replacement cam with strong torque. Programmer required.	Hyd.	Hyd.	1000 to 5000	106060*	XE254BH-116	253	253	218	218	.425	.425	116°
DOHC – Great street performance featuring excellent torque and horsepower gains with a noticeable idle. Programmer required.	Hyd.	Hyd.	1200 to 5400	106100*	XE262AH-114	261	257	226	222	.425	.425	114°
DOHC – Serious street effort with maximum power gains in the mid to upper rpm. Requires computer modifications and lower gears. Automatic cars need a 2000+ stall. Programmer required. Mild rough idle.	Hyd.	Hyd.	1500 to 6000	106160*	XE266BH-116	265	265	230	230	.425	.425	116°
DOHC – Street and strip performance. Needs lower gears, exhaust upgrades, larger throttle body and mass air, bigger fuel injectors and a 2200+ stall with automatics. Custom programming required. Rough idle.	Hyd.	Hyd.	1800 to 6200	106200*	XE270AH-114	269	265	234	230	.425	.425	114°

XTREME XE-R SERIES — Hydraulic Roller Swinging Follower Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.825 ROCKER IN.	VALVE LIFT W/ 1.825 ROCKER EX.	LOBE SEP. ANGLE
DOHC – Street performance with excellent torque in normally aspirated engines. Programmer required. Noticeable idle.	Hyd.	Hyd.	1500 to 5800	106300*	XE262AH-114	261	259	226	224	.475	.450	114°
DOHC – Hot performance cams with serious horsepower and torque gains. Recommended lower gears, custom programming, larger throttle body, mass air, injectors and exhaust upgrades. Automatics use a 2200+ stall. Features a rough idle.	Hyd.	Hyd.	1800 to 6200	106400*	XE270BH-114	269	267	234	232	.475	.450	114°
DOHC – Race or limited street use. Cams require a larger throttle body, mass air, injectors, exhaust upgrades and custom programming. Automatics need a 3000+ stall. Very rough idle.	Hyd.	Hyd.	2200 to 6500	106500*	XE278AH-114	277	275	242	240	.475	.450	114°

XE-R SUPERCHARGED & NITROUS SERIES — Hydraulic Roller Swinging Follower Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.825 ROCKER IN.	VALVE LIFT W/ 1.825 ROCKER EX.	LOBE SEP. ANGLE
DOHC – Street performance with excellent torque. Works well in supercharged or nitrous engines. Requires programmer.	Hyd.	Hyd.	1200 to 5800	106260*	XE258BH-116	257	259	222	224	.475	.450	116°
DOHC – Serious street effort for supercharged or nitrous applications. Requires custom programming and lower gears. Automatics will require a 2000+ stall. Mild rough idle.	Hyd.	Hyd.	1500 to 6000	106360*	XE266BH-116	265	267	230	232	.475	.450	116°
DOHC – Max strip and street cams for centrifugal supercharged or nitrous engines. Large gains in power with larger throttle body, mass air, injectors and exhaust upgrades. Requires lower gears and custom programming. Automatics use a 2500+ stall. Features a rough idle.	Hyd.	Hyd.	2000 to 6400	106460*	XE274BH-116	273	275	238	240	.475	.450	116°

Requires cam gear set (#10246SET), valve springs (#26123-32), steel retainers (#799-32) or titanium retainers (#798-32).

FORD 4.6L & 5.4L SOHC MODULAR 3 VALVE 8 CYL. 2004-PRESENT

XFI™ NSR (NO SPRINGS REQUIRED) — Hydraulic Roller Swinging Follower Camshafts

New APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.825 ROCKER IN.	VALVE LIFT W/ 1.825 ROCKER EX.	LOBE SEP. ANGLE
SOHC – Great upgrade for stock engine. Solid power gains above 4700 rpm, compatible with stock springs. Works with tuners but not required.	Hyd.	Hyd.	750 to 6200	127050	XE253LH-14	253	270	214	227	.450	.450	114°
SOHC – Solid power gains above 4900 rpm, compatible with stock springs. Works with tuners but not required. Best with 3.73 gear & 2500 stall. Great idle.	Hyd.	Hyd.	750 to 6400	127200	XE261LH-115.5	261	278	222	235	.450	.450	115.5°

New XFI™ NSR (NO SPRINGS REQUIRED) BLOWER — Hydraulic Roller Swinging Follower Camshafts

SOHC – Excellent mid-range cam for bolt-on blowers with stock boost levels. Great power gains above 4700 rpm, compatible with stock springs. Best with stock gears.	Hyd.	Hyd.	750 to 6200	127055	XE253LH-15	253	274	214	231	.450	.450	115°
SOHC – Mid to upper range cam for bolt-on blowers running higher boost psi. Major power gains above 4900 rpm, compatible with stock springs. Best with 3.73+ gears & 2500 stall. Great idle.	Hyd.	Hyd.	750 to 6400	127205	XE261LH-16.5	261	282	222	239	.450	.450	116.5°

New THUMPR™ NSR (NO SPRINGS REQUIRED) — Hydraulic Roller Swinging Follower Camshafts

SOHC – Thumpr™ – Great idle with excellent power. Good mid-range torque and power gains above 4500 rpm. Compatible with stock valve springs, converter and gears; requires cam phaser upgrade and custom tuning.	Hyd.	Hyd.	750 to 6400	127010	TH265LL-9	265	298	226	246	.450	.450	109°
SOHC – Mutha' Thumpr™ – Very rough idle, biggest cam for stock heads. Great power above 4900 rpm. Compatible with stock valve springs, benefits from converter and gears, requires cam phaser upgrade and custom tuning.	Hyd.	Hyd.	750 to 6600	127020	MT273LL-9	273	306	234	254	.450	.450	109°
SOHC – Big Mutha' Thumpr™ – Extremely rough idle, needs stroker motor and/or ported heads. Major hp gains to 6800 rpm. Best with 3.73+ gears and 2500 stall. Compatible with stock valve springs, requires cam phaser upgrade.	Hyd.	Hyd.	750 to 6800	127030	BT281LL-9	281	314	242	262	.450	.450	109°

XFI™ VSR (VALVE SPRINGS REQUIRED) — Hydraulic Roller Swinging Follower Camshafts

SOHC – Excellent upgrade over stock. Solid power gains above 4400 rpm, requires spring upgrade. Tuner recommended. Stock gears and converter OK.	Hyd.	Hyd.	850 to 6200	127100*	XE253H-14	253	270	214	227	.480	.470	114°
SOHC – Serious street cam, noticeable idle. Solid power gains above 4600 rpm, requires spring upgrade. Works with tuners, tuning recommended. Best with 3.90 gears and 3000 stall.	Hyd.	Hyd.	950 to 6400	127300*	XE261H-15.5	261	278	222	235	.490	.480	115.5°

Requires valve springs (#26113-24), steel retainers (#700-24) or titanium retainers (#702-24)

FORD 4.6L & 5.4L SOHC MODULAR 3 VALVE 8 CYL. 2004-PRESENT

XFI™ VSR (VALVE SPRINGS REQUIRED) BLOWER — Hydraulic Roller Swinging Follower Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.825 ROCKER IN.	VALVE LIFT W/ 1.825 ROCKER EX.	LOBE SEP. ANGLE
SOHC – Powerful mid-rpm range cam for bolt-on blowers at stock boost levels. Solid power gains above 4400 rpm, requires spring upgrade. Stock gears and converter OK.	Hyd.	Hyd.	850 to 6200	127150*	XE253H-15	253	274	214	231	.480	.475	115°
SOHC – Mid to upper range cam for bolt-on blowers with high boost. Noticeable idle, solid power gains above 4900 rpm, requires spring upgrade. Best with 3000+ stall.	Hyd.	Hyd.	950 to 6400	127350*	XE261H-16.5	261	282	222	239	.490	.485	116.5°

XFI™ SPR (SPRING & PHASER MODS REQUIRED) — Hydraulic Roller Swinging Follower Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.825 ROCKER IN.	VALVE LIFT W/ 1.825 ROCKER EX.	LOBE SEP. ANGLE
SOHC – Powerful cam with great idle, excellent upgrade over stock. Good torque down low with powerful mid-range. Solid power gains above 4500 rpm, requires spring and phaser upgrade. Custom tuning required. Stock gears and converter ok.	Hyd.	Hyd.	900 to 6700	127400**	XE256PH-12	256	267	221	228	.523	.538	112°
SOHC – Powerful cam with very rough idle, biggest cam to use with stock heads. Good mid-range torque with incredible top end hp gains. Solid power above 4700 rpm, spring and phaser upgrade required. 3.90+ gears and 3000+ stall.	Hyd.	Hyd.	950 to 6900	127500**	XE264PH-12	264	275	229	236	.535	.550	112°
SOHC – Max effort street/strip cam with very rough idle, needs ported heads. Good mid-range with incredible power up to 7000+ rpm. Solid power gains above 4900 rpm, requires spring and phaser upgrade. Custom tuning required. 4.10+ gears and 3200+ stall.	Hyd.	Hyd.	1000 to 7100	127600***	XE272PH-12	272	283	237	244	.547	.560	112°

New XFI™ SPR (SPRING & PHASER MODS REQUIRED) BLOWER — Hydraulic Roller Swinging Follower Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.825 ROCKER IN.	VALVE LIFT W/ 1.825 ROCKER EX.	LOBE SEP. ANGLE
SOHC – Powerful cam with great idle, excellent upgrade over stock. Good torque down low with powerful mid-range. Solid power gains above 4500 rpm, requires spring and phaser upgrade. Custom tuning required. OK with stock gears.	Hyd.	Hyd.	1500 to 6700	127450***	XE264PH-13	264	279	229	240	.535	.555	113°
SOHC – Big power gains in mid to upper rpm range for bolt-on blowers with high boost. Rough idle, solid power gains above 4900 rpm, requires spring and phaser upgrade. Custom tuning required. Best with 3.90+ gears and 3000+ stall.	Hyd.	Hyd.	2000 to 6900	127550***	XE272PH-13	272	287	237	248	.547	.560	113°
SOHC – Race only blower cam with very rough idle, needs ported heads. Great mid-range power with incredible gains up to 7000+ rpm. Solid power gains above 4900 rpm, requires spring and phaser upgrade. Custom tuning required. 4.10+ gears and 3200+ stall.	Hyd.	Hyd.	3500 to 7100	127650***	XE280PH-13	280	295	245	256	.559	.560	113°

Requires valve springs (#26113-24), steel retainers (#700-24) or titanium retainers (#702-24).
***Requires valve springs (#26113-24), steel retainers (#700-24) or titanium retainers (#702-24) and cam phaser limiter kit (#5449)*
****Requires cam phaser limiter kit (#5449) and high load valve springs (#26125-24) but can use the retainers listed above.*

FORD 221-302 C.I. 8 CYL. 1963-1995 (INCLUDES 221, 260, 289 & 302)

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – 289c.i. with automatic, stock gears. Good torque and economy, very smooth idle.	Hyd.	Hyd.	800 to 4500	31-115-4	240H	240	248	192	200	.416	.416	108°
HYDRAULIC – Good for low rpm torque in 289-302. Good towing in 302 automatic. Smooth idle.	Hyd.	Hyd.	800 to 4800	31-215-2	252H	252	252	206	206	.433	.433	110°
HYDRAULIC – Excellent combo of torque and power. Best for towing in 302 stick with low gears.	Hyd.	Hyd.	1200 to 5200	31-216-2	260H	260	260	212	212	.447	.447	110°
HYDRAULIC – Good for daily driven performance vehicles. Mid-range power. Slightly lower gears. Mild rough idle.	Hyd.	Hyd.	1500 to 5500	31-218-2	268H	268	268	218	218	.456	.456	110°

MAGNUM Hydraulic Flat Tappet Camshafts

HYDRAULIC – Performance use. Best with mild converter, headers, 9:1 compression and lower gears. Rough idle.	Hyd.	Hyd.	1800 to 5800	31-414-3	270H	270	270	224	224	.500	.500	110°
HYDRAULIC – Broad power. 2500+ stall, low gears, 9.5:1 compression and headers. Rough idle.	Hyd.	Hyd.	2000 to 6000	31-226-3	280H	280	280	230	230	.512	.512	110°
HYDRAULIC – Street/strip use. 3500+ stall or 4 speed, 4.10 gear and 10.5:1 compression. Very rough idle.	Hyd.	Hyd.	2500 to 6500	31-330-3	292H	292	292	244	244	.534	.534	110°
HYDRAULIC – Limited street use or bracket race. 11:1 compression, intake and exhaust. Radical idle.	Hyd.	Hyd.	3000 to 7000	31-331-4	305H	305	305	253	253	.540	.540	110°

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – Very strong torque, excellent mileage, smooth idle.	Hyd.	Hyd.	600 to 4800	31-230-3	XE250H	250	260	206	212	.460	.474	110°
HYDRAULIC – Strong torque thru low end and mid-range, good idle.	Hyd.	Hyd.	1000 to 5200	31-234-3	XE256H	256	268	212	218	.477	.484	110°
HYDRAULIC – Excellent response, good mid-range, stock converter, 3.23-4.10 gear.	Hyd.	Hyd.	1300 to 5600	31-238-3	XE262H	262	270	218	224	.493	.500	110°
HYDRAULIC – Great for street machine, 2200+ stall.	Hyd.	Hyd.	1600 to 5800	31-242-3	XE268H	268	280	224	230	.509	.512	110°
HYDRAULIC – Very strong torque and throttle response, 2500+ stall.	Hyd.	Hyd.	1800 to 6000	31-246-3	XE274H	274	286	230	236	.520	.523	110°
HYDRAULIC – Street/strip, 2800+ stall, headers, gears, rough idle.	Hyd.	Hyd.	2300 to 6500	31-250-4	XE284H	284	296	240	246	.541	.544	110°
HYDRAULIC – Pro Street/bracket, good intake, headers, gear, 3300+ stall.	Hyd.	Hyd.	2800 to 7000	31-254-4	XE294H	294	306	250	256	.554	.558	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 221-302 C.I. 8 CYL. 1963-1995 (INCLUDES 221, 260, 289 & 302)

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	CL-KIT	RP-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K31-115-4	CL31-115-4	RP1431-16[36,38]	832-16	35200 35100	3230[33] 2120[33]	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	942-16 972-16	768-16 743-16	601-16	502-16
K31-215-2	CL31-215-2	RP1431-16[36,38]	832-16	35200 35100	3230[33] 2120[33]	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	942-16 972-16	768-16 743-16	601-16	502-16
K31-216-2	CL31-216-2	RP1431-16[36,38]	832-16	35200 35100	3230[33] 2120[33]	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	942-16 972-16	768-16 743-16	601-16	502-16
K31-218-2	CL31-218-2	RP1431-16[36,38]	832-16	35200 35100	3230[33] 2120[33]	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	942-16 972-16	768-16 743-16	601-16	502-16

Hydraulic Flat Tappet Camshafts — MAGNUM

K-KIT	CL-KIT	RP-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K31-414-3	CL31-414-3[7]	RPM1431-16[35,39]	832-16 862-16[37]	35200 35100	2120[33] 3120[33]	1431-16[35,56] 1631-16[1]	7631-16[36] 7933-16[36]	942-16 972-16	747-16 740-16	611-16	502-16
K31-226-3	CL31-226-3[7]	RPM1431-16[35,39]	832-16 862-16[37]	35200 35100	2120[33] 3120[33]	1431-16[35,56] 1631-16[1]	7631-16[36] 7933-16[36]	942-16 972-16	747-16 740-16	611-16	502-16
K31-330-3	CL31-330-3[7]	RPM1431-16[35,39]	832-16 862-16[37]	35200 35100	2120[33] 3120[33]	1431-16[35,56] 1631-16[1]	7631-16[36] 7933-16[36]	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K31-331-4	CL31-331-4[7]	RPM1431-16[35,39]	832-16 862-16[37]	35200 35100	2120[33] 3120[33]	1431-16[35,56] 1631-16[1]	7631-16[36] 7933-16[36]	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts — XTREME ENERGY™

K-KIT	CL-KIT	RP-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K31-230-3	CL31-230-3[7]	RP1431-16[36,38]	832-16 862-16[37]	35200 35100	3230[33] 2120[33]	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	942-16 972-16	768-16 743-16	601-16	502-16
K31-234-3	CL31-234-3[7]	RP1431-16[36,38]	832-16 862-16[37]	35200 35100	3230[33] 2120[33]	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	942-16 972-16	768-16 743-16	601-16	502-16
K31-238-3	CL31-238-3[7]	RP1431-16[36,38]	832-16 862-16[37]	35200 35100	3230[33] 2120[33]	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	942-16 972-16	768-16 743-16	601-16	502-16
K31-242-3	CL31-242-3[7]	RP1431-16[36,38]	832-16 862-16[37]	35200 35100	3230[33] 2120[33]	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	942-16 972-16	768-16 743-16	601-16	502-16
K31-246-3	CL31-246-3[7]	RP1431-16[36,38]	832-16 862-16[37]	35200 35100	3230[33] 2120[33]	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K31-250-4	CL31-250-4[7]	RP1431-16[36,38]	832-16 862-16[37]	35200 35100	3230[33] 2120[33]	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K31-254-4	CL31-254-4[7]	RP1431-16[36,38]	832-16 862-16[37]	35200 35100	3230[33] 2120[33]	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used
33 Pre-1972 engines use Part #3220
35 Part #4504 studs required for 1978-present
36 1962-69 use Part #7632-16
37 Adjustable valve train required
38 For 1.7:1 ratio use Part #RP1453-16
39 For 1.7:1 ratio use Part #RPM1453-16
56 If equipped with studs and guide plates, use Part #1442-16

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 221-302 C.I. 8 CYL. 1963-1995 (INCLUDES 221, 260, 289 & 302)

THUMPR™ Hydraulic Flat Tappet Camshafts

New APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	2000 to 5800	31-601-5	279TH7	279	296	227	241	.491	.476	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 6100	31-602-5	287TH7	287	304	235	249	.500	.486	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6400	31-603-5	295TH7	295	312	243	257	.512	.497	107°

MARINE Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good vacuum. Better torque and power.	Hyd.	Hyd.	800 to 4800	31-213-4	252BH	252	252	201	206	.432	.432	112°
HYDRAULIC – Excellent economy, pleasure and skiing use, fairly smooth idle.	Hyd.	Hyd.	1200 to 5200	31-216-2	260H	260	260	212	212	.447	.447	110°
HYDRAULIC – Single or dual engines. Best for inboard/outboard. Noticeable idle.	Hyd.	Hyd.	1500 to 5500	31-218-2	268H	268	268	218	218	.456	.456	110°
HYDRAULIC – Off shore type boat. Strong performance, rough idle.	Hyd.	Hyd.	2000 to 6000	31-226-3	280H	280	280	230	230	.512	.512	110°

DUAL ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good torque, good mileage. Excellent low end torque. Smooth idle.	Hyd.	Hyd.	1000 to 5500	31-416-3	255DEH	255	263	203	216	.434	.467	110°
HYDRAULIC – Very strong mid-range. Every day performance for stock exhaust.	Hyd.	Hyd.	1600 to 5750	31-409-3	265DEH	265	273	211	223	.472	.486	110°
HYDRAULIC – High performance. High end power. 2000+ rpm stall recommended. Choppy idle.	Hyd.	Hyd.	2000 to 6000	31-418-3	275DEH	275	283	219	233	.477	.510	110°

NOSTALGIA PLUS™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – Sound of Ford 271 hp 289 cam with hydraulic lifters and increased performance.	Hyd.	Hyd.	2200 to 6400	31-670-4	N+271H	266	273	219	226	.480	.475	112°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 221-302 C.I. 8 CYL. 1963-1995 (INCLUDES 221, 260, 289 & 302)

Hydraulic Flat Tappet Camshafts — THUMPR™

K-KIT	CL-KIT	RP-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K31-601-5	CL31-601-5[7]	RP1431-16[36,38]	832-16 862-16[37]	35200 35100	3230[33] 2120[33]	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	942-16 972-16	768-16 743-16	601-16	502-16
K31-602-5	CL31-602-5[7]	RP1431-16[36,38]	832-16 862-16[37]	35200 35100	3230[33] 2120[33]	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	942-16 972-16	768-16 743-16	601-16	502-16
K31-603-5	CL31-603-5[7]	RP1431-16[36,38]	832-16 862-16[37]	35200 35100	3230[33] 2120[33]	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts — MARINE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
832-16	3120	1431-16[35,56]	7631-16[36] 7933-16[36]	942-16 972-16	768-16 747-16	601-16 611-16	502-16	621-16	N/A	35200 35100	4013[1]
832-16	3120	1431-16[35,56]	7631-16[36] 7933-16[36]	942-16 972-16	768-16 747-16	601-16 611-16	502-16	621-16	N/A	35200 35100	4013[1]
832-16	3120	1431-16[35,56]	7631-16[36] 7933-16[36]	942-16 972-16	768-16 747-16	601-16 611-16	502-16	621-16	N/A	35200 35100	4013[1]
832-16	3120	1431-16[35,56]	7631-16[36] 7933-16[36]	972-16	747-16 730-16	611-16	502-16	621-16	N/A	35200 35100	4013[1]

Hydraulic Flat Tappet Camshafts — DUAL ENERGY™

K-KIT	CL-KIT	RP-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K31-416-3	CL31-416-3[7]	RP1431-16[35,38]	832-16 862-16[37]	35200 35100	3230[33] 2120	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	942-16 972-16	768-16 747-16	601-16 611-16	502-16
K31-409-3	CL31-409-3[7]	RP1431-16[35,38]	832-16 862-16[37]	35200 35100	3230[33] 2120	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	942-16 972-16	768-16 747-16	601-16 611-16	502-16
K31-418-3	CL31-418-3[7]	RP1431-16[35,38]	832-16 862-16[37]	35200 35100	3230[33] 2120	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	942-16 972-16	768-16 747-16	601-16 611-16	502-16

Hydraulic Flat Tappet Camshafts — NOSTALGIA PLUS™

K31-670-4	CL31-670-4[7]	RP1431-16[35,38]	832-16 862-16[37]	35200 35100	2120 3120	1431-16[35,56] 1631-16[1]	7831-16[36] 7631-16[36]	942-16 972-16	768-16 747-16	601-16 611-16	502-16

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used
33 Pre-1972 engines use Part #3220
35 Part #4504 studs required for 1978-present
36 1962-69 use Part #7632-16
37 Adjustable valve train required
38 For 1.7:1 ratio use Part #RP1453-16
56 If equipped with studs and guide plates, use Part #1442-16

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 221-302 C.I. 8 CYL. 1963-1995 (INCLUDES 221, 260, 289 & 302)

XTREME ENERGY™ Computer Controlled Hydraulic Flat Tappet Camshaft (FOR EFI)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – EFI speed density, works with stock computer. Very strong torque, excellent mileage, good idle quality.	Hyd.	Hyd.	1000 to 5200	31-255-5	XE250H-14	250	260	206	212	.462	.474	114°

DRAG RACE Hydraulic Flat Tappet Camshafts

HYDRAULIC – Good for 4 speed or 3500+ stall, 10.5:1+ compression.	Hyd.	Hyd.	3800 to 6800	31-331-4	305AH-10	305	305	253	253	.540	.540	110°

MAGNUM Retro-Fit Hyd. Roller Camshafts (NOT FOR EFI) For engines that DID NOT come from the factory with hydraulic roller cams

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Best with stock engine or slightly modified engine for economy or towing. Stock converter. Smooth idle.	Hyd.	Hyd.	1200 to 4500	31-412-8[31]	260HR	260	260	206	206	.480	.480	110°
HYDRAULIC ROLLER – Good performance increase for highway cruiser. Slightly noticeable	Hyd.	Hyd.	1800 to 5000	31-422-8[31]	270HR	270	270	215	215	.533	.533	110°
HYDRAULIC ROLLER – Great for street machines. Best power increase above 3500 rpm, good torque, mild idle.	Hyd.	Hyd.	2000 to 5500	31-432-8[31]	281HR	281	281	220	220	.512	.512	110°
HYDRAULIC ROLLER – Street machine and limited high performance street use. 3.40-4.10 gears. Aftermarket intake and headers. Mild/rough idle.	Hyd.	Hyd.	2500 to 6000	31-442-8[31]	284HR	284	284	224	224	.533	.533	110°
HYDRAULIC ROLLER – Street/strip only, 4 speed and 4.10 or lower gear. 9:1 compression, aftermarket intake, headers and converter. 2500+ converter.	Hyd.	Hyd.	3000 to 6500	31-452-8[31]	290HR	290	290	230	230	.544	.544	110°

New THUMPR™ Retro-Fit Hydraulic Roller Camshafts

HYDRAULIC ROLLER – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears, choppy/thumping idle.	Hyd.	Hyd.	1900 to 5600	31-600-8[31]	283THR7	283	303	227	241	.531	.515	107°
HYDRAULIC ROLLER – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 5900	31-601-8[31]	291THR7	291	311	235	249	.540	.526	107°
HYDRAULIC ROLLER – Big Mutha' Thumpr™ – Street/ strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6200	31-602-8[31]	299THR7	299	319	243	257	.552	.537	107°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 221-302 C.I. 8 CYL. 1963-1995 (INCLUDES 221, 260, 289 & 302)

Computer Controlled Hydraulic Flat Tappet Camshaft (FOR EFI) — XTREME ENERGY™

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
832-16 862-16[37]	3120	1431-16[35,56]	7631-16[36]	942-16 972-16	768-16 747-16	601-16 611-16	502-16	621-16	N/A	35200 35100	4013[1]

Hydraulic Flat Tappet Camshafts — DRAG RACE

862-16[37]	3120	1631-16[1] 1131-16[1]	7933-16	987-16[2] 950-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	35200 35100	4013[1]

Retro-Fit Hyd. Roller Camshafts (NOT FOR EFI) For engines that DID NOT come from the factory with hydraulic roller cams — MAGNUM

K-KIT	CL-KIT	RP-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K31-412-8	CL31-412-8[7]	RPR1428-16[35]	851-16 8931-16	35200 35100	2120[33] 3120	1431-16[35,56] 1631-16[1]	7819-16 7754-16	986-16[2] 26986-16	740-16 795-16	611-16 614-16	503-16[2]
K31-422-8	CL31-422-8[7]	RPR1428-16[35]	851-16 8931-16	35200 35100	2120[33] 3120	1431-16[35,56] 1631-16[1]	7819-16 7754-16	986-16[2] 26986-16	740-16 795-16	611-16 614-16	503-16[2]
K31-432-8	CL31-432-8[7]	RPR1428-16[35]	851-16 8931-16	35200 35100	2120[33] 3120	1431-16[35,56] 1631-16[1]	7819-16 7754-16	986-16[2] 26986-16	740-16 795-16	611-16 614-16	503-16[2]
K31-442-8	CL31-442-8[7]	RPR1428-16[35]	851-16 8931-16	35200 35100	2120[33] 3120	1431-16[35,56] 1631-16[1]	7819-16 7754-16	986-16[2] 26986-16	740-16 795-16	611-16 614-16	503-16[2]
K31-452-8	CL31-452-8[7]	RPR1428-16[35]	851-16 8931-16	35200 35100	2120[33] 3120	1431-16[35,56] 1631-16[1]	7819-16 7754-16	986-16[2] 26986-16	740-16 795-16	611-16 614-16	503-16[2]

Retro-Fit Hydraulic Roller Camshafts — THUMPR™

K31-600-8	CL31-600-8[7]	RPR1428-16[35]	851-16 8931-16	35200 35100	2120[33] 3120	1431-16[35,56] 1631-16[1]	7819-16 7754-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K31-601-8	CL31-601-8[7]	RPR1428-16[35]	851-16 8931-16	35200 35100	2120[33] 3120	1431-16[35,56] 1631-16[1]	7819-16 7754-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K31-602-8	CL31-602-8[7]	RPR1428-16[35]	851-16 8931-16	35200 35100	2120[33] 3120	1431-16[35,56] 1631-16[1]	7819-16 7754-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used
31 These cams can only be used in 289-302 engines. NOT 302 H.O. blocks due to base circle size.
33 Pre-1972 engines use Part #3220
35 Part #4504 studs required for 1978-present
36 1962-69 use Part #7632-16
37 Adjustable valve train required
56 If equipped with studs and guide plates, use Part #1442-16

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 221-302 C.I. 8 CYL. 1963-1995 (INCLUDES 221, 260, 289 & 302)

MAGNUM — Mechanical Flat Tappet Camshafts (WITH 1.5 ROCKERS)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Daily usage in performance vehicles. Broad power, good driveability, stock gear and compression. Mild rough idle. 2000 converter recommended.	.022	.022	1800 to 5800	31-333-4	270S	270	270	224	224	.499	.499	110°
SOLID – Performance cam for street machines. Lower axle ratio and 2500+ stall with headers. Rough idle.	.022	.022	2000 to 6000	31-334-4	282S	282	282	236	236	.528	.528	110°
SOLID – Great for street/strip. 4 speed or automatic with 3500+ stall. Intake, headers, low gears, very rough idle, 10:1 compression.	.022	.022	2500 to 6500	31-335-4	294S	294	294	248	248	.560	.560	110°
SOLID – Limited street use, with 4000+ stall or 4 speed, with 4.10 or lower gear.	.022	.022	3000 to 7000	31-336-4	306S	306	306	260	260	.592	.592	110°

NOSTALGIA PLUS™ — Mechanical Flat Tappet Camshaft

SOLID – Outstanding power and modern tight lash with Ford 271 hp 289 cam sound.	.012	.012	2200 to 6800	31-671-4	N+271S	262	269	225	232	.495	.495	112°

FACTORY MUSCLE™ — Mechanical Flat Tappet Camshafts (Today's Version Of Yesterday's Muscle Car Cams)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Factory I.D. #C30Z-6250-C for 289c.i. 1965-68, factory 271 hp	.022	.022	2200 to 6200	31-110-5	C30ZS	283	261	228	227	.478	.475	114°

MAGNUM MUSCLE — Mechanical Flat Tappet Camshafts (Today's Version Of Yesterday's Muscle Car Cams)

SOLID – Magnum Muscle cam for 289c.i. 1965-68, factory 271 hp.	.022	.022	2500 to 6500	31-334-4	282S	270	270	236	236	.528	.528	110°

DRAG RACE — Mechanical Flat Tappet Camshafts

SOLID – Good torque for small engines, 3500+ stall, 10:1 compression.	.022	.022	3000 to 7000	31-639-5	280B-6	280	284	242	246	.541	.522	106°
SOLID – Best baseline race cam, 10.5:1 compression, 3500+ stall, good power.	.022	.022	3000 to 7000	31-609-5	285B-6	285	295	250	260	.568	.592	106°
SOLID – Good for 4000+ stall in medium to heavy cars, 10.5:1 compression.	.022	.022	3000 to 7000	31-640-5	290B-6	290	304	255	266	.576	.570	106°
SOLID – Light car with 4 speed or 4500+ stall, 11:1 compression.	.022	.022	3000 to 7000	31-641-5	300B-6	300	314	265	276	.600	.593	106°

MAGNUM — Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Broad power, lower gear ratio, 2500+ stall with headers. Rough idle.	.020	.020	2200 to 6500	31-760-8	288R	288	288	243	243	.586	.586	110°
MECHANICAL ROLLER – Ultimate in Pro Street. 3500+ stall 4.10 or lower gear. Radical idle.	.020	.020	3000 to 7000	31-761-8	308R	308	308	262	262	.613	.613	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 221-302 C.I. 8 CYL. 1963-1995 (INCLUDES 221, 260, 289 & 302)

Mechanical Flat Tappet Camshafts (WITH 1.5 ROCKERS) — MAGNUM

K-KIT	CL-KIT	RP-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RET.	VALVE LOCKS	VALVE SEALS
K31-333-4	CL31-333-4[7]	RPM1431-16[35,39]	833-16 809-16[2]	35200 35100	2120[33] 3120	1431-16[35,56] 1631-16[1]	7631-16[36] 7929-16	942-16 972-16	747-16 740-16	611-16	502-16
K31-334-4	CL31-334-4[7]	RPM1431-16[35,39]	833-16 809-16[2]	35200 35100	2120[33] 3120	1431-16[35,56] 1631-16[1]	7631-16[36] 7929-16	942-16 972-16	747-16 740-16	611-16	502-16
K31-335-4	CL31-335-4[7]	RPM1431-16[35,39]	833-16 809-16[2]	35200 35100	2120[33] 3120	1431-16[35,56] 1631-16[1]	7631-16[36] 7929-16	986-16[2] 26986-16	740-16 795-16	611-16 614-16	502-16
K31-336-4	CL31-336-4[7]	RPM1431-16[35,39]	833-16 809-16[2]	35200 35100	2120[33] 3120	1431-16[35,56] 1631-16[1]	7631-16[36] 7929-16	986-16[2] 26986-16	740-16 795-16	611-16 614-16	502-16

Mechanical Flat Tappet Camshaft — NOSTALGIA PLUS™

K31-671-4	CL31-671-4[7]	RPM1431-16[35,39]	833-16 809-16[2]	35200 35100	2120[33] 3120	1431-16[35,56] 1631-16[1]	7631-16[36] 7929-16	972-16	747-16 730-16	611-16	502-16

Mechanical Flat Tappet Camshafts (Today's Version Of Yesterday's Muscle Car Cams) — FACTORY MUSCLE™

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
833-16 809-16[12]	2120[33] 3120	1431-16[35,56] 1631-16[1]	7929-16	972-16	743-16	601-16	502-16	N/A	N/A	35200 35100	4013[1]

Mechanical Flat Tappet Camshafts (Today's Version Of Yesterday's Muscle Car Cams) — MAGNUM MUSCLE

833-16 809-16[12]	2120[33] 3120	1431-16[35,56] 1631-16[1]	7929-16	972-16	743-16	601-16	502-16	N/A	N/A	35200 35100	4013[1]

Mechanical Flat Tappet Camshafts — DRAG RACE

833-16 809-16[12]	2120[33] 3120	1631-16[1] 1131-16[1]	7929-16	985-16[2] 950-16[2]	740-16 730-16	611-16	503-16	621-16	N/A	35200 35100	4013[1]
833-16 809-16[12]	2120[33] 3120	1631-16[1] 1131-16[1]	7929-16	985-16[2] 950-16[2]	740-16 730-16	611-16	503-16	621-16	N/A	35200 35100	4013[1]
833-16 809-16[12]	2120[33] 3120	1631-16[1] 1131-16[1]	7929-16	985-16[2] 950-16[2]	740-16 730-16	611-16	503-16	621-16	N/A	35200 35100	4013[1]
833-16 809-16[12]	2120[33] 3120	1631-16[1] 1131-16[1]	7929-16	985-16[2] 950-16[2]	740-16 730-16	611-16	503-16	621-16	N/A	35200 35100	4013[1]

Mechanical Roller Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K31-760-8	SK31-760-8	CL31-760-8	838-16[6]	35200 35100	2120 3120	1631-16[1] 1131-16[1]	7631-16[36] 7929-16	914-16[2] 977-16[2]	741-16 740-16	611-16	503-16[2]
K31-761-8	SK31-761-8	CL31-761-8	838-16[6]	35200 35100	2120 3120	1631-16[1] 1131-16[1]	7631-16[36] 7929-16	914-16[2] 977-16[2]	741-16 740-16	611-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
6 Offset lifters available
7 Stock springs cannot be used
12 Hi-Tech™ Lite Lifters. No chamfers.
33 Pre-1972 engines use Part #3220
35 Part #4504 studs required for 1978-present
36 1962-69 use Part #7632-16
39 For 1.7:1 ratio use Part #RPM1453-16
56 If equipped with studs and guide plates, use Part #1442-16

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 221-302 C.I. 8 CYL. 1963-1995 (INCLUDES 221, 260, 289 & 302)

DRAG RACE Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Excellent torque in 11:1 compression engines with 4000+ stall.	.026	.028	4200 to 7200	31-767-9[5]	296BR-6	296	304	260	268	.672	.672	106°
MECHANICAL ROLLER – Easy on parts, great automatic cam, must have 4500+ stall.	.026	.028	4500 to 7500	31-768-9[5]	306AR-4	306	306	271	271	.640	.640	104°

FORD 5.0L 8 CYL. 1985-2002

MAGNUM Hydraulic Roller Camshafts (CARBURETOR ONLY) 1985-95 engines originally equipped with hydraulic roller cams

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Best with stock or slightly modified engine for economy or towing. Stock gears and torque converter. Smooth idle.	Hyd.	Hyd.	1200 to 4500	35-410-8	260HR	260	260	206	206	.533	.533	110°
HYDRAULIC ROLLER – Mild street performance. Slight lope at idle. Stock torque converter and gears. Good stock H.O. upgrade.	Hyd.	Hyd.	1800 to 5000	35-420-8	270HR	270	270	215	215	.533	.533	110°
HYDRAULIC ROLLER – Great in street machines. Best power above 3500+ but still good torque. Mild rough idle. Largest for stock heads and intake. 1800+ stall recommended.	Hyd.	Hyd.	2000 to 5500	35-440-8	281HR	281	281	220	220	.512	.512	110°
HYDRAULIC ROLLER – Street machine and limited high performance street use. Best with 5 speed or 2200-2500 stall. 3.40 to 4.10 gears, aftermarket intake and headers.	Hyd.	Hyd.	2500 to 6000	35-430-8	280HR	280	280	224	224	.560	.560	110°
HYDRAULIC ROLLER – Street/strip applications. 5 speed or 2500+ stall and 4.10 or lower gears with higher compression using aftermarket intake, exhaust.	Hyd.	Hyd.	3000 to 6500	35-450-8	286HR	286	286	230	230	.598	.598	110°

MAGNUM Computer Controlled Hydraulic Roller Camshafts (FOR EFI) 1985-95 engines originally equipped with hydraulic roller cams

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Good stock upgrade. Best with mild tuning.	Hyd.	Hyd.	1200 to 5200	35-308-8	266HR	266	270	210	215	.533	.533	114°
HYDRAULIC ROLLER – Mild modifications, gears, mass air, slight idle.	Hyd.	Hyd.	1500 to 5500	35-310-8	270HR	270	276	215	220	.533	.544	114°
HYDRAULIC ROLLER – Mass air, 5 speed or 2500+ stall, heads, intake, headers, 3.55-3.73 gears.	Hyd.	Hyd.	2000 to 5500	35-302-8	281HR	281	284	220	224	.512	.533	112°
HYDRAULIC ROLLER – Works well with 5 speed or 2500+ stall, likes good intake, mass air and injectors.	Hyd.	Hyd.	2000 to 6000	35-312-8	276HR	276	280	220	224	.544	.560	114°
HYDRAULIC ROLLER – Needs injectors, larger mass air and throttle body, intake, heads, headers, gears and 2500+ stall or 5 speed.	Hyd.	Hyd.	2200 to 6200	35-314-8	280HR	280	286	224	230	.560	.598	112°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 221-302 C.I. 8 CYL. 1963-1995 (INCLUDES 221, 260, 289 & 302)

Mechanical Roller Camshafts — **DRAG RACE**

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	TITANIUM RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
838-16[6]	3120	1632-16[1] 1132-16[1]	7930-16	944-16[2]	731-16 720-16	611-16	503-16[2]	621-16	N/A	35200 35100	4014[1]
838-16[6]	3120	1632-16[1] 1132-16[1]	7930-16	944-16[2]	731-16 720-16	611-16	503-16[2]	621-16	N/A	35200 35100	4014[1]

FORD 5.0L 8 CYL. 1985-2002

Hydraulic Roller Camshafts (CARBURETOR ONLY) 1985-95 engines originally equipped with hydraulic roller cams — **MAGNUM**

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K35-410-8	SK35-410-8[7]	CL35-410-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-420-8	SK35-420-8[7]	CL35-420-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-440-8	SK35-440-8[7]	CL35-440-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-430-8	SK35-430-8[7]	CL35-430-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-450-8	SK35-450-8[7]	CL35-450-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Computer Controlled Hydraulic Roller Camshafts (FOR EFI) 1985-95 engines originally equipped with hydraulic roller cams — **MAGNUM**

K35-308-8	SK35-308-8[7]	CL35-308-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-310-8	SK35-310-8[7]	CL35-310-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-302-8	SK35-302-8[7]	CL35-302-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-312-8	SK35-312-8[7]	CL35-312-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-314-8	SK35-314-8[7]	CL35-314-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
5 Requires distributor gear upgrade.
6 Offset lifters available
7 Stock springs cannot be used
35 Part #4504 studs required for 1978-present
56 If equipped with studs and guide plates, use Part #1442-16
70 Works with two-piece fuel pump eccentric

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 5.0L 8 CYL. 1985-2002

XTREME FUEL INJECTION (XFI™) — Computer Controlled Hyd. Roller Camshafts (STROKER) 1985-95 Engines O.E. Hyd. Roller

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – 347c.i. or larger. Super strong mid-range. Best w/ 9.5:1+ compression, aftermarket heads, intake, T-body and injectors. 3000+ stall or 5 speed. Computer mods a must.	Hyd.	Hyd.	2600 to 6300	35-775-8[7]	XFI236HR-14	286	300	236	248	.579	.579	114°
HYDRAULIC ROLLER – 347c.i. or larger. Serious hp and torque in mid and upper rpm. Best w/ aftermarket heads, intake, T-body and injectors. 3500+ stall or 5 speed. Computer mods a must.	Hyd.	Hyd.	3200 to 6500	35-776-8[7]	XFI248HR-14	304	314	248	258	.608	.608	114°

XTREME ENERGY™ — Computer Controlled Hyd. Roller Camshafts 1985-95 Engines O.E. Hyd. Roller

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Good power in stock application with few modifications. Best for towing or economy	Hyd.	Hyd.	1200 to 5200	35-512-8	XE258HR	258	264	206	212	.480	.480	114°
HYDRAULIC ROLLER – Mild street performance, good H.O. replacement cam. Works with O.B.D.1.	Hyd.	Hyd.	1500 to 5500	35-349-8	XE264HR	264	270	212	218	.512	.512	114°
HYDRAULIC ROLLER – Best when used with better heads, intake, exhaust and 3.55-3.73 gears. Works with O.B.D.1.	Hyd.	Hyd.	1800 to 5800	35-351-8	XE270HR	270	276	218	224	.512	.512	114°
HYDRAULIC ROLLER – For stock H.O. or with mild modifications.	Hyd.	Hyd.	1300 to 5300	35-510-8	XE258HR	258	266	208	216	.533	.544	112°
HYDRAULIC ROLLER – Mild modifications, 3.27-3.73 gears, mass air, larger throttle body.	Hyd.	Hyd.	1600 to 5600	35-514-8	XE266HR	266	274	216	224	.544	.555	112°
HYDRAULIC ROLLER – 2500+ stall, 3.55-3.73 gears, better heads, intake and fuel system.	Hyd.	Hyd.	2200 to 6200	35-518-8	XE274HR	274	282	224	232	.555	.565	112°
HYDRAULIC ROLLER – Street/strip, needs EEC IV upgrade, heads, intake and gears. 2800+ stall.	Hyd.	Hyd.	2600 to 6500	35-522-8	XE282HR	282	290	232	240	.565	.574	112°

NITROUS HP™ — Hydraulic Roller Camshafts (CARBURETED OR EFI) 1985-95 Engines Originally Equipped w/ Hydraulic Roller Cams

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – High performance street with 75-125 hp nitrous kit or small blower. Mild idle.	Hyd.	Hyd.	1500 to 5600	35-552-8	NX264HR	264	276	212	224	.512	.512	114°
HYDRAULIC ROLLER – Street/strip applications, 100-175 hp kit or medium blower, rough idle.	Hyd.	Hyd.	2200 to 6200	35-556-8	NX274HR	274	286	224	236	.555	.570	114°
HYDRAULIC ROLLER – Pro Street applications, excellent for 150-300 hp kits or large blower, computer modifications required.	Hyd.	Hyd.	2600 to 6600	35-560-8	NX282HR	282	294	232	244	.565	.580	114°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 5.0L 8 CYL. 1985-2002

Computer Controlled Hyd. Roller Camshafts (STROKER) 1985-95 Engines O.E. Hyd. Roller — XTREME FUEL INJECTION (XFI™)

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
851-16 8931-16	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	987-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	35200 35100	4013
851-16 8931-16	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	987-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	35200 35100	4013

Computer Controlled Hyd. Roller Camshafts 1985-95 Engines O.E. Hyd. Roller — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K35-512-8	SK35-512-8[7]	CL35-512-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	942-16 986-16[2]	768-16 740-16	601-16 611-16	502-16[2] 503-16[2]
K35-349-8	SK35-349-8[7]	CL35-349-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-351-8	SK35-351-8[7]	CL35-351-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-510-8	SK35-510-8[7]	CL35-510-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-514-8	SK35-514-8[7]	CL35-514-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-518-8	SK35-518-8[7]	CL35-518-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-522-8	SK35-522-8[7]	CL35-522-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Hydraulic Roller Camshafts (CARBURETED OR EFI) 1985-95 Engines Originally Equipped w/ Hydraulic Roller Cams — NITROUS HP™

K35-552-8	SK35-552-8[7]	CL35-552-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-556-8	SK35-556-8[7]	CL35-556-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-560-8	SK35-560-8[7]	CL35-560-8[7]	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used
35 Part #4504 studs required for 1978-present
56 If equipped with studs and guide plates, use Part #1442-16
70 Works with two-piece fuel pump eccentric

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 5.0L 8 CYL. 1985-2002

BLOWER Hydraulic Roller Camshafts (CARBURETED OR EFI) 1985-95 engines originally equipped with hydraulic roller cams

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Supercharged combinations with little or no additional modifications.	Hyd.	Hyd.	1800 to 5300	35-304-8	270HR	270	284	215	224	.533	.533	114°
HYDRAULIC ROLLER – Supercharged, works well with 5 speed, needs good intake with mass air and larger injectors, mild stall.	Hyd.	Hyd.	2000 to 6000	35-312-8	276HR	276	280	220	224	.544	.560	114°
HYDRAULIC ROLLER – Supercharged combinations with heads, intake, headers. 3.55-3.73 gear, mild stall.	Hyd.	Hyd.	2000 to 6000	35-306-8	284HR	284	290	224	230	.533	.544	114°

XTREME ENERGY™ Computer Controlled Hyd. Roller Camshafts (FOR EFI) 1985-95 Engines O.E. w/ Hyd. Roller Cams (WITH 1.7 ROCKERS)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – For use with 1.7:1 rockers. Mild street performance, good H.O. replacement cam.	Hyd.	Hyd.	1500 to 5500	35-320-8	XE264HR	264	270	212	218	.544	.544	112°
HYDRAULIC ROLLER – For use with 1.7:1 rockers. Mild modifications, 3.20 - 3.73 gears, larger throttle body and mass air, good heads and manifold.	Hyd.	Hyd.	1800 to 5800	35-324-8	XE270HR	270	276	218	224	.544	.544	112°
HYDRAULIC ROLLER – For use with 1.7:1 rockers. Major modifications, 3.55 gear or lower, 2500+ stall.	Hyd.	Hyd.	2200 to 6200	35-328-8	XE276HR	276	282	224	230	.544	.544	112°

FORD 351W 8 CYL. 1969-1996

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Strong torque and good mileage in low rpm applications. Performance upgrade for stock cam. Smooth idle.	Hyd.	Hyd.	800 to 4800	35-215-3	252H	252	252	206	206	.433	.433	110°
HYDRAULIC – Great torque for trucks and 4WD. Best for economy or towing vehicles with automatic. Smooth idle.	Hyd.	Hyd.	1200 to 5200	35-216-3	260H	260	260	212	212	.447	.447	110°
HYDRAULIC – Moderate high performance street driving. Mild street machines, great for daily drivers. Noticeable idle.	Hyd.	Hyd.	1500 to 5500	35-218-3	268H	268	268	218	218	.456	.456	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 5.0L 8 CYL. 1985-2002

Hydraulic Roller Camshafts (CARBURETED OR EFI) 1985-95 Engines Originally Equipped w/ Hydraulic Roller Cams — BLOWER

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K35-304-8	SK35-304-8	CL35-304-8	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-312-8	SK35-312-8	CL35-312-8	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-306-8	SK35-306-8	CL35-306-8	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Computer Controlled Hyd. Roller Camshafts (FOR EFI) 1985-95 Engines O.E. w/ Hyd. Roller Cams (WITH 1.7 ROCKERS) — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K35-320-8	SK35-320-8	CL35-320-8	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-324-8	SK35-324-8	CL35-324-8	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-328-8	SK35-328-8	CL35-328-8	851-16 8931-16	35200 35100	2138[70] 3138[70]	1431-16[35,56] 1631-16[1]	7826-16 7917-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

FORD 351W 8 CYL. 1969-1996

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	CL-KIT	RP-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K35-215-3	CL35-215-3	RP1436-16[35]	832-16	35200 35100	3230[33]	1431-16[35,56]	7835-16	942-16 972-16	768-16 747-16	601-16 611-16	502-16
K35-216-3	CL35-216-3	RP1436-16[35]	832-16	35200 35100	3230[33]	1431-16[35,56]	7835-16	942-16 972-16	768-16 747-16	601-16 611-16	502-16
K35-218-3	CL35-218-3[7]	RP1436-16[35]	832-16	35200 35100	3230[33]	1431-16[35,56]	7835-16	942-16 972-16	768-16 747-16	601-16 611-16	502-16

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used
33 Pre-1972 engines use Part #3220
35 Part #4504 studs required for 1978-present
56 If equipped with studs and guide plates, use Part #1442-16
70 Works with two-piece fuel pump eccentric

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 351W 8 CYL. 1969-1996

MAGNUM Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good for daily driven performance cars. Most cam with stock converter. Lower gears. Mild rough ride.	Hyd.	Hyd.	1800 to 5800	35-414-3	270H	270	270	224	224	.500	.500	110°
HYDRAULIC – Excellent street machine camshaft. Headers and mild converter with low gears. Rough idle. 9:1 compression.	Hyd.	Hyd.	2000 to 6000	35-226-3	280H	280	280	230	230	.512	.512	110°
HYDRAULIC – Great street/strip cam. 10:1 compression, headers, intake, gears and 3000+ stall. Very rough idle.	Hyd.	Hyd.	2500 to 6500	35-330-3	292H	292	292	244	244	.518	.518	110°
HYDRAULIC – Ultimate cam for Pro Street. 3500+ stall with 10.5:1 compression and low gears. Radical idle.	Hyd.	Hyd.	3000 to 7000	35-331-4	305H	305	305	253	253	.540	.540	110°

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Very strong torque, excellent mileage, smooth idle.	Hyd.	Hyd.	600 to 4800	35-230-3	XE250H	250	260	206	212	.461	.474	110°
HYDRAULIC – Strong torque through low end and mid-range, good idle.	Hyd.	Hyd.	1000 to 5200	35-234-3	XE256H	256	262	212	218	.477	.484	110°
HYDRAULIC – Excellent response, good mid-range, stock converter, 3.23-4.10 gear.	Hyd.	Hyd.	1300 to 5600	35-238-3	XE262H	262	270	218	224	.493	.500	110°
HYDRAULIC – Great for street machine, 2200+ stall.	Hyd.	Hyd.	1600 to 5800	35-242-3	XE268H	268	280	224	230	.510	.512	110°
HYDRAULIC – Very strong torque and throttle response, 2500+ stall.	Hyd.	Hyd.	1800 to 6000	35-246-3	XE274H	274	286	230	236	.519	.523	110°
HYDRAULIC – Street/strip with 2800+ stall, headers, gears, rough idle.	Hyd.	Hyd.	2300 to 6500	35-250-4	XE284H	284	296	240	246	.541	.544	110°
HYDRAULIC – Pro Street/bracket, good intake, headers, gear, 3300+ stall.	Hyd.	Hyd.	2800 to 7000	35-254-4	XE294H	294	306	250	256	.554	.558	110°

New THUMPR™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	2000 to 5800	35-600-4	279TH7	279	297	227	241	.490	.475	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 6100	35-601-4	287TH7	287	304	235	249	.501	.486	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6400	35-602-4	295TH7	295	313	243	257	.512	.489	107°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 351W 8 CYL. 1969-1996

Hydraulic Flat Tappet Camshafts — MAGNUM

K-KIT	CL-KIT	RP-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K35-414-3	CL35-414-3[7]	RP1436-16[35]	832-16 862-16[37]	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7472-16 7965-16	942-16 972-16	747-16 740-16	611-16	502-16
K35-226-3	CL35-226-3[7]	RP1436-16[35]	832-16 862-16[37]	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7472-16 7965-16	942-16 972-16	747-16 740-16	611-16	502-16
K35-330-3	CL35-330-3[7]	RP1436-16[35]	832-16 862-16[37]	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7472-16 7965-16	986-16[2] 26986-16[2]	747-16 740-16	611-16 614-16	503-16[2]
K35-331-4	CL35-331-4	RP1436-16[35]	832-16 862-16[37]	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7472-16 7965-16	986-16[2] 26986-16[2]	747-16 740-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts — XTREME ENERGY™

K35-230-3	CL35-230-3[7]	RP1436-16[35]	832-16 862-16[37]	35200 35100	3230[33] 2135	1431-16[35,56] 1631-16[1]	7835-16 7472-16	942-16 972-16	768-16 743-16	601-16	502-16
K35-234-3	CL35-234-3[7]	RP1436-16[35]	832-16 862-16[37]	35200 35100	3230[33] 2135	1431-16[35,56] 1631-16[1]	7835-16 7472-16	942-16 972-16	768-16 743-16	601-16	502-16
K35-238-3	CL35-238-3[7]	RP1436-16[35]	832-16 862-16[37]	35200 35100	3230[33] 2135	1431-16[35,56] 1631-16[1]	7835-16 7472-16	942-16 972-16	768-16 743-16	601-16	502-16
K35-242-3	CL35-242-3[7]	RP1436-16[35]	832-16 862-16[37]	35200 35100	3230[33] 2135	1431-16[35,56] 1631-16[1]	7835-16 7472-16	942-16 972-16	768-16 743-16	601-16	502-16
K35-246-3	CL35-246-3[7]	RP1436-16[35]	832-16 862-16[37]	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7472-16 7965-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-250-4	CL35-250-4[7]	RP1436-16[35]	832-16 862-16[37]	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7472-16 7965-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-254-4	CL35-254-4[7]	RP1436-16[35]	832-16 862-16[37]	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7472-16 7965-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts — THUMPR™

K-KIT	GK-KIT	CL-KIT	LIFTERS	TIMING SET	GEAR DRIVE	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K35-600-4	GK35-600-4[7,93]	CL35-600-4[7]	832-16 862-16[37]	2135 3135	4120	1431-16[35,56] 1631-16[1]	7472-16 7965-16	942-16 972-16	768-16 743-16	601-16	502-16
K35-601-4	GK35-601-4[7,93]	CL35-601-4[7]	832-16 862-16[37]	2135 3135	4120	1431-16[35,56] 1631-16[1]	7472-16 7965-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-602-4	GK35-602-4[7,93]	CL35-602-4[7]	832-16 862-16[37]	2135 3135	4120	1431-16[35,56] 1631-16[1]	7472-16 7965-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used
33 Pre-1972 engines use Part #3220
35 Part #4504 studs required for 1978-present
37 Adjustable valve train required
56 If equipped with studs and guide plates, use Part #1442-16
93 GK-Kit contains cam, lifters & gear drive

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 351W 8 CYL. 1969-1996

XTREME 4X4™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Excellent torque and throttle response, good economy and low end power.	Hyd.	Hyd.	1000 to 5000	35-231-3	X4250H	250	258	206	214	.462	.493	111°
HYDRAULIC – Good torque for 4x4, excellent mid-range power, great for RV or towing.	Hyd.	Hyd.	1200 to 5200	35-235-3	X4254H	254	262	210	218	.477	.493	111°
HYDRAULIC – Good torque for 4x4 with aftermarket intake and headers. Excellent mid-range, works with lower gears.	Hyd.	Hyd.	1400 to 5500	35-239-3	X4262H	262	270	218	226	.493	.512	111°
HYDRAULIC – Good torque and throttle response, needs intake and headers, lower gears and 2500+ stall.	Hyd.	Hyd.	1600 to 5800	35-243-4	X4270H	270	278	226	234	.512	.531	111°

DUAL ENERGY™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – Good torque, good mileage. Excellent high end horsepower. Smooth idle.	Hyd.	Hyd.	1000 to 5500	35-416-3	255DEH	255	263	203	216	.434	.467	110°
HYDRAULIC – Very strong mid-range. Everyday performance for stock exhaust.	Hyd.	Hyd.	1500 to 5750	35-409-3	265DEH	265	273	211	223	.472	.486	110°
HYDRAULIC – High performance. Great high end power. Works with stock converter or 1800+ stall. Choppy idle.	Hyd.	Hyd.	2000 to 6000	35-418-3	275DEH	275	283	219	233	.477	.510	110°

XTREME ENERGY™ Computer Controlled Hydraulic Flat Tappet Camshaft (FOR EFI)

HYDRAULIC – EFI speed density, works with stock computer. Very strong torque, excellent mileage, good idle quality.	Hyd.	Hyd.	1000 to 5200	35-255-5	XE254H	254	258	210	214	.478	.485	114°

LOW LIFT OVAL TRACK Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – .500" lift rule. Rough idle, under 10" of vacuum. Good power.	Hyd.	Hyd.	3000 to 6500	35-635-5	41/15H-6	297	299	246	250	.448	.448	106°

Ultra Pro Magnum™ Rockers

Ultra Pro Magnum™ Rocker Arms set a new standard in stud mount rocker performance. They feature a web-like, arched design to increase strength and rigidity, as well as reduce the moment of inertia and optimize the dynamic balance.

- Investment cast 8650 chromemoly steel body
- Increased spring and retainer clearance for use of larger springs, retainers and locks without fitment issues
- Unique black oxide exterior finish prevents corrosion

Rebuildable design and lifetime guarantee on the rocker body!



See Page 315

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 351W 8 CYL. 1969-1996

Hydraulic Flat Tappet Camshafts — XTREME 4X4™

K-KIT	CL-KIT	RP-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K35-231-3	CL35-231-3[7]	RP1436-16[35]	832-16 862-16[37]	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7835-16 7472-16	942-16 972-16	768-16 743-16	601-16	502-16
K35-235-3	CL35-235-3[7]	RP1436-16[35]	832-16 862-16[37]	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7835-16 7472-16	942-16 972-16	768-16 743-16	601-16	502-16
K35-239-3	CL35-239-3[7]	RP1436-16[35]	832-16 862-16[37]	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7472-16 7965-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-243-4	CL35-243-4[7]	RP1436-16[35]	832-16 862-16[37]	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7472-16 7965-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts — DUAL ENERGY™

K-KIT	CL-KIT	RP-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K35-416-3	CL35-416-3[7]	RP1436-16[35]	832-16	35200 35100	3230[33]	1431-16[35,56]	7835-16	942-16 972-16	768-16 747-16	601-16 611-16	502-16
K35-409-3	CL35-409-3[7]	RP1436-16[35]	832-16	35200 35100	3230[33]	1431-16[35,56]	7835-16	942-16 972-16	768-16 747-16	601-16 611-16	502-16
K35-418-3	CL35-418-3[7]	RP1436-16[35]	832-16	35200 35100	3230[33]	1431-16[35,56]	7835-16	942-16 972-16	768-16 747-16	601-16 611-16	502-16

Computer Controlled Hydraulic Flat Tappet Camshaft (FOR EFI) — XTREME ENERGY™

K-KIT	CL-KIT	RP-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
N/A	N/A	RP1436-16[35]	832-16	35200 35100	3230[33]	1431-16[35,56]	7835-16	942-16 972-16	768-16 747-16	601-16 611-16	502-16

Hydraulic Flat Tappet Camshafts — LOW LIFT OVAL TRACK

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
867-16[37]	3135[50] 3135KT	1431-16[35,56] 1631-16[1]	7472-16 7965-16	972-16 986-16[2]	740-16 730-16	611-16	502-16 503-16[2]	621-16	N/A	35200 35100	4013[1]

ProRacing Sim® Software



ProRacing Sim® offers a complete line of affordable and accurate computer software simulations. These programs were designed to be easy-to-use for beginners and in-depth enough for professionals to find race winning combinations. Available are engine, drag strip and race vehicle simulations.

See Pages 397-399

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used
33 Pre-1972 engines use Part #3220
35 Part #4504 studs required for 1978-present
37 Adjustable valve train required
50 Camshaft retaining plate Part #3120TB recommended
56 If equipped with studs and guide plates, use Part #1442-16

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 351W 8 CYL. 1969-1996

XTREME ENERGY™ Retro-Fit Hyd. Roller Camshafts (NOT FOR EFI) For Engines That DID NOT Come From The Factory w/ Hyd. Roller Cams

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Mild performance applications, good low end and mid-range, good idle.	Hyd.	Hyd.	1200 to 5200	35-413-8	XR264RF-HR	264	270	212	218	.513	.513	110°
HYDRAULIC ROLLER – Good mid-range performance, 3.23+ gears, stock converter or 1800+ stall. Noticeable idle.	Hyd.	Hyd.	1500 to 5500	35-421-8	XR270RF-HR	270	276	218	224	.513	.513	110°
HYDRAULIC ROLLER – Strong mid-range performance, street machines with 3.55+ gears, 2200+ converter.	Hyd.	Hyd.	1800 to 5800	35-424-8	XR276RF-HR	276	282	224	230	.513	.513	110°
HYDRAULIC ROLLER – Great for street machines, needs intake, headers, 2500+ converter and 3.73+ gears, rough idle.	Hyd.	Hyd.	2000 to 6000	35-425-8	XR282RF-HR	282	289	230	236	.513	.529	110°
HYDRAULIC ROLLER – Street/strip 9:1+ compression, intake, headers, 2800+ converter and 3.73+ gears, rough idle.	Hyd.	Hyd.	2200 to 6200	35-426-8	XR288RF-HR	288	294	236	240	.555	.576	110°
HYDRAULIC ROLLER – Street/strip, 9.5:1 compression, intake, headers, 3000+ converter, 4.10+ gears, rough idle.	Hyd.	Hyd.	2500 to 6500	35-427-8	XR294RF-HR	294	300	242	248	.576	.600	110°

MAGNUM Retro-Fit Hyd. Roller Camshafts (NOT FOR EFI) For Engines That DID NOT Come From The Factory w/ Hyd. Roller Cams

HYDRAULIC ROLLER – Best with stock engine for economy or towing. Use with stock gears and converter, smooth idle.	Hyd.	Hyd.	1200 to 4500	35-412-8	260HR	260	260	206	206	.480	.480	110°
HYDRAULIC ROLLER – Mild street performance increase. Slight lope at idle. Works with stock or 1800+ converter and gears.	Hyd.	Hyd.	1800 to 5000	35-422-8	270HR	270	270	215	215	.533	.533	110°
HYDRAULIC ROLLER – Great for street machines. Best power above 3500+ with good torque. Mild rough idle. Largest for stock heads and intake.	Hyd.	Hyd.	2000 to 5500	35-442-8	284HR	284	284	224	224	.533	.533	110°
HYDRAULIC ROLLER – Street machine and limited high performance street use. Best with 4 speed or 2800+ stall and 3.40 to 4.10 gears, aftermarket intake and headers.	Hyd.	Hyd.	2500 to 6000	35-452-8	290HR	290	290	230	230	.544	.544	110°
HYDRAULIC ROLLER – Street/strip, 4 speed or 3200+ stall and 4.10 or lower gear. Higher compression, good intake and headers.	Hyd.	Hyd.	3000 to 6500	35-462-8	304HR	304	304	244	244	.576	.576	110°

STREET ROD HELP™
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Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 351W 8 CYL. 1969-1996

Retro-Fit Hyd. Roller Camshafts (NOT FOR EFI) For Engines That DID NOT Come From The Factory w/ Hyd. Roller Cams — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K35-413-8	SK35-413-8[7]	CL35-413-8[7]	851-16[32] 8931-16	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7823-16 7963-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-421-8	SK35-421-8[7]	CL35-421-8[7]	851-16[32] 8931-16	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7823-16 7963-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-424-8	SK35-424-8[7]	CL35-424-8[7]	851-16[32] 8931-16	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7823-16 7963-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-425-8	SK35-425-8[7]	CL35-425-8[7]	851-16[32] 8931-16	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7823-16 7963-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-426-8	SK35-426-8[7]	CL35-426-8[7]	851-16[32] 8931-16	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7823-16 7963-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-427-8	SK35-427-8[7]	CL35-427-8[7]	851-16[32] 8931-16	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7823-16 7963-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Retro-Fit Hyd. Roller Camshafts (NOT FOR EFI) For Engines That DID NOT Come From The Factory w/ Hyd. Roller Cams — MAGNUM

K35-412-8	SK35-412-8[7]	CL35-412-8[7]	851-16[32] 8931-16	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7823-16 7963-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-422-8	SK35-422-8[7]	CL35-422-8[7]	851-16[32] 8931-16	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7823-16 7963-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-442-8	SK35-442-8[7]	CL35-442-8[7]	851-16[32] 8931-16	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7823-16 7963-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-452-8	SK35-452-8[7]	CL35-452-8[7]	851-16[32] 8931-16	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7823-16 7963-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-462-8	SK35-462-8[7]	CL35-462-8[7]	851-16[32] 8931-16	35200 35100	2135 3135	1431-16[35,56] 1631-16[1]	7823-16 7963-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

TRANS HELP™ 888.776.9824

RACING HEADHELP™ 877.776.4323

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used
32 Requires lifter installation kit Part #31-1000 for retro-fit applications
35 Part #4504 studs required for 1978-present
56 If equipped with studs and guide plates, use Part #1442-16

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 351W 8 CYL. 1969-1996

THUMPR™ Retro-Fit Hydraulic Roller Camshafts (NOT FOR EFI)

New APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears, choppy/thumping idle.	Hyd.	Hyd.	1900 to 5600	35-600-8[95]	283THR7	283	303	227	241	.531	.515	107°
HYDRAULIC ROLLER – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 5900	35-601-8[95]	291THR7	291	311	235	249	.541	.526	107°
HYDRAULIC ROLLER – Big Mutha' Thumpr™ – Street/ strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6200	35-602-8[95]	299THR7	299	319	243	257	.552	.538	107°

LOW LIFT OVAL TRACK Mechanical Flat Tappet Camshaft

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
SOLID – 500" lift rule. Under 10" of vacuum with rough idle. Very good power.	.020	.022	3000 to 6500	35-637-5	270LS-6	270	282	242	250	.504	.504	106°

OVAL TRACK Mechanical Flat Tappet Camshafts

SOLID – Works well in restricted engines with stock manifolds, 2 BBL carb.	.020	.022	2500 to 6500	35-620-5	FL268S-6	268	276	238	246	.568	.584	106°
SOLID – Good in Late Model Stock on 1/4 to 1/2 mile, limited intake.	.020	.022	2500 to 6500	35-622-5	FL272S-6	272	280	242	250	.576	.592	106°
SOLID – 3/8 to 1/2 mile asphalt tracks. Late Model Stock, good power and torque.	.020	.022	3000 to 7000	35-624-5	FL276S-6	276	280	246	250	.584	.592	106°
SOLID – Good in Late Model Stock when high rpm can be maintained in turns.	.020	.022	3500 to 7000	35-626-5	FL280S-6	280	284	250	254	.592	.608	106°
SOLID – Good in heavy car on short tracks. Works with stock manifolds.	.020	.022	3000 to 6500	35-639-5	280B-6	280	284	242	246	.541	.522	106°
SOLID – Best all around solid cam. Makes strong torque and good power.	.020	.022	3000 to 6500	35-609-5	285B-6	285	295	250	260	.568	.592	106°
SOLID – Good for 1/4 to 3/8 mile tracks with high engine speed, great top end.	.020	.022	3700 to 7000	35-640-5	290B-6	290	304	255	266	.576	.570	106°
SOLID – Good for 1/4 to 3/8 mile tracks with light car and large engine.	.020	.022	3700 to 7500	35-641-5	300B-6	300	314	265	276	.600	.593	106°

Thumpr™ Cams



The wildly popular Thumpr™ Cams feature specially engineered profiles to provide the perfect combination of an early intake valve opening, long exhaust duration and a generous amount of intake and exhaust overlap to maximize your engine's nasty idling characteristics without negatively impacting streetability.

For more information visit www.compcams.com/thumpr or see our Thumpr™ brochure listed on page 414 of this Master Catalog.

See Page 238

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FORD 351W 8 CYL. 1969-1996

Retro-Fit Hydraulic Roller Camshafts (NOT FOR EFI) — THUMPR™

K-KIT	GK-KIT	CL-KIT	LIFTERS	TIMING SET	GEAR DRIVE	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K35-600-8	GK35-600-8[7,93]	CL35-600-8[7]	8931-16	2135 3135	4120	1431-16[35,56] 1631-16[1]	7643-16 7963-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-601-8	GK35-601-8[7,93]	CL35-601-8[7]	8931-16	2135 3135	4120	1431-16[35,56] 1631-16[1]	7643-16 7963-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K35-602-8	GK35-602-8[7,93]	CL35-602-8[7]	8931-16	2135 3135	4120	1431-16[35,56] 1631-16[1]	7643-16 7963-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Mechanical Flat Tappet Camshafts — LOW LIFT OVAL TRACK

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
833-16 809-16	3135 3135KT	1431-16 1631-16	7472-16 7965-16	972-16 986-16	740-16 1730-16	611-16	501-16[2] 503-16[2]	621-16	N/A	35200 35100	4013[1]

Mechanical Flat Tappet Camshafts — OVAL TRACK

833-16 809-16[12]	3135[50] 3135KT	1631-16[1] 1131-16[1]	7965-16	929-16[2] 26094-16[2]	730-16 732-16	611-16	503-16[2]	621-16	N/A	35200 35100	4013[1]
833-16 809-16[12]	3135[50] 3135KT	1631-16[1] 1131-16[1]	7965-16	929-16[2] 26094-16[2]	730-16 732-16	611-16	503-16[2]	621-16	N/A	35200 35100	4013[1]
833-16 809-16[12]	3135[50] 3135KT	1631-16[1] 1131-16[1]	7965-16	929-16[2] 26094-16[2]	730-16 732-16	611-16	503-16[2]	621-16	N/A	35200 35100	4013[1]
833-16 809-16[12]	3135[50] 3135KT	1631-16[1] 1131-16[1]	7965-16	929-16[2] 26094-16[2]	730-16 732-16	611-16	503-16[2]	621-16	N/A	35200 35100	4013[1]
833-16 809-16[12]	3135[50] 3135KT	1631-16[1] 1131-16[1]	7965-16	929-16[2] 26094-16[2]	730-16 732-16	611-16	503-16[2]	621-16	N/A	35200 35100	4013[1]
833-16 809-16[12]	3135[50] 3135KT	1631-16[1] 1131-16[1]	7965-16	929-16[2] 26094-16[2]	730-16 732-16	611-16	503-16[2]	621-16	N/A	35200 35100	4013[1]
833-16 809-16[12]	3135[50] 3135KT	1631-16[1] 1131-16[1]	7965-16	929-16[2] 26094-16[2]	730-16 732-16	611-16	503-16[2]	621-16	N/A	35200 35100	4013[1]
833-16 809-16[12]	3135[50] 3135KT	1631-16[1] 1131-16[1]	7965-16	929-16[2] 26094-16[2]	730-16 732-16	611-16	503-16[2]	621-16	N/A	35200 35100	4013[1]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used
12 Hi-Tech™ Lite Lifters. No chamfers.
35 Part #4504 studs required for 1978-present
50 Camshaft retaining plate Part #3120TB recommended
56 If equipped with studs and guide plates, use Part #1442-16
93 GK-Kit contains cam, lifters & gear drive
95 Must use #8931-16 lifters with this cam

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 351W 8 CYL. 1969-1996

XTREME ENERGY™ Mechanical Street Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Good for weekend cruiser with 9.1:1 compression, 2000+ stall and lower gears. Noticeable idle.	.016	.018	2000 to 6000	35-769-8	XR268R	268	274	230	236	.589	.602	110°
MECHANICAL ROLLER – Great for power touring. Needs 2500+ stall, easy on parts. Very reliable power. Rough idle.	.016	.018	2200 to 6200	35-770-8	XR274R	274	280	236	242	.602	.608	110°
MECHANICAL ROLLER – Best in street machines with 2800+ stall, 10:1+ compression with 3.73-3.90 rear gears.	.016	.018	2500 to 6500	35-771-8	XR280R	280	286	242	248	.608	.614	110°
MECHANICAL ROLLER – Good in weekend warrior with 3000+ stall. Needs aftermarket intake and exhaust with low gears.	.016	.018	3000 to 7000	35-772-8	XR286R	286	292	248	254	.614	.621	110°
MECHANICAL ROLLER – Best for Pro Street. Needs aftermarket intake and exhaust, 11:1+ compression and 3500 stall.	.016	.018	3200 to 7200	35-773-8	XR292R	292	298	254	260	.621	.627	110°

DRAG RACE Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Drag race for 351-377c.i. motor, 12:1+ compression, 4500 stall.	.020	.022	4200 to 7200	35-780-9[5]	298DR-6	298	312	268	275	.696	.672	106°
MECHANICAL ROLLER – Drag race for 351-377c.i. Windsor with 125-250 hp nitrous.	.020	.022	4800 to 7500	35-781-9[5]	308DR-10	308	326	278	286	.696	.683	110°
MECHANICAL ROLLER – Drag race for 377c.i.+ stroker with aftermarket race heads, 300+ nitrous, needs best parts throughout.	.020	.022	5500 to 8000	35-782-9[5]	318DR-12	318	336	282	300	.744	.731	112°

OVAL TRACK Mechanical Roller Camshaft

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Good on 3/8 to 1/2 asphalt track with tight corners.	.020	.022	5800 to 7800	35-801-9[5]	292BR-6	292	296	256	260	.672	.672	106°

OVAL TRACK Mechanical Roller Camshafts - Xtreme RX Rollers use COMP's RX intake and RZ exhaust profiles to provide the ultimate in high rpm power and durability. Designed for use with light valve train above 8200 rpm. (Custom Grinds Available)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Short track cam for 358 type engine. Very stable with good valve train parts.	.018	.020	6000 to 8500	35-826-9[5]	296RXA-6	296	301	263	268	.691	.691	106°
MECHANICAL ROLLER – Great for large c.i. engines or high rpm 358 type engines.	.018	.020	6300 to 8800	35-827-9[5]	300RXA-8	300	307	267	274	.696	.697	108°

OVAL TRACK Mechanical Roller Camshafts (With 2.165"/1.968" Roller Bearings)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Short track cam for 358 type engine. Very stable with good valve train parts.	.018	.020	6000 to 8500	35-828-9[5]	296RXB-6	296	301	263	268	.691	.691	106°
MECHANICAL ROLLER – For high rpm 358 engines and for large cubic inches with less rpm.	.018	.020	6300 to 8800	35-829-9[5]	300RXB-8	300	307	267	274	.691	.691	108°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 351W 8 CYL. 1969-1996

Mechanical Street Roller Camshafts — XTREME ENERGY™

K-KIT	CL-KIT	BRONZE GEAR	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RET.	VALVE LOCKS	VALVE SEALS
K35-769-8	CL35-769-8[7]	431	838-16[6]	35200 35100	2135 3135	1631-16[1] 1131-16[1]	7472-16 7965-16	953-16[2] 954-16[2]	741-16 732-16	611-16	503-16[2]
K35-770-8	CL35-770-8[7]	431	838-16[6]	35200 35100	2135 3135	1631-16[1] 1131-16[1]	7472-16 7965-16	953-16[2] 954-16[2]	741-16 732-16	611-16	503-16[2]
K35-771-8	CL35-771-8[7]	431	838-16[6]	35200 35100	2135 3135	1631-16[1] 1131-16[1]	7472-16 7965-16	953-16[2] 954-16[2]	741-16 732-16	611-16	503-16[2]
K35-772-8	CL35-772-8[7]	431	838-16[6]	35200 35100	2135 3135	1631-16[1] 1131-16[1]	7472-16 7965-16	953-16[2] 954-16[2]	741-16 732-16	611-16	503-16[2]
K35-773-8	CL35-773-8[7]	431	838-16[6]	35200 35100	2135 3135	1631-16[1] 1131-16[1]	7472-16 7965-16	953-16[2] 954-16[2]	741-16 732-16	611-16	503-16[2]

Mechanical Roller Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	BRONZE GEAR	DIST. GEARS	STUD GIRDLES
838-16[6]	3135KT[50]	1632-16[1,59]	7965-16	944-16[2]	731-16 720-16	611-16	503-16[2]	621-16	431	35200 35100	4014[1]
838-16[6]	3135KT[50]	1632-16[1,59]	7965-16	944-16[2]	731-16 720-16	611-16	503-16[2]	621-16	431	35200 35100	4014[1]
838-16[6]	3135KT[50]	1632-16[1,59]	7965-16	947-16[2]	739-16 722-16	611-16	506-16[2]	621-16	431	35200 35100	4014[1]

Mechanical Roller Camshaft — OVAL TRACK

838-16[6]	3135KT[50]	1632-16[1,59]	7965-16	943-16[2] 26089-16[2]	731-16 720-16	611-16	503-16[2]	621-16	431	35200 35100	4014[1]

Mechanical Roller Camshafts - Xtreme RX Rollers use COMP's RX intake and RZ exhaust profiles to provide the ultimate in high rpm power and durability. Designed for use with light valve train above 8200 rpm. (Custom Grinds Available) — OVAL TRACK

838-16[6]	3135KT[50]	1632-16[1,59]	7965-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16	503-16[2]	621-16	431	35200 35100	4014[1]
838-16[6]	3135KT[50]	1632-16[1,59]	7965-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16	503-16[2]	621-16	431	35200 35100	4014[1]

Mechanical Roller Camshafts (With 2.165"/1.968" Roller Bearings) — OVAL TRACK

838-16[6]	3135KT[50]	1632-16[1,59]	7965-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16	503-16[2]	621-16	431	35200 35100	4014[1]
838-16[6]	3135KT[50]	1632-16[1,59]	7965-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16	503-162	621-16	431	35200 35100	4014[1]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
5 Requires distributor gear upgrade
6 Offset lifters available
7 Stock springs cannot be used
50 Camshaft retaining plate Part #3120TB recommended
59 Requires 7/16" rocker arm studs

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 351C, 351M-400M 8 CYL. 1970-1983

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Excellent torque and mileage. OEM replacement. Smooth idle.	Hyd.	Hyd.	800 to 4800	32-218-3	252H	252	252	206	206	.468	.468	110°
HYDRAULIC – Great mid-range torque for towing. Good power at low speeds. Smooth idle.	Hyd.	Hyd.	1200 to 5200	32-219-3	260H	260	260	212	212	.484	.484	110°
HYDRAULIC – Everyday performance driving with stock converter, noticeable idle.	Hyd.	Hyd.	1500 to 5500	32-221-3	268H	268	268	218	218	.494	.494	110°

MAGNUM Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Great for mild street machines. 2000+ stall converter, 3.30-4.0 gear, headers. Mild rough idle.	Hyd.	Hyd.	1800 to 5800	32-224-4	270H	270	270	224	224	.519	.519	110°
HYDRAULIC – Good in street machine with 2500+ stall converter, headers, gears, 9:1-10:1 compression. Rough idle.	Hyd.	Hyd.	2000 to 6000	32-225-4	280H	280	280	230	230	.530	.530	110°
HYDRAULIC – Street/strip use with 3000+ stall, 10:1 compression, low gears. Racy idle.	Hyd.	Hyd.	2500 to 6500	32-234-4	292H	292	292	244	244	.560	.560	110°
HYDRAULIC – Bracket race/limited street use, 3500+ stall, 11:1 compression, radical rough idle.	Hyd.	Hyd.	3000 to 7000	32-235-4	305H	305	305	253	253	.585	.585	110°

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Strong torque through low end and mid-range, good idle.	Hyd.	Hyd.	1200 to 5200	32-241-4	XE256H	256	268	212	218	.487	.493	110°
HYDRAULIC – Strong torque, excellent response. Good mid-range, stock converter, 3.23 gears.	Hyd.	Hyd.	1400 to 5600	32-242-4	XE262H	262	270	218	224	.513	.520	110°
HYDRAULIC – Very strong mid-range and throttle response, 2400+ stall, 3.73+ gears.	Hyd.	Hyd.	2000 to 6000	32-246-4	XE274H	274	286	230	236	.562	.565	110°
HYDRAULIC – Street/strip with 2800+ stall, 9.5:1 compression, headers and gears, rough idle.	Hyd.	Hyd.	2300 to 6500	32-250-4	XE284H	284	296	240	246	.584	.588	110°

New THUMPR™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	2000 to 5800	32-600-5	279TH7	278	296	226	241	.506	.493	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 6100	32-601-5	287TH7	286	304	234	249	.519	.503	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6400	32-602-5	295TH7	294	312	242	257	.531	.515	107°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 351C, 351M-400M 8 CYL. 1970-1983

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
Hydraulic Flat Tappet Camshafts — HIGH ENERGY™											
K32-218-3	SK32-218-3[7]	CL32-218-3[7]	N/A	832-16	3221	1411-16[1]	7832-16[8]	940-16	743-16	601-16	502-16
K32-219-3	SK32-219-3[7]	CL32-219-3[7]	N/A	832-16	3221	1411-16[1]	7832-16[8]	940-16	743-16	601-16	502-16
K32-221-3	SK32-221-3[7]	CL32-221-3[7]	N/A	832-16	3221	1411-16[1]	7832-16[8]	940-16	743-16	601-16	502-16
Hydraulic Flat Tappet Camshafts — MAGNUM											
K32-224-4	SK32-224-4[7]	CL32-224-4[7]	N/A	832-16 862-16[37]	2121 3121	1411-16[1] 1630-16[1]	7502-16[8] 7945-16	972-16 924-16[2]	747-16 741-16	611-16[71]	502-16 503-16[2]
K32-225-4	SK32-225-4[7]	CL32-225-4[7]	N/A	832-16 862-16[37]	2121 3121	1411-16[1] 1630-16[1]	7502-16[8] 7945-16	972-16 924-16[2]	747-16 741-16	611-16[71]	502-16 503-16[2]
K32-234-4	SK32-234-4[7]	CL32-234-4[7]	N/A	832-16 862-16[37]	2121 3121	1411-16[1] 1630-16[1]	7502-16[8] 7945-16	924-16[2] 26120-16[2]	741-16 795-16	611-16[71] 614-16[71]	503-16[2]
K32-235-4	SK32-235-4[7]	CL32-235-4[7]	N/A	832-16 862-16[37]	2121 3121	1411-16[1] 1630-16[1]	7502-16[8] 7945-16	924-16[2] 26120-16[2]	741-16 795-16	611-16[71] 614-16[71]	503-16[2]
Hydraulic Flat Tappet Camshafts — XTREME ENERGY™											
K32-241-4	SK32-241-4[7]	CL32-241-4[7]	N/A	832-16 862-16[37]	2121 3121	1411-16[1] 1630-16[1]	7502-16[8] 7945-16	972-16 924-16[2]	747-16 741-16	611-16[71]	502-16 503-16[2]
K32-242-4	SK32-242-4[7]	CL32-242-4[7]	N/A	832-16 862-16[37]	2121 3121	1411-16[1] 1630-16[1]	7502-16[8] 7945-16	972-16 924-16[2]	747-16 741-16	611-16[71]	502-16 503-16[2]
K32-246-4	SK32-246-4[7]	CL32-246-4[7]	N/A	832-16 862-16[37]	2121 3121	1411-16[1] 1630-16[1]	7502-16[8] 7945-16	924-16[2] 26120-16[2]	741-16 795-16	611-16[71] 614-16[71]	503-16[2]
K32-250-4	SK32-250-4[7]	CL32-250-4[7]	N/A	832-16 862-16[37]	2121 3121	1411-16[1] 1630-16[1]	7502-16[8] 7945-16	924-16[2] 26120-16[2]	741-16 795-16	611-16[71] 614-16[71]	503-16[2]
Hydraulic Flat Tappet Camshafts — THUMPR™											
K32-600-5	N/A	CL32-600-5[7]	N/A	832-16 862-16[37]	2121 3121	1411-16[1] 1630-16[1]	7502-16[8] 7945-16	972-16 924-16[2]	747-16 741-16	611-16[71]	502-16 503-16[2]
K32-601-5	N/A	CL32-601-5[7]	N/A	832-16 862-16[37]	2121 3121	1411-16[1] 1630-16[1]	7502-16[8] 7945-16	972-16 924-16[2]	747-16 741-16	611-16[71]	502-16 503-16[2]
K32-602-5	N/A	CL32-602-5[7]	N/A	832-16 862-16[37]	2121 3121	1411-16[1] 1630-16[1]	7502-16[8] 7945-16	924-16[2] 26120-16[2]	741-16 795-16	611-16[71] 614-16[71]	503-16[2]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used
8 Fits only certain years
37 Adjustable valve train required
71 For engines with multi-groove valves, use Part #624-16 locks. CAN NOT be used with lash caps.

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 351C, 351M-400M 8 CYL. 1970-1983

DUAL ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good torque and mileage. Good RV and towing cam. Works well with stock exhaust.	Hyd.	Hyd.	1000 to 5500	32-206-3	255DEH	255	265	203	216	.465	.495	110°
HYDRAULIC – Very strong mid-range and torque. Everyday performance with stock exhaust.	Hyd.	Hyd.	1500 to 5750	32-207-3[94]	265DEH	265	275	211	223	.484	.510	110°
HYDRAULIC – High performance street cam. Superior high end power. Works with 2000+ converter, has choppy idle.	Hyd.	Hyd.	2000 to 6000	32-208-3	275DEH	275	285	219	232	.515	.541	110°

DRAG RACE Hydraulic Flat Tappet Camshaft

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good torque in heavy car. 3500+ stall or 4 speed, 10:1 compression.	Hyd.	Hyd.	3000 to 7000	32-235-4	305H	305	305	253	253	.585	.585	110°

MAGNUM Retro-Fit Hydraulic Roller Camshafts, Designed To Put Hydraulic Roller Cams & Lifters In All 351C Engines

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Best with stock engine for economy or towing. Can be used with stock gears and converter. Smooth idle.	Hyd.	Hyd.	1200 to 4500	32-411-8	260HR	260	260	205	205	.510	.510	110°
HYDRAULIC ROLLER – Mild street performance. Slightly noticeable lope at idle. Will work with stock converter or even better with 1800+ stall and gear upgrade.	Hyd.	Hyd.	1800 to 5000	32-421-8	270HR	270	270	215	215	.566	.566	110°
HYDRAULIC ROLLER – Great in street machines. Best above 3500+ rpm. Good torque. Largest cam with stock heads and intake. Likes 2000+ stall.	Hyd.	Hyd.	2000 to 5500	32-431-8	284HR	284	284	224	224	.566	.566	110°
HYDRAULIC ROLLER – Perfect for street machine. Best with 4 speed and 3.40-4.10 gears. Aftermarket intake, headers and mild converter. 2500+ converter.	Hyd.	Hyd.	2500 to 6000	32-541-8	290HR	290	290	230	230	.578	.578	110°
HYDRAULIC ROLLER – Street/strip only. 4 speed or 3000+ stall and 4.10 or lower gear. Higher compression, aftermarket intake and headers.	Hyd.	Hyd.	3000 to 6500	32-651-8	304HR	304	304	245	245	.612	.612	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 351C, 351M-400M 8 CYL. 1970-1983

Hydraulic Flat Tappet Camshafts — DUAL ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K32-206-3	SK32-206-3[7]	CL32-206-3[7]	N/A	832-16	3221	1411-16[1]	7832-16[8]	940-16 924-16[2]	743-16 741-16	601-16	502-16 503-16[2]
K32-207-3	SK32-207-3[7]	CL32-207-3[7]	N/A	832-16	3221	1411-16[1]	7832-16[8]	940-16 924-16[2]	747-16 741-16	611-16[71]	502-16 503-16[2]
K32-208-3	SK32-208-3[7]	CL32-208-3[7]	N/A	832-16	3221	1411-16[1]	7832-16[8]	972-16 924-16[2]	747-16 741-16	611-16[71]	502-16 503-16[2]

Hydraulic Flat Tappet Camshaft — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
862-16[37]	3121	1630-16[1] 1130-16[1]	7945-16	928-16[2] 930-16[2]	741-16 732-16	611-16[71]	503-16[2]	621-16	N/A	432	4016[74]

Retro-Fit Hydraulic Roller Camshafts, Designed To Put Hydraulic Roller Cams & Lifters In All 351C Engines — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K32-411-8	SK32-411-8[7]	CL32-411-8[7]	N/A	851-16[32] 8931-16	2121 3121	1411-16[1] 1630-16[1]	7825-16[55] 7974-16	924-16[2] 26120-16[2]	741-16 795-16	611-16[71] 614-16[71]	503-16[2]
K32-421-8	SK32-421-8[7]	CL32-421-8[7]	N/A	851-16[32] 8931-16	2121 3121	1411-16[1] 1630-16[1]	7825-16[55] 7974-16	924-16[2] 26120-16[2]	741-16 795-16	611-16[71] 614-16[71]	503-16[2]
K32-431-8	SK32-431-8[7]	CL32-431-8[7]	N/A	851-16[32] 8931-16	2121 3121	1411-16[1] 1630-16[1]	7825-16[55] 7974-16	924-16[2] 26120-16[2]	741-16 795-16	611-16[71] 614-16[71]	503-16[2]
K32-541-8	SK32-541-8[7]	CL32-541-8[7]	N/A	851-16[32] 8931-16	2121 3121	1411-16[1] 1630-16[1]	7825-16[55] 7974-16	924-16[2] 26120-16[2]	741-16 795-16	611-16[71] 614-16[71]	503-16[2]
K32-651-8	SK32-651-8[7]	CL32-651-8[7]	N/A	851-16[32] 8931-16	2121 3121	1411-16[1] 1630-16[1]	7825-16[55] 7974-16	924-16[2] 930-16[2]	741-16 732-16	611-16[71]	503-16[2]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used
8 Fits only certain years
32 Requires lifter installation kit Part #31-1000 for retro-fit applications
55 For 351M and 400M engines, use Part #7824-16 pushrods on retro-fit cams
71 For engines with multi-groove valves, use Part #624-16 locks. CAN NOT be used with lash caps.
74 Fits only 302/351C Boss & SVO heads
94 Change last digit of part number to -20 for nitrided version of cam

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 351C, 351M-400M 8 CYL. 1970-1983

THUMPR™ Retro-Fit Hydraulic Roller Camshafts

New APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears, choppy/thumping idle.	Hyd.	Hyd.	1900 to 5600	32-600-8	283THR7	283	303	227	241	.557	.539	107°
HYDRAULIC ROLLER – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 5900	32-601-8	291THR7	291	311	235	249	.567	.551	107°
HYDRAULIC ROLLER – Big Mutha' Thumpr™ – Street/ strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6200	32-602-8	299THR7	299	319	243	257	.579	.563	107°

MAGNUM Mechanical Flat Tappet Camshafts

SOLID – Excellent torque. Everyday performance. 2000+ converter and 9:1 compression. Noticeable idle.	.022	.022	1800 to 5800	32-237-4	270S	270	270	224	224	.540	.540	110°
SOLID – Street machine with headers, 2500+ converter, 9:1 compression. Great mid-range power. Mild rough idle.	.022	.022	2000 to 6000	32-238-4	282S	282	282	236	236	.570	.570	110°
SOLID – Street/strip, 3000+ stall, low gear, 10:1 compression. Rough idle. Great mid-range and top end.	.022	.022	2500 to 6500	32-239-4	294S	294	294	248	248	.605	.605	110°
SOLID – Pro Street/bracket race. Excellent top end, 3500+ stall and 11:1 compression. Radical idle.	.022	.022	3000 to 7000	32-240-4	306S	306	306	260	260	.640	.640	110°

DRAG RACE Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Best in large c.i. street machine. 10:1 compression, 3500+ stall, 4.10 gear.	.028	.030	3200 to 6200	32-638-5	284B-8	284	294	246	256	.564	.589	108°
SOLID – Excellent torque for heavy cars, 3500+ stall or 4 speed with 10.5:1 compression.	.028	.030	3800 to 6800	32-644-5	294B-6	294	304	256	266	.589	.615	106°

OVAL TRACK Mechanical Flat Tappet Camshaft

SOLID – Best for 1/4-3/8 mile track, broad torque range.	.022	.024	3500 to 6500	32-642-5	285B-6	285	295	250	260	.614	.645	106°



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Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 351C, 351M-400M 8 CYL. 1970-1983

Retro-Fit Hydraulic Roller Camshafts — THUMPR™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RET.	VALVE LOCKS	VALVE SEALS
K32-600-8	N/A	CL32-600-8[7]	N/A	851-16[32] 8931-16	2121 3121	1411-16[1] 1630-16[1]	7825-16[55] 7974-16	924-16[2] 26120-16[2]	741-16 795-16	611-16[71] 614-16[71]	503-16[2]
K32-601-8	N/A	CL32-601-8[7]	N/A	851-16[32] 8931-16	2121 3121	1411-16[1] 1630-16[1]	7825-16[55] 7974-16	924-16[2] 26120-16[2]	741-16 795-16	611-16[71] 614-16[71]	503-16[2]
K32-602-8	N/A	CL32-602-8[7]	N/A	851-16[32] 8931-16	2121 3121	1411-16[1] 1630-16[1]	7825-16[55] 7974-16	924-16[2] 26120-16[2]	741-16 795-16	611-16[71] 614-16[71]	503-16[2]

Mechanical Flat Tappet Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RET.	VALVE LOCKS	VALVE SEALS
K32-237-4	SK32-237-4[7]	CL32-237-4[7]	N/A	833-16 809-16[12]	2121 3121	1411-16[1] 1630-16[1]	7502-16[8] 7945-16[8]	972-16 924-16[2]	747-16 741-16	611-16[71]	502-16 503-16[2]
K32-238-4	SK32-238-4[7]	CL32-238-4[7]	N/A	833-16 809-16[12]	2121 3121	1411-16[1] 1630-16[1]	7502-16[8] 7945-16[8]	972-16 924-16[2]	747-16 741-16	611-16[71]	502-16 503-16[2]
K32-239-4	SK32-239-4[7]	CL32-239-4[7]	N/A	833-16 809-16[12]	2121 3121	1411-16[1] 1630-16[1]	7502-16[8] 7945-16[8]	924-16[2] 930-16[2]	741-16 732-16	611-16[71]	503-16[2]
K32-240-4	SK32-240-4[7]	CL32-240-4[7]	N/A	833-16 809-16[12]	2121 3121	1411-16[1] 1630-16[1]	7502-16[8] 7945-16[8]	924-16[2] 930-16[2]	741-16 732-16	611-16[71]	503-16[2]

Mechanical Flat Tappet Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
833-16 809-16[12]	3121	1630-16[1] 1130-16[1]	7945-16[8]	924-16[2] 930-16[2]	741-16 732-16	611-16[71]	503-16[2]	621-16	N/A	432	4016[74]
833-16 809-16[12]	3121	1630-16[1] 1130-16[1]	7945-16[8]	924-16[2] 930-16[2]	741-16 732-16	611-16[71]	503-16[2]	621-16	N/A	432	4016[74]

Mechanical Flat Tappet Camshaft — OVAL TRACK

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
833-16 809-16[12]	3121	1630-16[1] 1130-16[1]	7945-16[8]	924-16[2] 930-16[2]	741-16 732-16	611-16[71]	503-16[2]	621-16	N/A	432	4016[74]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used
8 Fits only certain years
12 Hi-Tech™ Lite Lifters. No chamfers.
32 Requires lifter installation kit Part #31-1000 for retro-fit applications
55 For 351M and 400M engines, use Part #7824-16 pushrods on retro-fit cams
71 For engines with multi-groove valves, use Part #624-16 locks. CAN NOT be used with lash caps.
74 Fits only 302/351C Boss & SVO heads

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 351C, 351M-400M 8 CYL. 1970-1983

MAGNUM Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Excellent power for serious street use. 3000+ stall with low gear and headers. Rough idle.	.020	.020	2500 to 6500	32-771-9[5]	288R	288	288	243	243	.636	.636	110°
MECHANICAL ROLLER – Ultimate Pro Street cam. 4000+ stall or 4 speed, 11:1 compression, radical race idle.	.020	.020	3000 to 7000	32-772-9[5]	308R	308	308	262	262	.662	.662	110°

FORD 352-428 C.I. 8 CYL. 1963-1977

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Great low end torque and economy, smooth idle.	Hyd.	Hyd.	800 to 4800	33-221-3	252H	252	252	206	206	.468	.468	110°
HYDRAULIC – Great for vans, trucks and 4WD. Excellent for towing, mid-range torque. Smooth idle.	Hyd.	Hyd.	1200 to 5200	33-222-3	260H	260	260	212	212	.484	.484	110°
HYDRAULIC – Good upgrade for factory performance cams in 390-428. Noticeable idle.	Hyd.	Hyd.	1500 to 5500	33-224-3	268H	268	268	218	218	.494	.494	110°

MAGNUM Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good cam for stock and even better for 2000 stall converter in street machine, 9:1 compression, mild rough idle.	Hyd.	Hyd.	1800 to 5800	33-226-4	270H	270	270	224	224	.519	.519	110°
HYDRAULIC – Works best in street machines with 2000+ stall, lower gears and headers. Rough idle.	Hyd.	Hyd.	2000 to 6000	33-230-4	280H	280	280	230	230	.530	.530	110°
HYDRAULIC – Street/strip, use 9.5:1+ compression with headers, intake, low gears and 3000+ stall. Racy idle.	Hyd.	Hyd.	2500 to 6500	33-240-4	292H	292	292	244	244	.560	.560	110°
HYDRAULIC – Best camshaft for Pro Street or bracket racing. 3500+ stall, 10.5:1+ compression. Radical race idle.	Hyd.	Hyd.	3000 to 6800	33-241-4	305H	305	305	253	253	.585	.585	110°

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Strong torque through low and mid-range. Good economy. Mild idle.	Hyd.	Hyd.	1000 to 5200	33-234-4	XE256H	256	268	212	218	.487	.493	110°
HYDRAULIC – Strong torque, excellent throttle response. Will work with stock converter but prefers 1800+ stall.	Hyd.	Hyd.	1300 to 5600	33-238-4	XE262H	262	270	218	224	.513	.520	110°
HYDRAULIC – High performance street, very strong mid-range with headers, 2400+ stall and lower gears.	Hyd.	Hyd.	1800 to 6000	33-248-4	XE274H	274	286	230	236	.562	.565	110°
HYDRAULIC – Street/strip 2800+ stall, headers, 9.5:1 compression, lower gears, rough idle.	Hyd.	Hyd.	2300 to 6500	33-250-4	XE284H	284	296	240	246	.584	.588	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 351C, 351M-400M 8 CYL. 1970-1983

Mechanical Roller Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K32-771-9	SK32-771-9[7]	CL32-771-9[7]	840-16[6]	432	2121 3121	1630-16[1] 1130-16[1]	7502-16[8]	929-16[2] 939-16[2]	749-16 741-16	611-16[71]	503-16[2]
K32-772-9	SK32-772-9[7]	CL32-772-9[7]	840-16[6]	432	2121 3121	1630-16[1] 1130-16[1]	7502-16[8]	929-16[2] 939-16[2]	749-16 741-16	611-16[71]	503-16[2]

FORD 352-428 C.I. 8 CYL. 1963-1977

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K33-221-3	SK33-221-3[7]	CL33-221-3[7]	N/A	834-16	3208	1046-KIT[40]	7833-16[62]	940-16	744-16	603-16	504-16
K33-222-3	SK33-222-3[7]	CL33-222-3[7]	N/A	834-16	3208	1046-KIT[40]	7833-16[62]	940-16	744-16	603-16	504-16
K33-224-3	SK33-224-3[7]	CL33-224-3[7]	N/A	834-16	3208	1046-KIT[40]	7833-16[62]	940-16	744-16	603-16	504-16

Hydraulic Flat Tappet Camshafts — MAGNUM

K33-226-4	SK33-226-4[7]	CL33-226-4[7]	N/A	834-16	2108 3108	1046-KIT[40]	7833-16[62] 7530-16	926-16 924-16[2]	747-16 741-16	612-16	504-16 505-16[2]
K33-230-4	SK33-230-4[7]	CL33-230-4[7]	N/A	834-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	7833-16[62] 7530-16	926-16 924-16[2]	747-16 741-16	612-16	504-16 505-16[2]
K33-240-4	SK33-240-4[7]	CL33-240-4[7]	N/A	834-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	7833-16[62] 7530-16	924-16[2] 26120-16[2]	741-16 795-16	612-16 616-16	505-16[2]
K33-241-4	SK33-241-4[7]	CL33-241-4[7]	N/A	834-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	7833-16[62] 7530-16	924-16[2] 26120-16[2]	741-16 795-16	612-16 616-16	505-16[2]

Hydraulic Flat Tappet Camshafts — XTREME ENERGY™

K33-234-4	SK33-234-4[7]	CL33-234-4[7]	N/A	834-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	7833-16[62] 7530-16	926-16 924-16[2]	747-16 741-16	612-16	504-16 505-16[2]
K33-238-4	SK33-238-4[7]	CL33-238-4[7]	N/A	834-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	7833-16[62] 7530-16	926-16 924-16[2]	747-16 741-16	612-16	504-16 505-16[2]
K33-248-4	SK33-248-4[7]	CL33-248-4[7]	N/A	834-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	7833-16[62] 7530-16	924-16[2] 26120-16[2]	741-16 795-16	612-16 616-16	505-16[2]
K33-250-4	SK33-250-4[7]	CL33-250-4[7]	N/A	834-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	7833-16[62] 7530-16	924-16[2] 26120-16[2]	741-16 795-16	612-16 616-16	505-16[2]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
5 Requires distributor gear upgrade
6 Offset lifters available
7 Stock springs cannot be used
8 Fits only certain years
40 Includes special shafts
62 Part #7833 only works with non-adjustable factory rocker arms, use Part #7533 for adjustable rockers
69 Includes special rockers & shafts Part #1047-2
71 For engines with multi-groove valves, use Part #624-16 locks. CAN NOT be used with lash caps.

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 352-428 C.I. 8 CYL. 1963-1977

THUMPR™ Hydraulic Flat Tappet Camshafts

New APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle. ③	Hyd.	Hyd.	2000 to 5800	33-600-5	279TH7	278	296	226	241	.506	.493	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle. ③	Hyd.	Hyd.	2200 to 6100	33-601-5	287TH7	286	304	234	249	.519	.503	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/ strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle. ③	Hyd.	Hyd.	2500 to 6400	33-602-5	295TH7	294	312	242	257	.531	.515	107°

DUAL ENERGY™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – Good torque and mileage. Good RV and towing camshaft. Works with stock exhaust. ③	Hyd.	Hyd.	1000 to 5500	33-206-3	255DEH	255	265	203	216	.469	.495	110°
HYDRAULIC – Very strong mid-range. Everyday performance with stock exhaust. ③	Hyd.	Hyd.	1500 to 5750	33-207-3	265DEH	265	275	211	223	.484	.510	110°
HYDRAULIC – High performance street cam. Superior high end power. Best with 1800+ converter. Choppy idle. ③	Hyd.	Hyd.	2000 to 6000	33-208-3	275DEH	275	285	219	232	.515	.541	110°

New XTREME ENERGY™ Retro-Fit Hydraulic Roller Camshafts

HYDRAULIC ROLLER-Great mid-range torque in performance street application, likes headers. ③	Hyd.	Hyd.	1800-5400	33-422-9	XR270HR	270	276	218	224	.521	.521	110°
HYDRAULIC ROLLER-High performance for street cars with 2200+ stall, 9:1+ compression, headers. ③	Hyd.	Hyd.	2200-5800	33-432-9	XR280HR	282	288	230	236	.521	.532	110°
HYDRAULIC ROLLER-Street/strip applications, 10:1+ compression, 3000+ stall, intake, headers, gear. ③	Hyd.	Hyd.	2800-6100	33-443-9	XR294HR	294	300	242	248	.553	.572	110°

New THUMPR™ Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears, choppy/thumping idle. ③	Hyd.	Hyd.	1900 to 5600	33-600-9[5]	283THR7	283	303	227	241	.557	.539	107°
HYDRAULIC ROLLER – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle. ③	Hyd.	Hyd.	2200 to 5900	33-601-9[5]	291THR7	291	311	235	249	.567	.551	107°
HYDRAULIC ROLLER – Big Mutha' Thumpr™ – Street/ strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle. ③	Hyd.	Hyd.	2500 to 6200	33-602-9[5]	299THR7	299	319	243	257	.579	.563	107°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 352-428 C.I. 8 CYL. 1963-1977

Hydraulic Flat Tappet Camshafts — THUMPR™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K33-600-5	N/A	CL33-600-5[7]	N/A	834-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	7833-16[62] 7530-16	926-16 924-16[2]	747-16 741-16	612-16	504-16 505-16[2]
K33-601-5	N/A	CL33-601-5[7]	N/A	834-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	7833-16[62] 7530-16	926-16 924-16[2]	747-16 741-16	612-16	504-16 505-16[2]
K33-602-5	N/A	CL33-602-5[7]	N/A	834-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	7833-16[62] 7530-16	926-16 924-16[2]	747-16 741-16	612-16	504-16 505-16[2]

Hydraulic Flat Tappet Camshafts — DUAL ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K33-206-3	SK33-206-3[7]	CL33-206-3[7]	N/A	834-16	3208 2108	1046-KIT[40] 1046HD-KIT[69]	7833-16[62] 7530-16	940-16 926-16	744-16 747-16	603-16 612-16	504-16 505-16[2]
K33-207-3	SK33-207-3[7]	CL33-207-3[7]	N/A	834-16	3208 2108	1046-KIT[40] 1046HD-KIT[69]	7833-16[62] 7530-16	926-16 924-16[2]	747-16 741-16	612-16	504-16 505-16[2]
K33-208-3	SK33-208-3[7]	CL33-208-3[7]	N/A	834-16	3208 2108	1046-KIT[40] 1046HD-KIT[69]	7833-16[62] 7530-16	926-16 924-16[2]	747-16 741-16	612-16	504-16 505-16[2]

Retro-Fit Hydraulic Roller Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K33-422-9	N/A	CL33-422-9[7]	N/A	8934-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	N/A	924-16[2] 26120-16[2]	741-16 795-16	612-16 616-16	505-16[2]
K33-432-9	N/A	CL33-432-9[7]	N/A	8934-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	N/A	924-16[2] 26120-16[2]	741-16 795-16	612-16 616-16	505-16[2]
K33-443-9	N/A	CL33-443-9[7]	N/A	8934-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	N/A	924-16[2] 26120-16[2]	741-16 795-16	612-16 616-16	505-16[2]

Retro-Fit Hydraulic Roller Camshafts — THUMPR™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K33-600-9	N/A	CL33-600-9[7]	N/A	8934-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	N/A	924-16[2] 26120-16[2]	741-16 795-16	612-16 616-16	505-16[2]
K33-601-9	N/A	CL33-601-9[7]	N/A	8934-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	N/A	924-16[2] 26120-16[2]	741-16 795-16	612-16 616-16	505-16[2]
K33-602-9	N/A	CL33-602-9[7]	N/A	8934-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	N/A	924-16[2] 26120-16[2]	741-16 795-16	612-16 616-16	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
5 Requires distributor gear upgrade
7 Stock springs cannot be used
40 Includes special shafts
62 Part #7833 only works with non-adjustable factory rocker arms, use Part #7533 for adjustable rockers
69 Includes special rockers & shafts Part #1047-2

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 352-428 C.I. 8 CYL. 1963-1977

DRAG RACE Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good for automatic with 3500+ stall, 10:1 compression.	3	Hyd.	Hyd.	3500 to 6800	33-242-5	312H-10	312	312	260	260	.611	.611	110°

MAGNUM Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Good solid lifter cam for every day street driving. Stock converter and manifolds. Mild rough idle.	3	.022	.022	1800 to 5800	33-244-4	270S	270	270	224	224	.540	.540	110°
SOLID – Use in street machine with 2400+ and lower gear. 9:1 compression and headers. Rough idle.	3	.022	.022	2000 to 6000	33-245-4	282S	282	282	236	236	.571	.571	110°
SOLID – Good for street/strip cars. Use 10:1+ compression, low gears, 3000+ stall or 4 speed. Very rough idle.	3	.022	.022	2500 to 6500	33-246-4	294S	294	294	248	248	.605	.605	110°
SOLID – Excellent for Pro Street cars. 3500+ stall or 4 speed 11.5:1 compression, low gears. Radical idle.	3	.022	.022	3000 to 7000	33-247-4	306S	306	306	260	260	.640	.640	110°

DRAG RACE Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Street/strip, 9.5:1 compression or better, 3000+ stall.	3	.028	.030	3000 to 6000	33-638-5	284B-8	284	294	246	256	.564	.590	108°
SOLID – Great torque in heavy car with 3500+ stall, 10:1 compression.	3	.028	.030	3500 to 6500	33-648-5	294B-8	294	304	256	266	.600	.626	108°

MAGNUM Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Broad powerband. Manual or automatic with 3000+ and 9.5:1 compression. Low gears. Must use headers. Rough idle.	3	.020	.020	2200 to 6500	33-781-9[5]	288R	292	292	243	243	.645	.645	110°
MECHANICAL ROLLER – The ultimate street cam. 3500+ stall or stick. 10.5:1 compression ratio. 4.10:1 gear or lower. Radical idle.	3	.020	.020	3000 to 7000	33-782-9[5]	308R	312	312	262	262	.674	.674	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 352-428 C.I. 8 CYL. 1963-1977

Hydraulic Flat Tappet Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
834-16	3108 3108KT	1046-KIT[40] 1046HD-KIT[69]	7530-16	930-16[2] 928-16[2]	749-16 732-16	612-16	505-16[2]	622-16	N/A	N/A	N/A

Mechanical Flat Tappet Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RET.	VALVE LOCKS	VALVE SEALS
K33-244-4	SK33-244-4[7]	CL33-244-4[7]	N/A	835-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	7530-16	972-16 924-16[2]	747-16 741-16	612-16	504-16 505-16[2]
K33-245-4	SK33-245-4[7]	CL33-245-4[7]	N/A	835-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	7530-16	972-16 924-16[2]	747-16 741-16	612-16	504-16 505-16[2]
K33-246-4	SK33-246-4[7]	CL33-246-4[7]	N/A	835-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	7530-16	924-16[2] 930-16[2]	741-16 732-16	612-16	505-16[2]
K33-247-4	SK33-247-4[7]	CL33-247-4[7]	N/A	835-16	2108 3108	1046-KIT[40] 1046HD-KIT[69]	7530-16	924-16[2] 930-16[2]	741-16 732-16	612-16	505-16[2]

Mechanical Flat Tappet Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
835-16	3108 3108KT	1046-KIT[40] 1046HD-KIT[69]	7530-16	930-16[2] 928-16[2]	749-16 732-16	612-16	505-16[2]	622-16	N/A	N/A	N/A
835-16	3108 3108KT	1046-KIT[40] 1046HD-KIT[69]	7530-16	930-16[2] 928-16[2]	749-16 732-16	612-16	505-16[2]	622-16	N/A	N/A	N/A

Mechanical Roller Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RET.	VALVE LOCKS	VALVE SEALS
K33-781-9	SK33-781-9[7]	CL33-781-9[7]	N/A	839-16	2108 3108	1046HD-KIT[69]	N/A	929-16[2] 930-16[2]	741-16 732-16	612-16	505-16[2]
K33-782-9	SK33-782-9[7]	CL33-782-9[7]	N/A	839-16	2108 3108	1046HD-KIT[69]	N/A	929-16[2] 930-16[2]	741-16 732-16	612-16	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
5 Requires distributor gear upgrade
7 Stock springs cannot be used
40 Includes special shafts
69 Includes special rockers & shafts Part #1047-2

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 429, 460 C.I. 8 CYL. 1968-1995

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Performance upgrade for stock cam. Strong torque and mileage. Very smooth idle. Great for family sedans.	Hyd.	Hyd.	800 to 4800	34-224-4	252H	252	252	206	206	.468	.468	110°
HYDRAULIC – Great cam for trucks and towing. Strong mid-range torque and good mileage. Smooth idle.	Hyd.	Hyd.	1200 to 5200	34-225-4	260H	260	260	212	212	.484	.484	110°
HYDRAULIC – Good cam for everyday performance driving or heavy towing with low gears. Broad power, noticeable idle.	Hyd.	Hyd.	1500 to 5500	34-227-4	268H	268	268	218	218	.494	.494	110°

MAGNUM Hydraulic Flat Tappet Camshafts

HYDRAULIC – Daily use in street machine. Largest cam with stock converter but will perform even better with 1800+ . Likes headers. Mild rough idle.	Hyd.	Hyd.	1800 to 5800	34-229-4	270H	270	270	224	224	.519	.519	110°
HYDRAULIC – Great cam for street machines. Needs mild 2500+ converter, headers and 9:1 compression.	Hyd.	Hyd.	2000 to 6000	34-331-4	280H	280	280	230	230	.530	.530	110°
HYDRAULIC – Street/strip use. Good power. 3000+ stall, aftermarket compression. Very rough idle.	Hyd.	Hyd.	2500 to 6500	34-336-4	292H	292	292	244	244	.560	.560	110°
HYDRAULIC – Bracket racing or limited street use. Strong top end power. 10.5:1 compression, 3500+ stall. Radical racy idle.	Hyd.	Hyd.	3000 to 6800	34-337-4	305H	305	305	253	253	.585	.585	110°

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – Very strong torque through low end and mid-range. Good idle.	Hyd.	Hyd.	1000 to 5200	34-234-4	XE256H	256	268	212	218	.487	.493	110°
HYDRAULIC – Strong torque, excellent response, heavy towing in 460 with 4:10 gears.	Hyd.	Hyd.	1300 to 5600	34-238-4	XE262H	262	270	218	224	.513	.520	110°
HYDRAULIC – High performance street, very strong mid-range, 2400+ stall with headers.	Hyd.	Hyd.	1800 to 6000	34-247-4	XE274H	274	286	230	236	.562	.565	110°
HYDRAULIC – Street/strip, 2800+ stall, 9.5:1 compression, lower gears, rough idle.	Hyd.	Hyd.	2300 to 6500	34-250-4	XE284H	284	296	240	246	.584	.588	110°

New THUMPR™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	2000 to 5800	34-600-5	279TH7	278	296	226	241	.506	.493	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 6100	34-601-5	287TH7	286	304	234	249	.519	.503	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6400	34-602-5	295TH7	294	312	242	257	.531	.515	107°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 429, 460 C.I. 8 CYL. 1968-1995

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K34-224-4	SK34-224-4	CL34-224-4	N/A	832-16	3222	1411-16[41]	7834-16	940-16	743-16	601-16	502-16
K34-225-4	SK34-225-4[7]	CL34-225-4[7]	N/A	832-16	3222	1411-16[41]	7834-16	940-16	743-16	601-16	502-16
K34-227-4	SK34-227-4[7]	CL34-227-4[7]	N/A	832-16	3222	1411-16[41]	7834-16	940-16 926-16	743-16	601-16	502-16

Hydraulic Flat Tappet Camshafts — MAGNUM

K34-229-4	SK34-229-4	CL34-229-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]
K34-331-4	SK34-331-4	CL34-331-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]
K34-336-4	SK34-336-4[7]	CL34-336-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]
K34-337-4	SK34-337-4[7]	CL34-337-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts — XTREME ENERGY™

K34-234-4	SK34-234-4[7]	CL34-234-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]
K34-238-4	SK34-238-4[7]	CL34-238-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]
K34-247-4	SK34-247-4[7]	CL34-247-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]
K34-250-4	SK34-250-4[7]	CL34-250-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts — THUMPR™

K34-600-5	N/A	CL34-600-5[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]
K34-601-5	N/A	CL34-601-5[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]
K34-602-5	N/A	CL34-602-5[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
37 Adjustable valve train required
41 Use screw-in studs & guide plates. May require longer pushrods.

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 429, 460 C.I. 8 CYL. 1968-1995

XTREME 4X4™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Strong low end and mid-range torque, good idle.	Hyd.	Hyd.	1000 to 5000	34-231-4	X4256H	256	262	210	218	.514	.514	111°
HYDRAULIC – Good mid-range, largest for stock converter, heavy towing, noticeable idle. Good for daily driver.	Hyd.	Hyd.	1400 to 5600	34-235-4	X4262H	262	270	218	226	.514	.524	111°
HYDRAULIC – Likes improved intake, needs headers and 3.55-3.90 gear with 2000+ stall.	Hyd.	Hyd.	1600 to 5800	34-239-4	X4270H	270	278	226	234	.554	.574	111°
HYDRAULIC – Good top end power, needs intake, headers and gears. 9.5:1 compression with 2500+ stall.	Hyd.	Hyd.	2000 to 6200	34-243-5	X4278H	278	288	234	244	.574	.580	111°

XTREME MARINE™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Strong low end and mid-range power, smooth idle.	Hyd.	Hyd.	1000 to 5200	34-232-4	XM262H	262	268	218	224	.514	.524	112°
HYDRAULIC – Strong mid-range with good throttle response, great for small blower, noticeable idle.	Hyd.	Hyd.	1600 to 5800	34-236-4	XM270H	270	286	226	236	.554	.557	112°
HYDRAULIC – Good for jet boats with a impeller. Needs good manifold, likes headers.	Hyd.	Hyd.	2000 to 6200	34-241-5	XM278H	278	292	234	244	.574	.576	112°
HYDRAULIC – Good for jet boat with A impeller. Great for skiing and performance use.	Hyd.	Hyd.	2200 to 6500	34-245-5	XM288H	288	304	244	254	.580	.585	112°
HYDRAULIC – Good for jet boat with A or B impeller. Good in bracket racing and high performance use.	Hyd.	Hyd.	2500 to 6800	34-254-5	XM298H	298	316	254	264	.585	.588	112°

MARINE Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Jet boat with A impeller or Inboard-Outboard, good for skiing and economy. Mild idle.	Hyd.	Hyd.	1500 to 5500	34-227-4	268H	268	268	218	218	.494	.494	110°
HYDRAULIC – Jet boat with A or B impeller. Good for pleasure, skiing or performance. Rough idle.	Hyd.	Hyd.	2000 to 6000	34-331-4	280H	280	280	230	230	.530	.530	110°
HYDRAULIC – Jet boat with B impeller. Flat bottom or hydro for skiing or performance.	Hyd.	Hyd.	2500 to 6500	34-336-4	292H	292	292	244	244	.560	.560	110°
HYDRAULIC – Jet boat with B impeller. Flat bottom or hydro bracket racer. Likes tunnel ram.	Hyd.	Hyd.	3000 to 6800	34-337-4	305H	305	305	253	253	.585	.585	110°

DUAL ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good torque and mileage. Good RV and towing cam. Works with stock exhaust.	Hyd.	Hyd.	1200 to 5500	34-223-4	255DEH	255	265	203	216	.469	.495	110°
HYDRAULIC – Very strong mid-range. Everyday performance with stock exhaust.	Hyd.	Hyd.	1500 to 5750	34-226-4	265DEH	265	275	211	223	.484	.510	110°
HYDRAULIC – High performance street cam. Superior high end power. Works with stock converter. Choppy idle.	Hyd.	Hyd.	2000 to 6000	34-330-4	275DEH	275	285	219	232	.515	.541	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 429, 460 C.I. 8 CYL. 1968-1995

Hydraulic Flat Tappet Camshafts — XTREME 4X4™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K34-231-4	SK34-231-4[7]	CL34-231-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]
K34-235-4	SK34-235-4[7]	CL34-235-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]
K34-239-4	SK34-239-4[7]	CL34-239-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]
K34-243-5	SK34-243-5[7]	CL34-243-5[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts — XTREME MARINE™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K34-232-4	SK34-232-4[7]	CL34-232-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]
K34-236-4	SK34-236-4[7]	CL34-236-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]
K34-241-5	SK34-241-5[7]	CL34-241-5[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]
K34-245-5	SK34-245-5[7]	CL34-245-5[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]
K34-254-5	SK34-254-5[7]	CL34-254-5[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts — MARINE

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K34-227-4	SK34-227-4[7]	CL34-227-4[7]	N/A	832-16 862-16[37]	3222 2122	1411-16[41] 1630-16[41]	7651-16 7934-16	940-16 926-16	747-16	611-16	502-16 503-16[2]
K34-331-4	SK34-331-4[7]	CL34-331-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]
K34-336-4	SK34-336-4[7]	CL34-336-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]
K34-337-4	SK34-337-4[7]	CL34-337-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts — DUAL ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K34-223-4	SK34-223-4[7]	CL34-223-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]
K34-226-4	SK34-226-4[7]	CL34-226-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]
K34-330-4	SK34-330-4[7]	CL34-330-4[7]	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
37 Adjustable valve train required
41 Use screw-in studs & guide plates. May require longer pushrods.

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 429, 460 C.I. 8 CYL. 1968-1995

XTREME ENERGY™ Computer Controlled Hydraulic Flat Tappet Camshaft (FOR EFI)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – EFI speed density, works with stock computer. Very strong torque, excellent mileage, good idle quality.	Hyd.	Hyd.	1000 to 5200	34-255-5	XE256H-14	256	268	212	219	.490	.495	114°

DRAG RACE Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Great for heavy car with 3500+ stall and 10.5:1+ compression.	Hyd.	Hyd.	3800 to 6800	34-338-5	312H-10	312	312	260	260	.610	.610	110°

New XTREME ENERGY™ Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER-Great mid-range torque in performance street application, likes headers.	Hyd.	Hyd.	1800-5400	34-422-9	XR270HR	270	276	218	224	.521	.521	110°
HYDRAULIC ROLLER-High performance for street cars with 2200+ stall, 9:1+ compression, headers.	Hyd.	Hyd.	2200-5800	34-432-9	XR280HR	282	288	230	236	.521	.532	110°
HYDRAULIC ROLLER-Street/strip applications, 10:1+ compression, 3000+ stall, intake, headers, gear.	Hyd.	Hyd.	2800-6100	34-443-9	XR294HR	294	300	242	248	.553	.572	110°

New THUMPR™ Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears, choppy/thumping idle.	Hyd.	Hyd.	1900 to 5600	34-600-9	283THR7	283	303	227	241	.557	.539	107°
HYDRAULIC ROLLER – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 5900	34-601-9	291THR7	291	311	235	249	.567	.551	107°
HYDRAULIC ROLLER – Big Mutha' Thumpr™ – Street/ strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6200	34-602-9	299THR7	299	319	243	257	.579	.563	107°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FORD 429, 460 C.I. 8 CYL. 1968-1995

Computer Controlled Hydraulic Flat Tappet Camshaft (FOR EFI) — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
N/A	N/A	N/A	N/A	832-16 862-16[37]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]

Hydraulic Flat Tappet Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
862-16[37]	3122	1630-16[41] 1130-16[41]	7934-16	928-16[2] 930-16[2]	741-16 732-16	611-16	503-16[2]	621-16	N/A	432	4034[72]

Retro-Fit Hydraulic Roller Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K34-422-9	N/A	CL34-422-9[7]	N/A	8934-16	2122 3122	1411-16[41] 1630-16[41]	7740-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]
K34-432-9	N/A	CL34-432-9[7]	N/A	8934-16	2122 3122	1411-16[41] 1630-16[41]	7740-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]
K34-443-9	N/A	CL34-443-9[7]	N/A	8934-16	2122 3122	1411-16[41] 1630-16[41]	7740-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]

Retro-Fit Hydraulic Roller Camshafts — THUMPR™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K34-600-9	N/A	CL34-600-9[7]	N/A	8934-16	2122 3122	1411-16[41] 1630-16[41]	7740-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]
K34-601-9	N/A	CL34-601-9[7]	N/A	8934-16	2122 3122	1411-16[41] 1630-16[41]	7740-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]
K34-602-9	N/A	CL34-602-9[7]	N/A	8934-16	2122 3122	1411-16[41] 1630-16[41]	7740-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
12 Hi-Tech™ Lite Lifters. No chamfers.
37 Adjustable valve train required
41 Use screw-in studs & guide plates. May require longer pushrods.
72 Fits only certain heads

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 429, 460 C.I. 8 CYL. 1968-1995

MAGNUM Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Great solid lifter cam for daily use. Good mid-range power. Stock converter and compression. Noticeable idle.	.022	.022	1800 to 5800	34-340-4	270S	270	270	224	224	.540	.540	110°
SOLID – Good for street machine with mild converter and headers. 9:1+ compression. Mild rough idle.	.022	.022	2000 to 6000	34-341-4	282S	282	282	236	236	.570	.570	110°
SOLID – Good street/strip cam. Excellent power. 3000+ stall with manifolds and 9.5:1+ compression. Radical idle.	.022	.022	2500 to 6500	34-342-4	294S	294	294	248	248	.605	.605	110°
SOLID – Bracket race or limited street use. Must have low gear with 3500+ stall. 10.5:1 compression. Racy idle.	.022	.022	3000 to 6800	34-343-4	306S	306	306	260	260	.640	.640	110°

MARINE Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Jet boat A impeller, hydro or flat bottom river racer. Use tunnel ram.	.030	.030	4000 to 7000	34-653-5	310B-8	310	314	270	276	.649	.642	108°
SOLID – Hydro or flat bottom with two 4 BBL on tunnel ram. Good for bracket racing.	.030	.030	5000 to 7500	34-661-5	320B-8	320	324	280	286	.645	.666	108°

DRAG RACE Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Excellent torque. Works well with 4000 stall, heavy car. 10:1+ compression.	.030	.030	3500 to 6500	34-652-5	294B-8	294	304	256	266	.589	.615	108°
SOLID – 4 speed or 4500 stall in 460c.i. and 5000 stall in 429. 11:1+ compression.	.030	.030	4000 to 6800	34-653-5	310B-8	310	314	270	276	.649	.642	108°

MAGNUM Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Street/strip performance, 10:1+ compression, 2200+ stall, headers, choppy idle.	.020	.020	2500 to 6500	34-700-9[5]	280A-R10	280	280	236	236	.634	.634	110°
MECHANICAL ROLLER – Ultimate Pro Street cam 4000+ stall/4 speed, 11:1+ compression, radical idle.	.020	.020	3200 to 7200	34-710-9[5]	300A-R10	300	300	255	255	.663	.663	110°

XTREME ENERGY™ Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Great for reliable power touring 2500+ stall, easy on parts, rough idle.	.016	.018	2200 to 6200	34-770-9[5]	XR274R-10	274	280	236	242	.650	.657	110°
MECHANICAL ROLLER – Best in street machines, 2800 stall, 10:1+ compression, 3.73-3.90 gears.	.016	.018	2500 to 6500	34-771-9[5]	XR280R-10	280	286	242	248	.657	.664	110°
MECHANICAL ROLLER – Great for weekend warrior, 3000+ stall, needs intake, exhaust, gears.	.016	.018	3000 to 7000	34-772-9[5]	XR286R-10	286	292	248	254	.664	.671	110°
MECHANICAL ROLLER – Best for Pro Street, 3500+ stall. Needs good intake, exhaust 11:1+ compression.	.016	.018	3200 to 7200	34-773-9[5]	XR292R-10	292	298	254	260	.671	.678	110°

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FORD 429, 460 C.I. 8 CYL. 1968-1995

Mechanical Flat Tappet Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RET.	VALVE LOCKS	VALVE SEALS
K34-340-4	SK34-340-4[7]	CL34-340-4[7]	N/A	833-16 809-16[12]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	926-16 924-16[2]	747-16 741-16	611-16	502-16 503-16[2]
K34-341-4	SK34-341-4[7]	CL34-341-4[7]	N/A	833-16 809-16[12]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	924-16[2] 26120-16	741-16 795-16	611-16 614-16	503-16[2]
K34-342-4	SK34-342-4[7]	CL34-342-4[7]	N/A	833-16 809-16[12]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	924-16[2] 930-16[2]	741-16 732-16	611-16	503-16[2]
K34-343-4	SK34-343-4[7]	CL34-343-4	N/A	833-16 809-16[12]	2122 3122	1411-16[41] 1630-16[41]	7651-16 7934-16	924-16[2] 930-16[2]	741-16 732-16	611-16	503-16[2]

Mechanical Flat Tappet Camshafts — MARINE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
833-16 809-16[12]	3122	1630-16[41] 1130-16[41]	7934-16	930-16[2]	741-16 732-16	611-16	503-16[2]	621-16	N/A	432	4034
833-16 809-16[12]	3122	1630-16[41] 1130-16[41]	7934-16	930-16[2]	741-16 732-16	611-16	503-16[2]	621-16	N/A	432	4034

Mechanical Flat Tappet Camshafts — DRAG RACE

833-16 809-16[12]	3122	1630-16[41] 1130-16[41]	7934-16	930-16[2]	741-16 732-16	611-16	503-16[2]	621-16	N/A	432	4034
833-16 809-16[12]	3122	1630-16[41] 1130-16[41]	7934-16	930-16[2]	741-16 732-16	611-16	503-16[2]	621-16	N/A	432	4034

Mechanical Roller Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	BRONZE GEAR	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K34-700-9	N/A	CL34-700-9[7]	432	836-16	2122 3122	1630-16[41] 1130-16[41]	7934-16	954-16	741-16 732-16	611-16	503-16[2]
K34-710-9	N/A	CL34-710-9[7]	432	836-16	2122 3122	1630-16[41] 1130-16[41]	7934-16	954-16	741-16 732-16	611-16	503-16[2]

Mechanical Roller Camshafts — XTREME ENERGY™

K34-770-9	N/A	CL34-770-9[7]	432	836-16	2122 3122	1630-16[41] 1130-16[41]	7934-16	954-16	741-16 732-16	611-16	503-16[2]
K34-771-9	N/A	CL34-771-9[7]	432	836-16	2122 3122	1630-16[41] 1130-16[41]	7934-16	954-16	741-16 732-16	611-16	503-16[2]
K34-772-9	N/A	CL34-772-9[7]	432	836-16	2122 3122	1630-16[41] 1130-16[41]	7934-16	954-16	741-16 732-16	611-16	503-16[2]
K34-773-9	N/A	CL34-773-9[7]	432	836-16	2122 3122	1630-16[41] 1130-16[41]	7934-16	954-16	741-16 732-16	611-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
12 Hi-Tech™ Lite Lifters. No chamfers.
37 Adjustable valve train required
41 Use screw-in studs & guide plates. May require longer pushrods.
72 Fits only certain heads

RED NUMBERS ARE THE PREMIUM CHOICE

FORD 429, 460 C.I. 8 CYL. 1968-1995

MARINE — Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Blown alcohol or blown gas. Use in 500c.i. or larger engine.	.028	.030	4400 to 7200	34-850-9[5]	308AR-12	308	316	272	279	.727	.727	112°
MECHANICAL ROLLER – Good for unblown gas or alcohol. Two 4 BBL or injection.	.030	.030	5500 to 7500	34-746-9[5]	319CR-10	319	326	285	288	.796	.726	110°
MECHANICAL ROLLER – Pro Stock style engine, 500c.i. or larger, Boss, SVO or TFS heads.	.028	.030	6000 to 8500	34-803-9[5]	327DR-12	327	342	290	302	.796	.796	112°

PULLER & MUD RACE — Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Great torque and power in 429-460, single carb., 10:1+ compression.	.028	.030	3500 to 6500	34-711-9[5]	288BR-8	288	296	252	260	.726	.726	108°
MECHANICAL ROLLER – Works best in 460 or larger engine with 11:1 compression and tunnel ram.	.028	.030	3800 to 7200	34-720-9[5]	306AR-8	306	306	271	271	.692	.692	108°

DRAG RACE — Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Excellent torque for heavy car, 4000+ stall, 10:1+ compression.	.028	.030	3800 to 6800	34-713-9[5]	296BR-8	296	304	260	268	.726	.726	108°
MECHANICAL ROLLER – Great power, 11:1+ compression or better with 4500+ stall.	.028	.030	3800 to 6800	34-715-9[5]	304BR-8	304	312	268	276	.726	.726	108°
MECHANICAL ROLLER – 500ci., use with good heads and large carb.	.030	.030	4800 to 7500	34-740-9[5]	313CR-10	313	319	275	284	.806	.763	110°
MECHANICAL ROLLER – Use in large engine with 11.5+ compression and 5000+ stall.	.028	.030	4800 to 7500	34-703-9[5]	312BR-10	312	319	276	280	.726	.692	110°
MECHANICAL ROLLER – 5500+ stall or 4 speed in light car. 460 and larger engine.	.030	.030	5500-7500	34-746-9[5]	319CR-10	319	326	285	288	.796	.726	110°
MECHANICAL ROLLER – 650+ c.i., 2500+ lbs with Lenco, works with nitrous.	.028	.030	5500 to 8500	34-814-9[5]	324FR-120	326	360	292	320	.882	.830	120°
MECHANICAL ROLLER – 550+ c.i., engines 2300+ lbs, manual transmission.	.028	.030	6000 to 8500	34-812-9[5]	324FR-18	324	360	289	320	.882	.830	118°
MECHANICAL ROLLER – Pro Stock 500c.i. with all best components.	.026	.028	7000 to 9000	34-810-9[5]	324DR-14	324	352	289	312	.882	.825	114°
MECHANICAL ROLLER – Pro Stock 500c.i. with manual transmission in light car.	.028	.030	7000 to 9000	34-789-9[5]	328OR-16	328	356	288	316	.836	.830	116°

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FORD 429, 460 C.I. 8 CYL. 1968-1995

Mechanical Roller Camshafts — MARINE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
838-16[6]	3122	1630-16[41] 1130-16[41]	7934-16	959-16 947-16[2]	733-16 739-16	611-16	503-16[2] 506-16[2]	621-16	N/A	432	4034
838-16[6]	3122	1630-16[41] 1130-16[41]	7934-16	959-16 947-16[2]	733-16 739-16	611-16	503-16[2] 506-16[2]	621-16	N/A	432	4034
838-16[6]	3122	1630-16[41] 1130-16[41]	7934-16	959-16 947-16[2]	733-16 739-16	611-16	503-16[2] 506-16[2]	621-16	N/A	432	4034

Mechanical Roller Camshafts — PULLER & MUD RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	TITANIUM RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
838-16[6]	3122	1630-16[41] 1130-16[41]	7934-16	959-16 947-16[2]	733-16 739-16	611-16	503-16[2] 506-16[2]	621-16	N/A	432	4034
838-16[6]	3122	1630-16[41] 1130-16[41]	7934-16	959-16 947-16[2]	733-16 739-16	611-16	503-16[2] 506-16[2]	621-16	N/A	432	4034

Mechanical Roller Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEAR	STUD GIRDLES
838-16[6]	3122	1630-16[41] 1130-16[41]	7934-16	947-16[2]	739-16	611-16	503-16[2] 506-16[2]	621-16	N/A	432	4034
838-16[6]	3122	1630-16[41] 1130-16[41]	7934-16	959-16 947-16[2]	739-16	611-16	503-16[2] 506-16[2]	621-16	N/A	432	4034
838-16[6]	3122	1630-16[41] 1130-16[41]	7934-16	947-16[2]	739-16	611-16	503-16[2] 506-16[2]	621-16	N/A	432	4034
838-16[6]	3122	1630-16[41] 1130-16[41]	7934-16	959-16 947-16[2]	739-16	611-16	503-16[2] 506-16[2]	621-16	N/A	432	4034
838-16[6]	3122	1630-16[41] 1130-16[41]	7934-16	959-16 947-16[2]	739-16	611-16	503-16[2] 506-16[2]	621-16	N/A	432	4034
838-16[6]	3122	1630-16[41]	7934-16	947-16[2]	739-16	611-16	503-16[2]	621-16	N/A	432	4034
838-16[6]	3122	1630-16[41]	7934-16	947-16[2]	739-16	611-16	503-16[2]	621-16	N/A	432	4034
838-16[6]	3122	1630-16[41]	7934-16	947-16[2]	739-16	611-16	503-16[2]	621-16	N/A	432	4034
838-16[6]	3122	1630-16[41] 1130-16[41]	7934-16	947-16[2]	739-16	611-16	503-16[2] 506-16[2]	621-16	N/A	432	4034 4017[72]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
5 Requires distributor gear upgrade
6 Offset lifters available
7 Stock springs cannot be used
12 Hi-Tech™ Lite Lifters. No chamfers.
41 Use screw-in studs & guide plates. May require longer pushrods.

RED NUMBERS ARE THE PREMIUM CHOICE

SMALL BLOCK AND BIG BLOCK CHEVROLET engines have become legendary since they were introduced over 50 years ago. The people at COMP Cams®, along with top engine builders, have spent many years improving these and other Chevrolet power plants. We know the basics. And the basics are important.

We've also learned a few tricks along the way.

If you're rebuilding an engine, it will be worth your while beforehand to either read our books or watch our DVD on the subject. If you need more help or have any questions, call our toll free CAM HELP® line at 1-800-999-0853.

ENGINE TYPES

V6 90°

V6, Uses "18", "09" & "56" Prefixes

The 4.3L V6 90° engines produced since 1985 are equipped with two types of camshafts and three types of cam drive systems. Early 1985 and 1986 engines (Prefix "18") were produced with flat tappet cams. Hydraulic roller cams were first introduced in 1987 (Prefix "09"). These two cam types require different timing chain sets, because the hydraulic roller cams have a stepped nose like the LT1 engine as described later in this section. In 1992, a balance shaft was incorporated in this engine, which necessitated a third timing chain setup to drive both the cam and the balance shaft. The cam (Prefix "56") in this balance shaft engine is also shorter than the earlier model and does not have a fuel pump lobe.

SMALL BLOCK V8

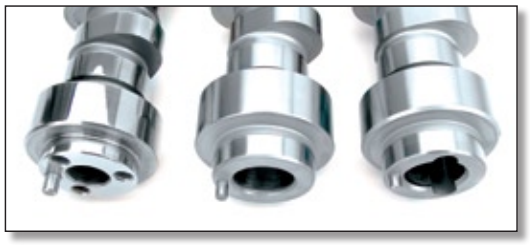
There are several varieties of small block engines currently in use in the aftermarket. Although most use the same block, the cylinder heads are very different and require totally different camshafts. The valve arrangements in the heads are different, and therefore the lobe placement on the camshafts must coincide with the head you are using. The "54" is the first cam to completely stray from the original design. It is .300" larger in diameter with a three-bolt nose. The "146" and "156" cams are the same diameter as the "54" cams, but they only have a single-bolt on the front of the cam. The "156" cams also have notches for the cam phaser.

"12" Early | "08" Late | "07" LT1



The nose of the standard early model cam "12" is very different from the later model hydraulic roller "08". The nose of the hydraulic roller "08" is necked down to accommodate the cam retention plate. The "07" is an LT1/LT4 shaft, which has a longer dowel pin and a center hole for the distributor. Be sure to check the diameter and depth of the hole in the front, as well as the length of the dowel pin.

"54" Gen III/IV Three-Bolt | "146" Gen IV Single-Bolt w/o VVT | "156" Gen IV Single-Bolt w/ VVT



COMP Cams® Standard Small Block, Uses "12" Prefix

This design is the same basic small block that everyone is accustomed to. This engine configuration is found on all small blocks from 1955 until 1987, when Chevrolet introduced the roller cam. Based on the original 1955 version, with the exception of the 1955-1957 versions, which had an oiling groove in the rear journal, the camshafts are interchangeable.

Hydraulic Roller, Uses "08" Prefix

Beginning in 1987, most of the small block, (both V6 and V8) engines were equipped with hydraulic roller camshafts. There are differences in the block to accommodate a cam retention thrust plate and the anti-rotation mechanism for the hydraulic roller lifters. These blocks are identifiable by bolt holes for a cam retention plate behind the upper timing sprocket, as well as bosses and tapped holes in the lifter valley for the lifter retention hardware. The camshafts on these engines have a step nose and smaller bolt pattern on the front of them cam. An earlier model camshaft may be used in these blocks by using the appropriate timing chain set and adding a thrust button when using a roller cam.

LT1 & LT4 Engines, Use "07" Prefix

These engines are, as far as the camshaft is concerned, essentially the same as the hydraulic roller engines, with one exception. The distributor is driven from the front of the cam, requiring some changes in the cam core. There is a deeper pilot hole in the front of the cam, as well as a longer dowel pin to locate this drive. These engines require a special timing chain set, and they utilize a self-aligning rocker arm. COMP Cams® LT1 and LT4 Magnum Rocker Arms can be found on page 314.

Buick Head, Splayed Valve GM & Dart Buick Small Block, Use "19" Prefix

Buick made a small block cylinder head in the early 1980s that fits a small block. This head was made by Dart and is still common in drag racing and some oval track racing. The camshaft is different because of the different valve arrangement in the head. The valve arrangements of Splayed Valve GM and Dart Buick heads are identical to the Buick, so the camshaft is the same.

SB2, Uses "03" & "04" Prefixes

One version of a true race engine from GM is the SB2. It uses a totally different valve arrangement, and therefore a different core. One major item that changed is that there is also a special SB2 block. The lifter bore spacing and lifter angle are different, specifically designed to work with a flat tappet camshaft in a high end racing application. When using a standard block and SB2 head, use prefix "03". When using the SB2 block and the SB2 head, use prefix "04".

LS Series, Uses “54”, “146” & “156” Prefixes

This series of engines is the first real departure from GM’s original small block design. Almost none of the parts carry over from previous engines. There are many new parts available in the aftermarket. The camshaft is a steel roller cam, approximately 4" shorter and .300" larger in diameter, so there should be no problem distinguishing these cams from the older style GM cams.

BIG BLOCK V8

Big Block, Uses “11” Prefix
Gen VI Big Block, Uses “01” Prefix
8.1L Big Block, Uses “46” Prefix

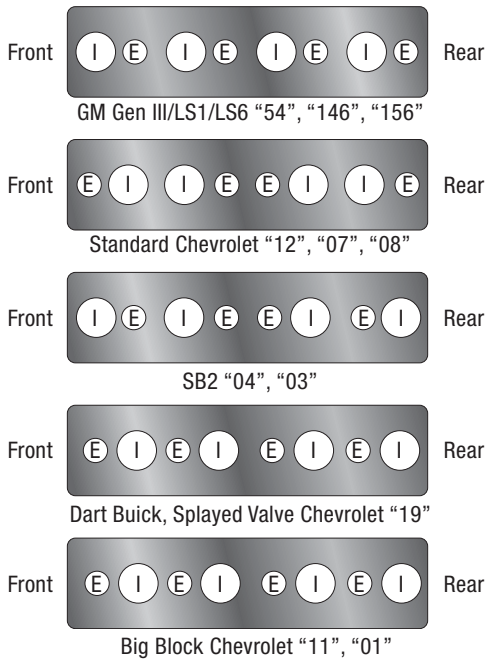
This engine was introduced in 1965 and with the exception of some of the very early 1965-1966 models that had an oiling groove in the rear journal, the camshafts are interchangeable. This includes all of the big blocks, including the Mark V, with nearly every style cylinder head until the Gen VI was introduced in 1996.

The Gen VI version 454-502 Big Block is very similar to the earlier standard big block engine. The heads are interchangeable, but there is a non-adjustable valve train. It is equipped with a hydraulic roller camshaft. There is also a positive camshaft retaining plate on the front, and the nose of the cam is stepped down to accept this plate. The lifter bosses are taller to accommodate the lifter anti-rotation plates, and the engine requires a special timing chain set.

The 8.1L Big Block has many differences from the previous designs. The parts are not interchangeable and it utilizes a different firing order as well.

OLDER ENGINES

The very first 1955-1957 265c.i. Small Blocks had a unique oiling system. The same holds true for the first 1965 and 1966 396/427 Big Blocks. When one of these blocks is used, it is necessary to machine a small groove in the rear journal of the cam to allow oil flow to the top of the engine.



This chart shows the valve arrangement of typical Chevrolet cylinder heads. You can see each of these will require a different camshaft.

COMP Cams® camshafts come without this groove, so it is important to check the vintage of your block prior to camshaft installation. COMP Cams® can perform this operation or supply the specs to you for local machining.

GENERAL TIPS

Springs

By far the most common problem encountered when installing a new high performance camshaft is the incompatibility of the existing valve springs to the new cam. Factory valve springs are designed to work with stock, low lift camshafts, and since most aftermarket cams have higher lift, the springs must be replaced with compatible components. It is highly recommended and a requirement of the warranty that the suggested springs be installed along with any COMP Cams® camshaft.

Most big block engines come from the factory with a double spring consisting of small diameter wire and many coils. Some people think that because it has double springs it is already high performance. However, nothing could be further from the truth. This particular spring is one of the worst for accepting extra lift. Almost all big block engines will require a spring change along with the cam.

Whenever installing a Hi-Tech™ Racing Cam in any small or big block engine, the cylinder heads must be equipped with the correct valve springs, screw-in studs, guide plates and hardened pushrods. The increased loads and ultra high speeds of the racing engines make this a necessity for valve train stability.

Small Block Spring Pockets

When machining a small block head for larger diameter valve springs, be aware that the area around the spring pockets in the head is very thin, especially the end or outboard exhaust. Care must be taken not to machine through the head when increasing the diameter of the spring pocket. You can round the edge of the cutter used to machine the pocket to resemble the diameter of the wire in the valve spring. Another way is to insert a .030" standard 1.250" diameter spring shim in the pocket prior to machining and cut only down to that point. The safest way is to seek professional help before ruining the heads.

Studs

When you are using a high performance camshaft and have problems with the valves not staying properly adjusted, one of the first things to check is the rocker arm studs. Most early model small block heads utilize pressed-in studs. When high spring loads and high engine speeds are used with these stock type studs, they tend to pull out of the heads. You can check for this by laying a straight edge across the top of the studs to see if any of them are too high and out of alignment. If so, the heads should be removed and machined for screw-in studs.

Factory small blocks were equipped with 3/8" studs and rocker arms. One of the most common practices on these engines is to replace these with larger 7/16" versions similar to those found on big block engines. This is a simple conversion but requires a roller trunion rocker arm. See page 315-316.

In 1991 Chevrolet introduced the Mark V Big Block which comes from the factory with a non-adjustable valve train. When changing to a non-stock

camshaft, the valve train must be converted to adjustable. COMP Cams® has developed a special stud (Part #4514-16, page 325) to convert the heads to adjustable with no machining required. Also on page 323 is a series of Magnum Rocker Arm Kits engineered specifically for these engines that include this stud.

Flat Tappet Break-In

All flat tappet cams require special attention during the break-in process. Special springs will be required to ensure long life of the cam. Please refer to the instructions in your cam box for complete procedures and use COMP Cams® Engine Break-In Oil Additive (Part #159) to provide added protection for the cam and other engine components during break-in. If ever in doubt, please call the COMP Cams® toll free CAM HELP® tech line at 1-800-999-0853.

Roller Cams

Several points must be considered when installing a roller cam in an earlier block designed for a flat tappet cam.

Flat tappet cams are ground with taper on the lobes to force the cam to the rear of the engine. Roller cam lobes are ground flat so a thrust button must be used to keep the camshaft to the rear of the block. Most racing roller cams are steel billet cams, which require an upgraded distributor gear. Most street roller and hydraulic roller camshafts are made from an austempered material, which is compatible with the standard gear; however, a COMP Cams® composite distributor gear is the best choice.

Hydraulic Roller Cams

When installing a hydraulic roller cam in an early model block, it is necessary to use a special hydraulic roller lifter with a link bar attached to keep the lifters properly located within the block. In addition, special length pushrods must also be used. A thrust button must also be used to keep the cam from “walking” in the block.

When installing a flat tappet cam in a block originally equipped with a hydraulic roller, it is necessary to change the entire system. The cam, lifters, pushrods and timing chain set must all be changed in this case; none of the old parts will interchange.

Self-Aligning Rocker Arms

Originally the small block engine used a machined slot in the head to guide the rocker arm on the valve. It has been common to enlarge this hole and install a guide plate when switching to a high performance valve train.

In 1988 with many models and later on all engines, Chevrolet utilized a small alignment slot in the valve tip end of the rocker where it contacts the valve. Although there may be an alignment guide on the head, it is not hardened and is only used to align the pushrod during assembly. This guide may not be used with a standard non-aligning rocker arm. When building a high performance engine, we recommend that the alignment guides, pushrods and rocker arms be replaced with the earlier style parts. When building a street engine, COMP Cams® developed the Magnum and Ultra Pro Magnum Rocker Arms™ designed specifically for the late model self-aligning design. They can be found on pages 314-315.

High Ratio Rocker Arms

A higher than standard ratio rocker arm moves the pushrod closer to the rocker arm stud. This makes it necessary to check the clearance between the pushrod and the head where the pushrod passes through the head. This is a very common problem and should be carefully checked whenever a rocker arm ratio change or pushrod diameter change is made. We offer a special tool (Part #4710) to machine this on page 390.

Rocker Arm Geometry

Proper rocker arm geometry is necessary to ensure the maximum benefit from any cam design. Camshaft base circle, block deck height, cylinder head design and lifter design all contribute to possible errors in valve train geometry. It is simple to make compensation with pushrod length.

CAM HELP® CAN HELP



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Usually a longer than stock pushrod will be necessary in a high performance engine, but care must be taken to choose the correct length. A comprehensive explanation of the pushrod length checking procedure can be found on pages 293-294.

Rocker Arm Slots

One of the most frequent problems encountered when changing to a high lift camshaft is that the slot in the rocker arm will contact the rocker arm stud, resulting in camshaft, lifter, rocker arm and/or stud failure. This is prevalent on both small block and big block engines with stock rocker arms. Always check this and change to either a roller trunion rocker or a long slot rocker arm when contact is evident. The COMP Cams® Magnum Rocker Arms are a good solution to this problem.

Valve Stem Oil Seals

When changing to a higher than stock lift camshaft, it is common to have a clearance problem between the bottom of the spring retainer and the top of the valve stem oil seal. Before final assembly of the heads, install one seal, one valve and one retainer without the spring. Measure the distance between the top of the seal and the bottom of the retainer to be sure that it is greater than the lift of the valve by at least .050"-.060". Be sure to take into account any extra lift due to high ratio rocker arms.

Fuel Pump Pushrod

All Chevrolet V6 and V8 engines (except fuel injected models) feature a pushrod activated fuel pump. The fuel pump must be removed and the rod dropped away from the cam prior to camshaft removal. Failure to do so will result in damage to the cam, pushrod or both.

When using a steel billet cam and a fuel pump pushrod, care must be taken to use a pushrod compatible with the cam core. See page 374 for a list of the proper fuel pump pushrods.

Camshaft Journal Diameter

Many of the newer racing engines utilize a larger than standard cam bearing journal diameter. The advantages of the larger diameter are less flex and a larger base circle to smooth out the lobe design, making this a very desirable addition to any extreme racing engine.

Popular sizes include a 2.125" (54mm) Ford babbit bearing, a 1.968" (50mm) roller bearing or 2.165" (55mm) roller bearing in the big block engine. Small blocks have four common sizes but many larger sizes are used as well. The standard size is 1.868" journal diameter. There is a roller bearing which requires a 1.875" journal and another roller bearing using a 1.968" (50mm) journal. Many engine builders use a big block babbit bearing in small blocks which uses a 1.948" journal. Make sure to specify journal size when ordering your cam. If no special size is requested, the factory journal size will be chosen.

Base Circle Size

Long stroke small block engines usually require smaller than standard base circle camshafts for clearance between the rod and the cam. This must be checked on all engines using long stroke crankshafts and/or large beefy connecting rods. A smaller than standard base circle must be requested when the cam is ordered. We do not recommend having a cast flat tappet cam ground with a small base circle as the casting is prone to breakage and catastrophic engine failure is almost certain to occur.



GENERAL MOTORS

BUICK 181-252 C.I. EVEN FIRE 6 CYL. 1978-1988

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.55 ROCKER IN.	VALVE LIFT W/ 1.55 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Excellent performance upgrade for stock camshaft. Good mileage and torque. Smooth idle.	Hyd.	Hyd.	800 to 4200	69-115-4	240H	240	248	192	200	.403	.403	110°
HYDRAULIC – Good power for light towing or use with high gear ratios. Smooth idle.	Hyd.	Hyd.	1000 to 4800	69-234-4	252H	252	252	206	206	.425	.425	110°
HYDRAULIC – Ideal for towing. Strong mid-range power, especially at highway speeds.	Hyd.	Hyd.	1400 to 5400	69-235-4	260H	260	260	212	212	.456	.456	110°
HYDRAULIC – Performance cam for the street. Mild choppy idle. Likes lower gears.	Hyd.	Hyd.	1800 to 5800	69-246-4	268H	268	268	218	218	.469	.469	110°

BUICK 198-225 C.I. ODD FIRE 6 CYL. 1962-1967

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.55 ROCKER IN.	VALVE LIFT W/ 1.55 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Excellent torque and economy. Good performance upgrade for stock camshaft. Smooth idle.	Hyd.	Hyd.	1000 to 4800	63-234-4	252H	252	252	206	206	.438	.438	110°
HYDRAULIC – Great for towing. Good power at highway speeds. Near smooth idle.	Hyd.	Hyd.	1400 to 5400	63-235-4	260H	260	260	212	212	.454	.454	110°
HYDRAULIC – Performance street cam with broad powerband. Slightly rough idle.	Hyd.	Hyd.	1800 to 5800	63-246-4	268H	268	268	218	218	.468	.468	110°

BUICK GN 231 C.I. 6 CYL. 1977½-1987, 1988-1989 TRANS AM

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.55 ROCKER IN.	VALVE LIFT W/ 1.55 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good replacement for turbo charged Grand National.	Hyd.	Hyd.	1200 to 5500	69-248-4	260H	260	260	212	212	.459	.459	112°

HIGH ENERGY™ Hydraulic Roller Turbo Camshafts

HYDRAULIC ROLLER – Good performance upgrade for stock camshaft. Works with stock computer.	Hyd.	Hyd.	800 to 5200	69-200-8*	258HR	258	258	206	206	.496	.496	110º
HYDRAULIC ROLLER – Stock or aftermarket turbo. Downpipe and computer modifications.	Hyd.	Hyd.	1200 to 5800	69-300-8*	264HR	264	264	212	212	.504	.504	110º
HYDRAULIC ROLLER – Performance upgrade for use with aftermarket turbo. Downpipe, intercooler preferred. Needs computer modifications or aftermarket computer.	Hyd.	Hyd.	1500 to 6200	69-400-8*	269HR	269	264	218	212	.511	.504	112º

These cams require a Part #269 cam button

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

BUICK 181-252 C.I. EVEN FIRE 6 CYL. 1978-1988

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K69-115-4*	SK69-115-4	CL69-115-4	N/A	869-12	3226	N/A	7869-12	980-12	742-12	601-12	502-12
K69-234-4*	SK69-234-4	CL69-234-4	N/A	869-12	3226	N/A	7869-12	980-12	742-12	601-12	502-12
K69-235-4*	SK69-235-4[7]	CL69-235-4[7]	N/A	869-12	3226	N/A	7869-12	980-12	742-12	601-12	502-12
K69-246-4*	SK69-246-4[7]	CL69-246-4[7]	N/A	869-12	3226	N/A	7869-12	980-12	742-12	601-12	502-12

BUICK 198-225 C.I. ODD FIRE 6 CYL. 1962-1967

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K63-234-4*	SK63-234-4	CL63-234-4	N/A	869-12[81]	3215	N/A	7869-12[81]	980-12	742-12	601-12	502-12
K63-235-4*	SK63-235-4[7]	CL63-235-4[7]	N/A	869-12[81]	3215	N/A	7869-12[81]	980-12	742-12	601-12	502-12
K63-246-4*	SK63-246-4[7]	CL63-246-4[7]	N/A	869-12[81]	3215	N/A	7869-12[81]	980-12	742-12	601-12	502-12

BUICK GN 231 C.I. 6 CYL. 1977½-1987, 1988-1989 TRANS AM

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K69-248-4*	SK69-248-4[7]	CL69-248-4[7]	N/A	869-12	3226	N/A	7869-12	980-12	742-12	601-12	502-12

Hydraulic Roller Turbo Camshafts — HIGH ENERGY™

K69-200-8	SK69-200-8[7]	CL69-200-8[7]	N/A	853-12 885-12	3129	N/A	7966-12	26915-12 26918-12	787-12 1787-12	601-12 648-12	502-12 503-12[2]
K69-300-8	SK69-300-8[7]	CL69-300-8[7]	N/A	853-12 885-12	3129	N/A	7966-12	26915-12 26918-12	787-12 1787-12	601-12 648-12	502-12 503-12[2]
K69-400-8	SK69-400-8[7]	CL69-400-8[7]	N/A	853-12 885-12	3129	N/A	7966-12	26918-12	787-12 1787-12	601-12 648-12	502-12 503-12[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
81 Some early applications use larger diameter lifters and non-oiling pushrods

**** K-Kit only includes cam, lifters, valve springs, timing sets and seals.***

RED NUMBERS ARE THE PREMIUM CHOICE

BUICK 231 C.I. ODD FIRE 6 CYL. 1975-1996

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.55 ROCKER IN.	VALVE LIFT W/ 1.55 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Excellent torque and economy. Good performance upgrade for stock camshaft. Smooth idle.	Hyd.	Hyd.	1000 to 4800	67-234-4	252H	252	252	206	206	.439	.439	110°
HYDRAULIC – Our best towing cam. Good power at highway speeds. Near smooth idle.	Hyd.	Hyd.	1400 to 5400	67-235-4	260H	260	260	212	212	.454	.454	110°
HYDRAULIC – Performance street cam with broad power band. Slightly rough idle.	Hyd.	Hyd.	1800 to 5800	67-246-4	268H	268	268	218	218	.469	.469	110°

BUICK STAGE II EVEN FIRE 6 CYL. 1978-1988

CAMSHAFTS FOR THIS APPLICATION CAN BE FOUND ON PAGE 264 OF THIS MASTER CATALOG

BUICK 350 C.I. 8 CYL. 1968-1980

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.55 ROCKER IN.	VALVE LIFT W/ 1.55 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Excellent torque and mileage for family sedans. Good performance upgrade for stock camshaft. Smooth idle.	Hyd.	Hyd.	800 to 4800	92-200-4	252H	252	252	206	206	.439	.439	110°
HYDRAULIC – Excellent mid-range torque. Great for towing. Works well with stock manifolds. Smooth idle.	Hyd.	Hyd.	1200 to 5200	92-202-4	260H	260	260	212	212	.454	.454	110°
HYDRAULIC – Good performance camshaft in daily driven vehicles. Slightly choppy idle. Likes headers and 3.40-3.70 gears.	Hyd.	Hyd.	1500 to 5500	92-203-4	268H	268	268	218	218	.469	.469	110°

New

THUMPR™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	2000 to 5800	92-600-5	279TH7	279	297	227	241	.494	.480	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 6100	92-601-5	287TH7	287	305	235	249	.506	.491	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6400	92-602-5	295TH7	295	313	243	257	.517	.502	107°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

BUICK 231 C.I. ODD FIRE 6 CYL. 1975-1996

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K67-234-4	SK67-234-4	CL67-234-4	N/A	869-12	3215	N/A	7869-12	980-12	742-12	601-12	502-12
K67-235-4	SK67-235-4[7]	CL67-235-4[7]	N/A	869-12	3215	N/A	7869-12	980-12	742-12	601-12	502-12
K67-246-4	SK67-246-4[7]	CL67-246-4[7]	N/A	869-12	3215	N/A	7869-12	980-12	742-12	601-12	502-12

BUICK STAGE II EVEN FIRE 6 CYL. 1978-1988

CAMSHAFTS FOR THIS APPLICATION CAN BE FOUND ON PAGE 264 OF THIS MASTER CATALOG

BUICK 350 C.I. 8 CYL. 1968-1980

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K92-200-4	SK92-200-4	CL92-200-4	N/A	869-16	3215	N/A	7861-16	910-16	N/A	N/A	505-16[2]
K92-202-4	SK92-202-4[7]	CL92-202-4[7]	N/A	869-16	3215	N/A	7861-16	910-16	N/A	N/A	505-16[2]
K92-203-4	SK92-203-4[7]	CL92-203-4[7]	N/A	869-16	3215	N/A	7861-16	910-16	N/A	N/A	505-16[2]

Hydraulic Flat Tappet Camshafts — THUMPR™

K92-600-5	N/A	CL92-600-5[7]	N/A	869-16	3215	N/A	7861-16	910-16 926-16	N/A	N/A	505-16[2]
K92-601-5	N/A	CL92-601-5[7]	N/A	869-16	3215	N/A	7861-16	910-16 926-16	N/A	N/A	505-16[2]
K92-602-5	N/A	CL92-602-5[7]	N/A	869-16	3215	N/A	7861-16	910-16 926-16	N/A	N/A	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used

RED NUMBERS ARE THE PREMIUM CHOICE

BUICK 400, 430, 455 C.I. 8 CYL. 1967-1976

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.55 ROCKER IN.	VALVE LIFT W/ 1.55 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good performance upgrade for stock camshaft. Great torque and mileage in 400 with stock gear ratio, smooth idle.	Hyd.	Hyd.	800 to 4600	96-200-4	252H	252	252	206	206	.439	.439	110°
HYDRAULIC – Best all-around cam. Great torque and power in mid-range. Smooth idle. Best cam for towing or highway use in 455c.i.	Hyd.	Hyd.	1000 to 5000	96-202-4	260H	260	260	212	212	.454	.454	110°
HYDRAULIC – High performance cam for everyday driving. Broad powerband. Slightly rough idle in 400, smooth to noticeable idle in 455.	Hyd.	Hyd.	1200 to 5200	96-203-4	268H	268	268	218	218	.469	.469	110°

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.55 ROCKER IN.	VALVE LIFT W/ 1.55 ROCKER EX.	LOBE SEP. ANGLE
HHYDRAULIC – Good mid-range power. Needs headers and 2200 stall.	Hyd.	Hyd.	2000 to 6000	96-210-4	XE274H	274	286	230	236	.506	.506	110°

New THUMPR™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.55 ROCKER IN.	VALVE LIFT W/ 1.55 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	2000 to 5800	96-600-5	279TH7	279	297	227	241	.494	.480	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 6100	96-601-5	287TH7	287	305	235	249	.506	.491	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6400	96-602-5	295TH7	295	313	243	257	.517	.502	107°

CADILLAC 425, 472, 500 C.I. 8 CYL. 1963-1979

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Very strong torque, good mileage. Good performance upgrade for stock camshaft. Very smooth idle.	Hyd.	Hyd.	800 to 4800	94-300-5	252H	252	252	206	206	.465	.465	110°
HYDRAULIC – Strong torque through low and mid-range, smooth idle.	Hyd.	Hyd.	1000 to 5000	94-302-5	260H	260	260	212	212	.481	.481	110°
HYDRAULIC – Good everyday performance cam, broad power, slightly noticeable idle.	Hyd.	Hyd.	1200 to 5200	94-304-5	268H	268	268	218	218	.490	.490	110°

MAGNUM Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – High performance street, strong mid-range, best with upgraded exhaust and 2000+ stall. Choppy idle.	Hyd.	Hyd.	1500 to 5500	94-306-5	270H	270	270	224	224	.516	.516	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

BUICK 400, 430, 455 C.I. 8 CYL. 1967-1976

Hydraulic Flat Tappet Camshafts HIGH ENERGY™											
K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K96-200-4	SK96-200-4	CL96-200-4	N/A	869-16	3217	N/A	7896-16	910-16	N/A	N/A	505-16[2]
K96-202-4	SK96-202-4[7]	CL96-202-4[7]	N/A	869-16	3217	N/A	7896-16	910-16	N/A	N/A	505-16[2]
K96-203-4	SK96-203-4[7]	CL96-203-4[7]	N/A	869-16	3217	N/A	7896-16	910-16	N/A	N/A	505-16[2]
Hydraulic Flat Tappet Camshafts XTREME ENERGY™											
N/A	N/A	N/A	N/A	869-16	3217	N/A	7896-16	26120-16[2]	N/A	N/A	505-16[2]
Hydraulic Flat Tappet Camshafts THUMPR™											
K96-600-5	N/A	CL96-600-5[7]	N/A	869-16	3217	N/A	7896-16	910-16 26120-16[2]	N/A	N/A	505-16[2]
K96-601-5	N/A	CL96-601-5[7]	N/A	869-16	3217	N/A	7896-16	26120-16[2]	N/A	N/A	505-16[2]
K96-602-5	N/A	CL96-602-5[7]	N/A	869-16	3217	N/A	7896-16	26120-16[2]	N/A	N/A	505-16[2]

CADILLAC 425, 472, 500 C.I. 8 CYL. 1963-1979

Hydraulic Flat Tappet Camshafts HIGH ENERGY™											
K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
N/A	N/A	CL94-300-5[7]	N/A	869-16	2139	N/A	N/A	981-16[2] 26981-16[2]	742-16 787-16	601-16	503-16[2]
N/A	N/A	CL94-302-5[7]	N/A	869-16	2139	N/A	N/A	981-16[2] 26981-16[2]	742-16 787-16	601-16	503-16[2]
N/A	N/A	CL94-304-5[7]	N/A	869-16	2139	N/A	N/A	981-16[2] 26981-16[2]	742-16 787-16	601-16	503-16[2]
Hydraulic Flat Tappet Camshafts MAGNUM											
N/A	N/A	CL94-306-5[7]	N/A	869-16	2139	N/A	N/A	981-16[2] 26981-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used

RED NUMBERS ARE THE PREMIUM CHOICE

CADILLAC 425, 472, 500 C.I. 8 CYL. 1963-1979

THUMPR™ Hydraulic Flat Tappet Camshafts

New APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	2000 to 5800	94-600-5	279TH7	278	296	226	241	.503	.490	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 6100	94-601-5	287TH7	286	304	234	249	.516	.500	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6400	94-602-5	295TH7	294	312	242	257	.528	.512	107°

CHEVROLET 153 C.I. CHEVY II 4 CYL. 1962-1970

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.75 ROCKER IN.	VALVE LIFT W/ 1.75 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good torque and power with smooth idle. Strong increase over stock.	Hyd.	Hyd.	800 to 4800	14-119-4	252H	252	252	206	206	.460	.460	110°
HYDRAULIC – Good combination of torque and power. Performance street and marine.	Hyd.	Hyd.	1200 to 5200	14-123-4	260H	260	260	212	212	.475	.475	110°

GM ECOTEC 2.2L 4 CYL.

XTREME ENERGY™ Hydraulic Roller Cast Core Camshafts (Steel Core Version Also Available)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT IN.	VALVE LIFT EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Turbo applications, wide power range, good power with few modifications.	Hyd.	Hyd.	2200 to 7000	113150	XE246THR-13	248	244	204	200	.423	.419	113°
HYDRAULIC ROLLER – Street applications, wide power range, strong torque, works best with programmer or computer modifications.	Hyd.	Hyd.	2600 to 6800	113200	XE252HR-11	252	256	210	212	.423	.419	111°
HYDRAULIC ROLLER – Blower applications, excellent for performance street applications with programmers.	Hyd.	Hyd.	2800 to 7000	113250 113260*	XE252BHR-13	252	262	210	218	.423	.436	113°
HYDRAULIC ROLLER – Street/strip applications, requires programmer or computer modifications.	Hyd.	Hyd.	3000 to 7500	113300 113350*	XE258HR-11	258	262	216	218	.440	.436	111°
HYDRAULIC ROLLER – Street/strip high rpm applications, requires computer modifications, very strong power over 5000 rpm.	Hyd.	Hyd.	3500 to 8000	113400 113450*	XE264HR-13	264	268	222	224	.456	.453	113°

NOTE: 2.0L cam set is available upon request

**Steel core version*

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CADILLAC 425, 472, 500 C.I. 8 CYL. 1963-1979

Hydraulic Flat Tappet Camshafts — THUMPR™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
N/A	N/A	CL94-600-5[7]	N/A	869-16	2139	N/A	N/A	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
N/A	N/A	CL94-601-5[7]	N/A	869-16	2139	N/A	N/A	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
N/A	N/A	CL94-602-5[7]	N/A	869-16	2139	N/A	N/A	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

CHEVROLET 153 C.I. CHEVY II 4 CYL. 1962-1970

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K14-119-4	SK14-119-4[7]	CL14-119-4[7]	N/A	812-8	3211	1261-8	7861-8	981-8 26981-8	742-8 787-8	601-8	501-8
K14-123-4	SK14-123-4[7]	CL14-123-4[7]	N/A	812-8	3211	1261-8	7861-8	981-8 26981-8	742-8 787-8	601-8	501-8

GM ECOTEC 2.2L 4 CYL.

Hydraulic Roller Cast Core Camshafts (Steel Core Version Also Available) — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads

7 Stock springs cannot be used

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 173-207 C.I. (2.8L-3.4L) 60° 6 CYL. 1979-1994

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Works with stock computer and fuel injection. Good performance upgrade for stock camshaft.	Hyd.	Hyd.	500 to 4500	16-115-4	240H	240	248	192	200	.390	.390	108°
HYDRAULIC – Good power for 2 or 4 wheel drive S-10, S-15 or Blazer. Works well in mild towing applications. Smooth idle.	Hyd.	Hyd.	800 to 4800	16-232-4	252H	252	252	206	206	.425	.425	110°
HYDRAULIC – Good performance cam for 2.8L engine. Lope at idle with extremely good top end power.	Hyd.	Hyd.	1000 to 5000	16-233-4	260H	260	260	212	212	.440	.440	110°

CHEVROLET 90° ODD FIRE RACE ENGINE 6 CYL. 1980-PRESENT

CAMSHAFTS FOR THIS APPLICATION CAN BE FOUND ON PAGE 264 OF THIS MASTER CATALOG

CHEVROLET 194-250 C.I. 6 CYL. 1963-1984

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.75 ROCKER IN.	VALVE LIFT W/ 1.75 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good performance upgrade for stock camshaft. Excellent torque and mileage. Very smooth idle.	Hyd.	Hyd.	500 to 4500	61-113-4	240H	240	248	192	200	.455	.455	108°
HYDRAULIC – Good city and highway driving, strong vacuum. Works with stock computer. Good torque and mileage.	Hyd.	Hyd.	800 to 4800	61-232-4	252H	252	252	206	206	.474	.474	110°
HYDRAULIC – Best for towing, off-road and 4WD trucks. Noticeable idle. Good for highway driving.	Hyd.	Hyd.	1000 to 5000	61-233-4	260H	260	260	212	212	.489	.489	110°

MAGNUM Hydraulic Flat Tappet Camshafts

HYDRAULIC – Good street performance with stock converter or 2000+ stall, choppy idle.	Hyd.	Hyd.	1200 to 5200	61-244-4	268H	268	268	218	218	.499	.499	110°
HYDRAULIC – Great for street machines. Needs 2500+ stall, headers and gears. Rough idle.	Hyd.	Hyd.	1500 to 5500	61-246-4	280H	280	280	230	230	.536	.536	110°

HI-TECH™ Mechanical Flat Tappet Camshafts

SOLID – Good for mini-stock with stock engine, when solid lifters can be used.	.022	.024	1500 to 5500	61-238-5	264S-8	264	264	220	220	.513	.513	108°
SOLID – Good for 1/8 mile drag or 1/4 to 3/8 mile oval track. Broad torque range.	.022	.024	3500 to 6500	61-662-5	280B-6	280	284	242	246	.591	.570	106°
SOLID – For 1/4 mile drag or 3/8 to 5/8 mile oval track. Needs good cylinder heads, carb and intake.	.022	.024	4000 to 7000	61-664-5	294A-8	294	294	256	256	.596	.596	108°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 173-207 C.I. (2.8L-3.4L) 60° 6 CYL. 1979-1994

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K16-115-4	SK16-115-4	CL16-115-4	RP1413-12	802-12	3201	1413-12	7816-12	980-12	742-12	601-12	501-12
K16-232-4	SK16-232-4	CL16-232-4	RP1413-12	802-12	3201	1413-12	7816-12	980-12	742-12	601-12	501-12
K16-233-4	SK16-233-4[7]	CL16-233-4[7]	RP1413-12	802-12	3201	1413-12	7816-12	980-12	742-12	601-12	501-12

CHEVROLET 90° ODD FIRE RACE ENGINE 6 CYL. 1980-PRESENT

CAMSHAFTS FOR THIS APPLICATION CAN BE FOUND ON PAGE 264 OF THIS MASTER CATALOG

CHEVROLET 194-250 C.I. 6 CYL. 1963-1984

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K61-113-4	SK61-113-4	CL61-113-4	N/A	812-12	3211	1261-12	7861-12	981-12 26981-12	742-12 787-12	601-12	501-12
K61-232-4	SK61-232-4[7]	CL61-232-4[7]	N/A	812-12	3211	1261-12	7861-12	981-12 26981-12	742-12 787-12	601-12	501-12
K61-233-4	SK61-233-4[7]	CL61-233-4[7]	N/A	812-12	3211	1261-12	7861-12	981-12 26981-12	742-12 787-12	601-12	501-12
Hydraulic Flat Tappet Camshafts — MAGNUM											
K61-244-4	SK61-244-4[7]	CL61-244-4[7]	N/A	812-12 858-12	3211	1261-12	7861-12	986-122 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]
K61-246-4	SK61-246-4[7]	CL61-246-4[7]	N/A	812-12 858-12	3211	1261-12	7861-12	986-122 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]
Mechanical Flat Tappet Camshafts — HI-TECH™											
N/A	N/A	N/A	N/A	813-12	3161	1033-12[1]	7861-12	987-122 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]
N/A	N/A	N/A	N/A	813-12	3161	1033-12[1]	7861-12	987-122 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]
N/A	N/A	N/A	N/A	813-12	3161	1033-12[1]	7861-12	987-122 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 200-229 C.I. (3.8L) 90° 6 CYL. 1978-1984

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Excellent torque, good mileage. Works well with high gear ratios and overdrive transmissions. Good city driving.	3	Hyd.	Hyd.	500 to 4500	15-115-4	240H	240	248	192	200	.390	.390	108°
HYDRAULIC – Strong torque, good for trucks, 4WD and mild towing. Works with stock computer. Smooth idle and good mileage.	3	Hyd.	Hyd.	800 to 4800	15-200-4	252H	252	252	206	206	.425	.425	110°
HYDRAULIC – Good cam for highway use, off-road and towing. Good for trucks with low gear ratios.	3	Hyd.	Hyd.	1000 to 5000	15-201-4	260H	260	260	212	212	.440	.440	110°

GM 3800/3.8 6 CYL. 1996-PRESENT

XTREME ENERGY™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Performance upgrade for stock camshaft. Naturally aspirated, daily usage. Significant improvement over stock. Must replace valve springs.	3	Hyd.	Hyd.	800 to 4800	76-800-9[7]	246 HR10	246	256	191	201	.480	.496	110°
HYDRAULIC ROLLER – Naturally aspirated performance cam. Best with intake improvements. Must replace valve springs.	3	Hyd.	Hyd.	1000 to 5500	76-801-9[7]	255 HR12	255	262	201	205	.496	.480	112°
HYDRAULIC ROLLER – Blower performance cam. Best with pulley change for increased boost. Must replace valve springs.	3	Hyd.	Hyd.	1000 to 5500	76-802-9[7]	264 HR15	264	274	210	220	.512	.512	115°

CHEVROLET 4.3L 262 C.I. 90° 6 CYL. 1980-1997

XTREME ENERGY™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Excellent torque/good mileage. Works well with high gear ratios and overdrive transmissions. Good city driving.	3	Hyd.	Hyd.	500 to 4500	18-115-4[37]	240H	240	248	192	200	.390	.390	108°
HYDRAULIC – Good power for trucks, 4WD and mild towing. Works well with stock computer. Smooth idle and good economy.	3	Hyd.	Hyd.	800 to 4800	18-119-4[37]	252H	252	252	206	206	.425	.425	110°
HYDRAULIC – Good cam for highway use, off-road and towing. Good for trucks with low gear ratios.	3	Hyd.	Hyd.	1000 to 5000	18-123-4[37]	260H	260	260	212	212	.444	.444	110°
HYDRAULIC – High performance, non-computer, low gears, 2000+ stall suggested.	3	Hyd.	Hyd.	1000 to 5000	18-124-4[37]	268H	268	268	218	218	.454	.454	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 200-229 C.I. (3.8L) 90° 6 CYL. 1978-1984

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K15-115-4	SK15-115-4	CL15-115-4	RP1412-12	812-12	3200	1412-12[9]	7812-12	980-12	742-12	601-12	501-12
K15-200-4	SK15-200-4	CL15-200-4	RP1412-12	812-12	3200	1412-12[9]	7812-12	980-12	742-12	601-12	501-12
K15-201-4	SK15-201-4	CL15-201-4	RP1412-12	812-12	3200	1412-12[9]	7812-12	980-12	742-12	601-12	501-12

GM 3800/3.8 6 CYL. 1996-PRESENT

Hydraulic Roller Camshafts — XTREME ENERGY™

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
850-12[11] 875-12[11]	N/A	N/A	7937-12	26915-12 26918-12	774-12 1772-12	623-12	511-12[2]	N/A	N/A	N/A	N/A
850-12[11] 875-12[11]	N/A	N/A	7937-12	26915-12 26918-12	774-12 1772-12	623-12	511-12[2]	N/A	N/A	N/A	N/A
850-12[11] 875-12[11]	N/A	N/A	7937-12	26915-12 26918-12	774-12 1772-12	623-12	511-12[2]	N/A	N/A	N/A	N/A

CHEVROLET 4.3L 262 C.I. 90° 6 CYL. 1980-1997

Hydraulic Roller Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K18-115-4	SK18-115-4	CL18-115-4	RP1412-12	812-12	3200	1412-12[9]	7812-12	980-12	742-12	601-12	501-12
K18-119-4	SK18-119-4	CL18-119-4	RP1412-12	812-12	3200	1412-12[9]	7812-12	980-12	742-12	601-12	501-12
K18-123-4	SK18-123-4	CL18-123-4	RP1412-12	812-12	3200	1412-12[9]	7812-12	980-12	742-12	601-12	501-12
K18-124-4	SK18-124-4[7]	CL18-124-4[7]	RP1412-12	812-12	3200	1412-12[9]	7812-12	981-12 26981-12	742-12 787-12	601-12	501-12

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
9 50-State legal for 1993 & earlier Chevrolet V6 200-229c.i. C.A.R.B. E.O. #D-279-4
11 Lifters only, does not include lifter retainers or guides
37 Adjustable valve train required

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 4.3L 262 C.I. 90° 6 CYL. 1980-1997

MAGNUM Retro-Fit Hydraulic Roller Camshafts (FOR NON-COMPUTER CONTROLLED)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Performance upgrade for stock camshaft. Good mileage, smooth idle. Vans, pickups and towing. Stock gear ratios and torque converter.	Hyd.	Hyd.	1200 to 4500	18-410-8[10,37]	260HR	260	260	206	206	.500	.500	110°
HYDRAULIC ROLLER – Mild street performance, slightly noticeable lope at idle. Stock converter, aftermarket intake and headers. 3.40-4.10 gears.	Hyd.	Hyd.	1800 to 5000	18-420-8[10,37]	270HR	270	270	215	215	.500	.500	110°
HYDRAULIC ROLLER – Limited high performance street use. Aftermarket intake, headers and 2500+ stall, 3.40-4.10 gears. Mild rough idle.	Hyd.	Hyd.	2000 to 5500	18-430-8[10,37]	280HR	280	280	224	224	.525	.525	110°

MAGNUM Computer Controlled Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Works with stock computer, fuel injection. Good low end torque and gas mileage.	Hyd.	Hyd.	1200 to 4500	18-412-8[10,37]	260AHR	260	266	206	210	.500	.500	112°
HYDRAULIC ROLLER – Works with throttle body and sequential port injection with aftermarket chip. Good low end, mid-range.	Hyd.	Hyd.	1800 to 5000	18-415-8[10,37]	266HR	266	270	210	215	.500	.500	112°
HYDRAULIC ROLLER – Performance cam for computer cars. Needs aftermarket chip and exhaust. Strong mid-range and top end.	Hyd.	Hyd.	2000 to 5500	18-422-8[10,37]	270AHR	270	276	215	220	.500	.510	114°

MAGNUM Hydraulic Roller Camshafts (NON-BALANCE SHAFT) 1987-Present Engines

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Performance upgrade for stock camshaft. Good mileage, smooth idle. Works with vans, pickups and towing. Stock gear ratios & converter.	Hyd.	Hyd.	1200 to 4500	09-410-8[37]	260HR	260	260	206	206	.500	.500	110°
HYDRAULIC ROLLER – Mild street performance. Slight lope at idle. Stock converter, aftermarket intake and headers. 3.40 to 4.10 gears.	Hyd.	Hyd.	1800 to 5000	09-420-8[37]	270HR	270	270	215	215	.500	.500	110°

MAGNUM Hydraulic Roller Camshafts (NON-BALANCE SHAFT) 1987-Present Engines O.E. Hyd. Roller Cams

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Limited high performance street use. Needs intake, headers and 2500+ stall, 3.73 to 4.10 gears. Mild rough idle.	Hyd.	Hyd.	2000 to 5500	09-430-8[37]	280HR	280	280	224	224	.525	.525	110°

TIP

COMP Cams® offers four levels of complete component-matched cam kits that deliver unbeatable performance, durability and ease of installation.

K-Kit – Complete Kit
SK-Kit – Small Kit
GK-Kit – Gear Drive Kit
CL-Kit – Cam & Lifter Kit

See page 14 of this Master Catalog for more information on COMP Cams® Power Engineered Systems.

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 4.3L 262 C.I. 90° 6 CYL. 1980-1997

Retro-Fit Hydraulic Roller Camshafts (FOR NON-COMPUTER CONTROLLED) MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K18-410-8	SK18-410-8[7,10]	CL18-410-8[7,10]	RPR200-12	853-12 15853-12	2100 3100	1412-12[9] 1601-12[9]	7809-12 7949-12	986-12[2] 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]
K18-420-8	SK18-420-8[7,10]	CL18-420-8[7,10]	RPR200-12	853-12 15853-12	2100 3100	1412-12[9] 1601-12[9]	7809-12 7949-12	986-12[2] 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]
K18-430-8	SK18-430-8[7,10]	CL18-430-8[7,10]	RPR200-12	853-12 15853-12	2100 3100	1412-12[9] 1601-12[9]	7809-12 7949-12	986-12[2] 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]

Computer Controlled Retro-Fit Hydraulic Roller Camshafts MAGNUM

K 18-412-8	SK18-412-8[7,10]	CL 18-412-8[7,10]	RPR200-12	853-12 15853-12	2100 3100	1412-12[9] 1601-12[9]	7809-12 7949-12	986-12[2] 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]
K18-415-8	SK18-415-8[7,10]	CL18-415-8[7,10]	RPR200-12	853-12 15853-12	2100 3100	1412-12[9] 1601-12[9]	7809-12 7949-12	986-12[2] 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]
K18-422-8	SK18-422-8[7,10]	CL18-422-8[7,10]	RPR200-12	853-12 15853-12	2100 3100	1412-12[9] 1601-12[9]	7809-12 7949-12	986-12[2] 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]

Hydraulic Roller Camshafts (NON-BALANCE SHAFT) 1987-Present Engines MAGNUM

K09-410-8	SK09-410-8[7]	CL09-410-8[7]	RPH300-12	850-12[11] 875-12[11]	3136	1417-12[9] 1617-12[9]	7808-12 7940-12	986-12[2] 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]
K09-420-8	SK09-420-8[7]	CL09-420-8[7]	RPH300-12	850-12[11] 875-12[11]	3136	1417-12[9] 1617-12[9]	7808-12 7940-12	986-12[2] 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]

Hydraulic Roller Camshafts (NON-BALANCE SHAFT) 1987-Present Engines O.E. Hyd. Roller Cams MAGNUM

K09-430-8	SK09-430-8[7]	CL09-430-8[7]	RPH300-12	850-12[11] 875-12[11]	3136	1417-12[9] 1617-12[9]	7808-12 7940-12	986-12[2] 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]

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Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
9 50-State legal for 1993 & earlier Chevrolet V6 200-229c.i. C.A.R.B. E.O. #D-279-4
10 Requires thrust button & wear plate
11 Lifters only, does not include lifter retainers or guides
37 Adjustable valve train required

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 4.3L 262 C.I. 90° 6 CYL. 1980-1997

MAGNUM Computer Controlled Hydraulic Roller Camshafts (NON-BALANCE SHAFT) 1987-Present Engines O.E. Hyd. Roller Cams

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Works with stock computer and fuel injection. Low lift for non-modified cylinder heads.	Hyd.	Hyd.	1000 to 4300	09-435-8	251HR	251	257	200	206	.428	.459	114°
HYDRAULIC ROLLER – Works with stock computer and fuel injection. Good low end torque and mileage.	Hyd.	Hyd.	1200 to 4500	09-412-8[37]	260AHR	260	266	206	210	.500	.500	112°
HYDRAULIC ROLLER – Works with throttle body and sequential port injection with aftermarket chip. Good low end and mid-range.	Hyd.	Hyd.	1800 to 5000	09-415-8[37]	266HR	266	270	210	215	.500	.500	112°
HYDRAULIC ROLLER – Performance cam for computer cars. Needs aftermarket chip, exhaust and mild stall. Strong mid-range and top end.	Hyd.	Hyd.	2000 to 5500	09-422-8[37]	270AHR	270	276	215	220	.500	.510	114°

CHEVROLET 4.3L 262 C.I. 90° WITH BALANCE SHAFT 6 CYL. 1992-PRESENT

MAGNUM Hydraulic Roller Camshafts (W/ BALANCE SHAFT)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Great torque for trucks, 4WD and light towing. Has smooth idle. Works with stock components, small carburetor.	Hyd.	Hyd.	1200 to 4500	56-410-8[37]	260HR	260	260	206	206	.500	.500	110°
HYDRAULIC ROLLER – Mild street performance with slight idle for stock converters with aftermarket intake and headers.	Hyd.	Hyd.	1800 to 5000	56-420-8[37]	270HR	270	270	215	215	.500	.500	110°
HYDRAULIC ROLLER – Limited high performance with rough idle. Needs intake, headers and 2500+ stall with 3.73 to 4.10 gears.	Hyd.	Hyd.	2000 to 5500	56-430-8[37]	280HR	280	280	224	224	.525	.525	110°
MAGNUM Same As Above Except For Computer Controlled												
HYDRAULIC ROLLER – Works with stock computer and fuel injection. Good low end torque and mileage.	Hyd.	Hyd.	1200 to 4500	56-440-8[37]	260AHR	260	266	206	210	.500	.500	112°
HYDRAULIC ROLLER – Works with throttle body and sequential port injection with aftermarket chip. Good low end and mid-range.	Hyd.	Hyd.	1800 to 5000	56-450-8[37]	266HR	266	270	210	215	.500	.500	112°
HYDRAULIC ROLLER – Performance cam for computer cars. Needs aftermarket chip and exhaust. Strong mid-range and top end.	Hyd.	Hyd.	2000 to 5500	56-460-8[37]	270AHR	270	276	215	220	.500	.510	114°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 4.3L 262 C.I. 90° 6 CYL. 1980-1997

Computer Controlled Hydraulic Roller Camshafts (NON-BALANCE SHAFT) 1987-Present Engines O.E. Hyd. Roller Cams — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K09-435-8	SK09-435-8	CL09-435-8	RPH300-12	850-12[11] 875-12[11]	3136	1417-12[9] 1617-12[9]	7808-12 7940-12	981-12 26981-12	742-12 787-12	601-12	501-12
K09-412-8	SK09-412-8[7]	CL09-412-8[7]	RPH300-12	850-12[11] 875-12[11]	3136	1417-12[9] 1617-12[9]	7808-12 7940-12	986-12[2] 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]
K09-415-8	SK09-415-8[7]	CL09-415-8[7]	RPH300-12	850-12[11] 875-12[11]	3136	1417-12[9] 1617-12[9]	7808-12 7940-12	986-12[2] 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]
K09-422-8	SK09-422-8[7]	CL09-422-8[7]	RPH300-12	850-12[11] 875-12[11]	3136	1417-12[9] 1617-12[9]	7808-12 7940-12	986-12[2] 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]

CHEVROLET 4.3L 262 C.I. 90° WITH BALANCE SHAFT 6 CYL. 1992-PRESENT

Hydraulic Roller Camshafts (W/ BALANCE SHAFT) — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
N/A	N/A	N/A	N/A	850-12[11] 875-12[11]	3202	1417-12[9] 1617-12[9]	7808-12 7940-12	983-12 986-12[2]	751-12 740-12	611-12	502-12 503-12[2]
N/A	N/A	N/A	N/A	850-12[11] 875-12[11]	3202	1417-12[9] 1617-12[9]	7808-12 7940-12	983-12 986-12[2]	751-12 740-12	611-12	502-12 503-12[2]
N/A	N/A	N/A	N/A	850-12[11] 875-12[11]	3202	1417-12[9] 1617-12[9]	7808-12 7940-12	986-12[2] 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]

Same As Above Except For Computer Controlled — MAGNUM

N/A	N/A	N/A	N/A	850-12[11] 875-12[11]	3202	1417-12[9] 1617-12[9]	7808-12 7940-12	983-12 986-12[2]	751-12 740-12	611-12	502-12 503-12[2]
N/A	N/A	N/A	N/A	850-12[11] 875-12[11]	3202	1417-12[9] 1617-12[9]	7808-12 7940-12	983-12 986-12[2]	751-12 740-12	611-12	502-12 503-12[2]
N/A	N/A	N/A	N/A	850-12[11] 875-12[11]	3202	1417-12[9] 1617-12[9]	7808-12 7940-12	986-12[2] 26986-12[2]	740-12 795-12	611-12 614-12	503-12[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
9 50-State legal for 1993 & earlier Chevrolet V6 200-229c.i. C.A.R.B. E.O. #D-279-4
11 Lifters only, does not include lifter retainers or guides
37 Adjustable valve train required

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

PURE ENERGY™ Hydraulic Flat Tappet Camshaft (C.A.R.B. Approved See Footnote #49 Below)

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – 50-State legal performance upgrade for 1987 and earlier carbureted V8 Small Block Chevy.	1	Hyd.	Hyd.	1200 to 5200	12-305-2[49]	246PE	246	263	203	212	.429	.438	110°

HIGH ENERGY™ Hydraulic Flat Tappet Camshaft (C.A.R.B. Approved See Footnote #49 Below)

HYDRAULIC – Strong torque, excellent mileage for 262-305c.i. with high axle ratios, smooth idle.	1	Hyd.	Hyd.	600 to 4600	12-300-4[49]	240H	240	248	192	200	.390	.390	108°
HYDRAULIC – Strong torque, excellent mileage for 327-400c.i., has smooth idle, likes high axle ratios.	1	Hyd.	Hyd.	800 to 4800	12-205-2[49]	252H	252	252	206	206	.425	.425	110°
HYDRAULIC – Vans, pickups, 4WD and towing in 350c.i., good idle, strong mid-range torque.	1	Hyd.	Hyd.	1200 to 5200	12-206-2[49]	260H	260	260	212	212	.440	.440	110°
HYDRAULIC – Good street performance with stock converter, choppy idle.	1	Hyd.	Hyd.	1500 to 5500	12-210-2[49]	268H	268	268	218	218	.454	.454	110°

HIGH ENERGY MARINE™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – Single or dual engine with inboard/outboard drive for ski and economy.	1	Hyd.	Hyd.	1800 to 4900	12-206-2[49]	260H	260	260	212	212	.440	.440	110°
HYDRAULIC – Biggest cam for inboard/outboard. Good for ski, economy and some performance.	1	Hyd.	Hyd.	2200 to 5200	12-210-2[49]	268H	268	268	218	218	.454	.454	110°
HYDRAULIC – Good for jet boat with A impeller, strong mid-range power.	3	Hyd.	Hyd.	2400 to 5400	12-318-4	268AH	268	276	222	226	.464	.464	110°
HYDRAULIC – High performance in 350-400 engines, strong off-shore cam.	3	Hyd.	Hyd.	2600 to 5700	12-324-4	280AH	280	288	232	237	.483	.483	110°

MAGNUM Hydraulic Flat Tappet Camshafts

HYDRAULIC – High performance. Biggest cam with stock converter but better with 2000+ stall. Use lower gears. Mild rough idle.	3	Hyd.	Hyd.	1800 to 5800	12-211-2	270H	270	270	224	224	.470	.470	110°
HYDRAULIC – Great for street machines. Needs 2500+stall, headers and gears. Rough idle.	3	Hyd.	Hyd.	2000 to 6000	12-212-2	280H	280	280	230	230	.480	.480	110°
HYDRAULIC – Needs 9:1 compression, 2800+ stall, headers, gears. Choppy idle.	3	Hyd.	Hyd.	2200 to 6200	12-326-4	286H	286	286	236	236	.490	.490	110°
HYDRAULIC – Street/strip special, 3000 stall, headers, gears, 9.5:1 compression. Very rough idle.	3	Hyd.	Hyd.	2500 to 6500	12-213-3	292H	292	292	244	244	.501	.501	110°
HYDRAULIC – Pro Street/bracket, limited street driving. Intake, gears, 3500+ stall. Racy idle. 10.5:1 compression.	3	Hyd.	Hyd.	3000 to 7000	12-214-4	305H	305	305	253	253	.525	.525	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Hydraulic Flat Tappet Camshaft (C.A.R.B. Approved See Footnote #49 Below) — PURE ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K12-305-2	SK12-305-2	CL12-305-2	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	980-16 981-16	742-16 750-16	601-16 613-16	501-16

Hydraulic Flat Tappet Camshaft (C.A.R.B. Approved See Footnote #49 Below) — HIGH ENERGY™

K12-300-4	SK12-300-4	CL12-300-4	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	980-16 981-16	742-16 750-16	601-16 613-16	501-16
K12-205-2	SK12-205-2	CL12-205-2	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	980-16 981-16	742-16 750-16	601-16 613-16	501-16
K12-206-2	SK12-206-2	CL12-206-2	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	980-16 981-16	742-16 750-16	601-16 613-16	501-16
K12-210-2	SK12-210-2[7]	CL12-210-2[7]	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16

Hydraulic Flat Tappet Camshafts — HIGH ENERGY MARINE™

K12-206-2	SK12-206-2	CL12-206-2	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-210-2	SK12-210-2[7]	CL12-210-2[7]	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
N/A	N/A	N/A	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
N/A	N/A	N/A	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16

Hydraulic Flat Tappet Camshafts — MAGNUM

K12-211-2	SK12-211-2[7]	CL12-211-2[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-212-2	SK12-212-2[7]	CL12-212-2[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-326-4	SK12-326-4[7]	CL12-326-4[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-213-3	SK12-213-3[7]	CL12-213-3[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-214-4	SK12-214-4[7]	CL12-214-4[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400 c.i. C.A.R.B. E.O. #D-279-4
49 50-State legal for 1987 & earlier carbureted V8 SB Chevrolet 262-400 C.A.R.B. E.O. #D-279-3, #D-279-5, #D-279-6
52 Engines with self-aligning rocker arms must use Part #1417-16 or #1617-16

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Very strong torque, excellent mileage, smooth idle.	Hyd.	Hyd.	600 to 4600	12-230-2	XE250H	250	260	206	212	.432	.444	110°
HYDRAULIC – Strong torque thru low end and mid-range, good idle.	Hyd.	Hyd.	1000 to 5200	12-234-2	XE256H	256	268	212	218	.447	.454	110°
HYDRAULIC – Excellent response, good mid-range, noticeable idle.	Hyd.	Hyd.	1300 to 5600	12-238-2	XE262H	262	270	218	224	.462	.469	110°
HYDRAULIC – Great for street machines, largest cam for stock converter, better with 2000+ stall.	Hyd.	Hyd.	1600 to 5800	12-242-2	XE268H	268	280	224	230	.477	.480	110°
HYDRAULIC – Very strong mid-range torque and throttle response, 2200+ stall.	Hyd.	Hyd.	1800 to 6000	12-246-3[94]	XE274H	274	286	230	236	.490	.490	110°
HYDRAULIC – Street/strip, 2800+ stall, likes headers and gears, rough idle.	Hyd.	Hyd.	2300 to 6500	12-250-3[94]	XE284H	284	296	240	246	.507	.510	110°
HYDRAULIC – Pro Street/bracket, needs good intake, headers, gear and 3300+ stall.	Hyd.	Hyd.	2800 to 7000	12-254-3[94]	XE294H	294	306	250	256	.519	.523	110°

XTREME ENERGY™ Computer Controlled Hydraulic Flat Tappet Camshafts (1987-1998)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Great in throttle body, crossfire or carbureted engine and 305 TPI.	Hyd.	Hyd.	1000 to 5000	12-249-4	XE249H	249	260	206	212	.434	.444	112°
HYDRAULIC – Best in 305 or 350 tuned port injected engines.	Hyd.	Hyd.	1200 to 5200	12-256-4	XE256H	256	268	212	218	.449	.456	112°
HYDRAULIC – Good for TPI 305 or 350 with aftermarket chip and upgraded exhaust.	Hyd.	Hyd.	1500 to 5500	12-262-4	XE262H	262	270	218	224	.464	.470	114°
HYDRAULIC – Best cam for modified 350 TPI with improved chip, injectors, plenum, runners and exhaust.	Hyd.	Hyd.	1800 to 5800	12-268-4	XE268H	268	280	224	230	.477	.480	114°

New

THUMPR™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	2000 to 5800	12-600-4[94]	279TH7	279	297	227	241	.479	.465	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 6100	12-601-4[94]	287TH7	287	305	235	249	.489	.476	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6400	12-602-4[94]	295TH7	295	313	243	257	.500	.486	107°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Hydraulic Flat Tappet Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K12-230-2	SK12-230-2	CL12-230-2	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-234-2	SK12-234-2[7]	CL12-234-2[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-238-2	SK12-238-2[7]	CL12-238-2[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-242-2	SK12-242-2[7]	CL12-242-2[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-246-3	SK12-246-3[7]	CL12-246-3[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-250-3	SK12-250-3[7]	CL12-250-3[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-254-3	SK12-254-3[7]	CL12-254-3[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Computer Controlled Hydraulic Flat Tappet Camshafts (1987-1998) — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K12-249-4	SK12-249-4	CL12-249-4	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-256-4	SK12-256-4[7]	CL12-256-4[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-262-4	SK12-262-4[7]	CL12-262-4[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-268-4	SK12-268-4[7]	CL12-268-4[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16

Hydraulic Flat Tappet Camshafts — THUMPR™

K-KIT	GK-KIT	CL-KIT	LIFTERS	TIMING SET	GEAR DRIVE	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K12-600-4	GK12-600-4[7,93]	CL12-600-4[7]	812-16 858-16	2100 3100	4100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 795-16	601-16 611-16	501-16
K12-601-4	GK12-601-4[7,93]	CL12-601-4[7]	812-16 858-16	2100 3100	4100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 795-16	601-16 611-16	501-16
K12-602-4	GK12-602-4[7,93]	CL12-602-4[7]	812-16 858-16	2100 3100	4100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400 c.i. C.A.R.B. E.O. #D-279-4
52 Engines with self-aligning rocker arms must use Part #1417-16 or #1617-16
93 GK-Kit contains cam, lifters & gear drive
94 Change last digit of part number to -20 for nitrided version of cam

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

XTREME 4X4™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Very strong torque, smooth idle, excellent mileage. 3	Hyd.	Hyd.	600 to 4600	12-231-2	X4250H	250	258	206	214	.432	.453	111°
HYDRAULIC – Strong low end and mid-range torque, good idle. 3	Hyd.	Hyd.	1000 to 5200	12-235-2	X4254H	254	262	210	218	.447	.462	111°
HYDRAULIC – Excellent response, good mid-range, noticeable idle. 3	Hyd.	Hyd.	1300 to 5600	12-239-3	X4262H	262	270	218	226	.462	.480	111°
HYDRAULIC – Strong mid-range and throttle response, likes headers, gears, 2200+ stall. 3	Hyd.	Hyd.	1800 to 6000	12-243-3	X4270H	270	278	226	234	.480	.498	111°

XTREME MARINE™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good for inboard/outboard pleasure boat, skiing and good economy. 3	Hyd.	Hyd.	1000 to 5000	12-232-3	XM256H	256	262	212	218	.447	.462	112°
HYDRAULIC – Biggest cam for inboard/outboard, good mid-range with excellent response, noticeable idle. 3	Hyd.	Hyd.	1300 to 5500	12-236-3	XM262H	262	268	218	224	.462	.477	112°
HYDRAULIC – Jet boat with A impeller, strong mid-range, good throttle response, noticeable idle. 3	Hyd.	Hyd.	1600 to 5800	12-240-4	XM270H	270	286	226	236	.480	.489	112°
HYDRAULIC – Jet boat with A or B impeller, good off-shore high performance cam, rough idle. 3	Hyd.	Hyd.	2000 to 6200	12-244-4	XM278H	278	292	234	244	.498	.500	112°
HYDRAULIC – Jet boat with A impeller, 9.5:1 compression, needs headers. Good for bracket racing and high performance. 3	Hyd.	Hyd.	2500 to 6500	12-248-4	XM290H	290	306	246	256	.516	.522	112°

DUAL ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Strong torque and mileage. Excellent RV and towing cam. Smooth idle. 1	Hyd.	Hyd.	1200 to 5500	12-207-2[49]	255DEH	255	261	203	212	.421	.451	110°
HYDRAULIC – Very strong mid-range. Lopey idle. Everyday performance for stock exhaust. 1	Hyd.	Hyd.	1500 to 5750	12-208-2[49]	265DEH	265	269	211	221	.442	.465	110°
HYDRAULIC – High performance street. Works with stock converter. Choppy idle. 3	Hyd.	Hyd.	2000 to 6000	12-209-2	275DEH	275	277	219	229	.462	.482	110°

NOSTALGIA PLUS™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Sound of GM 300 hp camshaft with improved power and response. 3	Hyd.	Hyd.	1000 to 5500	12-670-4	N+300HP	258	265	211	218	.426	.420	112°
HYDRAULIC – Sound and character of the ever popular GM L79 cam with modern power. 3	Hyd.	Hyd.	1800 to 6200	12-671-4	N+L79H	276	283	229	236	.468	.462	112°
HYDRAULIC – Exhaust note of GM 30-30 cam with increased performance. 3	Hyd.	Hyd.	2300 to 6500	12-672-4	N+30-30H	286	293	239	246	.483	.477	112°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Hydraulic Flat Tappet Camshafts — XTREME 4X4™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K12-231-2	SK12-231-2	CL12-231-2	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-235-2	SK12-235-2[7]	CL12-235-2[7]	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-239-3	SK12-239-3[7]	CL12-239-3[7]	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-243-3	SK12-243-3[7]	CL12-243-3[7]	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16

Hydraulic Flat Tappet Camshafts — XTREME MARINE™

K12-232-3	SK12-232-3[7]	CL12-232-3[7]	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-236-3	SK12-236-3[7]	CL12-236-3[7]	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-240-4	SK12-240-4[7]	CL12-240-4[7]	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-244-4	SK12-244-4[7]	CL12-244-4[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-248-4	SK12-248-4[7]	CL12-248-4[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts — DUAL ENERGY™

K12-207-2	SK12-207-2	CL12-207-2	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	980-16 981-16	742-16 750-16	601-16 613-16	501-16
K12-208-2	SK12-208-2[7]	CL12-208-2[7]	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-209-2	SK12-209-2[7]	CL12-209-2[7]	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16

Hydraulic Flat Tappet Camshafts — NOSTALGIA PLUS™

K12-670-4	SK12-670-4	CL12-670-4	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-671-4	SK12-671-4	CL12-671-4	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-672-4	SK12-672-4[7]	CL12-672-4[7]	RP1412-16 RPM1301-16	812-16 858-16	3200 2100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400 c.i. C.A.R.B. E.O. #D-279-4
49 50-State legal for 1987 & earlier carbureted V8 SB Chevrolet 262-400 C.A.R.B. E.O. #D-279-3, #D-279-5, #D-279-6
52 Engines with self-aligning rocker arms must use Part #1417-16 or #1617-16

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

FACTORY MUSCLE — Hydraulic Flat Tappet Camshafts (Today's OEM Versions Of Yesterday's Muscle Car Cams)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Factory I.D. #3896929 for: 327c.i., 1965-68, factory 275/300 hp 350c.i., 1967-69, factory 295 hp 350c.i., 1970, factory 300 hp 350c.i., 1971, factory 270 hp 350c.i., 1972, factory 200 hp	Hyd.	Hyd.	600 to 4800	12-105-3	929H	319	320	195	202	.390	.410	112°
HYDRAULIC – Factory I.D. #3863151 for: 327c.i., 1965-68, factory 350 hp 327c.i., 1967-68, factory 325 hp 327c.i., 1965-68, factory 350 hp 327c.i., 1967-68, factory 325 hp	Hyd.	Hyd.	1800 to 5800	12-106-3	151H	342	342	222	222	.447	.447	114°

NITROUS HP™ — Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Works well in near stock engines with up to 125 hp nitrous kits.	Hyd.	Hyd.	1200 to 5600	12-552-4	NX256H	256	268	212	222	.434	.464	113°
HYDRAULIC – High performance street. With 100-150 hp nitrous kit or small blower.	Hyd.	Hyd.	1600 to 5900	12-556-4	NX262H	262	280	218	230	.462	.480	113°
HYDRAULIC – Street machines with 125+ hp kit, 2200+ stall, gears, choppy idle.	Hyd.	Hyd.	2000 to 6200	12-560-4	NX268H	268	286	224	236	.477	.490	113°
HYDRAULIC – Street/strip applications, 125+ hp kit or medium blower, 2500+ stall. Rough idle.	Hyd.	Hyd.	2400 to 6500	12-564-4	NX274H	274	292	230	244	.487	.501	113°
HYDRAULIC – Pro Street applications, excellent for multi-stage kits or 671 blower. 2800+ stall.	Hyd.	Hyd.	2800 to 6800	12-568-4	NX284H	284	305	240	253	.507	.525	113°

XTREME FUEL INJECTION (XFI™) — Hydraulic Flat Tappet Camshafts (WITH 1.6 ROCKERS)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Excellent throttle body cam. Superb for crossfire or carbureted engines. Lots of torque.	Hyd.	Hyd.	1300 to 5300	12-364-4	252XFI H13	252	266	208	217	.477	.472	113°
HYDRAULIC – Good low end and mid-range for TPI 350 with aftermarket chip and upgraded exhaust.	Hyd.	Hyd.	1500 to 5500	12-365-4	260XFI H13	260	272	216	223	.499	.493	113°
HYDRAULIC – Excellent mid-range for TPI 350 with chip upgrade, injectors, plenum and exhaust system. 2000+ stall.	Hyd.	Hyd.	2000 to 6000	12-366-4	268XFI H13	268	280	224	231	.520	.515	113°
HYDRAULIC – Good mid-range with exceptional top end. Requires chip, gear, plenum and exhaust mods. 2500+ stall.	Hyd.	Hyd.	2400 to 6400	12-367-4	280XFI H13	280	290	236	241	.552	.547	113°
HYDRAULIC – Best results at wide-open throttle. All mods a must. 2800+ stall needed.	Hyd.	Hyd.	2800 to 6800	12-368-4	292XFI H13	292	302	248	253	.584	.579	113°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Hydraulic Flat Tappet Camshafts (Today's OEM Versions Of Yesterday's Muscle Car Cams) — FACTORY MUSCLE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	980-16 981-16	742-16 750-16	601-16 611-16	501-16 503-16[2]	621-16	N/A	12200	4001
812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	750-16 795-16	613-16 611-16	501-16	621-16	N/A	12200	4001

Hydraulic Flat Tappet Camshafts — NITROUS HP™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K12-552-4	SK12-552-4[7]	CL12-552-4[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-556-4	SK12-556-4[7]	CL12-556-4[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-560-4	SK12-560-4[7]	CL12-560-4[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-564-4	SK12-564-4[7]	CL12-564-4[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-568-4	SK12-568-4[7]	CL12-568-4[7]	RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts (WITH 1.6 ROCKERS) — XTREME FUEL INJECTION (XFI™)

K12-364-4	SK12-364-4[7]	CL12-364-4[7]	RP1416-16	812-16 858-16	2100 3100	1416-16[77] 1602-16[77]	7812-16 7372-16	26981-16 26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]
K12-365-4	SK12-365-4[7]	CL12-365-4[7]	RP1416-16	812-16 858-16	2100 3100	1416-16[77] 1602-16[77]	7812-16 7372-16	26981-16 26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]
K12-366-4	SK12-366-4[7]	CL12-366-4[7]	RP1416-16	812-16 858-16	2100 3100	1416-16[77] 1602-16[77]	7812-16 7372-16	26981-16 26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]
K12-367-4	SK12-367-4[7]	CL12-367-4[7]	RP1416-16	812-16 858-16	2100 3100	1416-16[77] 1602-16[77]	7812-16 7372-16	26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]
K12-368-4	SK12-368-4[7]	CL12-368-4[7]	RP1416-16	812-16 858-16	2100 3100	1416-16[77] 1602-16[77]	7812-16 7372-16	26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400 c.i. C.A.R.B. E.O. #D-279-4
52 Engines with self-aligning rocker arms must use Part #1417-16 or #1617-16
77 Engines with self-aligning rocker arms must use Part #1418-16 or #1618-16

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

COMPUTER CONTROLLED Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good vacuum and mileage for any size computer engine. (1)	Hyd.	Hyd.	700 to 4700	12-304-4	252BH-11	252	252	201	206	.406	.406	111°
HYDRAULIC – For use in throttle body injection, crossfire and TPI 305 and 350 engine. (1)	Hyd.	Hyd.	1000 to 5000	12-388-4	252AH-12	252	260	206	212	.425	.440	112°
HYDRAULIC – For 350 tuned port injected engines with performance chip or programmer. (1)	Hyd.	Hyd.	1200 to 5200	12-314-4	260AH-12	260	260	212	212	.444	.444	112°
HYDRAULIC – Good for stock TPI 350 or TPI 305 with modified computer or programmer. (1)	Hyd.	Hyd.	1500 to 5500	12-402-4	260AH-14	260	268	212	218	.444	.444	114°
HYDRAULIC – Best cam for 350 TPI with programmer or modified computer. (3)	Hyd.	Hyd.	1800 to 5800	12-404-4[7]	268AH-14	268	276	222	226	.464	.464	114°

XTREME TURBO Hydraulic Flat Tappet Camshafts

XTREME TURBO – Single turbo street applications with 5-10 lbs. of boost. (3)	Hyd.	Hyd.	1200 to 5500	12-251-4	XT250H	250	257	206	206	.432	.426	110°
XTREME TURBO – Higher rpm street applications with 8-16 lbs. of boost. (3)	Hyd.	Hyd.	1800 to 6000	12-252-4	XT256H	256	263	212	212	.447	.444	112°
XTREME TURBO – Street/strip applications. Single or dual turbos. (3)	Hyd.	Hyd.	2200 to 6400	12-253-4	XT262H	262	269	218	218	.462	.455	114°

BLOWER & TURBO Hydraulic Flat Tappet Camshafts

HYDRAULIC – Very mild street. Small under hood blower. Good torque. (1)	Hyd.	Hyd.	1500 to 5500	12-402-4	260AH-14	260	268	212	218	.444	.444	114°
HYDRAULIC – Good upgrade for OEM turbo charged street engine. Good mid-range power. (1)	Hyd.	Hyd.	1500 to 5500	12-400-4	268TH-15	268	260	218	212	.454	.444	115°
HYDRAULIC – Street machine using under hood blower with 10-12 lbs. of boost. (3)	Hyd.	Hyd.	1800 to 5800	12-404-4	268AH-14	268	276	222	226	.464	.464	114°

XTREME ENERGY™ 4 & 7 SWAP FIRING ORDER Hydraulic Flat Tappet Camshafts (18736542 Firing Order)

HYDRAULIC – Very strong mid-range torque and throttle response, 2500+ stall. (3)	Hyd.	Hyd.	1800 to 6000	12-660-4[7]	XE274H-10	274	286	230	236	.490	.490	110°
HYDRAULIC – Street/strip, 2800+ stall, needs headers and gear, rough idle. (3)	Hyd.	Hyd.	2300 to 6500	12-661-4[7]	XE284H-10	284	296	240	246	.507	.510	110°
HYDRAULIC – Pro Street/bracket, needs good intake, headers, gear and 3300+ stall. (3)	Hyd.	Hyd.	2800 to 7000	12-662-4[7]	XE294H-10	294	306	250	256	.519	.523	110°

DRAG RACE Hydraulic Flat Tappet Camshafts

HYDRAULIC – 3000+ stall in heavy car, with 10:1+ compression. (3)	Hyd.	Hyd.	2500 to 6500	12-213-3	292H-10	292	292	244	244	.501	.501	110°
HYDRAULIC – 10.5:1+ compression, 3500+ stall, good torque. (3)	Hyd.	Hyd.	3000 to 6800	12-342-4	296AH-8	296	305	246	253	.510	.507	108°
HYDRAULIC – 4000+ stall, 11:1+ compression, medium weight car. (3)	Hyd.	Hyd.	3500 to 6500	12-327-5	305H-6	305	305	253	253	.525	.525	106°
HYDRAULIC – 3500-4000 stall or 4 speed with 11:1+ compression. (3)	Hyd.	Hyd.	3500 to 7000	12-214-4	305H-10	305	305	253	253	.525	.525	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Hydraulic Flat Tappet Camshafts — COMPUTER CONTROLLED

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16	621-16	N/A	12200	4001
812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16	621-16	N/A	12200	4001
812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16	621-16	N/A	12200	4001
812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16	621-16	N/A	12200	4001
812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16	621-16	N/A	12200	4001

Hydraulic Flat Tappet Camshafts — XTREME TURBO

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16	621-16	N/A	12200	4001
812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16	621-16	N/A	12200	4001
812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16	621-16	N/A	12200	4001

Hydraulic Flat Tappet Camshafts — BLOWER & TURBO

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	983-16 26981-16	751-16 795-16	611-16 614-16	501-16	621-16	N/A	12200	4001
812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	983-16 26981-16	751-16 795-16	611-16 614-16	501-16	621-16	N/A	12200	4001
812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	983-16 26981-16	751-16 795-16	611-16 614-16	501-16	621-16	N/A	12200	4001

Hydraulic Flat Tappet Camshafts (18736542 Firing Order) — XTREME ENERGY™ 4 & 7 SWAP FIRING ORDER

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
812-16 858-16	2100 7100	1601-16[15,52] 1101-16[15]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200	4001
812-16 858-16	2100 7100	1601-16[15,52] 1101-16[15]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200	4001
812-16 858-16	2100 7100	1601-16[15,52] 1101-16[15]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200	4001

Hydraulic Flat Tappet Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
858-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200	4001
858-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200	4001
858-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200	4001
858-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200	4001

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400 c.i. C.A.R.B. E.O. #D-279-4
48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain
52 Engines with self-aligning rocker arms must use Part #1417-16 or #1617-16

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

OVAL TRACK — Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Best for heavy car, short track.	Hyd.	Hyd.	3000 to 6000	12-325-4	280AH-8	280	288	232	237	.483	.483	108°
HYDRAULIC – Best for 1/4 to 3/8 mile track, broad torque range.	Hyd.	Hyd.	3500 to 6300	12-330-4	286AH-8	286	292	236	244	.490	.485	108°
HYDRAULIC – Good for 3/8 to 1/2 mile track, 350 or larger engine.	Hyd.	Hyd.	3700 to 6500	12-344-5	296CH-6	296	305	246	253	.510	.525	106°
HYDRAULIC – Good for light cars on long tracks with fast corners.	Hyd.	Hyd.	4000 to 6800	12-327-5	305H-6	305	305	253	253	.525	.525	106°

LOW LIFT OVAL TRACK — Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – .400" lift rules. Rough idle. Low vacuum, under 10".	Hyd.	Hyd.	3000 to 6000	12-520-5	22/12 H-6	300	306	247	255	.399	.399	106°
HYDRAULIC – .420" lift rules. Rough idle. Low vacuum, under 10".	Hyd.	Hyd.	3000 to 6000	12-521-5	41/15 H-6	297	299	246	250	.420	.420	106°
HYDRAULIC – .450" lift rules. Rough idle. Low vacuum, under 10".	Hyd.	Hyd.	2500 to 6000	12-522-5	45/28 H-6	293	300	242	255	.450	.453	106°

MAGNUM — Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Good mileage, smooth idle. Vans, pickups and towing. Stock rear gear ratios and torque converter.	Hyd.	Hyd.	1200 to 4500	12-410-8[10]	260HR	260	260	206	206	.500	.500	110°
HYDRAULIC ROLLER – Mild street performance, slightly noticeable lope at idle. Stock converter, aftermarket intake and headers. 3.40 to 4.10 rear gears.	Hyd.	Hyd.	1800 to 5000	12-420-8[10]	270HR	270	270	215	215	.500	.500	110°
HYDRAULIC ROLLER – Limited high performance street. Aftermarket intake, headers, 2200+ stall, and 3.40 to 410 gears. Mild rough idle.	Hyd.	Hyd.	2000 to 5500	12-430-8[10]	280HR	280	280	224	224	.525	.525	110°
HYDRAULIC ROLLER – Great for street machines. Best with headers and aftermarket intake. Rough idle. Limited vacuum. 2500+ stall.	Hyd.	Hyd.	2500 to 6000	12-450-8[10]	286HR	286	286	230	230	.560	.560	110°
HYDRAULIC ROLLER – Street/strip applications. 3000+ stall. 3.90 lower gear ratio, intake and headers. Very rough idle.	Hyd.	Hyd.	3000 to 6500	12-460-8[10]	304HR	304	304	244	244	.600	.600	110°
HYDRAULIC ROLLER – Limited street use and bracket racing. 10.5:1 compression 3500+ stall 4.10 gear. Needs headers and race intake. Radical idle.	Hyd.	Hyd.	3500 to 6500	12-470-8[10]	314HR	314	314	252	252	.600	.600	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Hydraulic Flat Tappet Camshafts — OVAL TRACK

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
858-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200	4001
858-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200	4001
858-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200	4001
858-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200	4001

Hydraulic Flat Tappet Camshafts — LOW LIFT OVAL TRACK

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
858-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	983-16[2] 26986-16[2]	751-16 795-16	611-16 614-16	501-16 503-16[2]	621-16	N/A	12200	4001
858-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	983-16[2] 26986-16[2]	751-16 795-16	611-16 614-16	501-16 503-16[2]	621-16	N/A	12200	4001
858-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	983-16[2] 26986-16[2]	751-16 795-16	611-16 614-16	501-16 503-16[2]	621-16	N/A	12200	4001

Retro-Fit Hydraulic Roller Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K12-410-8	SK12-410-8[7,10]	CL12-410-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-420-8	SK12-420-8[7,10]	CL12-420-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-430-8	SK12-430-8[7,10]	CL12-430-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-450-8	SK12-450-8[7,10]	CL12-450-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	987-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-460-8	SK12-460-8[7,10]	CL12-460-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	950-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-470-8	SK12-470-8[7,10]	CL12-470-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	950-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
10 Requires thrust button & wear plate
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400 c.i. C.A.R.B. E.O. #D-279-4
48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain
52 Engines with self-aligning rocker arms must use Part #1417-16 or #1617-16

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

XTREME ENERGY™ Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Good for mileage and for towing, smooth idle.	Hyd.	Hyd.	600 to 4600	12-407-8[10]	XR252HR	252	258	200	206	.472	.480	110°
HYDRAULIC ROLLER – Strong torque, good mileage, stock to mildly modified combinations.	Hyd.	Hyd.	1000 to 5000	12-408-8[10]	XR258HR	258	264	206	212	.480	.487	110°
HYDRAULIC ROLLER – Mild performance applications, very good mid-range, 3.23-3.73 gears.	Hyd.	Hyd.	1200 to 5200	12-412-8[10]	XR264HR	264	270	212	218	.487	.495	110°
HYDRAULIC ROLLER – High performance application, largest with stock converter, noticeable idle.	Hyd.	Hyd.	1600 to 5400	12-422-8[10]	XR270HR	270	276	218	224	.495	.502	110°
HYDRAULIC ROLLER – High performance street machines, 2000+ stall, gears, choppy idle.	Hyd.	Hyd.	1900 to 5600	12-423-8[10]	XR276HR	276	282	224	230	.502	.510	110°
HYDRAULIC ROLLER – Great for street machines, needs intake, headers, 2500+ stall, and gears. Mildly rough idle.	Hyd.	Hyd.	2200 to 5800	12-432-8[10]	XR282HR	282	288	230	236	.510	.520	110°
HYDRAULIC ROLLER – Street/strip applications, 9:1 compression, rough idle intake, headers, 2800+ stall, gears.	Hyd.	Hyd.	2500 to 6000	12-433-8[10]	XR288HR	288	294	236	242	.520	.540	110°
HYDRAULIC ROLLER – Street/strip applications, 9.5:1 compression, intake, headers, 3000+ stall, gears. Rough idle.	Hyd.	Hyd.	2800 to 6100	12-443-8[10]	XR294HR	294	300	242	248	.540	.562	110°
HYDRAULIC ROLLER – Pro Street/bracket racing, 10:1 compression, 3500+ stall, good intake, headers. Very rough idle.	Hyd.	Hyd.	3200 to 6200	12-444-8[10]	XR300HR	300	306	248	254	.562	.580	110°

New

THUMPR™ Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears, choppy/thumping idle.	Hyd.	Hyd.	1900 to 5600	12-600-8[10]	283THR7	283	303	227	241	.513	.498	107°
HYDRAULIC ROLLER – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 5900	12-601-8[10]	291THR7	291	311	235	249	.522	.509	107°
HYDRAULIC ROLLER – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6200	12-602-8[10]	299THR7	299	319	243	257	.533	.519	107°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Retro-Fit Hydraulic Roller Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K12-407-8	SK12-407-8[7,10]	CL12-407-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16 503-16[2]
K12-408-8	SK12-408-8[7,10]	CL12-408-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16 503-16[2]
K12-412-8	SK12-412-8[7,10]	CL12-412-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-422-8	SK12-422-8[7,10]	CL12-422-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-423-8	SK12-423-8[7,10]	CL12-423-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-432-8	SK12-432-8[7,10]	CL12-432-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-433-8	SK12-433-8[7,10]	CL12-433-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-443-8	SK12-443-8[7,10]	CL12-443-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	987-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-444-8	SK12-444-8[7,10]	CL12-444-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	987-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Retro-Fit Hydraulic Roller Camshafts — THUMPR™

K-KIT	GK-KIT	CL-KIT	LIFTERS	TIMING SET	GEAR DRIVE	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K12-600-8	GK12-600-8[7,93]	CL12-600-8[7]	853-16 15853-16	2100 3100	4100	1412-16[15,52] 1601-16[15,52]	7609-16 7940-16	26981-16 26918-16	787-16	648-16	501-16
K12-601-8	GK12-601-8[7,93]	CL12-601-8[7]	853-16 15853-16	2100 3100	4100	1412-16[15,52] 1601-16[15,52]	7609-16 7940-16	26918-16 26986-16[2]	787-16 795-16	648-16 611-16	501-16
K12-602-8	GK12-602-8[7,93]	CL12-602-8[7]	853-16 15853-16	2100 3100	4100	1412-16[15,52] 1601-16[15,52]	7609-16 7940-16	26918-16 26986-16[2]	787-16 795-16	648-16 611-16	501-16

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
10 Requires thrust button & wear plate
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400 c.i. C.A.R.B. E.O. #D-279-4
52 Engines with self-aligning rocker arms must use Part #1417-16 or #1617-16
93 GK-Kit contains cam, lifters & gear drive

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

XTREME 4X4™ Retro-Fit Hydraullic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED @ .050" IN.	DURATION ADVERTISED @ .050" EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Strong torque, good mileage, for stock to mildly modified engines.	Hyd.	Hyd.	1000 to 5000	12-409-8[10]	X4258HR	258	262	206	210	.458	.458	111°
HYDRAULIC ROLLER – Good mid-range power, good performance increase. Largest with stock converter.	Hyd.	Hyd.	1200 to 5200	12-411-8[10]	X4260HR	260	264	210	214	.474	.474	111°
HYDRAULIC ROLLER – Good mid-range power, needs headers, 3.55-4.10 gears, 2000+ stall. Noticeable idle.	Hyd.	Hyd.	1500 to 5500	12-413-8[10]	X4270HR	270	274	220	224	.474	.474	111°
HYDRAULIC ROLLER – Strong mid-range power, needs headers, 3.73-4.10 gears, 2500+ stall, rough idle.	Hyd.	Hyd.	1800 to 5800	12-414-8[10]	X4280HR	280	284	230	234	.474	.474	111°

XTREME MARINE™ Retro-Fit Hydraullic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED @ .050" IN.	DURATION ADVERTISED @ .050" EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Good for inboard/outboard pleasure boat, skiing and good economy.	Hyd.	Hyd.	1200 to 5200	12-416-8[10]	XM264HR	264	270	212	218	.488	.495	112°
HYDRAULIC ROLLER – Largest for inboard/outboard, good mid-range with excellent response, noticeable idle.	Hyd.	Hyd.	1500 to 5500	12-417-8[10]	XM270HR	270	276	218	224	.495	.503	112°
HYDRAULIC ROLLER – Good for jet with A impeller, strong mid-range power, needs good exhaust.	Hyd.	Hyd.	1800 to 5800	12-418-8[10]	XM276HR	276	282	224	230	.503	.510	112°

NITROUS HP™ Retro-Fit Hydraullic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED @ .050" IN.	DURATION ADVERTISED @ .050" EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Street machine with 125+ nitrous system or small supercharger. 2200+ stall with lower gears.	Hyd.	Hyd.	2000 to 6000	12-415-8[10]	NX276HR	276	288	224	236	.502	.520	113°
HYDRAULIC ROLLER – 175+ nitrous system. 2500+ stall with lower gears and headers.	Hyd.	Hyd.	2400 to 6500	12-419-8[10]	NX288HR	288	315	236	248	.520	.540	113°

XTREME FUEL INJECTION (XFI™) Retro-Fit Hydraulic Roller Camshafts (WITH 1.6 ROCKERS)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED @ .050" IN.	DURATION ADVERTISED @ .050" EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Good for 305 or 350 TBI. Excellent off idle performance. Xtreme torque.	Hyd.	Hyd.	1000 to 5000	12-464-8[10]	252XFI HR13	252	264	202	212	.550	.546	113°
HYDRAULIC ROLLER – Good low end and mid-range cam. Exhaust upgrade preferred. Smooth torque curve.	Hyd.	Hyd.	1200 to 5200	12-465-8[10]	260XFI HR13	260	270	210	218	.560	.555	113°
HYDRAULIC ROLLER – Ample low end with very good mid-range. Gear and exhaust upgrade needed. Largest cam for stock converter.	Hyd.	Hyd.	1800 to 5800	12-466-8[10]	268XFI HR13	268	276	218	224	.570	.565	113°
HYDRAULIC ROLLER – Great for “Hot Street”. Must upgrade intake gear and exhaust for maximum performance. 2500+ stall.	Hyd.	Hyd.	2000 to 5000	12-467-8[10]	280XFI HR13	280	288	230	236	.576	.570	113°
HYDRAULIC ROLLER – Street/strip. Best at wide-open throttle. Need all upgrades with 2600+ converter. 9.5:1 compression.	Hyd.	Hyd.	2200 to 6200	12-468-8[10]	292XFI HR13	292	300	242	248	.584	.579	113°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Retro-Fit Hydraullic Roller Camshafts — XTREME 4X4™

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K12-409-8	SK12-409-8[7,10]	CL12-409-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16 503-16[2]
K12-411-8	SK12-411-8[7,10]	CL12-411-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16 503-16[2]
K12-413-8	SK12-413-8[7,10]	CL12-413-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16 503-16[2]
K12-414-8	SK12-414-8[7,10]	CL12-414-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16 503-16[2]

Retro-Fit Hydraullic Roller Camshafts — XTREME MARINE™

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K12-416-8	SK12-416-8[7,10]	CL12-416-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-417-8	SK12-417-8[7,10]	CL12-417-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-418-8	SK12-418-8[7,10]	CL12-418-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Retro-Fit Hydraullic Roller Camshafts — NITROUS HP™

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K12-415-8	SK12-415-8[7,10]	CL12-415-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-419-8	SK12-419-8[7,10]	CL12-419-8[7,10]	853-16 15853-16	12200	2100 7100	1412-16[15,52] 1601-16[15,52]	7809-16 7609-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Retro-Fit Hydraulic Roller Camshafts (WITH 1.6 ROCKERS) — XTREME FUEL INJECTION (XFI™)

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K12-464-8	SK12-464-8[7,10]	CL12-464-8[7,10]	853-16 15853-16	12200	2100 7100	1416-16[77] 1602-16[77]	7809-16 7609-16	26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]
K12-465-8	SK12-465-8[7,10]	CL12-465-8[7,10]	853-16 15853-16	12200	2100 7100	1416-16[77] 1602-16[77]	7809-16 7609-16	26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]
K12-466-8	SK12-466-8[7,10]	CL12-466-8[7,10]	853-16 15853-16	12200	2100 7100	1416-16[77] 1602-16[77]	7809-16 7609-16	26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]
K12-467-8	SK12-467-8[7,10]	CL12-467-8[7,10]	853-16 15853-16	12200	2100 7100	1416-16[77] 1602-16[77]	7809-16 7609-16	26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]
K12-468-8	SK12-468-8[7,10]	CL12-468-8[7,10]	853-16 15853-16	12200	2100 7100	1416-16[77] 1602-16[77]	7809-16 7609-16	26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
10 Requires thrust button & wear plate
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400 c.i. C.A.R.B. E.O. #D-279-4
52 Engines with self-aligning rocker arms must use Part #1417-16 or #1617-16
77 Engines with self-aligning rocker arms must use Part #1418-16 or #1618-16

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

MAGNUM — Hydraulic Roller Camshafts (CARBURETED) 1987-98 305-350 Engines W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Excellent mileage, smooth idle. Works with pickups, vans and towing. Stock gear ratios and converter.	Hyd.	Hyd.	1200 to 4500	08-410-8	260HR	260	260	206	206	.500	.500	110°
HYDRAULIC ROLLER – Mild street performance, slightly noticeable idle. Needs aftermarket intake, headers, 3.40-4.10 gears.	Hyd.	Hyd.	1800 to 5000	08-420-8	270HR	270	270	215	215	.500	.500	110°
HYDRAULIC ROLLER – High performance street use. Aftermarket intake, headers and 2000+ stall, 3.40 to 4.10 gears. Mild rough idle.	Hyd.	Hyd.	2000 to 5500	08-430-8	280HR	280	280	224	224	.525	.525	110°
HYDRAULIC ROLLER – Great for street machines. Best with headers and aluminum intake. 2500+ stall. Rough idle.	Hyd.	Hyd.	2500 to 6000	08-450-8	286HR	286	286	230	230	.560	.560	110°
HYDRAULIC ROLLER – Street/strip applications. 3000+ stall. Use 4.10 gears, aftermarket intake and headers. Very rough idle.	Hyd.	Hyd.	3000 to 6500	08-460-8	304HR	304	304	244	244	.600	.600	110°
HYDRAULIC ROLLER – Limited street/bracket racing. 10.5:1. 3500+ stall. Headers and race intake.	Hyd.	Hyd.	3500 to 6500	08-470-8	314HR	314	314	252	252	.600	.600	110°

XTREME ENERGY™ — Hydraulic Roller Camshafts (CARBURETED) 1987-98 305-350 Engines W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Good for towing, excellent mileage, smooth idle. Will work with stock converters and gears.	Hyd.	Hyd.	600 to 4600	08-407-8	XR252HR	252	258	200	206	.472	.480	110°
HYDRAULIC ROLLER – Strong torque, good mileage, stock to mildly modified combinations.	Hyd.	Hyd.	1000 to 5000	08-408-8	XR258HR	258	264	206	212	.480	.487	110°
HYDRAULIC ROLLER – Mild performance applications, good mid-range, 3.23-3.73 gears. Slightly noticeable idle.	Hyd.	Hyd.	1200 to 5200	08-412-8	XR264HR	264	270	212	218	.487	.495	110°
HYDRAULIC ROLLER – High performance application, largest with stock converter, noticeable idle.	Hyd.	Hyd.	1600 to 5400	08-422-8	XR270HR	270	276	218	224	.495	.502	110°
HYDRAULIC ROLLER – High performance street machines, 2000+ stall, gears, choppy idle.	Hyd.	Hyd.	1900 to 5600	08-423-8	XR276HR	276	282	224	230	.502	.510	110°
HYDRAULIC ROLLER – Great for street machines, needs intake, headers, stall and gears. 2500+ stall.	Hyd.	Hyd.	2200 to 5800	08-432-8	XR282HR	282	288	230	236	.510	.520	110°
HYDRAULIC ROLLER – Street/strip applications, 9:1+ compression, intake, headers, gears. 3000+ stall. Rough idle.	Hyd.	Hyd.	2500 to 6000	08-433-8	XR288HR	288	294	236	242	.520	.540	110°
HYDRAULIC ROLLER – Street/strip applications, 9.5:1+ compression, intake, headers, stall, gears. 3200+ stall.	Hyd.	Hyd.	2800 to 6100	08-443-8	XR294HR	294	300	242	248	.540	.562	110°
HYDRAULIC ROLLER – Pro Street, bracket racing, 10:1+ compression, 3500+ stall, good intake, headers.	Hyd.	Hyd.	3200 to 6200	08-444-8	XR300HR	300	306	248	254	.562	.580	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Hydraulic Roller Camshafts (CARBURETED) 1987-98 305-350 Engines W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4) — MAGNUM

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K08-410-8	SK08-410-8[7]	CL08-410-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-420-8	SK08-420-8[7]	CL08-420-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-430-8	SK08-430-8[7]	CL08-430-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-450-8	SK08-450-8[7]	CL08-450-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	987-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-460-8	SK08-460-8[7]	CL08-460-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	987-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-470-8	SK08-470-8[7]	CL08-470-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	987-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Hydraulic Roller Camshafts (CARBURETED) 1987-98 305-350 Engines W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4) — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K08-407-8	SK08-407-8[7]	CL08-407-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16 503-16[2]
K08-408-8	SK08-408-8[7]	CL08-408-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16 503-16[2]
K08-412-8	SK08-412-8[7]	CL08-412-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-422-8	SK08-422-8[7]	CL08-422-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-423-8	SK08-423-8[7]	CL08-423-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-432-8	SK08-432-8[7]	CL08-432-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-433-8	SK08-433-8[7]	CL08-433-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-443-8	SK08-443-8[7]	CL08-443-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7940-16	987-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-444-8	SK08-444-8[7]	CL08-444-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7940-16	987-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
11 Lifters only, does not include lifter retainers or guides
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400c.i. C.A.R.B. E.O. #D-279-4

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

THUMPR™ Hydraulic Roller Camshafts (CARBURETED) 1987-98 305-350 Engines W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4)

New APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears, choppy/thumping idle.	Hyd.	Hyd.	1900 to 5600	08-600-8	283THR7	283	303	227	241	.513	.498	107°
HYDRAULIC ROLLER – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 5900	08-601-8	291THR7	291	311	235	249	.522	.509	107°
HYDRAULIC ROLLER – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6200	08-602-8	299THR7	299	319	243	257	.533	.519	107°

XTREME 4X4™ Hydraulic Roller Camshafts (CARBURETED) 1987-98 305-350 Engines W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Strong torque, good mileage, for stock to mildly modified engines.	Hyd.	Hyd.	1000 to 5000	08-409-8	X4258HR	258	262	206	210	.458	.458	111°
HYDRAULIC ROLLER – Good mid-range power, good with 3.23-3.73 gear.	Hyd.	Hyd.	1200 to 5200	08-411-8	X4260HR	260	264	210	214	.474	.474	111°
HYDRAULIC ROLLER – Good mid-range power, needs headers, 3.55-4.10 gears, 2000 stall. Noticeable idle.	Hyd.	Hyd.	1500 to 5500	08-413-8	X4270HR	270	274	220	224	.474	.474	111°
HYDRAULIC ROLLER – Good top end. Needs headers, lower gears and 2500+ stall.	Hyd.	Hyd.	1800 to 5800	08-414-8	X4280HR	280	284	230	234	.474	.474	111°

XTREME MARINE™ Hydraulic Roller Camshafts 1987-98 305-350 Engines W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4)

HYDRAULIC ROLLER – Good for pleasure use and economy, smooth idle.	Hyd.	Hyd.	1000 to 5000	08-416-8	XM264HR	264	270	212	218	.488	.495	112°
HYDRAULIC ROLLER – Largest for inboard/outboard, very good mid-range.	Hyd.	Hyd.	1200 to 5200	08-417-8	XM270HR	270	276	218	224	.495	.503	112°
HYDRAULIC ROLLER – Good for jet boat with A or B impeller, strong mid-range power, needs good exhaust.	Hyd.	Hyd.	1500 to 5500	08-418-8	XM276HR	276	282	224	230	.503	.510	112°

NITROUS HP™ Hydraulic Roller Camshafts (CARBURETED) 1987-98 305-350 Engines W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4)

HYDRAULIC ROLLER – 125+ hp nitrous or small supercharger, low gears, headers, 2200+ stall.	Hyd.	Hyd.	2000 to 6000	08-301-8	NX276HR	276	288	224	236	.502	.520	113°
HYDRAULIC ROLLER – 175+ hp nitrous system. 2500+ stall with lower gears and headers.	Hyd.	Hyd.	2400 to 6500	08-303-8	NX288HR	288	315	236	248	.520	.540	113°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Hydraulic Roller Camshafts (CARBURETED) 1987-98 305-350 Engines W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4) — THUMPR™

K-KIT	GK-KIT	CL-KIT	LIFTERS	TIMING SET	GEAR DRIVE	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K08-600-8	GK08-600-8[7,93]	CL08-600-8[7]	850-16[11] 875-16[11]	2136 3136	4136	1417-16[15] 1617-16[15]	7608-16 7940-16	26981-16 26918-16	787-16	648-16	501-16
K08-601-8	GK08-601-8[7,93]	CL08-601-8[7]	850-16[11] 875-16[11]	2136 3136	4136	1417-16[15] 1617-16[15]	7608-16 7940-16	26918-16 26986-16[2]	787-16 795-16	648-16 611-16	501-16 503-16[2]
K08-602-8	GK08-602-8[7,93]	CL08-602-8[7]	850-16[11] 875-16[11]	2136 3136	4136	1417-16[15] 1617-16[15]	7608-16 7940-16	26918-16 26986-16[2]	787-16 795-16	648-16 611-16	501-16 503-16[2]

Hydraulic Roller Camshafts (CARBURETED) 1987-98 305-350 Engines W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4) — XTREME 4X4™

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K08-409-8	SK08-409-8[7]	CL08-409-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16 503-16[2]
K08-411-8	SK08-411-8[7]	CL08-411-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16 503-16[2]
K08-413-8	SK08-413-8[7]	CL08-413-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16 503-16[2]
K08-414-8	SK08-414-8[7]	CL08-414-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16 503-16[2]

Hydraulic Roller Camshafts 1987-98 305-350 Engines W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4) — XTREME MARINE™

K08-416-8	SK08-416-8[7]	CL08-416-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-417-8	SK08-417-8[7]	CL08-417-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-418-8	SK08-418-8[7]	CL08-418-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Hydraulic Roller Camshafts (CARBURETED) 1987-98 305-350 Engines W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4) — NITROUS HP™

K08-301-8	SK08-301-8[7]	CL08-301-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7940-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-303-8	SK08-303-8[7]	CL08-303-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7940-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
11 Lifters only, does not include lifter retainers or guides
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400c.i. C.A.R.B. E.O. #D-279-4
93 GK-Kit contains cam, lifters & gear drive

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

XTREME ENERGY™ Computer Controlled Hyd. Roller Camshafts 1987-98 305-350 Engines, W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – For throttle body 305 or 350, very good economy and power.	Hyd.	Hyd.	1000 to 5000	08-500-8	XR258HR	258	264	206	212	.480	.488	112°
HYDRAULIC ROLLER – Best in 305 or 350 tuned port injected engines.	Hyd.	Hyd.	1200 to 5200	08-501-8	XR264HR	264	269	212	218	.488	.495	112°
HYDRAULIC ROLLER – Good for TPI 305 or 350 with upgraded exhaust. Needs programmer.	Hyd.	Hyd.	1500 to 5500	08-502-8	XR269HR	269	276	218	224	.495	.503	112°
HYDRAULIC ROLLER – Needs modified TPI w/injectors, plenum, runners, exhaust and programmer, 2000+ stall.	Hyd.	Hyd.	1800 to 5800	08-503-8	XR276HR	276	281	224	230	.503	.510	112°

COMPUTER CONTROLLED Hydraulic Roller Camshafts 1987-98 305-350 Engines, W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4)

HYDRAULIC ROLLER – Good torque and mileage with tuned port injection.	Hyd.	Hyd.	1000 to 5000	08-300-8	262HR-12	262	264	206	210	.450	.480	112°
HYDRAULIC ROLLER – Mild performance for TPI. Strong low to mid-range power. Needs programmer or chip.	Hyd.	Hyd.	1200 to 5200	08-302-8	264HR-12	264	274	210	220	.480	.480	112°
HYDRAULIC ROLLER – Great mid-range power with modified TPI application. Needs programmer or chip.	Hyd.	Hyd.	1400 to 5400	08-304-8	266HR-14	266	276	210	220	.500	.510	114°
HYDRAULIC ROLLER – High performance street for modified TPI, programmer or chip. 2000+ stall.	Hyd.	Hyd.	1800 to 5800	08-305-8	276HR-14	276	290	220	230	.510	.510	114°
HYDRAULIC ROLLER – Street/strip applications. Needs 2500+ stall, lower gears and custom programming.	Hyd.	Hyd.	2000 to 6000	08-306-8	290HR-12	290	307	230	244	.510	.540	112°

XTREME FUEL INJECTION Hyd. Roller Camshafts 1987-98 305-350 Engines, W/ O.E. Hyd. Roller (W/ 1.6 ROCKERS) (EXCEPT LT1 & LT4)

HYDRAULIC ROLLER – Excellent torque for throttle body 305 or 350. Good economy with added power.	Hyd.	Hyd.	1000 to 5000	08-464-8	252XFI HR13	252	264	202	212	.550	.546	113°
HYDRAULIC ROLLER – Superb low end and mid-range for 350 tuned port injections. Needs programmer.	Hyd.	Hyd.	1200 to 5200	08-465-8	260XFI HR13	260	270	210	218	.560	.555	113°
HYDRAULIC ROLLER – Good torque with exceptional mid-range power for 305 and 350 TPI applications. Needs upgraded exhaust and programmer.	Hyd.	Hyd.	1800 to 5800	08-466-8	268XFI HR13	268	276	218	224	.570	.565	113°
HYDRAULIC ROLLER – Strong mid-range and top end. Will require headers, gears and stall. Strong Idle. Needs programmer.	Hyd.	Hyd.	2000 to 6000	08-467-8	280XFI HR13	280	288	230	236	.576	.570	113°
HYDRAULIC ROLLER – Excellent top end power. Needs headers, gears and 2500+ stall. Needs programmer.	Hyd.	Hyd.	2200 to 6200	08-468-8	292XFI HR13	292	300	242	248	.584	.579	113°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
Computer Controlled Hyd. Roller Camshafts 1987-98 305-350 Engines, W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4) — XTREME ENERGY™											
K08-500-8	SK08-500-8[7]	CL08-500-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16 503-16[2]
K08-501-8	SK08-501-8[7]	CL08-501-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-502-8	SK08-502-8[7]	CL08-502-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-503-8	SK08-503-8[7]	CL08-503-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
Hydraulic Roller Camshafts 1987-98 305-350 Engines, W/ O.E. Hyd. Roller Cams EXCEPT LT1 & LT4) — COMPUTER CONTROLLED											
K08-300-8	SK08-300-8[7]	CL08-300-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	983-16 26981-16	751-16 795-16	611-16 613-16	501-16 503-16[2]
K08-302-8	SK08-302-8[7]	CL08-302-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	983-16 26981-16	751-16 795-16	611-16 613-16	501-16 503-16[2]
K08-304-8	SK08-304-8[7]	CL08-304-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-305-8	SK08-305-8[7]	CL08-305-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K08-306-8	SK08-306-8[7]	CL08-306-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
Hyd. Roller Camshafts 1987-98 305-350 Engines, W/ O.E. Hyd. Roller (W/ 1.6 ROCKERS) (EXCEPT LT1 & LT4) — XTREME FUEL INJECTION											
K08-464-8	SK08-464-8[7]	CL08-464-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1418-16 1618-16	7808-16 7608-16	26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]
K08-465-8	SK08-465-8[7]	CL08-465-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1418-16 1618-16	7808-16 7608-16	26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]
K08-466-8	SK08-466-8[7]	CL08-466-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1418-16 1618-16	7808-16 7608-16	26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]
K08-467-8	SK08-467-8[7]	CL08-467-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1418-16 1618-16	7808-16 7608-16	26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]
K08-468-8	SK08-468-8[7]	CL08-468-8[7]	850-16[11] 875-16[11]	12200	2136 3136	1418-16 1618-16	7808-16 7608-16	26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
11 Lifters only, does not include lifter retainers or guides
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400c.i. C.A.R.B. E.O. #D-279-4

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

TRI-POWER XTREME™ Hydraulic Roller Camshafts 1987-98 305-350 Engines W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Optimized fuel mileage with good torque horsepower.	Hyd.	Hyd.	800 to 5000	08-525-8	TPX246HR-16	246	258	194	206	.470	.464	116°
HYDRAULIC ROLLER – Exceptional torque with good horsepower and moderate fuel economy.	Hyd.	Hyd.	1200 to 5200	08-530-8	TPX254HR-15	254	264	202	212	.477	.471	115°
HYDRAULIC ROLLER – Optimized horsepower with good torque and average fuel economy.	Hyd.	Hyd.	1400 to 5400	08-535-8	TPX262HR-14	262	270	210	218	.486	.480	114°

MAGNUM Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Streetable. Works with stock converter, best with 2000+. Lower gears. Noticeable idle.	.022	.022	1500 to 5500	12-222-4	270S	270	270	224	224	.468	.468	110°
SOLID – Good power for street, choppy idle. Needs 2500+ stall, likes headers and low gears.	.022	.022	2000 to 6000	12-223-4	282S	282	282	236	236	.495	.495	110°
SOLID – Maximum street performance, very rough idle, needs headers, 3000+ stall and 9.5:1+ compression.	.022	.022	2500 to 6500	12-224-4	294S	294	294	248	248	.525	.525	110°
SOLID – Street/strip. 3500+ stall, 10.5:1 compression. Low gears, headers and intake. Racy idle.	.022	.022	3000 to 7000	12-225-4	306S	306	306	260	260	.555	.555	110°

XTREME ENERGY™ Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Strong torque thru low end and mid-range, good idle.	.016	.016	1000 to 5600	12-674-4	XS256S	256	262	218	224	.465	.477	110°
SOLID – Excellent response, good mid-range, noticeable idle.	.016	.016	1300 to 5800	12-675-4	XS262S	262	268	224	230	.477	.488	110°
SOLID – Great for street machines. Will work with stock converter, best with 2000 stall.	.016	.016	1600 to 6000	12-676-4	XS268S	268	274	230	236	.488	.501	110°
SOLID – Very strong mid-range torque and throttle response, 2200+ stall.	.016	.016	2000 to 6400	12-677-4	XS274S	274	280	236	242	.501	.510	110°
SOLID – Street/strip, 2800+ stall, likes headers and gears, rough idle.	.016	.016	2400 to 6800	12-678-4	XS282S	282	290	244	252	.520	.540	110°
SOLID – Pro street/bracket, needs good intake, headers, gear and 3300+ stall.	.016	.016	2800 to 7200	12-679-5	XS290S	290	298	252	260	.540	.558	110°

TIP

See pages 254-261 for part numbered nitrided camshafts. If you don't see your application, contact a CAM HELP® representative at 1-800-999-0853 to have your flat tappet camshaft nitrided.

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Hydraulic Roller Camshafts 1987-98 305-350 Engines W/ O.E. Hyd. Roller Cams (EXCEPT LT1 & LT4) — TRI-POWER XTREME™

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
850-16[11] 875-16[11]	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	26981-16 26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]	N/A	N/A	12200 12140	N/A
850-16[11] 875-16[11]	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	26981-16 26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]	N/A	N/A	12200 12140	N/A
850-16[11] 875-16[11]	2136 3136	1417-16[15] 1617-16[15]	7808-16 7608-16	26981-16 26986-16[2]	787-16 1787-16	601-16 648-16	501-16 503-16[2]	N/A	N/A	12200 12140	N/A

Mechanical Flat Tappet Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K12-222-4	SK12-222-4[7]	CL12-222-4[7]	RP1412-16 RPM1301-16	813-16 800-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-223-4	SK12-223-4[7]	CL12-223-4[7]	RP1412-16 RPM1301-16	813-16 800-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-224-4	SK12-224-4[7]	CL12-224-4[7]	RP1412-16 RPM1301-16	813-16 800-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-225-4	SK12-225-4[7]	CL12-225-4[7]	RP1412-16 RPM1301-16	813-16 800-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Mechanical Flat Tappet Camshafts — XTREME ENERGY™

K12-674-4	SK12-674-4[7]	CL12-674-4[7]	RPM1412-16 RPM1301-16	813-16 800-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-675-4	SK12-675-4[7]	CL12-675-4[7]	RPM1412-16 RPM1301-16	813-16 800-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
K12-676-4	SK12-676-4[7]	CL12-676-4[7]	RPM1412-16 RPM1301-16	813-16 800-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-677-4	SK12-677-4[7]	CL12-677-4[7]	RPM1412-16 RPM1301-16	813-16 800-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-678-4	SK12-678-4[7]	CL12-678-4[7]	RPM1412-16 RPM1301-16	813-16 800-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K12-679-5	SK12-679-5[7]	CL12-679-5[7]	RPM1412-16 RPM1301-16	813-16 800-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
11 Lifters only, does not include lifter retainers or guides
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400c.i. C.A.R.B. E.O. #D-279-4
52 Engines with self-aligning rocker arms must use Part #1417-16 or #1617-16

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

XTREME ENERGY™ 4 & 7 SWAP FIRING ORDER — Mechanical Flat Tappet Camshafts (18736542 Firing Order)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Very strong mid-range, torque and throttle response. 2200+stall.	.016	.016	2000 to 6400	12-663-47	XE274S	274	280	236	242	.501	.510	110°
SOLID – Street/Strip, 2800+ stall, likes headers and gears, rough idle. Good for oval track vaccuum rule applications.	.016	.016	2400 to 6800	12-664-47	XE282S	282	290	244	252	.520	.540	110°
SOLID – Pro Street/bracket, needs good intake, headers, gear and 3300+stall.	.016	.016	2800 to 7200	12-665-47	XE290S	290	298	252	260	.540	.558	110°

NOSTALGIA PLUS™ — Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Outstanding power and modern tight lash with the exhaust note of the GM 30-30 cam.	.012	.012	2300 to 6900	12-673-4	N+30-30S	284	291	247	254	.504	.498	112°

FACTORY MUSCLE™ — Mechanical Flat Tappet Camshafts (Today's OEM Versions Of Yesterday's Muscle Car Cams)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Factory I.D. #3849346 for: 302c.i., 1967-69 Z28, factory 290 hp 327c.i., 1964-65, factory 365/275 hp 350c.i., 1970-71 LT1, factory 370 hp	.024	.024	2800 to 6800	12-107-3	346S	346	346	254	254	.485	.485	114°

BLOWER & TURBO — Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Mild bracket and hot street with small blower or 471 blower.	.026	.028	3000 to 6500	12-405-5	290AS-14	290	300	255	265	.540	.563	114°
SOLID – Serious bracket race and very hot street with 471 or larger blower.	.026	.028	3500 to 7000	12-406-5	310BS-14	310	320	270	280	.563	.563	114°

PULLER & MUD RACE — Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Excellent torque and good idle for 327-350. Needs 10:1 compression and low gears.	.026	.028	3000 to 6500	12-609-5	285B-6	285	295	250	260	.532	.555	106°
SOLID – Good for 377-406 engine to run high rpm. Requires upgraded cylinder heads and manifold.	.026	.028	3500 to 7200	12-612-5	300B-6	300	314	265	276	.562	.557	106°

Engine Break-In Lubricants

Utilizing a special blend of extreme pressure additives (including the proper levels of Zinc) not found in conventional engine oils, COMP Cams® Engine Break-In Oil and Additive promote proper break-in and protect against premature camshaft, lifter and valve train failure.





See Page 272

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Mechanical Flat Tappet Camshafts (18736542 Firing Order) XTREME ENERGY™ 4 & 7 SWAP FIRING ORDER

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
813-16 800-16	2100 3100	1601-16[15,52] 1101-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	2100 3100	1601-16[15,52] 1101-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	2100 3100	1601-16[15,52] 1101-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200 12140	4001

Mechanical Flat Tappet Camshafts NOSTALGIA PLUS™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K12-673-4	SK12-673-4[7]	CL12-673-4[7]	RPM1412-16 RPM1301-16	813-16 807-16[2]	2100 3100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Mechanical Flat Tappet Camshafts (Today's OEM Versions Of Yesterday's Muscle Car Cams) FACTORY MUSCLE™

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
813-16 800-16	3100 3100KT[48]	19001-16 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	750-16 795-16	613-16 614-16	501-16 503-16[2]	621-16	N/A	12200 12140	4001

Mechanical Flat Tappet Camshafts BLOWER & TURBO

813-16 800-16	3100 3100KT[48]	1601-16[15,52] 1101-16[15,52]	7372-16 7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15,52] 1101-16[15,52]	7372-16 7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001

Mechanical Flat Tappet Camshafts PULLER & MUD RACE

813-16 800-16	3100 3100KT[48]	19001-16 1601-16[15,52]	7372-16 7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15,52] 1101-16[15,52]	7372-16 7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400c.i. C.A.R.B. E.O. #D-279-4
48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain
52 Engines with self-aligning rocker arms must use Part #1417-16 or #1617-16

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

DRAG RACE — Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Good torque for heavy car, 10:1 compression. 3000+ stall.	.026	.028	3000 to 6000	12-221-5	280B-8	280	285	242	250	.507	.532	108°
SOLID – 350-400, 12:1 compression, 4000+ stall.	.018	.020	3500 to 6500	12-512-5	280TLS-6	280	288	250	259	.530	.550	106°
SOLID – Great torque, 3800+ stall or 4 speed, 10.5:1 compression.	.026	.028	3500 to 6500	12-609-5[94]	285B-6	285	295	250	260	.532	.555	106°
SOLID – 4000+ stall, 10.5:1 compression and up.	.026	.028	4000 to 7000	12-611-5[94]	290B-6	290	304	255	266	.540	.534	106°
SOLID – 350-400, 11:1 compression, 4800+ stall.	.018	.020	4200 to 7200	12-515-5[94]	288TLS-6	288	296	259	266	.550	.570	106°
SOLID – 327-350, 4500+ stall, good power. 11:1 compression.	.026	.028	4200 to 7200	12-612-5[94]	300B-6	300	314	265	276	.562	.557	106°
SOLID – 350-400, 12:1 compression, 4800+ stall.	.018	.020	4500 to 7500	12-517-5[94]	296TLS-6	296	304	266	274	.570	.590	106°
SOLID – 350-400, 11.5:1 minimum compression, ported heads, 5000+ stall.	.026	.028	4700 to 7500	12-518-5	300F-6	300	316	270	278	.580	.577	106°
SOLID – 350-400, 12:1 compression, 5000+ stall.	.018	.020	5000 to 7700	12-519-5	304TLS-6	304	312	274	282	.590	.610	106°
SOLID – 350c.i.. and up, 12:1+ compression, 5000+ stall, light car.	.026	.028	5000 to 7700	12-614-5	310B-4	310	320	275	283	.585	.588	104°

DRAG RACE 4 & 7 SWAP FIRING ORDER — Mechanical Flat Tappet Camshafts (18736542 Firing Order)

SOLID – 4000+ stall, 10.5:1 compression and up.	.026	.028	4000 to 7000	12-686-47	47S 290B-6	290	304	255	266	.540	.534	106°
SOLID – 350-400, 12:1 compression, 4800+ stall.	.018	.020	4500 to 7500	12-687-47	47S 296TLS-6	296	304	266	274	.570	.590	106°

OVAL TRACK — Mechanical Flat Tappet Camshafts

SOLID – Short tracks with 2 BBL carburetor and stock exhaust manifolds for small cubic inch engines.	.020	.022	2500 to 5800	12-607-5	270B-6	270	280	235	242	.495	.507	106°
SOLID – Short tracks w/ small engines in heavy car. Very good torque throughout range.	.020	.022	2800 to 6200	12-608-5	280B-6	280	285	242	250	.507	.532	106°
SOLID – Very versatile cam. Great for 1/4 to 3/8 mile track.	.020	.022	3000 to 6500	12-609-5[94]	285B-6	285	295	250	260	.532	.555	106°
SOLID – For faster 1/4 to 3/8 mile track, strong torque and quick response.	.020	.022	3500 to 6800	12-610-5[94]	290B-4	290	304	255	266	.540	.534	104°
SOLID – Best for 1/4 to 3/8 track with fast corners. More top end than Part #12-610-5.	.020	.022	3700 to 7000	12-611-5[94]	290B-6	290	304	255	266	.540	.534	106°
SOLID – Best for slick 3/8 to 1/2 mile track with sustained high rpm.	.020	.022	4000 to 7100	12-645-5	295B-6	295	295	260	260	.555	.555	106°
SOLID – Good for 1/2 to 5/8 mile track with light car, large engine.	.020	.022	4300 to 7300	12-612-5[94]	300B-6	300	314	265	276	.562	.557	106°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Mechanical Flat Tappet Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
813-16 800-16	3100 3100KT[48]	19001-16 1601-16[15]	7972-16	987-16[2] 978-16[2]	740-16 1730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001

Mechanical Flat Tappet Camshafts (18736542 Firing Order) — DRAG RACE 4 & 7 SWAP FIRING ORDER

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001

Mechanical Flat Tappet Camshafts — OVAL TRACK

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	987-16[2] 978-16[2]	740-16 1730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	987-16[2] 978-16[2]	740-16 1730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads

15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400c.i. C.A.R.B. E.O. #D-279-4

48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain

94 Change last digit of part number to -20 for nitrided version of cam

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

TIGHT LASH Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Good short track camshaft for smaller engines, 327-350, with restrictions. 1/4 to 3/8 track with tight corners.	.018	.020	2500 to 6000	12-501-5	272TL-6	272	276	242	246	.510	.520	106°
SOLID – Use with 305-350 on 1/4 to 3/8 high banked track in heavy car with limited intake and carburetor.	.018	.020	2700 to 6200	12-511-5	272TLS-6	272	280	242	250	.510	.530	106°
SOLID – Good in 327-350 on short track with 2 BBL carburetor and cast intake.	.018	.020	2800 to 6300	12-500-5	276TL-6	276	280	246	250	.520	.530	106°
SOLID – Best on 3/8 to short 1/2 mile with high corner speeds. 350-377 engine with open rules. Good torque.	.018	.020	3000 to 6500	12-502-5	280TL-6	280	284	250	254	.530	.540	106°
SOLID – Good for 350-400 on big 3/8 to 1/2 mile tracks with high sustained rpm. Best with big carb. and good intake.	.018	.020	3000 to 6700	12-512-5	280TLS-6	280	288	250	259	.530	.550	106°
SOLID – Good baseline cam for Late Model Stock. Short 1/4-3/8 mile asphalt track. Best with 358, limited intake and carb.	.018	.020	3000 to 7000	12-504-5	284TL-6	284	284	254	254	.540	.540	106°
SOLID – Great in Late Model Stock on 3/8 to 1/2 mile asphalt track. Best in 358 with limited intake and carburetor.	.018	.020	3200 to 7000	12-505-5	284BTL-6	284	288	254	259	.540	.550	106°
SOLID – Good for 350-377 on 3/8-1/2 mile tracks with fast corners. Best with open rules.	.018	.020	3400 to 7000	12-506-5[94]	288BTL-6	288	292	259	262	.550	.560	106°
SOLID – Best on big 3/8-1/2 mile tracks with high rpm. Great with open rules and large c.i. engines.	.018	.020	3500 to 7200	12-515-5[94]	288TLS-6	288	296	259	266	.550	.570	106°
SOLID – For big tracks with unrestricted 377-410 engines. Best with good heads and intake.	.018	.020	3500 to 7500	12-517-5[94]	296TLS-6	296	304	266	274	.570	.590	106°
SOLID – Use in unrestricted 400-410 engines with good heads and intake on big tracks.	.018	.020	3600 to 7600	12-519-5	304TLS-6	304	312	274	282	.590	.610	106°

MAX AREA Mechanical Flat Tappet Camshafts

SOLID – 327-350, iron intake and heads. Works good with 1.7+ rockers, 1/4-3/8 mile dirt. Also good for .500" lift rule w/1.5 rockers.	.020	.022	2800 to 6000	12-620-5	263MAS-6	263	267	236	240	.497	.500	106°
SOLID – Good for Late Model Stock, 1.7 -1.8 rockers, 3/8-1/2 mile dirt or asphalt.	.020	.022	3000 to 6500	12-622-5	267MAS-6	267	275	240	248	.500	.510	106°
SOLID – Great in Late Model Stock with high rocker ratios, 1/2+ mile dirt or asphalt.	.020	.022	3200 to 6800	12-624-5	271MAS-6	271	279	244	252	.510	.510	106°
SOLID – Designed for larger tracks with fast corners, needs better intake, heads, headers and carburetor.	.020	.022	3500 to 7000	12-626-5[94]	275MAS-6	275	283	248	256	.510	.510	106°
SOLID – 377-410 for larger tracks, likes 1.65-1.7 rockers, needs better intake, heads, headers and carburetor.	.020	.022	3500 to 7000	12-628-5[94]	279MAS-6	279	287	252	260	.510	.510	106°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Mechanical Flat Tappet Camshafts — TIGHT LASH

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 1730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 1730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 1730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001

Mechanical Flat Tappet Camshafts — MAX AREA

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 1730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 1730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads

15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400c.i. C.A.R.B. E.O. #D-279-4

48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain

94 Change last digit of part number to -20 for nitrided version of cam

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

OVAL TRACK Mechanical Flat Tappet Camshafts - Xtreme Oval Solids use COMP's new XTQ intake profiles with the XTX exhaust profiles for more area under the curve than most good .875" lifter designs, while still allowing standard .842" lifters.

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – 1/4-3/8 tight track. 327-358c.i., 9:1 compression. 2 BBL with iron intake and exhaust.	.016	.018	2200 to 6000	12-646-5	266XOS	266	276	236	242	.501	.510	108°
SOLID – 1/4-3/8 tight. 327-358c.i., 9:1 compression. 2 BBL with stock intake and headers.	.016	.018	2500 to 6200	12-647-5	266XOS	266	272	236	238	.501	.501	108°
SOLID – 1/4-3/8 fast track. 327-358c.i. 9:1 compression. 2 BBL with iron intake and exhaust.	.016	.018	2700 to 6200	12-648-5	270XOS	270	280	240	246	.510	.519	108°
SOLID – 1/4-3/8 fast. 327-358c.i., 9:1 compression. 2 BBL with stock intake and headers.	.016	.018	2700 to 6400	12-649-5	270XOS	270	276	240	242	.510	.510	108°
SOLID – 1/4-3/8 tight track. 327-358c.i., 9:1 compression. 2 BBL, good intake and exhaust.	.016	.018	2900 to 6400	12-650-5	274XOS	274	280	244	246	.519	.519	108°
SOLID – 1/4-3/8 fast track. 327-358c.i., 9:1 compression. 2 BBL with good intake and exhaust.	.016	.018	2800 to 6600	12-651-5[94]	278XOS	278	284	248	250	.531	.525	108°
SOLID – 1/4-3/8 tight. 327-358c.i., 11:1+ compression. 2 BBL with good intake and exhaust.	.016	.018	3000 to 6800	12-652-5[94]	278XOS	278	284	248	250	.531	.525	106°
SOLID – 1/4-3/8 fast. 327-358c.i. 11:1+ compression. 2 BBL with good intake and exhaust.	.016	.018	3200 to 7000	12-653-5[94]	282XOS	282	288	252	254	.540	.531	106°
SOLID – 1/4-3/8 tight. 327-358c.i. 12:1+ compression. 4 BBL with good intake and exhaust.	.016	.018	3000 to 6700	12-656-5[94]	282XOS	282	292	252	258	.540	.537	106°
SOLID – 1/4-3/8 fast. 327-358c.i. 12:1+ compression. 4 BBL with good intake and exhaust.	.016	.018	3200 to 6900	12-657-5[94]	286XOS	286	296	256	262	.549	.543	106°
SOLID – Late Model Stock. 1/4-3/8 track. 358 with limited intake and carb.	.016	.018	3200 to 7200	12-654-5[94]	286XOS	286	292	256	258	.549	.537	108°
SOLID – Late Model Stock. 3/8-1/2 track. 358 with limited intake and carb.	.016	.018	3400 to 7400	12-655-5	290XOS	290	296	256	262	.558	.543	108°
SOLID – 3/8-1/2 tight. 360+c.i. 12:1+ compression. 4 BBL with good intake and exhaust.	.016	.018	3400 to 7200	12-658-5[94]	290XOS	290	300	260	266	.558	.549	106°
SOLID – 3/8-1/2 fast. 360+c.i. 12:1+ compression. 4 BBL with good intake and exhaust.	.016	.018	3500 to 7400	12-659-5	294XOS	294	304	264	270	.567	.555	106°

TIP

Check out all of the COMP Cams® apparel on page 401-403 of this Master Catalog.



Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Mechanical Flat Tappet Camshafts - Xtreme Oval Solids use COMP's new XTQ intake profiles with the XTX exhaust profiles for more area under the curve than most good .875" lifter designs, while still allowing standard .842" lifters. **OVAL TRACK**

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 26094-16[2]	740-16 732/721[3]	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 26094-16[2]	740-16 732/721[3]	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 26094-16[2]	740-16 732/721[3]	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 26094-16[2]	740-16 732/721[3]	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 26094-16[2]	740-16 732/721[3]	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 26094-16[2]	740-16 732/721[3]	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 26094-16[2]	740-16 732/721[3]	611-16	503-16[2]	621-16	N/A	12200 12140	4001

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
3 Standard weight and lightweight retainers
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400c.i. C.A.R.B. E.O. #D-279-4
48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain
94 Change last digit of part number to -20 for nitrided version of cam

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

OVAL TRACK 4 & 7 SWAP FIRING ORDER — Mechanical Flat Tappet Camshafts (18736542 Firing Order)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – 1/4-3/8 tight. 327-358c.i. 11:1+ compression. 2 BBL with good intake and exhaust.	.016	.018	3000 to 6800	12-688-47[94]	47S 278XOS	278	284	248	250	.531	.525	106°
SOLID – 1/4-3/8 tight. 327-358c.i. 12:1+ compression. 4 BBL with good intake and exhaust.	.016	.018	3000 to 6700	12-689-47	47S 282XOS	282	292	252	258	.540	.537	106°
SOLID – 3/8-1/2 tight. 360+c.i. 12:1+ compression. 4 BBL with good intake and exhaust.	.016	.018	3400 to 7200	12-690-47[94]	47S 290XOS	290	300	260	266	.558	.549	106°

New

OPEN WHEEL MODIFIED TRACTION CONTROL HIGH ROCKER RATIO — Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.8/1.7 ROCKER IN.	VALVE LIFT W/ 1.8/1.7 ROCKER EX.	LOBE SEP. ANGLE
SOLID – 1/3-1/2 tracks w/ tight corners or heavy surface. 327-358c.i., 11:1 compression, 2/4 BBL gas or alcohol.	.016	.018	3000 to 7000	12-524-5	281JFA	281	285	252	256	.596	.563	107°
SOLID – 3/8-5/8 tracks w/ wide corners or slick surface. 355+c.i., 12:1 compression, 4 BBL gas or alcohol with good intake and heads.	.016	.018	3200 to 7200	12-525-5	285JFA	285	289	256	260	.596	.565	107°

New

OPEN WHEEL MODIFIED TRACTION CONTROL STD. ROCKER RATIO — Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.8/1.7 ROCKER IN.	VALVE LIFT W/ 1.8/1.7 ROCKER EX.	LOBE SEP. ANGLE
SOLID – 1/3-1/2 tracks w/ tight corners or heavy surface. 327-358c.i., 11:1 compression, 2/4 BBL gas or alcohol.	.016	.018	3100 to 7100	12-526-5[94]	280MHQ	280	289	254	260	.590	.597	107°
SOLID – 3/8-5/8 tracks w/ wide corners or slick surface. 355+c.i., 12:1 compression, 4 BBL gas or alcohol with good intake and heads.	.016	.018	3300 to 7300	12-527-5[94]	284MHQ	284	293	258	264	.597	.606	107°

Ultra Pro Magnum™ Rockers

Ultra Pro Magnum™ Rocker arms set a new standard in stud mount rocker performance. They feature a web-like, arched design to increase strength and rigidity, as well as reduce the moment of inertia and optimize the dynamic balance.

- Investment cast 8650 chromemoly steel body
- Increased spring and retainer clearance for use of larger springs, retainers and locks without fitment issues
- Unique black oxide exterior finish prevents corrosion

Rebuildable design and lifetime guarantee on the rocker body!



See Page 315

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Mechanical Flat Tappet Camshafts (18736542 Firing Order) — OVAL TRACK 4 & 7 SWAP FIRING ORDER

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 978-16	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 978-16	740-16 730-16	611-16	503-16[2]	621-16	N/A	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 26094-16[2]	740-16 732/721[3]	611-16	503-16[2]	621-16	N/A	12200 12140	4001

Mechanical Flat Tappet Camshafts — OPEN WHEEL MODIFIED TRACTION CONTROL HIGH ROCKER RATIO

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	TITANIUM RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
800-16	3100KT[48] 7100	1118-8[59] 1117-8[59]	7913-16	26094-16[2] 26075-16[2]	732-16 738-16	611-16 614-16	503-16[2]	621-16	N/A	12200 12140	4004
800-16	3100KT[48] 7100	1118-8[59] 1117-8[59]	7913-16	26094-16[2] 26075-16[2]	732-16 738-16	611-16 614-16	503-16[2]	621-16	N/A	12200 12140	4004

Mechanical Flat Tappet Camshafts — OPEN WHEEL MODIFIED TRACTION CONTROL STD. ROCKER RATIO

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	TITANIUM RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
800-16	3100KT[48] 7100	1605-16[59] 1105-16[59]	7913-16	26094-16[2] 26075-16[2]	732-16 738-16	611-16	503-16[2]	621-16	N/A	12200 12140	4004
800-16	3100KT[48] 7100	1605-16[59] 1105-16[59]	7913-16	26094-16[2] 26075-16[2]	732-16 738-16	611-16	503-16[2]	621-16	N/A	12200 12140	4004

Elite Race™ Lifters

- SAE 8620 stainless steel, CNC-machined, REM-finished body
- Tool Steel, dual-pinned axles
- Pressure-fed oiling
- Captured link bars



See Page 287

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
3 Standard weight and lightweight retainers
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400c.i. C.A.R.B. E.O. #D-279-4
48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain
59 Requires 7/16" rocker arm studs
94 Change last digit of part number to -20 for nitrided version of cam

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

LAUNCHER SERIES — Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – .283" lobe lift – Good for short track restricted with .425" or .450" lift rule.	.014	.014	3000 to 6600	12-680-5	LA2695	269	273	242	246	.425	.425	107°
SOLID – .283" lobe lift – Good for higher rpm tracks restricted with .425" or .450" lift rule.	.014	.014	3200 to 6800	12-681-5	LA2735	273	277	246	250	.425	.425	107°
SOLID – .312" lobe lift – Good for short track restricted with .480" or .500" lift rule.	.014	.014	3000 to 6600	12-682-5	LB2705	270	274	244	248	.468	.468	107°
SOLID – .312" lobe lift – Good for higher rpm tracks restricted with .480" or .500" lift rule.	.014	.014	3200 to 6800	12-683-5	LB2745	274	278	248	252	.468	.468	107°
SOLID – .322" lobe lift – Good for short track restricted with stock rocker and .480" or .500" lift rule.	.014	.014	2800 to 6400	12-684-5	LC2705	270	274	244	248	.483	.483	107°
SOLID – .322" lobe lift – Good for longer tracks, restricted carb. With stock rocker and .480" or .500" lift rule.	.014	.014	3000 to 6600	12-685-5	LC2745	274	278	248	252	.483	.483	107°

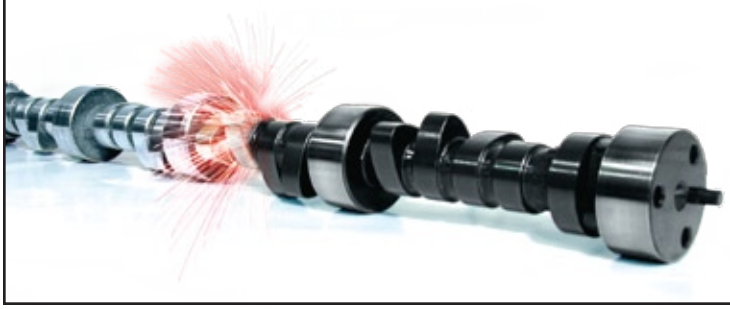
LOW LIFT OVAL TRACK — Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – .470" lift rule. Rough idle. Low vacuum.	.018	.018	2500 to 6000	12-523-5	270S-6	270	282	242	250	.473	.473	106°

MAGNUM — Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Most versatile, good vacuum, excellent throttle response, noticeable idle, works well with stock manifolds and 2000+ stall.	.020	.020	2000 to 6000	12-700-8[10]	268AR	268	268	224	224	.525	.525	110°
MECHANICAL ROLLER – Street/strip performance. Choppy idle, use 2500+ stall and headers. 9.5:1 compression.	.020	.020	2500 to 6500	12-702-8[10]	280AR	280	280	236	236	.550	.550	110°
MECHANICAL ROLLER – Excellent choice for maximum street effort, racy idle, 3500+ stall with low gears, 10:1 compression and headers.	.020	.020	3000 to 7000	12-705-8[10]	300AR	300	300	255	255	.575	.575	110°

Pro Plasma™ Nitriding



Now available for any COMP Cams® flat tappet cam, Pro Plasma™ Nitriding is a patented process that infuses nitrogen into steel to deliver unmatched wear resistance. COMP offers some popular part numbered applications already nitrided – see pages 254-261 of this Master Catalog for a listing. If your application isn't listed, COMP Cams® can nitride any flat tappet cam that we offer. Contact us at 1-800-999-0853.

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Mechanical Flat Tappet Camshafts — LAUNCHER SERIES

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
813-16 800-16	3100 3100KT[48]	1604-16[59] 1104-16[59]	7913-16	941-16 26918-16	750-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200 12140	4004[59]
813-16 800-16	3100 3100KT[48]	1604-16[59] 1104-16[59]	7913-16	941-16 26918-16	750-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200 12140	4004[59]
813-16 800-16	3100 3100KT[48]	1604-16[59] 1104-16[59]	7913-16	941-16 26918-16	750-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200 12140	4004[59]
813-16 800-16	3100 3100KT[48]	1604-16[59] 1104-16[59]	7913-16	941-16 26918-16	750-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200 12140	4004[59]
813-16 800-16	3100 3100KT[48]	1604-16[59] 1104-16[59]	7913-16	941-16 26918-16	750-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200 12140	4004[59]
813-16 800-16	3100 3100KT[48]	1604-16[59] 1104-16[59]	7913-16	941-16 26918-16	750-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	12200 12140	4004[59]

Mechanical Flat Tappet Camshafts — LOW LIFT OVAL TRACK

813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	983-16 26981-16	751-16 795-16	611-16 614-16	501-16 503-16[2]	621-16	N/A	12200 12140	4001

Mechanical Roller Camshafts — MAGNUM

K-KIT	CL-KIT	RP-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RET.	VALVE LOCKS	VALVE SEALS
K12-700-8	CL12-700-8[7,10]	RPM1301-16 RPM1101-16	818-16[6] 98818-16[6]	12200 12140	2100 7100	1601-16[15] 1101-16[15]	7372-16 7972-16	977-16[2] 26055-16[2]	740-16 785-16	611-16 614-16	503-16[2]
K12-702-8	CL12-702-8[7,10]	RPM1301-16 RPM1101-16	818-16[6] 98818-16[6]	12200 12140	2100 7100	1601-16[15] 1101-16[15]	7372-16 7972-16	977-16[2] 26055-16[2]	740-16 785-16	611-16 614-16	503-16[2]
K12-705-8	CL12-705-8[7,10]	RPM1301-16 RPM1101-16	818-16[6] 98818-16[6]	12200 12140	2100 7100	1601-16[15] 1101-16[15]	7372-16 7972-16	977-16[2] 26055-16[2]	740-16 785-16	611-16 614-16	503-16[2]

TRANS HELP™
888.776.9824

RACING HEADHELP™
877.776.4323

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
6 Offset lifters available
7 Stock springs cannot be used
10 Requires thrust button & wear plate
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400c.i. C.A.R.B. E.O. #D-279-4
48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain
59 Requires 7/16" rocker arm studs

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

XTREME ENERGY™ Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Good for weekend cruiser with 9:1+ compression, 2000+ stall and lower gears. Noticeable idle.	.016	.018	2000 to 6000	12-769-8[10]	XR268R	268	274	230	236	.552	.564	110°
MECHANICAL ROLLER – Great for power touring. Needs 2500+ stall, easy on parts. Rough idle.	.016	.018	2200 to 6200	12-770-8[10]	XR274R	274	280	236	242	.564	.570	110°
MECHANICAL ROLLER – Best in street machines with 2800+ stall, 10:1+ compression with 3.73-3.90 rear gears.	.016	.018	2500 to 6500	12-771-8[10]	XR280R	280	286	242	248	.570	.576	110°
MECHANICAL ROLLER – Good in weekend warrior with 3000+ stall. Needs good intake and exhaust with low gears.	.016	.018	3000 to 7000	12-772-8[10]	XR286R	286	292	248	254	.576	.582	110°
MECHANICAL ROLLER – Best for Pro Street. Needs good intake and exhaust, 11:1+ compression and 3500 stall.	.016	.018	3200 to 7200	12-773-8[10]	XR292R	292	297	254	260	.582	.588	110°

BLOWER Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Good for serious street/strip applcations with 671 blower.	.020	.020	3000 to 6500	12-704-8[10]	300BR-14	300	308	255	262	.575	.575	114°

PULLER & MUD RACE Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Good for 350-370 engine when maximum torque is needed. 10:1+ compression.	.026	.028	3500 to 6900	12-900-9[14]	288AR-6	288	296	252	258	.630	.630	106°
MECHANICAL ROLLER – Good for 377-406 engine with carburetor or injectors. 11:1 compression.	.026	.028	4500 to 7200	12-903-9[14]	300AR-6	300	304	264	266	.630	.630	106°

DRAG RACE Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Great torque, 10:1+ compression, 3500+ stall. Good for 350-370c.i.	.026	.028	3200 to 6200	12-900-9[14]	288AR-6	288	296	252	258	.630	.630	106°
MECHANICAL ROLLER – 4500+ stall, 11:1 compression, lower gears needed.	.026	.028	4200 to 7200	12-908-9[14]	300BR-6	300	308	264	270	.630	.630	106°
MECHANICAL ROLLER – Super Stock 350 auto w/ 1.8 and 1.6.	.026	.028	5500 to 8000	12-813-9[14]	306LHR-7	306	312	274	284	.748	.704	107°
MECHANICAL ROLLER – Bracket with good heads and small Comp Eliminator, 1.6 and 1.6.	.026	.028	4500 to 8500	12-817-9[14]	307RXD-12	307	320	274	282	.739	.739	112°
MECHANICAL ROLLER – 350 with good heads, 5000+ stall.	.016	.018	4500 to 7800	12-865-9[14]	307-R6	307	317	278	284	.684	.660	106°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Mechanical Roller Camshafts — XTREME ENERGY™

K-KIT	CL-KIT	RP-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RET.	VALVE LOCKS	VALVE SEALS
K12-769-8	CL12-769-8[7,10]	RPM1301-16 RPM1101-16	818-16[6] 98818-16[6]	12200 12140	2100 7100	1601-16[15] 1101-16[15]	7372-16 7972-16	977-16[2] 26055-16[2]	740-16 785-16	611-16 614-16	503-16[2]
K12-770-8	CL12-770-8[7,10]	RPM1301-16 RPM1101-16	818-16[6] 98818-16[6]	12200 12140	2100 7100	1601-16[15] 1101-16[15]	7372-16 7972-16	977-16[2] 26055-16[2]	740-16 785-16	611-16 614-16	503-16[2]
K12-771-8	CL12-771-8[7,10]	RPM1301-16 RPM1101-16	818-16[6] 98818-16[6]	12200 12140	2100 7100	1601-16[15] 1101-16[15]	7372-16 7972-16	977-16[2] 26055-16[2]	740-16 785-16	611-16 614-16	503-16[2]
K12-772-8	CL12-772-8[7,10]	RPM1301-16 RPM1101-16	818-16[6] 98818-16[6]	12200 12140	2100 7100	1601-16[15] 1101-16[15]	7372-16 7972-16	977-16[2] 26055-16[2]	740-16 785-16	611-16 614-16	503-16[2]
K12-773-8	CL12-773-8[7,10]	RPM1301-16 RPM1101-16	818-16[6] 98818-16[6]	12200 12140	2100 7100	1601-16[15] 1101-16[15]	7372-16 7972-16	977-16[2] 26055-16[2]	740-16 785-16	611-16 614-16	503-16[2]

Mechanical Roller Camshafts — BLOWER

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
818-16[6] 98818-16[6]	3100KT[48] 6500	1601-16[15] 1101-16[15]	7372-16 7972-16	977-16[2] 26055-16[2]	740-16 785-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4001

Mechanical Roller Camshafts — PULLER & MUD RACE

818-16[6] 98818-16[6]	3100KT[48] 6500	1601-16[15] 1101-16[15]	7372-16 7972-16	977-16[2] 26055-16[2]	740-16 785-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
818-16[6] 98818-16[6]	3100KT[48] 6500	1601-16[15] 1101-16[15]	7972-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004 4009

Mechanical Roller Camshafts — DRAG RACE

818-16[6] 98818-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16	954-16[2] 944-16[2]	732-16 731-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
818-16[6] 98818-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16	954-16[2] 944-16[2]	732-16 731-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 6500	1118-8[59] 1105-8[59]	7913-16	947-16[2] 26082-16[2]	735-16 722-16	611-16 614-16	506-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 6500	1605-16[59] 1105-16[59]	7913-16	947-16[2] 26082-16[2]	735-16 722-16	611-16 614-16	506-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16	944-16[2] 26115-16[2]	731-16 732-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
6 Offset lifters available
7 Stock springs cannot be used
10 Requires thrust button & wear plate
14 Requires upgraded gear, thrust button & wear plate
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400c.i. C.A.R.B. E.O. #D-279-4
48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain
59 Requires 7/16" rocker arm studs

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

DRAG RACE — Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Latest design for 350 with race heads, 5500+ stall, 1.8 + 1.7 rockers.	.016	.018	5000 to 8000	12-866-9[14]	305HXLR-6	305	313	276	284	.819	.660	106°
MECHANICAL ROLLER – Comp Eliminator or Fast Bracket with 1.8 and 1.7.	.026	.028	4800 to 8500	12-818-9[14]	310RXD-14	310	334	277	296	.846	.800	114°
MECHANICAL ROLLER – 5000+ stall, 11:1+ compression.	.026	.028	4500 to 7500	12-906-9[14]	312AR-7	312	322	276	284	.630	.630	107°
MECHANICAL ROLLER – 350-400, 5000+ stall, 11.5:1+ compression, ported heads .	.026	.028	4500 to 7500	12-801-9[14]	313R-6	313	322	276	284	.660	.630	106°
MECHANICAL ROLLER – Small cubic inch, high rpm with 1.7 and 1.6	.024	.026	6000 to 10000	12-814-9[14]	314CER-14	314	335	278	294	.824	.739	114°
MECHANICAL ROLLER – Large Comp Eliminator or Fast Bracket w/ 1.8 and 1.7.	.026	.028	5000 to 9000	12-819-9[14]	314RXD-14	314	334	281	296	.873	.800	114°
MECHANICAL ROLLER – 355 and up, 4 speed, light car.	.026	.028	5200 to 7800	12-907-9[14]	316AR-8	316	326	280	288	.630	.630	108°
MECHANICAL ROLLER – 355c.i. and up, ported head, 5500+ stall, in light car.	.026	.028	5500 to 7800	12-726-9[14]	317DR-6	317	330	280	292	.660	.630	106°
MECHANICAL ROLLER – Medium cubic inch, Comp Eliminator w/ 1.8 and 1.7.	.024	.026	6000 to 10000	12-815-9[14]	318CER-14	318	339	282	298	.873	.785	114°
MECHANICAL ROLLER – Large cubic inch, Quick 16 or Fast Bracket with 1.8 and 1.7.	.026	.028	5200 to 9200	12-820-9[14]	318RXD-14	318	338	285	300	.873	.800	114°

DRAG RACE — Mechanical Roller Camshafts (.900" Base Circle)

MECHANICAL ROLLER – 400c.i. and up, good heads, high compression, .900" base circle.	.024	.026	5000 to 7500	12-970-9[14]	312R-8	312	325	279	286	.679	.645	108°
MECHANICAL ROLLER – 355c.i. and up, ported head, 5500+ stall in light car, .900" base circle.	.026	.028	5500 to 7800	12-727-9[14]	317ER-6	317	330	280	292	.660	.630	106°

DRAG RACE 4 & 7 SWAP FIRING ORDER — Mechanical Roller Camshafts (18736542 Firing Order)

MECHANICAL ROLLER – Great torque 10:1+ compression, 4000+ stall.	.020	.022	4000 to 7000	12-823-14[14]	47S 288R-6	288	296	252	258	.630	.630	106°
MECHANICAL ROLLER – 4500+ stall, 11:1+ compression and good heads.	.024	.026	4200 to 7200	12-822-14[14]	47S 300R-6	300	308	264	270	.630	.630	106°
MECHANICAL ROLLER – 5000+ stall, 11:1+ compression, good mid and top end.	.020	.022	4500 to 7500	12-824-14[14]	47S 312R-7	312	322	276	284	.630	.630	107°

DRAG RACE 4 & 7 SWAP FIRING ORDER — Mechanical Roller Camshafts (.900" Base Circle, 18736542 Firing Order)

MECHANICAL ROLLER – 400c.i.+ engines good heads, high compression, .900" base circle.	.024	.026	5000 to 7500	12-821-14[14]	47S 312R-8	312	325	279	286	.679	.645	108°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Mechanical Roller Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
98818-16[6]	3100KT[48] 6500	1118-8[59] 1117-8[59]	7913-16	26082-16[2] 26028-16[2]	735-16 722-16	611-16 614-16	506-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 6500	1118-8[59] 1117-8[59]	7913-16	26082-16[2] 26028-16[2]	735-16 722-16	611-16 614-16	506-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
818-16[6] 98818-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16	954-16[2] 944-16[2]	732-16 731-16	611-16 614-16	506-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16	954-16[2] 944-16[2]	732-16 731-16	611-16 614-16	506-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 6500	1117-8[59] 1105-8[59]	7913-16	26082-16[2] 26028-16[2]	735-16 722-16	611-16 614-16	506-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 6500	1118-8[59] 1117-8[59]	7913-16	26082-16[2] 26028-16[2]	735-16 722-16	611-16 614-16	506-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
818-16[6] 98818-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16	944-16[2] 26115-16[2]	731-16 732-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16	944-16[2] 26115-16[2]	731-16 732-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 6500	1118-8[59] 1117-8[59]	7913-16	26082-16[2] 26028-16[2]	735-16 722-16	611-16 614-16	506-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 6500	1118-8[59] 1117-8[59]	7913-16	26082-16[2] 26028-16[2]	735-16 722-16	611-16 614-16	506-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]

Mechanical Roller Camshafts (.900” Base Circle) — DRAG RACE

891-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16	944-16[2] 26115-16[2]	732-16 721-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
891-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16	944-16[2] 26115-16[2]	732-16 721-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]

Mechanical Roller Camshafts (18736542 Firing Order) — DRAG RACE 4 & 7 SWAP FIRING ORDER

818-16[6] 98818-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16	954-16[2] 944-16[2]	732-16 731-16	611-16 614-16	506-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
818-16[6] 98818-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16	954-16[2] 944-16[2]	732-16 731-16	611-16 614-16	506-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
818-16[6] 98818-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16	954-16[2] 944-16[2]	732-16 731-16	611-16 614-16	506-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]

Mechanical Roller Camshafts (.900" Base Circle, 18736542 Firing Order) — DRAG RACE 4 & 7 SWAP FIRING ORDER

891-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16	944-16[2] 26115-16[2]	732-16 721-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
6 Offset lifters available
14 Requires upgraded gear, thrust button & wear plate
48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain
59 Requires 7/16" rocker arm studs

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

OVAL TRACK — Mechanical Roller Camshafts (Standard Base Circle)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Best for heavy cars and small engines on short tracks.	.020	.022	3200 to 6200	12-900-9[14]	288AR-6	288	296	252	258	.630	.630	106°
MECHANICAL ROLLER – Good for 1/4 to 3/8 mile tacky tracks with tight corners.	.020	.022	3500 to 6500	12-901-9[14]	292AR-6	292	296	256	258	.630	.630	106°
MECHANICAL ROLLER – Good torque and throttle response w/ 355 engine on short track.	.020	.022	3600 to 6600	12-902-9[14]	296AR-6	296	300	260	262	.630	.630	106°
MECHANICAL ROLLER – 355 in Late Model with good heads and intake on 1/4 to 3/8 mile tracks.	.020	.022	3000 to 7000	12-940-9[14]	290AR-6	290	300	260	264	.645	.630	106°
MECHANICAL ROLLER – More aggressive intake lobe, more torque. Good for sprint car.	.020	.022	3800 to 7000	12-910-9[14]	288BR-6	288	300	260	264	.660	.630	106°
MECHANICAL ROLLER – Good Late Model cam w/ 388-406 on short track.	.020	.022	4200 to 7000	12-909-9[14]	296BR-4	296	304	260	266	.630	.630	104°
MECHANICAL ROLLER – Good cam for sprint car on longer tracks.	.020	.022	4000 to 7000	12-911-9[14]	288CR-6	288	304	260	268	.660	.630	106°
MECHANICAL ROLLER – Best cam for Late Model with 406+ engine.	.020	.022	4200 to 7200	12-903-9[14]	300AR-6	300	304	264	266	.630	.630	106°
MECHANICAL ROLLER – High torque cam for use with 1.6 or 1.65 intake rocker.	.020	.022	4200 to 7000	12-835-9[14]	296CR-6	296	304	264	268	.609	.630	106°
MECHANICAL ROLLER – 355c.i. Late Model with good cylinder heads on longer tracks.	.020	.022	3500 to 7500	12-945-9[14]	294AR-6	294	304	264	268	.645	.630	106°
MECHANICAL ROLLER – Best torque in 406+c.i. Late Model or 355c.i., 9:1 compression.	.020	.022	4500 to 7500	12-912-9[14]	292BR-6	292	304	264	268	.660	.630	106°
MECHANICAL ROLLER – Good Late Model with large engine and slick track.	.020	.022	4500 to 7500	12-830-9[14]	292CR-6	292	308	264	272	.660	.630	106°
MECHANICAL ROLLER – 400-410c.i. Late Model on 3/8 to 5/8 mile tracks.	.020	.022	3500 to 7500	12-950-9[14]	296DR-6	296	308	266	272	.645	.630	106°
MECHANICAL ROLLER – Good for 311-355c.i. with open carb. Good on road course.	.020	.022	5000 to 8200	12-905-9[14]	308AR-7	308	312	272	274	.630	.630	107°
MECHANICAL ROLLER – Excellent for 12:1 compression, 358 with open carb. Sustained high rpm on long track.	.020	.022	6200 to 8500	12-906-9[14]	312AR-7	312	322	276	284	.630	.630	107°

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See Page 397-399

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Mechanical Roller Camshafts (Standard Base Circle) OVAL TRACK

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	TITANIUM RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
818-16[6] 98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
818-16[6] 98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
818-16[6] 98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
818-16[6] 98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
818-16[6] 98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
6 Offset lifters available
14 Requires upgraded gear, thrust button & wear plate
48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain
59 Requires 7/16" rocker arm studs

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

OVAL TRACK

Mechanical Roller Camshafts - Xtreme TK Rollers give more area under the curve and shorter seat timing than any other series. Great for Hi-Torque or restricted applications.

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – 1/4-3/8. 331-355c.i. limited Late Model, restricted with 2 BBL carb.	.016	.016	2800 to 7000	12-854-9[14]	279TKR-6	279	283	251	255	.645	.645	106°
MECHANICAL ROLLER – 1/4-3/8. 331-355c.i. limited Late Model, 2 BBL and 390 4 BBL carbs.	.016	.016	3000 to 7200	12-855-9[14]	281TKR-6	281	285	253	257	.645	.645	106°
MECHANICAL ROLLER – 355-377c.i. Sportsman, Late Model. Great torque with gear rule.	.016	.020	3200 to 7400	12-856-9[14]	281TKBR-6	281	295	253	262	.645	.630	106°
MECHANICAL ROLLER – 1/4-1/2 mile tacky. 355-377c.i. Late Model with 4 BBL, big heads.	.016	.016	3500 to 7500	12-857-9[14]	283TKR-6	283	287	255	259	.645	.645	106°
MECHANICAL ROLLER – 3/8-1/2 mile tacky. 355-406 Late Model 4 BBL. Good top end.	.016	.020	3500 to 7500	12-858-9[14]	283TKBR-6	283	296	255	264	.645	.630	106°
MECHANICAL ROLLER – 3/8-5/8 mile dry slick. 355-406c.i. Late Model. Great small cubic inch IMCA.	.016	.020	3500 to 7600	12-859-9[14]	285TKR-6	285	298	257	266	.645	.637	106°
MECHANICAL ROLLER – 377-406c.i. Late Model w/ good heads, carb, intake and 1.6:1 rocker ratio.	.016	.020	3500 to 7800	12-860-9[14]	287TKR-6	287	296	259	264	.645	.630	106°

New

OPEN WHEEL MODIFIED TRACTION CONTROL

Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – 1/3-1/2 tracks w/ tight corners or heavy surface. 327-358c.i., 11:1 compression, 2/4 BBL gas or alcohol. Designed for flat tappet-appearing Beehive™ Valve Springs.	.016	.018	3200 to 7500	12-780-9[14]	287CRL	287	291	256	260	.589	.589	107°
MECHANICAL ROLLER – 3/8-5/8 tracks w/ wide corners or slick surface. 355+c.i., 12:1 compression, 4 BBL gas or alcohol with good intake and heads. Designed for flat tappet-appearing Beehive™ Valve Springs.	.016	.018	3400 to 7700	12-781-9[14]	291CRL	291	295	260	264	.589	.589	107°

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CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Mechanical Roller Camshafts - Xtreme TK Rollers give more area under the curve and shorter seat timing than any other series. Great for Hi-Torque or restricted applications. **OVAL TRACK**

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	TITANIUM RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]

Mechanical Roller Camshafts **OPEN WHEEL MODIFIED TRACTION CONTROL**

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	TITANIUM RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
98818-16[6]	3100KT[48] 7100	1605-16[59] 1105-16[59]	7913-16	26095-16[2] 26055-16[2]	785-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1605-16[59] 1105-16[59]	7913-16	26095-16[2] 26055-16[2]	785-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
6 Offset lifters available
14 Requires upgraded gear, thrust button & wear plate
48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain
59 Requires 7/16" rocker arm studs

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

OVAL TRACK — Mechanical Roller Camshafts (.900" Base Circle)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – For heavy cars with small c.i. Best for short tracks.	.020	.022	3200 to 6200	12-990-9[14]	288AR-6	288	296	252	258	.630	.630	106°
MECHANICAL ROLLER – Good for 1/4 to 3/8 mile tacky tracks with tight corners.	.020	.022	3500 to 6500	12-991-9[14]	292AR-6	292	296	256	258	.630	.630	106°
MECHANICAL ROLLER – Good torque and throttle response w/ 355c.i. engine on short track.	.020	.022	3600 to 6600	12-992-9[14]	296AR-6	296	300	260	262	.630	.630	106°
MECHANICAL ROLLER – More aggressive intake lobe, more torque. Good for sprint car.	.020	.022	3800 to 7000	12-920-9[14]	288BR-6	288	300	260	264	.660	.630	106°
MECHANICAL ROLLER – Good Late Model cam w/ 388-406c.i. on short track.	.020	.022	4200 to 7000	12-924-9[14]	296BR-4	296	304	260	267	.630	.630	104°
MECHANICAL ROLLER – Good cam for Sprint car on longer tracks.	.020	.022	4000 to 7000	12-921-9[14]	288CR-6	288	304	260	268	.660	.630	106°
MECHANICAL ROLLER – Best for Late Model with 406+ c.i. engine.	.020	.022	4200 to 7200	12-993-9[14]	300AR-6	300	304	264	267	.630	.630	106°
MECHANICAL ROLLER – Best torque in 406+c.i. Late Model or 355c.i. with 9:5.1+ compression.	.020	.022	4500 to 7500	12-922-9[14]	292BR-6	292	304	264	268	.660	.630	106°
MECHANICAL ROLLER – High torque cam for use with a 1.6 or 1.65 intake rocker.	.020	.022	4200 to 7000	12-895-9[14]	296CR-6	296	304	264	268	.609	.630	106°
MECHANICAL ROLLER – Good Late Model with large engine and slick track.	.020	.022	4500 to 7500	12-890-9[14]	292CR-6	292	308	264	272	.660	.630	106°
MECHANICAL ROLLER – Good for Late Models with very large engine on long track.	.020	.022	4500 to 7500	12-994-9[14]	304AR-6	304	308	268	270	.630	.630	106°
MECHANICAL ROLLER – Good for 430+c.i. engines in Late Models on slick tracks.	.020	.022	4200 to 7200	12-923-9[14]	296BR-6	296	308	268	272	.660	.630	106°
MECHANICAL ROLLER – Good for constant high rpm, 358c.i. with open carb.	.020	.022	6200 to 8500	12-996-9[14]	312AR-7	312	322	276	284	.630	.630	107°

OVAL TRACK — Mechanical Roller Camshafts (.900" Base Circle) - Xtreme TK Rollers give more area under the curve and shorter seat timing than any other series. Great for Hi-Torque or restricted applications.

MECHANICAL ROLLER – 383-415c.i. IMCA, Late Model, Modifieds. Great torque.	.016	.020	3400 to 7600	12-861-9[14]	287TKNR-7	287	300	259	268	.648	.645	107°
MECHANICAL ROLLER – 383-415c.i. Great for Late Model with 1.6:1 and good heads.	.016	.020	3600 to 7800	12-862-9[14]	289TKNR-7	289	302	261	270	.648	.645	107°
MECHANICAL ROLLER – 415-430c.i. Great bottom end for short tacky track.	.016	.020	3400 to 7600	12-863-9[14]	291TKNR-8	291	304	263	272	.648	.645	108°
MECHANICAL ROLLER – 415-430c.i. Late Model with good heads and open carb.	.016	.020	3600 to 7800	12-864-9[14]	293TKNR-8	293	310	265	274	.648	.630	108°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Mechanical Roller Camshafts (.900" Base Circle) — OVAL TRACK

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	TITANIUM RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	943-16[2] 26089-16[2]	731-16 720-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]

Mechanical Roller Camshafts (.900" Base Circle) - Xtreme TK Rollers give more area under the curve and shorter seat timing than any other series. Great for Hi-Torque or restricted applications. — OVAL TRACK

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	TITANIUM RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
891-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
6 Offset lifters available
14 Requires upgraded gear, thrust button & wear plate
48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain
59 Requires 7/16" rocker arm studs

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

OVAL TRACK

Mechanical Roller Camshafts (50mm, 1.968" Roller Cam Bearings) – Xtreme RX Rollers use COMP® RX intake and RZ exhaust profiles to provide the ultimate in high rpm power and durability. Designed for use with light valve train above 8200 rpm.

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – (50mm) 358c.i. Late Model with good heads and light valves.	.020	.022	5500 to 8500	12-850-9[14]	294RX-6	294	301	261	268	.648	.648	106°
MECHANICAL ROLLER – (50mm) 400+c.i. Late Model with good heads and light valves.	.020	.022	5600 to 8600	12-851-9[14]	298RX-6	298	305	265	272	.649	.651	106°
MECHANICAL ROLLER – (50mm) 430c.i. Late Model with good heads and light valves.	.020	.022	5400 to 8400	12-852-9[14]	300RX-7	300	309	267	276	.651	.652	107°
MECHANICAL ROLLER – (50mm) 358c.i. High rpm asphalt track with very light valves.	.020	.022	7200 to 9200	12-853-9[14]	304RX-8	304	313	271	280	.654	.657	108°

OVAL TRACK 4 & 7 SWAP FIRING ORDER

Mechanical Roller Camshafts (18736542 Firing Order)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Best for heavy car and small engines on short tracks.	.020	.022	4000 to 7000	12-823-14[14]	47S 288R-6	288	296	252	258	.630	.630	106°
MECHANICAL ROLLER – Dirt Late Model with good heads and 4 BBL carb.	.020	.022	4400 to 7600	12-826-14[14]	47S 288BR-6	288	296	258	264	.639	.632	106°
MECHANICAL ROLLER – 355-400c.i. with 4 BBL carb. High rpm on long tracks.	.020	.022	6000 to 8200	12-824-14[14]	47S 312R-7	312	322	276	284	.630	.630	107°

New

OPEN WHEEL MODIFIED TRACTION CONTROL 4 & 7 FIRING ORDER SWAP

Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – 1/3-1/2 tracks w/ tight corners or heavy surface. 327-358ci., 11:1 compression, 4 BBL gas or alcohol. Requires good intake and heads.	.016	.018	3600 to 7400	12-840-14[14]	285HXL	285	294	256	261	.702	.691	107°
MECHANICAL ROLLER – 1/3-1/2 tracks w/ wide corners or slick surface. 355-383c.i., 12:1 compression, 4 BBL gas or alcohol. Requires good intake and heads.	.016	.018	3800 to 7600	12-841-14[14]	289HXL	289	298	260	265	.709	.694	107°
MECHANICAL ROLLER – 3/8-5/8 tracks w/ tight corners or heavy surface. 355-383c.i., 12:1+ compression, 4 BBL gas or alcohol. Requires good intake and heads.	.016	.018	4000 to 7800	12-842-14[14]	293HXL	293	302	264	269	.715	.698	107°
MECHANICAL ROLLER – 3/8-5/8 tracks w/ wide corers or slick surface. 383+c.i., 12:1+ compression, 4 BBL gas or alcohol. Requires good intake and heads.	.016	.018	4200 to 8000	12-843-14[14]	297HXL	297	306	268	273	.722	.701	107°



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Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Mechanical Roller Camshafts (50mm, 1.968" Roller Cam Bearings) – Xtreme RX Rollers use COMP® RX intake and RZ exhaust profiles to provide the ultimate in high rpm power and durability. Designed for use with light valve train above 8200 rpm. — OVAL TRACK

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	TITANIUM RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 7100	1604-16[59] 1104-16[59]	7972-16 7913-16	26089-16[2] 26099-16[2]	731-16 733-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]

Mechanical Roller Camshafts (18736542 Firing Order) — OVAL TRACK 4 & 7 SWAP FIRING ORDER

818-16[6] 98818-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16 7913-16	954-16[2] 944-16[2]	732-16 731-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
818-16[6] 98818-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16 7913-16	954-16[2] 944-16[2]	732-16 731-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 6500	1604-16[59] 1104-16[59]	7972-16 7913-16	954-16[2] 944-16[2]	732-16 731-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]

Mechanical Roller Camshafts — OPEN WHEEL MODIFIED TRACTION CONTROL 4 & 7 FIRING ORDER SWAP

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	TITANIUM RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
98818-16[6]	3100KT[48] 6500	1605-16[59] 1105-16[59]	7913-16	26075-16[2] 26091-16[2]	738-16 784-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 6500	1605-16[59] 1105-16[59]	7913-16	26075-16[2] 26091-16[2]	738-16 784-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 6500	1605-16[59] 1105-16[59]	7913-16	26075-16[2] 26091-16[2]	738-16 784-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]
98818-16[6]	3100KT[48] 6500	1605-16[59] 1105-16[59]	7913-16	26075-16[2] 26091-16[2]	738-16 784-16	611-16 614-16	503-16[2]	621-16	4000	12200 12140	4004[59] 4009[59]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
6 Offset lifters available
14 Requires upgraded gear, thrust button & wear plate
48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain
59 Requires 7/16" rocker arm studs

RED NUMBERS ARE THE PREMIUM CHOICE

GM LT1 & LT4 350 C.I. 8 CYL. 1995-1997

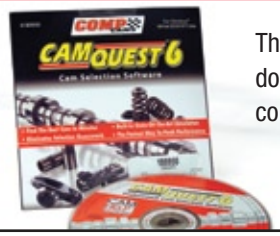
XTREME ENERGY™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Good in factory LT1, noticeable increase over stock cam.	Hyd.	Hyd.	1000 to 5000	07-304-8	266HR-14	266	276	210	220	.500	.510	114°
HYDRAULIC ROLLER – For use with LT1, with programmer or chip.	Hyd.	Hyd.	1500 to 5500	07-305-8	276HR-14	276	290	220	230	.510	.510	114°
HYDRAULIC ROLLER – For use with LT1, with modified computer programming, intake plenum, runners and 2200+ stall.	Hyd.	Hyd.	1800 to 5800	07-306-8	290HR-12	290	307	230	244	.510	.540	112°
HYDRAULIC ROLLER – Good in factory LT1, increased power and economy over stock.	Hyd.	Hyd.	1000 to 5000	07-500-8	258HR-12	258	264	206	212	.480	.488	112°
HYDRAULIC ROLLER – Best for increased power in LT1 engines with minimal modifications and programmer or chip.	Hyd.	Hyd.	1200 to 5200	07-501-8	264HR-12	264	269	212	218	.488	.495	112°
HYDRAULIC ROLLER – Good for LT1 with programmer or chip and upgraded exhaust.	Hyd.	Hyd.	1500 to 5500	07-502-8	269HR-12	269	276	218	224	.495	.503	112°
HYDRAULIC ROLLER – Best cam for modified LT1 with programmer or chip, better exhaust and 2000+ converter.	Hyd.	Hyd.	1800 to 5800	07-503-8	276HR-12	276	281	224	230	.503	.510	112°

XTREME FUEL INJECTION (XFI™) Hydraulic Roller Camshafts (WITH 1.6 ROCKERS)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Excellent torque and economy with noticeable horsepower gains.	Hyd.	Hyd.	1000 to 5000	07-464-8	252XFI HR13	252	264	202	212	.550	.546	113°
HYDRAULIC ROLLER – Superb low end and mid-range with minimal modifications.	Hyd.	Hyd.	1200 to 5200	07-465-8	260XFI HR13	260	270	210	218	.560	.555	113°
HYDRAULIC ROLLER – Good low end torque with exceptional mid-range. Needs upgraded exhaust and programmer or chip.	Hyd.	Hyd.	1800 to 5800	07-466-8	268XFI HR13	268	276	218	224	.570	.565	113°
HYDRAULIC ROLLER – Strong mid-range and top end. Requires headers, gears, 2200+ stall, and modified computer. Strong idle.	Hyd.	Hyd.	2000 to 6000	07-467-8	280XFI HR13	280	288	230	236	.576	.570	113°
HYDRAULIC ROLLER – Good mid-range with excellent top end. Will require headers, gears, 2500+ stall and custom programmer. Rough idle.	Hyd.	Hyd.	2200 to 6200	07-468-8	292XFI HR13	292	300	242	248	.584	.579	113°

CamQuest™ 6 Cam Selection Software



The revolutionary CamQuest™ 6 Cam Selection Software is now available completely **FREE**. Simply download your copy from the COMP Cams® website, and you'll be selecting camshaft and valve train combinations in minutes.

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See Page 396

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

GM LT1 & LT4 350 C.I. 8 CYL. 1995-1997

Hydraulic Roller Camshafts — XTREME ENERGY™

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
850-16[11] 875-16[11]	3207[79]	1417-16 1617-16	7608-16 7940-16	26915-16 26918-16	787-16 1787-16	601-16 648-16	502-16 503-16[2]	N/A	N/A	12200 12140	N/A
850-16[11] 875-16[11]	3207[79]	1417-16 1617-16	7608-16 7940-16	26915-16 26918-16	787-16 1787-16	601-16 648-16	502-16 503-16[2]	N/A	N/A	12200 12140	N/A
850-16[11] 875-16[11]	3207[79]	1417-16 1617-16	7608-16 7940-16	26918-16	787-16 1787-16	601-16 648-16	502-16 503-16[2]	N/A	N/A	12200 12140	N/A
850-16[11] 875-16[11]	3207[79]	1417-16 1617-16	7608-16 7940-16	26915-16 26918-16	787-16 1787-16	601-16 648-16	502-16 503-16[2]	N/A	N/A	12200 12140	N/A
850-16[11] 875-16[11]	3207[79]	1417-16 1617-16	7608-16 7940-16	26915-16 26918-16	787-16 1787-16	601-16 648-16	502-16 503-16[2]	N/A	N/A	12200 12140	N/A
850-16[11] 875-16[11]	3207[79]	1417-16 1617-16	7608-16 7940-16	26915-16 26918-16	787-16 1787-16	601-16 648-16	502-16 503-16[2]	N/A	N/A	12200 12140	N/A
850-16[11] 875-16[11]	3207[79]	1417-16 1617-16	7608-16 7940-16	26918-16	787-16 1787-16	601-16 648-16	502-16 503-16[2]	N/A	N/A	12200 12140	N/A

Hydraulic Roller Camshafts (WITH 1.6 ROCKERS) — XTREME FUEL INJECTION (XFI™)

K-KIT	CL-KIT	RP-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K07-464-8[78]	CL07-464-8[7]	RPM1418-16 RPM1318-16	850-16[11] 875-16[11]	12200 12140	3207[79]	1418-16 1618-16	7608-16 7940-16	26918-16	787-16 1787-16	601-16 648-16	502-16 503-16[2]
K07-465-8[78]	CL07-465-8[7]	RPM1418-16 RPM1318-16	850-16[11] 875-16[11]	12200 12140	3207[79]	1418-16 1618-16	7608-16 7940-16	26918-16	787-16 1787-16	601-16 648-16	502-16 503-16[2]
K07-466-8[78]	CL07-466-8[7]	RPM1418-16 RPM1318-16	850-16[11] 875-16[11]	12200 12140	3207[79]	1418-16 1618-16	7608-16 7940-16	26918-16	787-16 1787-16	601-16 648-16	502-16 503-16[2]
K07-467-8[78]	CL07-467-8[7]	RPM1418-16 RPM1318-16	850-16[11] 875-16[11]	12200 12140	3207[79]	1418-16 1618-16	7608-16 7940-16	26918-16	787-16 1787-16	601-16 648-16	502-16 503-16[2]
K07-468-8[78]	CL07-468-8[7]	RPM1418-16 RPM1318-16	850-16[11] 875-16[11]	12200 12140	3207[79]	1418-16 1618-16	7608-16 7940-16	26918-16 26925-16	787-16 1779-16	601-16 648-16	502-16 503-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
11 Lifters only, does not include lifter retainers or guides
78 K-Kits do not include timing sets
79 For 1995 and later engines only

RED NUMBERS ARE THE PREMIUM CHOICE

Unsure which cam is right for your LS application? Refer to these charts to help you select the correct camshaft prefix for your vehicle. If you are still unsure, please contact our CAM HELP™ tech line at 1-800-999-0853, where one of our highly trained cam technicians can point you in the right direction.

LS ENGINE CAR APPLICATIONS

RPO	Year	Applications	Core	VVT*	AFM/DOD**	Liter
LS1	1997-2004	1997-2004 Corvette 1998-2002 Camaro/Trans Am 2004 Pontiac GTO	**Three-Bolt 54 Prefix**	NO	NO	5.7
LS6	2001-2005	2001-2004 Corvette 2004-2005 Cadillac CTS V	**Three-Bolt 54 Prefix**	NO	NO	5.7
LS2	2005-2009	2005-2007 Buick Rainier 2005-2006 Pontiac GTO 2006-2007 Cadillac CTS V 2006-2007 Corvette 2005-2006 SSR 2006-2009 Trailblazer SS	**Three-Bolt 54 Prefix**	NO	NO	6.0
LS7	2006-2010	2006-2010 Corvette Z06	**Three-Bolt 54 Prefix**	NO	NO	7.0
LS9	2009	2009 Corvette ZR1	**Three-Bolt 54 Prefix**	NO	NO	6.2
LS3	2008-2010	2008-2010 Corvette 2009 Pontiac G8 GXP 2010 Camaro	**Single-Bolt 146 Prefix**	NO	NO	6.2
LS4	2006-2009	2006-2009 Impala SS 2006-2007 Monte Carlo SS 2005-2008 Pontiac Grand Prix GXP 2008 Buick LaCrosse	**Single-Bolt 146 Prefix**	NO	YES	5.3
L76[1]	2008-2009	2008-2009 Pontiac G8 GT	**Single-Bolt 146 Prefix**	NO	YES	6.0
L99[1]	2010	2010 Camaro	**Single-Bolt 156 Prefix**	YES	YES	6.2
LSA	2009-Present	2009 Cadillac CTS V	**Single-Bolt 146 Prefix**	NO	NO	6.2

1 Must have the DOD disabled
* Variable Valve Timing ** Active Fuel Management/Displacement on Demand

LS ENGINE TRUCK APPLICATIONS

RPO	Year	Applications	Core	VVT*	AFM/DOD**	Liter
LR4	1999-2009	1999-2006 Tahoe/Yukon 1999-2007 Silverado/Sierra 2003-2009 Express 2500-3500 2003-2009 Savana 2500-3500	**Three-Bolt 54 Prefix**	NO	NO	4.8
LY2	2007-Present	2007-2009 Silverado/Sierra 2007-2009 Tahoe/Yukon	**Single-Bolt 146 Prefix**	NO	NO	4.8
LM7	1999-2007	1999-2006 Tahoe/Yukon 1999-2006 Suburban/Yukon XL 1999-2007 Silverado/Sierra 2002-2005 Escalade 2WD 2002-2006 Avalanche 2003-2007 Express/Savana	**Three-Bolt 54 Prefix**	NO	NO	5.3
LM4	2004	2004 Trailblazer EXT 2004 Envoy XL 2004 SSR	**Three-Bolt 54 Prefix**	NO	NO	5.3

* Variable Valve Timing
** Fuel Management/Displacement on Demand Active

LS ENGINE TRUCK APPLICATIONS CONT'

RPO	Year	Applications	Core	VVT*	AFM/DOD**	Liter
L33	2005-2007	2005-2007 Silverado/Sierra 4WD	**Three-Bolt 54 Prefix**	NO	NO	5.3
L59	2002-2007	2002-2007 Silverado/Sierra 2002-2006 Tahoe/Yukon 2002-2006 Suburban/Yukon XL	**Three-Bolt 54 Prefix**	NO	NO	5.3
LH6	2005-2009	2005 Envoy XUV 2005-2006 Envoy XL 2005-2009 Envoy Denali 2005-2009 Trailblazer 2007 Silverado/Sierra	**Three-Bolt 54 Prefix**	NO	YES	5.3
LY5	2007-Present	2007-Present Avalanche 2007-Present Silverado/Sierra 2007-Present Tahoe/Yukon 2007-Present Suburban/Yukon XL	**Single-Bolt 146 Prefix**	NO	YES	5.3
LMG	2007-Present	2007-Present Avalanche 2007-Present Silverado/Sierra 2007-Present Tahoe/Yukon 2007-Present Suburban/Yukon XL	**Single-Bolt 146 Prefix**	NO	YES	5.3
LC9	2007-Present	2007-Present Avalanche 2007-Present Silverado/Sierra 2007-Present Suburban/Yukon XL	**Single-Bolt 146 Prefix**	NO	YES	5.3
LH8	2008-Present	2008-Present Hummer H3 2009-Present Colorado/Canyon	**Single-Bolt 146 Prefix**	NO	NO	5.3
LQ4	1999-2007	1999-2007 Express/Savana 1999-2001 Silverado/Sierra 2500/23500 1999-2001 Suburban/Yukon XL 2500 2003-2007 Hummer H2	**Three-Bolt 54 Prefix**	NO	NO	6.0
LQ9	2002-2007	2002-2006 Cadillac Escalade 2002-2006 Cadillac Escalade EXT 2003-2006 Cadillac Escalade ESV 2003-2007 Silverado SS 2004-2005 Silverado/Sierra HO Edition 2006-2007 Silverado/Sierra MAX Option	**Three-Bolt 54 Prefix**	NO	NO	6.0
LY6	2007-Present	2007-Present Silverado/Sierra HD 2007-Present Suburban,Yukon XL 2500 2007-Present Express/Savana	**Single-Bolt 156 Prefix**	YES	NO	6.0
L76	2007-Present	2007-Present Silverado/Sierra 2007-Present Suburban/Yukon XL 2007-Present Avalanche	**Single-Bolt 156 Prefix**	YES	YES	6.0
L92	2007-Present	2007-Present Cadillac Escalade 2008-Present Tahoe/Yukon/Yukon XL 2008-Present Hummer H2	**Single-Bolt 156 Prefix**	YES	YES	6.2
L9H	2009-Present	2009-Present Cadillac Escalade 2009-Present Tahoe LTZ/Yukon Denali 2009-Present Sierra Denali/SLT 2009-Present Silverado/Sierra	**Single-Bolt 156 Prefix**	YES	NO	6.2

* Variable Valve Timing
** Active Fuel Management/Displacement on Demand

GM LS GEN III/IV THREE-BOLT 8 CYL. 1997-PRESENT *SEE APPLICATION CHART ON PAGE 186-187

XFI™ RPM Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Very strong torque, good mileage. Noticeable increase over stock cam.	Hyd.	Hyd.	800 to 5800	54-408-11	XR259HR	259	265	206	212	.515	.522	112°
HYDRAULIC ROLLER – Good torque and very strong mid-range power. Good performance cam.	Hyd.	Hyd.	1200 to 6000	54-412-11	XR265HR	265	271	212	218	.522	.529	114°
HYDRAULIC ROLLER – Great mid-range with superior top end power. Needs programmer.	Hyd.	Hyd.	1300 to 6300	54-414-11	XR269HR	269	273	216	220	.525	.532	114°
HYDRAULIC ROLLER – Street/strip camshaft for high rpm power. Likes higher rocker ratios. Must have programmer.	Hyd.	Hyd.	1600 to 6600	54-416-11	XR273HR	273	277	220	224	.530	.534	112°
HYDRAULIC ROLLER – Street/strip camshaft designed for use with FAST™ LSX™ intake. Requires programmer.	Hyd.	Hyd.	2000 to 6800	54-418-11	XR277HR	277	281	224	228	.534	.537	112°

XFI™ RPM HI-LIFT Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Great street cam with very wide power range, good drivability and excellent response.	Hyd.	Hyd.	1400 to 6700	54-424-11	XR265HR	265	271	212	218	.558	.563	115°
HYDRAULIC ROLLER – Great street/strip camshaft for mid-range and high rpm power. Must have programmer.	Hyd.	Hyd.	1800 to 6800	54-426-11	XR275HR	275	277	222	224	.566	.568	112°
HYDRAULIC ROLLER – High rpm street/strip camshaft for use with FAST™ LSX™ intake. Requires programmer.	Hyd.	Hyd.	2200 to 7200	54-428-11	XR281HR	281	283	228	230	.571	.573	112°

XFI™ XE-R Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – High rpm street/strip with XE-R lobe designs.These are the most aggressive lobes for all out applications.	Hyd.	Hyd.	2000 to 7000	54-444-11	XER273HR	273	279	224	230	.581	.588	114°
HYDRAULIC ROLLER – Xtreme Energy XE-R design for standard displacement LS6 and LS1. Race only applications.	Hyd.	Hyd.	2400 to 7200	54-446-11	XER281HR	281	283	232	234	.595	.598	112°
HYDRAULIC ROLLER – Xtreme Energy XE-R design for large cubic inch LS6 and LS1. Race only applications.	Hyd.	Hyd.	2800 to 7200	54-448-11	XER287HR	287	289	238	240	.605	.609	112°

Lightweight Tool Steel Retainers

The COMP Cams® Lightweight Tool Steel Retainers offer weight savings that rival titanium but with the durability of steel.

- 33% lighter than traditional steel retainers and only 2-4 grams heavier than titanium
- High-grade Tool Steel with enhanced surface finish; provisions for 10° locks
- Available in a variety of sizes and configurations to fit most popular springs



See Page 354

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

*SEE APPLICATION CHART ON PAGE 186-187

GM LS GEN III/IV THREE-BOLT 8 CYL. 1997-PRESENT

Hydraulic Roller Camshafts — XFI™ RPM

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRING KITS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54050 54100 54200[82]	7955-16	26915-16 26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54050 54100 54200[82]	7955-16	26915-16 26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54050 54100 54200[82]	7955-16	26915-16 26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16
850-16[11] 875-16[11]	3153KT	13755-KIT 13753-KIT	54050 54100 54200[82]	7955-16	26915-16 26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54050 54100 54200[82]	7955-16	26915-16 26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16

Hydraulic Roller Camshafts — XFI™ RPM HI-LIFT

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRING KITS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16

Hydraulic Roller Camshafts — XFI™ XE-R

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRING KITS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	26925-16 26926-16	26921-KIT	1779-16	N/A	623-16	511-16	4705-16

TIP

URGENT!

In a hurry? COMP Cams® can usually deliver in 48 hours. We work hard to provide results for your unique request in a matter of days.

Footnotes: Master Footnote Index on page 15.

11 Lifters only, does not include lifter retainers or guides
82 This kit includes Pro Magnum™ Hydraulic Roller Lifters
100 Kit includes 1.8 ratio rocker arms, for 1.7 ratio us Part #1500

RED NUMBERS ARE THE PREMIUM CHOICE

GM LS GEN III/IV THREE-BOLT 8 CYL. 1997-PRESENT *SEE APPLICATION CHART ON PAGE 186-187

XFI™ XTREME TRUCK Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – 4.8L/5.3L Chevrolet/GMC truck. Significant gains in mid and upper rpm range. Works best with programmer.	Hyd.	Hyd.	800 to 5000	54-450-11[7]	G3 XFI 260 HR15	260	266	206	212	.513	.520	115°
HYDRAULIC ROLLER – 6.0L Chevrolet/GMC truck. Significant gains in mid and upper rpm range. Works best with programmer.	Hyd.	Hyd.	800 to 5200	54-452-11[7]	G3 XFI 266 HR15	266	270	212	216	.520	.524	115°
HYDRAULIC ROLLER – 5.3L/6.0L Chevrolet/GMC truck. Significant gains in mid and upper rpm range. Exhaust upgrade needed for best performance. Needs programmer.	Hyd.	Hyd.	1000 to 5700	54-451-11[7]	G3 XFI 261 HR15	261	265	208	212	.554	.558	115°

TRI-POWER XTREME™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Optimized fuel mileage with good torque and horsepower. Needs programmer.	Hyd.	Hyd.	800 to 5800	54-525-11[7]	TPX 246HR-17	246	258	194	206	.500	.493	117°
HYDRAULIC ROLLER – Exceptional torque with good hp and moderate fuel economy. Needs programmer.	Hyd.	Hyd.	1000 to 6000	54-530-11[7]	TPX 254HR-16	254	264	202	212	.507	.500	116°
HYDRAULIC ROLLER – Optimized hp with good torque and average fuel economy. Programmer required.	Hyd.	Hyd.	1200 to 6200	54-535-11[7]	TPX 262HR-15	262	270	210	218	.513	.507	115°

New THUMPR™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears, choppy/thumping idle.	Hyd.	Hyd.	2000 to 6400	54-600-11[7]	275THR9	275	295	219	233	.553	.536	109°
HYDRAULIC ROLLER – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2300 to 6600	54-601-11[7]	283THR9	283	303	227	241	.563	.546	109°
HYDRAULIC ROLLER – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2600 to 6800	54-602-11[7]	291THR9	291	311	235	249	.573	.558	109°

Thumpr™ Cams



The wildly popular Thumpr™ Cams feature specially engineered profiles to provide the perfect combination of an early intake valve opening, long exhaust duration and a generous amount of intake and exhaust overlap to maximize your engine's nasty-diling characteristics without negatively impacting streetability.

For more information visit www.compcams.com/thumpr, or see our Thumpr™ brochure listed on page 414 of this Master Catalog.

See Page 238

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

*SEE APPLICATION CHART ON PAGE 186-187

GM LS GEN III/IV THREE-BOLT 8 CYL. 1997-PRESENT

Hydraulic Roller Camshafts — XFI™ XTREME TRUCK

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRING KITS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54050 54100 54200[82]	7955-16	26915-16 26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54050 54100 54200[82]	7955-16	26915-16 26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	26915-16 26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16

Hydraulic Roller Camshafts — TRI-POWER XTREME™

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRING KITS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54050 54100 54200[82]	7955-16	26915-16 26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54050 54100 54200[82]	7955-16	26915-16 26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54050 54100 54200[82]	7955-16	26915-16 26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16

Hydraulic Roller Camshafts — THUMPR™

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRING KITS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	26918-16	26921-KIT	774-16 1772-16	772-16	623-16	511-16	4705-16

TIP

For more information about Thumpr™ Cams, see page 238 of this Master Catalog.
See our Classic Thumpr™ Cam applications on pages 262-263.

Footnotes: Master Footnote Index on page 15.

7 Stock springs cannot be used
11 Lifters only, does not include lifter retainers or guides
82 This kit includes Pro Magnum™ Hydraulic Roller Lifters
100 Kit includes 1.8 ratio rocker arms, for 1.7 ratio us Part #1500

RED NUMBERS ARE THE PREMIUM CHOICE

GM LS GEN III/IV THREE-BOLT 8 CYL. 1997-PRESENT *SEE APPLICATION CHART ON PAGE 186-187

LS$_R$™ CATHEDRAL PORT — Hydraulic Roller Camshafts (Small Displacement or Max Torque, 4.8L-5.3L)

New APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Very strong torque and excellent response. Works best in heavy vehicles, low rpm applications.	Hyd.	Hyd.	1300 to 6500	54-455-11[7]	265Lr HR12	265	273	215	233	.604	.610	112°
HYDRAULIC ROLLER – Excellent torque with a very broad power band. Great for street performance and drivability.	Hyd.	Hyd.	1500 to 6700	54-456-11[7]	269Lr HR12	269	277	219	227	.607	.614	112°
HYDRAULIC ROLLER – Steady power throughout broad range. Needs aftermarket airflow improvements on inlet and exhaust.	Hyd.	Hyd.	1700 to 6800	54-457-11[7]	273Lr HR12	273	281	223	231	.610	.617	112°
HYDRAULIC ROLLER – Good street/strip camshaft with wide range. Must have substantial airflow upgrades, inlet and exhaust.	Hyd.	Hyd.	1900 to 7000	54-458-11[7]	277Lr HR13	277	285	227	235	.614	.621	113°

New LS$_R$™ CATHEDRAL PORT — Hydraulic Roller Camshafts (All Out Power for 5.7L-6.2L)

HYDRAULIC ROLLER – Very wide power range and excellent mid-range torque for LS engines with cathedral port cylinder heads.	Hyd.	Hyd.	2000 to 7000	54-459-11[7]	281LR HR13	281	289	231	239	.617	.624	113°
HYDRAULIC ROLLER – Very strong from mid-range to high end torque and horsepower for LS engines with cathedral port cylinder heads.	Hyd.	Hyd.	2200 to 7200	54-460-11[7]	285LR HR13	285	293	235	243	.621	.624	113°
HYDRAULIC ROLLER – Broad top end power range for high rpm, race only LS engines with aftermarket cathedral port cylinder heads and higher compression.	Hyd.	Hyd.	2400 to 7200	54-461-11[7]	289LR HR14	289	297	239	247	.624	.624	114°
HYDRAULIC ROLLER – Excellent top end and high rpm power for race style LS engines with aftermarket cathedral port cylinder heads.	Hyd.	Hyd.	2600 to 7200	54-462-11[7]	293LR HR14	293	301	243	251	.624	.624	114°

New LS$_R$™ CATHEDRAL PORT — Hydraulic Roller Camshafts (For Large Displacement Only, 6.2L-7.4L)

HYDRAULIC ROLLER – 400+c.i., high rpm applications with major modifications and cathedral port cylinder heads.	Hyd.	Hyd.	2400 to 7000	54-463-11[7]	297LRx HR14	297	305	247	255	.624	.624	114°
HYDRAULIC ROLLER – 420+c.i., high compression, high rpm, cathedral CNC-ported heads in race type applications.	Hyd.	Hyd.	2600 to 7000	54-464-11[7]	301LRx HR15	301	309	251	259	.624	.624	115°
HYDRAULIC ROLLER – 440+c.i., purpose built applications focusing on power above 6000 rpm with cathedral port heads.	Hyd.	Hyd.	2800 to 7200	54-465-11[7]	305LRx HR15	305	313	255	263	.624	.624	115°
HYDRAULIC ROLLER – All out power for extreme displacement race application engines with cathedral port cylinder heads.	Hyd.	Hyd.	3000 to 7200	54-466-11[7]	309LRx HR15	309	317	259	267	.624	.624	115°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

*SEE APPLICATION CHART ON PAGE 186-187

GM LS GEN III/IV THREE-BOLT 8 CYL. 1997-PRESENT

Hydraulic Roller Camshafts (Small Displacement or Max Torque, 4.8L-5.3L) — LS$_R$™ CATHEDRAL PORT

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	3153KT	16765-KIT[100] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16765-KIT[100] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16

Hydraulic Roller Camshafts (All Out Power for 5.7L-6.2L) — LS$_R$™ CATHEDRAL PORT

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16

Hydraulic Roller Camshafts (For Large Displacement Only, 6.2L-7.4L) — LS$_R$™ CATHEDRAL PORT

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16

Footnotes: Master Footnote Index on page 15.

7 Stock springs cannot be used
11 Lifters only, does not include lifter retainers or guides
82 This kit includes Pro Magnum™ Hydraulic Roller Lifters
100 Kit includes 1.8 ratio rocker arms, for 1.7 ratio us Part #1500

RED NUMBERS ARE THE PREMIUM CHOICE

GM LS GEN III/IV THREE-BOLT 8 CYL. 1997-PRESENT *SEE APPLICATION CHART ON PAGE 186-187

LSR™ RECTANGULAR PORT Hydraulic Roller Camshafts (All Out Power for 5.7L-6.2L)

New APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER-Excellent torque with a very broad power band. Great for street performance and drivability.	3	Hyd.	Hyd.	1500 to 6700	54-453-11	269LRR HR13	269	285	219	235	.607	.621	113°
HYDRAULIC ROLLER-Good street/strip camshaft with very wide range.	3	Hyd.	Hyd.	1900 to 7000	54-454-11	277LRR HR13	277	293	227	243	.614	.624	113°
HYDRAULIC ROLLER – Very wide power range and excellent mid-range torque for LS engines with rectangular port cylinder head.	3	Hyd.	Hyd.	2000 to 7000	54-469-11[7]	281LRR HR13	281	297	231	247	.617	.624	113°
HYDRAULIC ROLLER – Very strong from mid-range to high end torque and horsepower for LS engines with rectangular port cylinder heads.	3	Hyd.	Hyd.	2200 to 7200	54-470-11[7]	285LRR HR13	285	301	235	251	.621	.624	113°
HYDRAULIC ROLLER – Broad top end power range for high rpm, race only LS engines with aftermarket rectangular port heads and higher compression.	3	Hyd.	Hyd.	2400 to 7200	54-471-11[7]	289LRR HR14	289	305	239	255	.624	.624	114°
HYDRAULIC ROLLER – Excellent top end and high rpm power for race style LS engines with aftermarket rectangular port cylinder heads.	3	Hyd.	Hyd.	2600 to 7200	54-472-11[7]	293LRR HR14	293	309	243	259	.624	.624	114°

New LSR™ RECTANGULAR PORT Hydraulic Roller Camshafts (For Large Displacement Only, 6.2L-7.4L)

HYDRAULIC ROLLER – 400+c.i., high rpm applications with major modifications and rectangular port cylinder heads.	3	Hyd.	Hyd.	2400 to 7000	54-473-11[7]	297LRR HR14	297	313	247	263	.624	.624	114°
HYDRAULIC ROLLER – 420+c.i., high compression, high rpm, rectangular CNC-ported heads in race type applications.	3	Hyd.	Hyd.	2600 to 7000	54-474-11[7]	301LRR HR15	301	317	251	267	.624	.624	115°
HYDRAULIC ROLLER – 440+c.i., purpose built applications focusing on power above 6000 rpm with rectangular port heads.	3	Hyd.	Hyd.	2800 to 7200	54-475-11[7]	305LRR HR15	305	321	255	271	.624	.624	115°
HYDRAULIC ROLLER – All out power for extreme displacement race application engines with rectangular port cylinder heads.	3	Hyd.	Hyd.	3000 to 7200	54-476-11[7]	309LRR HR15	309	325	259	275	.624	.624	115°

New LSR™ CENTRIFUGAL BLOWER Hydraulic Roller Camshafts

HYDRAULIC ROLLER – Strong mid-range power when used with a centrifugal blower.	3	Hyd.	Hyd.	2200 to 7000	54-477-11[7]	277LCB HR14	277	293	227	243	.614	.624	114°
HYDRAULIC ROLLER – Good high rpm power when used with a centrifugal blower.	3	Hyd.	Hyd.	2500 to 7200	54-478-11[7]	285LCB HR15	285	301	235	251	.621	.624	115°
HYDRAULIC ROLLER – Best cam for high rpm power in race application when using a centrifugal blower.	3	Hyd.	Hyd.	3000 to 7200	54-479-11[7]	293LCB HR16	293	309	243	259	.624	.624	116°

New LSR™ ROOTS BLOWER Hydraulic Roller Camshafts

HYDRAULIC ROLLER – Best in street/strip LS applications equipped with a Roots type supercharger.	3	Hyd.	Hyd.	2400 to 7000	54-467-11[7]	289LRB HR14	289	293	239	243	.624	.624	114°
HYDRAULIC ROLLER – Designed for race applications with a Roots blower. Very strong high rpm power.	3	Hyd.	Hyd.	2700 to 7200	54-468-11[7]	297LRB HR14	297	301	247	251	.624	.624	114°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

*SEE APPLICATION CHART ON PAGE 186-187

GM LS GEN III/IV THREE-BOLT 8 CYL. 1997-PRESENT

Hydraulic Roller Camshafts (All Out Power for 5.7L-6.2L) — LS$_R$™ RECTANGULAR PORT

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	3153KT	16755-KIT 1500	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16755-KIT 1500	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16

Hydraulic Roller Camshafts (For Large Displacement Only, 6.2L-7.4L) — LS$_R$™ RECTANGULAR PORT

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	3153KT	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16

Hydraulic Roller Camshafts — LS$_R$™ CENTRIFUGAL BLOWER

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16

Hydraulic Roller Camshafts — LS$_R$™ ROOTS BLOWER

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16

Footnotes: Master Footnote Index on page 15.

7 Stock springs cannot be used
11 Lifters only, does not include lifter retainers or guides
82 This kit includes Pro Magnum™ Hydraulic Roller Lifters
100 Kit includes 1.8 ratio rocker arms, for 1.7 ratio us Part #1500
101 Kit includes 1.8 ratio rockers

RED NUMBERS ARE THE PREMIUM CHOICE

GM LS GEN III/IV THREE-BOLT 8 CYL. 1997-PRESENT *SEE APPLICATION CHART ON PAGE 186-187

LS$_R$™ TURBO Hydraulic Roller Camshafts (Remote Mount)

New APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Good responsiveness and excellent power when used with a remote mount turbo system. ③	Hyd.	Hyd.	2200 to 7000	54-480-11[7]	277LTB HR15	277	273	227	223	.614	.610	115°
HYDRAULIC ROLLER – High rpm street/strip applications using a remote mount turbo system. ③	Hyd.	Hyd.	2700 to 7200	54-481-11[7]	285LTB HR15	285	281	235	231	.621	.617	115°

New XFI™ SOLID ROLLER Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – High performance street, excellent torque and mid-range power. Programmer and valve spring upgrade required. ③	.016	.018	1800 to 6400	54-500-11[7]	XFI2700113	270	277	235	240	.646	.641	113°
MECHANICAL ROLLER – Street/strip, superb mid and upper rpm power. Intake upgrade recommended. Programmer and valve spring upgrade required. ③	.016	.018	2100 to 6700	54-501-11[7]	XFI278R113	278	285	243	248	.653	.648	113°
MECHANICAL ROLLER – High rpm street/strip camshaft for large cubic inch Gen III applications. Intake upgrade strongly recommended. Programmer and valve spring upgrade required. ③	.016	.018	2400 to 7000	54-502-11[7]	XFI286R113	286	293	251	256	.660	.655	113°

GM LS GEN IV SINGLE-BOLT W/O VVT 8 CYL. 2005-PRESENT *SEE APPLICATION CHART ON PAGE 186-187

New XFI™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Great street/strip camshaft for mid-range and high rpm power. Must have programmer. ③	Hyd.	Hyd.	1800 to 6800	146-426-11[7]	XR275HR13	275	287	222	234	.566	.576	113°
HYDRAULIC ROLLER – High rpm street/strip camshaft for use with FAST™ LSX™ intake. Requires programmer. ③	Hyd.	Hyd.	2200 to 7200	146-428-11[7]	XR281HR13	281	293	228	240	.571	.590	113°

New LS$_R$™ Hydraulic Roller Camshafts (Turbo Remote Mount)

HYDRAULIC ROLLER-Good responsiveness and excellent power when used with a remote mount turbo system. ③	Hyd.	Hyd.	2200 to 7000	146-480-11[7]	277LTB HR15	277	273	227	223	.614	.610	115°
HYDRAULIC ROLLER-High rpm street/strip applications using a remote mount turbo system. ③	Hyd.	Hyd.	2700 to 7200	146-481-11[7]	285LTB HR15	285	281	235	231	.621	.617	115°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

*SEE APPLICATION CHART ON PAGE 186-187

GM LS GEN III/IV THREE-BOLT 8 CYL. 1997-PRESENT

Hydraulic Roller Camshafts (Remote Mount) — LS$_R$™ TURBO

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	3153KT	16755-KIT[100] 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	3153KT	13755-KIT 1501	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16

Mechanical Roller Camshafts — XFI™ SOLID ROLLER

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	DUAL VALVE SPRINGS	DUAL VALVE SPRING KITS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
8950-16	3153KT	1500 1501	N/A	7955-16	26926-16	26921-KIT	1779-16	N/A	623-16	511-16	4695-16
8950-16	3153KT	1500 1501	N/A	7955-16	26926-16	26921-KIT	1779-16	N/A	623-16	511-16	4695-16
8950-16	3153KT	1500 1501	N/A	7955-16	26926-16	26921-KIT	1779-16	N/A	623-16	511-16	4695-16

*SEE APPLICATION CHART ON PAGE 186-187

GM LS GEN IV SINGLE-BOLT W/O VVT 8 CYL. 2005-PRESENT

Hydraulic Roller Camshafts — XFI™

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	7106	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	7106	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16

Hydraulic Roller Camshafts (Turbo Remote Mount) — LS$_R$™

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	7106	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4705-16
850-16[11] 875-16[11]	7106	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4705-16

Footnotes: Master Footnote Index on page 15.

7 Stock springs cannot be used
11 Lifters only, does not include lifter retainers or guides
82 This kit includes Pro Magnum™ Hydraulic Roller Lifters
100 Kit includes 1.8 ratio rocker arms, for 1.7 ratio us Part #1500
101 Kit includes 1.8 ratio rockers

RED NUMBERS ARE THE PREMIUM CHOICE

GM LS GEN IV SINGLE-BOLT W/O VVT 8 CYL. 2005-PRESENT *SEE APPLICATION CHART ON PAGE 186-187

LS$_R$™ Hydraulic Roller Camshafts

New APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Excellent torque with a very broad power band. Great for street performance and drivability.	Hyd.	Hyd.	1500 to 6700	146-456-11[7]	269LrR HR13	269	285	219	235	.607	.621	113°
HYDRAULIC ROLLER – Good street/strip camshaft with wide range.	Hyd.	Hyd.	1900 to 7000	146-458-11[7]	277LrR HR13	277	293	227	243	.614	.624	113°
HYDRAULIC ROLLER – Very strong from mid-range to high end torque and hp for single-bolt LS3.	Hyd.	Hyd.	2200 to 7200	146-460-11[7]	285LrR HR13	285	301	235	251	.621	.624	113°
HYDRAULIC ROLLER – Broad top end power range for high rpm race only, single-bolt LS3 applications.	Hyd.	Hyd.	2400 to 7200	146-461-11[7]	289LrR HR14	289	305	239	255	.624	.624	114°
HYDRAULIC ROLLER – Excellent top end and high rpm power for race applications using the single-bolt LS3.	Hyd.	Hyd.	2600 to 7200	146-462-11[7]	293LrR HR14	293	309	243	259	.624	.624	114°

GM LS GEN IV SINGLE-BOLT W/ VVT 8 CYL. 2005-PRESENT *SEE APPLICATION CHART ON PAGE 186-187

New **XFI™ SPR Hydraulic Roller Camshafts**

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Excellent responsiveness and low end torque with good power gains.	Hyd.	Hyd.	1300 to 6500	156-400-13[7]	263PHR14	263	277	210	224	.556	.568	114°
HYDRAULIC ROLLER – Substantial power and torque gains across the board.	Hyd.	Hyd.	1600 to 6700	156-401-13[7]	267PHR14	267	281	214	228	.559	.571	114°
HYDRAULIC ROLLER – Extremely strong from 4500 past 6700 rpm. Noticible idle.	Hyd.	Hyd.	1800 to 6900	156-402-13[7]	271PHR14	271	285	218	232	.563	.575	114°
HYDRAULIC ROLLER – Best choice for maximum power in aftermarket/CNC head applications.	Hyd.	Hyd.	2000 to 7100	156-403-13[7]	275PHR14	275	289	222	236	.566	.578	114°

GM LS GEN IV SINGLE-BOLT W/ VVT & AFM 8 CYL. 2005-PRESENT *SEE APPLICATION CHART ON PAGE 186-187

New **XFI™ SPR Hydraulic Roller Camshafts**

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER-Substantial power and torque gains across the power range.	Hyd.	Hyd.	1600 to 6700	156-421-13	266PHR14	278 266	290 278	216 214	228 226	.500	.500	114°
HYDRAULIC ROLLER-Extremely strong from 4500 rpms to 6900. Slightly noticeable idle.	Hyd.	Hyd.	1800 to 6900	156-422-13	270PHR15	282 270	294 282	220 218	232 230	.500	.500	115°
HYDRAULIC ROLLER-Excellent power in applications with aftermarket/CNC heads.	Hyd.	Hyd.	2000 to 7100	156-423-13	274PHR16	286 274	298 296	224 222	236 234	.500	.500	116°

NOTE: Block Type - cylinders 1-4-6-7. Red Type - Cylinders 2-3-58.

TIP

See page 363 of this Master Catalog for information about COMP Cams® GM Gen IV VVT Cam Phaser Limiter Kits.

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

*SEE APPLICATION CHART ON PAGE 186-187

GM LS GEN IV SINGLE-BOLT W/O VVT 8 CYL. 2005-PRESENT

Hydraulic Roller Camshafts — LSR™

LIFTERS	TIMING SET	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	BEEHIVE™ VALVE SPRINGS	DUAL VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
850-16[11] 875-16[11]	7106	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	7106	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	7106	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	7106	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16
850-16[11] 875-16[11]	7106	16765-KIT[101] 1521	54100 54200[82]	7955-16	N/A	26926-16	1779-16	N/A	623-16	511-16	4695-16

*SEE APPLICATION CHART ON PAGE 186-187

GM LS GEN IV SINGLE-BOLT W/ VVT 8 CYL. 2005-PRESENT

Hydraulic Roller Camshafts — XFI™ SPR

LIFTERS	PHASER KIT	TRUNION KIT	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	DUAL VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
N/A	5456	13702-KIT	16765-KIT[101] 1521	54100	7955-16	26918-16	774-16 1772-16	772-16	623-16	511-16	4705-16
N/A	5456	13702-KIT	16765-KIT[101] 1521	54100	7955-16	26918-16	774-16 1772-16	772-16	623-16	511-16	4705-16
N/A	5456	13702-KIT	16765-KIT[101] 1521	54100	7955-16	26918-16	774-16 1772-16	772-16	623-16	511-16	4705-16
N/A	5456	13702-KIT	16765-KIT[101] 1521	54100	7955-16	26918-16	774-16 1772-16	772-16	623-16	511-16	4705-16

*SEE APPLICATION CHART ON PAGE 186-187

GM LS GEN IV SINGLE-BOLT W/ VVT & AFM 8 CYL. 2005-PRESENT

Hydraulic Roller Camshafts — XFI™ SPR

LIFTERS	PHASER KIT	TRUNION KIT	ROCKER ARMS & KITS	"RPM" KITS	PUSHRODS	DUAL VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	SPRING LOCATORS
N/A	5456	13702-KIT	16765-KIT[101] 1521	54100	7955-16	26915-16 26918-16	774-16 1772-16	772-16	623-16	511-16	4705-16
N/A	5456	13702-KIT	16765-KIT[101] 1521	54100	7955-16	26915-16 26918-16	774-16 1772-16	772-16	623-16	511-16	4705-16
N/A	5456	13702-KIT	16765-KIT[101] 1521	54100	7955-16	26915-16 26918-16	774-16 1772-16	772-16	623-16	511-16	4705-16

Footnotes: Master Footnote Index on page 15.

7 Stock springs cannot be used
11 Lifters only, does not include lifter retainers or guides
82 This kit includes Pro Magnum™ Hydraulic Roller Lifters
100 Kit includes 1.8 ratio rocker arms, for 1.7 ratio us Part #1500
101 Kit includes 1.8 ratio rockers

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Strong low speed torque, good economy. Best in 396-402c.i., stock transmission and gear ratios. Very smooth idle.	Hyd.	Hyd.	800 to 4800	11-202-3	252H	252	252	206	206	.460	.460	110°
HYDRAULIC – Good torque and power. Excellent towing in 454c.i. w/ manual or automatic, 3.73+ axle ratios. Smooth idle.	Hyd.	Hyd.	1200 to 5200	11-203-3	260H	260	260	212	212	.475	.475	110°
HYDRAULIC – Performance with slight rough idle in 396. Great for heavy towing in 454c.i.	Hyd.	Hyd.	1500 to 5500	11-205-3	268H	268	268	218	218	.485	.485	110°

MAGNUM Hydraulic Flat Tappet Camshafts

HYDRAULIC – Good for daily driven street machine, works with stock converter, likes headers. 396c.i. needs 3.55-3.73 gear and 1800+ stall. Slight rough idle.	Hyd.	Hyd.	1500 to 5800	11-207-3	270H	270	270	224	224	.510	.510	110°
HYDRAULIC – Great for street machines. Use headers and 9:1+ compression. In 396-402c.i. use 2500+ stall, lower gears. Rough idle.	Hyd.	Hyd.	2000 to 6000	11-208-3	280H	280	280	230	230	.520	.520	110°
HYDRAULIC – Needs 9.5:1 compression, 2800+ stall, headers and lower gears. Choppy idle.	Hyd.	Hyd.	2200 to 6200	11-318-4	286H	286	286	236	236	.556	.556	110°
HYDRAULIC – Street/strip applications. 10:1+ compression, 3000+ stall or 4 speed. 4.10 or lower gears and aftermarket intake. Very rough idle.	Hyd.	Hyd.	2500 to 6500	11-213-3	292H	292	292	244	244	.550	.550	110°
HYDRAULIC – Limited street use or bracket racing. 10.5:1+ compression, 3500+ stall or 4 speed. 4.10 or lower gears. Radical Idle.	Hyd.	Hyd.	3000 to 6800	11-214-4	305H	305	305	253	253	.575	.575	110°

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – Very strong torque, excellent mileage, smooth idle.	Hyd.	Hyd.	600 to 4800	11-230-3	XE250H	250	260	206	212	.470	.475	110º
HYDRAULIC – Strong torque thru low and mid-range, good idle.	Hyd.	Hyd.	1000 to 5200	11-234-3	XE256H	256	268	212	218	.480	.485	110°
HYDRAULIC – Strong torque. Excellent response, heavy towing in 454 with 4.10 gear.	Hyd.	Hyd.	1300 to 5600	11-238-3	XE262H	262	270	218	224	.504	.510	110°
HYDRAULIC – Good for street machines, slightly rough idle, stock converter will work but best with 1800+ stall.	Hyd.	Hyd.	1600 to 5800	11-242-3[94]	XE268H	268	280	224	230	.515	.520	110°
HYDRAULIC – High performance street, very strong mid-range, with headers and 2200+ stall.	Hyd.	Hyd.	1800 to 6000	11-246-3[94]	XE274H	274	286	230	236	.552	.555	110°
HYDRAULIC – Street/strip, 2800+ stall, rough idle, 9.5:1+ compression.	Hyd.	Hyd.	2300 to 6500	11-250-3[94]	XE284H	284	296	240	246	.574	.578	110°
HYDRAULIC – Pro Street/bracket, good intake, headers, lower gears, 3200+ stall, 10.5:1+ compression.	Hyd.	Hyd.	2800 to 7000	11-254-4[94]	XE294H	294	306	250	256	.588	.593	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-202-3	SK11-202-3[7]	CL11-202-3[7]	RP1411-16	812-16 858-16	3210	1411-16[17,18] 1620-16[17,18]	7854-16[16]	911-16 924-16[2]	744-16 741-16	603-16[75]	504-16 505-16[2]
K11-203-3	SK11-203-3[7]	CL11-203-3[7]	RP1411-16	812-16 858-16	3210	1411-16[17,18] 1620-16[17,18]	7854-16[16]	911-16 924-16[2]	744-16 741-16	603-16[75]	504-16 505-16[2]
K11-205-3	SK11-205-3[7]	CL11-205-3[7]	RP1411-16	812-16 858-16	3210	1411-16[17,18] 1620-16[17,18]	7854-16[16]	911-16 924-16[2]	744-16 741-16	603-16[75]	504-16 505-16[2]

Hydraulic Flat Tappet Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-207-3	SK11-207-3[7]	CL11-207-3[7]	RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-208-3	SK11-208-3[7]	CL11-208-3[7]	RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-318-4	SK11-318-4[7]	CL11-318-4[7]	RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16
K11-213-3	SK11-213-3[7]	CL11-213-3[7]	RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16
K11-214-4	SK11-214-4[7]	CL11-214-4[7]	RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16

Hydraulic Flat Tappet Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-230-3	SK11-230-3[7]	CL11-230-3[7]	RP1411-16	812-16 858-16	3210	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	744-16 741-16	603-16[75] 612-16[75]	504-16 505-16[2]
K11-234-3	SK11-234-3[7]	CL11-234-3[7]	RP1411-16	812-16 858-16	3210	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	744-16 741-16	603-16[75] 612-16[75]	504-16 505-16[2]
K11-238-3	SK11-238-3[7]	CL11-238-3[7]	RP1411-16	812-16 858-16	3210	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	744-16 741-16	603-16[75] 612-16[75]	504-16 505-16[2]
K11-242-3	SK11-242-3[7]	CL11-242-3[7]	RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-246-3	SK11-246-3[7]	CL11-246-3[7]	RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16
K11-250-3	SK11-250-3[7]	CL11-250-3[7]	RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16
K11-254-4	SK11-254-4[7]	CL11-254-4[7]	RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
16 Truck engines have .400" taller block
17 Mark V and Mark VI heads must use kit w/ studs
18 50-State legal for 1993 & earlier BB Chevrolet V8, 396-454c.i.
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.
94 Change last digit of part number to -20 for nitrided version of cam

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

THUMPR™ Hydraulic Flat Tappet Camshafts

New APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	1800 to 5600	11-600-4[94]	279TH7	279	296	227	241	.498	.483	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2000 to 5900	11-601-4[94]	287TH7	287	304	235	249	.510	.495	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2300 to 6200	11-602-4[94]	295TH7	295	312	243	257	.522	.507	107°

XTREME 4X4™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good low end and mid-range torque and power, good idle.	Hyd.	Hyd.	1000 to 5000	11-231-3	X4 254H	254	262	210	218	.505	.505	111°
HYDRAULIC – Great mid-range power, largest cam for stock converter. Good for heavy towing with 4.10 gear.	Hyd.	Hyd.	1400 to 5400	11-235-3	X4 262H	262	270	218	226	.505	.515	111°
HYDRAULIC – Best with improved intake manifold, needs headers and 3.55-3.90 gears. 2000+ stall.	Hyd.	Hyd.	1600 to 5800	11-239-3	X4 270H	270	278	226	234	.544	.564	111°
HYDRAULIC – Good top end power, needs good intake, headers and gears. Use with 9.5:1 compression and 2500+ stall.	Hyd.	Hyd.	2000 to 6200	11-243-4	X4 278H	278	288	234	244	.564	.570	111°

XTREME MARINE™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – Biggest for inboard/outboard, good for ski, economy and performance.	Hyd.	Hyd.	1000 to 5000	11-232-3	XM262H	262	268	218	224	.505	.515	112°
HYDRAULIC – Jet w/ A impeller, strong mid-range, good throttle response, noticeable idle.	Hyd.	Hyd.	1600 to 5800	11-236-4	XM270H	270	286	226	236	.544	.547	112°
HYDRAULIC – Jet w/ A impeller, needs improved intake, likes headers.	Hyd.	Hyd.	2000 to 6200	11-240-4[94]	XM278H	278	292	234	244	.564	.566	112°
HYDRAULIC – Jet w/ A or B impeller, 9.5:1+ compression, needs headers, performance use.	Hyd.	Hyd.	2500 to 6500	11-244-4[94]	XM288H	288	304	244	254	.570	.575	112°
HYDRAULIC – Jet w/ B impeller, 10:1+ compression, river drags, bracket racing.	Hyd.	Hyd.	3200 to 6800	11-252-4	XM298H	298	316	254	264	.575	.578	112°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

Hydraulic Flat Tappet Camshafts — THUMPR™

K-KIT	GK-KIT	CL-KIT	LIFTERS	TIMING SET	GEAR DRIVE	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-600-4	GK11-600-4[7,93]	CL11-600-4[7]	812-16 858-16	2110 3110	4110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-601-4	GK11-601-4[7,93]	CL11-601-4[7]	812-16 858-16	2110 3110	4110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-602-4	GK11-602-4[7,93]	CL11-602-4[7]	812-16 858-16	2110 3110	4110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]

Hydraulic Flat Tappet Camshafts — XTREME 4X4™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-231-3	SK11-231-3[7]	CL11-231-3[7]	RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7854-16[16] 7954-16[16]	911-16 924-16[2]	744-16 741-16	603-16[75] 612-16[75]	504-16 505-16[2]
K11-235-3	SK11-235-3[7]	CL11-235-3[7]	RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7854-16[16] 7954-16[16]	911-16 924-16[2]	744-16 741-16	603-16[75] 612-16[75]	504-16 505-16[2]
K11-239-3	SK11-239-3[7]	CL11-239-3[7]	RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7854-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-243-4	SK11-243-4[7]	CL11-243-4[7]	RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7854-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]

Hydraulic Flat Tappet Camshafts — XTREME MARINE™

K-KIT	SK-KIT	CL-KIT	RPM-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-232-3	SK11-232-3[7]	CL11-232-3[7]	RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-236-4	SK11-236-4[7]	CL11-236-4[7]	RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-240-4	SK11-240-4[7]	CL11-240-4[7]	RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-244-4	SK11-244-4[7]	CL11-244-4[7]	RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-252-4	SK11-252-4[7]	CL11-252-4[7]	RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
16 Truck engines have .400" taller block
17 Mark V and Mark VI heads must use kit w/ studs
18 50-State legal for 1993 & earlier BB Chevrolet V8, 396-454c.i. C.A.R.B. E.O. #D-279-4
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.
93 GK-Kit contains cam, lifters & gear drive
94 Change last digit of part number to -20 for nitrided version of cam

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

MARINE Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good for jet boat or inboard/ outboard drive for skiing, pleasure use, good economy.	Hyd.	Hyd.	1700 to 5700	11-306-4	268AH	268	276	222	226	.525	.525	110°
HYDRAULIC – Jet boat with A impeller. Skiing and pleasure use, good performance.	Hyd.	Hyd.	2400 to 6400	11-314-4	280AH	280	288	232	237	.547	.547	110°
HYDRAULIC – Jet boat with A or B impeller. Bracket racing or high performance use.	Hyd.	Hyd.	2500 to 6500	11-324-4	292AH	292	296	244	246	.568	.578	110°
HYDRAULIC – B impeller in jet boat. River drags and brackets. Use tunnel ram.	Hyd.	Hyd.	3800 to 6800	11-336-4	305AH	305	312	253	260	.575	.600	110°

DUAL ENERGY™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – Good torque, good mileage. Excellent low end horsepower. Smooth idle.	Hyd.	Hyd.	1200 to 5500	11-206-3	255DEH	255	261	203	212	.460	.485	110°
HYDRAULIC – Very strong mid-range. Everyday performance for stock exhaust.	Hyd.	Hyd.	1500 to 5750	11-204-3	265DEH	265	272	211	221	.476	.507	110°
HYDRAULIC – High performance with superior high end power. Works with stock converter but best with 2000+ stall. Choppy idle.	Hyd.	Hyd.	2000 to 6000	11-209-3	275DEH	275	283	219	229	.507	.531	110°

NOSTALGIA PLUS™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – Exhaust note of GM LS6 cam w/ hydraulic lifters and increased horsepower.	Hyd.	Hyd.	1800 to 6200	11-670-4	N+LS6	276	283	229	236	.530	.524	112°

NITROUS HP™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – High performance street, 100-150 hp nitrous kit or small blower.	Hyd.	Hyd.	1600 to 5900	11-556-4	NX262H	262	280	218	230	.505	.520	113°
HYDRAULIC – Street machines with 125+ hp nitrous kit, needs 2000+ stall, 3.73 gear, choppy idle.	Hyd.	Hyd.	2000 to 6200	11-560-4	NX268H	268	286	224	236	.515	.547	113°
HYDRAULIC – Pro Street applications w/ multi-stage nitrous kits, 671 blower or Vortec Supercharger and 3000+ stall.	Hyd.	Hyd.	2800 to 6800	11-568-4	NX284H	284	305	240	253	.575	.595	113°
HYDRAULIC – Race only, multi-stage kits or 871 blower, needs good heads, intake, gears and 3500+ stall.	Hyd.	Hyd.	2800 to 7000	11-572-4	NX294H	294	316	250	264	.588	.600	113°

COMPUTER CONTROLLED Hydraulic Flat Tappet Camshafts

HYDRAULIC – For TBI 454. Stock computer will work in some applications.	Hyd.	Hyd.	800 to 4800	11-206-3	255DEH	255	261	203	212	.460	.485	110°
HYDRAULIC – For TBI with stock converter and exhaust upgrade.	Hyd.	Hyd.	1000 to 5200	11-302-4	260AH	260	268	212	218	.503	.503	112°

BLOWER & TURBO Hydraulic Flat Tappet Camshafts

HYDRAULIC – Good mid-range turbo grind. Short exhaust produces more velocity, helps increase boost.	Hyd.	Hyd.	1800 to 5800	11-400-4	276TH	276	268	226	218	.525	.514	115°
HYDRAULIC – Strong blower cam. Works well with small blowers, Vortec or 671.	Hyd.	Hyd.	2500 to 6500	11-404-4	280AH	280	288	232	237	.547	.547	114°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

Hydraulic Flat Tappet Camshafts — MARINE

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-306-4	SK11-306-4[7]	CL11-306-4[7]	RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-314-4	SK11-314-4[7]	CL11-314-4[7]	RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-324-4	SK11-324-4[7]	CL11-324-4[7]	RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-336-4	SK11-336-4[7]	CL11-336-4[7]	RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 930-16[2]	741-16 1732-16	612-16[75]	505-16[2]

Hydraulic Flat Tappet Camshafts — DUAL ENERGY™

K11-206-3	SK11-206-3[7]	CL11-206-3[7]	RP1411-16	812-16 858-16	3210 2110	1411-16[17,18] 1620-16[17,18]	7854-16[16] 7954-16[16]	911-16 924-16[2]	744-16 741-16	603-16[75] 612-16[75]	504-16 505-16[2]
K11-204-3	SK11-204-3[7]	CL11-204-3[7]	RP1411-16	812-16 858-16	3210 2110	1411-16[17,18] 1620-16[17,18]	7854-16[16] 7954-16[16]	911-16 924-16[2]	744-16 741-16	603-16[75] 612-16[75]	504-16 505-16[2]
K11-209-3	SK11-209-3[7]	CL11-209-3[7]	RP1411-16	812-16 858-16	3210 2110	1411-16[17,18] 1620-16[17,18]	7854-16[16] 7954-16[16]	911-16 924-16[2]	744-16 741-16	603-16[75] 612-16[75]	504-16 505-16[2]

Hydraulic Flat Tappet Camshafts — NOSTALGIA PLUS™

K11-670-4	SK11-670-4[7]	CL11-670-4[7]	RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7854-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]

Hydraulic Flat Tappet Camshafts — NITROUS HP™

K11-556-4	SK11-556-4[7]	CL11-556-4[7]	RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7854-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-560-4	SK11-560-4[7]	CL11-560-4[7]	RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7854-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-568-4	SK11-568-4[7]	CL11-568-4[7]	RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7854-16[16] 7954-16[16]	924-16[2] 930-16[2]	741-16 1732-16	612-16[75]	505-16[2]
K11-572-4	SK11-572-4[7]	CL11-572-4[7]	RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7854-16[16] 7954-16[16]	924-16[2] 930-16[2]	741-16 1732-16	612-16[75]	505-16[2]

Hydraulic Flat Tappet Camshafts — COMPUTER CONTROLLED

K11-206-3	SK11-206-3[7]	CL11-206-3[7]	RPM1411-16	812-16	3210	1411-16[17,18] 1620-16[17,18]	7154-16[16]	911-16	744-16	603-16[75]	504-16[2]
K11-302-4	SK11-302-4[7]	CL11-302-4[7]	RPM1411-16	812-16 858-16	3210 2110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	744-16 741-16	603-16[75] 612-16[75]	504-16 505-16[2]

Hydraulic Flat Tappet Camshafts — BLOWER & TURBO

K11-400-4	SK11-400-4[7]	CL11-400-4[7]	RPM1411-16	812-16 858-16	3210 2110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	744-16 741-16	603-16[75] 612-16[75]	504-16 505-16[2]
K11-404-4	SK11-404-4[7]	CL11-404-4[7]	RPM1411-16	812-16 858-16	3210 2110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	744-16 741-16	603-16[75] 612-16[75]	504-16 505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
16 Truck engines have .400" taller block
17 Mark V and Mark VI heads must use kit w/ studs
18 50-State legal for 1993 & earlier BB Chevrolet V8, 396-454c.i. C.A.R.B. E.O. #D-279-4
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

XTREME ENERGY™ 4 & 7 SWAP FIRING ORDER — Hydraulic Flat Tappet Camshafts (18736542 Firing Order)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – High performance street, strong mid-range, needs headers and 2500+ stall.	Hyd.	Hyd.	1800 to 6000	11-650-47	XE274H-10	274	286	230	236	.552	.555	110°
HYDRAULIC – Street/strip, 2800+ stall, rough idle, 9.5:1+ compression.	Hyd.	Hyd.	2300 to 6500	11-651-47	XE284H-10	284	296	240	246	.574	.578	110°
HYDRAULIC – Pro Street/bracket, needs good intake, headers, gear and 3200+ stall.	Hyd.	Hyd.	2800 to 7000	11-652-47	XE294H-10	294	306	250	256	.588	.593	110°

OVAL TRACK — Hydraulic Flat Tappet Camshafts

HYDRAULIC – Good for hobby stock with 427-454 on 1/4 to 3/8 track.	Hyd.	Hyd.	2600 to 6500	11-314-4	280AH-10	280	288	232	237	.547	.547	110°
HYDRAULIC – Good for hobby stock, 454 where hydraulic lifters must be used.	Hyd.	Hyd.	2500 to 6500	11-213-3	292H-10	292	292	244	244	.550	.550	110°

MAGNUM — Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Most bottom end with stock engine. RV/towing use. Works with stock exhaust and intake, 3.73+ gear.	Hyd.	Hyd.	1200 to 4500	11-410-8[10]	260HR	260	260	206	206	.510	.510	110°
HYDRAULIC ROLLER – Daily driven street machines. Works with stock converters. Likes headers. 396c.i. needs 3.55-3.73+ gear. Noticeable idle.	Hyd.	Hyd.	1800 to 5000	11-420-8[10]	270HR	270	270	215	215	.566	.566	110°
HYDRAULIC ROLLER – Great for street machines. Use headers, 9.5:1+ compression and 2000+ stall. Lower gears in all applications. Slightly rough idle.	Hyd.	Hyd.	2000 to 5500	11-430-8[10]	280HR	280	280	224	224	.566	.566	110°
HYDRAULIC ROLLER – For hot street machines. 2500+ stall, 9.5:1+ compression. Best with headers and aluminum intake. Rough idle.	Hyd.	Hyd.	2500 to 6200	11-450-8[10]	290HR	290	290	232	232	.578	.578	110°
HYDRAULIC ROLLER – Street/strip. 10:1+ compression, 3000+ stall, 4.10+ gears, aftermarket intake and headers. Very rough idle.	Hyd.	Hyd.	3000 to 6500	11-460-8[10]	304HR	304	304	244	244	.612	.612	110°
HYDRAULIC ROLLER – Street/bracket racing. 10.5:1+ compression, 3500+ stall, 4.10 or lower gears. Headers, good intake and heads. Radical idle.	Hyd.	Hyd.	3500 to 6500	11-470-8[10]	314HR	314	314	252	252	.612	.612	110°

TIP

See our Master Lobe Profile Reference Guide on page 417 of this Master Catalog.

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

Hydraulic Flat Tappet Camshafts (18736542 Firing Order) XTREME ENERGY™ 4 & 7 SWAP FIRING ORDER

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	LASH CAPS	DIST. GEARS	STUD GIRDLES
812-16 858-16	2110 7110	1620-16[17,18] 1120-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	732-16 794-16	612-16[75] 616-16[75]	505-16[2]	622-16	12200 12140	4021
812-16 858-16	2110 7110	1620-16[17,18] 1120-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	732-16 794-16	612-16[75] 616-16[75]	505-16[2]	622-16	12200 12140	4021
812-16 858-16	2110 7110	1620-16[17,18] 1120-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 930-16[2]	741-16 1732-16	732-16	612-16[75]	505-16[2]	622-16	12200 12140	4021

Hydraulic Flat Tappet Camshafts OVAL TRACK

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE LOCKS	VALVE SEALS	LASH CAPS	DIST. GEARS	STUD GIRDLES
858-16	3110 3110KT	1620-16[17,18] 1120-16[17,18]	7954-16[16]	911-16 924-16[2]	741-16	732-16	612-16[75]	505-16[2]	622-16	12200 12140	4021
858-16	3110 3110KT	1620-16[17,18] 1120-16[17,18]	7954-16[16]	924-16[2] 26120-16	741-16 795-16	732-16 794-16	612-16[75] 616-16[75]	505-16[2]	622-16	12200 12140	4021

Retro-Fit Hydraulic Roller Camshafts MAGNUM

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-410-8	SK11-410-8[7,10]	CL11-410-8[7,10]	854-16 15854-16	12200	2110 3110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-420-8	SK11-420-8[7,10]	CL11-420-8[7,10]	854-16 15854-16	12200	2110 3110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-430-8	SK11-430-8[7,10]	CL11-430-8[7,10]	854-16 15854-16	12200	2110 3110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-450-8	SK11-450-8[7,10]	CL11-450-8[7,10]	854-16 15854-16	12200	2110 3110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-460-8	SK11-460-8[7,10]	CL11-460-8[7,10]	854-16 15854-16	12200	2110 3110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-470-8	SK11-470-8[7,10]	CL11-470-8[7,10]	854-16 15854-16	12200	2110 3110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
10 Requires thrust button & wear plate
16 Truck engines have .400" taller block
17 Mark V and Mark VI heads must use kit w/ studs
18 50-State legal for 1993 & earlier BB Chevrolet V8, 396-454c.i. C.A.R.B. E.O. #D-279-4
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

THUMPR™ Retro-Fit Hydraulic Roller Camshafts

New APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears, choppy/thumping idle.	Hyd.	Hyd.	1700 to 5500	11-600-8[10]	283THR7	283	303	227	241	.547	.530	107°
HYDRAULIC ROLLER – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2000 to 5800	11-601-8[10]	291THR7	291	311	235	249	.558	.542	107°
HYDRAULIC ROLLER – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2300 to 6100	11-602-8[10]	299THR7	299	319	243	257	.570	.554	107°

XTREME ENERGY™ Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Excellent mileage, smooth idle, strong torque through rpm range.	Hyd.	Hyd.	600 to 4600	11-407-8[10]	XR252HR	252	258	200	206	.510	.510	110°
HYDRAULIC ROLLER – Strong torque, good mileage, RV and towing.	Hyd.	Hyd.	1000 to 5000	11-408-8[10]	XR258HR	258	264	206	212	.510	.510	110°
HYDRAULIC ROLLER – Daily driver to mild performance, strong torque, good mileage.	Hyd.	Hyd.	1200 to 5200	11-413-8[10]	XR264HR	264	270	212	218	.510	.510	110°
HYDRAULIC ROLLER – Performance application, great mid-range torque, likes headers.	Hyd.	Hyd.	1600 to 5400	11-422-8[10]	XR270HR	270	276	218	224	.510	.510	110°
HYDRAULIC ROLLER – Great for street machines, needs intake, headers, 2000+ stall and gears.	Hyd.	Hyd.	1900 to 5600	11-423-8[10]	XR276HR	276	282	224	230	.510	.510	110°
HYDRAULIC ROLLER – High performance for street cars with 2200+ stall, 9:1+ compression, headers.	Hyd.	Hyd.	2200 to 5800	11-432-8[10]	XR282HR	282	288	230	236	.510	.510	110°
HYDRAULIC ROLLER – Street/strip applications, works well in large cubic inch street machine engines with 2500+ stall.	Hyd.	Hyd.	2500 to 6000	11-433-8[10]	XR288HR	288	294	236	242	.521	.540	110°
HYDRAULIC ROLLER – Street/strip applications, 10:1+ compression, 3000+ stall, intake, headers, gears.	Hyd.	Hyd.	2800 to 6100	11-443-8[10]	XR294HR	294	300	242	248	.540	.560	110°
HYDRAULIC ROLLER – Pro Street/bracket racing, 10:1+ compression, 3500+ stall, good intake, headers.	Hyd.	Hyd.	3200 to 6200	11-444-8[10]	XR300HR	300	306	248	254	.560	.580	110°

TIP

Check out all of the COMP Cams® apparel on pages 401-403 of this Master Catalog.



Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

Retro-Fit Hydraulic Roller Camshafts — THUMPR™

K-KIT	GK-KIT	CL-KIT	LIFTERS	TIMING SET	GEAR DRIVE	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-600-8	GK11-600-8[7,93]	CL11-600-8[7,10]	854-16 15854-16	2110 3110	4110	1411-16[17,18] 1620-16[17,18]	7663-16 7998-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-601-8	GK11-601-8[7,93]	CL11-601-8[7,10]	854-16 15854-16	2110 3110	4110	1411-16[17,18] 1620-16[17,18]	7663-16 7998-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-602-8	GK11-602-8[7,93]	CL11-602-8[7,10]	854-16 15854-16	2110 3110	4110	1411-16[17,18] 1620-16[17,18]	7663-16 7998-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]

Retro-Fit Hydraulic Roller Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-407-8	SK11-407-8[7,10]	CL11-407-8[7,10]	854-16 15854-16	12200	2110 3110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-408-8	SK11-408-8[7,10]	CL11-408-8[7,10]	854-16 15854-16	12200	2110 3110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-413-8	SK11-413-8[7,10]	CL11-413-8[7,10]	854-16 15854-16	12200	2110 3110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-422-8	SK11-422-8[7,10]	CL11-422-8[7,10]	854-16 15854-16	12200	2110 3110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-423-8	SK11-423-8[7,10]	CL11-423-8[7,10]	854-16 15854-16	12200	2110 3110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-432-8	SK11-432-8[7,10]	CL11-432-8[7,10]	854-16 15854-16	12200	2110 3110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-433-8	SK11-433-8[7,10]	CL11-433-8[7,10]	854-16 15854-16	12200	2110 3110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-443-8	SK11-443-8[7,10]	CL11-443-8[7,10]	854-16 15854-16	12200	2110 3110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-444-8	SK11-444-8[7,10]	CL11-444-8[7,10]	854-16 15854-16	12200	2110 3110	1411-16[17,18] 1620-16[17,18]	7815-16[1] 7663-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
10 Requires thrust button & wear plate
16 Truck engines have .400" taller block
17 Mark V and Mark VI heads must use kit w/ studs
18 50-State legal for 1993 & earlier BB Chevrolet V8, 396-454c.i. C.A.R.B. E.O. #D-279-4
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.
93 GK-Kit contains cam, lifters & gear drive

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

XTREME MARINE™ Retro-Fit Hydraullic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Good for inboard/outboard pleasure boats, has good idle.	Hyd.	Hyd.	1600 to 5400	11-445-8[10]	XM270HR	270	276	218	224	.510	.510	112°
HYDRAULIC ROLLER – Good for jet boat with A impeller. Great for pleasure or mild performance use.	Hyd.	Hyd.	2200 to 5800	11-451-8[10]	XM284HR	284	290	230	236	.547	.547	112°
HYDRAULIC ROLLER – Good for jet boat with A or B impeller in bracket racing or performance use.	Hyd.	Hyd.	2800 to 6200	11-456-8[10]	XM296HR	296	302	242	248	.566	.566	112°
HYDRAULIC ROLLER – Good in jet boat with B impeller with 10:1+ compression, running river drags or bracket racing.	Hyd.	Hyd.	3500 to 6500	11-461-8[10]	XM308HR	308	314	254	260	.575	.575	112°

NITROUS HP™ Retro-Fit Hydraulic Roller Camshaft

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Street machines with 125+ hp nitrous kit, 2200+ stall and lower gears.	Hyd.	Hyd.	1800 to 5800	11-409-8[10]	NX273HR	273	292	224	236	.537	.547	113°
HYDRAULIC ROLLER – High performance street with 150+ hp nitrous kit or small supercharger, 2400+ stall and lower gears.	Hyd.	Hyd.	2000 to 6200	11-411-8[10]	NX279HR	279	294	230	242	.537	.541	113°
HYDRAULIC ROLLER – 200+ hp nitrous system, 671 or larger supercharger, 9.5:1+ compression, 2800+ stall.	Hyd.	Hyd.	2400 to 6500	11-414-8[10]	NX298HR	298	310	242	254	.566	.575	113°

COMPUTER CONTROLLED Retro-Fit Hydraulic Roller Camshaft

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – For throttle body injection 454.	Hyd.	Hyd.	1000 to 5000	11-412-8[10]	266HR-12	266	276	210	220	.485	.485	112°

MAGNUM Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Good for everyday driving. Works well with headers. In 396-402c.i. use slightly lower gears. Slightly rough idle.	.022	.022	1800 to 5800	11-217-4	270S	270	270	224	224	.530	.530	110°
SOLID – Excellent for street machines. Use 2500+ stall, headers, 9:1+ compression and lower gears. Rough idle.	.022	.022	2000 to 6000	11-218-4	282S	282	282	236	236	.561	.561	110°
SOLID – Good for street/strip cars. 3000+ stall or 4 speed. 10:1+ compression, headers and low gears. Very rough idle.	.022	.022	2500 to 6500	11-219-4	294S	294	294	248	248	.595	.595	110°
SOLID – Great for Pro Street or bracket racing. 3500+ stall or 4 speed. 11:1+ compression, 4.10 or lower gear. Radical idle.	.022	.022	3000 to 7000	11-220-4	306S	306	306	260	260	.629	.629	110°

TIP

See pages 254-261 for part numbered nitrided camshafts. If you don't see your application, contact a CAM HELP® representative at 1-800-999-0853 to have your flat tappet camshaft nitrided.

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

Retro-Fit Hydraullic Roller Camshafts — XTREME MARINE™

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-445-8	SK11-445-8[7,10]	CL11-445-8[7,10]	854-16 15854-16	12200 12140	2110 7110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-451-8	SK11-451-8[7,10]	CL11-451-8[7,10]	854-16 15854-16	12200 12140	2110 7110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-456-8	SK11-456-8[7,10]	CL11-456-8[7,10]	854-16 15854-16	12200 12140	2110 7110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	928-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-461-8	SK11-461-8[7,10]	CL11-461-8[7,10]	854-16 15854-16	12200 12140	2110 7110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	928-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]

Retro-Fit Hydraulic Roller Camshaft — NITROUS HP™

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-409-8	SK11-409-8[7,10]	CL11-409-8[7,10]	854-16 15854-16	12200 12140	2110 7110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-411-8	SK11-411-8[7,10]	CL11-411-8[7,10]	854-16 15854-16	12200 12140	2110 7110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-414-8	SK11-414-8[7,10]	CL11-414-8[7,10]	854-16 15854-16	12200 12140	2110 7110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]

Retro-Fit Hydraulic Roller Camshaft — COMPUTER CONTROLLED

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-412-8	SK11-412-8[7,10]	CL11-412-8[7,10]	854-16 15854-16	12200 12140	2110 7110	1411-16[17,18] 1620-16[17,18]	7815-16[16] 7663-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]

Mechanical Flat Tappet Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-217-4	SK11-217-4[7]	CL11-217-4[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-218-4	SK11-218-4[7]	CL11-218-4[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-219-4	SK11-219-4[7]	CL11-219-4[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-220-4	SK11-220-4[7]	CL11-220-4[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	924-16[2] 930-16	741-16	612-16[75]	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
10 Requires thrust button & wear plate
16 Truck engines have .400" taller block
17 Mark V and Mark VI heads must use kit w/ studs
18 50-State legal for 1993 & earlier BB Chevrolet V8, 396-454c.i. C.A.R.B. E.O. #D-279-4
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

MAGNUM MARINE — Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Jet boat or inboard/outboard drive. Pleasure usage, skiing, economy.	.028	.030	2500 to 6500	11-550-5	270B	270	280	235	242	.561	.575	110°
SOLID – Jet boat with A or B impeller. Skiing, pleasure, performance.	.028	.030	2800 to 6300	11-551-5	280S	280	285	242	250	.575	.604	110°
SOLID – Excellent for jet boat, A or B impeller. 427-454c.i., 10:1+ compression.	.028	.030	3500 to 6500	11-604-5	294B	294	304	256	266	.580	.605	108°
SOLID – Jet boat with B impeller. Bracket race, 10.5:1+ compression. Use tunnel ram.	.028	.030	3800 to 7000	11-220-4	306S	306	306	260	260	.629	.629	110°
SOLID – Jet boat with B impeller. Flat and hydro. Bracket race. Use tunnel ram.	.028	.030	4200 to 7200	11-605-5	310B	310	314	270	276	.638	.631	108°
SOLID – For use in large engine. Flat or hydro. Use tunnel ram. 11.5:1+ compression.	.028	.030	4500 to 7500	11-607-5	320B	320	324	280	286	.638	.656	110°

XTREME ENERGY™ — Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Strong torque through low end and mid-range, good idle.	.016	.016	1000 to 5600	11-674-4	XS256S	256	262	218	224	.527	.532	110°
SOLID – Excellent response, good mid-range, noticeable idle.	.016	.016	1300 to 5800	11-675-4	XS262S	262	268	224	230	.532	.532	110°
SOLID – Great for street machines, largest cam for stock converter.	.016	.016	1600 to 6000	11-676-4	XS268S	268	274	230	236	.553	.568	110°
SOLID – Very strong mid-range torque and throttle response, 2500+ stall.	.016	.016	2000 to 6400	11-677-4[94]	XS274S	274	280	236	242	.568	.578	110°
SOLID – Street/strip, 3000+ stall, likes headers and gears, rough idle.	.016	.016	2400 to 6800	11-678-5[94]	XS282S	282	290	244	252	.590	.598	110°
SOLID – Pro Street/bracket, needs good intake, headers, gear and 3500+ stall.	.016	.016	2800 to 7200	11-679-5	XS290S	290	298	252	260	.598	.598	110°

XTREME ENERGY™ 4 & 7 SWAP FIRING ORDER — Mechanical Flat Tappet Camshafts (18736542 Firing Order)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Very strong mid-range torque and throttle response, 2500+ stall.	.016	.016	2000 to 6400	11-653-47	XE274S	274	280	236	242	.568	.578	110°
SOLID – Street/strip, 3000+ stall, likes headers and gears, rough idle.	.016	.016	2400 to 6800	11-654-47	XE282S	282	290	244	252	.590	.598	110°
SOLID – Pro Street/bracket, needs good intake, headers, gear and 3500+stall.	.016	.016	2800 to 7200	11-655-47	XE290S	290	298	252	260	.598	.598	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

Mechanical Flat Tappet Camshafts — MAGNUM MARINE

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-550-5	SK11-550-5[7]	CL11-550-5[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	924-16[2] 26120-16	741-16 795-16	616-16[75] 612-16[75]	505-16[2]
K11-551-5	SK11-551-5[7]	CL11-551-5[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	924-16[2] 26120-16	741-16 795-16	616-16[75] 612-16[75]	505-16[2]
K11-604-5	SK11-604-5[7]	CL11-604-5[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	924-16[2] 26120-16	741-16 795-16	616-16[75] 612-16[75]	505-16[2]
K11-220-4	SK11-220-4[7]	CL11-220-4[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	924-16[2] 930-16	741-16	612-16[75]	505-16[2]
K11-605-5	SK11-605-5[7]	CL11-605-5[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	930-16[2]	741-16	612-16[75]	505-16[2]
K11-607-5	SK11-607-5[7]	CL11-607-5[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	930-16[2]	741-16	612-16[75]	505-16[2]

Mechanical Flat Tappet Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-674-4	SK11-674-4[7]	CL11-674-4[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-675-4	SK11-675-4[7]	CL11-675-4[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K11-676-4	SK11-676-4[7]	CL11-676-4[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-677-4	SK11-677-4[7]	CL11-677-4[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-678-5	SK11-678-5[7]	CL11-678-5[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-679-5	SK11-679-5[7]	CL11-679-5[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]

Mechanical Flat Tappet Camshafts (18736542 Firing Order) — XTREME ENERGY™ 4 & 7 SWAP FIRING ORDER

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
813-16 2900-16	2110 7110	1620-16[17,18] 1120-16[17]	7154-16[16] 7954-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]	622-16	N/A	12200 12140	4021
813-16 2900-16	2110 7110	1620-16[17,18] 1120-16[17]	7154-16[16] 7954-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]	622-16	N/A	12200 12140	4021
813-16 2900-16	2110 7110	1620-16[17,18] 1120-16[17]	7154-16[16] 7954-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]	622-16	N/A	12200 12140	4021

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
16 Truck engines have .400" taller block
17 Mark V and Mark VI heads must use kit w/ studs
18 50-State legal for 1993 & earlier BB Chevrolet V8, 396-454c.i. C.A.R.B. E.O. #D-279-4
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.
94 Change last digit of part number to -20 for nitrided version of cam

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

NOSTALGIA PLUS™ Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Outstanding power and modern tight lash with the sound of the GM LS6 cam.	3	.012	.012	1800 to 6500	11-671-4	N+LS6S	276	283	239	246	.544	.539	112°
SOLID – Nostalgia Plus™ version of legendary ZL-1 camshaft. Modern lobe design makes this cam better than the original.	3	.012	.012	3500 to 7000	11-573-5	N+ZL-1S	299	309	262	272	.581	.622	110°

FACTORY MUSCLE™ Mechanical Flat Tappet Camshafts (Today's Version Of Yesterday's Muscle Car Cams)

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Factory I.D. #3863143 for: 396c.i., 1967-69 Z28, factory 375 hp 402c.i., 1970, factory 375 hp 427c.i., 1967-69, factory 425/435 hp 454c.i., 1970 LS6, factory 450/465 hp 454c.i., 1971 LS6, factory 425 hp	3	.024	.024	2200 to 6200	11-106-3	143S	316	302	242	242	.520	.520	114°

BLOWER & TURBO Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Good for street and mild strip use with 671 or larger blower.	3	.028	.030	3500 to 7000	11-405-5[7]	290DS	290	304	255	266	.612	.605	114°
SOLID – Use in bracket racing and very hot street with 671 or larger blower.	3	.028	.030	4000 to 7500	11-406-5[7]	310BS	310	320	270	280	.637	.637	114°

PULLER & MUD RACE Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Good torque and power in 396-402c.i., 10:1+ compression.	3	.028	.030	3000 to 6500	11-610-5	285B-8	285	295	250	260	.604	.629	108°
SOLID – Excellent choice for 427-454c.i., good power, 11:1+ compression.	3	.028	.030	3800 to 6800	11-611-5	295B-8	295	310	260	270	.629	.638	108°

DRAG RACE Mechanical Flat Tappet Camshafts

SOLID – 427+c.i. engines, heavy car, 3500+ stall and 10:1+ compression.	3	.018	.020	3500 to 6500	11-606-5	MA283A-8	283	291	256	264	.578	.578	108°
SOLID – Use in 396-427c.i., heavy car, 3500+ stall and 10.5:1+ compression.	3	.028	.030	3500 to 6500	11-604-5	294B-8	294	304	256	266	.580	.605	108°
SOLID – Works well in 396-427c.i., 4000+ stall and 11:1+ compression.	3	.028	.030	3600 to 6800	11-601-5	295A-8	295	304	260	266	.629	.605	108°
SOLID – 427+c.i. engines, 4000+ stall, 11:1+ compression.	3	.018	.020	3600 to 6800	11-608-5	TL292A-8	292	308	262	270	.635	.637	108°
SOLID – 2600-3000 lbs. car, 11.5:1+ compression with 4500+ stall. Excellent for 427-454c.i.	3	.028	.030	4200 to 7200	11-605-5	310B-8	310	314	270	276	.638	.631	108°
SOLID – Our best solid for 454c.i. with 4500+ stall and 11.5:1+ compression.	3	.028	.030	4500 to 7500	11-613-5	310C-10	310	320	270	280	.638	.638	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

Mechanical Flat Tappet Camshafts — NOSTALGIA PLUS™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-671-4	SK11-671-4[7]	CL11-671-4[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K11-573-5	SK11-573-5[7]	CL11-573-5[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]

Mechanical Flat Tappet Camshafts (Today's Version Of Yesterday's Muscle Car Cams) — FACTORY MUSCLE™

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
813-16 2900-16	2110 7110	1411-16[17,18] 1620-16[17,18]	7154-16 7954-16	924-16[2] 26120-16	741-16 795-16	612-16 616-16	505-16[2]	622-16	N/A	12200 12140	4021

Mechanical Flat Tappet Camshafts — BLOWER & TURBO

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K11-405-5	SK11-405-5[7]	CL11-405-5[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 930-16[2]	741-16 732-16	612-16[75]	505-16[2]
K11-406-5	SK11-406-5[7]	CL11-406-5[7]	RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 930-16[2]	741-16 732-16	612-16[75]	505-16[2]

Mechanical Flat Tappet Camshafts — PULLER & MUD RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
813-16 807-16[12]	3110 3110KT	1620-16[17,18] 1120-16[17]	7154-16[16] 7954-16[16]	924-16[2] 930-16[2]	741-16 732-16	612-16[75]	505-16[2]	622-16	N/A	12200 12140	4021
813-16 807-16[12]	3110 3110KT	1620-16[17,18] 1120-16[17]	7154-16[16] 7954-16[16]	924-16[2] 930-16[2]	741-16 732-16	612-16[75]	505-16[2]	622-16	N/A	12200 12140	4021

Mechanical Flat Tappet Camshafts — DRAG RACE

813-16 807-16[12]	3110 3110KT	1620-16[17,18] 1120-16[17]	7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75]	505-16[2]	622-16	N/A	12200 12140	4021
813-16 807-16[12]	3110 3110KT	1620-16[17,18] 1120-16[17]	7954-16[16]	924-16[2] 930-16[2]	741-16 732-16	612-16[75]	505-16[2]	622-16	N/A	12200 12140	4021
813-16 807-16[12]	3110 3110KT	1620-16[17,18] 1120-16[17]	7954-16[16]	924-16[2] 930-16[2]	741-16 732-16	612-16[75]	505-16[2]	622-16	N/A	12200 12140	4021
813-16 807-16[12]	3110 3110KT	1620-16[17,18] 1120-16[17]	7954-16[16]	924-16[2] 930-16[2]	741-16 732-16	612-16[75]	505-16[2]	622-16	N/A	12200 12140	4021
813-16 807-16[12]	3110 3110KT	1620-16[17,18] 1120-16[17]	7954-16[16]	924-16[2] 930-16[2]	741-16 732-16	612-16[75]	505-16[2]	622-16	N/A	12200 12140	4021
813-16 807-16[12]	3110 3110KT	1620-16[17,18] 1120-16[17]	7954-16[16]	924-16[2] 930-16[2]	741-16 732-16	612-16[75]	505-16[2]	622-16	N/A	12200 12140	4021

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
12 Hi-Tech™ Lite Lifters. No chamfers.
16 Truck engines have .400" taller block
17 Mark V and Mark VI heads must use kit w/ studs
18 50-State legal for 1993 & earlier BB Chevrolet V8, 396-454c.i. C.A.R.B. E.O. #D-279-4
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

DRAG RACE 4 & 7 SWAP FIRING ORDER — Mechanical Flat Tappet Camshafts (18736542 Firing Order)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
SOLID – 427+ engines, 4000+ stall, 11:1+ compression.	.018	.020	3600 to 6800	11-681-47	47S TL292A	292	308	262	270	.635	.637	108°
SOLID – 2600-3000 lbs. 11.5:1+ compression with 4500+ stall. Excellent for 427-454c.i.	.028	.030	4200 to 7200	11-682-47	47S 310B-8	310	314	270	276	.638	.631	108°
SOLID – Our best solid for 454c.i. with 4500+ stall and 11.5:1+ compression.	.028	.030	4500 to 7500	11-683-47	47S 310C-10	310	320	270	280	.638	.638	110°

OVAL TRACK — Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Best short track cam w/ broad power range. Excellent low end torque, good for 396-427c.i.	.022	.024	3000 to 6500	11-610-5	285B-8	285	295	250	260	.604	.629	108°
SOLID – Good for 1/4 to 1/2 mile track with slight banking, wide torque range.	.022	.024	3500 to 6500	11-601-5	295A-8	295	304	260	266	.629	.605	108°

MAGNUM — Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Great all around power. 3000+ stall with lower gear. Use headers and 9.5:1+ compression. Rough idle.	.020	.020	2200 to 6500	11-692-8[10]	288AR	288	288	246	246	.623	.623	110°
MECHANICAL ROLLER – Ultimate Pro Street cam. 10.5:1+ compression, 3500+ stall or 4 speed. 4.10 gear.	.020	.020	3000 to 7200	11-693-8[10]	308AR	308	308	262	262	.652	.652	110°

XTREME ENERGY™ — Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Great for Power Touring. Needs 2500+ stall, easy on parts. Very reliable power. Rough idle.	.016	.018	2200 to 6200	11-770-8[10]	XR274R	274	280	236	242	.639	.646	110°
MECHANICAL ROLLER – Best in street machines with 2800+ stall, 10:1+ compression with 3.73-3.90 rear gears.	.016	.018	2500 to 6500	11-771-8[10]	XR280R	280	286	242	248	.646	.653	110°
MECHANICAL ROLLER – Good in weekend warrior with 3000+ stall. Needs good intake and exhaust with low gears.	.016	.018	3000 to 7000	11-772-8[10]	XR286R	286	292	248	254	.653	.660	110°
MECHANICAL ROLLER – Best for Pro Street. Needs good intake and exhaust, 11:1+ compression and 3500+ stall.	.016	.018	3200 to 7200	11-773-8[10]	XR292R	292	298	254	260	.660	.666	110°

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Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

Mechanical Flat Tappet Camshafts (18736542 Firing Order) — DRAG RACE 4 & 7 SWAP FIRING ORDER

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
813-16 807-16[12]	3110 3110KT	1620-16[17,18] 1120-16[17]	7954-16[16]	924-16[2] 930-16[2]	741-16 732-16	612-16[75]	505-16[2]	622-16	N/A	12200 12140	4021
813-16 807-16[12]	3110 3110KT	1620-16[17,18] 1120-16[17]	7954-16[16]	924-16[2] 930-16[2]	741-16 732-16	612-16[75]	505-16[2]	622-16	N/A	12200 12140	4021
813-16 807-16[12]	3110 3110KT	1620-16[17,18] 1120-16[17]	7954-16[16]	924-16[2] 930-16[2]	741-16 732-16	612-16[75]	505-16[2]	622-16	N/A	12200 12140	4021

Mechanical Flat Tappet Camshafts — OVAL TRACK

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
813-16 807-16[12]	3110 3110KT	1620-16[17,18] 1120-16[17]	7954-16[16]	924-16[2] 930-16[2]	741-16 732-16	612-16[75]	505-16[2]	622-16	N/A	12200 12140	4021
813-16 807-16[12]	3110 3110KT	1620-16[17,18] 1120-16[17]	7954-16[16]	924-16[2] 930-16[2]	741-16 732-16	612-16[75]	505-16[2]	622-16	N/A	12200 12140	4021

Mechanical Roller Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEARS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RET.	VALVE LOCKS	VALVE SEALS
K11-692-8[10]	SK11-692-8[7,10]	CL11-692-8[7,10]	819-16[6] 866-16[6]	12200 12140	2110 7110	1411-16[17,18] 1120-16[17]	7154-16[16] 7954-16[16]	953-16[2] 26112-16[2]	741-16 729-16	612-16[75]	505-16[2]
K11-693-8[10]	SK11-693-8[7,10]	CL11-693-8[7,10]	819-16[6] 866-16[6]	12200 12140	2110 7110	1411-16[17,18] 1120-16[17]	7154-16[16] 7954-16[16]	953-16 26112-16	741-16 729-16	612-16[75]	505-16[2]

Mechanical Roller Camshafts — XTREME ENERGY™

K11-770-8[10]	SK11-770-8[7,10]	CL11-770-8[7,10]	819-16[6] 866-16[6]	12200 12140	2110 7110	1620-16[17,18] 1120-16[17]	7154-16[16] 7954-16[16]	953-16 26112-16	741-16 729-16	612-16[75]	505-16[2]
K11-771-8[10]	SK11-771-8[7,10]	CL11-771-8[7,10]	819-16[6] 866-16[6]	12200 12140	2110 7110	1620-16[17,18] 1120-16[17]	7154-16[16] 7954-16[16]	953-16 26112-16	741-16 729-16	612-16[75]	505-16[2]
K11-772-8[10]	SK11-772-8[7,10]	CL11-772-8[7,10]	819-16[6] 866-16[6]	12200 12140	2110 7110	1620-16[17,18] 1120-16[17]	7154-16[16] 7954-16[16]	953-16 26112-16	741-16 729-16	612-16[75]	505-16[2]
K11-773-8[10]	SK11-773-8[7,10]	CL11-773-8[7,10]	819-16[6] 866-16[6]	12200 12140	2110 7110	1620-16[17,18] 1120-16[17]	7154-16[16] 7954-16[16]	953-16 26112-16	741-16 729-16	612-16[75]	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
6 Offset lifters available
7 Stock springs cannot be used
10 Requires thrust button & wear plate
12 Hi-Tech™ Lite Lifters. No chamfers.
16 Truck engines have .400" taller block
17 Mark V and Mark VI heads must use kit w/ studs
18 50-State legal for 1993 & earlier BB Chevrolet V8, 396-454c.i. C.A.R.B. E.O. #D-279-4
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

MARINE Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Jet boat with A impeller, flat bottom, hydro. River race.	.028	.030	3500 to 6500	11-706-9[14]	285CR-8	285	295	252	262	.638	.622	108°
MECHANICAL ROLLER – Jet boat with B impeller, flat, hydro. River race, bracket.	.028	.030	4200 to 7000	11-744-9[14]	295DR-10	295	305	260	270	.670	.670	110°
MECHANICAL ROLLER – Hydro, flat bottom jet boat with B impeller. Bracket racing. Easy on parts.	.028	.030	4500 to 7000	11-702-9[14]	306AR-10	306	319	270	280	.680	.680	110°
MECHANICAL ROLLER – Comp jet. Blown gas flat or hydro.	.028	.030	5000 to 7500	11-745-9[14]	310AR-8	310	310	280	280	.772	.772	108°
MECHANICAL ROLLER – 454c.i. and larger engines. River racer – blown gasoline, flat or hydro.	.028	.030	5500 to 7500	11-746-9[14]	319CR-10	319	326	285	288	.782	.714	110°

BLOWER Mechanical Roller Camshafts

MECHANICAL ROLLER – Best for Pro Street and bracket racing with 671 or larger blower.	.020	.020	3500 to 7000	11-694-8[10]	300BR-14	300	308	255	262	.652	.652	114°

PULLER & MUD RACE Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Best cam for 396-402c.i., strong torque, easy on parts.	.028	.030	3200 to 6500	11-700-9[14]	288AR-8	288	296	251	260	.680	.680	108°
MECHANICAL ROLLER – Use in 454c.i. or larger engines. 11.5:1+ compression.	.028	.030	4200 to 7200	11-702-9[14]	306AR-10	306	319	270	280	.680	.680	110°
MECHANICAL ROLLER – Use in 427c.i. with 11:1+ compression.	.028	.030	4000 to 7000	11-711-9[14]	306CR-8	306	319	271	280	.680	.680	108°

DRAG RACE Mechanical Roller Camshafts

MECHANICAL ROLLER – Best for 396c.i. in 3200+ lbs., 3800+ stall, good torque.	.028	.030	3200 to 6200	11-713-9[14]	288CR-8	288	296	254	262	.714	.714	108°
MECHANICAL ROLLER – Works well in 396-427c.i. with 4000+ stall, 11:1+ compression.	.028	.030	3500 to 6500	11-715-9[14]	296CR-8	296	304	262	270	.714	.714	108°
MECHANICAL ROLLER – Super Street . 4500+ stall, 11.5:1+ compression, 427-454.	.028	.030	4000 to 6800	11-717-9[14]	304CR-8	304	312	270	276	.714	.714	108°
MECHANICAL ROLLER – Bracket race 468-496c.i. heavy car, 12:1+ compression.	.024	.026	4800 to 7200	11-724-9[14]	306BR-10	306	315	270	280	.714	.710	110°
MECHANICAL ROLLER – Super Gas/Super Comp. Aftermarket heads, up to 500c.i.	.026	.028	5000 to 7500	11-825-9[14]	311R-10	311	315	272	280	.748	.710	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

Mechanical Roller Camshafts — MARINE

K-KIT	SK-KIT	CL-KIT	LIFTERS	DIST. GEAR	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RET.	VALVE LOCKS	VALVE SEALS
K11-706-9[14]	SK11-706-9[7,14]	CL11-706-9[7,14]	819-16[6] 866-16[6]	12200 12140	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	944-16[2] 26097-16[2]	731-16 732-16	612-16[75]	505-16[2]
K11-744-9[14]	SK11-744-9[7,14]	CL11-744-9[7,14]	819-16[6] 866-16[6]	12200 12140	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	944-16[2] 26097-16[2]	731-16 732-16	612-16[75]	505-16[2]
K11-702-9[14]	SK11-702-9[7,14]	CL11-702-9[7,14]	819-16[6] 866-16[6]	12200 12140	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	944-16[2] 26097-16[2]	731-16 732-16	612-16[75]	505-16[2]
K11-745-9[14]	SK11-745-9[7,14]	CL11-745-9[7,14]	819-16[6] 866-16[6]	12200 12140	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	944-16[2] 26097-16[2]	731-16 732-16	612-16[75]	505-16[2]
K11-746-9[14]	SK11-746-9[7,14]	CL11-746-9[7,14]	819-16[6] 866-16[6]	12200 12140	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	944-16[2] 26097-16[2]	731-16 732-16	612-16[75]	505-16[2]

Mechanical Roller Camshafts — BLOWER

K11-694-8[10]	SK11-694-8[7,10]	CL11-694-8[7,10]	819-16[6] 866-16[6]	12200 12140	3110KT 6200	1620-16[17,18] 1120-16[17]	7154-16[16] 7954-16[16]	953-16[2] 26112-16[2]	741-16 729-16	612-16[75]	505-16[2]

Mechanical Roller Camshafts — PULLER & MUD RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RET.	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
819-16[6] 98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	944-16[2] 26097-16[2]	731-16 732-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
819-16[6] 98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	944-16[2] 26097-16[2]	731-16 732-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
819-16[6] 98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	944-16[2] 26097-16[2]	731-16 732-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021

Mechanical Roller Camshafts — DRAG RACE

819-16[6] 98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
819-16[6] 98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
819-16[6] 98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
819-16[6] 98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
6 Offset lifters available
7 Stock springs cannot be used
10 Requires thrust button & wear plate
14 Requires upgraded gear, thrust button & wear plate
16 Truck engines have .400" taller block
17 Mark V and Mark VI heads must use kit w/ studs
18 50-State legal for 1993 & earlier BB Chevrolet V8, 396-454c.i. C.A.R.B. E.O. #D-279-4
20 Tall block engines require Part #4005
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

DRAG RACE Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Super Street/ Super Gas, 427-468c.i., 5000+ stall, 2500-3000 lbs. car.	.028	.030	4500 to 7300	11-703-9[14]	312CR-10	312	319	278	282	.714	.680	110°
MECHANICAL ROLLER – Super Street/ Super Gas, 427-468c.i. 5000+ stall, 12:1+ compression.	.028	.030	4500 to 7300	11-734-9[14]	313GR-10	313	322	276	284	.748	.714	110°
MECHANICAL ROLLER – Super Gas/Super Comp. 496-540c.i.	.022	.024	5000 to 7000	11-827-9[14]	316FR-12	316	332	283	294	.800	.765	112°
MECHANICAL ROLLER – Bracket 500+c.i., tunnel cam, 5500+ stall or manual.	.024	.028	5600 to 8000	11-733-9[14]	322A-R12	322	339	282	298	.806	.758	112°
MECHANICAL ROLLER – Super Gas/Super Comp. 5000+ stall or 4 speed, 454+c.i.	.028	.030	5000 to 7800	11-718-9[14]	322AR-10	322	330	282	292	.726	.714	110°
MECHANICAL ROLLER – Super Gas/Super Comp. 5000+ stall or 4 speed, 500+c.i.	.028	.030	5000 to 7800	11-736-9[14]	324IR-10	324	332	286	294	.775	.748	110°
MECHANICAL ROLLER – Super Comp. Best in light car, 5500+ stall, 454+c.i.	.028	.030	5500 to 8500	11-720-9[14]	321CR-10	321	322	284	288	.748	.714	110°
MECHANICAL ROLLER – Super Comp. 5000+ stall, 500+c.i.	.028	.030	5000 to 7500	11-740-9[14]	321JR-12	321	336	284	296	.748	.748	112°
MECHANICAL ROLLER – Fast Bracket/ Super Comp. 5500+ stall or 4-speed, 454+ engine.	.028	.030	5200 to 7800	11-738-9[14]	324FR-10	324	336	284	296	.800	.748	110°
MECHANICAL ROLLER – Bracket race 500-572c.i.	.026	.028	5200 to 7500	11-721-9[14]	324AR-12	324	332	284	292	.775	.748	112°
MECHANICAL ROLLER – Super Stock 454 auto or manual w/ 1.8 and 1.7 rockers.	.024	.030	5500 to 8000	11-719-9[14]	316AR-11	316	338	284	295	.873	.782	111°
MECHANICAL ROLLER – Top Sportsman 550+c.i. nitrous or big mph bracket.	.024	.028	5600 to 8000	11-726-9[14]	316BR-14	316	348	284	308	.824	.782	114°
MECHANICAL ROLLER – 550-600c.i. engines. Pro Street. Pontiac heads, works with nitrous.	.028	.030	5200 to 8000	11-727-9[14]	324DR-12	324	340	284	300	.800	.748	112°
MECHANICAL ROLLER – Bracket/Quick 16 520-600c.i. w/ 300 hp nitrous.	.024	.026	5200 to 7800	11-725-9[14]	326AR-14	326	346	286	310	.810	.756	114°
MECHANICAL ROLLER – For 500+c.i. engines with nitrous.	.026	.028	5500 to 8000	11-826-9[14]	326R-14	326	346	286	310	.812	.758	114°
MECHANICAL ROLLER – For 600+c.i. engines. Pro Street. Pontiac heads. Works well with nitrous.	.028	.030	5200 to 8000	11-722-9[14]	328BR-14	328	344	288	304	.810	.782	114°
MECHANICAL ROLLER – 600+c.i. and larger engines with big nitrous oxide.	.022	.024	6000 to 8000	11-729-9[14]	328PR-16	328	356	288	316	.819	.816	116°
MECHANICAL ROLLER – 550-600c.i. Pro Street engines with nitrous. More aggressive than Part #11-727-9.	.028	.030	5400 to 8200	11-732-9[14]	324FR-14	324	348	289	308	.867	.782	114°
MECHANICAL ROLLER – Pro Stock, 600+c.i. with manual transmission, light car.	.022	.024	7000 to 9000	11-728-9[14]	324PR-14	324	352	289	312	.867	.816	114°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

Mechanical Roller Camshafts **DRAG RACE**

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	TITANIUM RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
819-16[6] 98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	948-16[2] 26082-16[2]	735-16 722-16	612-16[75]	506-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	948-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	948-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	948-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	948-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	948-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	948-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26082-16[2] 26028-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26082-16[2] 26028-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
6 Offset lifters available
14 Requires upgraded gear, thrust button & wear plate
16 Truck engines have .400" taller block
17 Mark V and Mark VI heads must use kit w/ studs
18 50-State legal for 1993 & earlier BB Chevrolet V8, 396-454c.i. C.A.R.B. E.O. #D-279-4
20 Tall block engines require Part #4005
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

DRAG RACE

Mechanical Roller Camshafts - Xtreme RX Rollers use COMP® Drag roller profiles to give more lift, more area under the curve and shorter seat timing than any other high rpm drag racing series we have offered. Great for all out drag race

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Lower rpm bracket with good heads.	3	.026	.028	4300 to 8000	11-735-9[14]	310RXD-14	310	330	277	292	.800	.800	114°
MECHANICAL ROLLER – Small Comp Eliminator with high ratio rockers and Fast Bracket, 1.8 and 1.7.	3	.024	.026	4800 to 8500	11-737-9[14]	314RXD-14	314	334	281	296	.873	.800	114°
MECHANICAL ROLLER – Large Comp Eliminator with high ratio rockers and Fast Bracket, 1.8 and 1.7.	3	.024	.026	5000 to 9000	11-739-9[14]	318RXD-14	318	338	285	300	.873	.800	114°
MECHANICAL ROLLER – Large cubic inch and nitrous applications.	3	.024	.026	5000 to 9000	11-741-9[14]	314RXH-15	314	338	281	300	.839	.800	115°
MECHANICAL ROLLER – Very large cubic inch and nitrous applications.	3	.024	.026	5200 to 9200	11-742-9[14]	318RXH-16	318	352	285	312	.846	.810	116°
MECHANICAL ROLLER – Pro Mod and Mountain motor applications.	3	.024	.026	4800 to 8500	11-743-9[14]	322RXH-18	322	360	292	320	.878	.867	118°

DRAG RACE 4 & 7 SWAP FIRING ORDER

Mechanical Roller Camshafts (18736542 Firing Order)

MECHANICAL ROLLER – Good bracket, good heads, 11:1+ compression, 4500-5000 stall.	3	.026	.028	4800 to 7400	11-748-14[14]	47S 312R10	312	319	278	280	.714	.680	110°
MECHANICAL ROLLER – Good Super Gas, 11:1+ compression, 4500+ stall, 427-468c.i.	3	.028	.030	4600 to 7400	11-749-14[14]	47S 313R10	313	322	276	284	.748	.714	110°
MECHANICAL ROLLER – Fast Bracket, good heads, 13:1+ compression., 5000+ stall, small N2O.	3	.026	.028	5000 to 8500	11-747-14[14]	47S 321R12	321	336	284	296	.748	.748	112°
MECHANICAL ROLLER – Lower rpm bracket with good heads.	3	.026	.028	4300 to 8000	11-750-14[14]	47S 310RXD-14	310	330	277	292	.800	.800	114°
MECHANICAL ROLLER – Quick 16 and Fast Bracket, 1.8 and 1.7.	3	.024	.026	4800 to 8500	11-751-14[14]	47S 314RXD-14	314	334	281	296	.873	.800	114°
MECHANICAL ROLLER – Large cubic inch Quick 16, Eliminator with high ratio rockers and Fast Bracket, 1.8 and 1.7.	3	.024	.026	5000 to 9000	11-752-14[14]	47S 318RXD-14	318	338	285	300	.824	.800	114°
MECHANICAL ROLLER – Large cubic inch and nitrous applications.	3	.024	.026	5000 to 9000	11-753-14[14]	47S 314RXH-15	314	338	281	300	.839	.800	115°
MECHANICAL ROLLER – Nitrous and blown race applications.	3	.024	.026	5200 to 9200	11-754-14[14]	47S 318RXH-16	318	352	285	312	.846	.810	116°
MECHANICAL ROLLER – Pro Mod and Mountain motor applications.	3	.024	.026	4800 to 8500	11-755-14[14]	47S 322PMR-18	322	360	292	320	.878	.867	118°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

Mechanical Roller Camshafts - Xtreme RX Rollers use COMP® RX Drag roller profiles to give more lift, more area under the curve and shorter seat timing than any other high rpm drag racing series we have offered. Great for all out drag race — **DRAG RACE**

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	TITANIUM RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	948-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26082-16[2] 26028-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26082-16[2] 26028-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26082-16[2] 26028-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26082-16[2] 26028-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26082-16[2] 26028-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021

Mechanical Roller Camshafts (18736542 Firing Order) — **DRAG RACE 4 & 7 SWAP FIRING ORDER**

891-16[6] 98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	948-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	948-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	948-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	948-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26082-16[2] 26028-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26082-16[2] 26028-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26082-16[2] 26028-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26082-16[2] 26028-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26082-16[2] 26028-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26082-16[2] 26028-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26082-16[2] 26028-16[2]	735-16 722-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
6 Offset lifters available
14 Requires upgraded gear, thrust button & wear plate
16 Truck engines have .400" taller block
17 Mark V and Mark VI heads must use kit w/ studs
18 50-State legal for 1993 & earlier BB Chevrolet V8, 396-454c.i. C.A.R.B. E.O. #D-279-4
20 Tall block engines require Part #4005
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

OVAL TRACK — Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Best cam for short track engines. 1/4 to 3/8 mile.	.022	.024	3200 to 6200	11-700-9[14]	288AR-8	288	296	251	260	.680	.680	108°
MECHANICAL ROLLER – Best for 3/8 to 1/2 mile with 468c.i. motor. Broad torque curve.	.022	.024	3500 to 6500	11-701-9[14]	296AR-8	296	306	260	270	.680	.680	108°
MECHANICAL ROLLER – 3/8 to 5/8 mile high bank track. Works best in large engine.	.022	.024	3800 to 6800	11-704-9[14]	300BR-8	300	308	266	274	.714	.714	108°

OVAL TRACK — Mechanical Roller Camshafts - Xtreme RX Rollers use COMP® RX intake and RZ exhaust profiles to provide the ultimate in high rpm power and durability. (Custom Grinds Available)

MECHANICAL ROLLER – 427-454c.i. Good torque for short tracks with tight turns.	.020	.022	3200 to 6200	11-850-9[14]	286RX-8	286	293	253	260	.727	.729	108°
MECHANICAL ROLLER – 468c.i. Broad power for mid-size tracks. Easy on parts.	.020	.022	3600 to 6600	11-851-9[14]	294RX-8	294	303	261	270	.734	.737	108°
MECHANICAL ROLLER – 468-500c.i. For larger tracks with wide turns.	.020	.022	4000 to 7000	11-852-9[14]	300RX-10	300	309	267	276	.739	.742	110°

Elite Race™ Lifters

The COMP Cams® Elite Race™ Lifters feature and SAE 8620 stainless steel alloy body that is CNC-machined and REM-finished, SAE 9310 steel alloy wheels that re micro-polished and micro-sized and needles that are made from 52100 bearing steel and micro-sorted with a controlled contour profile.

- Modular design
- Tool Steel, dual-pinned axles
- Pressure-fed oiling
- Captured link bars



ELITE RACE

See Page 287

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

Mechanical Roller Camshafts — OVAL TRACK

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	TITANIUM RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
819-16[6] 98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	944-16[2] 26091-16[2]	731-16 784-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
819-16[6] 98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	944-16[2] 26091-16[2]	731-16 784-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
819-16[6] 98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	944-16[2] 26091-16[2]	731-16 784-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021

Mechanical Roller Camshafts - Xtreme RX Rollers use COMP® RX intake and RZ exhaust profiles to provide the ultimate in high rpm power and durability. (Custom Grinds Available) — OVAL TRACK

98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26099-16[2]	733-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26099-16[2]	733-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021
98819-16[6]	3110KT 6200	1620-16[17,18] 1120-16[17]	7954-16[16]	26099-16[2]	733-16	612-16[75]	505-16[2]	622-16	4003[20]	12200 12140	4021

Ultra Pro Magnum™ Rockers

Ultra Pro Magnum™ Rocker arms set a new standard in stud mount rocker performance. They feature a web-like, arched design to increase strength and rigidity, as well as reduce the moment of inertia and optimize the dynamic balance.



- Investment cast 8650 chromemoly steel body
- Increased spring and retainer clearance for use of larger springs, retainers and locks without fitment issues
- Unique black oxide exterior finish prevents corrosion for ultimate performance

Rebuildable design and lifetime guarantee on the rocker body!

See Page 315

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
6 Offset lifters available
14 Requires upgraded gear, thrust button & wear plate
16 Truck engines have .400" taller block
17 Mark V and Mark VI heads must use kit w/ studs
18 50-State legal for 1993 & earlier BB Chevrolet V8, 396-454c.i. C.A.R.B. E.O. #D-279-4
20 Tall block engines require Part #4005
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET GEN VI 454 & 502 C.I. 8 CYL. 1996-1999

XTREME ENERGY™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Very strong low speed torque with excellent mileage.	Hyd.	Hyd.	600 to 4600	01-405-8[37]	XR252HR	252	258	200	206	.510	.510	110°
HYDRAULIC ROLLER – Great low end torque, good for towing or in RV. Works with stock intake and exhaust.	Hyd.	Hyd.	1000 to 5000	01-409-8[37]	XR258HR	258	264	206	212	.510	.510	110°
HYDRAULIC ROLLER – Good for mild performance driving with good low end and great mid-range power. Good mileage.	Hyd.	Hyd.	1200 to 5200	01-411-8[37]	XR264HR	264	270	212	218	.510	.510	110°
HYDRAULIC ROLLER – Best in performance applications with great mid-range power. Likes headers.	Hyd.	Hyd.	1600 to 5400	01-414-8[37]	XR270HR	270	276	218	224	.510	.510	110°
HYDRAULIC ROLLER – Great for high performance street machines, needs intake, headers, lower gears and 2000+ stall.	Hyd.	Hyd.	1900 to 5600	01-416-8[37]	XR276HR	276	282	224	230	.510	.510	110°
HYDRAULIC ROLLER – For high performance street engines, needs 2500+ stall, improved intake manifold, headers and lower gears.	Hyd.	Hyd.	2200 to 5800	01-418-8[37]	XR282HR	282	288	230	236	.510	.510	110°
HYDRAULIC ROLLER – Street/strip applications with 10:1+ compression and 2800+ stall. Rough idle, needs good intake and headers.	Hyd.	Hyd.	2500 to 6000	01-421-8[37]	XR288HR	288	294	236	242	.521	.540	110°
HYDRAULIC ROLLER – Best for serious street/strip use with 10.5:1+ compression and 3000+ stall. Needs good intake, headers and ported heads.	Hyd.	Hyd.	2800 to 6200	01-424-8[37]	XR294HR	294	300	242	248	.540	.560	110°
HYDRAULIC ROLLER – Good for Pro Street and bracket racing. Needs 10.5:1+compression, 3500+ stall, very good intake, headers with low gears.	Hyd.	Hyd.	3000 to 6400	01-425-8[37]	XR300HR	300	306	248	254	.560	.580	110°
HYDRAULIC ROLLER – Works well with nitrous and blower applications. Needs 3000+ stall and all upgraded parts.	Hyd.	Hyd.	2800 to 6400	01-426-8[37]	XR294HR-14	294	300	242	248	.540	.560	114°
HYDRAULIC ROLLER – Works well with large c.i. engines. Great for bracket racing, with all upgraded parts, needs 3500+ stall.	Hyd.	Hyd.	3000 to 6600	01-427-8[37]	XR300HR-14	300	306	248	254	.560	.580	114°



Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET GEN VI 454 & 502 C.I. 8 CYL. 1996-1999

Hydraulic Roller Camshafts | XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K01-405-8[57]	SK01-405-8[7,37]	CL01-405-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K01-409-8[57]	SK01-409-8[7,37]	CL01-409-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K01-411-8[57]	SK01-411-8[7,37]	CL01-411-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K01-414-8[57]	SK01-414-8[7,37]	CL01-414-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K01-416-8[57]	SK01-416-8[7,37]	CL01-416-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K01-418-8[57]	SK01-418-8[7,37]	CL01-418-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K01-421-8[57]	SK01-421-8[7,37]	CL01-421-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[2]	505-16[2]
K01-424-8[57]	SK01-424-8[7,37]	CL01-424-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[2]	505-16[2]
K01-425-8[57]	SK01-425-8[7,37]	CL01-425-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[2]	505-16[2]
K01-426-8[57]	SK01-426-8[7,37]	CL01-426-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[2]	505-16[2]
K01-427-8[57]	SK01-427-8[7,37]	CL01-427-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[2]	505-16[2]

TIP

COMP Cams® offers four levels of complete component-matched cam kits that deliver unbeatable performance, durability and ease of installation.

K-Kit – Complete Kit
SK-Kit – Small Kit
GK-Kit – Gear Drive Kit
CL-Kit – Cam & Lifter Kit

See page 14 of this Master Catalog for more information on COMP Cams® Power Engineered Systems.

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
37 Adjustable valve train required
57 K-Kit includes Part #4514-KIT rocker arm adjusting kit and pushrods
58 Requires Part #4514-KIT, except on factory aluminum heads
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET GEN VI 454 & 502 C.I. 8 CYL. 1996-1999

XTREME ENERGY™ Computer Controlled Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Good replacement cam for minimally modified fuel injection engines.	Hyd.	Hyd.	800 to 4800	01-410-8[37]	XR258HR-13	258	267	206	212	.510	.510	113°
HYDRAULIC ROLLER – Very good low rpm torque. Great for towing applications, works with fuel injection.	Hyd.	Hyd.	1200 to 5200	01-412-8[37]	XR264HR-13	264	270	212	218	.510	.510	113°
HYDRAULIC ROLLER – Great mid-range power, likes headers and needs programmer.	Hyd.	Hyd.	1500 to 5500	01-415-8[37]	XR270HR-13	270	276	218	224	.510	.510	113°
HYDRAULIC ROLLER – Great in performance applications using programmer and 2200+ stall converter.	Hyd.	Hyd.	1800 to 5800	01-417-8[37]	XR276HR-13	276	282	224	230	.510	.510	113°
HYDRAULIC ROLLER – Works well with ported heads, serious valve train upgrade required, needs 2200+ stall and programmer.	Hyd.	Hyd.	1800 to 6000	01-775-8[37]	XR271HR-12	271	279	224	232	.591	.601	112°
HYDRAULIC ROLLER – Best in high performance street engines, needs intake, headers, 2400+ stall converter and programmer.	Hyd.	Hyd.	2000 to 6000	01-419-8[37]	XR282HR-14	282	288	230	236	.510	.520	114°
HYDRAULIC ROLLER – Best in high performance street and race engines. Needs intake, headers, lower gear, 2600+ stall and programmer.	Hyd.	Hyd.	2200 to 6200	01-422-8[37]	XR288HR-14	288	294	236	242	.520	.539	114°

New THUMPR™ Retro-Fit Hydraulic Roller Camshafts

HYDRAULIC ROLLER – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears, choppy/thumping idle.	Hyd.	Hyd.	1900 to 5600	01-600-8[37]	283THR7	283	303	227	241	.547	.530	107°
HYDRAULIC ROLLER – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 5900	01-601-8[37]	291THR7	291	311	235	249	.557	.542	107°
HYDRAULIC ROLLER – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6200	01-602-8[37]	299THR7	299	319	243	257	.569	.554	107°

TIP

For more information about Thumpr™ Cams, see page 238 of this Master Catalog.
See our Classic Thumpr™ Cam applications on page 262-263.

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET GEN VI 454 & 502 C.I. 8 CYL. 1996-1999

Computer Controlled Hydraulic Roller Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K01-410-8[57]	SK01-410-8[7,37]	CL01-410-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K01-412-8[57]	SK01-412-8[7,37]	CL01-412-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K01-415-8[57]	SK01-415-8[7,37]	CL01-415-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K01-417-8[57]	SK01-417-8[7,37]	CL01-417-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K01-775-8[57]	SK01-775-8[7,37]	CL01-775-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	924-16[2] 26120-16	748-16 741-16	612-16[75] 616-16	505-16[2]
K01-419-8[57]	SK01-419-8[7,37]	CL01-419-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K01-422-8[57]	SK01-422-8[7,37]	CL01-422-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16	505-16[2]

Retro-Fit Hydraulic Roller Camshafts — THUMPR™

K01-600-8[57]	N/A	CL01-600-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K01-601-8[57]	N/A	CL01-601-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
K01-602-8[57]	N/A	CL01-602-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
37 Adjustable valve train required
57 K-Kit includes Part #4514-KIT rocker arm adjusting kit and pushrods
58 Requires Part #4514-KIT, except on factory aluminum heads
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET GEN VI 454 & 502 C.I. 8 CYL. 1996-1999

XTREME MARINE™ Hydraullic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Good for inboard/ outboard pleasure boats, has good idle.	Hyd.	Hyd.	1600 to 5400	01-445-8[37]	XM270HR	270	276	218	224	.510	.510	112°
HYDRAULIC ROLLER – Good for jet boat with A impeller. Great for pleasure or mild performance use.	Hyd.	Hyd.	2200 to 5800	01-451-8[37]	XM284HR	284	290	230	236	.547	.547	112°
HYDRAULIC ROLLER – Good for jet boat with A or B impeller in bracket racing or performance use.	Hyd.	Hyd.	2800 to 6200	01-456-8[37]	XM296HR	296	302	242	248	.566	.566	112°
HYDRAULIC ROLLER – Good in jet boat with B impeller, 10:1+ compression, running river drags or bracket racing.	Hyd.	Hyd.	3500 to 6500	01-461-8[37]	XM308HR	308	314	254	260	.575	.575	112°

TRI-POWER XTREME™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Optimized fuel mileage with good torque and hp.	Hyd.	Hyd.	600 to 4600	01-525-8[37]	TPX246HR-16	246	258	194	206	.500	.493	116°
HYDRAULIC ROLLER – Exceptional torque with good hp and moderate fuel economy.	Hyd.	Hyd.	800 to 4800	01-530-8[37]	TPX254HR-15	254	264	202	212	.507	.500	115°
HYDRAULIC ROLLER – Optimized horsepower with good torque and average fuel economy.	Hyd.	Hyd.	1200 to 5200	01-535-8[37]	TPX262HR-14	262	270	210	218	.513	.507	114°

DRAG RACE Mechanical Roller Camshafts

MECHANICAL ROLLER – Great in Super Street when using a heavy car, very good power band.	.024	.026	3500 to 6800	01-712-9[37]	296ER-8	296	304	260	268	.714	.714	108°
MECHANICAL ROLLER – Good for Super Street or Super Gas with 4500+ stall.	.024	.026	4500 to 7300	01-708-9[37]	312AR-10	312	319	276	280	.714	.680	110°
MECHANICAL ROLLER – Best in Super Comp or Super Gas with 5000+ stall.	.024	.026	5000 to 7800	01-710-9[37]	322CR-10	322	330	282	292	.727	.714	110°

ProRacing Sim® Software



ProRacing Sim® offers a complete line of affordable and accurate computer software simulations. These programs were designed to be easy-to-use for beginners and in-depth enough for professionals to find race winning combinations. Available are engine, drag strip and race vehicle simulation.

See Page 397-399

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET GEN VI 454 & 502 C.I. 8 CYL. 1996-1999

Hydraullic Roller Camshafts — XTREME MARINE™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K01-445-8[57]	SK01-445-8[7,37]	CL01-445-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
K01-451-8[57]	SK01-451-8[7,37]	CL01-451-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16	505-16[2]
K01-456-8[57]	SK01-456-8[7,37]	CL01-456-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16	505-16[2]
K01-461-8[57]	SK01-461-8[7,37]	CL01-461-8[7,37]	RPS302	900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	930-16[2] 26120-16	741-16 795-16	612-16[75] 616-16	505-16[2]

Hydraulic Roller Camshafts — TRI-POWER XTREME™

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	911-16 26120-16	748-16 795-16	612-16[75] 616-16	504-16 505-16[2]	622-16	N/A	12200 12140	4021
900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	911-16 26120-16	748-16 795-16	612-16[75] 616-16	504-16 505-16[2]	622-16	N/A	12200 12140	4021
900-16	3149KT	1411-16[58] 1620-16[58]	7815-16	911-16 26120-16	748-16 795-16	612-16[75] 616-16	504-16 505-16[2]	622-16	N/A	12200 12140	4021

Mechanical Roller Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
883-16	3149KT	1411-16[58] 1620-16[58]	7954-16	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2] 506-16[2]	622-16	N/A	12200 12140	4021
883-16	3149KT	1411-16[58] 1620-16[58]	7954-16	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2] 506-16[2]	622-16	N/A	12200 12140	4021
883-16	3149KT	1411-16[58] 1620-16[58]	7954-16	947-16[2] 26082-16[2]	735-16 722-16	612-16[75]	505-16[2] 506-16[2]	622-16	N/A	12200 12140	4021

NITROUS HELP™
888.817.1008

CAMHELP®
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Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
37 Adjustable valve train required
57 K-Kit includes Part #4514-KIT rocker arm adjusting kit and pushrods
58 Requires Part #4514-KIT, except on factory aluminum heads
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.

RED NUMBERS ARE THE PREMIUM CHOICE

GM 8100/8.1L 8 CYL. 2001-PRESENT

XTREME ENERGY™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Great torque, good for towing and RVs. Works with OE intake and exhaust.	Hyd.	Hyd.	800 to 4800	46-408-9[37]	XR258HR	258	264	206	212	.510	.510	112°
HYDRAULIC ROLLER – Good mid-range performance, great daily driver, headers recommended.	Hyd.	Hyd.	1000 to 5000	46-413-9[37]	XR264HR	264	270	212	218	.510	.510	114°
HYDRAULIC ROLLER – Best in performance applications, aftermarket intake and exhaust recommended.	Hyd.	Hyd.	1200 to 5200	46-422-9[37]	XR270HR	270	276	218	224	.510	.510	114°

TRI-POWER XTREME™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Optimized fuel mileage with good torque and hp.	Hyd.	Hyd.	600 to 4600	46-525-9	TPX246HR-16	246	258	194	206	.500	.493	116°
HYDRAULIC ROLLER – Exceptional torque with good hp and moderate fuel economy.	Hyd.	Hyd.	800 to 4800	46-530-9	TPX254HR-15	254	264	202	212	.507	.500	115°
HYDRAULIC ROLLER – Optimized horsepower with good torque and average fuel economy.	Hyd.	Hyd.	1000 to 5000	46-535-9[37]	TPX262HR-14	262	270	210	218	.513	.507	114°

GM 6600/6.6L DURAMAX DIESEL 2000-PRESENT

TRI-POWER XTREME™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.37/1.69 ROCKER IN.	VALVE LIFT W/ 1.37/1.69 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Perfect for mild modfications, optimized fuel mileage and improved torque/hp. Good for heavy towing.	.010	.010	1200 to 3800	132-500-12	246XD R108	246	254	185	188	.420	.420	108°
MECHANICAL ROLLER – Designed for modified performance applications (Exh., programmer, etc. upgrades). Good for limited towing.	.010	.010	1500 to 4200	132-501-12	258XD R109	258	268	197	202	.450	.450	109°
MECHANICAL ROLLER – Optimized horsepower for heavily modified, street/strip, non-towing, high rpm applications.	.010	.010	1800 to 4600	132-502-12	270XD R109	270	282	209	216	.480	.480	109°

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Except as noted, not legal for sale or use on pollution-controlled motor vehicles

GM 8100/8.1L 8 CYL. 2001-PRESENT

Hydraulic Roller Camshafts — XTREME ENERGY™

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
900-16	3149KT	1411-16[58]	7815-16	911-16 26120-16	748-16 795-16	612-16[75] 616-16[75]	504-16 505-16[2]	N/A	N/A	N/A	N/A
900-16	3149KT	1411-16[58]	7815-16	911-16 26120-16	748-16 795-16	612-16[75] 616-16[75]	504-16 505-16[2]	N/A	N/A	N/A	N/A
900-16	3149KT	1411-16[58]	7815-16	911-16 26120-16	748-16 795-16	612-16[75] 616-16[75]	504-16 505-16[2]	N/A	N/A	N/A	N/A

Hydraulic Roller Camshafts — TRI-POWER XTREME™

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
900-16	3149KT	1411-16[58]	7815-16	911-16 26120-16	748-16 795-16	612-16[75] 616-16[75]	504-16 505-16[2]	N/A	N/A	N/A	N/A
900-16	3149KT	1411-16[58]	7815-16	911-16 26120-16	748-16 795-16	612-16[75] 616-16[75]	504-16 505-16[2]	N/A	N/A	N/A	N/A
900-16	3149KT	1411-16[58]	7815-16	911-16 26120-16	748-16 795-16	612-16[75] 616-16[75]	504-16 505-16[2]	N/A	N/A	N/A	N/A

GM 6600/6.6L DURAMAX DIESEL 2000-PRESENT

Hydraulic Roller Camshafts — TRI-POWER XTREME™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	26113-32 26125-32	701-32	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	26113-32 26125-32	701-32	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	26113-32 26125-32	701-32	N/A	N/A

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Inglese
866.450.8089

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
37 Adjustable valve train required
58 Requires Part #4514-KIT, except on factory aluminum heads
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.

RED NUMBERS ARE THE PREMIUM CHOICE

OLDSMOBILE 260-455 C.I. 8 CYL. 1967-1990

HIGH ENERGY™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Ideal for family sedans. Good low end torque and economy, smooth idle.	Hyd.	Hyd.	800 to 4800	42-227-4	252H	252	252	206	206	.433	.433	110°
HYDRAULIC – Excellent power for towing. Good performance with highway gears, smooth idle.	Hyd.	Hyd.	1200 to 5200	42-228-4	260H	260	260	212	212	.447	.447	110°
HYDRAULIC – Performance camshaft for mild street machines. Broad power, noticeable idle.	Hyd.	Hyd.	1500 to 5500	42-229-4	268H	268	268	218	218	.456	.456	110°

MAGNUM Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Great performance with stock to mild converter. Needs low gear in small engines, likes headers. Mild rough idle.	Hyd.	Hyd.	1800 to 5800	42-308-4	270H	270	270	224	224	.501	.501	110°
HYDRAULIC – Good for street machine with mild 2200+ stall. Use headers and lower gears. Rough idle.	Hyd.	Hyd.	2000 to 6000	42-231-4	280H	280	280	230	230	.490	.490	110°
HYDRAULIC – Street/strip, 3000+ stall, with aftermarket manifolds, lower gears, increased compression. Very rough idle.	Hyd.	Hyd.	2500 to 6500	42-236-4[37]	292H	292	292	244	244	.518	.518	110°
HYDRAULIC – Pro Street/bracket race cam, good for large engines with 3500+ stall and low gears. Radical idle.	Hyd.	Hyd.	3000 to 6800	42-237-4[37]	305H	305	305	253	253	.540	.540	110°

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Very strong torque, excellent mileage, smooth idle.	Hyd.	Hyd.	600 to 4800	42-220-4	XE250H	250	260	206	212	.443	.448	110°
HYDRAULIC – Strong torque through low end and mid-range, good idle.	Hyd.	Hyd.	1000 to 5200	42-221-4	XE256H	256	268	212	218	.453	.456	110°
HYDRAULIC – Excellent response, good mileage, stock converter mild gear.	Hyd.	Hyd.	1200 to 5600	42-222-4	XE262H	262	274	218	224	.475	.480	110°
HYDRAULIC – Good for street machines, slightly rough idle, 1800+ stall.	Hyd.	Hyd.	1600 to 5800	42-223-4	XE268H	268	280	224	230	.485	.490	110°
HYDRAULIC – High performance street, very strong mid-range, headers and 2200+ stall.	Hyd.	Hyd.	1800 to 6000	42-224-4[37]	XE274H	274	286	230	236	.520	.523	110°
HYDRAULIC – Street/strip, needs 9:1+ compression. 2800+ stall, headers, gears, rough idle.	Hyd.	Hyd.	2300 to 6500	42-225-4[37]	XE284H	284	296	240	246	.541	.544	110°
HYDRAULIC – Pro Street/bracket, good intake, headers, gear, 3200+ stall.	Hyd.	Hyd.	2800 to 6800	42-226-4[37]	XE294H	294	306	250	256	.554	.558	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

OLDSMOBILE 260-455 C.I. 8 CYL. 1967-1990

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
Hydraulic Roller Camshafts — HIGH ENERGY™											
K42-227-4	SK42-227-4	CL42-227-4	1441-KIT[44]	852-16 863-16[37]	3213 2113	1242-16	7842-16[42,51]	901-16 995-16[2]	743-16 740-16	601-16 611-16	502-16 503-16[2]
K42-228-4	SK42-228-4	CL42-228-4	1441-KIT[44]	852-16 863-16[37]	3213 2113	1242-16	7842-16[42,51]	901-16 995-16[2]	743-16 740-16	601-16 611-16	502-16 503-16[2]
K42-229-4	SK42-229-4[7]	CL42-229-4[7]	1441-KIT[44]	852-16 863-16[37]	3213 2113	1442-16[1] 1044-16[1]	7842-16[42,51]	901-16 995-16[2]	743-16 740-16	601-16 611-16	502-16 503-16[2]
Hydraulic Flat Tappet Camshafts — MAGNUM											
K42-308-4	SK42-308-4[7]	CL42-308-4[7]	1441-KIT[44]	852-16 863-16[37]	2113 2113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K42-231-4	SK42-231-4[7]	CL42-231-4[7]	1441-KIT[44]	852-16 863-16[37]	2113 2113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K42-236-4[37]	SK42-236-4[7,37]	CL42-236-4[7,37]	1441-KIT[44]	852-16 863-16[37]	2113 2113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K42-237-4[37]	SK42-237-4[7,37]	CL42-237-4[7,37]	1441-KIT[44]	852-16 863-16[37]	2113 2113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
Hydraulic Flat Tappet Camshafts — XTREME ENERGY™											
K42-220-4	SK42-220-4	CL42-220-4	1441-KIT[44]	852-16 863-16[37]	3213 2113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	901-16 995-16[2]	743-16 740-16	601-16 611-16	502-16 503-16[2]
K42-221-4	SK42-221-4[7]	CL42-221-4[7]	1441-KIT[44]	852-16 863-16[37]	3213 2113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	901-16 995-16[2]	743-16 740-16	601-16 611-16	502-16 503-16[2]
K42-222-4	SK42-222-4[7]	CL42-222-4[7]	1441-KIT[44]	852-16 863-16[37]	3213 2113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	901-16 995-16[2]	743-16 740-16	601-16 611-16	502-16 503-16[2]
K42-223-4	SK42-223-4[7]	CL42-223-4[7]	1441-KIT[44]	852-16 863-16[37]	2113 3113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K42-224-4[37]	SK42-224-4[7,37]	CL42-224-4[7,37]	1441-KIT[44]	852-16 863-16[37]	2113 3113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K42-225-4[37]	SK42-225-4[7,37]	CL42-225-4[7,37]	1441-KIT[44]	852-16 863-16[37]	2113 3113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K42-226-4[37]	SK42-226-4[7,37]	CL42-226-4[7,37]	1441-KIT[44]	852-16 863-16[37]	2113 3113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used
37 Adjustable valve train required
42 Olds 400-455 use Part #7582-16
44 For 260-403 engines only. 455 use kit Part #1442-KIT.
51 Pushrod length may vary depending on combination, check for proper length

RED NUMBERS ARE THE PREMIUM CHOICE

OLDSMOBILE 260-455 C.I. 8 CYL. 1967-1990

THUMPR™ Hydraulic Flat Tappet Camshafts

New APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	2000 to 5800	42-600-5	279TH7	278	296	226	241	.491	.476	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 6100	42-601-5	287TH7	286	304	234	249	.500	.486	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6400	42-602-5	295TH7	294	312	242	257	.512	.497	107°

MARINE Hydraulic Flat Tappet Camshafts

HYDRAULIC – Best cam for economy and improved power. Skiing and pleasure boating.	Hyd.	Hyd.	1500 to 5500	42-229-4	268H	268	268	218	218	.456	.456	110°
HYDRAULIC – Great cam for 455 jet boat with A or B impeller. Performance and skiing.	Hyd.	Hyd.	2000 to 6000	42-231-4	280H	280	280	230	230	.490	.490	110°
HYDRAULIC – Performance cam for B impeller in jet boat. River or bracket racing.	Hyd.	Hyd.	2500 to 6500	42-236-4[37]	292H	292	292	244	244	.518	.518	110°

DUAL ENERGY™ Hydraulic Flat Tappet Camshafts

HYDRAULIC – Good torque and mileage, great economy and towing cam.	Hyd.	Hyd.	1000 to 5000	42-207-4	255DEH	255	263	203	215	.433	.467	110°
HYDRAULIC – Strong mid-range, everyday performance for stock exhaust.	Hyd.	Hyd.	1200 to 5500	42-208-4	265DEH	265	273	211	223	.472	.486	110°
HYDRAULIC – High performance street, great power, works with stock converter or 2000 stall.	Hyd.	Hyd.	1500 to 5800	42-210-4[37]	275DEH	275	282	219	233	.476	.508	110°

FACTORY MUSCLE Hydraulic Flat Tappet Camshafts (Today's OEM Versions Of Yesterday's Muscle Car Cams)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Factory I.D. # 402194 for: 350c.i., 1968-70, factory 325 hp 455c.i., 1968, factory 370 hp 455c.i., 1971, factory 340 hp	Hyd.	Hyd.	1800 to 5800	42-114-3	194H	308	308	233	233	.474	.474	113°

MAGNUM MUSCLE Hydraulic Flat Tappet Camshafts (Today's Version Of Yesterday's Muscle Car Cams)

HYDRAULIC – Magnum Muscle Camshaft for: 350c.i., 1968-70, factory 325 hp 455c.i., 1968, factory 370 hp 455c.i., 1971, factory 340 hp	Hyd.	Hyd.	1600 to 5600	42-231-4	280H	280	280	230	230	.490	.490	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

OLDSMOBILE 260-455 C.I. 8 CYL. 1967-1990

Hydraulic Flat Tappet Camshafts — THUMPR™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K42-600-5[37]	N/A	CL42-600-5[7,37]	1441-KIT[44]	852-16 863-16[37]	2113 3113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K42-601-5[37]	N/A	CL42-601-5[7,37]	1441-KIT[44]	852-16 863-16[37]	2113 3113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K42-602-5[37]	N/A	CL42-602-5[7,37]	1441-KIT[44]	852-16 863-16[37]	2113 3113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts — MARINE

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K42-229-4	SK42-229-4[7]	CL42-229-4[7]	1441-KIT[44]	852-16 863-16[37]	2113 3113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	901-16 995-16[2]	743-16 740-16	601-16 611-16	502-16 503-16[2]
K42-231-4	SK42-231-4[7]	CL42-231-4[7]	1441-KIT[44]	852-16 863-16[37]	2113 3113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K42-236-4[37]	SK42-236-4[7,37]	CL42-236-4[7,37]	1441-KIT[44]	852-16 863-16[37]	2113 3113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts — DUAL ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K42-207-4	SK42-207-4[7]	CL42-207-4[7]	1441-KIT[44]	852-16	3213 2113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	901-16 995-16[2]	743-16 740-16	601-16 611-16	502-16 503-16[2]
K42-208-4	SK42-208-4[7]	CL42-208-4[7]	1441-KIT[44]	852-16	3213 2113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	901-16 995-16[2]	743-16 740-16	601-16 611-16	502-16 503-16[2]
K42-210-4[37]	SK42-210-4[7,37]	CL42-210-4[7,37]	1441-KIT[44]	852-16	3213 2113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts (Today's OEM Versions Of Yesterday's Muscle Car Cams) — FACTORY MUSCLE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
852-16 863-16[37]	2113 3113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	901-16 995-16[2]	743-16 740-16	601-16 611-16	502-16 503-16[2]	N/A	N/A	442	N/A

Hydraulic Flat Tappet Camshafts (Today's Version Of Yesterday's Muscle Car Cams) — MAGNUM MUSCLE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
852-16 863-16[37]	2113 3113	1442-16[1] 1044-16[1]	7842-16[42,51] 7131-16[51]	901-16 995-16[2]	743-16 740-16	601-16 611-16	502-16 503-16[2]	N/A	N/A	442	N/A

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used
37 Adjustable valve train required
42 Olds 400-455 use Part #7582-16
44 For 260-403 engines only. 455 use kit Part #1442-KIT.
51 Pushrod length may vary depending on combination, check for proper length

RED NUMBERS ARE THE PREMIUM CHOICE

OLDSMOBILE 260-455 C.I. 8 CYL. 1967-1990

XTREME ENERGY™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Daily driver, strong torque, smooth idle.	Hyd.	Hyd.	1000 to 5000	42-413-9[5,37]	XR262HR	262	268	210	216	.505	.505	110°
HYDRAULIC ROLLER – Great for street machines, needs headers, low gears, and 2200+ stall.	Hyd.	Hyd.	1800 to 5600	42-423-9[5,37]	XR276HR	276	282	224	230	.505	.505	110°
HYDRAULIC ROLLER – Rough idle, needs 2800+ stall, lower gears and 9.5:1 compression.	Hyd.	Hyd.	2200 to 6000	42-433-9[5,37]	XR290HR	290	296	236	242	.515	.533	110°

New THUMPR™ Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears, choppy/thumping idle.	Hyd.	Hyd.	1700 to 5500	42-600-9[5,37]	283THR7	283	303	227	241	.531	.515	107°
HYDRAULIC ROLLER – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2000 to 5800	42-601-9[5,37]	291THR7	291	311	235	249	.540	.526	107°
HYDRAULIC ROLLER – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2300 to 6100	42-602-9[5,37]	299THR7	299	319	243	257	.552	.537	107°

DRAG RACE Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Great torque in full body car with 400c.i. and 3500+ stall.	.026	.028	3500 to 6500	42-655-5	285B-8	285	294	250	256	.568	.545	108°

Thumpr™ Cams

HATED BY NEIGHBORS, ENVIED BY FRIENDS



Nothing makes heads turn quicker at a car show or cruise night than a hot rod with a hard hitting, high performance idle. COMP Cams® used their 30+ years of design experience to develop the Thumpr™ line of camshafts that deliver the ultimate in high performance and an incredible exhaust sound.

- **3 unique cam designs for each application that deliver hp gains and broad torque curve**
- **Early intake valve opening and long exhaust duration create overlap for powerful, hard-hitting exhaust sound**
- **Perfect camshaft for muscle cars & street rods**

Hear them, watch dyno videos and check out the dyno charts @ www.compcams.com/thumpr.
or see our Thumpr™ brochure listed on page 414 of this Master Catalog

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

OLDSMOBILE 260-455 C.I. 8 CYL. 1967-1990

Hydraulic Roller Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K42-413-9[5,37]	SK42-413-9[5,7,37]	CL42-413-9[5,7,37]	N/A	857-16	2113 3113	1442-16[1] 1044-16[1]	7645-16[51,66]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K42-423-9[5,37]	SK42-423-9[5,7,37]	CL42-423-9[5,7,37]	N/A	857-16	2113 3113	1442-16[1] 1044-16[1]	7645-16[51,66]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K42-433-9[5,37]	SK42-433-9[5,7,37]	CL42-433-9[5,7,37]	N/A	857-16	2113 3113	1442-16[1] 1044-16[1]	7645-16[51,66]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Retro-Fit Hydraulic Roller Camshafts — THUMPR™

K42-600-9[5,37]	N/A	CL42-600-9[5,7,37]	N/A	857-16	2113 3113	1442-16[1] 1044-16[1]	7645-16[51,66]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K42-601-9[5,37]	N/A	CL42-601-9[5,7,37]	N/A	857-16	2113 3113	1442-16[1] 1044-16[1]	7645-16[51,66]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K42-602-9[5,37]	N/A	CL42-602-9[5,7,37]	N/A	857-16	2113 3113	1442-16[1] 1044-16[1]	7645-16[51,66]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Mechanical Flat Tappet Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
2900-16[37] 807-16[12,37]	3113 3113KT	1044-16[1]	7582-16[43]	950-16[2] 26094-16[2]	740-16 730-16	611-16 614-16	503-16[2]	621-16	N/A	442	N/A

Engine Break-In Lubricants

Utilizing a special blend of extreme pressure additives (including the proper levels of Zinc) not found in conventional engine oils, COMP Cams® Engine Break-In Oil and Additive promote proper break-in and protect against premature camshaft, lifter and valve train failure.



See Page 272

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
5 Requires distributor gear upgrade
7 Stock springs cannot be used
12 Hi-Tech™ Lite Lifters. No chamfers.
37 Adjustable valve train required
43 Olds 260-403 use Part #7842-16
51 Pushrod length may vary depending on combination, check for proper length
66 For 455 use Part #7783-16

RED NUMBERS ARE THE PREMIUM CHOICE

PONTIAC 151 C.I. (2.5L IRON DUKE) 4 CYL. 1978-1989

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts (TWO GEARS ON CAM CORE)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.75 ROCKER IN.	VALVE LIFT W/ 1.75 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Our best cam for economy. Excellent torque.	Hyd.	Hyd.	500 to 4500	52-115-4	240H	240	248	192	200	.455	.455	108°
HYDRAULIC – Good torque and power with smooth idle. Strong increase over stock cam.	Hyd.	Hyd.	800 to 4800	52-119-4	252H	252	252	206	206	.474	.474	110°
HYDRAULIC – Good combination of torque and power. Performance street driving.	Hyd.	Hyd.	1200 to 5200	52-123-4	260H	260	260	212	212	.489	.489	110°

HI-TECH™ Mechanical Flat Tappet Camshafts (TWO GEARS ON CAM CORE)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.75 ROCKER IN.	VALVE LIFT W/ 1.75 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Oval track/bracket race/street stock. Aftermarket 2 BBL or stock carb.	.022	.024	3000 to 6000	52-500-5[7]	272TL-5	272	272	242	242	.595	.595	105°
SOLID – Oval track/bracket race/street stock. Same as 272 with slightly more rpm.	.022	.024	3500 to 6500	52-502-5[7]	276TL-5	276	276	246	246	.606	.606	105°

PONTIAC 151 C.I. 4 CYL. 1977-1993

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts (ONE GEAR ON CAM CORE)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.75 ROCKER IN.	VALVE LIFT W/ 1.75 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good torque and power with smooth idle. Strong increase over stock cam.	Hyd.	Hyd.	800 to 4800	14-119-4	252H	252	252	206	206	.474	.474	110°
HYDRAULIC – Good combination of torque and power. Performance street and marine.	Hyd.	Hyd.	1200 to 5200	14-123-4	260H	260	260	212	212	.489	.489	110°

PONTIAC 265-455 C.I. 8 CYL. 1955-1981

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Smooth idle with fuel economy for 326 to 400c.i. Strong torque. Best cam for 301.	Hyd.	Hyd.	800 to 4800	51-229-3	252H	252	252	206	206	.425	.425	110°
HYDRAULIC – Smooth idle, good mileage for 455c.i. Strong towing cam. Good power for 326-400c.i.	Hyd.	Hyd.	1200 to 5200	51-230-3	260H	260	260	212	212	.440	.440	110°
HYDRAULIC – Good low end and mid-range torque. Street performance, noticeable idle.	Hyd.	Hyd.	1500 to 5500	51-232-3	268H	268	268	218	218	.454	.454	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

PONTIAC 151 C.I. (2.5L IRON DUKE) 4 CYL. 1978-1989

Hydraulic Flat Tappet Camshafts (TWO GEARS ON CAM CORE) — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RET.	VALVE LOCKS	VALVE SEALS
K52-115-4	SK52-115-4	CL52-115-4	N/A	864-8	3252	N/A	N/A	988-8	743-8	601-8	501-8
K52-119-4	SK52-119-4	CL52-119-4	N/A	864-8	3252	N/A	N/A	988-8	743-8	601-8	501-8
K52-123-4	SK52-123-4[7]	CL52-123-4[7]	N/A	864-8	3252	N/A	N/A	988-8	743-8	601-8	501-8

Mechanical Flat Tappet Camshafts (TWO GEARS ON CAM CORE) — HI-TECH™

N/A	N/A	N/A	N/A	2900-8	3252	N/A	N/A	986-8[2] 987-8[2]	740-8 730-8	611-8	503-8[2]
N/A	N/A	N/A	N/A	2900-8	3252	N/A	N/A	986-8[2] 987-8[2]	740-8 730-8	611-8	503-8[2]

PONTIAC 151 C.I. 4 CYL. 1977-1993

Hydraulic Flat Tappet Camshafts (ONE GEAR ON CAM CORE) — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K14-119-4	SK14-119-4	CL14-119-4	N/A	812-8	3211	1261-8	7861-8	981-8 26981-8	742-8 787-8	601-8	501-8
K14-123-4	SK14-123-4[7]	CL14-123-4[7]	N/A	812-8	3211	1261-8	7861-8	981-8 26981-8	742-8 787-8	601-8	501-8

PONTIAC 265-455 C.I. 8 CYL. 1955-1981

Hydraulic Flat Tappet Camshafts — HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K51-229-3	SK51-229-3	CL51-229-3	RP1451-16[47]	852-16[45]	3212	1451-16[47]	7851-16[8]	988-16	743-16	601-16	501-16
K51-230-3	SK51-230-3	CL51-230-3	RP1451-16[47]	852-16[45]	3212	1451-16[47]	7851-16[8]	988-16	743-16	601-16	501-16
K51-232-3	SK51-232-3[7]	CL51-232-3[7]	RP1451-16[47]	852-16[45]	3212	1451-16[47]	7851-16[8]	988-16	743-16	601-16	501-16

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
7 Stock springs cannot be used
8 Fits only certain years
45 265-301 use Part #864-16
47 1.65:1 ratio available

RED NUMBERS ARE THE PREMIUM CHOICE

PONTIAC 265-455 C.I. 8 CYL. 1955-1981

MAGNUM Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Fair idle, good mid-range torque. Can use stock torque converter. Daily performance use.	Hyd.	Hyd.	1800 to 5800	51-233-4	270H	270	270	224	224	.476	.476	110°
HYDRAULIC – Choppy idle, increased compression advised. Needs 2500+ stall and lower gear, use headers.	Hyd.	Hyd.	2000 to 6000	51-234-4	280H	280	280	230	230	.480	.480	110°
HYDRAULIC – Rough idle, performance usage. Increased compression required. Needs 3000+ stall and 3.73:1 or lower gears.	Hyd.	Hyd.	2500 to 6500	51-240-4	292H	292	292	244	244	.501	.501	110°
HYDRAULIC – Racy idle. Bracket racing cam. Needs 10.5:1 compression and 3500+ stall. Low gear ratio.	Hyd.	Hyd.	3000 to 6500	51-241-4	305H	305	305	253	253	.525	.525	110°

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Very strong torque excellent mileage, smooth idle.	Hyd.	Hyd.	600 to 4800	51-220-4	XE250H	250	260	206	212	.432	.444	110°
HYDRAULIC – Strong torque through low end and mid-range, good idle.	Hyd.	Hyd.	1000 to 5200	51-221-4	XE256H	256	268	212	218	.447	.455	110°
HYDRAULIC – Excellent response, good mileage, stock converter or 1800 stall. Mild gear.	Hyd.	Hyd.	1300 to 5500	51-222-4	XE262H	262	270	218	224	.462	.470	110°
HYDRAULIC – Good for street machines, slightly rough idle. 2000+ stall.	Hyd.	Hyd.	1600 to 5800	51-223-4	XE268H	268	280	224	230	.477	.480	110°
HYDRAULIC – High performance street, very strong mid-range, headers and 2200+ stall.	Hyd.	Hyd.	1800 to 6000	51-224-4	XE274H	274	286	230	236	.488	.491	110°
HYDRAULIC – Street/strip, needs 9:1+ compression. 2800+ stall, headers, gears, rough idle.	Hyd.	Hyd.	2300 to 6500	51-225-4	XE284H	284	296	240	246	.507	.510	110°
HYDRAULIC – Pro Street/bracket, good intake, headers, gear, 3500+ stall.	Hyd.	Hyd.	2800 to 6500	51-226-4	XE294H	294	306	250	256	.519	.524	110°

New THUMPR™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	2000 to 5800	51-600-5	279TH7	279	297	227	241	.478	.465	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 6100	51-601-5	287TH7	287	305	235	249	.490	.475	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6400	51-602-5	295TH7	295	313	243	257	.501	.486	107°

PONTIAC 265-455 C.I. 8 CYL. 1955-1981

Hydraulic Flat Tappet Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K51-233-4	SK51-233-4[7]	CL51-233-4[7]	RP1451-16[47]	852-16[45] 863-16[37,45]	2112 3112	1451-16[47] 1060-16[1,47]	7262-16[8] 7786-16[8]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K51-234-4	SK51-234-4[7]	CL51-234-4[7]	RP1451-16[47]	852-16[45] 863-16[37,45]	2112 3112	1451-16[47] 1060-16[1,47]	7262-16[8] 7786-16[8]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K51-240-4	SK51-240-4[7]	CL51-240-4[7]	RP1451-16[47]	852-16[45] 863-16[37,45]	2112 3112	1451-16[47] 1060-16[1,47]	7262-16[8] 7786-16[8]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K51-241-4	SK51-241-4[7]	CL51-241-4[7]	RP1451-16[47]	852-16[45] 863-16[37,45]	2112 3112	1451-16[47] 1060-16[1,47]	7262-16[8] 7786-16[8]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K51-220-4	SK51-220-4	CL51-220-4	RP1451-16[47]	852-16[45] 863-16[37,45]	3212 2112	1451-16[47] 1060-16[1,47]	7851-16[8] 7262-16[8]	988-16	743-16	601-16	501-16
K51-221-4	SK51-221-4	CL51-221-4	RP1451-16[47]	852-16[45] 863-16[37,45]	3212 2112	1451-16[47] 1060-16[1,47]	7851-16[8] 7262-16[8]	988-16	743-16	601-16	501-16
K51-222-4	SK51-222-4[7]	CL51-222-4[7]	RP1451-16[47]	852-16[45] 863-16[37,45]	3212 2112	1451-16[47] 1060-16[1,47]	7851-16[8] 7262-16[8]	988-16	743-16	601-16	501-16
K51-223-4	SK51-223-4[7]	CL51-223-4[7]	RP1451-16[47]	852-16[45] 863-16[37,45]	2112 3112	1451-16[47] 1060-16[1,47]	7262-16[8] 7786-16[8]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K51-224-4	SK51-224-4[7]	CL51-224-4[7]	RP1451-16[47]	852-16[45] 863-16[37,45]	2112 3112	1451-16[47] 1060-16[1,47]	7262-16[8] 7786-16[8]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K51-225-4	SK51-225-4[7]	CL51-225-4[7]	RP1451-16[47]	852-16[45] 863-16[37,45]	2112 3112	1451-16[47] 1060-16[1,47]	7262-16[8] 7786-16[8]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K51-226-4	SK51-226-4[7]	CL51-226-4[7]	RP1451-16[47]	852-16[45] 863-16[37,45]	2112 3112	1451-16[47] 1060-16[1,47]	7262-16[8] 7786-16[8]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Hydraulic Flat Tappet Camshafts — THUMPR™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K51-600-5	N/A	CL51-600-5[7]	RP1451-16[47]	852-16[45] 863-16[37,45]	2112 3112	1451-16[47] 1060-16[1,47]	7262-16[8] 7786-16[8]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K51-601-5	N/A	CL51-601-5[7]	RP1451-16[47]	852-16[45] 863-16[37,45]	2112 3112	1451-16[47] 1060-16[1,47]	7262-16[8] 7786-16[8]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K51-602-5	N/A	CL51-602-5[7]	RP1451-16[47]	852-16[45] 863-16[37,45]	2112 3112	1451-16[47] 1060-16[1,47]	7262-16[8] 7786-16[8]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
7 Stock springs cannot be used
8 Fits only certain years
37 Adjustable valve train required
45 265-301 use Part #864-16
47 1.65:1 ratio available

RED NUMBERS ARE THE PREMIUM CHOICE

PONTIAC 265-455 C.I. 8 CYL. 1955-1981

DUAL ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good torque and mileage, good RV and towing cam, smooth idle.	Hyd.	Hyd.	1000 to 5000	51-206-4	255DEH	255	261	202	212	.420	.450	110°
HYDRAULIC – Strong mid-range. Everyday performance cam for stock exhaust.	Hyd.	Hyd.	1200 to 5500	51-207-4	265DEH	265	269	211	221	.442	.465	110°
HYDRAULIC – High performance street. Works with stock converter, but better with mild converter.	Hyd.	Hyd.	1500 to 5800	51-208-4	275DEH	275	277	219	228	.462	.480	110°

FACTORY MUSCLE Hydraulic Flat Tappet Camshafts (Today's OEM Versions Of Yesterday's Muscle Car Cams)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.65 ROCKER IN.	VALVE LIFT W/ 1.65 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Factory I.D. #9794041 for: 400c.i., 1968 RAM AIR IV, factory 366 hp 400c.i., 1969, factory 345/370 hp 455c.i., 1970, factory 370 hp	Hyd.	Hyd.	1800 to 5700	51-116-3	041H	308	320	230	240	.516	.516	114°

MAGNUM MUSCLE Hydraulic Flat Tappet Camshafts (Today's Version Of Yesterday's Muscle Car Cams)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.65 ROCKER IN.	VALVE LIFT W/ 1.65 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Magnum Muscle Camshaft for: 400c.i., 1968 RAM AIR IV, factory 366 hp 400c.i., 1969, factory 345/370 hp 455c.i., 1970, factory 370 hp	Hyd.	Hyd.	1500 to 5500	51-314-4	280AH-10	280	280	232	237	.531	.531	110°

DRAG RACE Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Bracket race with heavy car. 2500-3000 stall, 9.5:1+ compression, more gear, choppy idle.	Hyd.	Hyd.	2000 to 6000	51-309-4	276AH-10	276	284	228	236	.520	.520	110°
HYDRAULIC – Rough idle, 3500+ stall, 10:1+ compression, 4:10 or lower gear ratio.	Hyd.	Hyd.	3000 to 6500	51-316-4	296AH-8	296	305	246	253	.562	.577	108°
HYDRAULIC – Racy idle, bracket racing. Needs 10.5:1+ compression and 3500+ stall, low gear ratio.	Hyd.	Hyd.	3500 to 6500	51-241-4	305H-10	305	305	253	253	.525	.525	110°
HYDRAULIC – Rough idle, 2500+ stall, 10.5:1+ compression, 3.73 or lower gear.	Hyd.	Hyd.	2500 to 6200	51-314-4	280AH-10	280	288	232	237	.481	.481	110°

XTREME ENERGY™ Retro-Fit Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Daily driver, strong torque, smooth idle.	Hyd.	Hyd.	1000 to 5000	51-413-9[5]	XR264HR	264	270	212	218	.487	.495	110°
HYDRAULIC ROLLER – Great for street machines, needs headers, low gears and 2200+ stall.	Hyd.	Hyd.	1800 to 5600	51-423-9[5]	XR276HR	276	282	224	230	.502	.510	110°
HYDRAULIC ROLLER – Rough idle, needs 2800+ stall, lower gears and 9.5:1 compression.	Hyd.	Hyd.	2200 to 6000	51-433-9[5]	XR288HR	288	294	236	242	.520	.540	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

PONTIAC 265-455 C.I. 8 CYL. 1955-1981

Hydraulic Flat Tappet Camshafts — DUAL ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K51-206-4	SK51-206-4[7]	CL51-206-4[7]	RP1451-16[47]	852-16[45]	3212	1451-16[47]	7851-16[8]	988-16	743-16	601-16	501-16
K51-207-4	SK51-207-4[7]	CL51-207-4[7]	RP1451-16[47]	852-16[45]	3212	1451-16[47]	7851-16[8]	988-16	743-16	601-16	501-16
K51-208-4	SK51-208-4[7]	CL51-208-4[7]	RP1451-16[47]	852-16[45]	3212	1451-16[47]	7851-16[8]	988-16	743-16	601-16	501-16

Hydraulic Flat Tappet Camshafts (Today's OEM Versions Of Yesterday's Muscle Car Cams) — FACTORY MUSCLE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
852-16[45]	2112 3112	1452-16 1061-16[1]	7262-16[73] 7786-16[73]	995-16[2] 26995-16[2]	740-16 795-16	614-16	503-16[2]	621-16	N/A	451	4051

Hydraulic Flat Tappet Camshafts (Today's Version Of Yesterday's Muscle Car Cams) — MAGNUM MUSCLE

852-16[45]	2112 3112	1452-16 1061-16[1]	7262-16[73] 7786-16[73]	995-16[2] 26995-16[2]	740-16 795-16	614-16	503-16[2]	621-16	N/A	451	4051

Hydraulic Flat Tappet Camshafts — DRAG RACE

863-16[37,45]	3112	1452-16 1061-16[1]	7262-16[73] 7786-16[73]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	451	4051
863-16[37,45]	3112	1452-16 1061-16[1]	7262-16[73] 7786-16[73]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	451	4051
863-16[37,45]	3112	1452-16 1061-16[1]	7262-16[73] 7786-16[73]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	451	4051
863-16[37,45]	3112	1452-16 1061-16[1]	7262-16[73] 7786-16[73]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	451	4051

Retro-Fit Hydraulic Roller Camshafts — XTREME ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K51-413-9[5]	SK51-413-9[5,7]	CL51-413-9[5,7]	N/A	857-16	2112 3112	1451-16[1,47] 1060-16[1,47]	7775-16	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K51-423-9[5]	SK51-423-9[5,7]	CL51-423-9[5,7]	N/A	857-16	2112 3112	1451-16[1,47] 1060-16[1,47]	7775-16	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K51-433-9[5]	SK51-433-9[5,7]	CL51-433-9[5,7]	N/A	857-16	2112 3112	1451-16[1,47] 1060-16[1,47]	7775-16	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
5 Requires distributor gear upgrade
7 Stock springs cannot be used
8 Fits only certain years
37 Adjustable valve train required
45 265-301 use Part #864-16
47 1.65:1 ratio available
73 Fits only 350-455

RED NUMBERS ARE THE PREMIUM CHOICE

PONTIAC 265-455 C.I. 8 CYL. 1955-1981

THUMPR™ Retro-Fit Hydraulic Roller Camshafts

New APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC ROLLER – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears, choppy/thumping idle.	Hyd.	Hyd.	1700 to 5500	51-600-9[5]	283THR7	283	303	227	241	.513	.498	107°
HYDRAULIC ROLLER – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2000 to 5800	51-601-9[5]	291THR7	291	311	235	249	.522	.508	107°
HYDRAULIC ROLLER – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2300 to 6100	51-602-9[5]	299THR7	299	319	243	257	.532	.519	107°

MAGNUM Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Good idle, strong mid-range torque. Excellent cam for mild street engines.	.022	.022	1800 to 5800	51-244-4	270S	270	270	224	224	.468	.468	110°
SOLID – Mild idle, street machine cam. Needs increased compression, 2000+ stall and headers.	.022	.022	2000 to 6000	51-245-4	282S	282	282	236	236	.495	.495	110°
SOLID – Rough idle, needs higher compression ratio. Maximum street performance. Use 3000+ stall and low gear.	.022	.022	2500 to 6500	51-246-4	294S	294	294	248	248	.525	.525	110°
SOLID – Race idle, Pro Street. Needs increased compression and 3500+ stall. Limited street use.	.022	.022	3000 to 6500	51-247-4	306S	306	306	260	260	.555	.555	110°

DRAG RACE Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Super torque, 3500+ stall, works well in heavy car.	.026	.028	3500 to 6500	51-659-5	290B-6	290	304	255	266	.540	.540	106°
SOLID – Excellent for 400-455, good torque. 4200+ stall.	.026	.028	4200 to 6500	51-660-5	300B-6	300	314	265	276	.562	.556	106°

MAGNUM Mechanical Roller Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
MECHANICAL ROLLER – Choppy idle, broad power range, increased compression, advised with 3000+ stall, headers and lower gears.	.020	.020	2200 to 6500	51-751-9[5]	288R	288	288	243	243	.550	.550	110°
MECHANICAL ROLLER – Rough idle, needs high compression, maximum street effort. Use 3500+ stall.	.020	.020	3000 to 6700	51-752-9[5]	308R	308	308	262	262	.575	.575	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

PONTIAC 265-455 C.I. 8 CYL. 1955-1981

Retro-Fit Hydraulic Roller Camshafts — THUMPR™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K51-600-9[5]	N/A	CL51-600-9[5,7]	N/A	857-16	2112 3112	1451-16[47] 1060-16[1,47]	7775-16[51,66]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K51-601-9[5]	N/A	CL51-601-9[5,7]	N/A	857-16	2112 3112	1451-16[47] 1060-16[1,47]	7775-16[51,66]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K51-602-9[5]	N/A	CL51-602-9[5,7]	N/A	857-16	2112 3112	1451-16[47] 1060-16[1,47]	7775-16[51,66]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Mechanical Flat Tappet Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K51-244-4	SK51-244-4[7]	CL51-244-4[7]	N/A	2900-16[37,46]	2112 3112	1451-16[47] 1060-16[1,47]	7263-16[8] 7789-16[8]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K51-245-4	SK51-245-4[7]	CL51-245-4[7]	N/A	2900-16[37,46]	2112 3112	1451-16[47] 1060-16[1,47]	7263-16[8] 7789-16[8]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K51-246-4	SK51-246-4[7]	CL51-246-4[7]	N/A	2900-16[37,46]	2112 3112	1451-16[47] 1060-16[1,47]	7263-16[8] 7789-16[8]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]
K51-247-4	SK51-247-4[7]	CL51-247-4[7]	N/A	2900-16[37,46]	2112 3112	1451-16[47] 1060-16[1,47]	7263-16[8] 7789-16[8]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Mechanical Flat Tappet Camshafts — DRAG RACE

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	REV. KIT	DIST. GEARS	STUD GIRDLES
2900-16[37,46]	3112	1060-16[1,47]	7263-16[73] 7789-16[73]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	451	4051
2900-16[37,46]	3112	1060-16[1,47]	7263-16[73] 7789-16[73]	995-16[2] 26995-16[2]	740-16 795-16	611-16 614-16	503-16[2]	621-16	N/A	451	4051

Mechanical Roller Camshafts — MAGNUM

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K51-751-9[5]	SK51-751-9[5,7]	CL51-751-9[5,7]	N/A	859-16[37]	2112 3112	1060-16[1,47]	7262-16 7789-16	914-16[2] 26112-16[2]	741-16 729-16	611-16	503-16[2]
K51-752-9[5]	SK51-752-9[5,7]	CL51-752-9[5,7]	N/A	859-16[37]	2112 3112	1060-16[1,47]	7262-16 7789-16	914-16[2] 26112-16[2]	741-16 729-16	611-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
5 Requires distributor gear upgrade
7 Stock springs cannot be used
8 Fits only certain years
37 Adjustable valve train required
46 Special design (NOT a GM part)
47 1.65:1 ratio available
51 Pushrod length may vary depending on combination, check for proper length
66 For 455 use Part #7783-16
73 Fits only 350-455

RED NUMBERS ARE THE PREMIUM CHOICE

HARLEY DAVIDSON® BIG TWIN EVOLUTION 1984-2006

EVOLUTION XTREME ENERGY™ Hydraulic Roller Camshafts

APPLICATION / CAMSHAFTS	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	DURATION @ .053" IN.	DURATION @ .053" EX.	VALVE LIFT W/ 1.625 ROCKER IN.	VALVE LIFT W/ 1.625 ROCKER EX.	LOBE SEP. ANGLE	P KIT
HYDRAULIC ROLLER – Excellent low end and mid-range power from idle up. Great for two up riding or pulling a trailer.	1000 to 5300	EVL-5000[85]	230	230	.562	.562	102	EVL-5000P[86]
HYDRAULIC ROLLER – Strong low end and mid-range power for heavy bikes. Good on highway.	1500 to 5500	EVL-5005[85]	236	236	.569	.569	102	EVL-5005P[86]
HYDRAULIC ROLLER – Increased mid and upper end power for lighter bikes. Stock heads with spring change ok.	1800 to 5800	EVL-5010[85]	244	244	.585	.585	103	EVL-5010P[86]
HYDRAULIC ROLLER – Great mid and upper end power in modified 80-88c.i. Increased compression, pipes, and carb work.	2200 to 6200	EVL-5015[85]	252	252	.585	.585	103	EVL-5015P[86]
HYDRAULIC ROLLER – 88c.i. and up, 10:1 compression, performance carb/exhaust. Good power in light bike.	2500 to 6500	EVL-5020[85]	260	260	.585	.585	104	EVL-5020P[86]
HYDRAULIC ROLLER – For serious power in 88c.i. and up, 10.5:1 compression, head work, performance exhaust, and carb.	2800 to 6800	EVL-5025[85]	268	272	.601	.601	105	EVL-5025P[86]

MAGNUM Hydraulic Roller Camshafts

HYDRAULIC ROLLER – Excellent bolt-in cam for stock upgrade. Good flat torque curve with more power than stock.	800 to 4800	EVL-2000[85]	220	214	.480	.456	108	N/A
HYDRAULIC ROLLER – Bolt-in cam with good low and mid-range power for fuel injected bangers.	1200 to 5200	EVL-2015[85]	224	234	.500	.500	103	N/A
HYDRAULIC ROLLER – Bolt-in cam with good low end torque for heavy bikes, two up riding, or trailer pulling.	1500 to 5500	EVL-3000[85]	224	224	.500	.500	102	EVL-3000P[86]
HYDRAULIC ROLLER – Good stock replacement for 80c.i. engines. Good low end torque and mid-range in heavy or light bikes.	1500 to 5800	EVL-3010[85]	234	234	.500	.500	102	EVL-3010P[86]
HYDRAULIC ROLLER – Bolt-in for 80c.i. engines, strong mid-range and upper end power with stock heads.	1800 to 6000	EVL-3020[85]	240	240	.500	.500	102	EVL-3020P[86]
HYDRAULIC ROLLER – Good in 80-88c.i. engines with up to 10:1 compression. More mid-range and upper end power.	2000 to 6300	EVL-3030[85]	240	240	.530	.530	104	EVL-3030P[86]
HYDRAULIC ROLLER – Split duration cam for light bikes with 80-88c.i. engines, with more mid and upper end power than the 3030.	2500 to 6500	EVL-3040[85]	242	252	.510	.510	104	EVL-3040P[86]
HYDRAULIC ROLLER – Good performance cam in light bikes. Pulls hard in upper end. Likes pipes, carb, and 9:1 compression.	3000 to 7000	EVL-3050[85]	252	252	.510	.510	104	EVL-3050P[86]
HYDRAULIC ROLLER – Hot street/strip cam. Pipes, carb, and 10:1+ compression. Needs 88c.i. and larger engines.	3000 to 7000+	EVL-3060[85]	260	270	.585	.585	106	EVL-3060P[86]
HYDRAULIC ROLLER – Serious cam for top end power. Needs good heads, pipes and carb. Best 88c.i. and larger engine with 11:1+ compression.	3200 to 7500	EVL-3070[85]	270	274	.608	.608	106	EVL-3070P[85]

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

HARLEY DAVIDSON® BIG TWIN EVOLUTION 1984-2006

Hydraulic Roller Camshafts — EVOLUTION XTREME ENERGY™

SP KIT	SP + KIT	PUSHRODS	BEEHIVE™ SPRING KITS	SPRING KITS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	SPRING SEATS
EVL-5000SP[87]	EVL-5001SP[88]	7002-KIT[91]	9708-KIT[92]	9702-KIT[92]	VT908-4	749-4	618-4	4784-4
EVL-5005SP[87]	EVL-5006SP[88]	7002-KIT[91]	9708-KIT[92]	9702-KIT[92]	VT908-4	749-4	618-4	4784-4
EVL-5010SP[87]	EVL-5011SP[88]	7002-KIT[91]	9708-KIT[92]	9702-KIT[92]	VT908-4	749-4	618-4	4784-4
EVL-5015SP[87]	EVL-5016SP[88]	7002-KIT[91]	9708-KIT[92]	9702-KIT[92]	VT908-4	749-4	618-4	4784-4
EVL-5020SP[87]	EVL-5021SP[88]	7002-KIT[91]	9708-KIT[92]	9702-KIT[92]	VT908-4	749-4	618-4	4784-4
EVL-5025SP[87]	EVL-5026SP[88]	7002-KIT[91]	9708-KIT[92]	9801-KIT[92] 9706-KIT	927-4 26095-4	732-4 785-4	618-4	4770-4 4711-4

Hydraulic Roller Camshafts — MAGNUM

N/A	N/A	7002-KIT[91]	9708-KIT[92]	9700-KIT[92]	977-4	740-4	618-4	4770-4
N/A	N/A	7002-KIT[91]	9708-KIT[92]	9700-KIT[92]	977-4	740-4	618-4	4770-4
EVL-3000SP[87]	EVL-3001SP[88]	7002-KIT[91]	9708-KIT[92]	9700-KIT[92] 9704-KIT[92]	977-4 26120-4	740-4 795-4	618-4	4770-4 4696-4
EVL-3010SP[87]	EVL-3011SP[88]	7002-KIT[91]	9708-KIT[92]	9700-KIT[92] 9704-KIT[92]	977-4 26120-4	740-4 795-4	618-4	4770-4 4696-4
EVL-3020SP[87]	EVL-3021SP[88]	7002-KIT[91]	9708-KIT[92]	9700-KIT[92] 9704-KIT[92]	977-4 26120-4	740-4 795-4	618-4	4770-4 4696-4
EVL-3030SP[87]	EVL-3031SP[88]	7002-KIT[91]	9708-KIT[92]	9700-KIT[92] 9704-KIT[92]	VT908-4 26120-4	749-4 795-4	618-4	4784-4 4696-4
EVL-3040SP[87]	EVL-3041SP[88]	7002-KIT[91]	9708-KIT[92]	9700-KIT[92] 9704-KIT[92]	VT908-4 26120-4	749-4 795-4	618-4	4784-4 4696-4
EVL-3050SP[87]	EVL-3051SP[88]	7002-KIT[91]	9708-KIT[92]	9700-KIT[92] 9704-KIT[92]	VT908-4 26120-4	749-4 795-4	618-4	4784-4 4696-4
EVL-3060SP[87]	EVL-3061SP[88]	7002-KIT[91]	9708-KIT[92] 9709-KIT	9801-KIT[92] 9706-KIT[92]	927-4 26095-4	732-4 785-4	618-4	4770-4 4711-4
EVL-3070SP[87]	EVL-3071SP[88]	7002-KIT[91]	9708-KIT[92] 9709-KIT	9801-KIT[92] 9706-KIT[92]	927-4 26095-4	732-4 785-4	618-4	4770-4 4711-4

Footnotes: Master Footnote Index on page 15.

85 For a camshaft w/ NO timing gear, simply add NG to the end of the part #
86 P-Kit contains cam, pushrods and camshaft bearing
87 SP-Kit contains cam, pushrods, camshaft bearing, springs, locks, retainers & seats
88 SP+Kit is an upgrade of the SP-Kit
91 Use Part #7002S for stroker engines & Part #7002R for engines using stock lifters
92 Spring kit includes springs, retainers, locks & spring seats

RED NUMBERS ARE THE PREMIUM CHOICE

HONDA D16Z6 1.6 LITER SOHC 4 CYL. W/ VTEC 1992-1995 CIVIC EX, 1993-1995 DEL SOL SI

QUIKTYME™ Solid Swinging Follower Camshaft

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT IN.	VALVE LIFT EX.	CENTERLINE IN.	CENTERLINE EX.
Serious Street – Great street cam for increased power and torque with efficiency. Works with stock components.	.007	.009	2000 to 6700	59100	256 VTEC	256	252	215	211	.441	.401	103°	111°
Severe Street/Race – Best performance cam available. Large increases above stock cam from off idle to the rev limiter. Excellent high rpm power.	.007	.009	2000 to 7200	59300	260 VTEC	256	268	220	216	.456	.428	107°	111°

Valve springs (#912-16) and retainers (#753-16) available for these engines.

HONDA/ACURA TWIN CAM VTEC B16A, B17A, B18C, B18C5 1992-2000

QUIKTYME™ Solid Swinging Follower Camshaft (Turbo Grinds Also Available)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM ID	DURATION ADVERTISED VTEC	DURATION ADVERTISED PRI.	DURATION ADVERTISED SEC.	DURATION @ .050" VTEC	DURATION @ .050" PRI.	DURATION @ .050" SEC.
Serious Street – Great street cam for increased power and torque with efficiency. Works with stock components.	.007	.009	2000 to 8200	57100	*INTAKE* *EXHAUST*	**260** **266**	252 256	240 240	**220** **222**	210 210	194 194
Serious Street/Race – Best performance cam available. Large increases above stock cam from off idle to the rev limiter. Excellent high rpm power.	.007	.009	2400 to 8600	57200	*INTAKE* *EXHAUST*	**278** **284**	256 260	244 244	**238** **240**	214 214	198 198
Severe Street/Race – Excellent mid-range to top end power for serious performers. Excellent high rpm power.	.007	.009	2600 to 9000	57300	*INTAKE* *EXHAUST*	**290** **296**	260 264	248 248	**250** **252**	218 218	202 202
Severe Street/Competition – Great top end power for radical street or race applications.	.007	.009	2800 to 9200	57400	*INTAKE* *EXHAUST*	**300** **306**	260 264	260 264	**260** **262**	222 222	222 222

INTERNATIONAL HARVESTER 304-392 C.I. 8 CYL. 1970-1978

HIGH ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Low end power, strong torque, good mileage, best for 304 with stock transmission.	Hyd.	Hyd.	800 to 4500	83-200-4	252H	252	252	206	206	.425	.425	110°
HYDRAULIC – Best cam for towing, hauling and heavy-duty usage, lots of torque.	Hyd.	Hyd.	1000 to 5000	83-201-4	260H	260	260	212	212	.440	.440	110°
HYDRAULIC – High performance cam. Best in large engine with manual transmission. Noticeable idle.	Hyd.	Hyd.	1200 to 5200	83-202-4	268H	268	268	218	218	.454	.454	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

HONDA D16Y8 1.6L SOHC 4 CYL. W/ VTEC 1996-2000

QUIKTYME™ Solid Swinging Follower Camshaft

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT IN.	VALVE LIFT EX.	CENTERLINE IN.	CENTERLINE EX.
SERIOUS STREET/RACE – Great street cam for increased power and torque with efficiency. Works with stock components.	3	.007	.009	2000 to 6700	105100	256 VTEC	256	252	215	211	.441	.401	103	111
SEVERE STREET/COMPETITION – Best performance cam available. Large increases above stock cam from off idle to the rev limiter. Excellent high rpm power. Requires spring #912-16.	3	.007	.009	2000 to 7200	105300	260 VTEC	256	268	220	216	.456	.428	107	111

Valve springs (#912-16) and retainers (#753-16) available for these engines.

HONDA/ACURA TWIN CAM VTEC B16A, B17A, B18C, B18C5 1992-2000

Solid Swinging Follower Camshaft (Turbo Grinds Also Available) QUIKTYME™

LOBE LIFT VTEC	LOBE LIFT PRI.	LOBE LIFT SEC.	VALVE LIFT VTEC	VALVE LIFT PRI.	VALVE LIFT SEC.	CENTERLINE VTEC	CENTERLINE PRI.	CENTERLINE SEC.	VALVE SPRINGS	RETAINERS STEEL	RETAINERS TITANIUM	VALVE SPRING KITS
.310 **.297**	.237 .230	.186 .186	**.435** **.39**	.36 .35	.27 .27	**100º** **106.5º**	112° 112°	114° 110°	913-SET	778-16	760-16	89000-KIT 89012-KIT
.316 **.304**	.250 .243	.186 .186	**.49** **.45**	.38 .37	.27 .27	**100º** **108º**	112° 112°	114° 110°	913-SET	778-16	760-16	89000-KIT 89012-KIT
.322 **.310**	.263 .257	.186 .186	**.51** **.47**	.4 .39	.27 .27	**102º** **110º**	112° 112°	114° 110°	913-SET	778-16	760-16	89000-KIT 89012-KIT
.321 **.302**	.266 .261	.246 .241	**.496** **.467**	.404 .395	.374 .355	**97º** **111º**	97° 111°	97° 111°	913-SET	778-16	760-16	89000-KIT 89012-KIT

INTERNATIONAL HARVESTER 304-392 C.I. 8 CYL. 1970-1978

Hydraulic Flat Tappet Camshafts HIGH ENERGY™

K-KIT	SK-KIT	CL-KIT	RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RET.	VALVE LOCKS	VALVE SEALS
K83-200-4	SK83-200-4	CL83-200-4	N/A	855-16	3225	N/A	N/A	961-16	N/A	603-16	504-16
K83-201-4	SK83-201-4	CL83-201-4	N/A	855-16	3225	N/A	N/A	961-16	N/A	603-16	504-16
K83-202-4	SK83-202-4[7]	CL83-202-4[7]	N/A	855-16	3225	N/A	N/A	961-16	N/A	603-16	504-16

Footnotes: Master Footnote Index on page 15.

7 Stock springs cannot be used

RED NUMBERS ARE THE PREMIUM CHOICE

MITSUBISHI 4G63 2.0L DOHC 4 CYL. 1989-1999

QUIKTYME™ Hydraulic Swinging Follower Camshafts (Custom Sets Available)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT IN.	VALVE LIFT EX.	CENTERLINE IN.	CENTERLINE EX.
SERIOUS STREET/RACE – Works with stock engine and stock turbo. Responds well to bolt-ons. Pulls strong throughout rpm band.	Hyd.	Hyd.	1800 to 6800	101100	XE251HR	251	250	204	204	.407	.391	104°	108°
SEVERE STREET/COMPETITION – Bigger turbo, manual transmission or automatic with 3000+ stall. Stronger mid to upper rpm.	Hyd.	Hyd.	2600 to 7500	101200	XE259HR	259	258	212	212	.411	.395	107.5	111.5
SEVERE STREET/COMPETITION – Works well with stroked engine and stock turbo. Responds well to bolt-ons. Pulls strong throughout rpm band.	Hyd.	Hyd.	2400 to 7300	101300	XE258HR	258	258	212	212	.411	.395	102°	111°
SEVERE STREET/COMPETITION – Works well with stroked engine with bigger turbo, manual transmission, or automatic with 3000+ stall. Stronger mid to upper rpm.	Hyd.	Hyd.	3000 to 7800	101400	XE266HR	266	266	220	220	.415	.399	104°	107°

MITSUBISHI 4G63 EVOLUTION VIII 2.0L DOHC 4 CYL. 2003-2005

QUIKTYME™ Hydraulic Swinging Follower Camshafts (Custom Sets Available)

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT IN.	VALVE LIFT EX.	CENTERLINE IN.	CENTERLINE EX.
SERIOUS STREET/RACE – 264+c.i. works well with stock engine and turbo. Responds well to bolt-ons and pulls strong throughout rpm band.	Hyd.	Hyd.	1800 to 6800	119100	XE248HR	248	249	202	202	.434	.411	104°	112°
SEVERE STREET/COMPETITION – 272+c.i. works well with upgraded turbos and higher boost levels. Stronger mid to upper rpm.	Hyd.	Hyd.	2600 to 7500	119200	XE256HR	256	257	210	210	.434	.411	104°	112°
SEVERE STREET/COMPETITION – 280+c.i. Excellent for big turbos, high boost levels, and ported heads. Maximum upper rpm horsepower.	Hyd.	Hyd.	3000 to 7800	119300	XE264HR	264	285	218	218	.434	.411	104°	112°

Valve spring (#909-16) available for these engines.
Note: When replacing stock rotators check installed height.

Lightweight Tool Steel Retainers

The COMP Cams® Lightweight Tool Steel Retainers offer weight savings that rival titanium but have the durability of steel.

- 33% lighter than traditional steel retainers and only 2-4 grams heavier than titanium
- High-grade Tool Steel with enhanced surface finish; provisions for 10° locks
- Available in a variety of sizes and configurations to fit most popular springs



See Page 354

NISSAN Z20, Z22, Z24 4 CYL. 1981-1989

HIGH ENERGY™ Solid Swinging Follower Camshafts (Custom Sets Available)

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Good cam to replace OEM grinds. Improved torque and power. Best in low rpm.	3	.010	.010	800 to 4500	88-119-6	252S	252	252	208	208	.422	.422	110°
SOLID – High performance cam for street driving. Good power in mid-range.	3	.010	.010	1000 to 4800	88-123-6	260S	260	260	214	214	.420	.420	110°

NISSAN 2400-2800CC 6 CYL. 1970-1984

HIGH ENERGY™ Solid Swinging Follower Camshafts (Custom Sets Available)

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Power and torque improvement over stock cam.	3	.008	.008	500 to 4500	84-115-6	240S	240	240	194	194	.400	.400	110°
SOLID – Better torque and power than OEM cam, but smooth and efficient. Smooth idle.	3	.008	.008	800 to 4800	84-119-6	252S	252	252	204	204	.410	.410	110°
SOLID – Street performance use. Smooth idle. Wide powerband.	3	.010	.010	1000 to 5000	84-123-6	260S	260	260	214	214	.420	.420	110°

MAGNUM Solid Swinging Follower Camshafts (Custom Sets Available)

SOLID – Serious street use or mild road racing. Strong mid-range with good top end.	3	.012	.012	2000 to 6000	84-131-6	280S	280	280	236	236	.460	.460	110°
SOLID – Best cam for serious road racing. Strong top end power.	3	.012	.012	2500 to 6500	84-135-6	292S	292	292	246	246	.480	.480	110°

TOYOTA 20R AND 22R 4 CYL. 1974-1989

HIGH ENERGY™ Solid Swinging Follower Camshafts (Custom Sets Available)

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.6 ROCKER IN.	VALVE LIFT W/ 1.6 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Smooth torque and economy. Best cam to replace OEM grind. Very smooth idle.	3	.010	.010	800 to 4500	87-119-6[99]	252S	255	255	214	214	.420	.420	110°
SOLID – Excellent cam for trucks. Good torque for heavy-duty use. Smooth idle.	3	.010	.010	1000 to 4800	87-123-6[99]	260S	263	263	222	222	.440	.440	110°
SOLID – Performance use. Wide powerband. Smooth idle.	3	.010	.010	1500 to 5500	87-127-6[99]	268S	271	271	230	230	.445	.445	110°

MAGNUM Solid Swinging Follower Camshafts (Custom Sets Available)

SOLID – Best cam for street performance with 5-speed. Good mid-range and top end.	3	.010	.010	2000 to 6000	87-131-6[99]	280S	283	283	242	242	.455	.455	110°

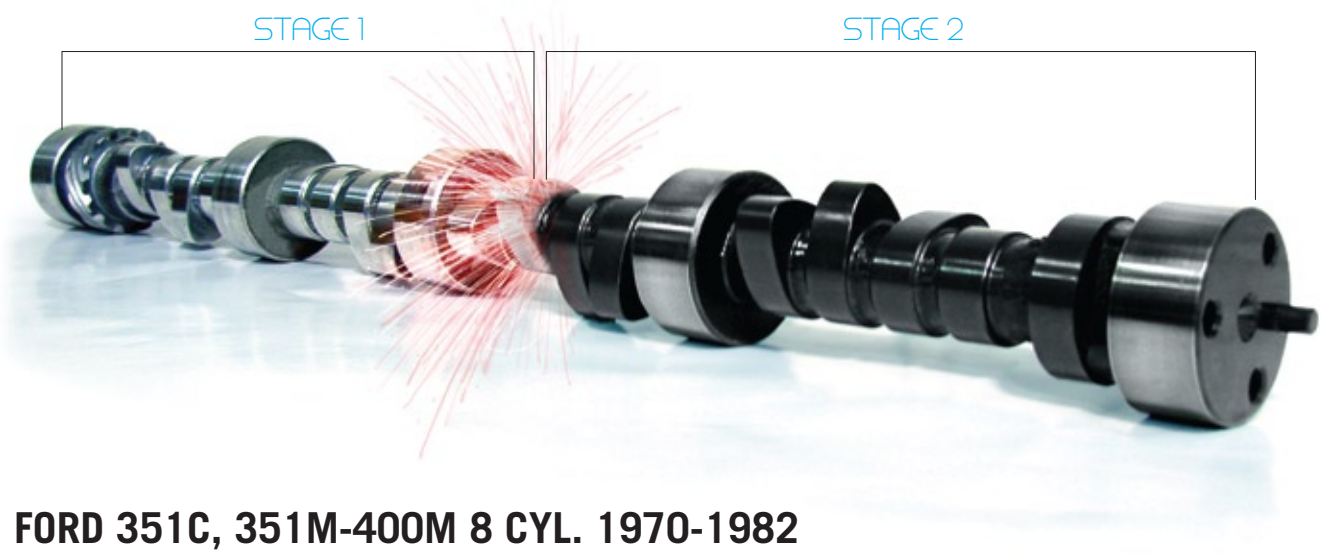
Footnotes: Master Footnote Index on page 15.

99 Will not work in fuel injected applications

New NITRIDED CAMSHAFTS

COMP Cams® is the only aftermarket valve train company in America that provides a Pro Plasma™ Nitriding Service in-house. Nitriding is a process by which nitrogen is introduced into iron or steel, causing a material's surface hardness to be increased for improved initial and long-term wear characteristics. It is recognized by metallurgists worldwide as the best way to increase the hardness and lubricity of flat tappet cams to enhance break-in and durability. Nitriding is available for any COMP Cams® flat tappet camshaft, but many popular flat tappet camshafts have already undergone the Pro Plasma™ Nitriding treatment and are on the shelf, ready to be shipped. Don't get blinded by shiny surface finishing or heat-treating – nitriding has been race-proven around the world and documented to deliver superior results. Nitrided part number camshafts are on pages 254 through 261 of this catalog. If you don't see the part number camshaft you are looking for, call us at 1-800-999-0853 or e-mail us at tech@compcams.com to order a flat tappet camshaft with the nitriding option.

- **Stage 1: Pre-nitrided, unfinished camshaft**
- **Stage 2: Nitrided camshaft surface approximately .008"-.010" deep; black oxide finish**



FORD 351C, 351M-400M 8 CYL. 1970-1982

DUAL ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.73 ROCKER IN.	VALVE LIFT W/ 1.73 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Very strong mid-range and torque. Everyday performance with stock exhaust.	Hyd.	Hyd.	1500 to 5750	32-207-20	265DEH	265	275	211	223	.484	.510	110°

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Very strong mid-range torque and throttle response, 2200+ stall.	Hyd.	Hyd.	1800 to 6000	12-246-20	XE274H	274	286	230	236	.490	.490	110°
HYDRAULIC – Street/strip, 2800+ stall, likes headers and gears, rough idle.	Hyd.	Hyd.	2300 to 6500	12-250-20	XE284H	284	296	240	246	.507	.510	110°
HYDRAULIC – Pro Street/bracket, needs good intake, headers, gear and 3300+ stall.	Hyd.	Hyd.	2800 to 7000	12-254-20	XE294H	294	306	250	256	.519	.523	110°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

With the installation of the Eltropuls Pro Plasma™ Nitriding machine located at our Memphis, TN manufacturing facility, COMP Cams® is able to offer the fastest turnaround time on nitrided camshafts and lifters in the industry.



FORD 351C, 351M-400M 8 CYL. 1970-1982

Hydraulic Flat Tappet Camshafts — DUAL ENERGY™

RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS
N/A	832-16	3221	1411-16[1]	7832-16[8]	972-16 924-16[2]	747-16 741-16	611-16[71]	502-16 503-16[2]

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Hydraulic Flat Tappet Camshafts — XTREME ENERGY™

RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS
RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	981-16 26981-16	742-16 787-16	601-16 648-16	501-16
RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]
RP1412-16 RPM1301-16	812-16 858-16	2100 3100	1412-16[15,52] 1601-16[15,52]	7812-16 7372-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Footnotes: Master Footnote Index on page 15.

1 Requires screw-in studs & guide plates
2 Requires machining on cylinder heads
8 Fits only certain years
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400c.i. C.A.R.B. E.O. #D-279-4
52 Engines with self-aligning rocker arms must use Part #1417-16 or #1617-16
71 For engines with multi-groove valves, use Part #624-16 locks. CAN NOT be used with lash caps.

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

THUMPR™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	2000 to 5800	12-600-20	279TH7	279	297	227	241	.479	.465	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200 to 6100	12-601-20	287TH7	287	305	235	249	.489	.476	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500 to 6400	12-602-20	295TH7	295	313	243	257	.500	.486	107°

TIGHT LASH Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Good for 350-377c.i. on 3/8-1/2 mile tracks with fast corners.	.018	.020	3400 to 7000	12-506-20	288BTL-6	288	292	259	262	.550	.560	106°
SOLID – Best on big 3/8-1/2 mile tracks with high rpm. Great with open rules and large c.i. engines.	.018	.020	3500 to 7200	12-515-20	288TLS-6	288	296	259	266	.550	.570	106°
SOLID – For big tracks with unrestricted 377-410c.i. engines. Best with good heads and intake.	.018	.020	3500 to 7500	12-517-20	296TLS-6	296	304	266	274	.570	.590	106°

OPEN WHEEL MODIFIED TRACTION CONTROL STD. ROCKER RATIO Mechanical Flat Tappet Camshafts

SOLID – 1/3-1/2 tracks with tight corners or heavy surface. 327-358c.i., 11:1 compression, 2/4 BBL gas or alcohol.	.016	.018	3100 to 7100	12-526-20	280MHQ	280	289	254	260	.590	.597	107°
SOLID – 3/8-5/8 tracks with wide corners or slick surface. 355+c.i., 12:1compression, 4 BBL gas or alcohol with good intake and heads.	.016	.018	3300 to 7300	12-527-20	284MHQ	284	293	258	264	.597	.606	107°

OVAL TRACK Mechanical Flat Tappet Camshafts

SOLID – Very versatile cam. Great for 1/4 to 3/8 mile track.	.020	.022	3000 to 6500	12-609-20	285B-6	285	295	250	260	.532	.555	106°
SOLID – For faster 1/4 to 3/8 mile track, strong torque and quick response.	.020	.022	3500 to 6800	12-610-20	290B-4	290	304	255	266	.540	.534	104°
SOLID – Best for 1/4 to 3/8 track with fast corners. More top end than 12-610-20.	.020	.022	3700 to 7000	12-611-20	290B-6	290	304	255	266	.540	.534	106°
SOLID – Good for 1/2 to 5/8 mile track with light car, large engine.	.020	.022	4300 to 7300	12-612-20	300B-6	300	314	265	276	.562	.557	106°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Hydraulic Flat Tappet Camshafts THUMPR™

LIFTERS	TIMING SET	GEAR DRIVE	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	STEEL RETAINERS	VALVE LOCKS	VALVE SEALS
812-16 858-16	2100 3100	4100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 795-16	601-16 611-16	501-16
812-16 858-16	2100 3100	4100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	981-16 26981-16	742-16 795-16	601-16 611-16	501-16
812-16 858-16	2100 3100	4100	1412-16[15,52] 1601-16[15,52]	7372-16 7972-16	986-16[2] 26986-16[2]	740-16 795-16	611-16 614-16	503-16[2]

Mechanical Flat Tappet Camshafts TIGHT LASH

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	DIST. GEARS	STUD GIRDLES
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	12200 12140	4001

Mechanical Flat Tappet Camshafts OPEN WHEEL MODIFIED TRACTION CONTROL STD. ROCKER RATIO

800-16	3100KT[48] 7100	1605-16[59] 1105-16[59]	7913-16	26094-16[2] 26075-16[2]	732-16 738-16	611-16	503-16[2]	621-16	12200 12140	4004
800-16	3100KT[48] 7100	1605-16[59] 1105-16[59]	7913-16	26094-16[2] 26075-16[2]	732-16 738-16	611-16	503-16[2]	621-16	12200 12140	4004

Mechanical Flat Tappet Camshafts OVAL TRACK

813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	987-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	12200 12140	4001

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400c.i. C.A.R.B. E.O. #D-279-4
48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain
52 Engines with self-aligning rocker arms must use Part #1417-16 or #1617-16
59 Requires 7/16" rocker arm studs

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

MAX AREA — Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Designed for larger tracks with fast corners, needs better intake, heads, headers and carb.	.020	.022	3500 to 7000	12-626-20	275MAS-6	275	283	248	256	.510	.510	106°
SOLID – 377-410c.i. for larger tracks, likes 1.65-1.7 rockers, needs better intake, heads, headers and carb.	.020	.022	3500 to 7000	12-628-20	279MAS-6	279	287	252	260	.510	.510	106°

OVAL TRACK — Mechanical Flat Tappet Camshafts – Xtreme Oval Solids use COMP® XTQ intake profiles with the XTX exhaust profiles for more area under the curve than most good .875" lifter designs, while still allowing standard .842" lifters.

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – 1/4-3/8 fast track. 327-358c.i. 9:1 compression. 2 BBL good intake and exhaust.	.016	.018	2800 to 6600	12-651-20	278XOS	278	284	248	250	.531	.525	108°
SOLID – 1/4-3/8 tight. 327-358 c.i. 11:1+ compression. 2 BBL with good intake and exhaust.	.016	.018	3000 to 6800	12-652-20	278XOS	278	284	248	250	.531	.525	106°
SOLID – 1/4-3/8 fast. 327-358c.i. 11:1+ compression. 2 BBL with good intake and exhaust.	.016	.018	3200 to 7000	12-653-20	282XOS	282	288	252	254	.540	.531	106°
SOLID – Late Model stock. 1/4-3/8 track. 358c.i. with limited intake and carb.	.016	.018	3200 to 7200	12-654-20	286XOS	286	292	256	258	.549	.537	108°
SOLID – 1/4-3/8 tight. 327-358c.i. 12:1+compression. 4 BBL with good intake and exhaust.	.016	.018	3000 to 6700	12-656-20	282XOS	282	292	252	258	.540	.537	106°
SOLID – 1/4-3/8 fast. 327-358c.i. 12:1+ compression. 4 BBL with good intake and exhaust.	.016	.018	3200 to 6900	12-657-20	286XOS	286	296	256	262	.549	.543	106°
SOLID – 3/8-1/2 tight. 360+c.i. 12:1+ compression. 4 BBL with good intake and exhaust.	.016	.018	3400 to 7200	12-658-20	290XOS	290	300	260	266	.558	.549	106°

OVAL TRACK 4 & 7 SWAP FIRING ORDER — Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – 1/4-3/8 tight. 327-358c.i. 11:1+ compression. 2 BBL with good intake and exhaust.	.016	.018	3000 to 6800	12-688-23	47S 278XOS	278	284	248	250	.531	.525	106°
SOLID – 3/8-1/2 tight. 360+c.i. 12:1+ compression. 4 BBL with good intake and exhaust.	.016	.018	3400 to 7200	12-690-23	47S 290XOS	290	300	260	266	.558	.549	106°

TIP

URGENT!

Don't see your nitrided camshaft listed in these charts? No problem. Call us at 1-800-999-0853 to have any flat tappet cam, both part numbered and custom grinds, nitrided at the COMP Cams® in-house facility.

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 262-400 C.I. 8 CYL. 1955-1998

Mechanical Flat Tappet Camshafts — MAX AREA

LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS	LASH CAPS	DIST. GEARS	STUD GIRDLES
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	12200 12140	4001

Mechanical Flat Tappet Camshafts – Xtreme Oval Solids use COMP® new XTQ intake profiles with the XTX exhaust profiles for more area under the curve than most good .875" lifter designs, while still allowing standard .842" lifters. — OVAL TRACK

813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 26094-16[2]	740-16 732/721	611-16	503-16[2]	621-16	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 26094-16[2]	740-16 732/721	611-16	503-16[2]	621-16	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 26094-16[2]	740-16 732/721	611-16	503-16[2]	621-16	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 26094-16[2]	740-16 732/721	611-16	503-16[2]	621-16	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 26094-16[2]	740-16 732/721	611-16	503-16[2]	621-16	12200 12140	4001

Mechanical Flat Tappet Camshafts — OVAL TRACK 4 & 7 SWAP FIRING ORDER

813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 978-16[2]	740-16 730-16	611-16	503-16[2]	621-16	12200 12140	4001
813-16 800-16	3100 3100KT[48]	1601-16[15] 1101-16[15]	7372-16 7972-16	950-16[2] 26094-16[2]	740-16 732/721	611-16	503-16[2]	621-16	12200 12140	4001

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
15 50-State legal on 1993 & earlier SB Chevrolet V8, 262-400c.i. C.A.R.B. E.O. #D-279-4
48 Includes 3 cam bolts, thrust bearing, adjustable cam timing system, 2 machined steel gears & true roller chain

RED NUMBERS ARE THE PREMIUM CHOICE

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Good for street machines, slightly rough idle, stock converter will work but best with 1800+ stall.	Hyd.	Hyd.	1600 to 5800	11-242-20	XE268H	268	280	224	230	.515	.520	110°
HYDRAULIC – High performance street, very strong mid-range with headers, 2200+ stall.	Hyd.	Hyd.	1800 to 6000	11-246-20	XE274H	274	286	230	236	.552	.555	110°
HYDRAULIC – Street/strip, 2800+ stall, rough idle. 9.5:1+ compression.	Hyd.	Hyd.	2300 to 6500	11-250-20	XE284H	284	296	240	246	.574	.578	110°
HYDRAULIC – Pro Street/bracket, good intake, headers, lower gears, 3200+ stall, 10.5:1+ compression.	Hyd.	Hyd.	2800 to 7000	11-254-20	XE294H	294	306	250	256	.588	.593	110°

XTREME MARINE™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Jet w/ A impeller, needs improved intake, likes headers.	Hyd.	Hyd.	2000 to 6200	11-240-20	XM278H	278	292	234	244	.564	.566	112°
HYDRAULIC – Jet w/ A or B impeller, 9.5:1+ compression, needs headers, performance use.	Hyd.	Hyd.	2500 to 6500	11-244-20	XM288H	288	304	244	254	.570	.575	112°

THUMPR™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	1800 to 5600	11-600-20	279TH7	279	296	227	241	.498	.483	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2000 to 5900	11-601-20	287TH7	287	304	235	249	.510	.495	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2300 to 6200	11-602-20	295TH7	295	312	243	257	.522	.507	107°

XTREME ENERGY™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.7 ROCKER IN.	VALVE LIFT W/ 1.7 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Very strong mid-range torque and throttle response, 2500+ stall.	.016	.016	2000 to 6400	11-677-20	XS274S	274	280	236	242	.568	.578	110°
SOLID – Street/strip, 3000+ stall, likes headers and gears, rough idle.	.016	.016	2400 to 6800	11-678-20	XS282S	282	290	244	252	.590	.598	110°
SOLID – Stocker cam for 396c.i., 375 horsepower engine.	.014	.014	3500 to 7000	11-614-20	396/375	284	299	256	266	.527	.519	108°

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

CHEVROLET 396-454 C.I. 8 CYL. 1965-1996

Hydraulic Flat Tappet Camshafts — XTREME ENERGY™

RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS
RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
RP1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]

Hydraulic Flat Tappet Camshafts — XTREME MARINE™

RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
RPM1411-16	812-16 858-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]

Hydraulic Flat Tappet Camshafts — THUMPR™

LIFTERS	TIMING SET	GEAR DRIVE	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS
812-16 858-16	2110 3110	4110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	911-16 924-16[2]	748-16 741-16	612-16[75]	504-16 505-16[2]
812-16 858-16	2110 3110	4110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
812-16 858-16	2110 3110	4110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16[16]	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]

Hydraulic Flat Tappet Camshafts — XTREME ENERGY™

RP-KIT	LIFTERS	TIMING SET	ROCKER ARMS	PUSHRODS	VALVE SPRINGS	RETAINERS	VALVE LOCKS	VALVE SEALS
RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	924-16[2] 26120-16	741-16 795-16	612-16[75] 616-16[75]	505-16[2]
RPM1411-16[17]	813-16 800-16	2110 3110	1411-16[17,18] 1620-16[17,18]	7154-16[16] 7954-16	911-16 924-16[2]	744-16 741-16	603-16[75] 612-16[75]	504-16 505-16[2]

Footnotes: Master Footnote Index on page 15.

2 Requires machining on cylinder heads
16 Truck engines have .400" taller block
17 Mark V and Mark VI heads must use kit w/ studs
18 50-State legal for 1993 & earlier BB Chevrolet V8, 396-454c.i. C.A.R.B. E.O. #D-279-4
75 Most aluminum heads come standard with 11/32" valve stems. Use appropriate valve locks, retainers, and seals.

RED NUMBERS ARE THE PREMIUM CHOICE

BUICK NAILHEAD 364, 401, 425 C.I. 8 CYL. 1957-1966

THUMPR™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	3	Hyd.	Hyd.	2000 to 5800	91-600-5	279TH7	279	297	227	241	.478	.465	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	3	Hyd.	Hyd.	2200 to 6100	91-601-5	287TH7	287	305	235	249	.490	.475	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	3	Hyd.	Hyd.	2500 to 6400	91-602-5	295TH7	295	313	243	257	.501	.486	107°

Lifters (#852-16) available for this application.

CHEVROLET 348-409 C.I. 8 CYL. 1958-1965

THUMPR™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.75 ROCKER IN.	VALVE LIFT W/ 1.75 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	3	Hyd.	Hyd.	2000 to 5800	48-600-5	279TH7	278	296	226	241	.512	.498	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	3	Hyd.	Hyd.	2200 to 6100	48-601-5	287TH7	286	304	234	249	.525	.509	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	3	Hyd.	Hyd.	2500 to 6400	48-602-5	295TH7	294	312	242	257	.537	.521	107°

Lifters (#812-16) and rocker arms (#1629-16) available for this application.

CHRYSLER 392 HEMI 8 CYL. 1957-1958

THUMPR™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS		VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	3	Hyd.	Hyd.	2000 to 5800	26-600-7	279TH7	279	296	227	241	.486	.472	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	3	Hyd.	Hyd.	2200 to 6100	26-601-7	287TH7	287	304	235	249	.498	.483	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	3	Hyd.	Hyd.	2500 to 6400	26-602-7	295TH7	295	312	243	257	.508	.495	107°

Lifters (#826-16) available for this application.

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

FLATHEAD FORD (2 GEAR) 239, 255 C.I. 8 CYL. 1949-1953

THUMPR™ Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT IN.	VALVE LIFT EX.	LOBE SEP. ANGLE
SOLID – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	.012	.014	2000-5800	41-600-7	279TS7	267	299	227	241	.354	.350	107°
SOLID – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	.012	.014	2200-6100	41-601-7	287TS7	275	307	235	249	.368	.364	107°
SOLID – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	.012	.014	2500-6400	41-602-7	295TS7	283	315	243	257	.382	.378	107°

FORD Y-BLOCK 292, 312 C.I. 8 CYL. 1955-1962

THUMPR™ Mechanical Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.5 ROCKER IN.	VALVE LIFT W/ 1.5 ROCKER EX.	LOBE SEP. ANGLE
SOLID – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	.012	.014	2000-5800	37-600-5	TS7	268	287	231	245	.479	.470	107°
SOLID – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	.012	.014	2200-6100	37-601-5	TS7	276	295	239	253	.489	.480	107°
SOLID – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	.012	.014	2500-6400	37-602-5	TS7	284	303	247	261	.500	.491	107°

FORD 332, 352, 390, 406 C.I. 8 CYL. 1958-1962

THUMPR™ Hydraulic Flat Tappet Camshafts

APPLICATION / CAMSHAFTS	VALVE SETTING IN.	VALVE SETTING EX.	RPM OPERATING RANGE	CAMSHAFT PART NUMBER	CAM GRIND NUMBER	DURATION ADVERTISED IN.	DURATION ADVERTISED EX.	DURATION @ .050" IN.	DURATION @ .050" EX.	VALVE LIFT W/ 1.76 ROCKER IN.	VALVE LIFT W/ 1.76 ROCKER EX.	LOBE SEP. ANGLE
HYDRAULIC – Thumpr™ – High performance street, stock converter ok, best with 2000+ converter and gears. Choppy/thumping idle.	Hyd.	Hyd.	2000-5800	104-600-5	279TH7	278	297	226	241	.506	.493	107°
HYDRAULIC – Mutha' Thumpr™ – High performance street/strip, needs 9:1 compression, 2500+ stall, intake, gears and headers, rough idle.	Hyd.	Hyd.	2200-6100	104-601-5	287TH7	286	304	234	249	.519	.503	107°
HYDRAULIC – Big Mutha' Thumpr™ – Street/strip, needs 9.5:1 compression, 2800+ stall, intake, gears and headers, very rough idle.	Hyd.	Hyd.	2500-6400	104-602-5	295TH7	294	312	242	257	.531	.515	107°

RED NUMBERS ARE THE PREMIUM CHOICE

Camshaft Type	Part #	Grind Number	Duration In Degrees Advertised Intake	Advertised Exhaust	@ .050" Intake	@ .050" Exhaust	Valve Lift Intake	Valve Lift Exhaust	Lobe Seperation Angle
AMC 2.5L 1980-1983							CUSTOM GRINDS AVAILABLE (114-000-5)		
BUICK STAGE II EVEN FIRE 6 CYL. 1978-1988							CUSTOM GRINDS AVAILABLE		
ROLLER	93-850-9	296-R4	296-7	300-7	264	268	.650	.650	104°
ROLLER	93-852-9	296-R5	296-8	304-5	268	268	.704	.672	105°
ROLLER	93-901-9	308-R4	308-5	312-5	272	274	.672	.672	104°
ROLLER	93-902-9	312-R6	312-5	312-5	276	276	.672	.672	106°
BUICK 215 ALUMINUM V8 1961-1963							CUSTOM GRINDS AVAILABLE (90-000-5)		
BUICK 364, 401, 425 V8 1957-1965							CUSTOM GRINDS AVAILABLE (91-000-5)		
CHEVROLET CHEVETTE 1400CC 1976-1977 & 1600CC 1976-1987							CUSTOM GRINDS AVAILABLE (77-000-5)		
CHEVROLET 235 L6 BLUE FLAME 1952-1962							CUSTOM GRINDS AVAILABLE (60-000-5)		
CHEVROLET 292 L6 1963-1990							CUSTOM GRINDS AVAILABLE (62-000-5)		
CHEVROLET V6 ODD FIRE RACE ENGINE							CUSTOM GRINDS AVAILABLE		
ROLLER	17-900-9	288AR-4	288-8	300-5	260	264	.660	.630	104°
ROLLER	17-901-9	292AR-5	292-8	304-5	264	268	.660	.630	105°
CHEVROLET V6 ODD FIRE W/ SPLAYED VALVE HEAD							CUSTOM GRINDS AVAILABLE (02-000-9)		
CHEVROLET V8 265-400 1957-1998 W/ 1.5 ROCKERS							CUSTOM GRINDS AVAILABLE		
HYDRAULIC	12-204-4[49]	244H-10	244-2	244-2	196	196	.400	.400	110°
HYDRAULIC	12-302-4[49]	244H-8	244-2	252-2	196	206	.400	.406	108°
HYDRAULIC	12-306-4[49]	252AH-8	252-4	260-7	206	212	.425	.440	108°
HYDRAULIC	12-308-4[49]	252AH-10	252-4	260-7	206	212	.425	.440	110°
HYDRAULIC	12-310-4[49]	260AH-8	260-9	268-9	212	218	.444	.444	108°
HYDRAULIC	12-312-4[49]	260AH-10	260-9	268-9	212	218	.444	.444	110°
HYDRAULIC	12-316-4	268H-8	268-4	268-4	222	222	.464	.464	108°
HYDRAULIC	12-319-4	268AH-8	268-4	276-4	222	226	.464	.464	108°
HYDRAULIC	12-320-4	270AH-10	270-4	280-3	224	230	.470	.460	110°
HYDRAULIC	12-321-4	270AH-8	270-4	280-3	224	230	.470	.460	108°
HYDRAULIC	12-322-4	276AH-10	276-3	284-3	228	236	.474	.474	110°
HYDRAULIC	12-328-4	286AH-10	286-3	292-3	236	244	.490	.485	110°
HYDRAULIC	12-334-4	292AH-8	292-2	296-3	244	246	.501	.510	108°
HYDRAULIC	12-336-4	292AH-10	292-2	296-3	244	246	.501	.510	110°
HYDRAULIC	12-338-4	296H-10	296-3	296-3	246	246	.510	.510	110°
HYDRAULIC	12-340-4	296AH-10	296-3	305-4	246	253	.510	.507	110°
HYDRAULIC	12-346-4	305H-8	305-2	305-2	253	253	.525	.525	108°
HYDRAULIC	12-348-4	305AH-8	305-2	312-6	253	260	.525	.530	108°
HYDRAULIC	12-350-4	305AH-10	305-2	312-6	253	260	.525	.530	110°
HYDRAULIC	12-352-4	312H-8	312-5	312-5	260	260	.540	.540	108°
HYDRAULIC	12-354-4	312H-10	312-5	312-5	260	260	.540	.540	110°
HYDRAULIC	12-353-4	312AH-8	312-5	320-5	260	268	.540	.540	108°
HYDRAULIC	12-356-4	312AH-10	312-5	320-5	260	268	.540	.540	110°
HYDRAULIC	12-358-4	320H-8	320-10	320-10	270	270	.551	.551	108°
HYDRAULIC	12-216-5	320H-10	320-10	328-8	270	276	.551	.551	110°
HYDRAULIC	12-360-4	320AH-8	320-10	328-8	270	276	.551	.551	108°
HYDRAULIC	12-362-4	328H-8	328-8	328-8	276	276	.551	.551	108°
SOLID	12-220-5	270S-8	270-1	270-1	235	235	.495	.495	108°
SOLID	12-613-5	300B-8	300-1	314-1	265	276	.562	.557	108°
SOLID	12-619-5	310C-6	310-1	320-2	275	280	.585	.562	106°
SOLID	12-615-5	314B-8	314-1	324-1	276	286	.557	.578	108°
SOLID	12-633-5	320B-6	320-1	324-1	283	286	.588	.578	106°
SOLID	12-616-5	320B-8	320-1	324-1	283	286	.588	.578	108°
SOLID	12-635-5	328B-9	328-3	334-2	290	296	.600	.600	109°
.875" DIAMETER LIFTER	12-745-7	298Z-4	298-2	304-4	261	266	.555	.555	104°
.875" DIAMETER LIFTER	12-744-7	302Z-6	302-3	308-4	264	270	.562	.562	106°
.875" DIAMETER LIFTER	12-747-7	296Z-6	296XX	302XX	264	270	.593	.605	106°
.875" DIAMETER LIFTER	12-750-7	300NZ-6	300N-1	304N-1	268	272	.608	.615	106°
.875" DIAMETER LIFTER	12-751-7	304NZ-6	304N-1	308XX	272	276	.615	.615	106°
.875" DIAMETER LIFTER	12-752-7	304NAZ-8	304N-1	312XX	272	280	.615	.623	108°
.875" DIAMETER LIFTER	12-741-7	314Z-7	314-5	320-4	277	282	.585	.585	107°
.875" DIAMETER LIFTER	12-740-7	318Z-8	318-5	324-4	281	286	.600	.600	108°

Footnotes: Master Footnote Index on page 13.

49 50-State legal for 1987 & earlier carbureted V8 SB Chevrolet 262-400 C.A.R.B. E.O. #D-279-3, #D-279-5, #D-279-6

Camshaft Type	Part #	Grind Number	Duration In Degrees Advertised Intake	Advertised Exhaust	@ .050" Intake	@ .050" Exhaust	Valve Lift Intake	Valve Lift Exhaust	Lobe Seperation Angle
CHEVROLET V8 265-400 1957-1998 W/ 1.5 ROCKERS								CUSTOM GRINDS AVAILABLE	
ROLLER	12-707-8	288R-10	288-4	288-4	244	244	.550	.550	110°
ROLLER	12-722-9	285CR-6	285-2	295-2	252	262	.562	.550	106°
ROLLER	12-723-9	295DR-6	295-3	305-2	262	272	.585	.550	106°
ROLLER - .900" B.C.	12-998-9	300B-6	300-5	308-6	264	270	.630	.630	106°
ROLLER	12-904-9	304AR-6	304-5	308-6	268	270	.630	.630	106°
ROLLER	12-913-9	296BR-6	296-8	308-5	268	272	.660	.630	106°
ROLLER	12-800-9	306A-6	306-1	306-1	270	270	.600	.600	106°
ROLLER	12-955-9	300C-R7	RT300-1	308-7	270	276	.652	.609	107°
ROLLER - .900" B. C.	12-995-9	308AR-7	308-5	312-6	272	274	.630	.630	107°
ROLLER	12-803-9	300R-4	300-8	308-8	272	280	.660	.660	104°
ROLLER	12-710-9	313DR-2	313-6	316-6	276	278	.660	.630	102°
ROLLER	12-808-9	304R-4	304-8	312-8	276	284	.660	.660	104°
ROLLER - .900" B. C.	12-997-9	316AR-8	316-5	326-4	280	288	.630	.630	108°
ROLLER	12-806-9	308GR-4	308-8	312-8	280	284	.660	.660	104°
ROLLER	12-742-9	322AR-8	322-1	330-1	282	290	.640	.630	108°
ROLLER	12-810-9	312FR-4	312-8	312-8	284	284	.660	.660	104°
ROLLER	12-812-9	312GR-6	312-8	330-5	284	292	.660	.630	106°
ROLLER	12-816-9	324FR-6	324-6	332-2	284	292	.706	.630	106°
ROLLER	12-802-9	323AR-9	323-7	334-3	287	296	.690	.630	109°
ROLLER	12-758-9	328AR-8	328-6	288-9	288	292	.684	.660	108°
ROLLER	12-811-9	302LHR-5	302	308-8	270	280	.747	.704	105°
ROLLER 1.968" BRNG	12-962-9	294RTR-6	RT294-1	304-5	264	268	.645	.630	106°
ROLLER 1.968" BRNG	12-964-9	298RTR-6	RT298-1	308-5	268	272	.653	.630	106°
CHEVROLET V8 265-400 1957-1998 REVERSE ROTATION								CUSTOM GRINDS AVAILABLE (12-000-5RR)	
CHEVROLET V8 262-400 V8 W/ SPLAYED VALVE, BUICK OR DART HEADS								CUSTOM GRINDS AVAILABLE	
ROLLER	19-901-9	318BR-12	318-6	330-5	278	292	.698	.630	112°
ROLLER	19-910-9	324BR-12	324-6	336-5	284	296	.706	.660	112°
ROLLER	19-921-9	328DR-13	328-5	340-3	288	300	.714	.660	113°
ROLLER	19-925-9	328ER-14	328-5	344-5	288	304	.714	.690	114°
ROLLER	19-935-9	324GR-12	324-7	336-5	284	296	.684	.660	112°
ROLLER	19-940-9	290BR-6	RT290-1	300-5	260	264	.645	.630	106°
ROLLER	19-950-9	296ER-6	RT296-1	308-5	266	272	.645	.630	106°
ROLLER	19-955-9	300DR-7	RT300-1	308-7	270	276	.652	.609	107°
CHEVROLET SB2 HEAD & BLOCK WITH STANDARD BLOCK WITH .875" TAPPETS AND 50MM JOURNALS								CUSTOM GRINDS AVAILABLE	
ROLLER	03-945-9	294ER-6	RT294-1	304-5	264	268	.645	.632	106°
ROLLER	03-955-9	300GR-7	RT300-1	308-7	270	276	.654	.609	107°
CHEVROLET SB2 HEAD & BLOCK WITH .875" TAPPETS AND 50MM JOURNALS								CUSTOM GRINDS AVAILABLE	
SOLID	04-760-9W	292XXZ-10	292	300	260	268	.587	.600	110°
SOLID	04-762-9W	304NXZ-6	304	308	272	276	.618	.615	106°
ROLLER	04-945-10	294AR-6	RT294-1	304-5	264	268	.645	.632	106°
ROLLER	04-955-10	300CR-7	RT300-1	308-7	270	276	.654	.609	107°
CHEVROLET 348-409 V8 1958-1965									
CHEVROLET V8 396-454 1965-1996 W/ 1.7 ROCKERS								CUSTOM GRINDS AVAILABLE	
HYDRAULIC	11-200-4	252BH-14	252-5	252-5	206	206	.460	.460	114°
HYDRAULIC	11-298-4	252AH-10	252-5	260-8	206	212	.460	.475	110°
HYDRAULIC	11-302-4	260AH-12	260-9	268-9	212	218	.503	.503	112°
HYDRAULIC	11-300-4	260AH-10	260-9	268-9	212	218	.503	.503	110°
HYDRAULIC	11-402-4	268AH-14	268-4	276-4	222	226	.525	.525	114°
HYDRAULIC	11-321-4	268AH-12	268-4	276-4	222	226	.525	.525	112°
HYDRAULIC	11-311-4	270AH-10	270-4	280-3	224	230	.532	.520	110°
HYDRAULIC	11-310-4	270AH-12	270-4	280-3	224	230	.532	.520	112°
HYDRAULIC	11-313-4	276AH-10	276-3	284-3	228	236	.537	.537	110°
HYDRAULIC	11-312-4	276AH-12	276-3	284-3	228	236	.537	.537	112°
HYDRAULIC	11-316-4	280AH-12	280-9	288-9	232	237	.547	.547	112°
HYDRAULIC	11-319-4	286AH-10	286-3	292-3	236	244	.556	.550	110°
HYDRAULIC	11-320-4	286AH-12	286-3	292-3	236	244	.556	.550	112°
HYDRAULIC	11-326-4	292AH-12	292-2	296-3	244	246	.567	.578	112°

Camshaft Type	Part #	Grind Number	Duration In Degrees Advertised Intake	Advertised Exhaust	@ .050" Intake	@ .050" Exhaust	Valve Lift Intake	Valve Lift Exhaust	Lobe Seperation Angle
CHEVROLET V8 396-454 1965-1996 W/ 1.7 ROCKERS								CUSTOM GRINDS AVAILABLE	
HYDRAULIC	11-327-4	296H-10	296-3	296-3	246	246	.578	.578	110°
HYDRAULIC	11-328-4	296AH-10	296-3	305-4	246	253	.578	.575	110°
HYDRAULIC	11-330-4	296AH-12	296-3	305-4	246	253	.578	.575	112°
HYDRAULIC	11-334-4	305H-12	305-4	305-4	253	253	.575	.575	112°
HYDRAULIC	11-215-5	312H-10	312-6	312-6	260	260	.600	.600	110°
HYDRAULIC	11-340-4	312AH-10	312-6	320-9	260	268	.600	.600	110°
HYDRAULIC	11-345-5	320AH-14	320-5	328-8	268	276	.612	.625	114°
HYDRAULIC	11-216-5	320H-10	320-9	320-9	268	268	.600	.600	110°
HYDRAULIC	11-342-5	320AH-10	320-9	328-8	268	276	.600	.625	110°
SOLID	11-603-5	270A-8	270-1	280-1	235	242	.561	.575	108°
SOLID	11-612-5	310C-8	310-2	320-2	270	280	.638	.638	108°
SOLID	11-680-5	328B-12	328-3	334-2	290	296	.680	.680	112°
ROLLER	11-691-9	280A-R10	280-2	288-4	238	246	.623	.623	110°
ROLLER	11-707-9	295D-R8	295-3	305-2	264	274	.663	.622	108°
ROLLER	11-800-9	312FR-8	312-8	312-8	286	286	.748	.748	108°
ROLLER	11-802-9	312JR-8	312-8	324-4	286	289	.748	.720	108°
ROLLER	11-806-9	319ER-10	319-3	324-4	287	289	.782	.720	110°
ROLLER	11-804-9	323ER-10	323-5	324-4	289	289	.782	.720	110°
ROLLER	11-722-9	328B-R14	328-5	344-5	288	304	.810	.782	114°
ROLLER	11-723-9	328CR-14	328-5	348-1	288	308	.810	.782	114°
ROLLER	11-808-9	323BR-12	323-5	324-4	289	289	.782	.720	112°
ROLLER	11-705-9	308AR-9	308-8	312-8	280	284	.792	.748	109º
ROLLER	11-709-9	316AR-10	316-3	324-4	282	287	.817	.719	110º
ROLLER	11-730-9	324ER-18	324-30	360-5	288	320	.867	.816	118°
ROLLER	11-714-9	316BR-10	316-15	327-5	284	290	.873	.782	110º
ROLLER	11-716-9	316AR-12	316-15	327-5	284	290	.873	.782	112º
CHEVROLET V8 396-454 1965-1996 REVERSE ROTATION								CUSTOM GRINDS AVAILABLE (11-000-5RR)	
GM 6.5L DIESEL								CUSTOM GRINDS AVAILABLE (117-000-9)	
CHRYSLER V8 273-360 1962-1997 W/ 1.5 ROCKERS								CUSTOM GRINDS AVAILABLE	
HYDRAULIC	20-201-4	244H-10	244-2	244-2	196	196	.400	.400	110°
HYDRAULIC	20-206-4	252CH-11	252-5	252-5	206	206	.405	.405	111°
HYDRAULIC	20-302-4	252AH-10	252-4	260-7	206	212	.425	.440	110°
HYDRAULIC	20-306-4	260AH-10	260-9	268-9	212	218	.444	.444	108°
HYDRAULIC	20-304-4	260AH-10	260-9	268-9	212	218	.444	.444	110°
HYDRAULIC	20-308-4	268H-8	268-4	268-4	222	222	.464	.464	108°
HYDRAULIC	20-309-4	268AH-10	268-4	276-4	222	226	.464	.464	110°
HYDRAULIC	20-310-4	268AH-8	268-4	276-4	222	226	.464	.464	108°
HYDRAULIC	20-312-4	270AH-8	270-4	280-4	224	230	.470	.480	108°
HYDRAULIC	20-311-4	270AH-10	270-4	280-3	224	230	.470	.480	110°
HYDRAULIC	20-314-4	276AH-10	276-3	284-3	228	236	.474	.474	110°
HYDRAULIC	20-316-4	280AH-8	280-9	288-9	232	237	.483	.483	108°
HYDRAULIC	20-317-4	280AH-10	280-9	288-9	232	237	.483	.483	110°
HYDRAULIC	20-320-4	286AH-10	286-3	292-2	236	244	.490	.501	110°
HYDRAULIC	20-318-4	286AH-8	286-3	292-2	236	244	.490	.501	108°
HYDRAULIC	20-321-4	292AH-10	292-2	296-3	244	246	.501	.510	110°
HYDRAULIC	20-322-4	292AH-8	292-2	296-3	244	246	.501	.510	108°
HYDRAULIC	20-323-4	296H-8	296-3	296-3	246	246	.510	.510	108°
HYDRAULIC	20-324-4	296AH-8	296-3	305-2	246	253	.510	.525	108°
HYDRAULIC	20-328-4	305AH-8	305-2	312-5	253	260	.525	.540	108°
HYDRAULIC	20-245-5	312H-6	312-5	312-5	260	260	.540	.540	106°
SOLID	20-601-5	280S-8	280-1	280-1	242	242	.507	.507	108°
SOLID	20-623-5	282XXB-6	282XX	288XX	250	258	.556	.570	106°
SOLID	20-626-5	288XXB-6	288XX	296XX	258	264	.570	.585	106°
SOLID	20-619-5	300A-6	300-1	300-1	265	265	.562	.562	106°
SOLID	20-620-5	310A-6	310-1	310-1	275	275	.585	.585	106°
SOLID	20-624-5	320A-8	320-1	320-1	283	283	.588	.588	108°
SOLID	20-622-5	330A-8	330-1	330-1	290	290	.615	.615	108°

Camshaft Type	Part #	Grind Number	Duration In Degrees Advertised Intake	Advertised Exhaust	@ .050" Intake	@ .050" Exhaust	Valve Lift Intake	Valve Lift Exhaust	Lobe Seperation Angle
CHRYSLER V8 273-360 1962-1997 W/ 1.5 ROCKERS								CUSTOM GRINDS AVAILABLE	
ROLLER	20-700-9	276R-8	276-2	280-2	232	236	.525	.550	108°
ROLLER	20-752-9	288AR-6	288-5	296-6	252	258	.631	.630	106°
ROLLER	20-754-9	296AR-6	296-5	300-6	260	262	.630	.631	106°
ROLLER	20-760-9	300AR-6	300-5	304-6	266	268	.630	.630	106°
ROLLER	20-758-9	306AR-6	306-1	306-1	270	270	.600	.600	106°
ROLLER	20-710-9	308BR-6	308-5	312-2	274	281	.630	.638	106°
ROLLER	20-730-9	310CR-6	310-4	312-2	276	281	.627	.638	106°
ROLLER	20-712-9	312CR-6	312-5	312-2	276	281	.630	.638	106°
ROLLER	20-732-9	312DR-6	312-2	312-2	281	281	.638	.638	106°
ROLLER	20-720-9	308D-R6	308	310	276	281	.663	.648	106°
CHRYSLER V8 273-360 (W/ 48º BANK ANGLE AND 50MM JOURNALS)								CUSTOM GRINDS AVAILABLE	
ROLLER	20-713-9	290RX-6	RX290	RZ297	257	264	.644	.645	106°
ROLLER	20-714-9	294RX-6	RX294	RZ301	261	268	.647	.648	106°
ROLLER	20-715-9	300RX-8	RX300	RZ309	267	276	.651	.654	106°
DODGE R5 BLOCK WITH P7 HEADS								CUSTOM GRINDS AVAILABLE	
ROLLER	55-800-10	298RX-8	RX298	RZ305	265	272	.693	.694	108°
ROLLER	55-801-10	302RX-8	RX302	RZ311	269	278	.696	.699	108°
ROLLER	55-802-10	304RX-8	RX304	RZ317	271	284	.698	.704	108°
CHRYSLER V8 383-440 1958-1980 W/ 1.5 ROCKERS (21-SINGLE BOLT CORE, 23-THREE BOLT CORE)								CUSTOM GRINDS AVAILABLE	
HYDRAULIC	21-210-4	252AH-12	252-5	252-5	206	206	.405	.405	112º
HYDRAULIC	21-211-4	252BH	252-4	260-9	206	212	.425	.445	110°
HYDRAULIC	21-300-4	260AH-12	260-9	260-5	212	212	.444	.444	112º
HYDRAULIC	21-304-4	268H-8	268-4	268-4	222	222	.464	.464	108°
HYDRAULIC	21-308-4	276H-8	276-3	276-3	228	228	.474	.474	108°
HYDRAULIC	21-310-4	286H-8	286-3	286-3	236	236	.490	.490	108°
HYDRAULIC	21-314-4	296H-8	296-3	296-3	246	246	.510	.510	108°
HYDRAULIC	21-318-4	312H-8	312-5	312-5	260	260	.540	.540	108°
HYDRAULIC	21-244-5	312H-10	312-5	312-5	260	260	.540	.540	110°
HYDRAULIC	21-320-4	320H-8	320-5	320-5	268	268	.540	.540	108°
HYDRAULIC	21-245-5	320H-10	320-5	320-5	268	268	.540	.540	110°
SOLID	21-624-5	290A-8	290-1	290-1	255	255	.540	.540	108°
SOLID	21-626-5	300A-8	300-1	300-1	265	265	.562	.562	108°
SOLID	21-629-5	310A-8	310-1	310-1	275	275	.585	.585	108°
SOLID	21-631-5	320B-8	320-1	320-1	283	283	.588	.588	108°
ROLLER	23-730-9	324CR-8	324-8	324-8	286	286	.750	.750	108°
CHRYSLER V8 392 HEMI 1957-1958							CUSTOM GRINDS AVAILABLE (26-000-5 & 26-000-9)		
CHRYSLER V8 426 HEMI 1966-1971 WITH 1.57 INTAKE / 1.52 EXHAUST ROCKERS								CUSTOM GRINDS AVAILABLE	
HYDRAULIC	24-243-5	305H-10	305-3	305-3	253	253	.549	.532	110°
SOLID	24-312-5	310S-6	310-1	310-1	275	275	.612	.593	106°
ROLLER	24-731-9	324DR-6	324-8	324-8	286	286	.785	.760	106°
ROLLER	24-734-9	333AR-6	333-1	333-1	292	292	.785	.760	106°
ROLLER	24-720-9	326AR-8	326-14	326-14	294	294	.824	.798	108°
ROLLER	24-722-9	320AR-8	320-30	320-30	284	284	.800	.775	108°
ROLLER	24-724-9	324FR-14	324-30	348-1	288	308	.800	.700	114°
ROLLER	24-769-9	331CR-14	331-3	342-4	294	304	.761	.760	114°
ROLLER	24-779-9	336BR-10	336-4	324-9	296	286	.747	.669	110°
ROLLER	24-740-9	336ER-12	336-5	332-2	296	292	.690	.669	112º
ROLLER	24-750-9	331FR-16	331R-2	331R-2	296	296	.788	.763	116°
ROLLER	24-752-9	334CR-16	334R-2	334R-2	296	296	.824	.798	116°
ROLLER	24-754-9	331ER-16	331R-2	331R-2	296	296	.785	.760	116°
ROLLER	24-758-9	326BR-15	326-30	326-30	293	293	.800	.775	115°
ROLLER	24-760-9	332AR-14	332-6	332-6	296	296	.747	.725	114°
CHRYSLER V8 426 HEMI 1966-1971 (W/ 48° BANK ANGLE AND 2.124" JOURNALS)								CUSTOM GRINDS AVAILABLE	
ROLLER	24-742-10	332FR-12	332-6	332-6	292	292	.747	.693	112º
FORD L4 2000, 2300 OHC 1983-1987 (SEE FOOTNOTE #53 ON PAGE 61)								CUSTOM GRINDS AVAILABLE	
SOLID	70-200-6	272S-12	272	272	236	236	.437	.437	112º
FORD 1600 L4 OHC 1965-1985							CUSTOM GRINDS AVAILABLE (71-000-5)		

Camshaft Type	Part #	Grind Number	Duration In Degrees Advertised Intake	Advertised Exhaust	@ .050" Intake	@ .050" Exhaust	Valve Lift Intake	Valve Lift Exhaust	Lobe Seperation Angle
FORD 2000 L4 OHC 1970-1977 (3 BEARING JOURNAL)							CUSTOM GRINDS AVAILABLE (72-000-5)		
FORD L6 240-300 1965-1995 W/ 1.6 ROCKERS							CUSTOM GRINDS AVAILABLE		
SOLID	66-243-5	264S-8	264	264	220	220	.469	.469	108°
SOLID	66-677-5	280B-6	280	284	242	246	.541	.522	106°
SOLID	66-679-5	290B-8	290	294	255	256	.576	.545	108°
FORD V6 SVO ODD FIRE W/ 1.6 ROCKERS							CUSTOM GRINDS AVAILABLE		
ROLLER	39-640-9	300AR-4	300-7	304-7	268	272	.650	.650	104°
ROLLER	39-650-9	304BR-6	304-7	308-7	272	276	.650	.650	106°
FORD V6 SVO EVEN FIRE W/ 1.6 ROCKERS							CUSTOM GRINDS AVAILABLE		
ROLLER	40-740-9	300CR-4	300-7	304-7	268	272	.650	.650	104°
ROLLER	40-750-9	304DR-6	304-7	308-7	272	276	.650	.650	106°
FORD V8 289-302 (INCLUDES 221, 260, 289 & 302) 1963-1995 W/ 1.6 ROCKERS							CUSTOM GRINDS AVAILABLE		
HYDRAULIC	31-400-4	240AH-8	240-4	248-2	192	200	.416	.416	108°
HYDRAULIC	31-214-4	244H-10	244-1	244-1	196	196	.410	.410	110°
HYDRAULIC	31-406-4	252AH-8	252-5	260-8	206	212	.433	.447	108°
HYDRAULIC	31-408-4	252AH-10	252-5	260-8	206	212	.433	.447	110°
HYDRAULIC	31-411-4	260AH-10	260-9	268-9	212	218	.474	.474	110°
HYDRAULIC	31-412-4	260AH-8	260-9	268-9	212	218	.474	.474	108°
HYDRAULIC	31-438-4	260AH-14	260-9	268-9	212	218	.474	.474	114°
HYDRAULIC	31-440-4	268TH-15	268-6	260-9	218	212	.484	.474	115°
HYDRAULIC	31-415-4	268AH-10	268-4	276-4	222	226	.494	.494	110°
HYDRAULIC	31-442-4	268AH-14	268-4	276-4	222	226	.494	.494	114°
HYDRAULIC	31-416-4	268AH-8	268-4	276-4	222	226	.494	.494	108°
HYDRAULIC	31-417-4	270AH-10	270-4	280-4	224	230	.501	.512	110°
HYDRAULIC	31-418-4	270AH-8	270-4	280-4	224	230	.501	.512	108°
HYDRAULIC	31-419-4	276AH-10	276-3	284-3	228	236	.506	.506	110°
HYDRAULIC	31-421-4	280AH-10	280-9	288-9	232	237	.515	.515	110°
HYDRAULIC	31-422-4	280AH-8	280-9	288-9	232	237	.515	.515	108°
HYDRAULIC	31-424-4	286AH-8	286-3	292-3	236	244	.523	.518	108°
HYDRAULIC	31-428-4	292AH-8	292-3	296-3	244	246	.518	.544	108°
HYDRAULIC	31-427-4	292AH-10	292-3	296-3	244	246	.518	.544	110°
HYDRAULIC	31-430-4	296AH-8	296-3	305-2	246	253	.544	.560	108°
HYDRAULIC	31-434-4	305AH-8	305-2	312-5	253	260	.560	.576	108°
HYDRAULIC	31-436-4	312AH-8	312-5	320-5	260	268	.576	.576	108°
HYDRAULIC	31-332-5	312AH-10	312-6	312-6	260	260	.565	.565	110°
SOLID	31-600-5	270S-8	270-1	270-1	235	235	.528	.528	108°
SOLID	31-644-5	310B-6	310-1	320-1	274	283	.624	.627	106°
SOLID	31-645-5	320B-8	320-1	324-1	283	286	.627	.616	108°
ROLLER	31-762-9	288AR-12	288-4	300-2	244	255	.586	.613	112°
ROLLER	31-766-9	288BR-6	288-5	296-5	252	260	.672	.672	106°
ROLLER	31-769-9	306BR-4	306-2	306-2	276	276	.667	.667	104°
ROLLER	31-770-9	306CR-8	306-1	319-1	273	283	.640	.640	108°
FORD V8 5.0 1985-1995 W/ 1.6 ROCKERS							CUSTOM GRINDS AVAILABLE		
HYDRAULIC ROLLER	35-300-8	270HR	270	276	215	220	.533	.544	112°
FORD V8 351W 1968-1995 W/ 1.6 ROCKERS							CUSTOM GRINDS AVAILABLE		
HYDRAULIC	35-408-4	252AH	252-5	260-8	206	212	.433	.447	110°
HYDRAULIC	35-410-4	260AH-12	260-9	260-9	212	212	.473	.473	112°
HYDRAULIC	35-415-4	268AH-10	268-4	276-4	222	226	.494	.494	110°
HYDRAULIC	35-423-4	286H-10	286-3	292-3	236	244	.523	.517	110°
SOLID	35-333-4	270S-10	270-3	270-3	224	224	.499	.499	110°
SOLID	35-334-4	282S-10	282-2	282-2	236	236	.528	.528	110°
SOLID	35-336-4	306S-10	306-5	306-5	260	260	.592	.592	110°
SOLID	35-746-7	294Z-6	294N-1	304N-3E	262	266	.640	.624	106°
SOLID	35-747-7	298Z-6	298N-2	308N-1E	266	270	.656	.640	106°
SOLID	35-748-7	300Z-6	300N-1	314N-1E	268	276	.648	.640	106°
SOLID	35-749-7	304Z-6	304N-1	318N-1E	272	280	.656	.648	106°
SOLID	35-750-7	306XZ-8	306XX	320-12	274	284	.652	.658	108°
SOLID	35-751-7	304NAZ-6	304N-1	312XX	272	280	.656	.664	106°

Camshaft Type	Part #	Grind Number	Duration In Degrees Advertised Intake	Advertised Exhaust	@ .050" Intake	@ .050" Exhaust	Valve Lift Intake	Valve Lift Exhaust	Lobe Seperation Angle
FORD V8 351W 1968-1995 W/ 1.6 ROCKERS								CUSTOM GRINDS AVAILABLE	
ROLLER	35-803-9	296BR-6	296-5	300-5	260	264	.672	.672	106°
ROLLER	35-805-9	300BR-6	300-5	304-5	264	268	.672	.672	106°
ROLLER	35-807-9	304BR-6	304-5	308-5	268	272	.672	.672	106°
ROLLER	35-809-9	308BR-6	308-5	312-5	272	276	.672	.672	106°
ROLLER	35-811-9	312BR-6	312-5	316-5	276	280	.672	.672	106°
ROLLER	35-813-9	280CR-6	280-8	RT288-2	252	258	.704	.682	106°
ROLLER	35-815-9	286CR-6	RT286-2	296-5	256	260	.677	.672	106°
ROLLER	35-817-9	290CR-6	RT290-2	300-5	260	264	.688	.672	106°
ROLLER	35-819-9	294CR-6	RT294-2	304-5	264	268	.688	.672	106°
ROLLER	35-821-9	298CR-6	RT298-2	308-5	268	272	.696	.672	106°
ROLLER	35-823-9	302CR-6	RT302-2	312-5	272	276	.696	.672	106°
FORD V8 351W 1968-1995 REVERSE ROTATION								CUSTOM GRINDS AVAILABLE (35-000-5RR)	
FORD V8 351C, 351M 1970-1982 W/ 1.73 ROCKERS								CUSTOM GRINDS AVAILABLE	
HYDRAULIC	32-214-4	252BH-12	252-6	252-5	201	206	.467	.467	112°
HYDRAULIC	32-300-4	252AH-10	252-5	260-8	206	212	.465	.481	110°
HYDRAULIC	32-304-4	260AH-10	260-8	268-9	212	218	.481	.509	110°
HYDRAULIC	32-308-4	268AH-10	268-4	276-4	222	226	.531	.531	110°
HYDRAULIC	32-309-4	268AH-8	268-4	276-4	222	226	.531	.531	108°
HYDRAULIC	32-310-4	276AH-10	276-3	284-3	228	236	.544	.544	110°
HYDRAULIC	32-313-4	280AH-10	280-9	288-9	232	237	.554	.554	110°
HYDRAULIC	32-312-4	280AH-8	280-9	288-9	232	237	.554	.554	108°
HYDRAULIC	32-314-4	286AH-8	286-3	292-3	236	244	.562	.556	108°
HYDRAULIC	32-315-4	286AH-10	286-3	292-3	236	244	.562	.556	110°
HYDRAULIC	32-316-4	292AH-10	292-3	296-3	244	246	.556	.585	110°
HYDRAULIC	32-318-4	296AH-8	296-3	305-4	246	253	.585	.581	108°
HYDRAULIC	32-322-4	305AH-8	305-4	312-6	253	260	.581	.607	108°
HYDRAULIC	32-236-5	312H-10	312-6	312-6	260	260	.610	.610	110°
HYDRAULIC	32-324-4	312AH-8	312-6	320-9	260	268	.607	.607	108°
SOLID	32-550-5	270S-8	270-1	270-1	237	237	.570	.570	108°
SOLID	32-643-5	295B-6	295-1	310-2	260	270	.645	.648	106°
SOLID	32-645-5	310B-6	310-2	314-1	270	276	.648	.641	106°
SOLID	32-646-5	320B-8	320-2	324-1	280	286	.648	.667	108°
ROLLER	32-680-9	288BR-4	288-6	292-6	258	262	.702	.702	104°
ROLLER	32-684-9	292BR-4	292-6	296-4	262	266	.702	.702	104°
ROLLER	32-688-9	296BR-4	296-4	300-7	266	270	.702	.702	104°
ROLLER	32-778-9	306CR-8	306-1	319-1	273	283	.692	.692	108°
ROLLER	32-785-9	324BR-8	324-2	328-2	289	294	.786	.738	108°
FORD V8 332-406 1958-1962								CUSTOM GRINDS AVAILABLE (104-000-5)	
FORD V8 352-428 1958-1976 W/ 1.73 ROCKERS								CUSTOM GRINDS AVAILABLE	
HYDRAULIC	33-300-4	252AH-10	252-5	260-8	206	212	.476	.492	110°
HYDRAULIC	33-304-4	260AH-10	260-8	268-5	212	218	.492	.502	110°
HYDRAULIC	33-306-4	268AH-10	268-4	276-4	222	218	.544	.544	110°
HYDRAULIC	33-308-4	270AH-10	270-4	280-3	224	230	.551	.539	110°
HYDRAULIC	33-310-4	276AH-10	276-3	284-3	228	236	.556	.556	110°
HYDRAULIC	33-313-4	280AH-10	280-9	288-9	232	237	.567	.567	110°
HYDRAULIC	33-312-4	286AH-8	286-3	292-3	236	244	.575	.569	108°
HYDRAULIC	33-315-4	286AH-10	286-3	292-3	236	244	.575	.569	110°
HYDRAULIC	33-317-4	292AH-10	292-3	296-3	244	246	.569	.598	110°
HYDRAULIC	33-316-4	296AH-10	296-3	305-4	246	253	.598	.595	110°
HYDRAULIC	33-320-4	305AH-8	305-4	312-6	253	260	.595	.621	108°
HYDRAULIC	33-322-4	312AH-8	312-6	320-9	260	268	.610	.610	108°
HYDRAULIC	33-243-5	320H-10	320-9	320-9	268	268	.611	.611	110°
SOLID	33-640-5	279B-8	MA279-1	MA287-1	252	260	.588	.588	108°
SOLID	33-649-5	304B-8	304-1	314-1	266	276	.626	.653	108°
SOLID	33-650-5	314B-8	314-1	324-1	276	286	.642	.668	108°
SOLID	33-651-5	324A-8	324-1	324-1	286	286	.668	.668	108°
ROLLER	33-780-9	288AR-8	288-4	288-4	246	246	.645	.645	108°

Camshaft Type	Part #	Grind Number	Duration In Degrees Advertised Intake	Advertised Exhaust	@ .050" Intake	@ .050" Exhaust	Valve Lift Intake	Valve Lift Exhaust	Lobe Seperation Angle
FORD V8 352-428 1958-1976 W/ 1.73 ROCKERS								CUSTOM GRINDS AVAILABLE	
ROLLER	33-788-9	295DR-8	299	309	266	276	.686	.644	108°
ROLLER	33-789-9	308BR-8	312	326	276	286	.739	.751	108°
ROLLER	33-790-9	312BR-8	316	316	283	283	.748	.748	108°
ROLLER	33-785-9	317BR-8	321	321	284	287	.774	.739	108°
ROLLER	33-786-9	321BR-8	323	336	288	298	.774	.739	108°
ROLLER	33-795-9	325CR-8	327	336	290	298	.774	.739	108°
FORD V8 429-460 1968-1999 W/ 1.73 ROCKERS								CUSTOM GRINDS AVAILABLE	
HYDRAULIC	34-220-4	252AH-12	252-2	252-2	206	206	.467	.467	112°
HYDRAULIC	34-228-4	252BH	252-5	260-8	206	212	.467	.484	110°
HYDRAULIC	34-240-4	260AH-10	260-8	268-5	212	218	.484	.496	110°
HYDRAULIC	34-244-4	268AH-10	268-4	276-4	222	226	.535	.535	110°
HYDRAULIC	34-246-4	276AH-10	276-3	284-3	228	236	.547	.547	110°
HYDRAULIC	34-249-4	280AH-10	280-9	288-9	232	237	.557	.557	110°
HYDRAULIC	34-248-4	286AH-8	286-3	292-3	236	244	.565	.560	108°
HYDRAULIC	34-251-4	268AH-10	286-3	292-3	236	244	.565	.560	110°
HYDRAULIC	34-253-4	292AH-10	292-3	296-3	244	246	.560	.588	110°
HYDRAULIC	34-252-4	296AH-8	296-3	305-4	246	253	.588	.585	108°
HYDRAULIC	34-256-4	305AH-8	305-4	312-6	253	260	.585	.610	108°
HYDRAULIC	34-338-5	312H	312-6	312-6	260	260	.610	.610	110°
HYDRAULIC	34-258-4	312AH-8	312-6	320-9	260	268	.610	.610	108°
HYDRAULIC	34-339-5	320H-10	320-9	320-9	268	268	.610	.610	110°
SOLID	34-655-5	324B-8	324-1	324-1	286	286	.667	.667	108°
SOLID	34-662-5	324C-10	324-1	334-2	286	296	.692	.692	110°
ROLLER	34-713-9	296BR-8	296-5	304-5	260	268	.726	.726	108°
ROLLER	34-740-9	313CR-10	313	319	281	286	.806	.763	110°
ROLLER	34-814-9	326QR-20	326-30	360-5	292	320	.882	.830	120°
ROLLER	34-812-9	324FR-18	324-30	360-5	288	320	.882	.830	118°
ROLLER	34-810-9	324DR-14	324-30	352-1	288	312	.882	.825	114°
ROLLER	34-789-9	328QR-16	328-11	356-5	288	316	.836	.830	116°
HARLEY DAVIDSON® SHOVELHEAD V-TWIN 1970-1977								CUSTOM GRINDS AVAILABLE	
HYDRAULIC ROLLER	78-4001	N/A	N/A	N/A	236	236	.450	.450	104°
HYDRAULIC ROLLER	78-4011	N/A	N/A	N/A	236	236	.485	.485	104°
HYDRAULIC ROLLER	78-4021	N/A	N/A	N/A	242	242	.485	.485	104°
HYDRAULIC ROLLER	78-4041	N/A	N/A	N/A	242	252	.485	.485	104°
HYDRAULIC ROLLER	78-4031	N/A	N/A	N/A	252	252	.485	.485	104°
HARLEY DAVIDSON® SHOVELHEAD V-TWIN 1978-1984								CUSTOM GRINDS AVAILABLE	
HYDRAULIC ROLLER	78-4000	N/A	N/A	N/A	236	236	.450	.450	104°
HYDRAULIC ROLLER	78-4010	N/A	N/A	N/A	236	236	.485	.485	104°
HYDRAULIC ROLLER	78-4020	N/A	N/A	N/A	242	242	.485	.485	104°
HYDRAULIC ROLLER	78-4040	N/A	N/A	N/A	242	252	.485	.485	104°
HYDRAULIC ROLLER	78-4030	N/A	N/A	N/A	252	252	.485	.485	104°
HOLDEN 6 CYL 173-202 1963-1986								CUSTOM GRINDS AVAILABLE (81-000-5)	
HOLDEN V8 252-308 1970-1988 W/ 1.5 ROCKERS								CUSTOM GRINDS AVAILABLE	
HYDRAULIC	82-205-4	252H	252-5	252-5	206	206	.433	.433	110°
HYDRAULIC	82-206-4	260H	260-8	260-8	212	212	.447	.447	110°
HYDRAULIC	82-210-4	268H	268-5	268-5	218	218	.456	.456	110°
HYDRAULIC	82-212-4	280H	280-3	280-3	230	230	.490	.490	110°
HYDRAULIC	82-213-4	292H	292-3	292-3	244	244	.518	.518	110°
HYDRAULIC	82-242-4	XE268H	268	280	224	230	.509	.512	110°
MITSUBISHI L4 2000, 2600 1979-1987								CUSTOM GRINDS AVAILABLE (95-000-5)	
NISSAN 1595-1952CC L16, 18, 20B 4 CYL. 1960-1980								CUSTOM GRINDS AVAILABLE	
SOLID	79-115-6	240S-10	240	240	194	194	.431	.431	110°
SOLID	79-119-6	252S-10	252	252	204	204	.440	.440	110°
SOLID	79-123-6	260S-10	260	260	214	214	.459	.459	110°
SOLID	79-127-6	268S-10	268	268	222	222	.461	.461	110°
SOLID	79-131-6	280S-10	280	280	236	236	.495	.495	110°
SOLID	79-135-6	292S-10	292	292	246	246	.516	.516	110°

Camshaft Type	Part #	Grind Number	Duration In Degrees Advertised Intake	Advertised Exhaust	@ .050" Intake	@ .050" Exhaust	Valve Lift Intake	Valve Lift Exhaust	Lobe Seperation Angle
NISSAN/DATSUN 6 CYL. SOHC								CUSTOM GRINDS AVAILABLE (80-000-5)	
OLDSMOBILE V8 260-455 1965-1990 W/ 1.6 ROCKERS								CUSTOM GRINDS AVAILABLE	
HYDRAULIC	42-300-4	252AH-10	252-5	260-8	206	212	.433	.447	110°
HYDRAULIC	42-304-4	260AH-10	260-8	268-5	212	218	.447	.456	110°
HYDRAULIC	42-306-4	268AH-10	268-4	276-4	222	226	.494	.494	110°
HYDRAULIC	42-310-4	276AH-10	276-3	284-3	228	236	.506	.506	110°
HYDRAULIC	42-313-4	280AH-10	280-9	288-9	232	237	.515	.515	110°
HYDRAULIC	42-312-4	286H-8	286-3	286-3	236	236	.522	.522	108°
HYDRAULIC	42-317-4	286AH-10	286-3	292-3	236	244	.523	.518	110°
HYDRAULIC	42-321-4	292AH-10	292-3	296-3	244	246	.518	.544	110°
HYDRAULIC	42-320-4	312H-8	312-6	312-6	260	260	.565	.565	108°
HYDRAULIC	42-238-5	312H-10	312-6	312-6	260	260	.565	.565	110°
HYDRAULIC	42-239-5	320H-10	320-9	320-9	268	268	.565	.565	110°
SOLID	42-656-5	300B-6	300-1	314-1	265	276	.600	.594	106°
SOLID	42-657-5	300B-8	300-1	314-1	265	276	.600	.570	108°
OLDSMOBILE V8 260-455 45° BANK ANGLE								CUSTOM GRINDS AVAILABLE (103-000-5)	
PONTIAC V8 265-455 1958-1981 W/ 1.5 ROCKERS								CUSTOM GRINDS AVAILABLE	
HYDRAULIC	51-228-4	244H-10	244-2	244-2	196	196	.400	.400	110°
HYDRAULIC	51-300-4	252AH-10	252-4	260-7	206	212	.424	.440	110°
HYDRAULIC	51-304-4	260AH-10	260-9	268-9	212	218	.444	.444	110°
HYDRAULIC	51-308-4	268AH-8	268-4	276-4	222	226	.463	.463	108°
HYDRAULIC	51-307-4	268AH-10	268-4	276-4	222	226	.463	.463	110°
HYDRAULIC	51-309-4	276AH-10	276-3	284-3	228	236	.472	.472	110°
HYDRAULIC	51-314-4	280AH-10	280-9	288-9	232	237	.481	.481	110°
HYDRAULIC	51-312-4	286AH-8	286-3	292-2	236	244	.489	.500	108°
HYDRAULIC	51-318-4	286AH-10	286-3	292-2	236	244	.489	.500	110°
HYDRAULIC	51-320-4	292AH-10	292-2	296-3	244	246	.500	.510	110°
HYDRAULIC	51-316-4	296AH-8	296-3	305-2	246	253	.510	.525	108°
HYDRAULIC	51-330-4	305AH-8	305-2	312-5	253	260	.525	.540	108°
HYDRAULIC	51-242-5	312H-10	312-5	312-5	260	260	.540	.540	110°
HYDRAULIC	51-243-5	320H-10	320-5	320-5	268	268	.540	.540	110°
SOLID	51-506-5	296TL-6	TL296-1	310-1	266	275	.570	.585	106°
SOLID	51-661-5	310B-8	310-1	314-1	275	276	.585	.556	108°
SOLID	51-662-5	320B-8	320-1	324-1	283	286	.588	.580	108°
ROLLER	51-813-9	285CR-6	285-2	295-2	252	262	.619	.604	106°
ROLLER	51-816-9	306CR-8	306-1	319-1	270	280	.660	.660	108°
ROLLER	51-818-9	308R-4	308-8	308-8	284	284	.726	.726	104°
ROLLER	51-822-9	306CR-4	306-2	309-2	275	278	.688	.693	104°
ROLLER	51-823-9	316DR-6	316-2	316-2	284	284	.715	.715	106°
ROLLER	51-825-9	312R-4	312-8	312-8	284	284	.728	.728	104°
TOYOTA 2TC-3TC OHV 1588CC, 1770CC 1971-1982								CUSTOM GRINDS AVAILABLE (74-000-5)	
VOLKSWAGEN 1200-1600CC TYPE 1 4 CYL. 1955-1971								CUSTOM GRINDS AVAILABLE	
SOLID	73-115-4	244S	244	244	200	200	.293	.319	108°
SOLID	73-119-4	252S	252	252	210	210	.435	.435	108°
SOLID	73-123-4	264S	264	264	220	220	.351	.351	108°
SOLID	73-128-4	270S	270	270	235	235	.363	.372	108°
SOLID	73-130-4	280S	280	280	242	242	.507	.507	108°
VOLKSWAGEN 1457-1788CC SOHC 4 CYL.1974-1989								CUSTOM GRINDS AVAILABLE	
SOLID	85-119-4	252S	252	252	204	204	.410	.410	110°
SOLID	85-123-4	260S	260	260	214	214	.410	.410	110°

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- Protect all internal engine components, including flat tappet & roller valve trains
- Proprietary additive package includes optimum amounts of ZDDP (Zinc & Phosphorous), Molybdenum and detergents
- Require no additives or supplements for maximum protection
- Fully compatible with gasoline, methanol and high octane race fuel

	Part #	Description	Size
New	1590	10W30 Engine Break-In Oil	1 Qt.
New	1590-12	10W30 Engine Break-In Oil	(12) 1 Qt. Bottles
New	1590-Pallet	10W30 Engine Break-In Oil	(84 Case) Pallet
New	1591	15W50 Engine Break-In Oil	1 Qt.
New	1591-12	15W50 Engine Break-In Oil	(12) 1 Qt. Bottles
New	1591-Pallet	15W50 Engine Break-In Oil	(84 Case) Pallet
	159	Engine Break-In Oil Additive	12 oz. Bottle
	159-12	Engine Break-In Oil Additive Case	(12) 12 oz. Bottles
	260	Engine Break-In Oil Additive	5 Gallon Bottle

MSDS available on request



A product of Endure Performance Lubricants

Performance Lubricants

COMP Cams® has taken great pains to develop what we feel to be the best line of lubricants on the market to protect your valve train and engine. These will protect your internal engine components before start-up, during break-in and throughout the life cycle of your engine.

- Five different formulas protect internal engine components
- Protected valve train parts include: camshaft, lifters, valve springs, rocker arms, pushrods and distributor gear
- Contain high viscosity, extreme pressure additives not found in today's conventional oils and lubricants
- Compatible with all petroleum, synthetic and blended engine oils

Part #	Description	Size
106	Valve Train Assembly Spray	6 oz. Aerosol Can
103*	Cam & Lifter Installation Lube	5/8 fl. oz.
152	Cam & Lifter Installation Lube	4 oz. Bottle
153	Cam & Lifter Installation Lube	8 oz. Bottle
198	Cam & Lifter Installation Lube 6-Pack	(6) 4 oz. Bottles
102	Engine Assembly Lube	4 oz. Jar
104	Engine Assembly Lube	8 oz. Jar
127	Engine Assembly Lube	16 oz. Tube

MSDS available on request



Part #153



Part #106



Part #127

Part #104

Part #102

Carbon Ultra-Poly Composite Distributor Gears

- Manufactured from a super-strong Carbon Ultra-Poly Composite material
- 300% increased durability over bronze distributor gears when used with steel camshafts
- Tested and available in several shaft diameters for popular street and race applications

Make	Part #	Description	Fits Shaft Diameter
Chevrolet	12200	V8 Small & Big Block	.491"
	12140	V8 Small & Big Block	.500"
	12146	.006" Oversized	.500"
	12149	.009" Oversized	.500"
Dodge	55200	R5	.500"
Ford	35100	302-351W	.530"
	35200	302-351W	.467"



Bronze Distributor Gears

- First requirement when installing a steel roller cam
- Stock cast iron gears are not compatible with steel camshafts
- AMPCO-45 extruded aluminum bronze with 5% nickel added
- Feature a high-strength tooth design that resists wear, even when used with high pressure oil pumps



Make	Part #	Description	Fits Shaft Diameter
Chevrolet	461	4 Cyl. 153	.491"
	461	6 Cyl. 194-250, 292	.491"
	412	90° V6 200-262	.491"
	410	90° V6 200-262 w/ MSD Distributor	.500"
	411	90° V6 200-262 w/ ACCEL Distributor	.500"
	412	V8 265-400	.491"
	410	V8 265-400 w/ MSD Distributor	.500"
	411	V8 265-400 w/ ACCEL Distributor	.500"
	413	V8 265-400 (Reverse Rotation)	.491"
	412	V8 396-454	.491"
	410	V8 396-454 w/ MSD Distributor	.500"
	411	V8 396-454 w/ ACCEL Distributor	.500"
	413	V8 396-454 (Reverse Rotation)	.491"
Chrysler	420	V8 273-360 “LA”, Donovan V8	.484"
	424	V8 “B” 383-400	.484"
	424	V8 426 Hemi	.484"
Ford	466	6 Cyl. 240-300	.530"
	438	V8 260-302, Boss 302-351W	.500"
	431	V8 260-302, Boss 302-351W	.467"
	435	SVO V8 302-351W	.530"
	436	V8 351C 351-400M	.530"
	432	V8 351C, Boss 351, 351-400M	.500"
	432	V8 352-428	.500"
	433	V8 352-428	.467"
	436	V8 429, 460	.530"
	432	V8 429, 460	.500"
Oldsmobile	442	V8 260-455	.491"
Pontiac	461	4 Cyl. 151 (1977-78)	.491"
	461	4 Cyl. 151 (1979-89) Oil Pump Gear	.491"
	451	V8 265-455	.491"

Oldsmobile Cast Iron Distributor Gear

Make	Part #	Description	Fits Shaft Diameter
Oldsmobile	20442	Oldsmobile Cast Iron Distributor Gear	.491"



Strength

Power

Heavy-Duty





LIFTERS

For years COMP Cams® lifters have set the standard for solid roller lifter technology, but today's engine's place an even greater demand on lifters. With today's aggressive cam designs and increased rpm ranges, look to the new COMP Cams® Elite Race™ Solid Roller Lifters.







Flat Tappet vs. Roller Tappet Lifters

In nearly all circumstances, a good roller camshaft design will outperform its flat tappet counterpart. Among the benefits of roller cams are higher tappet velocity, more lift and more area, along with reduced valve train friction (often a 15+ hp increase) and higher engine rpm with little effect on low speed drivability and power.

Roller tappets are also reusable, which makes it possible to swap just the camshaft without the expense of new lifters. And finally, roller tappets are far less prone to wear, allowing higher spring loads, and they are more consistent with today's oils.

The biggest advantage with a flat tappet cam and lifters is the up front cost. It can be significantly less expensive to use a flat tappet setup but should you decide to install a new camshaft, flat tappets are not reusable. You will need new lifters as well.

Hydraulic vs. Mechanical (Solid) Lifters

Both hydraulic and mechanical lifter types look the same from the outside, with both having pushrod seats held in by a retaining clip. In a hydraulic lifter the seat moves by means of a hydraulic valve and oil pressure within the lifter. The mechanical lifter does not have a valve and is solid.

The pushrod seat in a solid lifter sits upon an internal step inside the lifter body, preventing it from moving. The hydraulic lifter, on the other hand, has a pushrod seat that sits on top of a moveable hydraulic mechanism which acts like a tiny hydraulic pump. Below this mechanism are a valve and spring that produce an upward force, moving the seat up against the pushrod when the lifter is on the base circle.

Solid cam designs require a running clearance or "valve lash". Hydraulic cams are the exact opposite. In a standard hydraulic lifter the pushrod takes up all of the clearance and submerges into the lifter's pushrod seat approximately .020"-.070". The distance that the pushrod submerges is known as the "pre-load".

HYDRAULIC LIFTERS	
PROS	**CONS**
1. Minimum amount of maintenance is required once the proper pre-load is set	1. Less stiff at higher engine speeds due to hydraulic valve pumping up with high pushrod forces - forcing oil to squeeze out, reducing the running duration
2. Fully adjustable for any changes in block & cylinder head size	
3. Less valve train noise	2. Effective rpm range is limited
SOLID LIFTERS	
PROS	**CONS**
1. More accurate & consistent valve timing throughout the entire rpm range	1. Takes longer to properly set up & requires regular maintenance
2. Not adversely affected by higher spring loads or increased engine speeds	2. Noisier valve train

Setting Valve Lash With A Solid Lifter Camshaft

First, check the spec card that came with your cam for the correct valve lash specifications. All COMP Cams® valve lash settings are "hot" settings (set at normal engine operating temperature) but will work for initial start-up as well.

Turn the crankshaft in the direction of normal engine rotation until the exhaust pushrod of the cylinder you are adjusting begins to move upward, opening the valve. Adjust the INTAKE lash by tightening the intake rocker nut with the correct thickness feeler gauge inserted between the valve stem and the rocker tip. Tighten the rocker nut until there is a slight drag when moving the feeler gauge. Next, rotate the engine until the intake pushrod fully opens the valve and then goes halfway back down. Adjust the EXHAUST rocker nut (with correct feeler gauge) using the same procedure. Repeat for all cylinders.

After setting your valve lash with the engine cold, start it and follow the appropriate break-in procedures. Due to thermal expansion, your valve lash will now be tighter than it was when the engine was cold. Repeat the adjustment process to ensure that your valve lash matches that specified by your cam card at normal operating temperature.
Note: Check with COMP Cams® on valve lash settings if using aluminum heads or blocks.

Setting Hydraulic Lifter Pre-load (Adjustable Valve Train)

When installing a hydraulic cam, lifters or rocker arms, establishing the correct lifter pre-load improves both performance and engine life. Insufficient pre-load will create excessive valve train noise and wear. Excessive pre-load will cause rough idling and low manifold vacuum, and can even lead to severe engine damage. With an adjustable valve train, proceed as follows:

Install the pushrods and rocker arms. Be sure the pushrods are seated correctly in the lifter and rocker arm. Turn the engine over in the direction of rotation until the EXHAUST pushrod just begins to move upward, opening the valve. Now adjust the INTAKE rocker of that cylinder. Carefully tighten the nut on the intake rocker while spinning the pushrod with your fingertips. You will feel a slight resistance in the pushrod when you have taken up all of the clearance. This is "zero lash." Turn the adjusting nut to the specified pre-load – typically 1/4-3/4 of a turn, but this will vary based on the lifter number.

Turn the engine in its rotation direction until the INTAKE pushrod comes all the way up and almost all the way back down. Now set the EXHAUST rocker to "zero lash" and add the specified pre-load. Repeat this process for all remaining cylinders.

Setting Hydraulic Lifter Pre-load (Non-Adjustable Valve Train)

COMP Cams® recommends using an adjustable pushrod to check the pre-load. Typically, only one cylinder needs to be checked in this process. After applying lube, install the adjustable pushrods and assemble the valve train. Using the same procedure mentioned earlier, adjust the intake and exhaust valves to zero lash by changing the length of the adjustable pushrod for precise fitment. Order a pushrod that is .020"-.070" longer than the pushrod length at zero lash to ensure the proper pre-load.

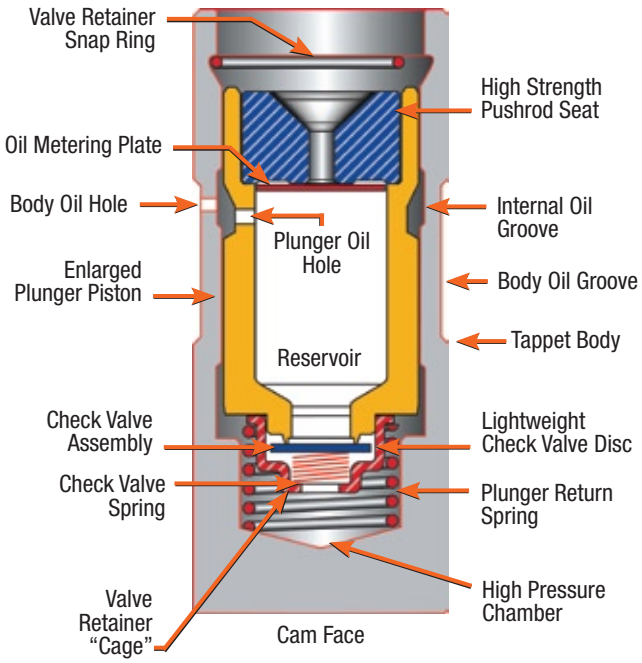


High Energy™ Hydraulic Lifters

- Patented orifice metering valve precisely meters oil to the rocker arms
- Continuous contact between metering valve and pushrod seat is maintained, eliminating excessive oiling at high engine speeds
- Pushrod seat is made of a special powdered metal iron alloy that is heat-treated for strength and wear resistance
- Contain a longer piston than conventional hydraulic lifters, which provides more load bearing surface and increases lifter longevity
- Lightweight check valve disc allows for quicker response, which results in increases in engine speed before valve float
- Lightweight check valve disc maintains added control at all engine speeds and loads

Make	Part #	Description	Weight
AMC	822-16	V8 290-401	107g
	822-12	6 Cyl. 199-258	107g
Buick	869-16	V8 350-455	96g
	869-12	181-252 1962-Present	96g
Cadillac	869-16	V8 472-500	96g
Chevrolet	812-16	V8 265-400	98g
	812-16	V8 396-454	98g
	812-16	V8 348-409, 1958-65	98g
	812-12	6 Cyl. 194-292	98g
	802-12	V6 60º 173, 207, 2.8L-3.4L	98g
	812-12	V6 90º 200-262	98g
Chrysler	822-16	V8 273-360	107g
	824-16	V8 B-383-440, 1958-67	108g
	822-16	V8 B-383-440, 1968-Present	107g
	824-16	Hemi 426	108g
	820-12	6 Cyl. 170-225, 1980-Present	103g
	842-8	2.2L 4 Cyl.	44g
Ford	832-16	V8 289-302-351W	108g
	832-16	V8 351C-351M-400M	108g
	834-16	V8 352-428	116g
	832-16	V8 429-460	108g
	832-12	6 Cyl. 240-300	108g
	834-12	6 Cyl. 144-250	116g
	832-12	V6 231	108g
	834-12	2600-2800cc V6 (158-171c.i.)	116g
	846-8	2300cc 4 Cyl.	116g
Int. Harvester	855-16	V8 266-392	135g
Oldsmobile	852-16	V8 260-455	98g
Pontiac	864-8	151 4 Cyl.	99g
	852-16	V8 265-455	98g

Hydraulic Tappet Components





Part #812-16

Pro Magnum™ Hydraulic Lifters

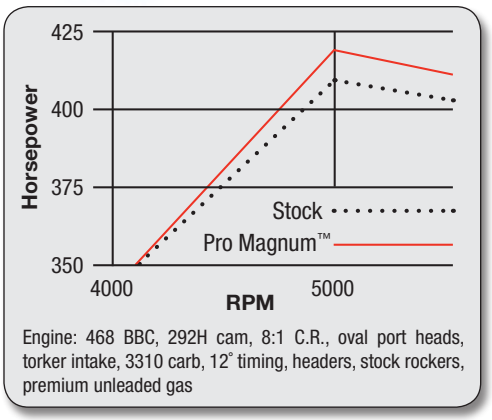
- Specifically designed to perform at higher engine speeds
- Proper position of internal piston at higher rpm prevents lifters from harmful "pumping up"
- Significant power increase over standard hydraulic lifters
- Adjustable valve train required
- Pre-load lifters .002"-.004" with engine warm

Make	Part #	Description	Weight
AMC	867-16	V8 290-401	107g
	867-12	6 Cyl. 199-258	107g
Buick	865-16	V8 350-455	94g
	865-12	V6 183-252, 1962-Present	94g
Chevrolet	858-16	V8 265-400	98g
	858-16	V8 396-454	98g
	858-16	V8 348-409, 1958-65	98g
	858-12	6 Cyl. 194-292	98g
	858-12	V6 90° 200-262	98g
Chrysler	867-16	V8 273-360	107g
	867-16	V8 B-383-440 1968-Present	107g
Ford	862-16	V8 289-302-351W	104g
	862-16	V8 351C-351M-400M	104g
	862-16	V8 429-460	104g
	862-12	V6 231	104g
	862-12	6 Cyl. 240-300	104g
Oldsmobile	863-16	V8 260-455	98g
Pontiac	863-16	V8 326-455	98g



Part #858

Pro Magnum™ vs. Stock



Engine: 468 BBC, 292H cam, 8:1 C.R., oval port heads, torker intake, 3310 carb, 12° timing, headers, stock rockers, premium unleaded gas

Hi-Tech™ Hydraulic Lifters

Variable Duration Lifters

- Greater bleed rate
- Increase vacuum
- Quicken throttle response
- Noisy valve train
- Pre-load can be set between .030"-.060"
- Not recommended for extended periods on the street

Make	Part #	Description	Weight
AMC	882-16	V8 290-401	106g
Chevrolet	880-16	V8 265-400, 396-454, 348-409	94g
Chrysler	882-16	V8 273-360, 383-440	106g
Ford	884-16	V8 289-302, 351W, 429-460, 351C-400M	103g
Oldsmobile	886-16	V8 260-455	98g
Pontiac	886-16	V8 326-455	98g

Note: For V6, use -12 suffix



Part #884

Race Hydraulic Lifters

Best All-Around High Performance Hydraulic Flat Tappet Race Lifter

- Tighter plunger to body tolerances
- Super strict tolerances for the mechanical internals
- Premium one-piece pushrod seats
- Extra heavy-duty snap ring
- Pre-load can be set between .000"-.030"
- Lubrited cam face

Make	Part #	Description	Weight
Chevrolet	84000-16	Small & Big Block Race Lifters	98g
Ford	84035-16	Small & Big Block Race Lifters	111g

Note: For V6, use -12 suffix



Part #84000

Solid/Mechanical Lifters

- Manufactured using tightest tolerances in the industry
- Crown of the lifter is ground to precise radius for proper break-in and to guarantee longer life
- Oil metering band is milled to correct depth to prevent too much oil from being delivered to the top of the engine



Part #813

Make	Part #	Description	Weight
AMC	801-16	V8 290-401	108g
Cadillac	813-16	V8 472-500	86g
Chevrolet	813-16	V8 265-400	86g
	833-16	V8 265-400 w/ .875" Dia.	108g
	813-16	V8 396-454	86g
	813-16	V8 348-409 1958-65	86g
	813-12	V6 90° 200-262	86g
	813-12	6 Cyl. 194-292	86g
Chrysler	821-16	V8 273-360	122g
	801-16	V8 273-360 (Oils Pushrod)	108g
	821-16	V8 B-383-440 1958-Present	122g
	821-16	V8 Hemi 426	122g
	821-12	6 Cyl. 170-255	122g
Ford	831-16	V8 221-351W 1963-69	108g
	833-16	V8 302-351W 1969-Present	108g
	833-16	V8 Boss 302, 351C, 351M, 400M	108g
	835-16	V8 352-428	102g
	837-16	V8 352-428 (Shell Type)	61g
	833-16	V8 429-460	108g
	831-12	6 Cyl. 240-300	108g
Oldsmobile	835-12	6 Cyl. 144-250,V6 2600-2800cc	102g

New Tool Steel Solid/Mechanical Lifters

The newest addition to the COMP Cams® lifter family is the line of Tool Steel Lifters, engineered from M2-grade Tool Steel for its hardness and ability to resist abrasion. Lighter weight but with the same strength as regular steel, these lifters are available in three different diameters, with each diameter available in a coated, non-coated and non-coated EDM version. The DLC (Diamond Like Carbon), multi-layer coating provides the lifters with extremely slick and hard surface properties, making them resistant to abrasive wear in extreme contact pressure environments and compatible with almost any camshaft material. This wear resistance coating also lowers the amount of power required to run an engine's valve train, as well as lowering friction, heat and oil temperatures.

- Extremely tough and strong, yet lighter in weight than regular steel
- DLC coating gives lifters slick and hard surface properties
- Wear resistance requires less power to run valve train and lowers friction, heat and oil temps
- Three diameters available in DLC coated, non-coated and non-coated EDM versions

Make	Part #	Description	Dia./Weight
Chevrolet	89842H-16	Non-Coated for Use on Cast Cams w/ or w/out Nitriding, .012" Oil Hole	.842"/76g
	89842-16	Non-Coated for Use on Cast Cams w/ or w/out Nitriding	.842"/76g
	89842C-16	Coated for Use on Cams Using Steel Cores	.842"/76g
Chrysler	89904H-16	Non-Coated for Use on Cams w/ or w/out Nitriding, .012" Oil Hole	.904"/84g
	89904-16	Non-Coated for Use on Cast Cams w/ or w/out Nitriding	.904"/84g
	89904C-16	Coated for Use on Cams Using Steel Cores	.904"/84g
Ford	89875H-16	Non-Coated for Use on Cams w/ or w/out Nitriding, .012" Oil Hole	.875"/76g
	89875-16	Non-Coated for Use on Cast Cams w/ or w/out Nitriding	.875"/76g
	89875C-16	Coated for Use on Cams Using Steel Cores	.875"/76g



Performance Series™ Solid/Mechanical Lifters

Built to extreme precision tolerances to create the most durable solid lifters available, the COMP Cams® Performance Series™ Lifters are a premium lifter designed specifically for high-end street and race applications.

- Includes precision-ground crown radius and surface finish to promote performance camshaft compatibility and high-rpm durability
- Lightweight design and premium one-piece pushrod seat provide extended rpm range
- Features precision-machined and accurately located oil band to yield consistent, properly metered oil flow
- Designed for elevated, race application valve spring pressures
- Ideal for high-end street and race engines

Make	Part #	Description	Dia./Weight
Cadillac	2900-16	V8 472-500	.842"/86g
Chevrolet	2900-16	V8 265-400	.842"/86g
	2900-16	V8 396-454	.842"/86g
	2900-16	V8 348-409 1958-65	.842"/86g
	2900-12	V6 90° 200-262	.842"/86g
	2900-12	6 Cyl. 194-292	.842"/86g
Chrysler	2921-16	V8 273-360	.904"/98g
	2921-16	V8 B-383-440 1958-Present	.904"/98g
	2921-16	V8 Hemi 426	.904"/98g
Ford	2910-16	V8 FS, FC, FF	.875"/98g
Pontiac	2900-16	V8 260-455	.842"/86g
Oldsmobile	2900-16	V8 265-455	.842"/86g
Accessories			
—	5305	Plastic Lifter Case (Holds 16)	N/A



Part #2900

Performance Series™ Solid/Mechanical Lifters With EDM Injection™ Technology

Our Performance Series™ Lifters with the EDM oiling hole have all of the same high-quality features as our Performance Series™ Solid/Mechanical Lifters with the addition of the EDM oiling hole on the lifter face.



	Make	Part #	Description	Weight
New	AMC	2901-16	V8 290-401 w/ .012" Oil Hole	108g
	Cadillac	800-16	V8 472-500 w/ .012" Oil Hole	98g
	Chevrolet	800-16	V8 265-400 w/ .012" Oil Hole	98g
		800-16	V8 348-409 1958-65 w/ .012" Oil Hole	98g
		800-16	V8 396-454 w/ .012" Oil Hole	98g
	Chrysler	2901-16[A]	V8 273-360 w/ .012" Oil Hole	.904"/98g
New		2901-16[A]	V8 B-383-440 1958-Present w/ .012" Oil Hole	.904"/98g
		2901-16[A]	V8 Hemi 426 w/ .012" Oil Hole	.904"/98g
	Ford	817-16	V8 302-351W 1969-Present w/ .012" Oil Hole	108g
		817-16	V8 Boss 302, 351C, 351M, 400M w/ .012" Oil Hole	108g
		817-16	V8 429-460 w/ .012" Oil Hole	108g
	Pontiac	800-16	V8 260-455 w/ .012" Oil Hole	98g
	Oldsmobile	800-16	V8 265-455 w/ .012" Oil Hole	98g
	Universal	810-16	V8 Lightweight (No Chamfer) w/ .012" Oil Hole	79g

A. Oils through pushrods
Note: For V6, use -12 suffix

Hydraulic Roller Lifters

- Performance replacement for stock hydraulic roller lifters or retro-fit hydraulic roller lifters for non-roller blocks
- Decrease friction and increase longevity when directly compared to flat tappet lifters
- Accept much more aggressive cam profiles than flat tappet lifters will allow



Part #851

Part #853



Make	Part #	Description
OE Style NO Link Bar Hydraulic Roller Lifters		
Chevrolet	850-16	Small Block 305 and 350, Use in Blocks Originally Equipped w/ Hydraulic Roller Cam (1987-Present Including LT1 & LS Series)
	900-16	Big Block Gen VI and 8.1L, Use in Blocks Originally Equipped w/ Hydraulic Roller Cam (1996-Present)
Ford	851-16	Small Block 302, Use in Blocks Originally Equipped w/ Hydraulic Roller Cam & in COMP Cams® Ford Retro-Fit Kit for 351W, 351C, 400M, 289-302 & 351M (See page 281)
Retro-Fit Link Bar Hydraulic Roller Lifters		
Chevrolet	853-16	Small Block 265-400, Retro-Fit Roller Lifter for Early Model Blocks Originally Equipped w/ Flat Tappet Cam, Tall Body Fits Both Standard Blocks & Tall Lifter Bore Aftermarket Blocks
	854-16	Big Block 396-454, Retro-Fit Roller Lifter for Early Model Blocks Originally Equipped w/ Flat Tappet Cam, Tall Body Fits Both Standard Blocks & Tall Lifter Bore Aftermarket Blocks
	8959-16	Big Block 348, 409, Retro-Fit Roller Lifter for Early Model Blocks Originally Equipped w/ Flat Tappet Cam, Tall Body Fits Both Standard Blocks & Tall Lifter Bore Aftermarket Blocks
GM LS	8957-16	LS Series Captured Link Bar Retro-Fit Roller Lifter for 1997-Up, Fits Both Factory and RHS®, LSX, Warhawk Blocks
Chrysler	8920-16	Small Block 273-360, Retro-Fit Roller Lifter for Early Model Blocks Originally Equipped w/ Flat Tappet Cam
	8921-16	Big Block 383-440, Retro-Fit Roller Lifter for Early Model Blocks Originally Equipped w/ Flat Tappet Cam
Ford	8931-16	Small Block 289-302-351W, Retro-Fit Roller Lifter for Early Model Blocks Originally Equipped w/ Flat Tappet Cam
	8934-16	Big Block & FE 390-428, 429, 460, Retro-Fit Roller Lifter for Early Model Blocks Originally Equipped w/ Flat Tappet Cam
Oldsmobile & Pontiac	857-16	Oldsmobile & Pontiac, Retro-Fit Roller Lifter for Blocks Originally Equipped w/ Flat Tappet Cam

New Short Travel Hydraulic Roller Lifters

- Patent pending design performs at higher engine speeds
- When equipped with hydraulic lifters, high rpm is limited by improper position of lifter's internal piston as lifter "pumps up"
- Improper location results in open valves that lead to lost power and possibly engine failure
- Minimize internal movement to allow higher engine rpm



Part #15853

Make	Part #	Description
OE Style NO Link Bar Short Travel Hydraulic Roller Lifters		
Chevrolet	875-16	Small Block 305 & 350, Use in Blocks Originally Equipped w/ Hydraulic Roller Cam (1987-Present Including LT1 & LS Series), **Reduced Travel**
	15850-16	Small Block 305 & 350, Use in Blocks Originally Equipped w/ Hydraulic Roller Cam (1987-Present Including LT1 & LS Series), **Short Travel, Race Type**
Ford	877-16	Small Block 302, Use in Blocks Originally Equipped w/ Hydraulic Roller Cam and in COMP Cams® Specially Designed Ford Retro-Fit Kit for 351W, 351C, 400M, 289-302 and 351M, **Reduced Travel**
Retro-Fit Link Bar Short Travel Hydraulic Roller Lifters		
Chevrolet	15853-16	Small Block 265-400, Retro-Fit Roller Lifter for Early Model Blocks Originally Equipped w/ Flat Tappet Cam, Tall Body Fits Both Standard Blocks & Tall Lifter Bore Aftermarket Blocks, **Short Travel**
	15854-16	Big Block 396-454, Retro-Fit Roller Lifter For Early Model Blocks Originally Equipped w/ Flat Tappet Cam, Tall Body Fits Both Standard Blocks & Tall Lifter Bore Aftermarket Blocks, **Short Travel**
GM LS	15956-16	LS Series Captured Link Bar Retro-Fit Roller Lifter for 1997-Present, Fits Both Factory & RHS®, LSX, Warhawk Blocks, **Short Travel**

Hydraulic Roller Lifter Installation Kits

COMP Cams® has put together these time saving kits containing all of the necessary pieces to help you smoothly install hydraulic roller lifters in your V6 or V8 block originally equipped with a hydraulic roller cam. Each kit contains all required hardware and each piece is new.



Part #08-1000

Make	Part #	Application	Kit Contains:
Chevrolet	08-1000	Chevy Small Block 1987-93 Non-Vortec V8 305 & 350 w/ OE Hyd. Roller Cam	(3) #4605-B Camshaft Bolts (8) #8105-LG Lifter Guides (1) #8105-LR Lifter Retainer (1) #8105-CR Cam Retainer (2) #8105-B Cam Retainer Bolts
	08-1001	Chevy Small Block 1991-02 Vortec Engines, 1991-97 LT1	(3) #4605-B Camshaft Bolts (8) #8105-LG Lifter Guides (1) #8105-LR Lifter Retainer (1) #8104-CR Cam Retainer (2) #8105-B Cam Retainer Bolts
	09-1000	Chevy V6 4.3L w/ Balance Shaft (Except 1994-Present w/ Plastic Lifter Guides)	(3) #4605-B Camshaft Bolts (6) #8105-LG Lifter Guides (1) #8106-LR Lifter Retainer (1) #8106-CR Cam Retainer (2) #8106-B Cam Retainer Bolts
	09-1001[A]	Chevy V6 4.3L w/o Balance Shaft (Except 1985-86 w/ Hyd. Roller Cam)	(6) #8105-LG Lifter Guides (1) #8105-CR Cam Retainer (2) #8105-B Cam Retainer Bolts
Ford	35-1001	Ford 302 HO, 5.0	(8) #8135-LG Lifter Guides (1) #8135-LR Lifter Retainer (2) #8135-B Cam Retainer Bolts

A. Lifter retainer not available for this engine

Ford Hydraulic Roller Retro-Fit Kit

This Ford Hydraulic Roller Retro-Fit Kit contains the pieces required to install our complete line of hydraulic roller cams in 302, 351W, 351C and 351M-400 Ford engines that did not come with an OEM hydraulic roller cam. This kit ships complete with detailed instructions and all necessary hardware.

- Works on all Small Block Ford engines originally equipped with a flat tappet or roller cam
- When using this kit in a non-roller block, a small base circle retro-fit cam must be used to ensure the lifters will not expose oil hole or band out of the lifter bores
- Kit must be used with Part #851-16 lifters



Part #31-1000

Make	Part #	Application	Kit Contains:
Ford	31-1000	Small Block 289-302, 351W, 351C, 351M-400M	(8) #8135-LG Lifter Guides (1) #8135-LR Lifter Retainer (2) #8135-CS Cap Screws

Endure-X™ Solid Roller Lifters

Today's engines place a greater demand on lifters than ever before. With today's more aggressive cam lobe designs and increased rpm ranges, it takes a superior roller lifter to withstand the abuse. COMP Cams® has set the industry standard with the Endure-X™ Solid Roller Lifters.

Endure-X™ Lifters are fully heat-treated, machined to ultra-high tolerances, are fully rebuildable and are available for a wide variety of applications, including small base circle and offset applications. A complete application listing is on the following pages 283 through 285 of this catalog.

The four main features of Endure-X™ Solid Roller Lifters are:

1. **Removable Link Bar** – COMP Cams® patented link bar assembly combines the benefits of a removable link bar with the safety of a captured link bar.
2. **EDM Oil Injection™ Technology** – Guarantees that the bearing assembly receives a constant flow of pressurized oil via a precision hole aimed directly at the needle bearings.
3. **Precision Sorted Bearings** – The needle bearings are precision sorted by size to distribute load evenly, preventing premature wear and failure.
4. **Tool Steel Axle** – The axle is made of wear resistant Tool Steel to prolong the life of the roller assembly, particularly in high rpm applications.



Endure-X™ Solid Roller Lifter Rebuild Program

Today's roller lifters face grueling engine environments. Inadequate oiling, excessive spring pressures and valve lash, along with other factors, play a significant part in the failure of the roller, needle bearings and axle. COMP Cams® recognizes the high cost of new parts and designed the Endure-X™ Lifter Rebuild Program to help offset some of that cost.

The roller assembly is often the culprit in roller lifter failure. The lifter body can be buffed and the link bars replaced as necessary. However, the roller bearings and axle usually need to be replaced after each season of use or after any catastrophic engine failure. A sudden lack of motion is even more destructive than the sudden application of motion.

There is a small fee to replace worn or damaged parts, and replacement lifters may be purchased to replace defective or destroyed ones. This is often less than half of the cost of new lifters and ensures long, trouble free operation.

Rebuilt solid roller lifters go through the following steps:

1. Lifter bodies are disassembled and inspected for cracks.
2. Retaining grooves are inspected and cleaned.
3. Lifter bodies are thoroughly washed.
4. A new axle and roller assembly are pressed into the body, and new retaining clips are installed.
5. Lifters are reboxed and returned to the customer.

Part #	Description
800-RB1-1	For .750" Wheel Diameter
800-RB2-1	For .850" Wheel Diameter



Part #818

Lifter Body Styles

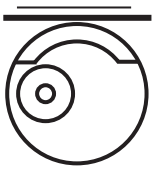

Cutaway – Oil Band

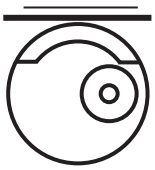

Solid – Oil Band


Cutaway – Solid


Solid

Determining Offset


Left Offset


Right Offset

Note: On offset lifters, offset is determined by looking at the lifter with the link bar away from you

Part #/Style	Description	Dia.	Set Includes Lifters	Set Includes Link Bars	Pushrod Seat Location	Oil Hole Direction vs. Axle
American Motors V8 290-401 1966-89						
New 861-16 Cutaway – Oil Band	Baseline coverage for all types of motorsports using the AMC engine	.904"	(16) 861-1	(8) 839-L	All Centered	Parallel
Buick V6						
868-12 Solid – Oil Band	Best for any application when a centered pushrod can be used	.842"	(12) 818-1	(5) 818-L (1) 814-L	All Centered	Perpendicular
868S-12 Solid	For engines that oil through rocker arm shafts, not through pushrods	.842"	(12) 868S-1	(5) 818-L (1) 814-L	All Centered	N/A
Chevrolet 90º V6 (Race)						
818-12 Solid – Oil Band	Best all around set when a centered pushrod can be used	.842"	(12) 818-1	(6) 818-L	All Centered	Perpendicular
897-12 Cutaway – Oil Band	Use when an offset intake pushrod set is required for clearance, centered exhaust	.842"	(6) 894C-1 (2) 894R-1 (4) 894L-1	(4) 818-L (2) 814-L	(6) Centered (2) Rights (4) Lefts	Perpendicular
Chevrolet V8 265-400 (* Denotes tappets for 1987 and up, Bowtie & some aftermarket blocks w/ taller lifter bores)						
815-16 Solid – Oil Band	Great for any application w/ enlarged lifter bores, Ford diameter	.874"	(16) 815-1	(8) 818-L	All Centered	Perpendicular
818-16 Solid – Oil Band	Perfect roller lifter for any application w/ no offsets	.842"	(16) 818-1	(8) 818-L	All Centered	Perpendicular
847-16 Cutaway – Oil Band	Offset intakes w/ special captured link bar design	.842"	(4) Pr. 847LC-2 (4) Pr. 847RC-2	Captured	(8) Centered (4) Rights (4) Lefts	Perpendicular
871-16 Solid – Oil Band	Full body style of #873-16 .300" taller body for 1987 & up, Bowtie & most aluminum blocks	.842"	(16) 871-1	(8) 818-L	All Centered	Perpendicular
873-16 Cutaway – Oil Band	.300" Taller body for 1987 & up, Bowtie & most aluminum blocks	.842"	(16) 873-1	(8) 818-L	All Centered	Perpendicular
888-16 Cutaway – Oil Band	.300" Taller body lifters designed for street & marine applications	.842"	(16) 888-1	(8) 818-L	All Centered	Perpendicular
890-16 Cutaway – Oil Band	.300" Taller body lifters w/ offset intakes for additional clearance & enlarged lifter bores	.874"	(8) 890C-1 (4) 890R-1 (4) 890L-1	(8) 818-L	(8) Centered (4) Rights (4) Lefts	Perpendicular
891-16 Solid – Oil Band	Specifically engineered for any application using small base circle cams	.842"	(16) 891-1	(8) 818-L	All Centered	Perpendicular
894-16 Cutaway – Oil Band	A proven winner when offset intakes are necessary for more pushrod clearance	.842"	(8) 894C-1 (4) 894R-1 (4) 894L-1	(8) 818-L	(8) Centered (4) Rights (4) Lefts	Perpendicular
896-16 Cutaway – Oil Band	For use w/ Dart, Buick, canted or splayed valve heads, left offset intakes	.842"	(8) 894C-1 (8) 894L-1	(8) 818-L	(8) Centered (8) Lefts	Perpendicular
8995-16 Cutaway – Oil Band	.300" Taller offset lifters	.842"	(8) 873-1 (4) 873R-1 (4) 873L-1	(8) 818-L	(8) Centered (4) Rights (4) Lefts	Perpendicular
Chevrolet V8 SB2						
8991-16 Cutaway – Oil Band	SB2 block, SB2 head .300" tall lifters w/ .874" lifter bore, centered pushrod seats	.874"	(16) 890C-1	(4) 0894-L (4) 0895-L	(16) Centered	Perpendicular
8992-16 Cutaway – Oil Band	Standard GM block, SB2 head .300" tall offset .842" lifter bore, offset pushrod seat	.842"	(8) 894L-1 (8) 894R-1	(8) 818-L	(8) Lefts (8) Rights	Perpendicular
8993-16 Cutaway – Oil Band	Standard GM block, SB2 head .300" tall offset .875" lifter bore, offset pushrod seat	.874"	(8) 890L-1 (8) 890R-1	(8) 818-L	(8) Lefts (8) Rights	Perpendicular

Part #/Style	Description	Dia.	Set Includes Lifters	Set Includes Link Bars	Pushrod Seat Location	Oil Hole Direction vs. Axle
GM Gen III/LS1/LS2/LS6/LS7/LSX						
New 8956-16 Cutaway – Oil Band	GM Gen III/LS1/LS2/LS6 solid roller lifters - not designed for street use	.842"	(16) 8956-1	(8) 838-L	(16) Centered	Perpendicular
New 8958-16 Cutaway – Oil Band	GM solid roller lifters for LSX/Warhawk block	.842"	(16) 8956-1	(8) 8958-L	(16) Centered	Perpendicular
Chevrolet V8 396-454 1965-96						
819-16 Solid – Oil Band	Perfect for any application w/ no offsets	.842"	(16) 819-1	(8) 819-L	All Centered	Perpendicular
823-16 Solid – Oil Band	Great for any application w/ enlarged lifter bores, Ford diameter	.874"	(16) 815-1	(8) 819-L	All Centered	Perpendicular
866-16 Cutaway – Oil Band	.300" Taller body designed for street & marine applications	.842"	(16) 888-1	(8) 873-L	All Centered	Perpendicular
883-16 Cutaway – Oil Band	.300" Taller body for late model, Bowtie & most aluminum blocks	.842"	(16) 873-1	(8) 873-L	All Centered	Perpendicular
893-16 Solid – Oil Band	Specifically engineered for any application using small base circle cams	.842"	(16) 891-1	(8) 819-L	All Centered	Perpendicular
895-16 Cutaway – Oil Band	Most durable set when right offsets are necessary for more pushrod clearance	.842"	(8) 894C-1 (8) 894R-1	(8) 819-L	(8) Centered (8) Rights	Perpendicular
897-16 Cutaway – Oil Band	Best when cutaway style lifter bodies are necessary for improved clearance	.842"	(16) 894C-1	(8) 819-L	All Centered	Perpendicular
898-16 Cutaway – Oil Band	Best available lifters when left offsets are necessary for more pushrod clearance	.842"	(8) 894C-1 (8) 894L-1	(8) 819-L	(8) Centered (8) Lefts	Perpendicular
899-16 Cutaway – Oil Band	Proven winner when offset intakes are necessary for more pushrod clearance	.842"	(8) 894C-1 (4) 894R-1 (4) 894L-1	(8) 819-L	(8) Centered (4) Rights (4) Lefts	Perpendicular
8996-16 Cutaway – Oil Band	300" Taller cutaway offset lifters for any application w/ extreme pushrod angles	.842"	(8) 873-1 (4) 873R-1 (4) 873L-1	(8) 873-L	(8) Centered (4) Rights (4) Lefts	Perpendicular
Chrysler V8 273-360						
828-16 Cutaway – Solid	Best all around lifter for engines that oil through rocker shafts, no oil hole	.904"	(8) 828-2	Captured	All Centered	N/A
843-16 Cutaway – Oil Band	Best set for any engines that oil through pushrods, Chevrolet oiling style, will not work in stock block	.904"	(8) 843-2	Captured	All Centered	Perpendicular
Chrysler V8 383-440 and 426 Hemi **Note: "Fat Head" spread lifter bore requires special ordering (8) link bars #839-L**						
827-16 Cutaway – Solid	Pushrod seat is located .225" deeper than standard location	.904"	(16) 827-1	(8) 829-L	All Centered	N/A
829-16 Cutaway – Solid	Standard pushrod seat location, best for performance street & drag racing	.904"	(16) 829-1	(8) 829-L	All Centered	N/A
830-16 Cutaway – Solid	Pushrod seat is located .140" deeper than standard location	.904"	(16) 830-1	(8) 829-L	All Centered	N/A
830A-16 Cutaway – Solid	Pushrod seat is located .165" deeper than standard location	.904"	(16) 830A-1	(8) 829-L	All Centered	N/A
87019-16 Cutaway – Oil Band	.300" Tall offset lifters for engines that oil through rocker shafts, no oil hole	.904"	(8) 87016C-1 (4) 87018R-1 (4) 87017L-1	(8) 829-L	(8) Centered (4) Rights (4) Lefts	N/A
Ford V8 289-351W **Note: 289 & 302 require cylinder head removal to install lifters**						
838-16 Solid – Oil Band	Best all around lifter available, perfect for any application w/ no offets	.874"	(16) 838-1	(8) 838-L	All Centered	Perpendicular
Ford V8 SVO Small Block Drag Race Applications w/ Yates Heads						
87879-16 Cutaway – Oil Band	Lifter designed for drag race applications using Yates heads	.874"	(8) 87879-2	Captured	(8) Centered (8) Rights .180"	Parallel
Ford V8 351C, 351M, 400M **Note: With 5/16" pushrods only**						
840-16 Solid – Oil Band	Perfect lifter for Cleveland applications w/ no offsets necessary	.874"	(16) 836-1	(8) 838-L	All Centered	Parallel
Ford V8 352-428						
839-16 Solid – Oil Band	The best FE mechanical roller available, works in any high performance application	.874"	(16) 838-1	(8) 839-L	All Centered	Perpendicular

Part #/Style	Description	Dia.	Set Includes Lifters	Set Includes Link Bars	Pushrod Seat Location	Oil Hole Direction vs. Axle
Ford V8 429-460						
836-16 Solid – Oil Band	Our most durable lifter set, fits most combinations in any application	.874"	(16) 836-1	(8) 836-L	All Centered	Parallel
841-16 Cutaway – Oil Band	The same durable design incorporated with a unique captured link bar system, for most Hemi type Fords	.874"	(8) 841-2	Captured	All Centered	Parallel
879-16 Cutaway – Oil Band	Special arranged set featuring a captured link bar design w/ an offset intake	.874"	(8) 879-2	Captured	(8) Centered (8) Rights .180"	Parallel
Holden V8						
881-16 Cutaway – Oil Band	The best & only set available for the Holden, works in any application	.842"	(16) 881-1	(8) 829-L	All Centered	Parallel
Oldsmobile V8 350-455						
849-16 Solid – Oil Band	The perfect lifter for street, drag & marine when no offset is necessary	.842"	(16) 859-1	(8) 829-L	All Centered	Parallel
Pontiac V8 350-455						
859-16 Cutaway – Oil Band	The best choice for all engine sizes in any application, especially performance street	.842"	(16) 859-1	(8) 829-L	All Centered	Parallel



Part #894

Endure-X™ Single Solid Roller Lifters

Part #/Style	Description	Dia.	Pushrod Seat Location	Offset Distance	Oil Hole Direction vs. Axle	Wheel Diameter
890C-1 Cutaway – Oil Band	.300" Tall Endure-X™ Roller Lifter	.874"	Centered	0	Perpendicular	.750"
890L-1 Cutaway – Oil Band	.300" Tall Endure-X™ Roller Lifter	.874"	Left	.180"	Perpendicular	.750"
890R-1 Cutaway – Oil Band	.300" Tall Endure-X™ Roller Lifter	.874"	Right	.180"	Perpendicular	.750"
892C-1 Cutaway – Oil Band	.300" Tall Endure-X™ Roller Lifter	.904"	Centered	0	Perpendicular	.800"
892L-1 Cutaway – Oil Band	.300" Tall Endure-X™ Roller Lifter	.904"	Left	.210"	Perpendicular	.800"
892R-1 Cutaway – Oil Band	.300" Tall Endure-X™ Roller Lifter	.904"	Right	.210"	Perpendicular	.800"
894C-1 Cutaway – Oil Band	Endure-X™ Roller Lifter	.842"	Centered	0	Perpendicular	.750"
894L-1 Cutaway – Oil Band	Endure-X™ Roller Lifter	.842"	Left	.180"	Perpendicular	.750"
894R-1 Cutaway – Oil Band	Endure-X™ Roller Lifter	.842"	Right	.180"	Perpendicular	.750"
873-1 Cutaway Oil Band	.300" Tall Endure-X™ Roller Lifter	.842"	Centered	0	Perpendicular	.750"
873L-1 Cutaway – Oil Band	.300" Tall Endure-X™ Roller Lifter	.842"	Left	.180"	Perpendicular	.750"
873R-1 Cutaway – Oil Band	.300" Tall Endure-X™ Roller Lifter	.842"	Right	.180"	Perpendicular	.750"
87016C-1 Cutaway – Oil Band	.300" Tall Endure-X™ Roller Lifter w/o Oil Hole	.904"	Centered	.210"	N/A	.800"
87017L-1 Cutaway – Oil Band	.300" Tall Endure-X™ Roller Lifter w/o Oil Hole	.904"	Left	.210"	N/A	.800"
87018R-1 Cutaway – Oil Band	.300" Tall Endure-X™ Roller Lifter w/o Oil Hole	.904"	Right	.210"	N/A	.800"

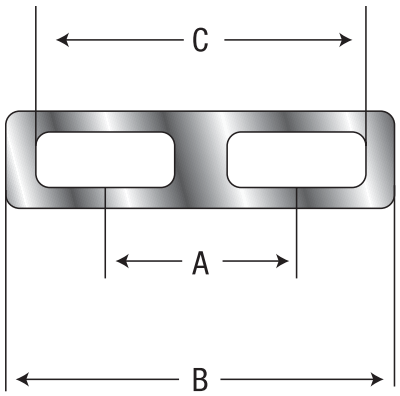
Note: Individual pieces only, not sets. Link bars must be ordered separately. See p. 286 for link bars.

Roller Lifter Link Bars

COMP Cams® Roller Lifter Link Bars are precision-crafted from stainless steel and wear-coated for a long life in all applications.

Part #	Description	Lifter Bore C/L	A	B	C	Style
818-L	Chevrolet Small Block	1.560"	1.350"	2.380"	2.000"	Flat
	Chevrolet V6 Cylinders #1, #2, #5 & #6	1.560"				
	Buick V6 Cylinders #1, #2, #4, #5 & #6	1.525"				
814-L	Chevrolet V6 Cylinders #3 & #4	1.660"	1.475"	2.500"	2.125"	Flat
	Buick V6 Cylinder #3	1.610"				
838-L	GM GenIII/LS1/LS2/LS6	1.730"	1.564"	2.594"	2.214"	Flat
	Ford Small Block 289-302, 351W, SVO 351	1.730"				
New 8958-L	GM LS for LSX/Warhawk/RHS®/Factory Block	1.827"	1.500"	2.470"	2.340"	
836-L	Ford Big Block 429-460	2.075"	2.019"	3.044"	2.669"	Flat
829-L	Chrysler 426-440	1.800"	1.654"	2.680"	2.295"	Flat
	Pontiac 350-455	1.818"				
	Oldsmobile 350-455	1.877"				
839-L	AMC 360-401	1.940"	1.884"	2.910"	2.534"	Flat
	F.E. Style Ford 392-428	1.980"				
	Chrysler "Fat Head"	2.000"				
819-L	Chevrolet Big Block 396-454	1.800"	1.560"	2.610"	2.250"	
873-L	Chevrolet Big Block 396-454 for .300" Tall Lifters	1.800"	1.560"	2.610"	2.250"	
0894-L	GM SB2 Cylinders #1 & #3	1.835"	1.614"	2.679"	2.304"	
0895-L	GM SB2 Cylinders #2 & #4	1.834"	1.614"	2.679"	2.304"	
0895-L	GM SB2 Cylinders #5 & #7	1.812"	1.614"	2.679"	2.304"	
0894-L	GM SB2 Cylinders #6 & #8	1.813"	1.614"	2.679"	2.304"	

Note: Dimensions are listed for popular applications



CAMHELP®
800.999.0853



Part #818-L

Part #819-L

Part #8958-L

New Elite Race™ Solid Roller Lifters

If you're looking for the ultimate lifter to withstand even the most demanding racing conditions, look no further. The COMP Cams® new Elite Race™ Solid Roler Lifters feature a host of advantages over competing race lifter designs, including an SAE 8620 stainless steel alloy body that is CNC-machined and REM-finished, SAE 9310 steel alloy wheels that are micro-polished and micro-sized and needles that are made from 52100 bearing steel and micro-sorted with a controlled contour profile.

These lifters feature an exclusive body design that does not include an oil band, maximizing rigidity and reducing lifter bushing wear. While the construction and body design make them incredibly strong, the Elite Race™ Solid Roler Lifters are also lightweight, with each lifter weighing less than 100 grams individually. All lifter bodies are "tall" and will clear both stock and aftermarket .300" tall lifter bores and will properly fit either 5/16" or 3/8" ball pushrods.

Possibly the most critical element of this lifter design is the fact that the oversized (.400") axles are dual-pinned – pins go through the lifter ears at each end and leave a small gap in between for oiling. And with this pressure fed oiling you get wear-reducing engine lubrication when and where you need it the most. The oil actually flows through the center and the top of the axle – directly to the needles.

For maximum control and durability in high rpm race applications, these lifters also feature captured link bars and an exclusive modular pushrod design that allows the pushrod insert to be swapped out for centered, left or right offsets. And with our patent-pending oil control through the pushrod insert, engine builders can modify the lifter to meter extra oil to the top as desired.

Elite Race™ Solid Roler Lifters are fully heat-treated, machined to high tolerances, are fully rebuildable and are available for a number of Chevy, Ford and Chrysler applications. A complete application listing is on the following page but look for new applications at www.compcams.com.

1. **Modular Design** – Pushrod insert can be changed for centered, left or right offsets. A patent-pending design allowing oil control through the pushrod insert lets builders modify lifters to meter extra oil to the top.

2. **Tool Steel, Dual-Pinned Axles** – .400" Axles (extra large for maximum load support) allow for extra needle bearings (total of 23) for optimum load distribution. Needles are constructed from 52100 bearing steel and are micro-sorted with a controlled contoured profile. Dual-pinned axles are pinned through the lifter ears on both sides to allow oiling between them, whereas competitors' lifters only use a single pin.

3. **Pressure-Fed Oiling** – Center and top axle oil inlets for lubrication through the axle, directly to the needles – exactly where you need it.

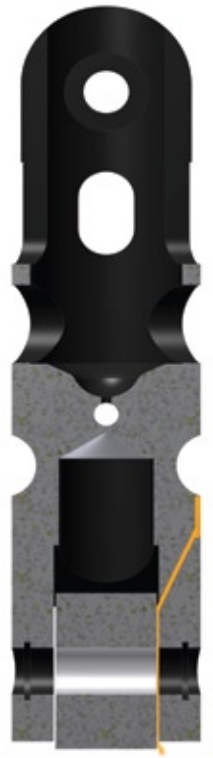
4. **Captured Link Bars** – Designed specifically for race and high rpm applications, captured link bars offer maximum control and durability.

ER™ ELITE RACE

Elite Race™ Solid Roller Lifters' Oiling Path



Other Solid Roller Lifters' Oiling Path



Elite Race™ Solid Roller Lifters



Lightweight Arm Design for Reduced Mass



Interchangeable Pushrod Seats (Offsets Available) - COMP® Exclusive Oil Metering Circuit Through Insert Easily Modified to Customize Oil Flow

COMP® Exclusive Column Design for Strength, Reduced Sidewear, Lifter Bore Stability & Reduced Mass

Micro-Sorted Precision Ground Needle Bearings

9310 Steel, Precision Ground & Polished Wheels

Captured Link Bars for Maximum Stability at High RPM

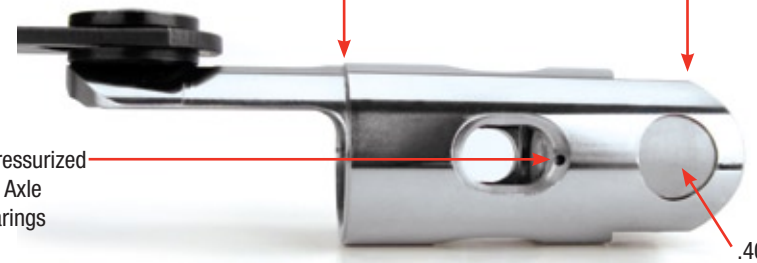


Precision CNC-Machined Hollow Axle (Pressurized Oiling Feed Circuit & Reduced Mass)

CNC-Machined & Ground, REM Polished 8620 Steel Body

COMP® Exclusive Dual Pinned Axle for Interlocking Body & Axle, Maintains Stability Under Extreme Loads

Increased Surface for Support & Less Lifter Bore Wear



EDM Oiling Hole for Pressurized Oiling Through Hollow Axle Directly to Needle Bearings

.400" Diameter Oversized Axle for Ultimate Load Capacity & Longevity (Largest in Industry)

Part #	Description	Dia.	Set Includes: Lifters	Pushrod Seat Location	Wheel Diameter
Small Block Chevrolet V8 265-400					
98818-16	Elite Race™ Solid Roller Lifters	.842"	(8) 98842C-2	8 Pairs Centered	.750"
98894-16	Elite Race™.160" Offset Roller Lifters	.842"	(4) 98842CL-2 (4) 98842CR-2	4 Pairs Centered & Left 4 Pairs Centered & Right	.750" .750"
98815-16	Elite Race™ Roller Lifters for applications with enlarged lifter bores (.875")	.875"	(8) 98874C-2	8 Pairs Centered	.785"
98890-16	Elite Race™ .160" Offset Roller Lifters for applications w/ enlarged lifter bores (.875")	.875"	(4) 98874CL-2 (4) 98874CR-2	4 Pairs Centered & Left 4 Pairs Centered & Right	.785" .785"
98891-16	Elite Race™ Roller Lifters for applications with enlarged lifter bores (.904")	.904"	(8) 98904C-2	8 Pairs Centered	.785"
98892-16	Elite Race™ .180" Offset Roller Lifters for applications w/ enlarged lifter bores (.904")	.904"	(4) 98904CL-2 (4) 98904CR-2	4 Pairs Centered & Left 4 Pairs Centered & Right	.820" .820"
98893-16	Elite Race™ .180" Offset Roller Lifters for applications w/ enlarged lifter bores (.904")	.904"	(8) 98904LR-2	8 Pairs Left & Right	.820"
Big Block Chevrolet V8 396-454					
98819-16	Elite Race™ Roller Lifters	.842"	(8) 98852C-2	8 Pairs Centered	.750"
98996-16	Elite Race™ .160" Offset Roller Lifters	.842"	(4) 98852CL-2 (4) 98852CR-2	4 Pairs Centered & Left 4 Pairs Centered & Right	.750" .750"
98823-16	Elite Race™ Roller Lifters for applications with enlarged lifter bores (.875")	.875"	(8) 98851C-2	8 Pairs Centered	.785"
98997-16	Elite Race™ .160" Offset Roller Lifters for applications w/ enlarged lifter bores (.875")	.875"	(4) 98851CL-2 (4) 98851CR-2	4 Pairs Centered & Left 4 Pairs Centered & Right	.785" .785"
98995-16	Elite Race™ Roller Lifters for applications with enlarged lifter bores (.904")	.904"	(8) 98850C-2	8 Pairs Centered	.820"
98998-16	Elite Race™ .180" Offset Roller Lifters for applications w/ enlarged lifter bores (.904")	.904"	(4) 98850CL-2 (4) 98850CR-2	4 Pairs Centered & Left 4 Pairs Centered & Right	.820" .820"
LS-Series, GM Gen III/IV					
98956-16	Elite Race™ Solid Roller Lifters	.842"	(8) 98956-2	8 Pairs Centered	.750"
98954-16	Elite Race™ Solid Roller Lifters	.875"	(8) 98954-2	8 Pairs Centered	.785"
98952-16	Elite Race™ Solid Roller Lifters	.904"	(8) 98952-2	8 Pairs Centered	.820"
98999-16	Elite Race™ .180" Offset Roller Lifters for applications w/ enlarged lifter bores (.904")	.904"	(8) 98850LR-2	8 Pairs Left & Right	.820"
Chrysler V8 383-440 & 426 Hemi					
98829-16	Elite Race™ Solid Roller Lifters	.904"	(8) 98829C-2	8 Pairs Centered	.820"
98827-16	Elite Race™ .180" Offset Roller Lifters	.904"	(4) 98829CL-2 (4) 98829CR-2	4 Pairs Centered & Left 4 Pairs Centered & Right	.820"
Ford V8 289-351W					
98838-16	Elite Race™ Solid Roller Lifters	.875"	(8) 98838C-2	8 Pairs Centered	.785"
98837-16	Elite Race™ .160" Offset Roller Lifters	.875"	(4) 98838CL-2 (4) 98838CR-2	4 Pairs Centered & Left 4 Pairs Centered & Right	.785"
98835-16	Elite Race™ .180" Offset Roller Lifters for applications w/ enlarged lifter bores (.904")	.904"	(4) 98835CL-2 (4) 98835CR-2	4 Pairs Centered & Left 4 Pairs Centered & Right	.820"

Elite Race™ Individual Pair Captured Link Bar Lifter Part Numbers

Part #	Description	Dia.	Pushrod Seat Location	Offset Distance	Wheel Diameter
Small Block Chevrolet V8 265-400					
98842C-2	Elite Race™ Solid Roller Lifter Pair – Both Centered	.842"	Both Centered	0	.750"
98842CL-2	Elite Race™ Roller Lifter Pair – One Centered & One Offset Left	.842"	Centered & Left	0, .160"	.750"
98842CR-2	Elite Race™ Solid Roller Lifter Pair – One Centered & One Offset Right	.842"	Centered & Right	0, .160"	.750"
98842LR-2	Elite Race™ Solid Roller Lifter Pair – One Offset Left & One Offset Right	.842"	Left & Right	.160", .160"	.750"
98874C-2	Elite Race™ Roller Lifter Pair – Both Centered – For Enlarged Lifter Bores (.875")	.875"	Both Centered	0	.785"
98874CL-2	Elite Race™ Roller Lifter Pair – One Centered & One Offset Left – For Enlarged Lifter Bores (.875")	.875"	Centered & Left	0, .160"	.785"
98874CR-2	Elite Race™ Roller Lifter Pair – One Centered & One Offset Right – For Enlarged Lifter Bores (.875")	.875"	Centered & Right	0, .160"	.785"
98874LR-2	Elite Race™ Roller Lifter Pair – One Offset Left & One Offset Right – For Enlarged Lifter Bores (.875")	.875"	Left & Right	.160", .160"	.785"
98904C-2	Elite Race™ Solid Roller Lifter Pair – Both Centered – For Enlarged Lifter Bores (.904")	.904"	Both Centered	0	.820"
98904CL-2	Elite Race™ Solid Roller Lifter Pair – One Centered & One Offset Left – For Enlarged Lifter Bores (.904")	.904"	Centered & Left	0, .180"	.820"
98904CR-2	Elite Race™ Solid Roller Lifter Pair – One Centered & One Offset Right – For Enlarged Lifter Bores (.904")	.904"	Centered & Right	0, .180"	.820"
98904LR-2	Elite Race™ Solid Roller Lifter Pair – One Offset Left & One Offset Right – For Enlarged Lifter Bores (.904")	.904"	Left & Right	0, .180"	.820"
Big Block Chevrolet V8 396-454 1965-1996					
98852C-2	Elite Race™ Solid Roller Lifter Pair – Both Centered	.842"	Both Centered	0	.750"
98852CL-2	Elite Race™ Solid Roller Lifter Pair– One Centered & One Offset Left	.842"	Centered & Left	0, .160"	.750"
98852CR-2	Elite Race™ Solid Roller Lifter Pair – One Centered & One Offset Right	.842"	Centered & Right	0, .160"	.750"
98852LR-2	Elite Race™ Solid Roller Lifter Pair – One Offset Left & One Offset Right	.842"	Left & Right	.160", .160"	.750"
98851C-2	Elite Race™ Solid Roller Lifter Pair – For Enlarged Lifter Bores (.875")	.875"	Both Centered	0	.785"
98851CL-2	Elite Race™ Roller Lifter Pair– One Centered & One Offset Left - For Enlarged Lifter Bores (.875")	.875"	Centered & Left	0, .180"	.785"
98851CR-2	Elite Race™ Roller Lifter Pair – One Centered & One Offset Right - For Enlarged Lifter Bores (.875")	.875"	Centered & Right	0, .180"	.785"
98851LR-2	Elite Race™ Roller Lifter Pair – One Offset Left & One Offset Right - For Enlarged Lifter Bores (.875")	.875"	Left & Right	.180", .180"	.785"
98850C-2	Elite Race™ Solid Roller Lifter Pair – Both Centered – For Enlarged Lifter Bores (.904")	.904"	Both Centered	0	.820"
98850CL-2	Elite Race™ Solid Roller Lifter Pair – One Centered & One Offset Left – For Enlarged Lifter Bores (.904")	.904"	Centered & Left	0, .180"	.820"
98850CR-2	Elite Race™ Solid Roller Lifter Pair – One Centered & One Offset Right – For Enlarged Lifter Bores (.904")	.904"	Centered & Right	0, .180"	.820"
98850LR-2	Elite Race™ Solid Roller Lifter Pair – One Offset Left & One Offset Right – For Enlarged Lifter Bores (.904")	.904"	Left & Right	.180", .180"	.820"

Elite Race™ Individual Pair Captured Link Bar Lifter Part Numbers Cont.

Part #	Description	Dia.	Pushrod Seat Location	Offset Distance	Wheel Diameter
Chrysler V8 383-440 & 426 Hemi					
98829C-2	Elite Race™ Roller Lifter Pair – Both Centered	.904"	Both Centered	0	.820"
98829CL-2	Elite Race™ Roller Lifter Pair – One Centered & One Offset Left	.904"	Centered & Left	0, .180"	.820"
98829CR-2	Elite Race™ Roller Lifter Pair – One Centered & One Offset Right	.904"	Centered & Right	0, .180"	.820"
Ford V8 289-351W					
98838C-2	Elite Race™ Roller Lifter Pair – Both Centered	.875"	Both Centered	0	.785"
98838CL-2	Elite Race™ Roller Lifter Pair – One Centered & One Offset Left	.875"	Centered & Left	0, .160"	.785"
98838CR-2	Elite Race™ Roller Lifter Pair – One Centered & One Offset Right	.875"	Centered & Right	0, .160"	.785"
98835C-2	Elite Race™ Roller Lifter Pair – Both Centered – For Enlarged Lifter Bores (.904")	.904"	Both Centered	0	.820"
98835CL-2	Elite Race™ Roller Lifter Pair – One Centered & One Offset Left – For Enlarged Lifter Bores (.904")	.904"	Centered & Left	0, .180"	.820"
98835CR-2	Elite Race™ Roller Lifter Pair – One Centered & One Offset Right – For Enlarged Lifter Bores (.904")	.904"	Centered & Right	0, .180"	.820"

Pushrod Seat Inserts

With the new Elite Race™ Solid Roller Lifters, COMP Cams® has made it possible to remove the pushrod seat inserts and swap them out. Offered in centered, left offset and and right offset options for each diameter lifter, the pushrod seats can be switched out and any combination of seats can be used. With our Pushrod Seat Insert Removal Tool, this is a simple process that allows the user to easily adjust the pushrod angle for clearance if necessary.



Part #	Description	Dia.	Pushrod Seat Location
98500C-1	Centered Pushrod Seat Insert	.842" or .875"	Centered
98500L-1	Left Offset Pushrod Seat Insert	.842" or .875"	.160" Left
98500R-1	Right Offset Pushrod Seat Insert	.842" or .875"	.160" Right
98600C-1	Centered Pushrod Seat Insert	.904"	Centered
98600L-1	Left Offset Pushrod Seat Insert	.904"	.180" Left
98600R-1	Right Offset Pushrod Seat Insert	.904"	.180" Right
5350	Pushrod Seat Insert Removal Tool	.842", .875", .904"	All
98501-1	O-Ring	.842", 875"	N/A
98601-1	O-Ring	.904"	N/A

O-ring (service part)

Accurate

Lightweight

Endurance



PUSHRODS

As cam profiles get more aggressive and valve spring pressures increase, the importance of selecting the right pushrods has never been more critical. COMP Cams® carries a wide selection of precision pushrods to handle any application from stock replacement to hardcore race.









Pushrod Length & Rocker Arm Geometry

A large number of variables are involved in determining the correct length pushrod for your application. Pushrod length is affected by any of the following:

- Block deck height
- Head deck height
- Head stud boss height
- Rocker arm brand/design
- Cam base circle size
- Lifter design/brand/pushrod seat height
- Valve stem length

Don't assume anything when determining the right pushrod for your new engine. A pushrod that fits one engine may not necessarily work in another. Any number of items can be different on your engine, requiring you to use a different pushrod length. Following the steps below will streamline the pushrod selection process, ensuring that you get the right parts the first time.

1. Buy a checking pushrod.

Do not buy pushrods when you buy the cam, lifters and other valve train components. As much as we would like to sell you pushrods at this time, nobody can predict ahead of time what length a given engine needs, unless it is bone stock.

Instead, invest in a checking pushrod at this time. They are on page 295 of this master catalog. They are available in two different designs, with the more expensive of the two being easier to measure once you have it adjusted to the proper length for your valve train. Neither is particularly expensive if you consider time lost and freight costs when returning pushrods.

Other companies offer their own versions of pushrod length checking devices, plastic pieces with complicated instructions to calculate the length. The main disadvantage with these is that you have to order the pushrods and receive them before you know if your calculations are correct. With a checking pushrod, you can actually rotate the motor over and check the rocker arm/valve tip relationship as you adjust the pushrod length. When you get the correct geometry, it is a simple matter then to measure the length and place an order. COMP Cams® carries a large number of various length and diameter pushrods.

2. Determine correct valve train geometry.

What is the correct length pushrod for your application? The one that produces correct valve train geometry. What is correct valve train geometry? When the rocker arm roller tip rolls from the intake side of the valve tip, across the center of the tip (at approximately mid-lift), to the exhaust side of the valve tip (at full lift) and back. See Diagram A.

3. Measure the resulting pushrod.

Measuring the length of a pushrod is a simple process. The most important thing to remember is that different manufacturers measure pushrods differently. Not all pushrods of a stated length will measure exactly the same. The three most common pushrod measurements are shown in Diagram B on the following page.

Theoretical Length: This assumes that the pushrod has no oil hole in the end of it. Therefore, the radius at either end is complete, which lengthens the pushrod approximately .017" in the case of a 5/16" pushrod with .100" diameter oil holes, minimally chamfered.

Actual Length: This is what you would measure if you had a set of calipers large enough to measure over the oil holes at each end of the pushrod. This is the measurement that most people can relate to. Unfortunately, this measurement is affected not only by the diameter of the oil holes but also by the entrance chamfer for each oil hole.

Gauge Length: Although the most difficult to measure (it requires a special length checking gauge), this measurement is the most reliable. This is because the oil holes and their chamfers are eliminated from the measurement. The only problem is that not all companies use the same gauge diameter. COMP Cams® uses a .140" gauge diameter. All Magnum and Hi-Tech™ Pushrods listed in this catalog are measured using this technique. See Diagram B on the following page.

4. Simple measurement techniques.

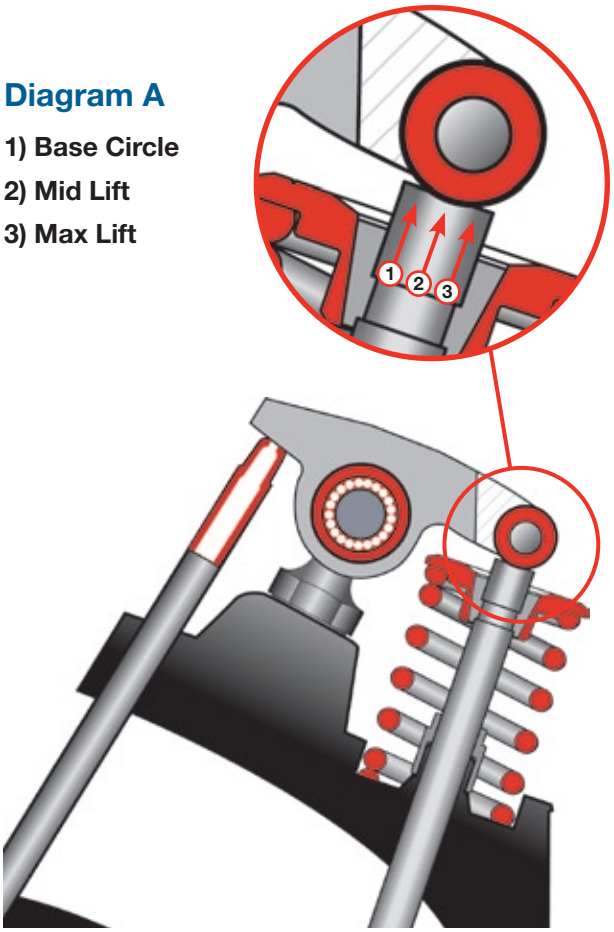
We realize that most people don't have access to the special gauge required for these measurements or even a dial caliper large enough for most pushrods. We've developed two techniques to help you determine exact pushrod length so that the perfect valve train geometry is achieved in your engine.

Diagram A

1) Base Circle

2) Mid Lift

3) Max Lift



Pushrod Measurement Techniques

Technique #1
This technique requires the use of a COMP Cams® Hi-Tech™ Pushrod Length Checker. These are marked with a standard length stamped in them. This number represents the gauge length of the part (.140" gauge diameter) with the two halves screwed completely together. Extending the pushrod one rotation lengthens the gauge length .050". For example, a pushrod stamped 7.800 and screwed apart one rotation would be 7.800" + .050" = 7.850" gauge length. Therefore you would order the part number from the catalog that matches this gauge length, since gauge length is how they are listed.

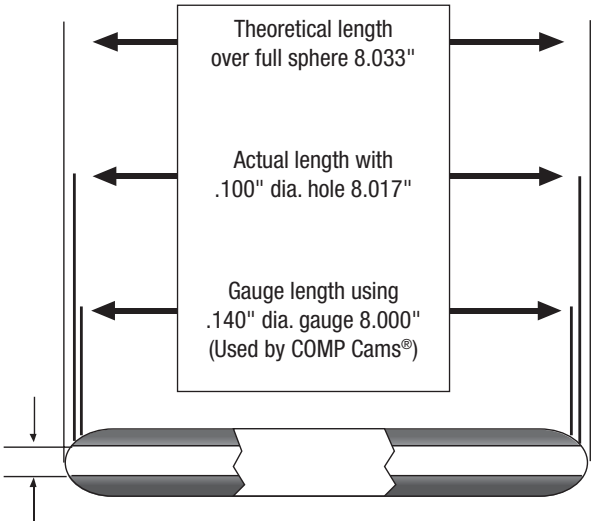
Technique #2
This technique requires one of our Magnum Pushrod Length Checkers. Once fixed, you don't need to have an expensive gauge or a pair of calipers to measure it. You just need a pushrod of a known length to compare it to (a standard). Then use a pair of common 6" calipers to measure the difference between the standard and yours.

Here are a few final hints about pushrods in general. It is always a good idea to buy a few spares when purchasing a set of custom length pushrods, and stick them in your toolbox. If one ever fails at the track and you need a replacement, it would be nearly impossible to borrow one from a fellow racer.

Another hint involves cup end pushrods. Measuring them for length is especially difficult, no matter which technique above you choose to use. The size and shape of the cup end varies greatly from manufacturer to manufacturer, so measuring from the ball end to the cup end over the cup surface is a dangerous practice. The best strategy is to drop a 5/16" diameter steel ball into the cup end, and do all measuring over this ball, subtracting the 5/16" diameter (.3125") to figure the length.

Common Pushrod Measurements

Diagram B



It's 3:30 PM on Saturday...

DO YOU KNOW WHERE YOUR CAM COMPANY IS?



If your cam company is COMP Cams® the answer is easy. CAM HELP® valve train experts are standing by six days a week to provide you with the answers you need, when you need them. That's right, we're even here for you on Saturday when those other guys are nowhere to be found.

CAMHELP®
800.999.0853

Mon to Fri 7:00 a.m. - 8:00 p.m. • Sat 9:00 a.m. - 4:00 p.m. CST

Magnum Checking Pushrods

These tools make it easy and economical to lay out and determine proper pushrod length during a high performance engine rebuild. This is necessary for correct valve train geometry to obtain the desired results from the cam and to ensure damage is not done to the rest of the valve train. They are made from a thin wall 5/16" pushrod that is cut and threaded with over 1" travel and features a 5/16" ball on each end.

Part #	Description	Adjustable From	To
7905-1	Individual Length Checker	6.125"	7.500"
7901-1	Individual Length Checker	7.500"	8.700"
7902-1	Individual Length Checker	8.500"	9.800"
7903-1	Individual Length Checker	9.700"	11.000"
7904-1	Individual Length Checker	10.200"	11.500"
7900	Master Pushrod Checking Kit - Contains 1 Each: #7901, #7902, #7903, #7904 & #7905	6.125"	11.500"

See p.293 for instructions to check pushrod geometry



Part #7901-1

Hi-Tech™ Checking Pushrods

The COMP Cams® Hi-Tech™ Pushrod Length Checking Tools are precision-crafted from steel alloy and black oxided to provide years of accurate measurements. The unique design is easy to read and eliminates the need for expensive calipers. Each complete revolution is equal to .050". Having the correct length pushrods in your engine is a critical factor in proper rocker arm geometry, and this is the best tool to measure pushrod length.

Part #	Description	Adjustable From	To
7701-1	Individual Length Checker	5.800"	6.800"
7702-1	Individual Length Checker	6.800"	7.800"
7703-1	Individual Length Checker	7.800"	8.800"
7704-1	Individual Length Checker	8.800"	9.800"
7706-1	Individual Length Checker	9.800"	10.800"
7707-1	Individual Length Checker	10.800"	11.800"
7708-1	Individual Length Checker	11.800"	12.800"
7709-1	Length Checker w/ 5/16" Cup End	6.800"	7.800"
7711-1	Length Checker w/ 5/16" Cup End	7.800"	8.800"
7719-1	Length Checker w/ 5/16" Cup End	8.800"	9.800"
7710-1	Length Checker w/ 5/16" Cup End	9.800"	10.800"
7712-1	Length Checker w/ 5/16" Cup End	10.800"	11.800"
7705	Master Pushrod Checking Kit - Contains 1 Each: #7701, #7702, #7703 & #7704	5.800"	9.800"

See p.293 for instructions to check pushrod geometry

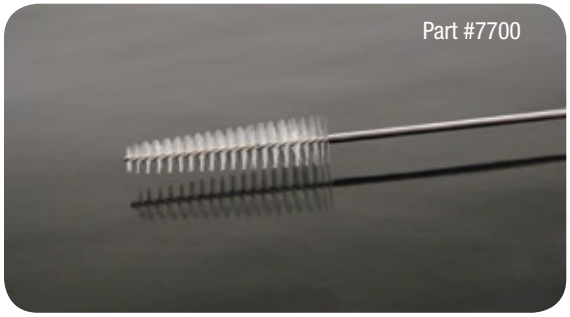


Part #7702-1 Part #7719-1

Pushrod Cleaning Brush

Finally, there is a simple solution to thoroughly clean the internal oil passages of center oiling pushrods. The COMP Cams® Pushrod Cleaning Brush is specifically designed to handle the task and built to withstand repeated use with nylon bristles and a durable steel shaft.

Part #	Description
7700	Pushrod Cleaning Brush 12" Length



Part #7700

High Energy Pushrods™ - Listed By Application

- Best choice when building street rods, RVs or daily driver engines
- Meet or exceed all OE pushrod specifications
- Mate perfectly with High Energy™ or Magnum Rockers



Part #7808

Make	Part #	Description	Use With Guide Plates	Diameter	Actual Length	End Type
AMC	7812-16	V8 290-401, Most 1970-Up	Yes	5/16"	7.794"	H-H
Buick	7892-16	V8 350, 1968-69	No	5/16"	9.668"	H-H
	7861-16	V8 350, 1970-81	No	5/16"	9.677"	H-H
	7896-16	V8 455, 1970-76	No	5/16"	9.378"	H-H
	7869-12	V6 All, 1962-85	No	5/16"	8.684"	H-H
Chevrolet	7861-8	4 Cyl. 151, 1977-78	No	5/16"	9.682"	H-H
	7861-8	4 Cyl. 153. 1962-70 & Marine	No	5/16"	9.682"	H-H
	7861-12	6 Cyl. 194-250, 1962-84	No	5/16"	9.682"	H-H
	7816-12	V6 173 (60°), 1980-86	Yes	5/16"	6.165"	H-H
	7812-12	V6 200-262, 1978-86, Hardened Replacement	Yes	5/16"	7.794"	H-H
	7808-16	V8 262-400 w/ OE Hydraulic Roller Cam 1987-Present	Yes	5/16"	7.205"	H-H
	7809-16	V8 262-400 w/ Retro-Fit Hydraulic Roller Cam 1955-Present w/ Flat Tappet	Yes	5/16"	7.266"	H-H
	7812-16	V8 262-400, 1955-Present w/ Flat Tappet	Yes	5/16"	7.794"	H-H
	7813-8	V8 396-454 Intake w/ Retro-Fit Hydraulic Roller Cam 1965-Present	Yes	3/8"	7.725"	H-H
	7814-8	V8 396-454 Exhaust w/ Retro-Fit Hydraulic Roller Cam 1965-Present	Yes	3/8"	8.684"	H-H
	7815-16	V8 396-454 Retro-Fit Pushrod Set, 1965-Present, (8) #7813 Intake & (8) #7814 Exhaust	Yes	3/8"	7.725" Int 8.684" Ex	H-H
	7811-8	V8 396-454, Intake, Hardened Replacement	Yes	3/8"	8.280"	H-H
	7881-8	V8 396-454, Exhaust, Hardened Replacement	Yes	3/8"	9.252"	H-H
	7854-16	V8 396-454, 1965-86, (8) #7811 Intake & (8) #7881 Exhaust (Standard Length, Standard Block)	Yes	3/8"	8.280" Int 9.252" Ex	H-H
Chrysler	7864-12	6 Cyl. 198-225, 1960-80 w/ Mechanical Cam	No	5/16"	9.954"	A-C
	7820-16	V8 273-360, 1964-86	No	5/16"	7.500"	B-B
	7821-16	V8 273-360, 1964-86 Hyd. Cam w/ Adjustable Rockers	No	5/16"	7.389"	A-C
	7822-16	V8 273-360, 1964-86 Solid w/ Adjustable Rockers	No	5/16"	7.497"	A-C
	7883-16	V8 383-400, 1968-78 w/ Non-Adjustable Rockers	No	5/16"	8.575"	B-B
	7840-16	V8 440, 1968-78 w/ Non-Adjustable Rockers	No	5/16"	9.315"	B-B

Note: Refer to Pushrod End Type diagram on p.297

TECH TIP

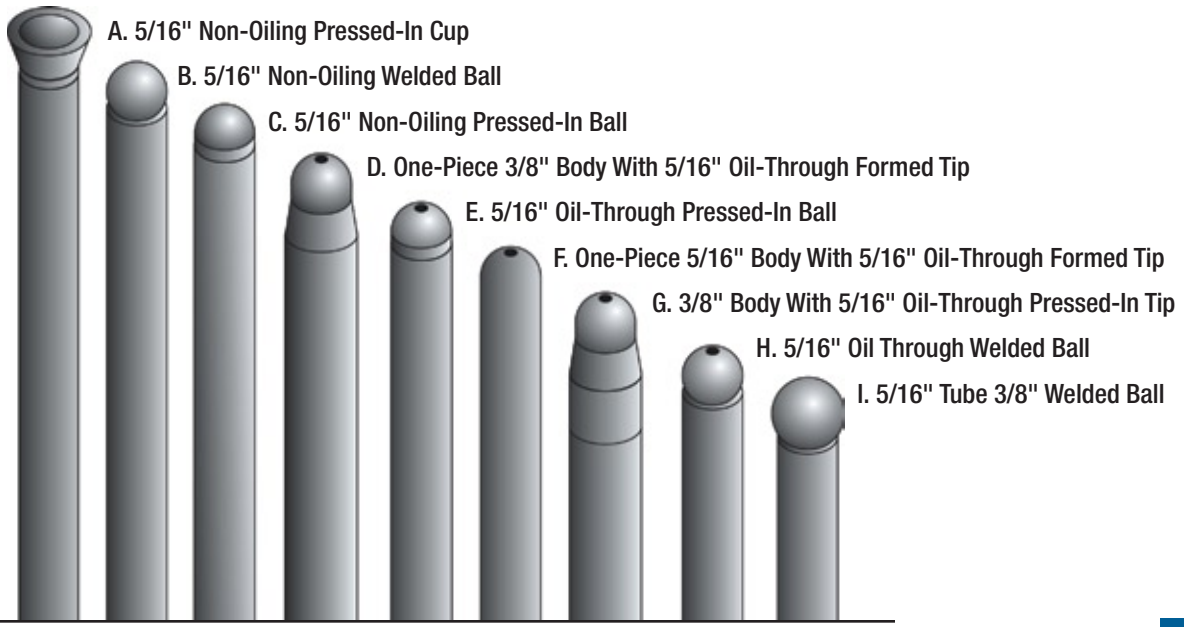
It is always a good idea to replace your pushrods when you install new rockers. Pushrods and rockers wear together much like a cam and lifters. Even though the pushrods may not show any wear, installing new rockers on old pushrods can result in premature failure. Use a small amount of COMP Cams® Valve Train Assembly Spray (Part #106) on the tip of each pushrod at the rocker arm to prevent wear on initial start-up.

All parts on this page are 50-state legal.

High Energy Pushrods™ - Listed By Application Cont.

Make	Part #	Description	Use With Guide Plates	Diameter	Actual Length	End Type
Ford	7865-12	6 Cyl. 170-200, 1965-83	No	5/16"	8.350"	I-I
	7866-12	6 Cyl. 240-300, 1965-84	No	5/16"	10.136"	H-H
	7836-12	V6 171 (2800cc), 1974-86	No	5/16"	5.429"	A-B
	7831-16	V8 255 & 302, 1965-Present w/ Flat Tappet	Yes	5/16"	6.881"	H-H
	7826-16	V8 302 w/ OEM Hydraulic Roller Cam 1985-Present	Yes	5/16"	6.248"	H-H
	7827-16	V8 255-302 .060" Short, 1968-85	No	5/16"	6.821"	H-H
	7828-16	V8 255-302 .060" Long, 1968-85	No	5/16"	6.936"	H-H
	7819-16	V8 302 Retro-Fit Hydraulic Roller	Yes	5/16"	6.400"	H-H
	7835-16	V8 351W, 1969-78	No	5/16"	8.152"	H-H
	7829-16	V8 351W .060" Short, 1969-78	No	5/16"	8.096"	H-H
	7830-16	V8 351W .060" Long, 1969-78	No	5/16"	8.212"	H-H
	7823-16	V8 351W Retro-Fit Hydraulic Roller	Yes	5/16"	7.694"	H-H
	7832-16	V8 351C & Cobra Jet, 1970-74	No	5/16"	8.412"	H-H
	7825-16	V8 351C Retro-Fit Hydraulic Roller	Yes	5/16"	7.870"	H-H
	7837-16	V8 351M & 400M, 1971-79	No	5/16"	9.500"	H-H
	7838-16	V8 351M & 400M .060" Short, 1971-79	No	5/16"	9.440"	H-H
	7839-16	V8 351M & 400M .060" Long, 1971-79	No	5/16"	9.560"	H-H
	7824-16	V8 351M & 400M Retro-Fit Hydraulic Roller	Yes	5/16"	8.903"	H-H
	7833-16	V8 352-428, 1965-72 Factory Non-Adjustable Rockers Only	No	5/16"	9.621"	C-C
	7834-16	V8 429-460, 1972-78	No	5/16"	8.550"	H-H
	7843-16	V8 429-460 .060" Short, 1972-78	No	5/16"	8.500"	H-H
	7844-16	V8 429-460 .060" Long, 1972-78	No	5/16"	8.616"	H-H
Oldsmobile	7842-16	V8 260-403, 1971-79	No	5/16"	8.234"	H-H
	7845-16	V8 400-455, 1971-79	Yes	5/16"	9.748"	H-H
	7841-16	Special for 455 Rocker Kit (#1442-KIT)	Yes	5/16"	9.654"	H-H
	7843-16	Special for 350 & 403 Rocker Kit (#1441-KIT)	Yes	5/16"	8.490"	H-H
Pontiac	7851-16	V8 350-455, 1955-79	Yes	5/16"	9.146"	H-H
	7869-16	V8 326-421, 1962-67	No	5/16"	8.684"	H-H

High Energy™ and Magnum Pushrod End Types



All parts on this page are 50-state legal.

Magnum Pushrods - Listed By Application

The Magnum 5/16" and 3/8" Pushrods offer an affordable solution for your .080" wall chromemoly pushrod needs. Designed to withstand the stresses of a high performance engine, these pushrods are heat-treated for extended durability and may be ordered as single pieces or in sets of 8 and 16.

- One-piece .080" wall chromemoly steel tubing
- Heat-treated for extended durability and guide plate compatibility
- Precision formed and reinforced pushrod ends
- Black oxide finished and laser-etched part number and length
- Ideal for street performance and mild race applications

Make	Part #	Description	Use With Guide Plates	Diameter	Actual Length	Type End
Chevrolet	7608-16	V8 265-400 + 90° V6 200-262 w/ OEM Hydraulic Roller Cam	Yes	5/16"	7.200"	F-F
	7609-16	V8 265-400 + 90° V6 w/ Retro-Fit Hydraulic Roller Cam	Yes	5/16"	7.300"	F-F
	7372-16	V8 265-400 + 90° V6 200-262, Hardened Stock Length	Yes	5/16"	7.800"	F-F
	7693-16	V8 265-400 + 90° V6 200-262, +.100" Hardened	Yes	5/16"	7.900"	F-F
	7694-16	V8 265-400 + 90° V6 200-262, +.150" Hardened	Yes	5/16"	7.950"	F-F
	7695-16	V8 265-400 + 90° V6 200-262, +.200" Hardened	Yes	5/16"	8.000"	F-F
	7472-16	V8 265-400 + 90° V6 200-262, +.350" Hardened	Yes	5/16"	8.144"	F-F
	7513-16	V8 265-400 + 90° V6 200-262, Hardened Stock Length	Yes	3/8"	7.800"	D-D
	7684-16	V8 265-400 + 90° V6 200-262, +.100" Hardened	Yes	3/8"	7.900"	D-D
	7154-16	V8 396-454, (8) #7131 Intake (8) #7141 Exhaust (Standard Length, Standard Block)	Yes	3/8"	8.280" Int 9.250" Ex	D-D
	7131-8	V8 396-454, Intake Stock Length (Standard Length, Standard Block)	Yes	3/8"	8.280"	D-D
	7141-8	V8 396-454, Exhaust Stock Length (Standard Length, Standard Block)	Yes	3/8"	9.250"	D-D
	7663-16	V8 396-454, (8) #7164 Intake (8) #7174 Exhaust (w/ Retro-Fit Hydraulic Roller Cam, Standard Block)	Yes	3/8"	7.750" Int 8.700" Ex	D-D
	7654-16	V8 366-427, (8) #7651 Intake (8) #7661 Exhaust (Truck & Marine Tall Deck Block)	Yes	3/8"	8.680" Int 9.652" Ex	D-D
	7651-8	V8 366-427, Intake (Truck & Marine Tall Deck Block)	Yes	3/8"	8.680"	D-D
	7661-8	V8 366-427, Exhaust (Truck & Marine Tall Deck Block)	Yes	3/8"	9.650"	D-D
Chrysler	7592-16	V8 273-360 w/ Non-Adjustable Rockers	No	5/16"	7.513"	C-C
	7692-16	V8 273-360 w/ Adjustable Rockers	No	5/16"	7.342"	A-C
	7402-16	V8 383-400 w/ Non-Adjustable Rockers	No	5/16"	8.555"	C-C
	7422-16	V8 383-400 w/ Adjustable Rockers	No	3/8"	8.710"	*
	7412-16	V8 440 w/ Non-Adjustable Rockers	No	5/16"	9.295"	C-C
	7432-16	V8 440 w/ Non-Adjustable Rockers	No	3/8"	9.400"	A-C
	7442-16	V8 440 w/ Adjustable Rockers	No	3/8"	9.030"	A-C
	7632-16	Special for Dodge Magnum Rocker Kit (#1425-KIT)	Yes	5/16"	6.800"	F-F
Ford	7632-16	V8 221-302, 1962-69	Yes	5/16"	6.800"	F-F
	7631-16	V8 302, 1969-85 Non-Roller, Non-H.O.	Yes	5/16"	6.900"	F-F
	7492-16	V8 Boss 302, 1969-70 Boss	Yes	5/16"	7.605"	E-E
	7472-16	V8 351W, 1969-78	Yes	5/16"	8.150"	F-F
	7502-16	V8 351C (Cobra Jet), 1970-74	Yes	5/16"	8.400"	F-F
	7522-16	V8 351C, 1970-74	Yes	3/8"	8.400"	D-D
	7532-16	V8 Boss 351C, 1971-72	Yes	3/8"	8.492"	G-G
	7530-16	V8 352-428, 1965-76 w/ Adjustable Rockers	No	11/32"	9.157"	**
	7651-16	V8 429-460, 1969-71	Yes	3/8"	8.680"	D-D
Oldsmobile	7131-16	V8 260-403, .046" Longer Than Stock	Yes	3/8"	8.280"	D-D
	7582-16	V8 400 & 455, Hardened Replacement	Yes	5/16"	9.547"	E-E
	7664-16	V8 400 & 455, +.100" Hardened	Yes	3/8"	9.647"	G-G
Pontiac	7262-16	V8 350-455, 1968-79	Yes	5/16"	9.130"	F-F
	7263-16	V8 350-455, 1968-79 w/ Solid Lifter Cam	Yes	5/16"	9.300"	F-F

Note: Refer to Pushrod End Type diagram on p.297
* 5/16" Non-oiling cup and 3/8" non-oiling formed tip
** 3/8" Non-oiling cup and 3/8" non-oiling formed tip

All parts on this page are 50-state legal.

Magnum Pushrods - Listed By Length

5/16"

Part #	Length
7620-16	6.200"
7621-16	6.250"
7622-16	6.300"
7619-16	6.400"
7623-16	6.750"
7632-16	6.800"
7633-16	6.850"
7631-16	6.900"
7634-16	6.950"
7635-16	7.150"
7608-16	7.200"
7636-16	7.250"
7609-16	7.300"
7637-16	7.350"
7638-16	7.400"
7639-16	7.450"
7640-16	7.500"
7641-16	7.550"
7492-16	7.600"
7642-16	7.650"
7643-16	7.700"
7644-16	7.750"
7372-16	7.800"
7645-16	7.850"
7693-16	7.900"
7694-16	7.950"
7695-16	8.000"
7472-16	8.150"
7646-16	8.250"
7647-16	8.350"
7502-16	8.400"
7648-16	8.450"
7649-16	8.500"
7650-16	8.600"
7652-16	8.900"
7262-16	9.130"
7653-16	9.200"
7263-16	9.300"
7655-16	9.450"
7656-16	9.500"
7582-16	9.547"
7657-16	9.600"
7658-16	9.650"
7659-16	9.700"
7660-16	9.750"
7662-16	9.800"

3/8"

Part #	Length
7155-16	6.850"
7156-16	6.900"
7157-16	7.150"
7158-16	7.200"
7159-16	7.250"
7160-16	7.300"
7161-16	7.350"
7162-16	7.400"
7163-16	7.450"
7164-16	7.750"
7513-16	7.800"
7165-16	7.850"
7684-16	7.900"
7166-16	7.950"
7167-16	8.200"
7168-16	8.250"
7131-16	8.280"
7169-16	8.300"
7170-16	8.350"
7522-16	8.400"
7171-16	8.450"
7532-16	8.492"
7172-16	8.550"
7173-16	8.650"
7651-16	8.680"
7174-16	8.700"
7175-16	8.750"
7176-16	9.100"
7177-16	9.150"
7178-16	9.200"
7141-16	9.250"
7179-16	9.300"
7180-16	9.600"
7664-16	9.647"
7661-16	9.650"
7181-16	9.700"
7182-16	9.750"
7183-16	9.800"

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Part #7608

Part #7651

All parts on this page are 50-state legal.

Hi-Tech™ Pushrods - Listed By Application

Prior to extensive research at COMP Cams®, it was thought that the pushrod only had to be strong enough not to fail, bend or burn up at the ends. But engineers have learned that the frequency of the pushrod must match that of all the rest of the parts in the valve train, as well as the rpm at which the engine will be run. Today's all-out race engines demand the highest quality components at every step, and COMP Cams® Hi-Tech™ Pushrods fill that requirement.

The one-piece design from .080" wall seamless chromemoly tubing ensures the ultimate in strength and durability. The ends are precision formed, yielding added thickness in the critical tip area for strength while maintaining constant wall thickness and concentricity. The pushrods are then heat-treated to ensure compatibility with guide plates and for maximum strength. They are OD-ground for consistency and black oxide finished with a length and part number laser etched on the OD for ease of identification. Hi-Tech™ Pushrods with a .065" wall thickness can be found on page 304 and Hi-Tech™ Pushrods listed by length can be found on pages 302-303. Hi-Tech™ Pushrods can be ordered as single units or in sets of 8 and 16.



Part #7972

- One-piece construction from .080" wall seamless chromemoly
- Heat-treated for extended durability and guide plate compatibility
- Precision formed and reinforced 5/16" ball type ends
- Black oxide finished and laser etched part number and length
- Ideal for serious street performance and race applications

Make	Part #	Description	Wall Thickness	Diameter	Length
Small Block Chevrolet	7940-16	-.600" Short Standard Length OE Hydraulic Roller Lifter	.080"	5/16"	7.200"
	7944-16	-.550" Short	.080"	5/16"	7.250"
	7949-16	-.500" Short Retro-Fit Standard Length Hydraulic Roller Lifter	.080"	5/16"	7.300"
	7950-16	-.450" Short	.080"	5/16"	7.350"
	7963-16	-.100" Short	.080"	5/16"	7.700"
	7970-16	-.050" Short	.080"	5/16"	7.750"
	7972-16	Standard Length Small Block Chevrolet	.080"	5/16"	7.800"
	7974-16	+.050" Long	.080"	5/16"	7.850"
	7993-16	+.100" Long	.080"	5/16"	7.900"
	7994-16	+.150" Long	.080"	5/16"	7.950"
	7995-16	+.200" Long	.080"	5/16"	8.000"
	7996-16	+.250" Long	.080"	5/16"	8.050"
	7997-16	+.300" Long	.080"	5/16"	8.100"
	7913-16	Standard Length Small Block Chevrolet, 3/8" Diameter	.080"	3/8"	7.800"
	7984-16	+.100" Long, 3/8" Diameter	.080"	3/8"	7.900"
GM Gen III LS1/LS2/LS6	7949-16	-.100" Short	.080"	5/16"	7.300"
	7794-16	-.075" Short	.080"	5/16"	7.325"
	7950-16	-.050" Short	.080"	5/16"	7.350"
	7795-16	-.025" Short	.080"	5/16"	7.375"
	7955-16	Standard Length GM Gen III/LS1/LS2/LS6	.080"	5/16"	7.400"
	7796-16	+.025" Long	.080"	5/16"	7.425"
	7956-16	+.050" Long	.080"	5/16"	7.450"
	7797-16	+.075" Long	.080"	5/16"	7.475"
	7957-16	+.100" Long	.080"	5/16"	7.500"
Big Block Chevrolet	7931-8	Standard Length Big Block Intake	.080"	3/8"	8.280"
	7941-8	Standard Length Big Block Exhaust	.080"	3/8"	9.250"
	7954-16	Standard Length Big Block Chevrolet Set, (8) #7931 Intake & (8) #7941 Exhaust	.080"	3/8"	9.250"
	7969-8	Standard Big Block +.100" Long Intake	.080"	3/8"	8.380"
	7979-8	Standard Big Block +.100" Long Exhaust	.080"	3/8"	9.350"
	7982-16	Standard Big Block +.100" Long, Set (8) #7969 Intake & (8) #7979 Exhaust	.080"	3/8"	9.350"
	7998-16	Standard Big Block w/ Retro-Fit Hydraulic Roller Cam, Set (8) #8905 Intake & (8) #7907 Exhaust	.080"	3/8"	8.700"

All parts on this page are 50-state legal.

Hi-Tech™ Pushrods - Listed By Application Cont.

Make	Part #	Description	Wall Thickness	Diameter	Length
Big Block Chevrolet Cont'd	7951-8	Standard Length Big Block Tall Deck Intake	.080"	3/8"	8.680"
	7961-8	Standard Length Big Block Tall Deck Exhaust	.080"	3/8"	9.650"
	7964-16	Standard Length Big Block Tall Deck, Set (8) #7951 Intake & (8) #7961 Exhaust	.080"	3/8"	9.650"
	7968-8	+ .100" Long Big Block Tall Deck Intake	.080"	3/8"	8.780"
	7978-8	+ .100" Long Big Block Tall Deck Exhaust	.080"	3/8"	9.750"
	7942-16	+ .100" Long Big Block Tall Deck, Set (8) #7968 Intake & (8) #7978 Exhaust	.080"	3/8"	9.750"
	7911-8	Standard Length Big Block Intake	.125"	7/16"	8.275"
	7988-8	Standard Length Big Block Exhaust	.125"	7/16"	9.250"
	7962-16	Standard Length Big Block, Set (8) #7911 Intake & (8) #7988 Exhaust	.125"	7/16"	9.250"
	7943-8	Standard Length Big Block Tall Deck Intake	.125"	7/16"	8.675"
	7953-8	Standard Length Big Block Tall Deck Exhaust	.125"	7/16"	9.650"
	7952-16	Standard Length Big Block Tall Deck Set, (8) #7943 Intake & (8) #7953 Exhaust	.125"	7/16"	9.650"
Small Block Chrysler Non-Adjustable Rockers	7956-16	-.050" Short Chrysler "A" 273-360	.080"	5/16"	7.450"
	7957-16	Standard Length Chrysler "A" 273-360	.080"	5/16"	7.500"
	7958-16	+.050" Long Chrysler "A" 273-360	.080"	5/16"	7.550"
Big Block Chrysler Non-Adjustable Rockers	7934-16	Standard Length Chrysler "B" 383-400	.080"	3/8"	8.550"
	7977-16	+.050" Long Chrysler "B" 383-400	.080"	5/16"	8.600"
	7923-16	Standard Length Chrysler "RB" 413-440	.080"	3/8"	9.300"
	7979-16	+.050" Long Chrysler "RB" 413-440	.080"	3/8"	9.350"
Big Block Chrysler Adjustable Rockers	7924-16[A]	Standard Length Chrysler "B" 383-400 w/ Adjustable Rocker Arms	.080"	3/8"	8.710"
Chrysler 5.7L Hemi	7974-8	Standard Length 5.7L Hemi Intake	.080"	5/16"	7.850"
	7769-8	Standard Length 5.7L Hemi Exhaust	.080"	5/16"	6.600"
	7914-16	Standard Length 5.7L Hemi, Set (8) #7974 Intake & (8) #7769 Exhaust	.080"	5/16"	6.600" 7.850"
Ford 6 Cylinder	7971-12	-.050" Short Ford 6 Cyl., 1965-83 120-200	.080"	5/16"	8.300"
	7973-12	Standard Length Ford 6 Cyl., 1965-83 120-200	.080"	5/16"	8.350"
	7945-12	+.050" Long Ford 6 Cyl., 1965-83 120-200	.080"	5/16"	8.400"
Small Block Ford	7929-16	Standard Length Ford 1962-69 221-302	.080"	5/16"	6.800"
	7930-16	+.050" Long Ford 1962-69 221-302	.080"	5/16"	6.850"
	7933-16	+.100" Long Ford 1962-69 221-302	.080"	5/16"	6.900"
	7930-16	Standard Length Ford 1968-85 255 & 302	.080"	5/16"	6.850"
	7935-16	+.100" Long Ford 1968-85 255 & 302	.080"	5/16"	6.950"
	7997-16	-.050" Short Ford 1969-78 351W	.080"	5/16"	8.100"
	7965-16	Standard Length Ford 1969-78 351W	.080"	5/16"	8.150"
	7966-16	+.050" Long Ford 1969-78 351W	.080"	5/16"	8.200"
	7945-16	Standard Length Ford 1970-74 351C & Cobra Jet	.080"	5/16"	8.400"
	7975-16	+.050" Long Ford 1970-74 351C & Cobra Jet	.080"	5/16"	8.450"
	7976-16	+.100" Long Ford 1970-74 351C & Cobra Jet	.080"	5/16"	8.500"
	7976-16	Standard Length Ford 1971 & 72 Boss 351	.080"	5/16"	8.500"
	7932-16	Standard Length Ford 1971 & 72 Boss 351	.080"	3/8"	8.500"
FE Ford	7999-16[B]	Standard Length Ford 1965-76 352-428 w/ Adjustable Rockers	.120"	11/32"	9.157"
Big Block Ford	7976-16	-.050" Short Ford 1972-78 429-460	.080"	5/16"	8.500"
	7948-16	Standard Length Ford 1972-78 429-460	.080"	5/16"	8.550"
	7977-16	+.050" Long Ford 1972-78 429-460	.080"	5/16"	8.600"
	7992-16	-.100" Short Ford 1972-78 429-460	.080"	3/8"	8.450"
	7934-16	Standard Length Ford 1972-78 429-460	.080"	3/8"	8.550"
	7951-16	Standard Length Ford 1969-71 429-460	.080"	3/8"	8.680"
	7968-16	+.100" Long Ford 1969-71 429-460	.080"	3/8"	8.780"

A. 5/16" Non-oiling cup and 3/8" non-oiling formed tips
B. 3/8" Non-oiling cup and 3/8" non-oiling formed tips

Hi-Tech™ 5/16" Pushrods - Listed By Length

Part #	Length
7751-16	6.200"
7917-16	6.250"
7752-16	6.300"
7753-16	6.350"
7754-16	6.400"
7766-16	6.450"
7767-16	6.500"
7768-16	6.550"
7769-16	6.600"
7770-16	6.650"
7771-16	6.700"
7772-16	6.750"
7929-16	6.800"
7930-16	6.850"
7933-16	6.900"
7935-16	6.950"
7936-16	7.000"
7937-16	7.050"
7938-16	7.100"
7939-16	7.150"
7940-16	7.200"
7944-16	7.250"
7949-16	7.300"
7794-16	7.325"
7950-16	7.350"
7795-16	7.375"
7955-16	7.400"

Part #	Length
7796-16	7.425"
7956-16	7.450"
7797-16	7.475"
7957-16	7.500"
7958-16	7.550"
7959-16	7.600"
7960-16	7.650"
7963-16	7.700"
7970-16	7.750"
7972-16	7.800"
7974-16	7.850"
7993-16	7.900"
7994-16	7.950"
7995-16	8.000"
7746-16	8.025"
7996-16	8.050"
7747-16	8.075"
7997-16	8.100"
7748-16	8.125"
7965-16	8.150"
7749-16	8.175"
7966-16	8.200"
7750-16	8.225"
7967-16	8.250"
7773-16	8.275"
7971-16	8.300"
7774-16	8.325"

Part #	Length
7973-16	8.350"
7730-16	8.375"
7945-16	8.400"
7731-16	8.425"
7975-16	8.450"
7976-16	8.500"
7948-16	8.550"
7977-16	8.600"
7775-16	8.650"
7776-16	8.700"
7778-16	8.750"
7779-16	8.800"
7780-16	8.850"
7781-16	8.900"
7782-16	8.950"
7783-16	9.000"
7784-16	9.050"
7785-16	9.100"
7786-16	9.150"
7787-16	9.200"
7788-16	9.250"
7789-16	9.300"
7790-16	9.350"
7791-16	9.400"
7792-16	9.450"
7793-16	9.500"

Note: For single piece use -1 suffix



COMP Cams® pushrods are identifiable by the part number and length laser-etched on the pushrod itself. Insist on the best and accept no imitations.

All parts on this page are 50-state legal.

Hi-Tech™ 3/8" Pushrods - Listed By Length

Part #	Length
8900-16	7.500"
8901-16	7.550"
8902-16	7.600"
8903-16	7.650"
8904-16	7.700"
8905-16	7.750"
7913-16	7.800"
7980-16	7.850"
7984-16	7.900"
7981-16	7.950"
7983-16	8.000"
7985-16	8.050"
7986-16	8.100"
7987-16	8.150"
7740-16	8.175"
7989-16	8.200"
7741-16	8.225"
7742-16	8.250"
7931-16	8.280"
7990-16	8.300"
8700-16	8.325"
7743-16	8.350"
7969-16	8.380"
7991-16	8.400"
7745-16	8.425"
7992-16	8.450"
7932-16	8.500"

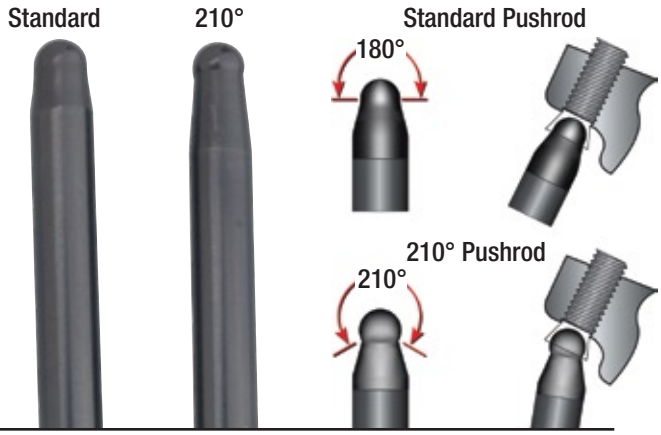
Part #	Length
7934-16	8.550"
7906-16	8.600"
7912-16	8.650"
7951-16	8.680"
7907-16	8.700"
7968-16	8.780"
7908-16	8.800"
7910-16	8.850"
7927-16	8.900"
7928-16	8.950"
7918-16	9.000"
7919-16	9.050"
7920-16	9.100"
7921-16	9.150"
7922-16	9.200"
7941-16	9.250"
7923-16	9.300"
7979-16	9.350"
7755-16	9.400"
7756-16	9.450"
7757-16	9.500"
7758-16	9.550"
7759-16	9.600"
7961-16	9.650"
7760-16	9.700"
7978-16	9.750"
8701-16	9.800"

Part #	Length
8702-16	9.850"
8703-16	9.900"
8704-16	9.950"
8705-16	10.000"
8706-16	10.050"
8707-16	10.100"
8708-16	10.150"
8709-16	10.200"
8710-16	10.250"
8711-16	10.300"
8712-16	10.350"
8713-16	10.400"
8714-16	10.450"
8715-16	10.500"
8716-16	10.550"
8717-16	10.600"
8718-16	10.650"
8719-16	10.700"
8733-16	10.750"
8734-16	10.800"
8735-16	10.850"
8738-16	10.900"
8739-16	10.950"
8742-16	11.000"
8743-16	11.050"
8744-16	11.100"

Note: For single piece use -1 suffix

Hi-Tech™ 210° Radius Pushrods

- Designed for high lift applications where pushrod and seat interference are problems at maximum lift
- Work well with rocker arms that feature cup type adjusters and applications requiring more load bearing surface from the pushrod
- Same features as other Hi-Tech™ Pushrods with addition of 210° radius rather than standard 180° radius
- Custom lengths available by special order



5/16" Diameter

Part #	Wall Thickness	Diameter	Length
7946-16	.080"	5/16"	7.900"
7729-16	.080"	5/16"	7.950"
7761-16	.080"	5/16"	8.000"
7947-16	.080"	5/16"	8.050"
7762-16	.080"	5/16"	8.100"
7763-16	.080"	5/16"	8.500"
7764-16	.080"	5/16"	8.550"
7765-16	.080"	5/16"	8.600"

3/8" Diameter

Part #	Wall Thickness	Diameter	Length
7732-16	.080"	3/8"	7.900"
7733-16	.080"	3/8"	7.950"
7734-16	.080"	3/8"	8.000"
7735-16	.080"	3/8"	8.050"
7736-16	.080"	3/8"	8.100"
7737-16	.080"	3/8"	8.500"
7738-16	.080"	3/8"	8.550"
7739-16	.080"	3/8"	8.600"

All parts on this page are 50-state legal.

Hi-Tech™ 3/8" One-Piece .065" Wall Pushrods

- Constructed from 4130 chromemoly heat-treated steel
- Finite Element Analysis designed for superior performance and endurance
- Use with engines employing mid-range spring pressures and high engine speeds
- Helps control valve motion and captures lost horsepower



Part #8760

Part #	Length
8760-16	8.150"
8761-16	8.200"
8750-16	8.250"
8751-16	8.300"
8752-16	8.350"
8753-16	8.400"
8762-16	8.450"
8763-16	8.500"
8764-16	8.550"
8765-16	8.600"
8754-16	8.650"
8755-16	8.700"
8756-16	8.750"
8757-16	8.800"
8758-16	8.850"
8759-16	8.900"
8766-16	8.950"
8767-16	9.000"
8768-16	9.050"
8769-16	9.100"
8776-16	9.150"
8777-16	9.200"
8778-16	9.250"

Hi-Tech™ 5/16" .105" Wall Pushrods

- 17% stiffer than standard .080" wall pushrods
- Same diameter oil holes as standard wall thickness pushrods to retain full oil flow
- Available in a variety of lengths between 6.250" and 8.200"



Part #8411

Part #	Length
8400-16	6.250"
8401-16	7.050"
8402-16	7.100"
8403-16	7.200"
8404-16	7.300"
8405-16	7.350"
8406-16	7.400"
8407-16	7.450"
8408-16	7.550"
8409-16	7.700"
8410-16	7.750"
8411-16	7.800"
8412-16	7.850"
8413-16	7.900"
8414-16	7.950"
8415-16	8.000"
8416-16	8.050"
8417-16	8.100"
8418-16	8.150"
8419-16	8.200"

Note: Designed for those applications where there is limited area for larger diameter pushrods

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Hi-Tech™ 3/8" .135" Wall Pushrods

- 37% stiffer than standard .080" wall pushrods
- Same diameter oil holes as standard wall thickness pushrods to retain full oil flow
- Available in a variety of lengths between 7.800" and 9.750"



Part #8475

Part #	Length
8460-16	7.800"
8476-16	7.850"
8473-16	7.900"
8474-16	7.950"
8475-16	8.000"
8477-16	8.050"
8478-16	8.100"
8461-16	8.280"
8462-16	8.380"
8463-16	8.500"
8464-16	8.550"
8465-16	8.600"
8466-16	8.680"
8467-16	8.700"
8468-16	8.780"
8469-16	9.250"
8470-16	9.350"
8471-16	9.650"
8472-16	9.750"
8496-16	(8) 8.280" & (8) 9.250"
8497-16	(8) 8.380" & (8) 9.350"
8498-16	(8) 8.680" & (8) 9.650"
8499-16	(8) 8.780" & (8) 9.750"

Note: Designed for those applications where there is limited area for larger diameter pushrods

Hi-Tech™ Oil Restricting 5/16" One-Piece .080" Wall Pushrods

COMP Cams® offers Hi-Tech™ Oil Restricting Pushrods for four different engine platforms. While the standard Hi-Tech™ Pushrods feature 0.100" oil holes, the oil restricting pushrod openings are half that size at 0.050". These pushrods are available for Ford 302cid Small Block engines, as well as Ford 351cid Windsor engines, the classic Small Block Chevy engines and GM Gen III engines. For each engine platform COMP Cams® offers five different pushrod lengths to meet any need. These pushrods maintain the consistent Hi-Tech™ Pushrod features, including one-piece 4130 chromemoly material with a wall thickness of .080" and 60 Rockwell hardness. To avoid confusion, each oil restricted pushrod is clearly labeled.



Part #8307

Make	Part #	Description	Wall Thickness	Diameter	Length
Small Block Chevrolet	8300-16	-.100" Short	.080"	5/16"	7.700"
	8301-16	Standard Length Small Block Chevrolet	.080"	5/16"	7.800"
	8302-16	+.100" Long	.080"	5/16"	7.900"
	8303-16	+.150" Long	.080"	5/16"	7.950"
	8304-16	+.200" Long	.080"	5/16"	8.000"
GM Gen III/LS1/LS2/LS6	8305-16	-.100" Short	.080"	5/16"	7.300"
	8306-16	-.050" Short	.080"	5/16"	7.350"
	8307-16	Standard Length Gen III/LS1/LS2/LS6	.080"	5/16"	7.400"
	8308-16	+.050" Long	.080"	5/16"	7.450"
	8309-16	+.100" Long	.080"	5/16"	7.500"
Small Block Ford 302	8310-16	-.100" Short	.080"	5/16"	6.750"
	8311-16	-.050" Short	.080"	5/16"	6.800"
	8312-16	Standard Length Small Block Ford 302	.080"	5/16"	6.850"
	8313-16	+.050" Long	.080"	5/16"	6.900"
	8314-16	+.100" Long	.080"	5/16"	6.950"
Small Block Ford 351 Windsor	8315-16	-.100" Short	.080"	5/16"	8.050"
	8316-16	-.050" Short	.080"	5/16"	8.100"
	8317-16	Standard Length Small Block Ford 351 Windsor	.080"	5/16"	8.150"
	8318-16	+.050" Long	.080"	5/16"	8.200"
	8319-16	+.100" Long	.080"	5/16"	8.250"

Dual Taper .125" Wall Pushrods

- Dual tapered 3/8" to 7/16" for strength and lightweight construction
- Constructed of special steel alloy and utilize a 210° tip for an increased load bearing surface
- Available from 8.000" to 10.000" in .025" increments

Part #	Length
8292-16[A]	7.800"
8293-16[A]	7.850"
8197-16	8.000"
8196-16	8.025"
8199-16	8.050"
8198-16	8.075"
8200-16	8.100"
8201-16	8.125"
8203-16	8.150"
8202-16	8.175"
8205-16	8.200"
8204-16	8.225"
8207-16	8.250"
8206-16	8.275"
8209-16	8.300"
8208-16	8.325"
8211-16	8.350"
8210-16	8.375"
8213-16	8.400"
8212-16	8.425"
8215-16	8.450"

Part #	Length
8214-16	8.475"
8217-16	8.500"
8216-16	8.525"
8219-16	8.550"
8218-16	8.575"
8221-16	8.600"
8220-16	8.625"
8223-16	8.650"
8222-16	8.675"
8225-16	8.700"
8224-16	8.725"
8227-16	8.750"
8226-16	8.775"
8229-16	8.800"
8228-16	8.825"
8231-16	8.850"
8230-16	8.875"
8233-16	8.900"
8232-16	8.925"
8235-16	8.950"
8234-16	8.975"

Part #	Length
8237-16	9.000"
8236-16	9.025"
8239-16	9.050"
8238-16	9.075"
8241-16	9.100"
8240-16	9.125"
8243-16	9.150"
8242-16	9.175"
8245-16	9.200"
8244-16	9.225"
8247-16	9.250"
8246-16	9.275"
8249-16	9.300"
8248-16	9.325"
8251-16	9.350"
8250-16	9.375"
8253-16	9.400"
8252-16	9.425"
8255-16	9.450"
8254-16	9.475"
8257-16	9.500"

Part #	Length
8256-16	9.525"
8258-16	9.550"
8259-16	9.575"
8260-16	9.600"
8261-16	9.625"
8262-16	9.650"
8263-16	9.675"
8264-16	9.700"
8265-16	9.725"
8266-16	9.750"
8267-16	9.775"
8268-16	9.800"
8269-16	9.825"
8285-16	9.850"
8286-16	9.875"
8287-16	9.900"
8288-16	9.925"
8289-16	9.950"
8290-16	9.975"
8291-16	10.000"

Note: For single piece use -1 suffix
A. .165" wall pushrods

Part #8209



Part #8506

Straight Tube 7/16" .125" Wall Pushrods

- Ultra-rigid large diameter design and high-strength material construction
- Avoid harmful valve train vibrations that occur when smaller diameter pushrods “snap back” into position

Part #	Length
8501-16	8.100"
8502-16	8.150"
8503-16	8.200"
8504-16	8.225"
8505-16	8.250"
7911-16	8.275"
8506-16	8.300"
8507-16	8.350"
8508-16	8.400"
8509-16	8.450"
8510-16	8.500"
8511-16	8.525"

Part #	Length
8512-16	8.550"
8513-16	8.575"
8514-16	8.600"
8515-16	8.625"
8516-16	8.650"
7943-16	8.675"
8517-16	8.700"
8518-16	8.750"
8519-16	8.800"
8520-16	8.850"
8521-16	8.900"
8522-16	8.950"

Part #	Length
8523-16	9.000"
8524-16	9.050"
8525-16	9.100"
8526-16	9.150"
8527-16	9.200"
8528-16	9.225"
7988-16	9.250"
8529-16	9.275"
8530-16	9.300"
8531-16	9.350"
8532-16	9.400"

Part #	Length
8533-16	9.450"
8534-16	9.500"
8535-16	9.550"
8536-16	9.600"
8537-16	9.625"
7953-16	9.650"
8538-16	9.675"
8539-16	9.700"
8540-16	9.750"
8541-16	9.800"
8542-16	9.850"

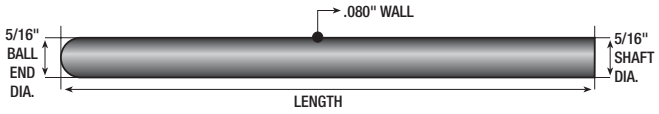
Note: For single piece use -1 suffix

Semi-Finished Pushrods

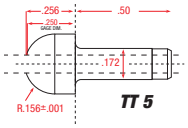
If you don't see the exact pushrods you need in our part number listings, check out these semi-finished pushrods for the correct length and end type you need.

You will order semi-finished pushrods in two separate pieces – 1) tubes and 2) ends.

1) Tubes



2) Ends



How to order semi-finished pushrods:

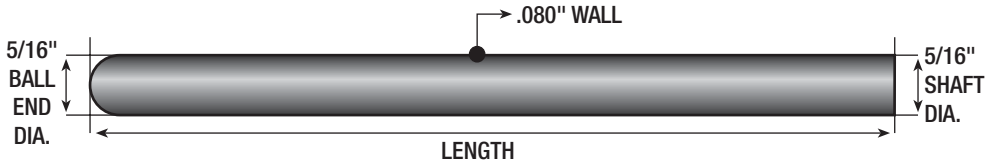
First, select the proper pushrod diameter.

Next, find appropriate part # for your correct tube length and add "-16" to end of part number. This will be a quantity of 16 pushrod tubes. Select appropriate end from diagrams shown for the particular pushrod tube you ordered and add "-16" to part number. This will be a quantity of 16 ends. With semi-finished pushrods, you will need the proper pushrod cutter to cut to length and ream the I.D. of tubing to allow for proper press fit of ends. This can be found on page 311 of this master catalog.

An example of how to order would be as follows: to order a 5/16" diameter pushrod that is 6.000" long with a 3/8" cup end, you would order the following part numbers: **K6805-16 (Pushrod Tubes)** **3C5P-16 (Pushrod Ends)** **KD516 (Cutter)**

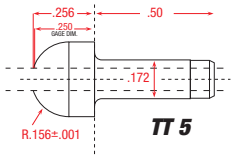
Multi-Piece 5/16" Pushrod Kits

Tube Type

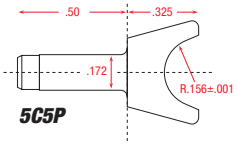


Tube Length	Diameter	Wall Type	Wall Thickness	Ball End Diameter	Part #
5.000" - 6.000"	5/16"	Hardened-Straight	.080"	5/16" Ball End	K6805
6.000" - 7.000"	5/16"	Hardened-Straight	.080"	5/16" Ball End	K7805
6.500" - 7.500"	5/16"	Hardened-Straight	.080"	5/16" Ball End	K75805
7.000" - 8.000"	5/16"	Hardened-Straight	.080"	5/16" Ball End	K8805
8.000" - 9.000"	5/16"	Hardened-Straight	.080"	5/16" Ball End	K9805
9.000" - 10.000"	5/16"	Hardened-Straight	.080"	5/16" Ball End	KK10805
10.000" - 11.000"	5/16"	Hardened-Straight	.080"	5/16" Ball End	KK11805

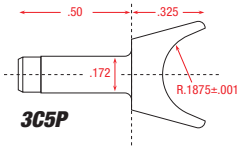
End Types



Part #	Description
TT5	5/16" Ball For 5/16" Shaft
TT5CL	5/16" Ball w/ 210° Radius for 5/16" Shaft



Part #	Description
5C5P	5/16" Cup For 5/16" Shaft

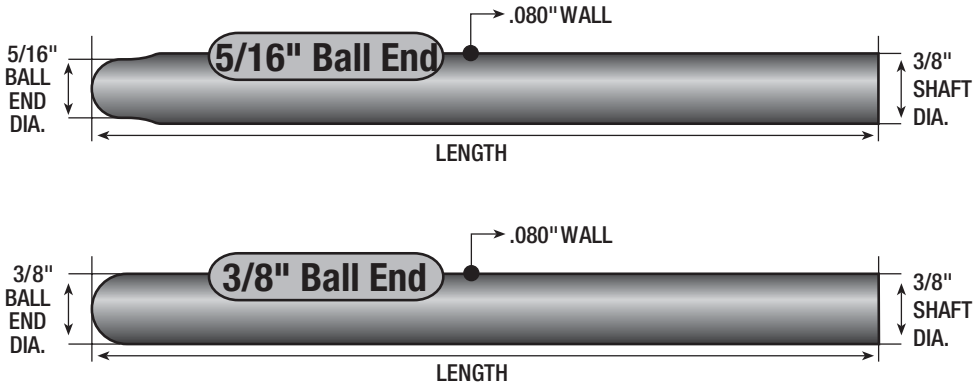


Part #	Description
3C5P	3/8" Cup For 5/16" Shaft

Note: All of the components on these pages are also available in 200 and 400 piece Engine Builder Kits.

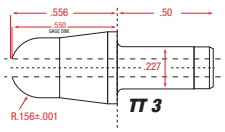
Multi-Piece 3/8" Pushrod Kits

Tube Types

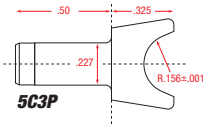


Tube Length	Diameter	Wall Type	Wall Thickness	Ball End Diameter	Part #
6.000" - 7.000"	3/8"	Hardened-Straight	.080"	5/16" Ball End	K7803
6.000" - 7.000"	3/8"	Hardened-Straight	.080"	3/8" Ball End	K78033
7.000" - 8.000"	3/8"	Hardened-Straight	.080"	5/16" Ball End	K8803
7.000" - 8.000"	3/8"	Hardened-Straight	.080"	3/8" Ball End	K88033
8.000" - 9.000"	3/8"	Hardened-Straight	.080"	5/16" Ball End	K9803
8.000" - 9.000"	3/8"	Hardened-Straight	.080"	3/8" Ball End	K98033
8.750" - 9.750"	3/8"	Hardened-Straight	.080"	5/16" Ball End	K975803
9.000" - 10.000"	3/8"	Hardened-Straight	.080"	5/16" Ball End	KK10803
9.000" - 10.000"	3/8"	Hardened-Straight	.080"	3/8" Ball End	KK108033
10.000" - 11.000"	3/8"	Hardened-Straight	.080"	5/16" Ball End	KK11803
10.000" - 11.000"	3/8"	Hardened-Straight	.080"	3/8" Ball End	KK118033
11.000" - 12.000"	3/8"	Hardened-Straight	.080"	5/16" Ball End	KK12803
11.000" - 12.000"	3/8"	Hardened-Straight	.080"	3/8" Ball End	KK128033

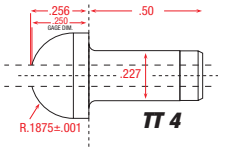
End Types



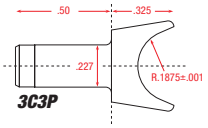
Part #	Description
TT3	5/16" Ball For 3/8" Shaft
TT3CL	5/16" Ball w/ 210° Radius for 3/8" Shaft



Part#	Description
5C3P	5/16" Cup For 3/8" Shaft



Part#	Description
TT4	3/8" Ball For 3/8" Shaft

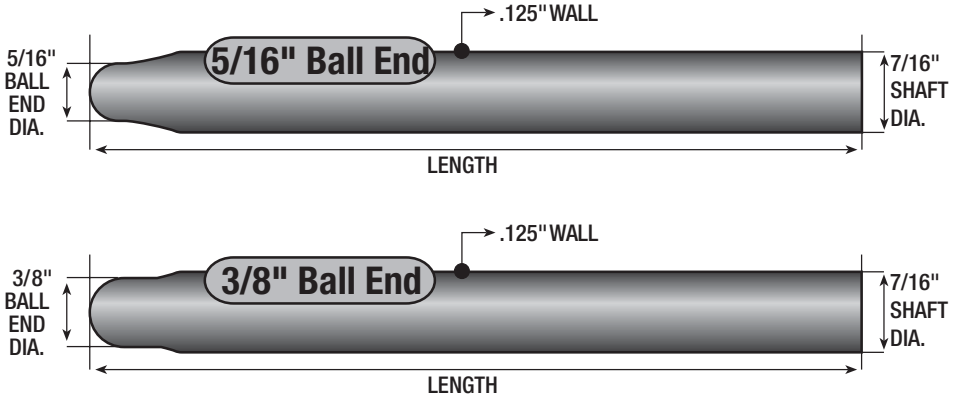


Part#	Description
3C3P	3/8" Cup For 3/8" Shaft



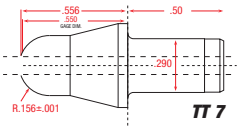
Multi-Piece 7/16" Pushrod Kits

Tube Types

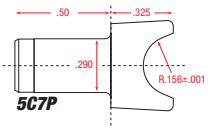


Tube Length	Diameter	Wall Type	Wall Thickness	Ball End Diameter	Part #
6.000" - 7.000"	7/16"	Hardened-Straight	.125"	5/16" Ball End	K7127
6.000" - 7.000"	7/16"	Hardened-Straight	.125"	3/8" Ball End	K71273
7.000" - 8.000"	7/16"	Hardened-Straight	.125"	5/16" Ball End	K8127
7.000" - 8.000"	7/16"	Hardened-Straight	.125"	3/8" Ball End	K81273
8.000" - 9.000"	7/16"	Hardened-Straight	.125"	5/16" Ball End	K9127
8.000" - 9.000"	7/16"	Hardened-Straight	.125"	3/8" Ball End	K91273
9.000" - 10.000"	7/16"	Hardened-Straight	.125"	5/16" Ball End	KK10127
9.000" - 10.000"	7/16"	Hardened-Straight	.125"	3/8" Ball End	KK101273
10.000" - 11.000"	7/16"	Hardened-Straight	.125"	5/16" Ball End	KK11127
10.000" - 11.000"	7/16"	Hardened-Straight	.125"	3/8" Ball End	KK111273
11.000" - 12.000"	7/16"	Hardened-Straight	.125"	5/16" Ball End	KK12127
11.000" - 12.000"	7/16"	Hardened-Straight	.125"	3/8" Ball End	KK121273
12.000" - 13.000"	7/16"	Hardened-Straight	.125"	5/16" Ball End	KK13127
12.000" - 13.000"	7/16"	Hardened-Straight	.125"	3/8" Ball End	KK131273
13.000" - 14.000"	7/16"	Hardened-Straight	.125"	5/16" Ball End	KK14127
13.000" - 14.000"	7/16"	Hardened-Straight	.125"	3/8" Ball End	KK141273

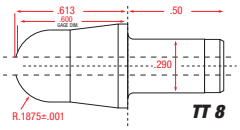
End Types



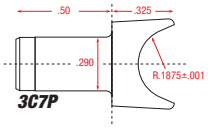
Part#	Description
TT7	5/16" Ball For 7/16" Shaft
TT7CL	5/16" Ball w/ 210° Radius for 7/16" Shaft



Part#	Description
5C7P	5/16" Cup For 7/16" Shaft



Part#	Description
TT8	3/8" Ball For 7/16" Shaft

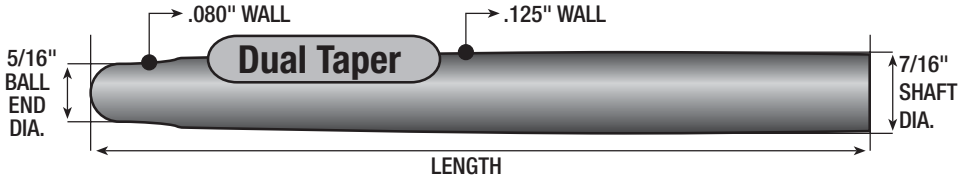


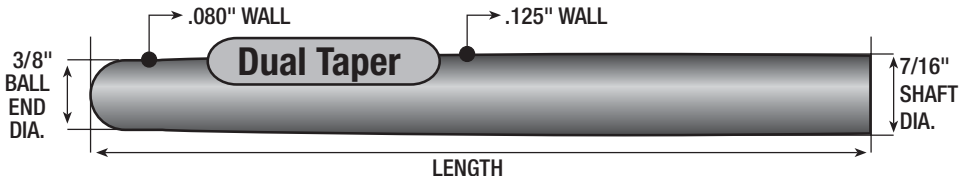
Part#	Description
3C7P	3/8" Cup For 7/16" Shaft



Multi-Piece 7/16" Dual Taper Pushrod Kits

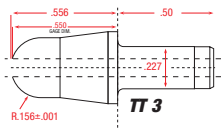
Tube Types



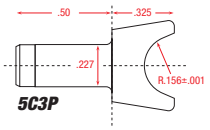


Tube Length	Diameter	Wall Type	Wall Thickness	Ball End Diameter	Part #
6.000" - 7.000"	7/16"	Hardened-Double Taper	.125"	5/16" Ball End	K7127T
6.000" - 7.000"	7/16"	Hardened-Double Taper	.125"	3/8" Ball End	K71273T
7.000" - 8.000"	7/16"	Hardened-Double Taper	.125"	5/16" Ball End	K8127T
7.000" - 8.000"	7/16"	Hardened-Double Taper	.125"	3/8" Ball End	K81273T
8.000" - 9.000"	7/16"	Hardened-Double Taper	.125"	5/16" Ball End	K9127T
8.000" - 9.000"	7/16"	Hardened-Double Taper	.125"	3/8" Ball End	K91273T
9.000" - 10.000"	7/16"	Hardened-Double Taper	.125"	5/16" Ball End	KK10127T
9.000" - 10.000"	7/16"	Hardened-Double Taper	.125"	3/8" Ball End	KK101273T
10.000" - 11.000"	7/16"	Hardened-Double Taper	.125"	5/16" Ball End	KK11127T
10.000" - 11.000"	7/16"	Hardened-Double Taper	.125"	3/8" Ball End	KK111273T
11.000" - 12.000"	7/16"	Hardened-Double Taper	.125"	5/16" Ball End	KK12127T
11.000" - 12.000"	7/16"	Hardened-Double Taper	.125"	3/8" Ball End	KK121273T
12.000" - 13.000"	7/16"	Hardened-Double Taper	.125"	5/16" Ball End	KK13127T
12.000" - 13.000"	7/16"	Hardened-Double Taper	.125"	3/8" Ball End	KK131273T
13.000" - 14.000"	7/16"	Hardened-Double Taper	.125"	5/16" Ball End	KK14127T
13.000" - 14.000"	7/16"	Hardened-Double Taper	.125"	3/8" Ball End	KK141273T

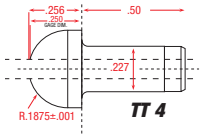
End Types



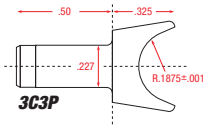
Part#	Description
TT3*	5/16" Ball For 3/8" Shaft
TT3CL*	5/16" Ball w/ 210° Radius for 3/8" Shaft



Part#	Description
5C3P*	5/16" Cup For 3/8" Shaft



Part#	Description
TT4*	3/8" Ball For 3/8" Shaft



Part#	Description
3C3P*	3/8" Cup For 3/8" Shaft

* Must use KD716T for all 7/16" Dual Taper Pushrod ends.



Pushrod Cutting Bits

These cutters are made specifically to cut pushrods and will cut up to 200 pieces. When the cut is finished, it leaves a .002" to .003" press fit between the pushrod and tip. Cutters may be ordered as needed.

Part #	Description	Pilot	Bore
KD516	5/16" Pushrod Cutter	.157"	.169"
KD38	3/8" Pushrod Cutter	.213"	.222"
KD716	7/16" Pushrod Cutter	.184"	.284"
KD716T	7/16" Tapered Pushrod Cutter	.184"	.222"



Part #KD38

Pushrod Assembly Tool

This simple tool makes assembling kits so easy that anyone can do it. After cutting your pushrod to the correct length, use this assembly tool to press the tip into place. This eliminates the risk of splitting or bending the pushrod. The tool comes with two ends for cup or ball tips.

Part #	Description
4913	Pushrod Assembly Tool



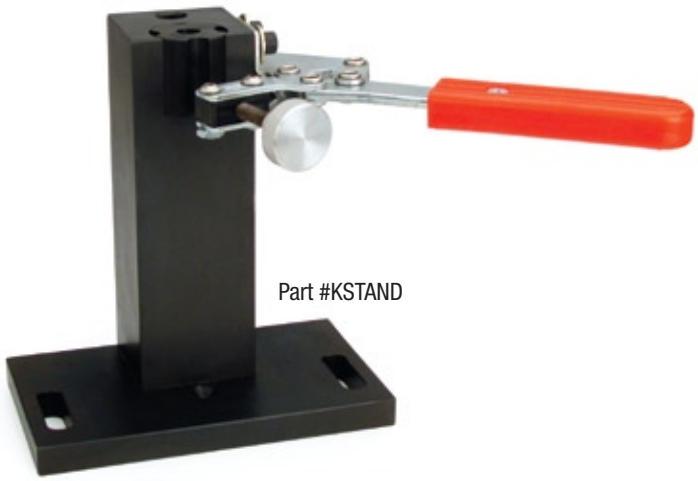
Part #4913

Pushrod Holder (Stabilizer)

This tool is used to safely hold the pushrod while cutting to the desired length. The holder may be placed in a drill press for more secure and accurate cuts and also stabilizes the pushrod to control flex while cutting. The holder has a revolver that will accept 5/16", 3/8" and 7/16" pushrods. It also has a threaded hole located on top of the tool that can be used as a stop for quick, same-length cuts.

Desired cutting speed is 200 to 300 rpm.

Part #	Description
KSTAND	Pushrod Holder (Stabilizer)



Part #KSTAND

TECH TIP

Remember to account for tip and cup length when choosing tube length.

Horspower

Progressive

Durable





ROCKER ARMS

Now COMP Cams® introduces the two newest collections of roller tip rocker arms: The Ultra-Gold™ Aluminum Rockers and the Ultra Pro Magnum™ Rockers.









The Importance Of The Rocker Arm

One of the most important components in your engine is the rocker arm; it is also one of the most vulnerable. As the turning point of the valve train, the rocker arm is basically a sophisticated lever that channels radial movement from the cam lobe into linear movement at the valve. This is a highly critical process. Due to stresses and vibrations, which are more prevalent during high speed operation, rocker arms undergo what is known as "deflection." Severe rocker arm deflection causes inefficient engine performance, and often results in metal fatigue leading to increased wear and friction in the valve train and eventually engine failure.

There are three basic ways to increase power through a rocker arm change.

1. Lift the valve more.

By increasing the rocker arm ratio, it's possible to increase valve lift without ever touching the camshaft. Valve lift can typically be increased as much as 10 percent by increasing rocker ratio.

2. Make the rocker arm stiffer.

To increase stiffness, look at three options: material, geometry and the rocker's holding fixture. The easiest way is to switch to chromemoly steel. Although heavier than some other materials, it can offer some design advantages and have much thinner sections than aluminum due to its superior strength density. Stiffness of the mounting is just as important as the stiffness of the rocker body. For the ultimate in high performance, shaft-mounted rockers may be the way to go.

3. Decrease the moment of inertia.

The moment of inertia is the rocker's resistance to rotation. The higher this measurement, the more valve spring pressure it takes to control the rocker arm instead of the valves – losing rpm and horsepower. The moment of inertia is lowered by lightening the rocker arm's weight, particularly at areas that are farther from the trunion. Two ways you can do this are by switching to a lighter weight material or by removing mass from the rocker body design.

Aluminum Rockers

Until recently, aluminum rocker arms have been considered a more affordable but less durable option to steel rockers. Because when directly compared to steel, aluminum requires more material to handle the stress of a given force. Since more material is required and there is a limited amount of space available in the trunion, the bearing and axle are typically smaller in an aluminum rocker arm. Previous designs weren't able to be used in extreme applications and featured decreased stiffness and increased deflection. But COMP Cams® has developed aluminum rockers that use precision-sorted needle bearing trunions to withstand both aggressive spring pressures (over 350 lbs) and valve lift. The newest COMP® aluminum rockers – the Ultra-Golds® – actually have the highest rocker-to-valve spring clearance of any aluminum rocker – up to 1.650" valve spring O.D. And while these newest aluminum rockers are lightweight, they are still incredibly strong and feature a lifetime warranty.

Steel Rockers

COMP Cams® steel rocker arms are all constructed from 8620 or 8650 chromemoly steel, which is a higher grade material that makes them extremely durable and tough. The material keeps them from flexing, and they have large trunions and more needle bearings, which allow the load to be more evenly spread and the rocker to last longer. Steel can thus be run in harsh environments without fatigue issues. Steel will actually only become weaker to a certain point and then stop and retain nearly half of its original strength throughout its life. And some COMP® steel rockers are even lighter than some aluminum because COMP® has reduced mass in low stress areas.

Stud vs. Shaft-Mounted Rocker Arms

Rocker design continues to evolve as more aggressive cam profiles and cylinder heads are developed. Stud-mounted rockers have evolved over the years. Starting as a simple ball-and-socket mounted stamped steel piece, the first modification was to change the mount to a roller bearing and a transverse mounting axle. Next, larger screw-in studs were added. Soon, geometric designs had to change and stiffer material needed to be used, giving way to the innovative arched web design as seen in today's Ultra Pro Magnum™ Rockers from COMP Cams®.

The next step in rocker arm technology is the shaft-mounted rocker. Rather than being mounted on a stud, a horizontal shaft works as the fulcrum. This significantly increases the mounting stiffness and valve train stability. However, shaft-mounted systems are designed for high-end performance applications and can make a big impact on your wallet (sometimes as much as $3000). A cost-effective alternative is to use a stud girdle to reduce deflection with stud-mounted rockers.



Magnum Roller Rocker Arms

COMP Cams® Magnum Roller Rockers are the ultimate street rocker because they were designed with the serious performance enthusiast in mind and will help your engine make more power and last longer.

- Ultimate street rocker designed for serious performance enthusiasts
- Constructed from 8620 chromemoly steel, a superior material that will not flex and assures maximum lift
- Roller tip reduces friction while stiff design and superior ratio accuracy yields more effective valve lift
- 15 to 30 horsepower increase over other rocker arms
- Use in any applications with less than 350 lbs. open spring pressure



Part #1412

* See page 323 for Rocker Arm Kits

Make	Part #	Description	Stud Dia.	Ratio
AMC	*1442-16[A]	V8 290-401	3/8"	1.6
Chevrolet	*1412-16	V8 265-400	3/8"	1.52
	*1412-12	V6 200-262	3/8"	1.52
	*1413-12	V6 60° 173	10mm	1.52
	*1414-12	V6 60° 173	10mm	1.6
	*1416-16[B]	V8 265-400	3/8"	1.6
	*1416-12	V6 200-262	3/8"	1.6
	*1411-16[C]	V8 396-454	7/16"	1.72
	1417-16[D]	V8 265-400	3/8"	1.52
	1418-16[D]	V8 265-400	3/8"	1.6
	1417-12[D]	V6 200-262	3/8"	1.52
	1418-12[D]	V6 200-262	3/8"	1.6
Ford	1411-16[A]	Boss 302, 351C-400M	7/16"	1.72
	1431-16[E]	V8 289-351W (Rail Type) 1968-89	3/8"	1.6
	1450-16[E]	V8 289-351W (Rail Type) 1968-89	3/8"	1.7
	1442-16[F]	V8 289-351W (Non Rail) 1961-67	3/8"	1.6
	1411-16[A]	V8 429-460	7/16"	1.72
Oldsmobile	1442-16[G]	V8 260-455	3/8"	1.6
Pontiac	1451-16[H]	V8 265-455	7/16"	1.52
	1452-16[H]	V8 265-455	7/16"	1.65

Note: Rockers available as singles, half sets and full sets

A. Must have screw-in studs and guide plates
B. May require machine work to the cylinder head
C. Use stud #4514-16 to replace late model pedestal
D. For use on 1987-later self aligning
E. For 1978-present with Part #4504-16 studs, not for use with guide plates
F. Also can be used on heads with guide plates
G. Other parts required, see page 323
H. Includes 7/16" balls, 3/8" and 7/16" nuts

TECH TIP

Never install new rockers dry. They must be lubricated during initial start-up with the proper lubricant to avoid permanent damage. A generous amount of COMP Cams® Valve Train Assembly Spray (Part #106) on each rocker arm, pivot ball, bushing pushrod tip and valve tip can prevent damage to new parts. The COMP Cams® special Valve Train Assembly Spray is the protection you need against premature wear.

*50-State legal for 1993 and older GM vehicles equipped with 200 c.i.d. (4.2L) to 454 c.i.d. (7.4L) gasoline engines. C.A.R.B. E.O. #D-279-4.

New Ultra Pro Magnum™ Roller Rocker Arms

The new Ultra Pro Magnum™ Roller Rocker Arms not only live up to the lofty standards of the original Pro Magnums™, but they also take stud mount rocker performance, stability and value to a whole new level. The modern arched, web-like design delivers increased strength and rigidity while still reducing the moment of inertia and optimizing the dynamic balance.

- Investment cast 8650 chromemoly body and arched, web-like design deliver increased strength and rigidity while reducing moment of inertia
- Unique black oxide exterior finish helps prevent corrosion, thus increasing durability
- Increased retainer and valve spring clearances allow use of large diameter springs, retainers and +.050" locks without clearance or fitment issues
- Feature oversized trunions, precision-sorted needle bearings and hardened roller tips





* See page 323 for Rocker Arm Kits

LIFETIME GUARANTEE

Ultra Pro Magnum™ Rocker Arms are so strong that we guarantee the rocker bodies against breakage for life.

Make	Part #	Description	Stud Dia.	Ratio
Chevrolet	1601-12	V6 200-262	3/8"	1.52
	1601-16	V8 265-400	3/8"	1.52
	1602-12	V6 200-262	3/8"	1.6
	1602-16	V8 265-400	3/8"	1.6
	1604-12	V6 200-262	7/16"	1.52
	1604-16	V8 265-400	7/16"	1.52
	1605-12	V6 200-262	7/16"	1.6
	1605-16	V8 265-400	7/16"	1.6
	1607-8	V8 265-400 Twisted Wedge Head, Intake Valve	3/8"	1.52
	1609-8	V8 265-400 Twisted Wedge Head, Intake Valve	3/8"	1.6
	1608-8	V8 265-400 Twisted Wedge Head, Intake Valve	7/16"	1.52
	1610-8	V8 265-400 Twisted Wedge Head, Intake Valve	7/16"	1.6
	1617-12	V6 1988 & Later w/ Self Aligning Rockers	3/8"	1.52
	1617-16	V8 1988 & Later w/ Self Aligning Rockers	3/8"	1.52
	1618-12	V6 1988 & Later w/ Self Aligning Rockers	3/8"	1.6
	1618-16	V8 1988 & Later w/ Self Aligning Rockers	3/8"	1.6
	1620-16	V8 396-454	7/16"	1.7
	1629-16	V8 348-409	3/8"	1.7
GM LS	1675-16	LS1/LS6	3/8"	1.8
	1676-16	LS3 (Factory Offset)	3/8"	1.8
Ford	1619-12	V6 3.8L	3/8"	1.7
	1630-16	V8 Boss 302, 351C, 429-460	7/16"	1.7
	1631-16	V8 289-302-351W	3/8"	1.6
	1632-16	V8 289-302-351W	7/16"	1.6
	1634-16	V8 Self Aligning Rockers	3/8"	1.6
Shaft Mount (also see p. 321)				
Chrysler	1622-16[A]	V8 273-360	Shaft	1.5
	1621-16[A]	V8 383-440	Shaft	1.5
Pro Magnum™				
GM LS	1375-16	LS1/LS2/LS6	3/8"	1.75

A. Requires ball/ball pushrod

*50-State legal for 1993 and older GM vehicles equipped with 200 c.i.d. (4.2L) to 454 c.i.d. (7.4L) gasoline engines. C.A.R.B. E.O. #D-279-4.

Hi-Tech™ Stainless Steel Roller Rocker Arms

Hi-Tech™ Stainless Steel Rockers are the toughest rockers in racing, and that's why they're the choice of professionals. They are engineered to minimize reciprocating weight – meaning more rpm and longer valve train life, as well as race-winning durability. Available in ratios to suit every camshaft profile, these rockers are an investment that pays big dividends in performance and dependability.

- Made from premium 15-5 PH stainless steel that is high in nickel and chromium and yields outstanding strength and fatigue resistance
- Rigidity tested at 52,000 lbs./in. and proven to resist power-robbing deflection in extreme applications
- Extra large trunions and more needle bearings to better distribute the load and reduce wear
- Fully rebuildable



LIFETIME GUARANTEE
Hi-Tech™ Stainless Steel Rocker Arms are so strong that we guarantee the rocker bodies against breakage for life.

Make	Part #	Description	Stud Dia.	Ratio
AMC	1132-16[A]	V8 290-401	7/16"	1.6
Chevrolet	*1101-12[A]	V6 200-262	3/8"	1.5
	*1101-16[B]	V8 265-400	3/8"	1.5
	*1102-12[A]	V6 200-262	3/8"	1.6
	*1102-16[B]	V8 265-400	3/8"	1.6
	1103-12[A]	V6 200-262	3/8"	1.65
	1103-16[B]	V8 265-400	3/8"	1.65
	*1104-12[A]	V6 200-262	7/16"	1.5
	*1104-16[A, B]	V8 265-400	7/16"	1.5
	*1105-12[A]	V6 200-262	7/16"	1.6
	*1105-16[A, B]	V8 265-400	7/16"	1.6
	1106-12[A]	V6 200-262	7/16"	1.65
	1106-16[A, B]	V8 265-400	7/16"	1.65
	*1107-12[A]	V6 200-262	3/8"	1.55
	*1107-16[A, B]	V8 265-400	3/8"	1.55
	*1108-12[A]	V6 200-262	7/16"	1.55
	*1108-16[A, B]	V8 265-400	7/16"	1.55
	1117-16[A, B]	V8 265-400	7/16"	1.7
	1118-16[A, B]	V8 265-400	7/16"	1.8
	*1120-16[A]	V8 396-454	7/16"	1.7
	*1123-16[A]	V8 396-454	7/16"	1.73
	1126-16[A]	V8 396-454	7/16"	1.6
	*1128-16[A]	V8 396-454	7/16"	1.8
Ford	1130-16[A]	V8 Boss 302, 351C, 429-460	7/16"	1.73
	1138-16[A]	V8 Boss 302, 351C, 429-460	7/16"	1.8
	1131-16	V8 289-302-351W	3/8"	1.6
	1132-16[A]	V8 289-302-351W	7/16"	1.6
	1133-16	V8 289-302-351W	3/8"	1.7
	1134-16[A]	V8 289-302-351W	7/16"	1.7

Note: Most popular part #'s available in -8 suffix; for single or spares, order -1 suffix
A. Must use screw-in studs and guide plates
B. Will not replace late model rail rocker

*50-State legal for 1993 and older GM vehicles equipped with 200 c.i.d. (4.2L) to 454 c.i.d. (7.4L) gasoline engines. C.A.R.B. E.O. #D-279-4.

High Energy™ Steel Rocker Arms

- Excellent replacement rocker arms for engine rebuilds with a stock or High Energy Camshaft™
- Help to eliminate noise and slop associated with worn or high mileage stock rocker arms
- Include adjusting nuts and pivot balls where required
- Feature a long slot for higher than stock lift camshafts
- Nitrided rocker arms designed for higher spring pressures and hardened pushrods (see below for information)
- Nitriding increases hardness, improving durability and longevity

Make	Part #	Description	Stud Dia.	Ratio
AMC	1210-16	1974-79	Pedestal	1.6
Chevrolet	1212-16[A]	V8 265-400, V6 200-262	3/8"	1.5
	1211-16[B]	396-454, 1965-87	7/16"	1.7
	1216-12[C]	6 Cyl. 173-207, 1980-95	3/8"	1.5
	1261-12	6 Cyl. 194-292, 1962-84	3/8"	1.75
Chrysler	1222-8	2.2, 1981-87	OHC	—
Ford	1232-16	351C-400M, 1970-87	Pedestal	1.73
	1266-12	6 Cyl. 240-300, 1967-78	3/8"	1.6
	1231-16[D]	V8 289-351W, 1968-77	3/8"	1.6
	1232-16	V8 429-460, 1968-86	Pedestal	1.73
	1235-16	351W	Pedestal	1.6
	1270-8	2300cc 4 Cyl.	OHC	—
Oldsmobile	1242-16	260-455, 1967-79	Pedestal	1.6
Pontiac	1251-16	V8 265-455, 1967-79	7/16"	1.5
Nitrided				
Chevrolet	1217-16	V8 265-400, V6 200-262	3/8"	1.5
	1218-16	V8 265-400, V6 200-262	3/8"	1.6
	1219-16	396-454, 1965-87	7/16"	1.7

A. Will not replace "late model" rail rocker
B. Will not replace "late model" pedestal rocker
C. Will work in some 4 cyl. applications also
D. Rail-type rocker arm



High Energy™ Die Cast Aluminum Roller Rocker Arms

The COMP Cams® High Energy™ Aluminum Roller Rocker Arms are yet another new set of rocker arms from the valve train leader designed for street and moderate race use. They feature a die-cast body created from aluminum with a needle bearing fulcrum and roller tip.

The die-cast, larger than stock body offers the strength properties and light weight of aluminum while the specially engineered fulcrum and roller tip decrease friction and lower oil temperatures, thus improving response and horsepower.

***Note: Die-formed aluminum body is larger than stock, and may require modifications to stock valve covers for clearance.**





- Affordable aluminum option rocker arms
- Strength properties of aluminum and light weight
- Needle bearing fulcrum and roller tip reduce friction and lower oil temps for improved response and hp

Make	Part #	Description	Stud Dia.	Ratio
Chevrolet	17001-16	V8 265-400	3/8"	1.5
	17002-16	V8 265-400	3/8"	1.6
	17004-16	V8 265-400	7/16"	1.5
	17005-16	V8 265-400	7/16"	1.6
	17021-16	V8 396-454	7/16"	1.7
Ford	17031-16	V8 289 302-351 W	3/8"	1.6
	17034-16	V8 Boss 302, 351C, 429-460	7/16"	1.73

Aluminum Roller Rocker Arms

- Constructed from an aluminum alloy with tensile strength of 80,000psi
- Needle bearing trunions allow spring pressures of 350 lbs. open pressure
- Good choice for any race application

Make	Part #	Description	Stud Dia.	Ratio
AMC	1044-16	V8 290-401	7/16"	1.6
Chevrolet	*1001-16[A]	V8 265-400,V6 200-262	3/8"	1.5
	*1002-16[A]	V8 265-400,V6 200-262	3/8"	1.6
	1003-16[A]	V8 265-400,V6 200-262	3/8"	1.65
	*1004-16[A, B]	V8 265-400,V6 200-262	7/16"	1.5
	*1005-16[A, B]	V8 265-400,V6 200-262	7/16"	1.6
	1006-16[A, B]	V8 265-400,V6 200-262	7/16"	1.65
	*1021-16[C]	V8 396-454	7/16"	1.7
	1033-12[B]	6 Cyl. 194-292	7/16"	1.75
Ford	1045-16[B]	V8 Cleveland-Boss 302, 429-460	7/16"	1.73
	1040-12[B]	6 Cyl. 240-300	7/16"	1.6
	1043-16	V8 289-302-351 W	3/8"	1.6
	1044-16[B]	V8 289-351 W	7/16"	1.6
	1048-16	V8 289-302-351 W	3/8"	1.7
	1049-16[B]	V8 289-302-351 W	7/16"	1.7
Oldsmobile	1044-16[B]	V8 350-455	7/16"	1.6
Pontiac	1060-16	V8 350-455	7/16"	1.5
	1061-16	V8 350-455	7/16"	1.65
Shaft Mount				
Chrysler	1074-16	V8 273-360	Shaft	1.5
	1074-KIT[D]	V8 273-360	Shaft	1.5
	1076-16	V8 273-360	Shaft	1.6
	1076-KIT[D]	V8 273-360	Shaft	1.6
	1071-16	V8 383-440	Shaft	1.5
	1071-KIT[D]	V8 383-440	Shaft	1.5
	1073-16	V8 383-440	Shaft	1.6
	1073-KIT[D]	V8 383-440	Shaft	1.6
	1078-2	V8 273-360 Hard Chrome Shaft		
	1084-2	V8 273-360 Hard Chrome Shaft, .100" Offset (For Spring Clearance)		
	1072-2	V8 383-440 Hard Chrome Shaft		
	1085-2	V8 383-440 Hard Chrome Shaft, .100" Offset (For Spring Clearance)		
	1082	Spacers for #1074 & #1076 Rockers .480" Wide		
	1083	Spacers for #1071 & #1073 Rockers .700" Wide		
Ford	1046-16	V8 390-428	Shaft	1.76
	1046-KIT[D]	V8 390-428	Shaft	1.76
	1047-2	V8 352-428 Hard Chrome Shaft		

A. For V6 order -12 suffix. Will not replace late model rail rocker.
B. Must use screw-in studs and guide plates
C. Requires stud #4514-16 to replace late model pedestal
D. Includes shafts, spacers and rockers assembled



Part #1044

Narrow Body Aluminum Roller Rocker Arms



Part #1018

Make	Part #	Description	Stud Dia.	Ratio
Chevrolet	1015-16[A, B]	V8 1988-Up 305-350ci w/ Center Bolt Valve Covers, Narrow Body Rocker Arm w/ Self Aligning Roller Tip	3/8"	1.5
	1015-12[B]	1987-Up 90° V6 4.3L w/ Center Bolt Valve Covers, Narrow Body Rocker Arm w/ Self Aligning Roller Tip	3/8"	1.5
	1016-16[A, B]	Same as #1015-16 but w/ 1.6 Ratio	3/8"	1.6
	1016-12[B]	Same as #1015-12 but w/ 1.6 Ratio	3/8"	1.6
	1017-16[A, C]	V8 1988-Up 305-350ci w/ Center Bolt Valve Covers, Narrow Body Rocker Arm, NOT Self Aligning	3/8"	1.5
	1017-12[C]	1987-Up 90° V6 4.3L w/ Center Bolt Valve Covers, Narrow Body Rocker Arm, NOT Self Aligning	3/8"	1.5
	1018-16[A, C]	Same as #1017-16 but w/ 1.6 Ratio	3/8"	1.6
	1018-12[C]	Same as #1017-12 but w/ 1.6 Ratio	3/8"	1.6

A. Not for use on Gen III engines
B. Do not use with guide plates
C. Must use guide plates and hardened pushrods

Aluminum Break-In Rocker Arms

- Aid the break-in procedure because of lower-than-stock ratio
- Eliminate the excess open spring pressure during break-in process

Make	Part #	Description	Stud Dia.	Ratio
Chevrolet	1012-16	V8 Small Block 265-400	7/16"	1.3
	1011-16	V8 Big Block 396-454	7/16"	1.5

*50-State legal for 1993 and older GM vehicles equipped with 200 c.i.d. (4.2L) to 454 c.i.d. (7.4L) gasoline engines. C.A.R.B. E.O. #D-279-4.

New Ultra-Gold™ Aluminum Roller Rocker Arms

With the recent technological developments in the design and manufacture of aluminum rocker arms, it is now possible for COMP Cams® to offer a premium aluminum rocker alternative – the Ultra-Gold™ Aluminum Roller Rockers.

- CNC-machined, lightweight design removes weight and yields unrivaled quality and ratio accuracy
- Designed for high performance street and race engines
- Precision-sorted trunion bearings withstand aggressive valve spring pressure and valve lift
- Additional clearance up to 1.650" O.D. valve spring



Part #19002-16

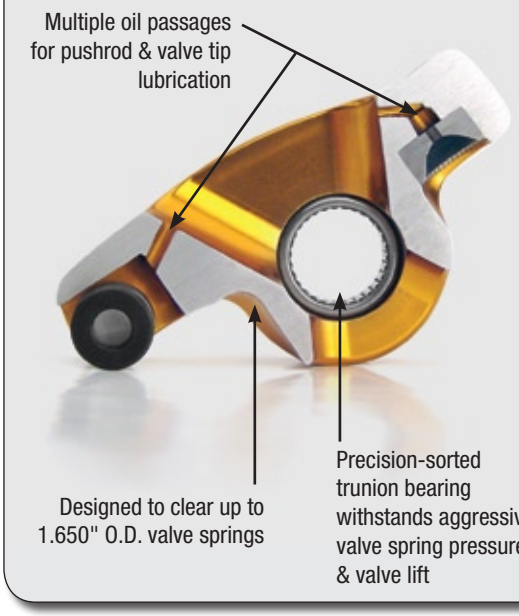
Make	Part #	Description	Stud Dia.	Ratio
Chevrolet	19001-16[A]	V8 265-400	3/8"	1.5
	19001-12[A]	V6 200-262	3/8"	1.5
	19002-16[A]	V8 265-400	3/8"	1.6
	19002-12[A]	V6 200-262	3/8"	1.6
	19003-16[A]	V8 265-400	3/8"	1.65
	19003-12[A]	V6 200-262	3/8"	1.65
	19004-16[A]	V8 265-400	7/16"	1.5
	19004-12[A]	V6 200-262	7/16"	1.5
	19005-16[A]	V8 265-400	7/16"	1.6
	19005-12[A]	V6 200-262	7/16"	1.6
	19006-16[A]	V8 265-400	7/16"	1.65
	19006-12[A]	V6 200-262	7/16"	1.65
	19021-16[B]	V8 396-454	7/16"	1.7
GM LS	19024-16[C]	GM LS Series	8mm	1.72
	19025-16[C]	GM LS Series	8mm	1.82
Ford	19043-16[D]	V8 289-302-351W	3/8"	1.6
	19045-16	V8 351C	7/16"	1.73
	19048-16[D]	V8 289-302-351W	3/8"	1.72
	19044-16[D]	V8 289-302-351W	7/16"	1.6
	19049-16[D]	V8 289-302-351W	7/16"	1.72
Pontiac	19060-16	V8 265-455	7/16"	1.5
	19061-16	V8 265-455	7/16"	1.65

Replacement Parts

GM LS	4656-1	Single Replacement Pedestal for #19024 & #19025 Rockers
	4656-8	Set of Replacement Pedestals for #19024 & #19025 Rockers
	4655-2	Pair of Replacement Pedestal Bolts for #19024 & #19025 Rockers
	4655-16	Set of Replacement Pedestal Bolts for #19024 & #19025 Rockers

A. For V6 use -12 suffix. Will not replace late model rocker.
B. Requires stud #4514-16 to replace late model pedestal
C. Includes pedestals and bolts
D. Must use screw-in studs and guide plates

ULTRA-GOLD™ FEATURES



LIFETIME GUARANTEE
Buy them once – use them for a lifetime!



Part #19011

New Ultra-Gold™ Aluminum Break-In Rockers

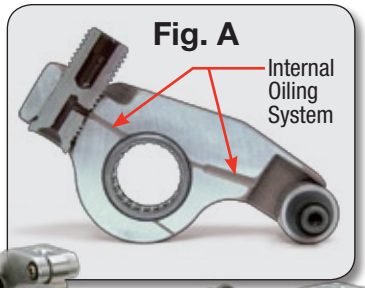
Make	Part #	Description	Stud Dia.	Ratio
Chevrolet	19012-16[A]	Small Block V8 265-400, V6 200-262	7/16"	1.3
	19011-16[B]	Big Block V8 396-454	7/16"	1.5

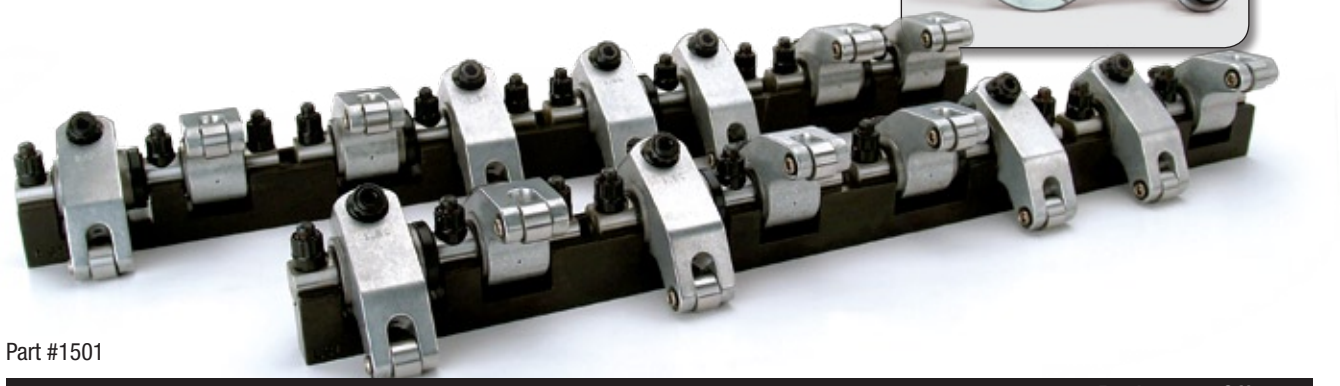
A. For V6 use -12 suffix. Will not replace late model rocker.
B. Requires stud #4514-16 to replace late model pedestal

Shaft Mount Aluminum Rocker Arms

Using COMP® Shaft Mount Rocker Systems is one of the most effective ways to increase horsepower. It transfers the power of the camshaft to the valve by properly positioning the rocker over the valve. Constructed from 2024 aluminum and using an 8620 hardened steel shaft, COMP® shaft rockers are designed using the latest in computer technology and are field tested by experts in every type of racing.

- Made from 2024 aluminum and use 8620 hardened steel shaft
- Most efficient way to transfer the power of the cam to the valve
- Rigidity of the shaft system adds stability to both the cylinder head and the valve train
- Use an oiling system that ensures consistent oil flow from the pushrod cup to the shaft bearings and then on to the roller tip (see Fig. A)





Part #1501

Make	Part #	Description	Rocker In.	Rocker Ex.	Offset In.	Offset Ex.
Chevrolet	1502	Small Block AFR#190-195-210	1.6	1.5	.250	.080
	1503[A]	Small Block Dart Iron Eagle	1.6	1.5	.170	.170
	1506	Small Block Brodix Track 1	1.6	1.5	.170	.080
	1508	Small Block GM Bowtie 18º	1.6	1.5	.550	.000
	1510	Small Block PTL/RHS® Pro Action™ Iron	1.5	1.5	.170	.080
	1511	Small Block PTL/RHS® Pro Action™ Aluminum	1.5	1.5	.250	.080
	1524[B]	Small Block RHS® 23° Pro Elite™ CNC-Ported Iron 240 Runner	1.6	1.5	.375	.170
	1519	Small Block Brodix 8X, 10X, 11X	1.6	1.5	.450	.080
	5712160	SBC Brodix/Pont -12	1.6	1.5	.450	.000
	1504	Big Block Standard/Dart Iron Eagle	1.7	1.7	.000	.000
	1520	Big Block RHS™ Pro Action™ Aluminum & Iron 320/360 Runner	1.7	1.7	.000	.000
	1505	Big Block Brodix 2+, Dart 320/360	1.7	1.7	.000	.000
	1507	Big Block Brodix 2 Xtra	1.7	1.7	.000	.000
	1512	Big Block Brodix Big Duke/Dart Iron Eagle, World Products Grumpy	1.7	1.7	.000	.000
	1513	Big Block 18 Degree Brodix Big Duke/Dart Big Chief	1.7	1.7	.750	.400
	5011170	BBC Dart Iron Eagle	1.7	1.7	.000	.000
GM LS	1500	LS1/LS2/LS6 Cathedral Port Heads	1.7	1.7	.000	.000
	1501	LS1/LS2/LS6 Cathedral Port Heads	1.8	1.8	.000	.000
	1509	Gen III/LS1 RHS® or ET Performance Heads	1.7	1.7	.050	.050
	1521	LS3/L92 Rectangle Port Heads	1.7	1.7	.215	.000
	1523	LS7	1.8	1.8	.000	.000
Chrysler	1515	Small Block (273-360) OEM Iron Head Single (OE Through Shaft Oiling)	1.5	1.5	.000	.000
	1516	Big Block (383-440) OEM Iron Head Single (OE Through Shaft Oiling)	1.5	1.5	.250	.080
	1517	Big Block (383-440) Indy Head 440-1 & 440-C Single (OE Through Shaft Oiling)	1.5	1.5	.800	.000
	1522[C]	426 Hemi OEM Iron Head	1.6	1.5	1.900	.000
Ford	1514	289-351W Production Head	1.6	1.6	.000	.000
Pontiac	1518	Edelbrock P8	1.5	1.5	.080	.080
	1519	867 with 40/60 Spacing	1.6	1.5	.450	.080
	5712160	SBC Brodix/Pont -12	1.6	1.5	.450	.000

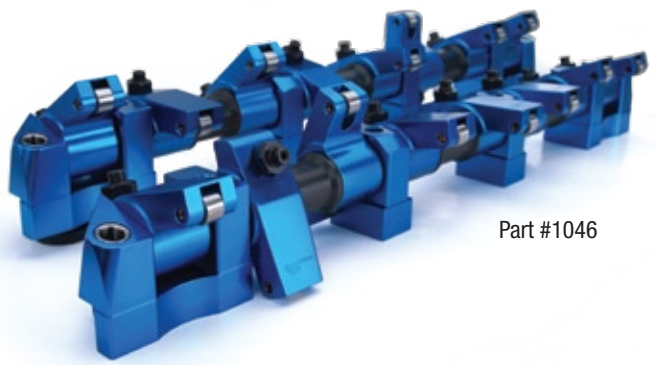
Note: Custom applications available, call CAM HELP® 1.800.999.0853
A. This system will not work on the 49cc Dart Iron Eagle Cylinder Heads
B. Designed for RHS® Part #s 12328 and 12329 only
C. Requires spray bar oiling or oiling valve cover

Ford FE Shaft Rocker Arms

- Made from 7000 series aluminum
- 1.200" wide rocker bodies
- Equipped with special end stands for valve train stability at high rpm
- Feature top and bottom oil holes for added rocker lubrication
- Recommended for use with roller cams

Part #	Description	Ratio
1046HD-KIT	Ford Shaft Mounted Rockers For Ford 352, 360, 390,428 & 428 Cobra Jet Low Riser Cylinder Head	1.76
1046HDR-1	Right Hand Replacement Rocker for #1046HD-KIT	1.76
1046HDL-1	Left Hand Replacement Rocker for #1046HD-KIT	1.76
1046-SPK	Spacer Kit for #1046HD-KIT	—
1046-ESK	End Stand Kit for #1046HD-KIT	—
1046-CS	Center Stand Kit for #1046HD-KIT	—
1046-STK	Stud Kit for #1046HD-KIT	—
1408-4	End Support Head Bolts for Use When Head Studs Are Not Used	—

Note: Needs Part #1408-4 end support head bolts for use when head studs are not used



Part #1046

Ford Pedestal Mount Rocker Arms

- Made from high-quality extruded aluminum
- Adjustable pushrod seats for perfect rocker arm geometry
- Fully rollerized at the roller tip and trunion
- Clearance must be checked when using stock valve covers
- Available in 1.6 and 1.7 ratios

Part #	Description	Stud Dia.	Ratio
1052-16	Ford 302-351W 1977-92	5/16"	1.6
1054-16	Ford 302-351W 1977-92	5/16"	1.7
1053SN-1	Replacement Adjusting Screw & Nut	—	—
1053P-1	Replacement Pedestal	—	—
1053B-1	Replacement Hold Down Bolt	—	—

Note: Clearance must be checked when using stock valve covers



Part #1052

New Ultra Pro Magnum™ Chrysler Shaft Rocker Arms

- Made from SAE 8620 chromemoly steel and heat treated for maximum strength and stiffness
- Contain proprietary bushing inserts
- Unique oil system lubricates all critical parts for long lasting service
- Designed to handle roller lobes and higher spring rates
- Big Block Chrysler system (Part #1621-16) includes a special adjuster which allows the use of conventional ball end pushrods

Part #	Description	Ratio
1622-16	Chrysler V8 273-360, (Spacers & Shafts Included)	1.5
1079-2	Replacement Shafts for #1622 (Pair)	—
1622-1	Replacement Rocker Arm	1.5
CR40	Replacement Spacer (1 Each - Requires 8)	—
1621-16	Chrysler V8 B/RB 383-400 (Complete Kit), Bolts, Shafts & Spacers Included	1.5
1621L-1	Replacement Rocker Arm - Left	1.5
1621R-1	Replacement Rocker Arm - Right	1.5
1077-2	Replacement Shafts for #1621 (Pair)	—
1621H-1	Bolts and Dividers for #1621-16	—
1621N-1	Replacement Nut for #1621/#1622 Adjuster	—
1621S-1	Replacement Adjusting Screw for #1621 & #1622	—



Part #1622

LS Rocker Arm™ Upgrade Kits

COMP Cams® offers two GM Gen III LS1/LS2/LS6 Pro Magnum™ Rocker Arm Kits and two new GM Gen III LS1/LS6 and LS3 Ultra Pro Magnum™ Rocker Arm Kits, all of which include rocker arms, guide plates (5/16" or 3/8"), rocker studs, adjusting nuts and set screws. Designed to fit under the stock valve covers without machining, COMP® Rocker Arm Upgrade Kits are the simple solution upgrading the valve train components in your GM Gen III engine.

All components listed are available separately and in sets. COMP Cams® Rocker Upgrade Kits do NOT include pushrods, but they are available separately; see pushrod diameters in the application chart.



Part #13755-KIT

Part #	Components	Description	Ratio
New 16755-KIT for LS1/LS6 Includes:	1675-16	1.8:1 Ultra Pro Magnum Rocker Arm™ Set	1.8
	4854-8	5/16" Flat Guide Plates for 5/16" Pushrods	
	4554-16	3/8" Rocker Studs	
	4654-16	3/8" Adjusting Nut	
	4654SS-16	Set Screw for #4654	
New 16765-KIT for LS3 Includes:	1676-16	1.8:1 Ultra Pro Magnum Rocker Arm™ Set	1.8
	4855-8	5/16" Flat Guide Plates for 5/16" Pushrods	
	4554-16	3/8" Rocker Studs	
	4654-16	3/8" Adjusting Nut	
	4654SS-16	Set Screw for #4654	
13755-KIT Includes:	1375-16	1.75:1 Pro Magnum Rocker Arm™ Set	1.75
	4854-8	5/16" Flat Guide Plates for 5/16" Pushrods	
	4554-16	3/8" Rocker Studs	
	4654-16	3/8" Adjusting Nut	
	4654SS-16	Set Screw for #4654	
13753-KIT Includes:	1375-16	1.75:1 Pro Magnum Rocker Arm™ Set	1.75
	4856-8	3/8" Flat Guide Plates for 3/8" Pushrods	
	4554-16	3/8" Rocker Studs	
	4654-16	3/8" Adjusting Nut	
	4654SS-16	Set Screw for #4654	

GM LS Series RPM Valve Train Upgrade Kits

COMP Cams® offers two types of kits to replace stock valve train components for more usable horsepower and a higher rpm operating range. The first is our RPM Kit, which includes pushrods, valve springs and retainers. The second, RPM Plus Kit, has the same components but also includes lifters, allowing for a complete valve train buildup for a new cam.



Part #54100

Part #	Components	Description
54050	7638-16	5/16" 7.400" Magnum Pushrod
	26915-16	Performance Gen III/LS1/LS2/LS6 Valve Spring
	774-16	Steel Valve Spring Retainer for Use w/ Std Locks
	Note: Recommended for use with a stock GM Cam	
54100	7955-16	5/16" 7.400" Hi-Tech™ Pushrod
	26918-16	High Performance Gen III/LS1/LS2/LS6 Valve Spring
	772-16	Ti. Valve Spring Retainer for Use w/ Std Locks
	Note: Recommended for use with a moderate High Performance Cam	
54200	7955-16	5/16" 7.400" Hi-Tech™ Pushrod
	26918-16	High Performance Gen III/LS1/LS2/LS6 Valve Spring
	772-16	Ti. Valve Spring Retainer for Use w/ Std Locks
	875-16	High Performance GM Hyd. Roller Tappet
	Note: Recommended for use with High Performance Cam	

GM LS Series Retro-Fit Trunion Kit

- Converts a stock LS series rocker arm into a captured roller trunion for race applications
- Increases stability and stiffness

Part #	Components	Description
New 13702-KIT	500675802	Rocker Arm Trunion
	500060801	Rocker Arm Bearing
	500663803	Rocker Arm Retaining Ring



Part #13702-KIT

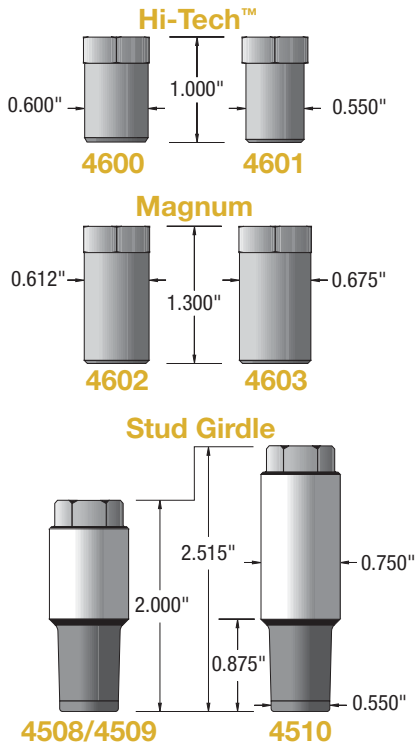
Rocker Arm Kits

Part #	Application	Description
AMC		
RPM1410-16	290-401 V8	1.6 Magnum Rockers & Magnum Pushrods
Chrysler		
1425-KIT	Dodge Magnum V8 1992-02	1.6 Magnum Rockers, Magnum Pushrods, Guide Plates & Rocker Studs
RP1622-16	273-360 V8 w/ Hydraulic Lifters	1.5 Ultra Pro Magnum™ Rockers, Shafts, Spacers & Hi-Tech™ Pushrods
RP1623-16	273-360 V8 w/ Solid Lifters	1.5 Ultra Pro Magnum™ Rockers, Shafts, Spacers & Hi-Tech™ Pushrods
Ford		
RP1431-16	1968-89 289-302 Rail Type (All Except Hyd. Roller Engine)	1.6 Magnum Rockers & High Energy Pushrods™
RPM1431-16	1968-89 289-302 Rail Type (All Except Hyd. Roller Engine)	1.6 Magnum Rockers & Magnum Pushrods
RP1453-16	1968-89 289-302 Rail Type (All Except Hyd. Roller Engine)	1.7 Magnum Rockers & High Energy Pushrods™
RPM1453-16	1968-89 289-302 Rail Type (All Except Hyd. Roller Engine)	1.7 Magnum Rockers & Magnum Pushrods
RPR1428-16	1968-89 289-302 Rail Type Retro-Fit Hydraulic Roller	1.6 Magnum Rockers & High Energy Pushrods™
RP1427-16	1985-Present 302 HO w/ OE Hydraulic Roller Cam	1.6 Magnum Rockers & High Energy Pushrods™
RP1450-16	1985-Present 302 HO w/ OE Hydraulic Roller Cam	1.7 Magnum Rockers & High Energy Pushrods™
RP1436-16	1969-95 351W (All Except Hydraulic Roller Engine)	1.6 Magnum Rockers & High Energy Pushrods™
RPM1436-16	1969-95 351W (All Except Hydraulic Roller Engine)	1.6 Magnum Rockers & Magnum Pushrods
Chevrolet/GM		
RP1413-12	173 V6 60°	1.52 Magnum Rockers & High Energy Pushrods™
RP1414-12	173 V6 60°	1.6 Magnum Rockers & High Energy Pushrods™
RP1412-16[A]	262-400 V8	1.52 Magnum Rockers & High Energy Pushrods™
RPM1412-16	262-400 V8	1.52 Magnum Rockers & Magnum Pushrods
RPM1601-16	262-400 V8	1.52 Ultra Pro Magnum™ Rockers & Magnum Pushrods
RPM1101-16	262-400 V8	1.5 Hi-Tech™ Stainless Rockers & Magnum Pushrods
RPR200[A]	262-400 V8 Retro-Fit Hydraulic Roller	1.52 Magnum Rockers & High Energy Pushrods™
RPG100	262-400 V8	1.52 Magnum Rockers, High Energy Pushrods™ & Guide Plates
RP1416-16[A]	262-400 V8	1.6 Magnum Rockers & High Energy Pushrods™
RPM1416-16	262-400 V8	1.6 Magnum Rockers & Magnum Pushrods
RPM1102-16	262-400 V8	1.6 Hi-Tech™ Stainless Rockers & Magnum Pushrods
RPR201[A]	262-400 V8 Retro-Fit Hydraulic Roller	1.6 Magnum Rockers & High Energy Pushrods™
RPG101	262-400 V8	1.6 Magnum Rockers, High Energy Pushrods™ & Guide Plates
RPG103	265-400 V8 for 1987 & Later w/ OE Hyd. Roller Cam & Non Self Aligning Rocker Arms	1.6 Magnum Rockers, High Energy Pushrods™ & Guide Plates
RP1417-16[A]	265-400 V8 for 1987 & Later w/ OE Hydraulic Roller Cam	1.52 Magnum Rockers & High Energy Pushrods™
RPM1417-16	265-400 V8 for 1987 & Later w/ OE Hydraulic Roller Cam	1.52 Magnum Rockers & Magnum Pushrods
RPM1617-16	265-400 V8 for 1987 & Later w/ OE Hydraulic Roller Cam	1.52 Ultra Pro Magnum™ Rockers & Magnum Pushrods
RPE1417-16[A]	265-400 V8 for 1987 & Later w/ Flat Tappet Cam	1.52 Magnum Rockers & High Energy Pushrods™
RPH300[A]	265-400 V8 for 1987 & Later w/ OE Hyd. Roller Cam & Non Self Aligning Rocker Arms	1.52 Magnum Rockers & High Energy Pushrods™
RPG102	265-400 V8 for 1987 & Later w/ OE Hyd. Roller Cam & Non Self Aligning Rocker Arms	1.52 Magnum Rockers, High Energy Pushrods™ & Guide Plates
RP1418-16[A]	265-400 V8 for 1987 & Later w/ OE Hydraulic Roller Cam	1.6 Magnum Rockers & High Energy Pushrods™
RPM1418-16	265-400 V8 for 1987 & Later w/ OE Hydraulic Roller Cam	1.6 Magnum Rockers & Magnum Pushrods
RPM1618-16	265-400 V8 for 1987 & Later w/ OE Hydraulic Roller Cam	1.6 Ultra Pro Magnum™ Rockers & Magnum Pushrods
RPE1418-16[A]	265-400 V8 for 1987 & Later w/ Flat Tappet Cam	1.6 Magnum Rockers & High Energy Pushrods™
RPH301[A]	265-400 V8 for 1987 & Later w/ OE Hyd. Roller Cam & Non Self Aligning Rocker Arms	1.6 Magnum Rockers & High Energy Pushrods™
RP1411-16	396-454 V8	1.72 Magnum Rockers & High Energy Pushrods™
RPM1411-16	396-454 V8	1.72 Magnum Rockers & Magnum Pushrods
RPM1620-16	396-454 V8	1.7 Ultra Pro Magnum™ Rockers & Magnum Pushrods
RPM1120-16	396-454 V8	1.7 Hi-Tech™ Stainless Rockers & Magnum Pushrods
RPR205	396-454 V8 Retro-Fit Hydraulic Roller	1.72 Magnum Rockers & High Energy Pushrods™
RPS300	Mark V V8	1.72 Magnum Rockers, High Energy Pushrods™ & Rocker Studs
RPS301	Mark V V8	1.72 Magnum Rockers, Magnum Pushrods & Rocker Studs
RPS302	Mark VI V8	1.72 Magnum Rockers, High Energy Pushrods™ & Rocker Studs
Oldsmobile		
1441-KIT	350 & 403 V8	1.6 Magnum Rockers, High Energy Pushrods™, Rocker Arm Studs & Guide Plates
1442-KIT	455 V8	1.6 Magnum Rockers, High Energy Pushrods™, Rocker Arm Studs & Guide Plates
Pontiac		
RP1451-16	1965-79 326-455 V8	1.52 Magnum Rockers & High Energy Pushrods™
RPM1451-16	1965-79 326-455 V8	1.52 Magnum Rockers & Magnum Pushrods
RP1452-16	1965-79 326-455 V8	1.65 Magnum Rockers & High Energy Pushrods™
RPM1452-16	1965-79 326-455 V8	1.65 Magnum Rockers & Magnum Pushrods

A. This kit is also available as a -12 for V6 engines; add -12 to the end of the existing part number

Rocker Arm Adjusting Nuts

- Stud girdle polylocks are precision ground for minimum runout
- Tapered for extra strength in locking area
- High Energy™ and Magnum Polylocks are best for moderate lift and spring pressure applications
- Hi-Tech™ Polylocks work well in all high end race applications



Part #	Description	Stud Dia.
Polylocks		
4600-16	Hi-Tech™ Polylock for Aluminum, Stainless and Ultra Pro Magnum™ Rockers	7/16"
4601-16	Hi-Tech™ Polylock for Aluminum, Stainless and Ultra Pro Magnum™ Rockers	3/8"
4602-16	Magnum Polylock	3/8"
4603-16	Magnum Polylock	7/16"
4604-16	High Energy™ Polylock	3/8"
4606-16	High Energy™ Polylock	7/16"
4508-1	Stud Girdle Adjusting Nut	7/16"
4508-16	Stud Girdle Adjusting Nut (12) #4508 & (4) #4508S	7/16"
4508S-1	Stud Girdle Adjusting Nut (w/ Snap Ring to Hold Girdle Bar)	7/16"
4509-1	Stud Girdle Adjusting Nut	3/8"
4509-16	Stud Girdle Adjusting Nut (12) #4509 & (4) #4509S	3/8"
4509S-1	Stud Girdle Adjusting Nut (w/ Snap Ring to Hold Girdle Bar)	3/8"
4510-8	Stud Girdle Adjusting Nut, Intake BB Chevrolet	7/16"
4511-16	Stud Girdle Adjusting Nut, BB Ford Threaded Through Full Length	7/16"
Replacement Parts		
4654-16[A]	GM LS Series Adjusting Nut	3/8"
1400N-16	Replacement Nut for Magnum Rockers	3/8"
1401N-16	Replacement Nut for Magnum Rockers	7/16"
1403N-16	Replacement Nut for Magnum Rockers	10mm
1400B-16	Replacement Pivot Ball for Magnum Rockers	3/8"
1401B-16	Replacement Pivot Ball for Magnum Rockers	7/16"
1403B-16	Replacement Pivot Ball for Magnum Rockers	10mm
1406-1	Replacement Nut & Screw for #1071, #1073, #1074, #1076 Rockers	—
1407-1	Replacement Nut & Screw for #1046 Rocker	—

Note: (-1) indicates one piece, (-8) indicates a set of eight, (-16) indicates a set of sixteen
A. Replacement components only, must be used with #16755-KIT and #16765-KIT

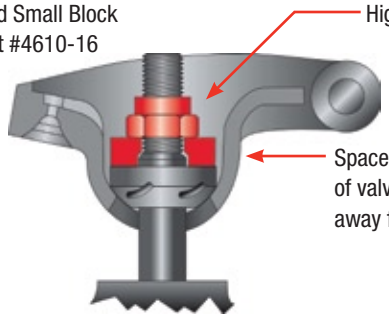
Adjusting Kits

Many of the popular engine families utilize a positive stop type of rocker arm attachment, which does not allow for any adjustment, and consequently, there is no consideration for different cam sizes or other modifications to the engine block and heads. For that reason, COMP® has designed a kit to convert this set-up to a fully adjustable valve train.

On the 302-351W Fords, simply remove the standard adjusting nut, slip the spacer over the stud, install the new nut and adjust the valves as necessary. On the Mark V and VI Big Block Chevrolet engines, replace the screw-in studs with those provided, slip the spacer insert through the rocker arm ball, and adjust with the new adjusting nut. These kits are a simple and inexpensive alternative to give the flexibility of an adjustable valve train.

Part #	Description	Stud Dia.
4610-16	SB Ford w/ Non-Adjusting Rockers, Includes: (16) #4610-W FS/FW Washer, #4610-N FS/FW 5/16" Adjusting Nut	5/16"
4514-KIT	Big Block Chevrolet Late Model Adjusting Rocker Kit, Includes: (16) #4514 Studs, #4514SP Spacer, #1401-N Rocker Nut	7/16"

Ford Small Block
Part #4610-16

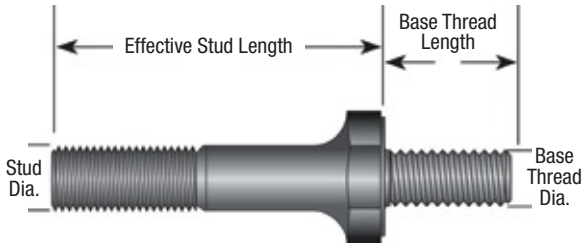


Big Block Chevrolet
Mark V and Mark VI
Part #4514-KIT



Rocker Arm Studs

COMP Cams® takes pride in having the finest rocker arm studs available on the market. The High Energy™ and Magnum series studs work well in applications with moderate lifts and spring pressures and are available in the popular 3/8" and 7/16" sizes. When ultimate strength is required, as with high rpm roller cam applications, the Hi-Tech™ Race Stud is the answer. This stud has a thin jam nut for rocker clearance, rolled threads for maximum contact and a ground-flat top so that accurate valve adjustment can be achieved and maintained. The diameter of the jam nut is larger in order to spread the load over a larger area. All COMP Cams® studs have generous radii and a black oxide finish.





Part #4500

Part #	Description	Base Thread Dia.	Base Thread Length	Stud Dia.	Effective Stud Length
4500-16	High Energy™ Rocker Stud	7/16"	.680"	3/8"	1.750"
4501-16	High Energy™ Rocker Stud	7/16"	.825"	7/16"	1.750"
4502-16	Magnum Rocker Stud	7/16"	.680"	3/8"	1.750"
4503-16	Magnum Rocker Stud	7/16"	.825"	7/16"	1.750"
4504-16	Magnum Rocker Stud for Ford	5/16"	.680"	3/8"	1.750"
4542-16[A]	Magnum Rocker Stud for Oldsmobile	5/16"	.580"	3/8"	1.520"
4542-16[A, B]	Magnum Rocker Stud for Dodge Magnum V6, V8, V10	5/16"	.580"	3/8"	1.520"
4505-16	Hi-Tech™ Race Rocker Stud	7/16"	.680"	3/8"	1.750"
4515-16	Hi-Tech™ Race Rocker Stud	7/16"	.710"	3/8"	1.895"
4506-16	Hi-Tech™ Race Rocker Stud	7/16"	.710"	7/16"	1.750"
4507-8	Hi-Tech™ Race Exhaust for 396-454 for Chevrolet w/ Aluminum Heads	7/16"	1.680"	7/16"	2.000"
4554-16[C]	Hi-Tech™ Race Rocker Stud for GM Gen III/LS1/LS2/LS6	8mm	.800"	3/8"	1.500"
4512-16	Hi-Tech™ Race Rocker Stud for Chevrolet Big Block	7/16"	.750"	7/16"	1.900"
4514-16	Hi-Tech™ Race Rocker Stud for Chevrolet Big Block Mark V & Mark VI	3/8"	.750"	7/16"	1.900"

A. Must be used with guide plates
B. For V6 use -12 suffix, for V10 use -20 suffix
C. Replacement components only, must be used with #16755-KIT & #16765-KIT, see page 322 for more information

Stud Boss Cutter

- When using screw-in studs on factory cylinder heads it is necessary to machine down the stud boss equal to the thickness of the new stud's jam nut plus the guide plate thickness
- Includes a universal arbor that also acts as a pilot/guide and fits into the original stud hole



Part #	Description
4729	Stud Boss Cutter

Stud Girdles

- Solid bar, one-piece design ties studs together and properly locates them
- Two-piece, spring loaded designs available for Small Block Chevy
- Constructed of 6061-T6 aluminum for light weight and anodized for durability
- Kits come complete with hex head adjusting nuts, interlocking set screws and all hardware

Make	Part #	Description	Stud Dia.
Chevrolet	4007	265-400 Solid Bar Design	3/8"
	4009	265-400 Solid Bar Design	7/16"
	4001	265-400 Spring Loaded Design	3/8"
	4004	265-400 Spring Loaded Design	7/16"
	4018	265-400 Brodix Pontiac Spring Loaded Design, 40/60 Stud Spacing	7/16"
	4019	265-400 Brodix Pontiac Spring Loaded Design, 40/60 Stud Spacing	3/8"
	4010[A]	265-400 Alum. Bowtie Cyl. Head Solid Bar Design	7/16"
	4011	265-400 Brownfield Cyl. Head Solid Bar Design	7/16"
	4012	265-400 Brodix Pontiac Solid Bar Design 40/60 Stud Spacing	7/16"
	4021	396-454 Solid Bar Design Standard Stud Spacing, Brodix-2	7/16"
Ford	4013	289-302, 351W Standard Head	3/8"
	4014	289-302, 351W Standard Head	7/16"
	4015	289-302, 351W RHS® Pro Action™ or Motorsport Aluminum Head	7/16"
	4016	351C Boss, Motorsport Aluminum Head	7/16"
	4017	429-460 TFS Motorsport Aluminum Head, Will Not Fit Stock OEM Head	7/16"
	4034	429-460 Production Heads, Including Cobra Jet & Super Cobra Jet Models	7/16"
Pontiac	4051	265-455 Solid Bar Design	7/16"

Note: All COMP Cams® Ford stud girdles shown above are solid bar design
A. Cast iron Bowtie heads & Dart Iron Eagle heads use standard Chevrolet girdles Part #4007, #4009, #4001 & #4004


Part #4004


Part #4021

Undrilled Girdle Bar

- Allows measuring and drilling of bar to your own specifications
- Intended for use on small block engines but may work in other applications

Part #	Description	Stud Size
4020	Professional Engine Builder Stud Stabilizer 17.5" End To End	1.500"


Part #4020

New Ultra-Gold™ Stud Girdles

Make	Part #	Description	Stud Dia.
Chevrolet	4022	265-400 Spring Loaded Design	7/16"
	4023	265-400 Solid Bar Design	7/16"
	4026	265-400 Solid Bar Design	3/8"
	4027	265-400 Spring Loaded Design	3/8"
	4025	396-454 Solid Bar Design	7/16"
	4035	396-454 for RHS® Head	7/16"
Ford	4024	289-302, 351W Solid Bar Design	7/16"
	4030	289-302, 351W Solid Bar Design	3/8"


Part #s 4022 & 4023

Guide Plates

- Designed using stereo lithography techniques for accurate fit
- Feature exact stud placement and rounded contact points
- Available in many different configurations to fit your engine's needs
- Hardened and black oxide finished
- Necessary for high lift/spring pressure environments of today's performance engines



Make	Part #	Description	Type	Pushrod Size	Stud Dia.
Chevrolet	4800-8[A]	265-400	Raised	5/16"	7/16"
	4802-8[A]	265-400	Raised	3/8"	7/16"
	4808-8[A]	265-400	Flat	5/16"	7/16"
	4810-8[A]	265-400	Flat	3/8"	7/16"
	4836-8	265-400	Flat Adjustable	5/16"	7/16"
	4837-8	265-400	Flat Adjustable	3/8"	7/16"
	4806-8	396-454	Raised	3/8"	7/16"
	4820-8	396-454	Raised	7/16"	7/16"
GM LS	4854-8[B]	LS1/LS6	Flat	5/16"	8mm
	4856-8[B]	LS1/LS6	Flat	3/8"	8mm
	4855-8[B]	GM LS3 Series	Flat	5/16"	5/16"
Dodge	4825-8[C]	Magnum V8	Flat	5/16"	5/16"
Ford	4803-8[A]	Cleveland	Raised	5/16"	7/16"
	4804-8[A]	Cleveland	Raised	3/8"	7/16"
	4816-8[A]	289-351W	Flat	5/16"	7/16"
	4818-8[A]	289-351W	Flat	3/8"	7/16"
	4836-8	289-351W	Flat Adjustable	5/16"	7/16"
	4837-8	289-351W	Flat Adjustable	3/8"	7/16"
	4834-8[A]	429-460	Raised	5/16"	7/16"
	4838-8[A]	429-460	Raised	3/8"	7/16"
Oldsmobile	4842-8[D]	350-455	Flat	5/16"	5/16"
	4843-8[D]	350-455	Flat	3/8"	5/16"
Pontiac	4851-8[A]	350-455	Flat	5/16"	7/16"
	4852-8[A]	350-455	Flat	3/8"	7/16"

A. Some applications require machine work
B. Replacement components only, must be used with #16755-KIT and #16765-KIT
C. Only for engines with stud mount rockers. No machine work required. For 3.9L V6, use -6 suffix, for 8.0L V10 trucks, use -10 suffix.
D. No machine work required with Part #4542-16 stud

Rev Kits

In some endurance uses and most oval track applications, it is necessary to use a rev kit for the lifter to precisely follow the profile of the cam. This safety measure ensures that in the event of pushrod breakage or rocker arm failure, the lifter will not come out of the lifter bore. This could cause a loss of oil pressure and subsequently, engine failure.

- Constructed from the toughest extruded aluminum (Big Block Chevrolet kit is a casting)
- Kits comes with all necessary springs and buttons
- Notched to fit the block and should require no machine work
- Angle of the spring pocket in the bar has been changed to duplicate the lifter angle in the block

Note: For use with COMP Cams® full round body solid roller lifters only. It is recommended to have 30-50 lb spring load on the lifter when on the base center line. Open load will vary, depending on lobe lift.

Part #	Description
4006	Chevrolet 90° V6 w/ .842" Lifter Diameter
4000-B	Chevrolet 265-400 Rev Kit Buttons Fits #4006
4006-P	Rev Kit Plate - Fits #4006 V6
4000	Chevrolet 265-400 w/ .842" Lifter Diameter
4008	Chevrolet 265-400 w/ .874" Lifter Diameter
4000B-16[A]	Chevrolet 265-400 Rev Kit Buttons - Fits #4000, #4006, #4008
4008B-16[A]	Rev Kit Button (.874" Diameter)
4000-P	Chevrolet 265-400 Rev Kit Plate - Fits #4000, #4008
974-1	.940" Inner (Blue) - Fits #4000, #4006, #4008
4003	Chevrolet 396-454 w/ .842" Lifter Diameter
4005	Chevrolet 366-427 (Truck Block)
4003B-16[A]	Chevrolet 396-454 Rev Kit Buttons - Fits #4003, #4005
4003-P	Chevrolet 396-454 Rev Kit Plate - Fits #4003
4005-P	Chevrolet 366-427 (Truck Block) Rev Kit Plate - Fits #4005
973-1	.970" Inner - Fits #4003, #4005

A. For single piece use -1 suffix



Part #4000

Innovative

Strong

Dependable





VALVE SPRINGS

Revolutionary design features, such as the harmonic resistant shape, Super Clean™ ovate wire material and reduced spring mass, allow the Beehive™ Springs to better control the valve with a minimum of spring pressure. The bottom line in increased valve train stability, yielding more usable rpm and more horsepower than you ever thought was possible.











Design Quest

In our quest to offer the best products and services, COMP Cams® has spared no expense in personnel or equipment. This philosophy keeps us on the cutting edge of design and manufacture of all of our products. The result of our huge investment in personnel, expertise and equipment is no more evident than in the manufacture of COMP Cams® valve springs. From design to manufacture, COMP Cams® delivers advantages to you that are found nowhere else in the industry.

Design – From the Beginning

From a design standpoint, making a spring does not begin with our engineers. It actually begins with you, our customer. That may come as a surprise, but at COMP Cams® everything we make is based on what our customers need. That's why our design process begins by listening. Our technical sales staff is comprised of engine builders and racers who are uniquely qualified to listen and convey your real world needs to our engineering staff.

Design Collaboration

Once basic loads, heights and diameters are established, the process moves into a design engineering phase. Our spring design method engages every design and test engineer, manufacturing engineer and metallurgist on our staff. Each member of our engineering staff specializes in specific areas of valve train design. Their combined knowledge blends to create the ultimate spring for application-specific requirements. Simultaneously, our world-class metallurgists are integrated into the process to formulate the best materials possible for spring wire. They do this through analysis of materials on the molecular level. A concept is then turned into a blueprint through the use of the COMP Cams® advanced proprietary spring design software.

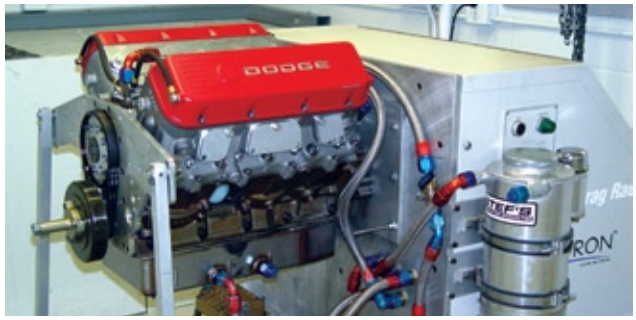
From Blueprint to Prototype

When the spring has been blueprinted, it moves from paper to prototype at our spring manufacturing plant. Prototypes are manufactured under intensive and rigorous standards and are then subjected to an extraordinary amount of analysis and testing in a full valve train set-up. This process is called system-analysis.

Superior Design for Superior Springs

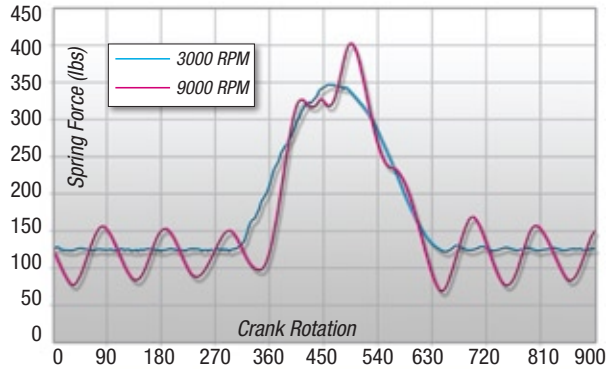
If spring design is the heart of spring making, then system-analysis is its soul. System-analysis is the investigation of the valve train components as a complete mechanism or system. It includes the study of spring performance as it relates dynamically to the interaction of the camshaft, lifter, pushrod, rocker and valve in an engine while in operation. Understanding how a spring interacts with the entire valve train system is absolutely critical to designing an application-specific spring.

The mainstays of our spring analysis equipment are our Spintron® machines. These machines represent a sizeable investment in our design program, and as such, they play pivotal roles in design analysis. Functionally, a Spintron® is an electrically driven test machine. In the case of springs, it is used for the in-depth investigation and analysis of spring dynamics at any given rpm. These machines are capable of turning the valve train up to as much as 20,000 rpm and provide our engineers with a means of defining spring performance. It also provides computer data to verify correctness of each application-specific spring design. In tandem with the Spintron®, our engineers analyze springs through the use of lasers, strain gauges, load cells and high-speed video. Lasers show the cumulative effect of the valve train components at work. This allows our engineers to know that designed springs are in harmony with valve train set-up. Strain gauges and load cells are used to measure the forces on a spring. This permits the understanding of actual stress levels of a spring in operation. By looking at the high speed video valve train movement in super-slow motion, our engineers are able to observe, analyze and assess spring dynamics.



Each prototype is also analyzed on our Computer Driven Spring Analysis System (CDSA). This equipment accurately measures spring loads at different heights. By doing this, they are checked against the design specifications. Data from the CDSA verifies that a prototype spring design is correct for the specific application. This data not only confirms the correctness of design, it also provides a database that's used in the full manufacture of springs. Every part of a prototype is measured and verified against the design requirements.

Dynamic Valve Spring Forces



Reaching the Goal

When a prototype has successfully passed our rigorous testing, our engineers are ready to move to full production. Throughout our design process the most important goal is creating the ultimate application-specific spring, so when a spring moves into full production, the best spring possible has been designed for you. COMP Cams® has committed enormous resources to the development of new valve spring designs, new materials and new processing technologies. COMP Cams® springs are manufactured to the most demanding requirements in the industry. From the time that our valve spring wire is formulated, to the time you open a spring box, no detail is overlooked in providing you with the highest quality product available anywhere.

How We Do It

Valve spring demands in the rigorous applications of high performance mean that material is super critical to the quality and performance of the final product. Material characteristics and composition are the heart of the superior COMP Cams® valve springs. Material development is an expensive and complex process, to which we have invested enormous resources to bring you the very best valve spring possible. Our spring materials are produced at the best steel mills in the world. The result is material that surpasses manufacturing requirements as set forth by SAE (Society of Automotive Engineers). However, the process does not end there.

Material is Key

Even though our springs are made from Super Clean™ wire, material integrity is not taken for granted. From the moment each run of valve spring wire is produced, it undergoes rigorous quality assurance testing. This is done to prove that our spring wire meets and exceeds the demands of the application for which it is intended. Quality control testing on our spring wire is accomplished in three steps: tensile testing, surface inspection and chemical analysis.

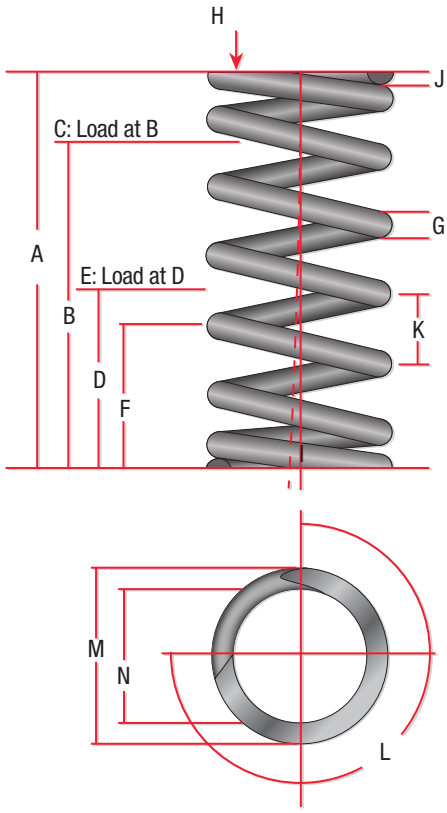
Tensile testing measures the strength of our materials. When this phase is complete, we are sure that the tensile strength of our wire will meet and exceed its assigned application.

Surface inspection is achieved through a process called eddy-current testing. This is an electromagnetic field employed to microscopically inspect the wire surface defects, and defective material is rejected. 100% of our valve spring wire is eddy-current tested twice. The eddy-current process is first done during wire manufacture when the material is drawn from wire rod down to its final size. Then it's done again when the wire is coiled into a spring.

Finally, a chemical composition analysis is made to ensure that the material properties of the wire are precisely correct. Using a process known as EDS, (Energy Dispersive Spectroscopy) our wire is checked to be sure the composition is correct for its intended application.

Spring Coiling and Production

Once the wire has passed its rigorous testing and is certified, actual production of our springs begins. COMP Cams® valve springs are processed in a dedicated-cell, utilizing the most advanced CNC equipment available in manufacturing. Each spring is coiled, stress relieved, ground, deburred, shot-peened and heat-set under very exact requirements and is consistent from batch to batch. The springs are coiled on the most



Dimensions Required for Spring Manufacturing

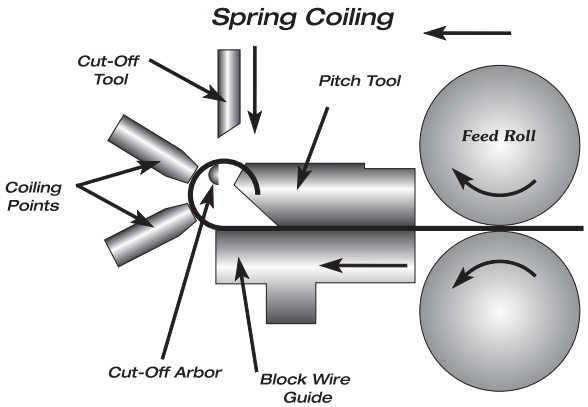
A. Free Length	H. Runout on Ground End
B. Installed Height	I. Squareness
C. Installed Load	J. Tip Thickness
D. Open Height	K. Pitch
E. Open Load	L. Angle of Grind Bearing
F. Solid Height	M. Outside Diameter
G. Wire Diameter	N. Inside Diameter



advanced CNC machines in the industry to ensure that each and every spring is wound to the exact specifications required for each application.

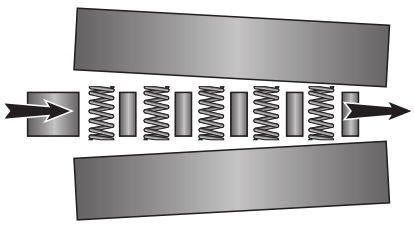
Following coiling, springs are stress relieved. Since the coiling operation permanently bends the wire, this operation removes harmful residual stresses from the wire. This step puts the spring in an oven for a prescribed amount of time and temperature. In this operation, the temperature is held to a two-degree tolerance for stress relief.

Next, the ends of the spring are ground. This operation is critical because it ensures each spring is square and that the forces will be evenly distributed to the stem of the valve. The necessity for a spring to be square is obvious, and each spring is held to an incredible tolerance of 2° to the retainer and the spring seat. Then the springs go through a finishing step that removes any uneven areas on the surfaces of the ground ends, paving the way for the next critical process of shot-peening.

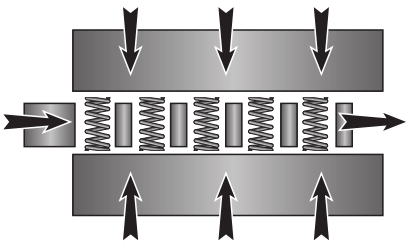


COMP Cams® springs are coiled onthe most advanced CNC machines in the industry

Conventional Crush Spring Grinding

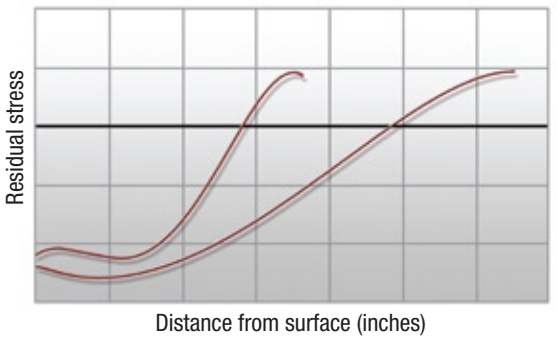


COMP Cams® Advanced Downfeed Spring Grinding



Downfeed grinding is much more consistent and allows for better fitment and longer lifespan

Shot-peening benefits



Shot-peening imparts beneficial compressive stresses at and below the surface of the material. Comprehensive stresses that are deeper into the material and have a lower value help a spring live longer and handle rougher working conditions. These charts are provided by the X-Ray Diffraction Machine

Shot-peening is the process that bombards the spring surface with application-specific media to impart compressive stresses on the surface. This crucial step provides a dramatic increase on fatigue life of the spring. Following on the heels of shot-peening, each spring is heat-set. This is a step in which the spring is compressed for a specific time and temperature that takes the initial load out of a spring. Simply put, each COMP Cams® spring comes already pre-set for initial load loss.

At the end of the manufacturing process, springs receive a coating of an anti-corrosive material. This is done to provide a moisture barrier that prevents surface corrosion, which is virtual death to a spring.

Testing, Testing, Testing

Our engineers perform destructive and non-destructive tests on every spring batch to be sure that every spring made is as well as the last. These tests are performed on sophisticated equipment such as the IST Cycle Tester, Scanning Electron Microscope and X-Ray Diffraction Machine. The IST Cycle Tester tests for spring cycle life by causing springs to fail by taking them through as many as 10,000,000 cycles at stresses much greater than they will see in an engine. When this is completed, we have documented proof that the cycle life of a given spring design meets and exceeds the design criteria. This also ensures batch-to-batch consistency of each run of springs.

A high-tech Scanning Electron Microscope (SEM) is used as another check for material integrity. This high-powered equipment permits our metallurgists to view material cross sections to check and double check that the material microstructure is correct. Another tool that's used to verify spring integrity is the X-Ray Diffraction Machine (XRD). The XRD is used to measure compressive residual stress. This inspection verifies that shot-peening operation is correct because it is critical to the fatigue life of valve springs.

Bottom Line

In the end, each complex and intensive step we take in our spring making process comes down to one simple truth: we want you to have the best spring possible. This is our mission. We are dedicated to this, and you can have the confidence in knowing that it is the same intensity we put into every product we make.

Valve Spring Checklist

Proper selection of the valve spring begins with identifying the application and selecting all of the valve train components to achieve the engine builders' goals. Improper selection of the wrong valve spring is one of the most common causes of engine failure. Other common causes are the incorrect installation and improper handling of the valve springs.

Selecting a Spring

1. Use only the valve springs that will give the recommended spring pressure with the valve both on the seat and at maximum lift.
2. The O.D. of the recommended valve spring may require that the spring pocket of the head be machined to a bigger size.
3. One of the most costly mistakes made in racing engines is not positively locating the spring. A valve spring that "dances" around on the cylinder head or retainer causes harmful harmonics and excessive wear. A spring that is forced onto a retainer is likely to fail at that coil. That is why we have such a large selection of steel and titanium retainers (pages 353-355), hardened steel spring seat cups and I.D. locators (page 358) to better match our springs. A spring that is contained properly at the retainer and the cylinder head will offer the longest possible service life.

Proper Spring Handling

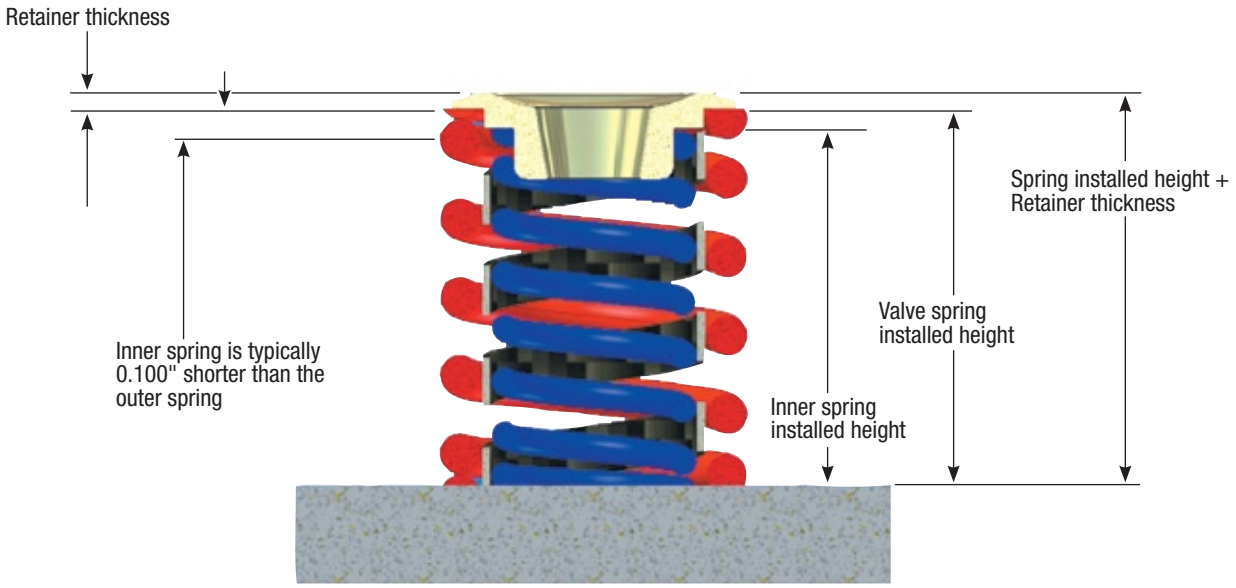
1. Handle springs with care. Never place in a vise, grab with pliers or hit them with a hammer. This will damage the surface of the spring, which will cause it to fail.
2. When separating double or triple springs, use only a durable plastic object that cannot harm the shot-peened surface of the spring. Never use a tool or hard metal object.
3. Valve springs are shipped with a rust preventative coating that should remain on the spring throughout engine assembly. Do not clean springs with acidic or evaporative cleaners. This causes rapid drying and promotes the formation of rust on the surface, which can cause catastrophic failures. Even a slight amount of corrosion can be a problem.
4. When installing springs, use COMP Cams® Valve Train Assembly Spray (Part #106) to ease assembly and improve the life of the spring.

Checking Loads

1. COMP Cams® has matched each set of springs for load consistency. A variance of + or -10% is acceptable for new springs.
2. When checking the spring loads on a load tester (Part #5313), measure and note the thickness of the retainer where the outer spring sits. Assemble the retainer on the spring and place on the base of the spring checker.
3. Compress the spring to the desired installed height. This is the measurement between the top of the spring (on the bottom side of the retainer where the outer spring sits) and the bottom of the spring on the base.

* NOTE *

Since the retainer is installed in the spring when checking the spring loads, make certain that the retainer thickness isn't included when calculating the installed height and is accounted for when compressing the spring. The spring load checker will show to be higher with the spring installed at the correct height.



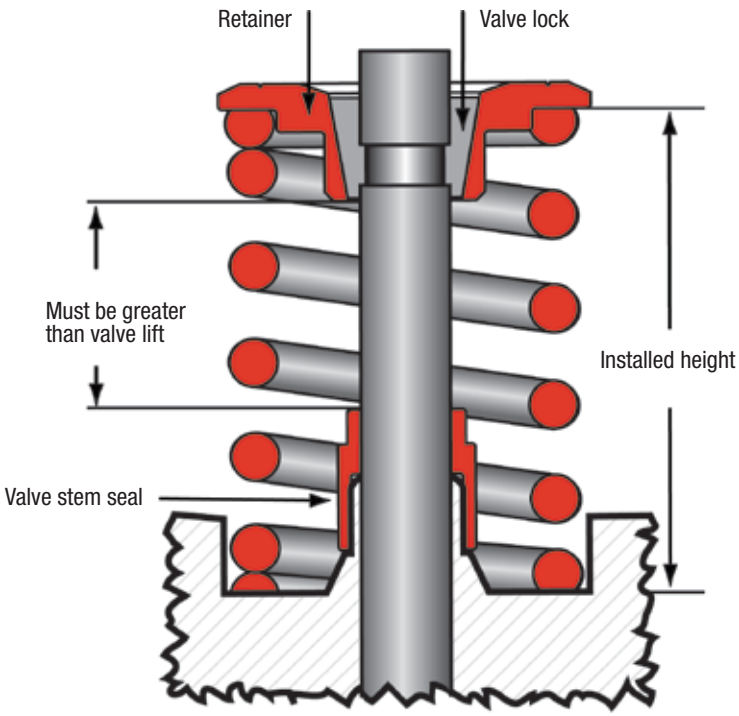
Installation

1. Before installing the spring on the cylinder heads, check the installed spring height (Diagram A). This is the distance from the bottom of the retainer to the surface where the spring rests on the head. The valves, retainers and valve locks will be used in this step. First, install the valve in the guide, then install the retainer and valve locks. Pull the retainer tightly against the valve locks while holding the valve assembly steady. Measure the distance between the spring seat and the outside step of the retainer using your height micrometer (Part #4928 or #4929) or a snap gauge and a pair of calipers. Repeat for all valves. After you have measured all the valves, find the shortest height. This will become the spring's installed height on your heads. If your combination includes a dual or triple spring assembly, it will be necessary to allow for the inner steps of the retainer.
2. It will then be necessary to use shims to obtain the shortest installed height (±.020" is acceptable) on the remaining valves.
3. Before removing the retainers, measure the distance from the bottom of the retainer to the top of the valve seal (Diagram A). This distance must be greater than the lift of the valve. If not, the guide must be machined to avoid cam failure.
4. Once the valve springs have been installed, it is important to check for coil bind. This means that when the valve is fully open, there must be a minimum of .060" clearance between the coils of both the inner and outer springs. If this clearance doesn't exist, you must change either the retainer or the valve to gain more installed height, or change to a spring that will accommodate more lift or machine the spring seat for extra depth.
5. Always check for clearance between the retainer and the inside face of the rocker arm. This will be most evident while the valve is on the seat. Rocker arms are designed to clear specific spring diameters, so you should check to see that you have the proper rocker arm/retainer combination. This situation can also be the result of improper rocker geometry and may be corrected with different length pushrods or a different length valve.
6. To aid in the engine breaking process, spray the springs, rocker arms and pushrods with COMP Cams® Valve Train Assembly Spray (Part #106).

Breaking In a Spring

1. It is important for new springs to take a heat-set. Never abuse or run the engine at high rpm when the springs are new. Upon initial start-up, limit rpm to 1500 to 2000 until the temperature has reached operating levels. Shut off the engine and allow the springs to cool to room temperature. This usually will eliminate early breakage and prolong spring life. After the spring has been "broken-in", it is common for it to lose a slight amount of pressure. Once this occurs, the spring pressure should remain constant unless the engine is abused and the spring becomes overstressed. Then the springs must either be replaced or shimmed to the correct pressure.

Diagram A





Part #26028

- Designed for use with roller cam
- 1.000" maximum lift, 1.677" O.D.
- 9,000 to 10,000 rpm capability
- Widely used in Pro Stock and Comp Eliminator, as well as marine and tractor pull applications



Part #26082

- Designed for use with roller cam
- .800"-.900" maximum lift, 1.680" O.D.
- Widely used in Comp Eliminator, Super Gas, Super Comp, Super Stock and other Fast Bracket classes
- Used in aggressive and endurance applications such as boat drag and tractor pull engines



Part #26099

- Designed for use with roller cam
- .750"+ maximum lift, 1.625" O.D.
- Created with new processing techniques for longevity and reliability
- Widely used in Camping World Truck, Dirt Late Model and Sprint Car racing



Part #26115

- Designed for use with roller cam
- .700"-.800" maximum lift, 1.549" O.D.
- Best in durability and load loss prevention
- Dirt Late Model or Asphalt applications
- Good for serious bracket race engines



Part #26097

- Designed for use with roller cam
- .750"+ maximum lift, 1.539" O.D.
- Enhanced processing for middle level fatigue resistance
- Widely used in Dirt or Asphalt Late Model and Sportsman, as well as marine racing
- Will work in some high end flat tappet applications

Elite Race™ Valve Springs

COMP Cams® takes all necessary measures to ensure our products are made from the best materials available. We even go a step further to see what is required to make the best even better. Fissures within the metal of standard spring wire, caused by molecular contaminants, are the weakest link in valve spring construction. These fissures appear to be immense under the Scanning Electron Microscope but in fact, are just microns wide. Diminishing the occurrence of these fissures in our valve spring steel is the COMP Cams® goal when selecting materials. The metallurgists at COMP Cams® scrutinize every piece of metal utilized in the creation of Elite Race Valve Springs to make sure they are of unsurpassable quality.

Part #	O.D.	I.D.	Seat Load	Open Load	Coil Bind	Rate (Lbs./In.)	Titanium Retainer	Steel Retainer	Cup Seat	Shims
26028	1.677	.635	346 @ 2.200	1074 @ 1.200	1.142	728	722, 735, 739	N/A	4708	4756
26082	1.680	.635	382 @ 2.100	1067 @ 1.200	1.130	761	722, 735, 739	N/A	4708	4756
26099	1.625	.769	245 @ 2.050	693 @ 1.250	1.184	561	733	N/A	4702, 4774, 4775	4757
26115	1.549	.719	228 @ 2.050	636 @ 1.300	1.192	544	732	1731, 748	4700, 4781, 4782	4757
26097	1.539	.731	195 @ 2.000	563 @ 1.250	1.135	490	721, 732	N/A	4700, 4778, 4780	4757



Part #26089

- Designed for use with roller cam
- .700"-.750" maximum lift, 1.550" O.D.
- Widely used in Sportsman, Dirt Late Model and Asphalt racing classes
- Also used in endurance marine racing



Part #26094

- Designed for use with flat tappet cam
- .625"-.650" maximum lift, 1.550" O.D.
- Widely used in Late Model Stock applications
- Also good for mild roller cams



Part #26112

- Designed for use with hydraulic roller cam
- .625" maximum lift, 1.539" O.D.
- Works well in aggressive street or mild race engines

Part #26055 (Beehive™)

- Designed for high end solid flat tappet and hydraulic roller cams
- .640" maximum lift, 1.585" O.D.
- High performance street and oval track capabilities
- Good for endurance applications



Part #26921

- Designed for use with hydraulic roller or mild solid roller cam
- .625" maximum lift, 1.300" O.D.
- Specifically designed dual spring for LS1
- Available in a kit, including retainers, seals and spring locators



Race Valve Springs

The valve spring creation process is far more involved than most people realize. Selecting the right metal stock and creating the best design is not done by chance. COMP Cams® has developed a process that creates the highest quality Race Valve Spring available. The result is a product that meets and exceeds the expectations of today's engine builders and racers.

Part #	O.D.	I.D.	Seat Load	Open Load	Coil Bind	Rate (Lbs./In.)	Titanium Retainer	Steel Retainer	Cup Seat	Shims
26089	1.550	.812	230 @ 2.000	580 @ 1.300	1.230	500	720, 731	1731	4700, 4777, 4785	4757
26094	1.550	.752	178 @ 1.900	459 @ 1.275	1.200	449	721, 732	1732	4700, 4772, 4773	4757
26112	1.550	.742	146 @ 1.800	470 @ 1.175	1.086	519	729	1732	4778, 4780	4757
26055	1.204 1.585	.731 1.112	150 @ 1.925	410 @ 1.275	1.225	400	785	703, 705	4696, 4697, 4702 4711	4757
26921	1.300	.655	135 @ 1.770	400 @ 1.120	1.040	408	754	1754	4695	4753



New Part #26926

- Ideal for street/strip hydraulic roller, some solid roller and some solid flat tappet race applications
- Extended .675" maximum lift, 1.320" O.D.
- Cutting edge dual valve spring design with added processes for durability and performance
- Engineered specifically for the new COMP Cams® LS$_R$™ Cams for GM LS engines



Part #26095 (Beehive™)

- Recommended for high lift solid flat tappet and hydraulic roller cams
- .750" maximum lift, 1.589" O.D.
- High performance street and track capabilities
- Also used in Harley Davidson® engines



New Part #26925

- Designed for use with street/strip hydraulic roller and some solid roller cams
- .660" maximum lift, 1.320" O.D.
- Engineered specifically for LS1 applications
- Polished finish



Part #26918 (Beehive™)

- Designed for hydraulic roller cam
- .625" maximum lift, 1.310" O.D.
- Designed for LS1, LS2 and LS6 engines
- Will work in 5.7L Hemi engines with Part #761 or #762 retainer, as well as many other engine combinations



Part #26120 (Beehive™)

- Will work with hydraulic or solid flat tappet cams as well as hydraulic rollers
- .590" maximum lift, 1.445" O.D.
- Originally designed for big block hydraulic roller street/strip engines
- Allows big block engines to turn more rpm



Part #26125 (Beehive™)

- Designed for Ford 4.6L & 5.4L Modular 2 & 3 Valve engines and Duramax applications
- .650" maximum lift, 1.101" O.D.
- No machining required

Street/Strip Valve Springs

COMP Cams® Beehive™ Valve Springs deliver increased valve train stability and a much lighter valve train. This is achieved with less spring pressure for better valve control and reduced weight of both the spring and retainer. For street/strip applications, these valve springs are the best choice possible.

Because of the unique Beehive™ design, the valve train can handle more rpm and more aggressive cam profiles for occasional bracket racing but still retain durability for street driving.

Part #	O.D.	I.D.	Seat Load	Open Load	Coil Bind	Rate (Lbs./In.)	Titanium Retainer	Steel Retainer	Cup Seat	Shims
26926	1.320	.654	129 @ 1.835	470 @ 1.160	1.100	505	N/A	1771, 1779	4695	4753
26925	1.320	.680	141 @ 1.810	405 @ 1.150	1.100	400	N/A	1771, 1779	4695	4753
26120	1.095 1.445	.650 1.000	155 @ 1.880	377 @ 1.280	1.230	370	794	795	4696, 4697, 4698	4754
26095	1.185 1.589	.731 1.135	150 @ 2.000	375 @ 1.250	1.130	300	785	703, 705	4702, 4711	4757
26918	1.075 1.310	.650 .885	125 @ 1.800	367 @ 1.150	1.100	372	762, 772, 788	761, 774, 783, 787, 795	4705	4753
26125	1.013 1.101	.650 .738	120 @ 1.640	275 @ 1.040	.970	258	702	700	N/A	N/A



New Part #26995 (Beehive™)

- Designed for hydraulic or solid flat tappet as well as hydraulic roller cams
- .500" maximum lift, 1.415" O.D.
- Great for Pontiac, Oldsmobile and Small Block Chrysler or other applications that require shorter installed height
- Beehive™ version of Part #995 dual spring



Part #26986 (Beehive™)

- Designed for hydraulic or solid flat tappet as well as hydraulic roller cams
- .575" maximum lift, 1.415" O.D.
- Works well in variety of small block engines
- No machining required on many cylinder heads
- Beehive™ version of Part #986 dual spring



Part #26915 (Beehive™)

- Designed for hydraulic roller cams
- .600" maximum lift, 1.290" O.D.
- Originally designed for LS1, LS2 and LS6 engines
- Will work in 5.7L Hemi engine with Part #761 or #762 retainer as well as many other engine combinations



Part #26981 (Beehive™)

- Designed for hydraulic or solid flat tappet as well as hydraulic roller cams
- .525" maximum lift, 1.240" O.D.
- Will work in most Small Block Chevy heads with no machining required
- Beehive™ version of #981 stock diameter valve spring



New Part #26123 (Beehive™)

- Designed for Ford 4.6L Modular 4 Valve engine
- .500" maximum lift, 1.105" O.D.
- No machining required



Part #26113 (Beehive™)

- Designed for Ford 4.6L & 5.4L Modular 2 and 3 Valve engines
- .550" maximum lift, 1.061" O.D.
- No machining required

Performance Street Valve Springs

COMP Cams® Beehive™ Valve Springs are revolutionizing performance street applications. With the valve control and reduced weight that Beehive™ Springs deliver, street cars are now able to turn more rpm and have higher lift camshafts while maintaining the stability of OE applications. The oval shape of the wire allows better heat dissipation for longer spring life.

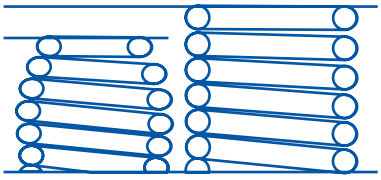
Part #		O.D.	I.D.	Seat Load	Open Load	Coil Bind	Rate (Lbs./In.)	Titanium Retainer	Steel Retainer	I.D./O.D. Locator	Shims
26995	Top Bottom	1.065 1.415	.650 1.000	137 @ 1.700	305 @ 1.100	1.060	280	788	1787, 787, 795	4696	4755
26986	Top Bottom	1.065 1.415	.650 1.000	109 @ 1.800	284 @ 1.175	1.060	280	788	1787, 787, 795	4696	4755
26915	Top Bottom	1.055 1.290	.650 .885	105 @ 1.800	293 @ 1.200	1.100	313	762, 772, 788	761, 774, 783, 787, 795, 1787	4705	4753
26981	Top Bottom	1.065 1.240	.650 .825	110 @ 1.700	292 @ 1.175	1.115	347	788	1787, 787, 795	4693	4753
26123	Top Bottom	.943 1.105	.580 .742	90 @ 1.470	252 @ .970	.900	324	798	799	N/A	N/A
26113	Top Bottom	.959 1.061	.636 .738	93 @ 1.570	198 @ 1.020	.952	191	702, 791	1723, 700, 792	N/A	N/A

Beehive™ Valve Springs

Part #		O.D. Dia. 1	I.D. Dia. 2	Seat Load	Open Load	Coil Bind	Rate (Lbs./In.)	Titanium Retainer	Steel Retainer	I.D./O.D. Locator	Shims
26113	Top Bottom	.959 1.061	.636 .738	93 @ 1.570	198 @ 1.020	.952	191	702, 791	1723, 700, 792	N/A	N/A
26125	Top Bottom	1.013 1.101	.650 .738	120 @ 1.640	275 @ 1.040	.970	258	702	700	N/A	N/A
26120	Top Bottom	1.095 1.445	.650 1.000	155 @ 1.880	377 @ 1.280	1.230	370	794	795	4696, 4697, 4698	4754
New 26123	Top Bottom	.943 1.105	.580 .742	90 @ 1.470	252 @ .970	.900	324	798	799	N/A	N/A
New 26523*	Top Bottom	.943 1.105	.580 .742	90 @ 1.470	252 @ .970	.900	324	798	799	N/A	N/A
26915	Top Bottom	1.055 1.290	.650 .885	105 @ 1.800	293 @ 1.200	1.100	313	762, 772, 788	761, 774, 783, 787, 1787	4705	4753
26918*	Top Bottom	1.075 1.310	.650 .885	125 @ 1.800	367 @ 1.150	1.100	372	762, 772, 788	761, 774, 783, 787, 795, 1787	4705	4753
26981	Top Bottom	1.065 1.240	.650 .825	110 @ 1.700	292 @ 1.175	1.115	347	788	1787, 787, 795	4693	4753
26986	Top Bottom	1.065 1.415	.650 1.000	109 @ 1.800	284 @ 1.175	1.060	280	788	1787, 787, 795	4696	4755
New 26995	Top Bottom	1.065 1.415	.650 1.000	137 @ 1.700	305 @ 1.100	1.060	280	788	1787, 787, 795	4696	4755
26056	Top Bottom	1.185 1.454	.731 1.000	160 @ 1.800	420 @ 1.150	1.100	400	785	703, 705	4696, 4697, 4704	4757
26095	Top Bottom	1.185 1.589	.731 1.135	150 @ 2.000	375 @ 1.250	1.130	300	785	703, 705	4702, 4711	4757
26055	Top Bottom	1.204 1.585	.731 1.112	150 @ 1.925	410 @ 1.275	1.225	400	785	703, 705	4702, 4711	4757

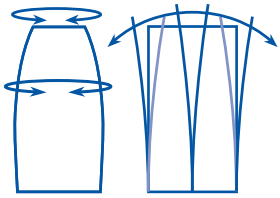
* Super Finish

Beehive™ Valve Spring Advantages



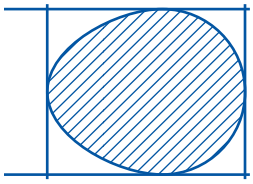
Beehive™ Shape Reduces Spring and Retainer Weight

- Less valve train reciprocating mass in motion
- More stability, higher rpm, longer life and more horsepower
- Requires less spring pressure for better valve control
- Provides a double weight savings; reduces the weight of the spring and allows a smaller, lighter retainer



Unique Design Increases "Harmonic Resistance," Yielding Greater Spring Stability

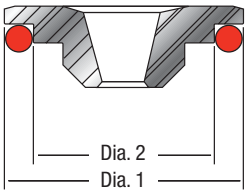
- Handles valve train stress more efficiently
- Increases harmonic resistance for greater stability
- Eliminates damaging harmonics
- Increases high rpm horsepower and durability



Oval/Multi-Arc Wire Shape

- Places the maximum area of the wire at the point of highest stress
- Handles valve train stress more efficiently
- Allows better heat dissipation for longer life

Single/Beehive™



Key

Spring Coil

Retainer



Single Outer Valve Springs

Part #	O.D. Dia. 1	I.D. Dia. 2	Damper	Seat Load	Open Load	Coil Bind	Rate (Lbs./In.)	Titanium Retainer	Steel Retainer	Cup Seat	Shims
901	1.494	1.080	Y	101 @ 1.650	242 @ 1.250	1.100	353	730	740, 743, 744, 1730	N/A	4754
902	1.355	1.000	N	48 @ 1.600	146 @ 1.250	1.125	280	N/A	N/A	N/A	4754
903	1.400	1.015	N	80 @ 1.700	212 @ 1.250	1.125	293	N/A	N/A	N/A	4754
906	1.355	1.011	N	61 @ 1.600	137 @ 1.250	1.054	219	N/A	N/A	N/A	4754
909	1.159	.837	N	75 @ 1.550	195 @ 1.050	.917	240	N/A	N/A	N/A	N/A
910	1.354	.940	Y	92 @ 1.850	300 @ 1.350	1.280	415	N/A	N/A	N/A	N/A
911	1.524	1.110	Y	122 @ 1.900	309 @ 1.400	1.200	373	721, 732	1732, 741	4779*	4757
912	.896	.600	N	50 @ 1.950	170 @ 1.450	1.360	240	753	N/A	N/A	N/A
920	1.509	1.125	Y	137 @ 1.750	262 @ 1.250	1.175	251	721, 732	1732, 741	4704	4755
926	1.476	1.062	Y	109 @ 1.800	317 @ 1.300	1.140	415	730	1730, 740	4704	4755
936	1.539	1.125	Y	149 @ 1.900	328 @ 1.350	1.225	325	721, 732	1732, 741	4700	4757
940	1.464	1.080	Y	93 @ 1.900	237 @ 1.300	1.200	241	730	1730, 740	4704	4755
941	1.255	.871	Y	130 @ 1.750	358 @ 1.250	1.100	454	728	1750, 750	N/A	4753
942	1.437	1.039	Y	115 @ 1.700	284 @ 1.200	1.125	339	730	747, 768	N/A	4754
961	1.390	.990	Y	77 @ 1.800	234 @ 1.300	1.260	313	N/A	N/A	N/A	N/A
970	1.406	1.020	N	80 @ 1.700	180 @ 1.300	1.203	251	N/A	N/A	N/A	N/A
972	1.460	1.060	Y	124 @ 1.800	293 @ 1.250	1.195	308	730	740, 743, 744, 1730	4704	4755
980	1.230	.876	Y	92 @ 1.700	230 @ 1.250	1.150	308	728	1750, 742, 750	N/A	4753
981	1.254	.880	Y	105 @ 1.700	273 @ 1.250	1.150	370	728	1750, 742, 750	N/A	4753
984	1.430	1.070	Y	105 @ 1.750	215 @ 1.250	1.150	231	730	740, 743, 744, 1730	N/A	4754
990	1.437	1.073	Y	113 @ 1.500	207 @ 1.150	.950	269	730	740, 743, 744, 1730	N/A	4754

* Rotator Eliminator

Single Inner Valve Springs

Part #	O.D. Dia. 1	I.D. Dia. 2	Seat Load	Open Load	Coil Bind	Rate (Lbs./In.)
937	1.015	.731	54 @ 1.800	147 @ 1.200	1.100	156
973	.970	.700	46 @ 1.750	126 @ 1.150	1.095	134
974	.937	.697	27 @ 1.650	70 @ 1.200	.920	96
975	.953	.697	55 @ 1.500	127 @ 1.000	.950	144

Ovate Wire Valve Springs

Ovate wire springs (constructed from oval shaped wire as opposed to round) have more material occupying the same area than round wire springs to more efficiently distribute the operation stresses.

Part #	O.D. Dia. 1	I.D. Dia. 2	Seat Load	Open Load	Coil Bind	Rate (Lbs./In.)	Titanium Retainer	Steel Seat	Cup Seat	Shims
983	1.260	.836	105 @ 1.700	310 @ 1.200	1.150	410	N/A	751	N/A	N/A
983-KIT	Includes Part #983 springs, #751 retainers and #613 locks.									

Conical Valve Springs

Conical valve springs have a unique cone shape. They were specifically designed for Small Block Chevrolets with up to .500" lift but require no machining to the spring pockets.

Part #		O.D. Dia. 1	I.D. Dia. 2	Seat Load	Open Load	Coil Bind	Rate (Lbs./In.)	Titanium Retainer	Steel Seat	I.D./O.D. Locator	Shims
982	Top Bottom	1.454 1.250	1.070 .866	100 @ 1.750	281 @ 1.250	1.135	362	730	740, 743	N/A	4754
982-KIT	Includes Part #982 springs, #743 steel retainers, #601 locks and #502 seals.										

Honda/Acura DOHC Valve Spring Kits

Part #	O.D. of Outer Dia. 1	I.D. of Outer Dia. 2	I.D. of Outer Dia. 3	Seat Load	Open Load	Coil Bind	Rate	Includes
89000-KIT	1.171	.875	.615	23 @ 1.500	178 @ .975	.858	296	Intake and Exhaust Springs & #778 Steel Ret.
89012-KIT	1.171	.875	.615	23 @ 1.500	178 @ .975	.858	296	Intake and Exhaust Springs & #760 Titanium Ret.

Dual Valve Spring Assemblies

Part #	O.D. of Outer Dia. 1	I.D. of Outer Dia. 2	I.D. of Outer Dia. 3	Damper	Seat Load	Open Load	Coil Bind	Rate (Lbs./In.)	Titanium Retainer	Steel Retainer	Cup Seat	Shims
26089	1.550	1.136	.812	N	230 @ 2.000	580 @ 1.300	1.230	500	731 720	1731	4700, 4777 4785	4757
26094	1.550	1.136	.752	Y	178 @ 1.900	459 @ 1.275	1.200	449	732 721	1732, 749	4700, 4772 4773	4757
26097	1.539	1.125	.731	Y	195 @ 2.000	563 @ 1.250	1.135	490	732 721	1732	4700, 4778 4780	4757
26099	1.625	1.175	.769	Y	245 @ 2.050	693 @ 1.250	1.184	561	733	N/A	4702, 4774 4775	4757
26112	1.550	1.136	.742	Y	146 @ 1.800	470 @ 1.175	1.086	519	729	N/A	4778 4780	4757
26115	1.549	1.125	.719	Y	228 @ 2.050	636 @ 1.300	1.192	544	732	1732, 748	4700, 4781 4782	4757
26921	1.300	.895	.655	N	135 @ 1.770	400 @ 1.120	1.040	408	754	1754	4695	4753
New 26925	1.320	.958	.680	N	141 @ 1.810	405 @ 1.150	1.100	400	1777	1779	4695	4753
New 26926	1.320	.920	.654	N	129 @ 1.835	470 @ 1.160	1.100	505	1777	1779	4695	4753
914	1.489	1.105	.819	N	165 @ 1.800	385 @ 1.200	1.100	367	731 720	1731, 741	4704, 4776 4777	4755
916	1.550	1.166	.896	N	200 @ 1.700	474 @ 1.000	.900	392	731 720	1731, 741	4700	4757
917	1.550	1.136	.824	N	200 @ 1.800	596 @ 1.100	1.050	566	731 720	1731, 741	4700, 4785	4757
919	1.540	1.126	.814	N	194 @ 1.950	579 @ 1.250	1.100	550	731 720	1731, 741	4700, 4785	4757
924	1.509	1.125	.697	Y	112 @ 1.900	355 @ 1.200	1.175	347	732 721	1732, 741	4700, 4770	4757
925	1.509	1.125	.697	Y	111 @ 1.900	388 @ 1.200	1.175	395	732 721	1732, 741	4700, 4771 4783	4757
927	1.539	1.125	.731	Y	197 @ 1.950	545 @ 1.250	1.175	498	732 721	N/A	4700, 4778 4780	4757
928	1.550	1.150	.795	Y	160 @ 1.880	383 @ 1.250	1.160	354	732 721	1732, 741	4700, 4776 4777	4757
929	1.535	1.135	.754	Y	148 @ 1.880	432 @ 1.230	1.160	437	732 721	1732, 741	4700, 4772 4773	4757
930	1.550	1.150	.795	Y	153 @ 1.900	383 @ 1.250	1.160	354	732 721	1732, 741	4700, 4776 4777	4757
932	1.557	1.143	.749	Y	196 @ 2.000	513 @ 1.300	1.160	452	738	1732, 748	4700, 4772 4773	4757
933	1.550	1.136	.730	Y	171 @ 1.950	492 @ 1.300	1.200	494	732 721	1732, 741	4700, 4781 4782	4757
935	1.554	1.140	.746	Y	194 @ 1.950	524 @ 1.250	1.180	471	724	1732, 748	4700, 4772 4773	4757
938	1.539	1.125	.731	Y	204 @ 1.900	516 @ 1.250	1.225	480	738	1732, 741	4700, 4778 4780	4757
939	1.539	1.125	.697	Y	138 @ 1.950	419 @ 1.350	1.225	469	732 721	1732, 741	4700, 4770 4771, 4783	4757
943	1.550	1.136	.812	N	240 @ 1.900	598 @ 1.250	1.160	551	731 720	1731, 749	4700, 4785 4777	4757
944	1.570	1.120	.796	N	190 @ 1.950	747 @ 1.200	1.100	743	731 720	1731	4704, 4776 4777	4757
950	1.464	1.080	.724	Y	133 @ 1.900	332 @ 1.300	1.200	332	730	1730, 740, 743, 744	4781, 4782 4704	4755
951	1.620	1.170	.846	N	230 @ 1.950	710 @ 1.200	1.100	640	736	N/A	4702	4756
953	1.539	1.137	.747	Y	148 @ 1.900	456 @ 1.250	1.085	474	732	1732, 741	4700, 4772	4757

Dual Valve Spring Assemblies Cont.

Part #	O.D. of Outer Dia. 1	I.D. of Outer Dia. 2	I.D. of Outer Dia. 3	Damper	Seat Load	Open Load	Coil Bind	Rate (Lbs./In.)	Titanium Retainer	Steel Retainer	Cup Seat	Shims
954	1.525	1.111	.730	Y	210 @ 1.900	524 @ 1.250	1.170	483	732 721	1732, 741	4700, 4781 4782	4757
955	1.550	1.136	.812	N	240 @ 2.000	608 @ 1.300	1.230	526	731 720	1731, 749	4700, 4785 4777	4757
959	1.645	1.195	.871	N	236 @ 2.000	671 @ 1.250	1.130	580	739	N/A	4702	4756
977	1.460	1.060	.700	Y	155 @ 1.850	420 @ 1.250	1.195	441	730	1730, 740	4704	4755
978	1.460	1.060	.697	Y	127 @ 1.850	369 @ 1.250	1.195	403	730	1730, 740	4704	4755
985	1.430	1.070	.700	Y	165 @ 1.750	346 @ 1.250	1.150	366	730	1730, 740	N/A	4754
986	1.430	1.070	.697	Y	132 @ 1.750	293 @ 1.250	1.150	322	730	1730, 740	N/A	4754
987	1.430	1.070	.697	Y	121 @ 1.800	343 @ 1.200	1.150	370	730	1730, 740	N/A	4754
988	1.384	1.060	.804	N	117 @ 1.600	232 @ 1.100	1.000	230	730	1730, 740, 743, 744	N/A	4754
991	1.639	1.190	.782	Y	214 @ 1.950	662 @ 1.250	1.125	640	733	N/A	4702, 4774 4775	4756
994	1.437	1.073	.697	Y	102 @ 1.700	303 @ 1.150	1.065	367	730	1730, 740	N/A	4754
995	1.437	1.073	.697	Y	115 @ 1.700	336 @ 1.150	1.020	402	730	1730, 740	N/A	4754
996*	1.625	1.175	.769	Y	275 @ 2.000	816 @ 1.150	1.100	637	733	N/A	4702, 4774 4775	4756
998*	1.625	1.175	.769	Y	250 @ 1.900	724 @ 1.200	1.090	677	733	N/A	4702, 4774 4775	4756
999*	1.550	1.114	.724	Y	215 @ 1.900	690 @ 1.150	1.090	633	732 721	1732	4700, 4781 4782	4757

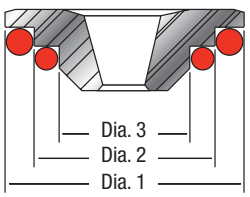
* H-11 Material

Triple Valve Springs

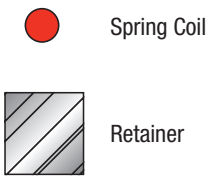
Part #	O.D. of Outer Dia. 1	I.D. of Outer Dia. 2	I.D. of Outer Dia. 3	I.D. of Outer Dia. 4	Seat Load	Open Load	Coil Bind	Rate (Lbs./In.)	Titanium Retainer	Cup Seat	Shims
26028	1.677	1.195	.872	.635	346 @ 2.200	1074 @ 1.200	1.142	728	722, 735 739	4708	4756
26082	1.680	1.195	.871	.635	382 @ 2.100	1067 @ 1.200	1.130	761	722, 735 739	4708	4756
946	1.645	1.195	.871	.635	353 @ 1.900	800 @ 1.250	1.130	688	722, 735 739	4702	4756
947	1.645	1.195	.871	.635	338 @ 2.000	849 @ 1.250	1.145	681	722, 735 739	4702	4756
948	1.645	1.195	.871	.635	332 @ 2.100	949 @ 1.200	1.130	686	722, 735 739	4702	4756

Note: Spring pressures may vary ± 10%, available as singles or in sets of 8, 12 or 16
Note: Special seals available to fit these springs (see p. XXX), use #735 for +.050" installed height

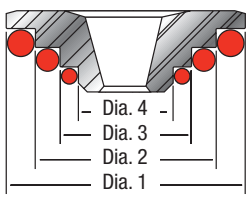
Dual



Key



Triple



Part #	913	26123	26523	990	975	909	902	906	
# of Springs	Double	Beehive™	Beehive™	Single	Single	Single	Single	Single	
Installed Height	1.475	1.470	1.470	1.500	1.500	1.550	1.600	1.600	
O.D. of Outer	1.171	.943/1.105	.943/1.105	1.437	.953	1.159	1.355	1.355	
I.D. of Outer	.875	.580/.742	.580/.742	1.073	.697	.837	1.000	1.011	
I.D. of Inner	.615	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Spring Rate	296	324	324	269	144	240	280	219	
Damper	No	No	No	Yes	No	No	No	No	
Spring Height (inches)	Spring Loads (Lbs.)								
2.300									
2.250									
2.200									
2.150									
2.100									
2.050									
2.000									
1.950									
1.900									
1.850									
1.800									
1.750									
1.700									
1.650							34	50	
1.600						63	48	61	
1.550		64	64	100	48	75	62	72	
1.500	23	80	80	113	55	87	76	82	
1.450	38	96	96	127	62	99	90	93	
1.400	53	113	113	140	69	111	104	104	
1.350	67	129	129	154	77	123	118	115	
1.300	82	145	145	167	84	135	132	126	
1.250	97	161	161	181	91	147	146	137	
1.200	112	177	177	194	98	159	160	148	
1.150	127	194	194	207	105	171		158	
1.100	141	210	210	221	113	183		169	
1.050	156	226	226	234	120	195			
1.000	171	242	242	248	127	207			
0.950	186								
0.900	201								
0.850									
Maximum Coil Bind Height	0.858	0.900	0.900	0.950	0.950	0.917	1.125	1.054	
Ti. Ret. (Std. Weight)	760	798	798	730					
Ti. Ret. (Light Weight)									
Steel Ret. (Std. Weight)		799	799	740 743 744					
Steel Ret. (Light Weight)				1730					
Seat 0.570 Guide Dia.									
Seat 0.630 Guide Dia.									
Spring Cup (O.D. Locator)									
Shims				4754			4754	4754	

988	26113	26125	901	974	980	26981	981	983	Part #
Double	Beehive™	Beehive™	Single	Single	Single	Beehive™	Single	Single	# of Springs
1.600	1.640	1.640	1.650	1.650	1.700	1.700	1.700	1.700	Installed Height
1.384	0.959/1.061	1.013/1.101	1.494	.937	1.230	1.065/1.240	1.254	1.260	O.D. of Outer
1.060	.636/.738	0.650/0.738	1.080	.697	.876	.650/.825	.880	.836	I.D. of Outer
.804	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	I.D. of Inner
230	191	258	353	96	308	347	370	410	Spring Rate
No	No	No	Yes	No	Yes	No	Yes	No	Damper
Spring Loads (Lbs.)									Spring Height (inches)
									2.300
									2.250
									2.200
									2.150
									2.100
									2.050
									2.000
									1.950
									1.900
									1.850
									1.800
					77	93	87	85	1.750
		104	83	22	92	110	105	105	1.700
105	78	117	101	27	107	127	123	126	1.650
117	88	130	119	32	123	145	142	146	1.600
128	97	143	136	37	138	162	160	167	1.550
140	107	156	154	41	153	179	178	187	1.500
151	116	169	172	46	169	197	197	208	1.450
163	126	182	189	51	184	214	215	228	1.400
174	135	194	207	56	200	231	233	249	1.350
186	145	207	225	61	215	249	252	269	1.300
197	154	220	242	65	230	266	273	290	1.250
209	164	233	260	70		283	294	310	1.200
220	174	246		75		301			1.150
232	183	259		80					1.100
243	193	272		85					1.050
	202	285		89					1.000
									0.950
									0.900
									0.850
1.000	0.952	0.970	1.100	0.920	1.150	1.115	1.150	1.150	Maximum Coil Bind Height
730			730		728		728		Ti. Ret. (Std. Weight)
	791 702	791 702				788			Ti. Ret. (Light Weight)
740 743 744	792 700	700	740 743 744		742 750	787 795	742 750	751	Steel Ret. (Std. Weight)
1730	1723	1723	1730		1750		1750		Steel Ret. (Light Weight)
						4693			Seat 0.570 Guide Dia.
									Seat 0.630 Guide Dia.
									Spring Cup (O.D. Locator)
4754			4754		4753	4753	4753		Shims

Part #	903	970	994	26995	995	942	916	973
# of Springs	Single	Single	Double	Beehive™	Double	Single	Double	Single
Installed Height	1.700	1.700	1.700	1.700	1.700	1.700	1.700	1.750
O.D. of Outer	1.400	1.406	1.437	1.065/1.415	1.437	1.437	1.550	.970
I.D. of Outer	1.015	1.020	1.073	.650/1.000	1.073	1.039	1.166	.700
I.D. of Inner	N/A	N/A	.697	N/A	.697	N/A	.896	N/A
Spring Rate	293	251	367	280	402	339	392	134
Damper	No	No	Yes	No	Yes	Yes	No	No
Spring Height (inches)	Spring Loads (Lbs.)							
2.300								
2.250								
2.200								
2.150								
2.100								
2.050								
2.000								
1.950								
1.900								
1.850								
1.800								39
1.750	65	67	84	123	95	98	180	46
1.700	80	80	102	137	115	115	200	53
1.650	95	92	120	151	135	132	220	59
1.600	109	105	139	165	155	149	239	66
1.550	124	118	157	179	175	165	259	73
1.500	139	130	175	193	195	182	278	80
1.450	153	143	194	207	216	199	298	86
1.400	168	155	212	221	236	216	318	93
1.350	182	168	230	235	256	233	337	100
1.300	197	180	249	249	276	250	357	106
1.250	212	193	267	263	296	267	376	113
1.200	226		286	277	316	284	396	120
1.150			303	291	336		416	126
1.100			321	305	356		435	133
1.050			340	320			455	140
1.000							474	
0.950							494	
0.900								
0.850								
Maximum Coil Bind Height	1.125	1.203	1.065	1.060	1.020	1.125	0.900	1.095
Ti. Ret. (Std. Weight)			730		730	730	731	
Ti. Ret. (Light Weight)				788			720	
Steel Ret. (Std. Weight)			740	787 795	740	768 747	741	
Steel Ret. (Light Weight)			1730	1787	1730	1730	1731	
Seat 0.570 Guide Dia.				4696				
Seat 0.630 Guide Dia.								
Spring Cup (O.D. Locator)							4700	
Shims	4754		4754	4755	4754	4754	4757	

941	985	982	920	26921	937	26915	26918	Part #
Single	Double	Conical	Single	Double	Single Inner	Beehive™	Beehive™	# of Springs
1.750	1.750	1.750	1.750	1.770	1.800	1.800	1.800	Installed Height
1.255	1.430	1.250/1.454	1.509	1.300	1.015	1.055/1.290	1.075/1.310	O.D. of Outer
.871	1.070	.866/1.070	1.125	.895	.731	.650/.885	.650/.885	I.D. of Outer
N/A	.700	n/a	n/a	.655	N/A	N/A	N/A	I.D. of Inner
454	366	362	251	408	156	313	372	Spring Rate
Yes	Yes	No	Yes	No	No	No	No	Damper
Spring Loads (Lbs.)								Spring Height (inches)
								2.300
								2.250
								2.200
								2.150
								2.100
								2.050
								2.000
								1.950
								1.900
					46	89	106	1.850
107	146	82	124	123	54	105	125	1.800
130	165	100	137	143	62	121	144	1.750
153	181	118	149	164	69	136	162	1.700
175	199	136	162	184	77	152	181	1.650
198	217	154	174	204	85	168	199	1.600
221	236	172	187	225	93	183	218	1.550
244	254	191	199	245	101	199	237	1.500
266	272	209	212	265	108	215	255	1.450
289	291	227	224	286	116	230	274	1.400
312	309	245	237	306	124	246	293	1.350
334	327	263	250	327	132	262	311	1.300
358	346	281	262	347	139	277	330	1.250
381	364	299		367	147	293	348	1.200
403				388	155		367	1.150
				408				1.100
								1.050
								1.000
								0.950
								0.900
								0.850
1.100	1.150	1.135	1.175	1.040	1.100	1.100	1.100	**Maximum Coil Bind Height**
728	730	730	732					**Ti. Ret. (Std. Weight)**
			721	754		772 762 788	772 762 788	**Ti. Ret. (Light Weight)**
750	740	743 740	741			774 783 761 787	774 783 761 787	**Steel Ret. (Std. Weight)**
1750	1730	1730	1731	1754		1772 1787	1772 1787	**Steel Ret. (Light Weight)**
						4705	4705	**Seat 0.570 Guide Dia.**
								Seat 0.630 Guide Dia.
			4704	4695				**Spring Cup (O.D. Locator)**
4753	4754	4754	4755	4753		4753	4753	**Shims**

Part #	961	26986	986	987	984	26056	972	914
# of Springs	Single	Beehive™	Double	Double	Single	Beehive™	Single	Double
Installed Height	1.800	1.800	1.800	1.800	1.800	1.800	1.800	1.800
O.D. of Outer	1.390	1.065/1.415	1.430	1.430	1.430	1.185/1.454	1.460	1.489
I.D. of Outer	.990	.650/1.000	1.070	1.070	1.070	.731/1.000	1.060	1.105
I.D. of Inner	N/A	N/A	.697	.697	N/A	N/A	N/A	.819
Spring Rate	313	280	322	370	231	400	308	367
Damper	Yes	No	Yes	Yes	Yes	No	Yes	No
Spring Height (inches)	Spring Loads (Lbs.)							
2.300								
2.250								
2.200								
2.150								
2.100								
2.050								
2.000								
1.950								
1.900						120		
1.850	61	95	103	104	82	140	109	147
1.800	77	109	117	121	95	160	124	165
1.750	93	123	132	138	105	180	139	183
1.700	108	137	147	156	115	200	155	202
1.650	124	151	163	174	125	220	170	220
1.600	140	165	179	193	135	240	185	238
1.550	155	179	196	211	146	260	201	257
1.500	171	193	212	230	158	280	216	275
1.450	187	207	228	249	169	300	231	293
1.400	202	221	244	268	181	320	247	312
1.350	218	235	261	286	192	340	262	330
1.300	234	249	277	305	204	360	277	349
1.250		263	293	324	215	380	293	367
1.200		277	310	343	232	400		385
1.150		291				420		404
1.100		305						
1.050								
1.000								
0.950								
0.900								
0.850								
Maximum Coil Bind Height	1.260	1.060	1.150	1.150	1.150	1.100	1.195	1.100
Ti. Ret. (Std. Weight)			730	730	730	785	730	731
Ti. Ret. (Light Weight)		788						720
Steel Ret. (Std. Weight)		787 795	740	740	740 743 744	703 705	740 743 744	741
Steel Ret. (Light Weight)		1787	1730	1730	1730		1730	1731
Seat 0.570 Guide Dia.		4696				4696		4776
Seat 0.630 Guide Dia.						4697		4777
Spring Cup (O.D. Locator)						4704	4704	4704
Shims		4755	4754	4754	4754	4757	4755	4755

926	917	26112	26925	26926	910	978	977	Part #
Single	Double	Double	Double	Double	Single	Double	Double	# of Springs
1.800	1.800	1.800	1.810	1.835	1.850	1.850	1.850	Installed Height
1.476	1.550	1.550	1.320	1.319	1.354	1.460	1.460	O.D. of Outer
1.062	1.136	1.136	.958	.920	.940	1.060	1.060	I.D. of Outer
N/A	.824	.742	.680	.654	N/A	.697	.700	I.D. of Inner
415	566	519	400	505	415	403	441	Spring Rate
Yes	No	Yes	No	No	Yes	Yes	Yes	Damper
Spring Loads (Lbs.)								Spring Height (inches)
								2.300
								2.250
								2.200
								2.150
								2.100
								2.050
								2.000
								1.950
					72	107	133	1.900
88	172	120	125	121	92	127	155	1.850
109	200	146	145	146	113	147	177	1.800
129	228	172	165	171	134	167	199	1.750
150	257	198	185	197	155	187	222	1.700
171	285	223	205	222	175	208	244	1.650
192	313	249	225	247	196	228	266	1.600
213	341	275	245	272	217	248	288	1.550
234	370	301	265	298	238	268	310	1.500
255	398	327	285	323	258	288	332	1.450
276	426	353	305	348	279	308	354	1.400
296	455	379	325	373	300	329	376	1.350
317	483	405	345	399		349	398	1.300
338	511	431	365	424		369	420	1.250
359	539	457	385	449				1.200
	568	483	405	465				1.150
	596	509						1.100
								1.050
								1.000
								0.950
								0.900
								0.850
1.140	1.050	1.086	1.100	1.100	1.280	1.195	1.195	Maximum Coil Bind Height
730	731	729				730	730	Ti. Ret. (Std. Weight)
	720							Ti. Ret. (Light Weight)
740	741					740	740	Steel Ret. (Std. Weight)
1730	1731		1777,1779	1777,1779		1730	1730	Steel Ret. (Light Weight)
	4785	4778	4695	4695				Seat 0.570 Guide Dia.
		4780						Seat 0.630 Guide Dia.
4704	4700					4704	4704	Spring Cup (O.D. Locator)
4755	4757	4757	4753	4753		4755	4755	Shims

Part #	928	26120	950	940	924	925	911	954
# of Springs	Double	Beehive™	Double	Single	Double	Double	Single	Double
Installed Height	1.850	1.900	1.900	1.900	1.900	1.900	1.900	1.900
O.D. of Outer	1.550	1.095/1.445	1.464	1.464	1.509	1.509	1.524	1.525
I.D. of Outer	1.150	.650/1.000	1.080	1.080	1.125	1.125	1.110	1.111
I.D. of Inner	.795	N/A	.724	N/A	.697	.697	N/A	.730
Spring Rate	354	370	332	241	347	395	373	483
Damper	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Spring Height (inches)	Spring Loads (Lbs.)							
2.300								
2.250								
2.200								
2.150								
2.100								
2.050								
2.000								
1.950			116	80	95	92	104	185
1.900	153	148	133	93	112	111	122	210
1.850	171	166	149	105	129	131	141	234
1.800	188	185	166	117	147	151	160	258
1.750	206	203	182	129	164	171	178	282
1.700	224	222	199	141	181	190	197	306
1.650	242	240	216	153	199	210	216	330
1.600	259	259	232	165	216	230	234	354
1.550	277	277	249	177	233	250	253	379
1.500	295	296	266	189	251	269	272	403
1.450	312	314	282	201	268	289	290	427
1.400	330	333	299	213	285	309	309	451
1.350	348	351	316	225	303	329	328	475
1.300	365	370	332	237	320	349	346	499
1.250	383	388	349	249	337	368	365	524
1.200					355	388		548
1.150								
1.100								
1.050								
1.000								
0.950								
0.900								
0.850								
Maximum Coil Bind Height	1.160	1.230	1.200	1.200	1.175	1.175	1.200	1.170
Ti. Ret. (Std. Weight)	732		730	730	732	732	732	732
Ti. Ret. (Light Weight)	721	794			721	721	721	721
Steel Ret. (Std. Weight)	741	795	740 743 744	740	741	741	741	741
Steel Ret. (Light Weight)	1732		1730	1730	1732	1732	1731	1732
Seat 0.570 Guide Dia.	4776	4696	4781			4771	4779	4781
Seat 0.630 Guide Dia.	4777	4697	4782		4770	4783		4782
Spring Cup (O.D. Locator)	4700	4698	4704	4704	4700	4700		4700
Shims	4757	4754	4755	4755	4757	4757	4757	4757

929	953	936	938	930	999	26094	943	Part #
Double	Double	Single	Double	Double	Double	Double	Double	# of Springs
1.900	1.900	1.900	1.900	1.900	1.900	1.900	1.900	Installed Height
1.535	1.539	1.539	1.539	1.550	1.550	1.550	1.550	O.D. of Outer
1.135	1.137	1.125	1.125	1.150	1.114	1.136	1.136	I.D. of Outer
.754	.747	N/A	.731	.795	.724	.752	.812	I.D. of Inner
437	474	325	480	354	633	449	551	Spring Rate
Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Damper
Spring Loads (Lbs.)								Spring Height (inches)
								2.300
								2.250
								2.200
								2.150
								2.100
								2.050
								2.000
118	124	133	180	135	183	156	212	1.950
140	148	149	204	153	215	178	240	1.900
162	172	165	228	171	246	200	268	1.850
183	195	182	252	188	278	223	295	1.800
205	219	198	276	206	310	245	323	1.750
227	243	214	300	224	341	268	350	1.700
249	266	230	324	242	373	290	378	1.650
271	290	247	348	259	405	313	405	1.600
293	314	263	372	277	436	335	433	1.550
315	337	279	396	295	468	358	460	1.500
336	361	295	420	312	499	380	488	1.450
358	385	312	444	330	531	403	516	1.400
380	408	328	468	348	563	425	543	1.350
402	432	344	492	365	594	447	571	1.300
424	456	360	516	383	626	470	598	1.250
446	479				658	492	626	1.200
	503				690			1.150
					722			1.100
								1.050
								1.000
								0.950
								0.900
								0.850
1.160	1.085	1.225	1.225	1.160	1.090	1.200	1.160	**Maximum Coil Bind Height**
732	732	732	738	732	732	732	731	**Ti. Ret. (Std. Weight)**
721	721	721		721	721	721	720	**Ti. Ret. (Light Weight)**
741	741	741	741	741		749	749	**Steel Ret. (Std. Weight)**
1732	1732	1731	1732	1732	1732	1732	1731	**Steel Ret. (Light Weight)**
4772	4772		4778	4776	4781	4772	4785	**Seat 0.570 Guide Dia.**
4773	4773		4780	4777	4782	4773	4777	**Seat 0.630 Guide Dia.**
4700	4700	4700	4700	4700	4700	4700		**Spring Cup (O.D. Locator)**
4757	4757	4757	4757	4757	4757	4757	4757	**Shims**

Part #	998	946	26055	912	939	927	919	933
# of Springs	Double	Triple	Beehive™	Single	Double	Double	Double	Double
Installed Height	1.900	1.900	1.925	1.950	1.950	1.950	1.950	1.950
O.D. of Outer	1.625	1.645	1.204/1.585	.896	1.539	1.539	1.540	1.550
I.D. of Outer	1.175	1.195	.731/1.112	.600	1.125	1.125	1.126	1.136
I.D. of Inner	.769	.871/.635	N/A	N/A	.697	.731	.814	.730
Spring Rate	677	688	400	240	469	498	550	494
Damper	Yes	No	No	No	Yes	Yes	No	Yes
Spring Height (inches)	Spring Loads (Lbs.)							
2.300								
2.250								
2.200								
2.150								
2.100								
2.050								
2.000			120	38	115	172	166	146
1.950	216	319	140	50	138	197	194	171
1.900	250	353	160	62	161	222	221	196
1.850	284	387	180	74	185	247	249	220
1.800	318	422	200	86	208	272	276	245
1.750	352	456	220	98	232	297	304	270
1.700	385	491	240	110	255	321	331	295
1.650	419	525	260	122	279	346	359	319
1.600	453	559	280	134	302	371	386	344
1.550	487	594	300	146	325	396	414	369
1.500	521	628	320	158	349	421	441	393
1.450	555	663	340	170	372	446	469	418
1.400	588	697	360	182	396	471	496	443
1.350	622	732	380		419	496	524	467
1.300	656	766	400		443	520	551	492
1.250	690	800	420		466	545	579	517
1.200	724	835					606	
1.150	758	869					634	
1.100								
1.050								
1.000								
0.950								
0.900								
0.850								
Maximum Coil Bind Height	1.090	1.130	1.225	1.360	1.225	1.175	1.100	1.200
Ti. Ret. (Std. Weight)	733	739 735		753	732	732	731	732
Ti. Ret. (Light Weight)		722	785		721	721	720	721
Steel Ret. (Std. Weight)			703 705		741		741	741
Steel Ret. (Light Weight)						1732	1731	1732
Seat 0.570 Guide Dia.	4774		4696		4770 4771	4778	4785	4781
Seat 0.630 Guide Dia.	4775		4697		4783	4780		4782
Spring Cup (O.D. Locator)	4702	4702	4702 4711		4700	4700	4700	4700
Shims	4756	4756	4757		4757	4757	4757	4757

935	944	951	991	26097	26089	955	932	Part #
Double	Double	Double	Double	Double	Double	Double	Double	# of Springs
1.950	1.950	1.950	1.950	2.000	2.000	2.000	2.000	Installed Height
1.554	1.570	1.620	1.639	1.539	1.550	1.550	1.557	O.D. of Outer
1.140	1.120	1.170	1.190	1.125	1.136	1.136	1.143	I.D. of Outer
.746	.796	.846	.782	.731	.812	.812	.749	I.D. of Inner
471	743	640	640	490	500	526	452	Spring Rate
Yes	No	No	Yes	Yes	No	No	Yes	Damper
Spring Loads (Lbs.)								Spring Height (inches)
								2.300
								2.250
								2.200
								2.150
								2.100
				171	205	214	174	2.050
170	153	198	182	195	230	240	196	2.000
194	190	230	214	220	255	266	219	1.950
218	227	262	246	244	280	293	242	1.900
241	264	294	278	269	305	319	264	1.850
265	301	326	310	293	330	345	287	1.800
288	339	358	342	318	355	371	309	1.750
312	376	390	374	342	380	398	332	1.700
335	413	422	406	367	405	424	355	1.650
359	450	454	438	392	430	450	377	1.600
382	487	486	470	416	455	477	400	1.550
406	524	518	502	441	480	503	422	1.500
430	562	550	534	465	505	529	445	1.450
453	599	582	566	490	530	555	468	1.400
477	636	614	598	514	555	582	490	1.350
500	673	646	630	539	580	608	513	1.300
524	710	678	662	563			535	1.250
	747	710	694	597			558	1.200
	784	742					581	1.150
								1.100
								1.050
								1.000
								0.950
								0.900
								0.850
1.180	1.100	1.100	1.125	1.135	1.230	1.230	1.160	**Maximum Coil Bind Height**
724	731	736	733	732	731	731	738	**Ti. Ret. (Std. Weight)**
	720			721	720	720		**Ti. Ret. (Light Weight)**
748						749	748	**Steel Ret. (Std. Weight)**
1732	1732			1731	1731	1731	1732	**Steel Ret. (Light Weight)**
4772	4776		4774	4778	4785	4785	4772	**Seat 0.570 Guide Dia.**
4773	4777		4775	4780	4777	4777	4773	**Seat 0.630 Guide Dia.**
4700	4702	4702	4702	4700	4700	4700	4700	**Spring Cup (O.D. Locator)**
4757	4757	4756	4756	4757	4757	4757	4757	**Shims**

Part #	26095	996	959	26115	26099	947	948	26082	26028
# of Springs	Single	Double	Double	Double	Double	Triple	Triple	Triple	Triple
Installed Height	2.000	2.000	2.000	2.050	2.050	2.050	2.100	2.100	2.200
O.D. of Outer	1.185/1.589	1.625	1.645	1.549	1.625	1.645	1.645	1.680	1.677
I.D. of Outer	.731/1.135	1.175	1.195	1.125	1.175	1.195	1.195	1.195	1.195
I.D. of Inner	N/A	.769	.871	.719	.769	.871/.635	.871/.635	.871/.635	.872/.635
Spring Rate	300	637	580	544	561	681	686	761	728
Damper	No	Yes	No	Yes	Yes	No	No	No	No
Spring Height (inches)	Spring Loads (Lbs.)								
2.300									
2.250									310
2.200									346
2.150							298	344	382
2.100				201	217	270	332	382	419
2.050	135	243	207	228	245	304	366	420	455
2.000	150	275	236	255	273	338	401	458	492
1.950	165	307	265	283	301	372	435	496	528
1.900	180	338	294	310	329	406	469	534	564
1.850	195	370	323	337	357	440	504	572	601
1.800	210	402	352	364	385	474	538	610	637
1.750	225	434	381	391	413	508	572	648	674
1.700	240	466	410	418	441	542	606	686	710
1.650	255	498	439	446	469	576	641	724	746
1.600	270	529	468	473	497	610	675	763	783
1.550	285	561	497	500	525	644	709	801	819
1.500	300	593	526	527	553	678	744	839	856
1.450	315	625	555	554	581	712	778	877	892
1.400	330	657	584	582	609	746	812	915	928
1.350	345	689	613	609	637	781	847	953	965
1.300	360	721	642	636	665	815	881	991	1001
1.250	375	752	671	663	693	849	915	1029	1038
1.200	390	784	700			883	949	1067	1074
1.150	405	816	729			917		1105	
1.100									
1.050									
1.000									
0.950									
0.900									
0.850									
Maximum Coil Bind Height	1.130	1.100	1.130	1.192	1.184	1.145	1.130	1.130	1.142
Ti. Ret. (Std. Weight)		733	739	732	733	739 735	739 735	739 735	739 735
Ti. Ret. (Light Weight)	785					722	722	722	722
Steel Ret. (Std. Weight)	703 705			748					
Steel Ret. (Light Weight)				1731					
Seat 0.570 Guide Dia.	4711	4774		4781	4774				
Seat 0.630 Guide Dia.		4775		4782	4775				
Spring Cup (O.D. Locator)	4702	4702	4702	4700	4702	4702	4702	4708	4708
Shims	4757	4756	4756	4757	4757	4756	4756	4756	4756

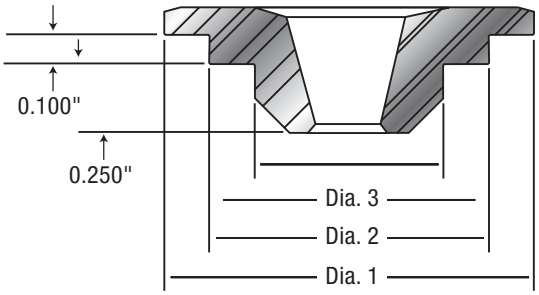
Steel Retainers

Valve springs with larger diameters require retainers to handle the higher pressures developed by the springs. COMP Cams® steel retainers are the solution. Our steel retainers are precision machined from 4140 chromemoly steel and finished in black oxide. These precision retainers are specifically designed for positive location when combined with COMP Cams® high-quality valve springs. For superior strength and ultimate stability, we offer both 7° and 10° retainers and valve locks. Refer to the spring application chart on pages 342-352 for correct retainer part numbers for each COMP Cams® valve spring.

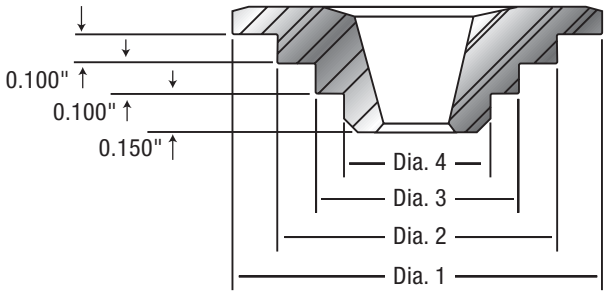

Part #787


Part #740

Double Spring Style



Triple Spring Style



	Part #	Description	Lock Angle	Valve Stem Size	Valve Spring Diameter	Dia.1	Dia.2	Dia.3	Dia.4
	799-32	Ford 4.6L W/ 4 Valve Head & #26123 Beehive™	7°	Stock	.943"	.900"	.570"	—	—
	710-24	Ford 4.6L W/ 3 Valve Head & #26113/#26125 Beehive™	7°	Stock	.959"	.930"	.630"	—	—
New	792-16	Ford 4.6L W/ 2 Valve Head & #26113 Beehive™	7°	Stock	.959"	.930"	.630"	—	—
	701-32	GM 6.6L Duramax W/ #26113/#26125 Beehive™	7°	Stock	.959"-1.013"	.930"	.630"	—	—
New	786-12	Ford 3.8L/4.2L	7°	Stock	Stock	.930"	.640"	—	—
	761-16	Chrysler Hemi 5.7L W/ #26915/#26918 Beehive™	7°	Stock	1.055"	1.000"	.640"	—	—
	783-16	GM Gen III STD "NHRA" Stocker	7°	Stock	1.215"	1.030"	.610"	—	—
	774-16	GM Gen III W/ #26915/#26918 Beehive™	7°	Stock	1.055"	1.030"	.640"	—	—
	787-16	#26915/#26918 in Non Gen III Engine	7°	11/32"	1.055"	1.030"	.640"	—	—
	778-16	Honda/Acura B18 w/ DOHC	7°	Stock	Stock	1.103"	.868"	.608"	—
	742-16	Chevrolet V6 & Small Block, Buick V6	7°	11/32"	1.250"	1.230"	.870"	.650"	—
	775-16	GM Gen III w/ 1.430"-1.460" O.D. Spring	7°	Stock	1.430"-1.460"	1.300"	1.070"	.690"	—
	768-16	Steel Retainer w/ 1.430"-1.460" O.D. Spring	7°	11/32"	1.437"-1.500"	1.400"	1.030"	.690"	—
	743-16	Chevy, Small Block Ford, Olds, Pontiac	7°	11/32"	1.437"-1.500"	1.400"	1.060"	.690"	—
	744-16	Big Block Chevy, Chrysler, Big Block Ford	7°	3/8"	1.437"-1.500"	1.400"	1.060"	.690"	—
	782-16	7° Version of #741 (11/32")	7°	11/32"	1.500"-1.550"	1.500"	1.115"	.690"	—
	780-16	7° Version of #741 (3/8")	7°	3/8"	1.500"-1.550"	1.500"	1.115"	.690"	—
	795-16	Steel Retainer for #26120 Beehive™	10°	All	1.095"	1.050"	.640"	—	—
	703-16	Steel Retainer for #26095 Beehive™	10°	All	1.185"	1.150"	.725"	.466"	—
New	705-16	Steel Retainer for #26095 Beehive™ +.050" over #703	10°	All	1.185"	1.150"	.725"	.466"	—
New	751-16	Steel Retainer for #983 Ovate Wire Spring	10°	All	1.250"	1.240"	.820"	.735"	—
	750-16	Super Lock™ Retainer	10°	All	1.250"	1.240"	.870"	.735"	—
	747-16	Super Lock™ Retainer	10°	All	1.437"-1.500"	1.400"	1.050"	.690"	—
	740-16	Super Lock™ Retainer	10°	All	1.437"-1.500"	1.400"	1.060"	.690"	—
	748-16	Super Lock™ Retainer	10°	All	1.500"-1.550"	1.500"	1.095"	.710"	—
	741-16	Super Lock™ Retainer	10°	All	1.500"-1.550"	1.500"	1.115"	.690"	—
	746-16	Super Lock™ Retainer for Triple Springs	10°	All	1.500"-1.550"	1.500"	1.120"	.830"	.640"
	749-16	Super Lock™ Retainer	10°	All	1.500"-1.550"	1.500"	1.125"	.745"	—

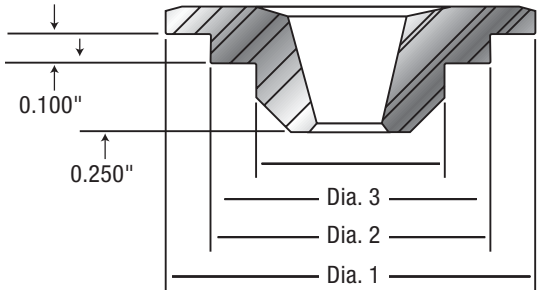
Note: Refer to spring application chart for correct retainers for each part number COMP Cams® spring.
Also available in singles (-1) and bulk (-100)

New Lightweight Tool Steel Retainers

COMP Cams® new Lightweight Tool Steel Retainers provide the best of all valve train benefits: light weight, as well as exceptional strength and wear characteristics. Approximately 33% lighter than conventional chromemoly steel retainers and only 2-4 grams heavier than titanium (depending upon application), they are made from high-grade Tool Steel, making them able to withstand even the most demanding race applications.

- CNC-machined for consistent quality
- Developed using latest FEA and CAD software
- Spintron®-tested to extreme rpm to prove strength is equivalent to titanium and stronger than chromemoly steel
- Designed for both 7° and 10° angles

Double Spring Style





Part #1732-16

Part #	Description	Angle	Stem Size	Valve Spring Diameter	Dia.1	Dia.2	Dia.3	Dia.4	Steel Part #	Titanium Part #
1730-16	Tool Steel Retainer	10°	All	1.437"-1.500"	1.375"	1.065"	.700"	—	740	730
1731-16	Tool Steel Retainer	10°	All	1.500"-1.550"	1.437"	1.100"	.800"	—	741	731
1732-16	Tool Steel Retainer	10°	All	1.500"-1.550"	1.450"	1.100"	.710"	—	748	732
1750-16	Tool Steel Retainer	10°	All	1.250"	1.240"	.870"	.735"	—	750	728
1754-16	Tool Steel Version of #754 Retainer	7°	8mm	1.250"	1.235"	.860"	.610"	—	—	754
1756-16	Tool Steel Retainer for #26056 Spring	10°	All	1.185"	1.050"	.725"	.466"	—	—	—
1757-16	Tool Steel Retainer for #26056 Spring	7°	7mm	1.185"	1.050"	.725"	.340"	—	—	—
1772-16	Tool Steel Version of #772 Retainer	7°	8mm	1.290"	.948"	.640"	—	—	774	772
1777-16	Tool Steel Retainer	7°	11/32"	1.290"	1.172"	.910"	.646"	—	—	—
1779-16	Tool Steel Retainer for #26925/#26926 Springs	7°	Stock	1.290"	1.172"	.910"	.646"	—	—	—
1787-16	Tool Steel Retainer	7°	11/32"	1.055"	1.030"	.640"	—	—	787	788
1795-16	Tool Steel Retainer	10°	All	1.095"	1.050"	.640"	—	—	795	794

Note: Refer to spring application chart for correct retainers for each part number COMP Cams® spring.
Also available in singles (-1) and bulk (-100)

Titanium Retainers

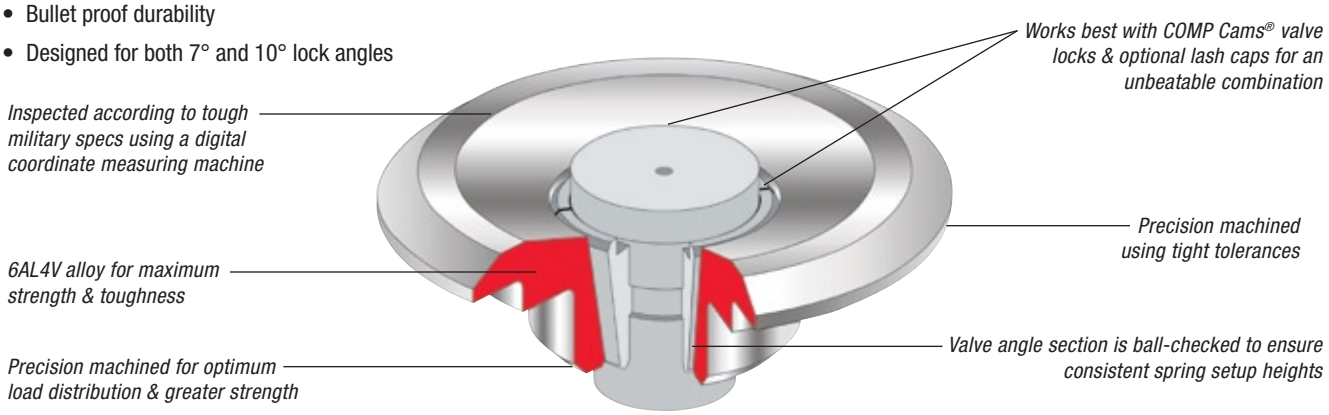
Upgrading to COMP Cams® titanium valve spring retainers will often allow you to gain speed and power because titanium retainers are lighter and stronger than most steel ones. Additionally, our Super Lock™ titanium design gives you confidence; no longer will you be preoccupied with splitting a retainer and tearing up an engine when turning 10,000 rpm.

COMP Cams® titanium retainers are made from the finest 6AL4V alloy for maximum stiffness and minimal warpage. The 6AL4V alloy is heat-treated and processed to a stringent tolerance that makes it so strong that it is even used on the U.S. Air Force F-117 Stealth Fighter. Other manufacturers purchase titanium from metal brokers and produce "cheap" retainers, but COMP Cams® titanium retainers will not deform. From a standing idle to the most extreme rpm, our titanium retainers perform flawlessly and without compromise.



Part #730-1 Part #772-1

- Better material consistency
- Superior grain structure
- Bullet proof durability
- Designed for both 7° and 10° lock angles



Part #	Description	Lock Angle	Valve Stem Size	Valve Spring Diameter	Dia.1	Dia.2	Dia.3	Dia.4
753-16	Honda D16Z6 (VTEC) w/ SOHC	Stock	Stock	.825"	.825"	.590"	—	—
798-32	Ford 4.6L W/ 4 Valve Head & #26123 Beehive™	7°	Stock	.943"	.900"	.570"	—	—
702-24	Ford 4.6L W/ 3 Valve Head & #26113 Beehive™	7°	Stock	.959"	.930"	.630"	—	—
791-16	Ford 4.6L W/ 2 Valve Head & #26113 Beehive™	7°	Stock	.959"	.930"	.630"	—	—
762-16	Chrysler Hemi 5.7L W/ #26915/#26918	7°	Stock	1.055"	1.000"	.640"	—	—
772-16	GM Gen III W/ #26915 or #26918	7°	8 mm	1.055"	1.030"	.640"	—	—
788-16	#26915/#26918 in Non Gen III Engine	7°	11/32"	1.055"	1.030"	.640"	—	—
760-16	Acura B18C (VTEC) W/ DOHC	Stock	Stock	1.103"	1.103"	.868"	.608"	—
754-16	Titanium Retainer for #26921 Spring	7°	8 mm	1.250"	1.235"	.860"	.610"	—
776-16	GM Gen III w/ 1.430"-1.460" O.D. Spring	7°	8 mm	1.430"-1.460"	1.300"	1.070"	.690"	—
794-16	Titanium Retainer for #26120 Beehive™	10°	All	1.300"	1.050"	.640"	—	—
785-16	Titanium Retainer for #26095 Beehive™	10°	All	1.585"	1.150"	.725"	—	—
728-16	Titanium Retainer for Single Spring	10°	All	1.250"	1.240"	.870"	.735"	—
730-16	Titanium Retainer for Double Spring	10°	All	1.437"-1.500"	1.437"	1.065"	.700"	—
731-16	Titanium Retainer for Double Spring	10°	All	1.500"-1.550"	1.437"	1.100"	.800"	—
721-16	Titanium Retainer for Double Lightweight	10°	All	1.500"-1.550"	1.437"	1.108"	.708"	—
722-16	Titanium Retainer for Double Lightweight	10°	All	1.625"	1.437"	1.178"	.868"	.637"
720-16	Titanium Retainer for Double Lightweight	10°	All	1.500"-1.550"	1.437"	1.098"	.798"	—
784-16	Titanium Retainer for #26091 Spring	10°	All	1.625"	1.450"	1.170"	.840"	—
732-16	Titanium Retainer for Double Spring	10°	All	1.500"-1.550"	1.500"	1.110"	.710"	—
738-16	Titanium Retainer for Double Spring	10°	All	1.500"-1.550"	1.500"	1.120"	.730"	—
727-16	Titanium Retainer for Double Spring	10°	All	1.500"-1.550"	1.500"	1.120"	.745"	—
729-16	Titanium Retainer for Double Spring	10°	All	1.500"-1.550"	1.500"	1.135"	.730"	—
736-16	Titanium Retainer for Triple Spring	10°	All	1.500"-1.550"	1.500"	1.135"	.835"	.635"
733-16	Titanium Retainer for Double Spring	10°	All	1.625"	1.500"	1.180"	.765"	—
739-16	Titanium Retainer for Triple Spring	10°	All	1.625"	1.500"	1.180"	.870"	.635"
735-16	Triple + .050" over #739	10°	All	1.625"	1.500"	1.180"	.870"	.635"

Note: Refer to spring application chart for correct retainers for each part number COMP Cams® spring.
Also available in singles (-1) and bulk (-100)

Valve Lash Caps

Because today's racing engines run at higher rpm levels with harsh cam profiles, the tip of the valve stem is subjected to a tremendous amount of pounding. These engines always run just on the brink of valve float – one of the most severe conditions that can exist. The best solution to this problem is the COMP Cams® Valve Lash Caps. These lash caps are precision machined and ground perfectly flat to maintain accuracy of valve train adjustment.

- Ultimate in strength and reliability
- Fit valve stems well and are easily removed
- Special version for short tipped Chrysler Hemi valves
- Must have for titanium valves



Part #621-16

Part #	Description	Overall Head Height	Thickness	Valve Stem Size
619-16	426 Hemi (Short Cap)	.190"	.080"	5/16"
620-16	Hardened Lash Cap	.230"	.080"	5/16"
621-16	Hardened Lash Cap	.210"	.080"	11/32"
622-16	Hardened Lash Cap	.190"	.080"	3/8"

For 4 cylinder use -8 suffix, for 6 cylinder use -12 suffix

Valve Locks – 7°

Most people believe that the tang inside a valve lock holds the retainer and valve spring in place while the engine is running. This is not the case. The cross-section of material in the tang is not strong enough to withstand open spring loads of 1000 lbs. or more. The sole purpose of the tang is to temporarily locate the lock, retainer and spring relative to the valve until the taper of the retainer can nest around the outside surface of the lock. This creates a "collet" effect that binds the two together. The more spring force exerted on the retainer (as the valve opens), the more force applied by the "collet" effect to keep the retainer and lock in place.

With the emergence of valve sizes other than the standard 5/16", 11/32" and 3/8", it is important to make sure the valve locks match the valve size. There should always be a small gap between the two halves of the lock when they are properly positioned on the valve stem. If the two halves fit together without a gap, they are too large. If the locks fit tight to the stem and leave a gap between the middle of the lock and the O.D. of the stem, the locks are too small.

Our line of stock replacement 7° valve locks for stock engine rebuilds are recommended only for street applications with lighter valve spring loads, and are stamped and hardened for superior wear resistance. Also available are machined 7° locks and titanium Super 7° locks for some applications. They offer the same valve spring location accuracy as our Super Locks™ without the need to change to 10° retainers.



Part #636-16



Part #648



Part #601

Steel Street Locks – 7°

Part #	Description	Lock Angle	Valve Stem Size
600-16	Hardened Steel, Single Groove	7°	5/16"
601-16	Hardened Steel, Single Groove	7°	11/32"
603-16	Hardened Steel, Single Groove	7°	3/8"
605-16	Hardened Steel, Ford 351C, 4 Groove	7°	11/32"
602-16	Hardened Steel, Chrysler, 2 Groove	7°	3/8"
604-16	Hardened Steel, Chrysler, 4 Groove	7°	3/8"
606-16	Hardened Steel, Chrysler, 2 & 4 Groove	7°	3/8"

For 4 cylinder use -8 suffix, for 6 cylinder use -12 suffix

Machined Steel Race Locks – 7°

Part #	Description	Lock Angle	Valve Stem Size
623-16	Machined Steel, Single Groove GM Gen III/LS1/LS2/LS6	7°	8mm
629-16	Machined Steel, Single Groove Honda B & D Series	7°	5.5mm
628-16	Machined Steel, Single Groove	7°	5/16"
648-16	Machined Steel, Single Groove	7°	11/32"
641-16	Machined Steel, Single Groove	7°	3/8"

Also available in singles (-1) and bulk (-100)
For 4 cylinder use -8 suffix, for 6 cylinder use -12 suffix

Titanium Valve Locks – Super 7 (8°)

Part #	Description	Lock Angle	Valve Stem Size
636-16	Titanium Super 7 (See Note Below)	8°	11/32"

Note: These locks require specific retainers and do not work with standard 7 or 10 degree retainers

Super Locks™ – 10°

- Wider angle (10°) locks better distribute the ever increasing valve spring loads over the retainer than typical 7° locks (see diagram below)-reducing the chance of "pull-through" failure
- Precision-machined rather than stamped for the ultimate in accuracy
- Super-tough, fatigue resistant alloy material
- Inside tang-to-taper relationship held tightly for repeatable valve spring installed heights
- Available in +.050" installed height versions
- For simplicity, any Super Lock™ fits any COMP Cams® 10° retainer – just choose the correct lock for your valve size and application
- Super Locks™ are recommended in all race applications



Part #611-16

Steel Super Locks™ – 10°

Part #	Description	Lock Angle	Valve Stem Size
610-16	W/ Lash Cap Recess	10°	.308"/5/16"
618-16	W/ Lash Cap Recess	10°	.310"
617-16	W/O Lash Cap Recess	10°	.310"
611-16	W/ Lash Cap Recess	10°	11/32"
613-16	W/O Lash Cap Recess	10°	11/32"
614-16	+.050" Inst. Ht. W/O Lash Cap Recess	10°	11/32"
630-16	-.050 Inst. Ht. W/ Lash Cap Recess	10°	11/32"
624-16	Ford 4 Groove	10°	11/32"
612-16	W/ Lash Cap Recess	10°	3/8"
616-16	+.050" Inst. Ht. W/O Lash Cap Recess	10°	3/8"
609-16	-.050 Inst. Ht. W/ Lash Cap Recess	10°	3/8"
625-16	Chrysler 2 Groove	10°	3/8"
626-16	Chrysler 4 Groove	10°	3/8"
627-16*	Chrysler 2 & 4 Groove	10°	3/8"
632-16	LS1/LS6 Bead Lock	10°	8mm

Also available in singles (-1) and bulk (-100)
For 4 cylinder use -8 suffix, for 6 cylinder use -12 suffix
*8 pair #625 2 groove and 8 pair #626 4 groove

Titanium Super Locks™ – 10°

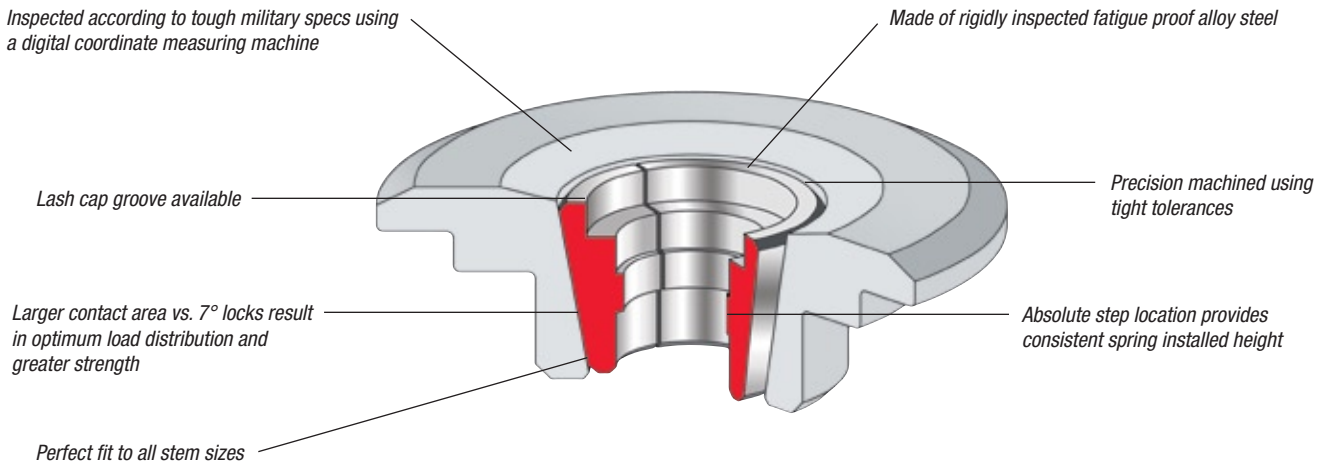
Part #	Description	Lock Angle	Valve Stem Size
637-16	W/ Lash Cap Recess	10°	5/16"
638-16	W/ Lash Cap Recess	10°	11/32"

For 4 cylinder use -8 suffix, for 6 cylinder use -12 suffix



Part #688-16

Features of COMP Cams® 10° Super Locks™



Valve Spring Locators

The old standard shims will not hold up to the extreme spring pressures and high rpm found in racing engines being built today. COMP Cams® offers a simple but effective solution to this problem – a thin, hardened steel alloy seat which will not only protect the head and shim, but also locate and hold the spring in place. Previously, this part has been available only in a cup form with the retaining portion being on the outside of the part. This required that the head be machined a great deal to accept this cup so COMP® now offers an I.D. locator with the locating shoulder on the inside, as well as the spring cup. Many sizes are available to locate from the inside or outside diameter.



Spring Cup



Spring I.D. Locator



Part #4771-16



Part #4700-16

Spring O.D. Locator Cups

Part #	Description	Locator Thickness	Locator I.D.	Locator O.D.	Spring O.D.	Spring I.D.
4704-16	Spring Cup	.060"	.640"	1.570"	1.475"	N/A
4700-16	Spring Cup	.060"	.640"	1.670"	1.565"	N/A
4702-16	Spring Cup	.060"	.640"	1.730"	1.650"	N/A
4708-16	Spring Cup	.060"	.640"	1.780"	1.690"	N/A
4706-16	Spring Cup	.060"	.640"	1.830"	1.740"	N/A

Also available in singles (-1) and bulk (-100)

Spring I.D. Locators

Part #	Description	Locator Thickness	Locator I.D.	Locator O.D.	Spring O.D.	Spring I.D.
4688-16	Spring I.D. Locator	.060"	.470"	1.100"	N/A	.720"
4690-16	Spring I.D. Locator	.120"	.780"	1.253"	N/A	.878"
4747-16	Spring I.D. Locator	.062"	.505"	1.290"	N/A	.875"
4862-16	Spring I.D. Locator	.120"	.520"	1.270"	N/A	.650"
4695-16	Spring I.D. Locator	.060"	.520"	1.300"	N/A	.640"
4863-16	Spring I.D. Locator	.060"	.570"	1.300"	N/A	.840"
4731-16	Spring I.D. Locator	.100"	.570"	1.340"	N/A	.650"
4712-16	Spring I.D. Locator	.060"	.520"	1.400"	N/A	.690"
4713-16	Spring I.D. Locator	.100"	.535"	1.565"	N/A	1.125"
4693-16[A]	Spring I.D. Locator	.060"	.570"	1.300"	N/A	.800"
4705-16[B]	Spring I.D. Locator	.060"	.570"	1.300"	N/A	.875"
4694-16[C]	Spring I.D. Locator	.060"	.570"	1.450"	N/A	1.000"
4784-16	Spring I.D. Locator	.060"	.570"	1.500"	N/A	.735"
4696-16[D]	Spring I.D. Locator	.060"	.570"	1.510"	N/A	.970"
4771-16	Spring I.D. Locator	.060"	.570"	1.550"	N/A	.690"
4781-16	Spring I.D. Locator	.060"	.570"	1.550"	N/A	.715"
4778-16	Spring I.D. Locator	.060"	.570"	1.550"	N/A	.730"
4772-16	Spring I.D. Locator	.060"	.570"	1.550"	N/A	.750"
4691-16	Spring I.D. Locator	.060"	.570"	1.550"	N/A	.750"
4759-16	Spring I.D. Locator	.040"	.570"	1.550"	N/A	.810"
4711-16	Spring I.D. Locator	.060"	.570"	1.590"	N/A	1.130"
4714-16	Spring I.D. Locator	.060"	.570"	1.600"	N/A	.840"
4774-16	Spring I.D. Locator	.060"	.570"	1.625"	N/A	.765"
4776-16	Spring I.D. Locator	.060"	.570"	1.550"	N/A	.790"
4785-16	Spring I.D. Locator	.060"	.570"	1.550"	N/A	.810"
4786-16	Spring I.D. Locator	.060"	.570"	1.635"	N/A	.870"
4860-16	Spring I.D. Locator	.060"	.570"	1.655"	N/A	.630"
4770-16	Spring I.D. Locator	.060"	.585"	1.500"	N/A	.690"
4697-16[D]	Spring I.D. Locator	.060"	.630"	1.510"	N/A	.970"
4775-16	Spring I.D. Locator	.060"	.630"	1.625"	N/A	.765"
4783-16	Spring I.D. Locator	.060"	.640"	1.540"	N/A	.690"
4782-16	Spring I.D. Locator	.060"	.640"	1.540"	N/A	.715"
4780-16	Spring I.D. Locator	.060"	.640"	1.540"	N/A	.730"
4773-16	Spring I.D. Locator	.060"	.640"	1.540"	N/A	.750"
4777-16	Spring I.D. Locator	.060"	.640"	1.540"	N/A	.790"

Also available in singles (-1) and bulk (-100)

A. Designed for #26981 Beehive™ Springs
B. Designed for #26915 & #26918 Beehive™ Springs
C. Designed for #26986 & #26995 Beehive™ Springs
D. Designed for #26120 Beehive™ Springs

CAMHELP®
800.999.0853

Valve Spring Shims

- Used to equalize installed height of valve spring
- Made from the highest quality shim stock
- Heat-treated to stand up to radical cam lobes
- Available in three different thicknesses to help achieve proper valve spring height
- Available for many different spring diameters
- Kits contain 16 pieces of each thickness listed



Part #	Thickness	O.D.	I.D.
4736-16	.015"	1.250"	.814"
4742-16	.030"	1.250"	.814"
4748-16	.060"	1.250"	.814"
4737-16	.015"	1.437"	.645"
4743-16	.030"	1.437"	.645"
4749-16	.060"	1.437"	.645"
4738-16	.015"	1.480"	.765"
4744-16	.030"	1.480"	.765"
4750-16	.060"	1.480"	.765"
4739-16	.015"	1.500"	.645"
4745-16	.030"	1.500"	.645"
4751-16	.060"	1.500"	.645"
4740-16	.015"	1.640"	.635"
4746-16	.030"	1.640"	.635"
4752-16	.060"	1.640"	.650"
Shim Kits			
4753	.015", .030", .060"	1.250"	.814"
4754	.015", .030", .060"	1.437"	.645"
4755	.015", .030", .060"	1.480"	.765"
4757	.015", .030", .060"	1.500"	.645"
4756	.015", .030", .060"	1.640"	.635"-.650"

Individual shims available in singles (-1) and bulk (-100)



Big Block Chevrolet Seat Spacers

Late model Big Block Chevrolet engines are originally equipped with exhaust valve rotators. Until now, the only way to make up for the rotator was to stack .300" of shims under the spring. This was sloppy but also did not fit as well as these seat spacers. These will locate the spring with an outside step so the spring cannot "walk" around on the head.



Part #4779-8

Part #	Description	Thickness	O.D.	Spring O.D.	Spring I.D.
4779-8	Chevrolet Big Block Exhaust Rotator Eliminator	.300"	1.732"	1.568"	0.623"
4698-8	Chevrolet Big Block Exhaust Rotator Eliminator for #26120 Beehive™	.300"	1.732"	1.468"	0.630"

Also available in singles (-1) and bulk (-100)

Spring Seat & Guide Cutters/Arbors

These tools from COMP Cams® will allow machining of the cylinder head to the proper size for your spring. Each cutter requires the use of an arbor/pilot, which is available in three different sizes. These arbor/pilots also will work with the valve guide cutters used for shortening the guide for a high lift cam or installing a COMP Cams® Teflon seal for oil control.

- Seat cutters available in many sizes from 1.320"-1.810" O.D
- Valve guide cutters available to cut guide to .446", .494", .500", .530" or .625"
- Arbors/pilots available for 5/16", 11/32", 3/8" and 7mm valve stem diameter



Part #	Description	Cuts Guide
Spring Seat Cutters		
4733	1.440" Spring Seat Cutter	.560"
4735	1.580" Spring Seat Cutter	.560"
4741	1.680" Spring Seat Cutter	.560"
4718	1.440" Spring Seat Cutter	.630"
4719	1.550" Spring Seat Cutter	.630"
4720	1.580" Spring Cup Cutter	.630"
4722	1.680" Spring Cup Cutter	.630"
4724	1.740" Spring Cup Cutter	.630"
4723	1.810" Spring Cup Cutter, Use W/ #26028 and #26030 Race Springs	.630"
4716	1.320" Spring Seat Cutter, To Install Larger Springs & Hardened Spring Seat on GM Vortec Head	.630"
4721	1.350" Spring Seat Cutter, To Install Single Springs On GM Vortec Head W/O Hardened Spring Seat	.775"
Valve Guide Cutters		
4727	.446" Valve Guide Cutter	.446"
4725	.494" Valve Guide Cutter	.494"
4715	.500" Valve Guide Cutter	.500"
4726	.530" Valve Guide Cutter	.530"
4728	.625" Valve Guide Cutter	.625"
4729	Stud Boss Cutter	N/A
Arbor/Pilots		
4730	5/16" Arbor/Pilot for Seat & Guide Cutters	N/A
4732	11/32" Arbor/Pilot for Seat & Guide Cutters	N/A
4734	3/8" Arbor/Pilot for Seat & Guide Cutters	N/A
4765	7mm Arbor/Pilot for Seat & Guide Cutters	N/A

Valve Stem Oil Seals

COMP Cams® offers a complete line of valve stem seals, a must to keep unwanted oil from entering the combustion chamber through the clearance in the valve guides. The o-ring seals use the standard retainer and oil splash shield. The umbrella seal is normally used when a larger-than-stock diameter spring is used, and in the case of a double spring, the positive-stop Teflon seal is used. Smaller diameter Viton seals are also available for triple spring applications. Both the o-ring and the umbrella seals require no machining, but with the Teflon seal it is necessary to disassemble the heads and machine the top of the guide with a special cutter, which can be found to the left side of this page.



Part #	Description	Guide Size	Valve Size
501-16	O-Ring	Stock	11/32"
502-16	Umbrella	Stock	11/32"
504-16	Umbrella	Stock	3/8"
500-16	Positive Stop Teflon	.530"	5/16"
503-16	Positive Stop Teflon	.530"	11/32"
529-16	Metal Body Viton Seal	.530"	11/32"
514-16	Metal Body Viton Seal	.500"	3/8"
515-16	Metal Body Viton Seal	.530"	3/8"
516-16	Metal Body Viton Seal	.530"	5/16"
505-16	Positive Stop Teflon	.530"	3/8"
511-16	Steel Jacketed Viton Seal for LS1, #26921-KIT	.500"	Stock
513-16	Teflon (.600" O.D.)	.500"	5/16"
510-16	Teflon (.600" O.D.)	.500"	11/32"
512-16	Teflon (.600" O.D.)	.500"	3/8"
507-8[A]	Black Viton (Intake) (Small O.D. for Triple Spring)	.446"	5/16"
508-8[A, B]	Orange Viton (Exhaust (Small O.D. for Triple Spring)	.446"	5/16"
509-16[A]	8 Pcs. of #507 & 8 Pcs. of #508 (Small O.D. for Triple Spring)	.446"	5/16"
506-16[A]	Black Viton Valve Seal (Small O.D. for Triple Spring)	.494"	11/32"
New 517-16	Metal Body Viton Seal for use with Triple Spring (Total O.D. of .546")	.500"	11/32"
New 518-16	Metal Body Viton Seal for use with Triple Spring (Total O.D. of .575")	.530"	11/32"
New 519-16	Metal Body Viton Seal for use with Triple Spring (Total O.D. of .500")	.500"	5/16"
New 520-16	Metal Body Viton Seal for use with Triple Spring (Total O.D. of .530")	.530"	5/16"
New 521-16	Metal Body Viton Seal for use with Triple Spring (Total O.D. of .500")	.500"	3/8"
New 522-16	Metal Body Viton Seal for use with Triple Spring (Total O.D. of .530")	.530"	3/8"

For 4 cylinder use - 8 suffix, for 6 cylinder use -12 suffix

A. Specially designed for #946, #947, and #948 triple valve springs

B. Exhaust seal has more clearance for added lubrication

Sportsman Stainless Steel Valves

A key component in your valve train, high-quality valves are essential for allowing your engine to deliver its performance potential. Featuring precision tolerances and superior final machining, the COMP Cams® Sportsman Stainless Steel Valves offer outstanding performance and durability characteristics for serious street or race engines.

- 21-4N forging high-strength stainless steel alloy provides performance and durability
- One-piece chrome plated stem and hardened tip that don't require lash cap
- Spiral polished and high flow underhead for minimum flow restriction
- Precision-manufactured to strict tolerances and rigorously quality inspected
- Recommended for hydraulic and solid flat tappet or roller lifter applications



Part #6006

Part #	Description	Overall Length	Lock Groove	Intake/Exhaust	Head Diameter	Stem Size
6006-8	Chevrolet 265-400	4.911"	Single	Intake	1.940"	11/32"
6004-8	Chevrolet 265-400	4.911"	Single	Intake	2.020"	11/32"
6001-8	Chevrolet 265-400	5.011"	Single	Intake	2.020"	11/32"
6009-8	Chevrolet 265-400	5.111"	Single	Intake	2.020"	11/32"
New 6018-8	Chevrolet 265-400	5.011"	Single	Intake	2.055"	11/32"
6013-8	Chevrolet 265-400	4.911"	Single	Intake	2.080"	11/32"
6003-8	Chevrolet 265-400	5.011"	Single	Intake	2.080"	11/32"
6007-8	Chevrolet 265-400	5.111"	Single	Intake	2.080"	11/32"
6016-8	Chevrolet 265-400	4.911"	Single	Exhaust	1.500"	11/32"
6011-8	Chevrolet 265-400	4.911"	Single	Exhaust	1.600"	11/32"
6002-8	Chevrolet 265-400	5.011"	Single	Exhaust	1.600"	11/32"
6012-8	Chevrolet 265-400	5.111"	Single	Exhaust	1.600"	11/32"
6022-8	Chevrolet 396-454	5.510"	Single	Intake	2.250"	See Note Below*
6021-8	Chevrolet 396-454	5.510"	Single	Intake	2.300"	See Note Below*
6023-8	Chevrolet 396-454	5.522"	Single	Exhaust	1.880"	See Note Below*
6039-8	GM Gen III LS1/LS2/LS6	4.900"	Single	Intake	2.020"	8mm
6046-8	GM Gen III LS1/LS2/LS6	4.900"	Single	Intake	2.055"	8mm
6047-8	GM Gen III LS1/LS2/LS6	4.900"	Single	Intake	2.080"	8mm
6048-8	GM Gen III LS1/LS2/LS6	4.930"	Single	Exhaust	1.570"	8mm
6049-8	GM Gen III LS1/LS2/LS6	4.930"	Single	Exhaust	1.600"	8mm
6051-8	GM Gen III LS1/LS2/LS6	5.450"	Single	Intake	2.080"	8mm
6052-8	GM Gen III LS1/LS2/LS6	5.450"	Single	Intake	2.040"	8mm
6053-8	GM Gen III LS1/LS2/LS6	5.450"	Single	Exhaust	1.600"	8mm
6054-8	GM Gen III LS1/LS2/LS6	5.450"	Single	Exhaust	1.570"	8mm

* Big Block Chevrolet factory valve stem size is 3/8", however all COMP Cams® Big Block Chevy valves listed feature 11/32" valve stem diameter for increased flow and less weight

Valve Spring Accessories

Valve Train Assembly Spray



Part #106
See page 272 for details

Valve Spring Height Micrometers



Part #4928, #4929, #4930 & #4950
See page 383 for details

Rimac Spring Tester



Part #5313
See page 388 for details

Indicator Bracket For Spring Tester



Part #4903
See page 388 for details

Precise

Versatile

Balanced

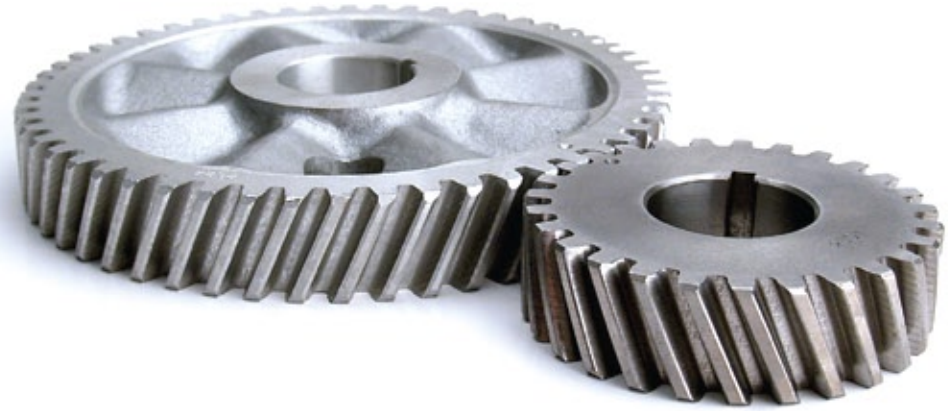




TIMING SETS

With a variety of timing sets and components that include double roller sets, adjustable and keyway adjustable sets, belt drives and timing covers, COMP Cams® carries everything necessary to provide precision timing for serious street performance and race applications.







New Cam Phaser Limiter Kits Patent# US 2009/0188452 A1

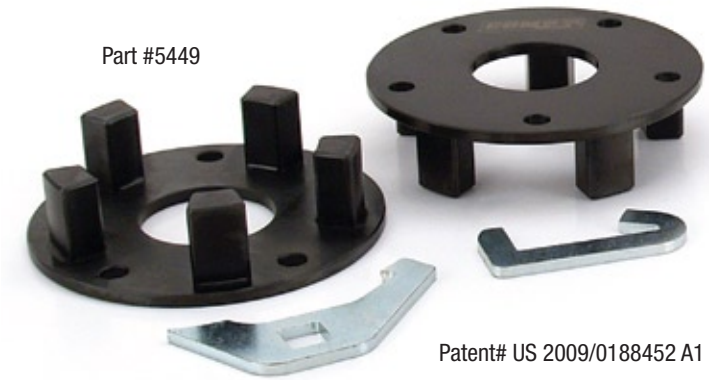
Cam phasers are specially designed, computer-controlled cam gears that automatically optimize camshaft timing based on the current engine rpm and are currently used in all 2005 and newer Ford Modular 3 Valve and in 2007 and newer GM Gen IV VVT (Variable Valve Timing) engines. Engine oil is pressure fed to the cam phasers through a series of passageways in the cylinder heads and camshafts. The engine computers control solenoids that adjust this oil flow into and out of the phaser's control chambers, giving the ability to retard the cams up to 60 crank degrees (52° for 2009 and later GM Gen IV).

While this technology provides benefits such as fuel efficiency and the ability to always be in the best position for maximum power, regardless of engine rpm, it does present some limitations when it comes to performance camshafts. With such a wide range of valve timing movement, there is very little piston to valve clearance, which limits you to small cam profiles with little overlap.

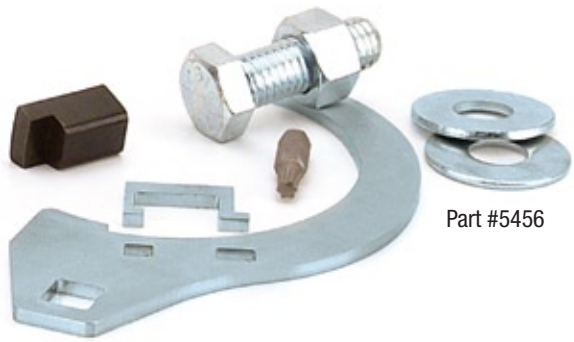
The COMP Cams® Cam Phaser Limiter Kits for Ford Modular 3V engines and 2007 and later GM Gen IV VVT engines restrict the range of cam timing movement to only 20 degrees (22° for 2009 and later GM Gen IV), thus providing the necessary valve clearance for serious performance cams with tighter lobe separations – all while still utilizing the benefits of VVT technology. The resulting upper-rpm gains are some of the largest we've ever seen from a camshaft swap without sacrificing any bottom end or mid-range performance.

Timing Set Part #	Description
5449	4.6L/5.4L Modular 3V Ford 2005 & Newer Cam Phaser Limiter Kit
5446	4.6L/5.4L Modular 3v Ford 2005 & Newer Cam Phaser Limiter Tool
5447	4.6L/5.4L Modular 3V Ford 2005 & Newer Cam Phaser Limiter Spring Compressor
5448	4.6L/5.4L 3V Ford 2005 & Newer Cam Phaser Limiter
5456	GM Gen IV 2007-08 VVT Cam Phaser Limiter Kit
5454	GM Gen IV 2007-08 VVT Cam Phaser Limiter Tool
5455	GM Gen IV 2007-08 VVT Cam Phaser Limiter Spring Lock Tool
5457	GM Gen IV 2007-08 VVT Cam Phaser Limiter Plug
5460	GM Gen IV 2009-Present VVT Cam Phaser Limiter Kit
5454	GM Gen IV 2009-Present VVT Cam Phaser Limiter Tool
5455	GM Gen IV 2009-Present VVT Cam Phaser Limiter Spring Lock Tool
5459	GM Gen IV 2009-Present VVT Cam Phaser Limiter Plug

Part #5449



Patent# US 2009/0188452 A1



Part #5456

Ford 4.6/5.4L SOHC and DOHC Adjustable Cam Gear Set

Ford's 4.6/5.4L Two and Four Valve engines have the capacity to make huge horsepower, but with the factory timing gear setup, you can't "tune" your camshaft timing. Now available is the COMP Cams® Ford 4.6/5.4L SOHC and DOHC Adjustable Cam Gear Set, which provides up to 12° of camshaft advance or retard. This ability to adjust the cam timing is important when performance engine modifications are completed. The cam gear set installs in exactly the same way as the original factory gears (already equipped with the proper sensor as well) and work with the Ford OE timing chains. Each gear features a billet aluminum hub and steel outer gear for heightened durability and light weight.

Part #	Description
10246SET	4.6L/5.4L SOHC/DOHC Cam Gear Set
10246LH	4.6L/5.4L SOHC/DOHC Cam Gear Set LH W/ Sensor
10246RH	4.6L/5.4L SOHC/DOHC Cam Gear RH

High Energy™ Timing Chain Sets

- Exceed all original equipment timing chain specifications
- Premium quality link belt type timing chain for exceptional durability; chain available separately
- Precision cast iron camshaft and crank gear sprockets
- Ideal for stock replacement and mild performance applications



Part #3200

Timing Set Part #	Description	Chain Only Part #
3218	AMC V8, 290-401, 1969-81	3318
3219	AMC V6, 199-258, 1964-97	3319
3215	Buick V8, 350, 1968-80	3315
3217	Buick V8, 400-455, 1967-76	3317
3215	Buick, Olds, Pontiac V6, 198-231, 1962-77	3315
3226	Buick, Olds, Pontiac V6, 183-252, 1977-Up	3326
3200	Chevrolet V8, 265-400, 1955-91 (Except w/ Factory Roller Cam)	3300
3206	Chevrolet V8, 350 LT1 1992-1994	3300
3207	Chevrolet V8, 350 LT1 1995-Up	3307
3200	Chevrolet V6 90°, 200, 229, 262, 1978-Present	3300
3202	Chevrolet V6, 90°, 262 (4.3L), 1992-Present w/ Balance Shaft	3300
3201	Chevrolet V6 60°, 173	3301
3210	Chevrolet V8, 396-454, 1965-91	3310
3203	Chrysler V8, 273-360, 1956-88	3303
3204	Chrysler V8, 383-440 (Single-Bolt Gear), 1956-79	3304
3205	Chrysler V6, 170-225, 1960-87	3305
3220[A]	Ford V8, 289-351W & Boss 302, Pre-1972	3320
3230[B]	Ford V8, 302-351W, 1972-Up	3330
3208	Ford V8, 352-428, 1964-74	3308
3221	Ford V8, 351C, 351M, 400M, 1970-82	3321
3222[B]	Ford V8, 429-460, 1968-71	3322
3223	Ford V6, 144-200, 1960-83	3323
3236	Ford V6, 171 (2600-2800), 1972-80	—
3213	Oldsmobile V8, 260-455, 1965-83	3313
3212	Pontiac V8, 265-455, 1955-81	3312

A. Accomodates one-piece fuel pump eccentric
B. Accomodates two-piece fuel pump eccentric

Magnum Double Roller Timing Sets

- Feature induction hardened cast iron camshaft gear and billet steel crank sprocket
- 3 Keyway crank sprocket for 4-degree incremental adjustability, 4-degree maximum advance/retard
- Heavy-duty, heat-treated true double roller timing chain; chain available separately
- Ideal for mild street performance applications



Part #2100

Timing Set Part #	Description	Chain Only Part #
2118	AMC V8, 290-401, 1969-81	2041
New 2139	Cadillac 368,425,472,500 V8, 1968-84	N/A
2100	Chevrolet V8, 265-400, 1955-91 (Except w/ Factory Roller Cam)	2001
2136	Chevrolet V8 & 90° V6, Chevrolet V8 305-350 1987-90 w/ Factory Roller Cam	2001
2100	Chevrolet V6 90°, 200, 229, 262, 1978-86	2001
2136	Chevrolet V6 (4.3L) 262, 1987-92 w/ Factory Roller Cam	2001
2110	Chevrolet V8, 396-454, 1965-91	2023
2103	Chrysler V8, 273-360, 1956-88	2007
2104	Chrysler V8, 383-440 (Single-Bolt Gear), 1956-79	2009
2109	Chrysler V8, 426 Hemi, 383-440 (Three-Bolt Gear) 1960-73	2009
2120[A]	Ford V8, 255, 289, 302 & Boss 302, 1965-88	2002
2135[B]	Ford V8, 351W, 351W 1969-84	2002
2131	Ford V8, 5.0L 302 H.O., 1980 thru 3/21/84	2002
2138[B]	Ford V8, 5.0L, 302, 351W 3/22/84 thru 1992	2002
2108	Ford V8, 352-428, 1964-74	2015
2121	Ford V8, 351C, 351M, 400M, 1970-82	2015
2122[A]	Ford V8, 429-460, 1968-71	2009
2130[A]	Ford V8, 429-460, 1972-87	2009
2134[C]	Ford 429-460 w/ 9 Keyway Crank Gear	2024
2113	Oldsmobile V8, 260-455, 1965-83	2015
2112	Pontiac V8, 326-455, 1955-81	2025

A. Accommodates one-piece fuel pump eccentric
B. Accommodates two-piece fuel pump eccentric
C. Uses a link belt type timing chain, not double roller

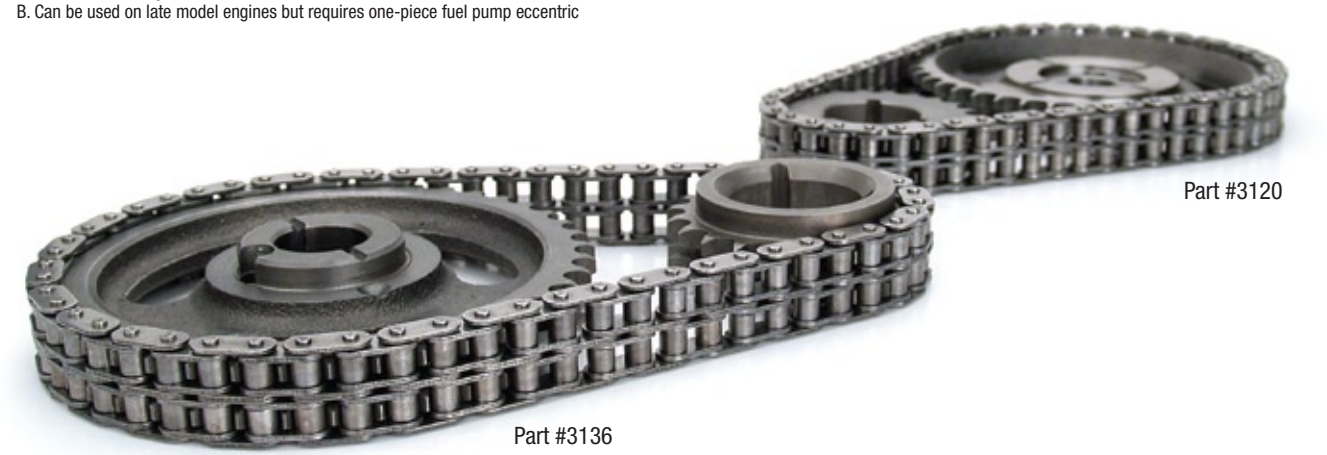
All parts on this page are 50-state legal.

Hi-Tech™ Roller Race Timing Sets

- Cast iron camshaft gear and induction hardened billet steel crank sprocket
- Feature 3 keyway crank sprocket for 4-degree incremental adjustability, 4-degree maximum advance/retard
- Pre-stretched, heat-treated double roller chain with heavy-duty large pin design; chain available separately
- Dynamically balanced and quality checked for run-out tolerances
- Ideal for all street performance and race applications

Timing Set Part #	Description	Chain Only Part #
3127	AMC 6 Cyl., 199-258, 1964-86	3033
3118	AMC 290-401, 1969-81	3032
3129	Buick, Olds, Pontiac V6, 183-252, 1977-Up	3036
3128	Buick, Olds, Pontiac V6, 198-231, 1962-77	3036
3128	Buick 350, 1968-80	3036
3100	Chevrolet V6 90°, 200, 229, 262, 1978-86	3030
3136	Chevrolet 4.3L V6 262, 1987-92 w/ Factory Roller Cam	3030
3100	Chevrolet 265-400, 1955-91 (Except w/ Factory Roller Cam)	3030
3136	Chevrolet 305-350, 1987-92, w/ Factory Roller Cam (Non-LT1)	3030
3100-5[A]	Chevrolet 265-400 True Roller Race Set .005" Undersized for Align Bored Blocks	3037
3100-10[A]	Chevrolet 265-400 True Roller Race Set .010" Undersized for Align Bored Blocks	3037
3110	Chevrolet 396-454, 1965-96	3034
3110-5[A]	Chevrolet 396-454 True Roller Race Set .005" Undersized for Align Bored Blocks	3038
3110-10[A]	Chevrolet 396-454 True Roller Race Set .010" Undersized for Align Bored Blocks	3038
New 3154	RHS® LS1 Non-Adjustable Timing Set	N/A
3103	Chrysler 273-360, 1956-88	3035
3104	Chrysler 383-440 (Single-Bolt Gear), 1956-79	3034
3125	Chrysler 426 Hemi, 383-440 (Three-Bolt Gear), 1960-73	3034
3120[B]	Ford 255, 289, 302 & Boss 302, 1965-88	3038
3135[C]	Ford 351W, 351W H.O. 1969-84	3030
3131	Ford 5.0L H.O. 302, 1980 thru 3/21/84	3030
3138[C]	Ford 5.0L 302, 351W from 3/22/84 thru 1992	3030
3121	Ford 351C, 351M, 400M, 1970-82	3033
3108	Ford V8, 352-428, 1963-76	3033
3122[B]	Ford 429-460, 1968-71	3034
3130[B]	Ford 429-460, 1972-87	3034
3113	Oldsmobile 260-455, 1965-83	3033
3112	Pontiac 326-455, 1955-82	3031

A. Undersized for align bored blocks
B. Can be used on late model engines but requires one-piece fuel pump eccentric



Part #3120

Part #3136

TECH TIP

Most COMP Cams® timing chain sets feature three timing keyways, allowing you to advance or retard the timing. Install the crank gear keyway to the desired position, then line up the corresponding mark on the crank gear to the camshaft gear timing mark.

All parts on this page are 50-state legal.

Adjustable Timing Sets

- Include durable, induction hardened steel billet gears
- Feature infinitely adjustable camshaft sprocket, 6-degree maximum advance/retard
- 3 Keyway crank sprocket for additional 4-degree incremental adjustability
- Pre-stretched, heat-treated double roller chain with heavy-duty large pin design; chain available separately
- Torrington roller thrust bearing reduces friction
- Ideal for all street performance and race applications



Part #3100KT

Timing Set Part #	Description	Chain Only Part #
3100KT	Chevrolet 265-400 Adjustable Timing Set w/ Thrust Bearing	3037
3100KT-5[A]	Chevrolet 265-400 Adjustable Timing Set w/ Thrust Bearing .005" Undersized	3037
3100KT-10[A]	Chevrolet 265-400 Adjustable Timing Set w/ Thrust Bearing .010" Undersized	3037
3146KT	Chevrolet Small/Olds Rocket Block, Raised Cam	3046
3110KT[B]	Chevrolet 396-454 Adjustable Timing Set w/ Thrust Bearing	3038
3110KT-5[A]	Chevrolet 396-454 Adjustable Timing Set w/ Thrust Bearing .005" Undersized	3038
3110KT-10[A]	Chevrolet 396-454 Adjustable Timing Set w/ Thrust Bearing .010" Undersized	3038
3149KT[C]	Chevrolet 454-502, Gen VI Adjustable Timing Set	3049
3153KT[C,D]	GM Gen III/LS1/LS6 Adjustable Timing Set	N/A
New 3173KT	RHS® LS1 Adjustable Timing Set	N/A
3158KT[D]	GM LS2 Adjustable Timing Set	N/A
New 3167KT	GM LS7 Adjustable Timing Set	N/A
3125KT	Chrysler 383-440 Three-Bolt Adjustable Timing Set	3038
3135KT	Ford 5.0L, 302, 351W Adjustable Timing Set	3037
3108KT	Ford 390-428 Adjustable Timing Set	3008
3121KT[E]	Ford 429-460 Adjustable Timing Set	3038
3113KT[F]	Oldsmobile 400-455 Adjustable Timing Set	3008
3146KT	Oldsmobile Rocket Block, Raised Cam	3046
9005	Replacement Bushings for Adjustable Timing Sets	—

A. Undersized for align bored blocks
B. Sold as complete matched sets only
C. Single roller chain design for clearance
D. Includes special cam timing system, thrust bearing and matched machined steel gears (cam button recommended)
E. Includes one-piece fuel pump eccentric
F. Not to be used where open spring pressures exceed 500 lbs

Keyway Adjustable Billet Timing Sets

- Induction hardened and precision machined steel billet gears for bullet proof durability
- Feature 9 keyway crank sprocket for 2-degree incremental adjustability, 8-degree maximum advance/retard
- Pre-stretched, heat-treated double roller timing chain with heavy-duty large pin design
- Includes Torrington roller thrust bearing for reduced friction
- Ideal for all street performance and race applications



Part #7100

Part #	Description
7100	Chevrolet 265-400
7100-5[A]	Chevrolet 265-400 .005" Undersized for Align Bored Blocks
7100-10[A]	Chevrolet 265-400 .010" Undersized for Align Bored Blocks
7136	Chevrolet 305-350 w/ Factory Roller Cam
7110	Chevrolet 396-454
7110-5[A]	Chevrolet 396-454 .005" Undersized for Align Bored Blocks
7110-10[A]	Chevrolet 396-454 .010" Undersized for Align Bored Blocks
New 7101	Chevrolet 454-502 Gen VI 1996-02
New 7153[B]	GM Gen III LS1/LS6 1997-04
New 7153-5[B]	GM Gen III LS1/LS6 1997-04 .005" Undersized for Align Bored Blocks
New 7102	GM Gen III LS2 (Early Model w/ 24 Tooth Reluctor Only)
New 7105	GM LS2 (Single-Bolt)
New 7106	GM LS3 (58x) 9 Keyway
7103	Chrysler 273-360 (Single-Bolt)
7104	Chrysler 383-440 (Single-Bolt)
7125	Chrsyler 426 Hemi, 383-440 (Three-Bolt Gear), 1960-73
New 7144	Chrsyler 5.7L, 6.0L Hemi, 2005-08
7138	Ford Small Block 1965-88
7108	Ford 352-428
7122[C]	Ford 429-460
7112	Pontiac 326-455

A. Undersized for align bored blocks
B. Does not fit LS2
C. Must be used with one piece fuel pump eccentric

Ultimate Adjustable Billet Timing Sets

- High-strength billet gears and seamless roller timing chain deliver years of reliable service
- Feature 2-degree incremental adjustability, 6-degree maximum advance/retard
- Unique design yields precise camshaft timing and durability
- Includes Torrington roller thrust bearing for reduced friction and custom adjusting tool
- Ideal for all street performance and race applications

Part #	Description
8100	Chevrolet V6 90°, 200, 229, 262, 1978-86
8100	Chevrolet 265-400, 1955-91 (Except w/ Factory Roller Cam)
8146	Chevrolet Small Block Raised Cam Blocks (Rocket Block)
8110	Chevrolet 396-454, 1965-96
8138[A]	Ford 5.0L 302, 351W from 3/22/84 thru 1992
New 8131[B]	Ford 5.0L 302, 351W
8122[B]	Ford 429, Boss 429-460

A. Accommodates two-piece fuel pump eccentric
B. Accommodates one-piece fuel pump eccentric



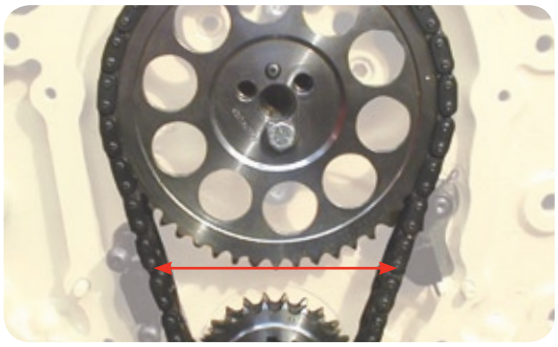
Part #8100

Timing Chain Tensioner Sets

The problem with timing chain sets is the amount of wear the engine block and timing chain suffer over a period of time. This results in timing chain stretch and fluctuations in camshaft timing as the engine passes through its rpm range. COMP Cams® has solved this age-old problem with its Timing Chain Tensioner Sets.

- Easy-to-install tensioner chain sets automatically adjust for timing chain size and wear
- Provide directional wear pattern
- Increased cam timing accuracy for better throttle response and improved fuel efficiency
- Deliver the accuracy of a gear drive at an affordable price without any performance loss
- Fit most common timing chain sets

Part #	Description
5419	Chevrolet Small Block Timing Chain Tensioner Hardware w/ Drill Template Included
5417	Chevrolet Small Block Timing Chain Tensioner Hardware Only
5421	Chevrolet Small Block Tap Template Only
5420	Chevrolet Big Block Timing Chain Tensioner Hardware w/ Drill Template Included
5418	Chevrolet Big Block Timing Chain Tensioner Hardware Only
5422	Chevrolet Big Block Tap Template Only
5423	Replacement Drill Bit & Tap Set



Part #5418 Installed



Part #5419

Except as noted, not legal for sale or use on pollution-controlled motor vehicles

Billet LS Belt Tensioners

The GM LS engines with the factory spring loaded belt tensioners become prone to throwing belts when used in performance applications and with aftermarket balancers. These bolt-on Billet LS Belt Tensioners are a fully adjustable solution for controlling potentially damaging resonance and maintaining desired belt tension.

Part #	Description
New 54021[A]	GM LS1, -2, -3, -6 & -7 Adjustable Belt Tensioner w/ Idler Pully Passenger Cars
54025	GM LS1 Adjustable Belt Tensioner, 1998-02 F-Body

A. Will not work in truck engines



Part #54021

Gear Drives

- Precision machined, heat-treated billet steel gears for timing accuracy and durability
- Unique design eliminates timing movement throughout the rpm range
- Ideal for street performance applications that desire a whining blower sound

Part #	Description
4100	Chevrolet Small Block Gear Drive System
New 4136[A]	Chevrolet V8 305, 350 w/ Factory Roller Cam Gear Drive System
4100BW	Replacement Brass Washer for #4100 Gear Drive System
4110	Chevrolet Big Block Gear Drive System
4110BW	Replacement Brass Washer for #4110 Gear Drive System
4120	Ford Small Block Gear Drive System

A. Not for use in LT1 engines.



Part #4100

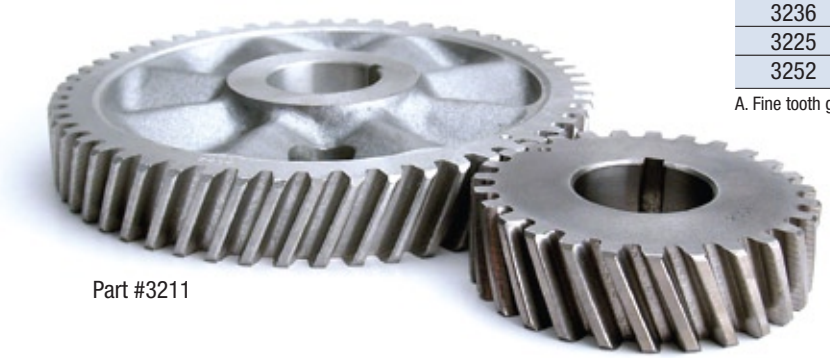


Gear Sets

- Constructed from precision hobbed and crown shaved aluminum, steel and fiber gears
- Quality tested for strict tolerances and timing accuracy

Part #	Description
3211[A]	Chevrolet/GMC 4 & 6 Cyl. 153, 194, 230, 250, 292, 1962-88 (Aluminum Cam Gear)
3161[A]	Chevrolet/GMC 4 & 6 Cyl. 153, 194, 230, 250, 292, 1962-88 (Fiber Cam Gear)
3224	Ford V6, 240-300, 1965-91 (Steel Gears)
3236	Ford V6, 2800cc
3225	International Harvester V8, 304-392 (Steel Cam Gear)
3252	Pontiac 4 Cyl., 15c.i. Iron Duke (Fiber Cam Gear)

A. Fine tooth gear



Part #3211

All parts on this page are 50-state legal.

Magnum Belt Drive Systems

- Absorb crankshaft harmonics to guard against valve train instability
- Infinitely adjustable camshaft sprocket for absolute timing accuracy
- High-strength belt for increased durability over any chain or gear drive
- Available for internal (wet) applications and external (dry) applications
- Ideal for all street performance and budget-minded race applications

Part #	Description
5100	Chevrolet Small Block Wet System
6100[A]	Chevrolet Small Block Dry System
Accessories	
5000B	Replacement Belt for #5100
5100CR	Crank Spacer .010" Thick for #5100
211	Replacement Cam Button for #5100
6100B	Replacement Belt for #6100 (72 Teeth)
6100US	Upper Replacement Oil Seal for #6100
6100LS	Lower Replacement Oil Seal for #6100
6100LHB	Cam Gear Bolt (LH Thread) for #6100
6100RW	Retainer Washer (Cam Gear) for #6100
6100BS	Bronze Shim for Upper Gear
6100BSC	Bronze Shim for #6100

A. Fitment to the World Products Motown Block requires extensive machining to the block, oil galley plugs and cover



Part #6100

Hi-Tech™ Belt Drive Systems

- Extreme application belt for high rpm and high compression durability
- Infinitely adjustable Vernier sprocket for absolute timing accuracy
- Unique belt idler system reduces flap throughout rpm range
- Designed to absorb crankshaft harmonics to guard against performance robbing valve train instability
- Utilize a unique camshaft thrust adjustment system without shims
- Include double lip seals for long life and maximum crankcase vacuum
- Different diameter idlers available for racers with align bored blocks
- Ideal for serious street performance and race applications



Part #6507

Part #	Description
6200	Chevrolet Big Block Belt Drive, Standard Cam Location
6300	Chevrolet Big Block Belt Drive, .400" Raised Cam
6500	Chevrolet Small Block w/ Idler
6502	Chevrolet Small Block w/ Idler, Big Block Crank Snout
6504	Chevrolet Small Block, Olds Rocket, Raised Cam
6506	Chevrolet Small Block, Olds Rocket, Raised Cam Big Block Crank Snout
6507	Chevrolet Small Block Xtreme Duty Hi-Tech™ Belt Drive Features a 1.250" Thick Belt for Extreme Cylinder Pressure
6535	Ford Windsor, SVO Robert Yates Racing Belt Drive
Accessories	
6200TB2	Timing Belt - 81 Tooth for #6200
6200BTS	Belt Tensioner - Standard for #6200
6200BTO	Belt Tensioner - Oversized for #6200
6200CS-1	Upper Cam Seal for #6200 + #6300
6200CRS-1	Lower Crank Seal for #6200 + #6300
6200TG	Timing Cover Gasket for #6200
6200RO	Upper Seal Retainer O-Ring
3110TB	Chevrolet 396-454 Roller Thrust Bearing for #6200 & #6300
6300B	Replacement Belt for #6300 (85 Teeth)
6500B-1	Replacement Belt for #6500 and #6506 (74 Teeth)
6500IDS-1[A]	Std. Idler Assy. for All #6500 Series Chevy Drives (1.312" O.D.)
6500IDA-1[A]	O.S. Idler Assy. for All #6500 Series Chevy Drives (1.375" O.D.)
6500IDB-1[A]	O.S. Idler Assy. for All #6500 Series Chevy Drives (1.437" O.D.)
6500IB-1	Replacement Idler Bearing
6500EDSK	Distributor Bracket for #6500, #6502, #6504 & #6506
6504B-1	Replacement Belt for #6504 & #6506 (75 Teeth)
6507B	Replacement Belt for #6507 (74 Teeth)
6535B	Replacement Belt for #6535 (74 Teeth)
6535US	Upper Cam Seal for #6535
6535LS	Lower Crank Seal for #6535
6535CS	Cam Seal Cover for #6535
6535CSO	Cam Seal Cover O-Ring for #6535
6535MBMP	Mounting Bracket for Mechanical Fuel Pump for #6535

A. Includes bearings and snap ring

Chevrolet Steel Timing Cover with Thrust Plate

This steel Small Block Chevrolet timing cover features a welded thrust plate tab for use with a cam button. It allows adjustment for correct end play without additional modifications and includes gaskets, seal and bolts and has a black powder coated finish.

Part #	Description
208	Chevrolet 265-400 Steel Timing Cover w/ Welded Thrust Plate



Part #208

Two-Piece Billet Aluminum Timing Covers

- Eliminate timing cover flex which causes erratic ignition timing
- Allow camshaft to be replaced without disturbing the oil pan seal
- Simple endplay adjustment with dial indicator access hole
- Integrated timing pointer simplifies ignition timing checks
- Compatible with all water pumps and most gear drives

Part #	Description
210[A]	Chevrolet Small Block & 90° V6 Timing Cover
212[A]	Chevrolet Big Block Timing Cover
217	Chevrolet Gen VI Big Block Timing Cover (Allows Use Of Early Style Camshafts & Double Roller Timing Sets)
211	Replacement Button for #210 & #212 Covers
213	Replacement Hardware for #210
214	Replacement Hardware for #212
218	Timing Cover Gasket for #217

A. Includes bolts, washers, roller button gaskets, etc.



Part #210

Updated design with Timing Pointer

Three-Piece Billet Aluminum Timing Covers

The COMP Cams® Three-Piece Billet Aluminum Timing Covers for Small and Big Block Chevrolet engines allow access to camshaft timing adjustments without having to remove the harmonic damper or disturb the oil pan seal. Designed to be lightweight yet rigid, these billet covers offer convenience and performance in one easy-to-install package.

Part #	Description
310	Chevrolet Small Block and 90° V6 Three-Piece Cover
312	Chevrolet Big Block Three-Piece Cover

Note: Three-piece covers use the same replacement hardware kits as our current two-piece covers



Part #310

Three-Piece Billet Timing Cover With Chain Tensioner Set

This billet timing cover combines a show quality appearance with a rigid three-piece design that is easily accessible for cam timing adjustments. In addition, the cover features an integrated timing chain tensioner set (see page 367 for additional information) and quick-set cam correct and thrust adjustment.

Part #	Description
5424	Chevrolet Small Block Three-Piece Billet Timing Cover w/ Built-In Cam Correct & Thrust Adjustment



Part #5424

Thrust Bearings & Wear Plates

- Wear plates are moly coated
- Eliminate wear at front of block
- Unique designs help set proper cam thrust clearance



Part #3103TB

Part #	Description	Bearing Thickness
201[A]	Chevrolet 265-400 Wear Plate	.030"
203[A]	Chevrolet 396-454 Wear Plate	.030"
3100TB-1[A]	Chevrolet 265-400 Roller Thrust Bearing	.142"
3110TB[A]	Chevrolet 396-454 Roller Thrust Bearing	.142"
5400TP-KIT	Factory LS Bronze Thrust Kit Plate	
203[A]	Chrysler 383-440 Hemi Wear Plate	.030"
3103TB	Chrysler 273-360 Thrust Bearing Kit, Includes: (1) Plate (2) Thrust Bearings (3) Washers	.142"
3108TB[A]	Ford 390-428 Thrust Plate & Bearings	.142"
3120TB	Ford 289-351W Thrust Plate & Bearings OEM Replacement for Cam Plate Single Bearing	.142"
3135TB[B]	Ford 289-351W H.P. Thrust Plate & Bearings, Machining Required	.142"
3122TB[A]	Ford 351C, 429-460 Thrust Plate & Bearings	.142"
224	Oldsmobile V8 All 1964-84 Except Diesel	.400"
225	Oldsmobile V8 Camshaft Spacer (Required w/ 224)	.041"

A. Minor machining required when used with OEM type timing set
B. Requires tooling

Thrust Buttons

- Ride between the front of the timing gear and the back of the timing cover
- Can be shimmed to achieve proper endplay
- Solid nylon and roller thrust bearing styles available



Part #202

Part #	Description	Length
269	Buick V6 1977 1/2-87 Roller Button	.660"
200	Chevrolet 265-400 Roller Button	.795"
202	Chevrolet 265-400, 90° V6 Nylon Thrust Button	.810"
205	Chevrolet 396-454 Nylon Thrust Button	.945"
207	Chevrolet 396-454 Roller Button	.945"
204	Chrysler Hemi Roller Buttons	.715"
206	Chrysler Hemi, 383-440 Nylon Thrust Button	.735"
211	Replacement Button for #210 & #212 Covers, Replacement Button for #5100 Belt Drive	.680"

Degree Bushings

- Color coded for easy identification
- Accurately position cams
- Precision manufactured
- Requires a 13/32" drill set
- Fit Small and Big Block Chevrolets, Big Block and 426 Hemi Chrysler



Part #4760

Part #	Description	Bushings
4760	Cam Degree Bushing Set (Includes 0°, 2°, 4°, 6°, 8°)	All
47600	Cam Degree Bushing 5 Pack - Black	0°
47602	Cam Degree Bushing 5 Pack - Silver	2°
47604	Cam Degree Bushing 5 Pack - Copper	4°
47606	Cam Degree Bushing 5 Pack - Gold	6°
47608	Cam Degree Bushing 5 Pack - Dark Grey	8°
9005	Replacement Hex-Shaped Bushings for Adjustable Timing Set	—

Chevy Cam Lock Plate

- Prevents cam bolts from backing out at any rpm level or load
- Features bendable locking tabs and special high-strength bolts

Part #	Description
4605	Chevrolet V8 Lock Plate w/ Bolts



Part #4605

Camshaft Bolts

- Designed to prevent breakage
- Rated at 170,000psi



Part #4611-3

Part #	Description	Size	Length
4611-3	Chevrolet V8 & 90° V6 Cam Bolts	5/16"	.750"
4612-1	Ford Small Block 260-351W Cam Bolts	3/8"	1.50"
4613-1	Ford 351C Cam Bolts	3/8"	2.00"
4615-1	Ford 352-427 Cam Bolts	7/16"	1.75"
4614-1	Ford 429-460 Cam Bolts	3/8"	1.50"

All parts on this page are 50-state legal.

Composite Coated Cam Bearing

- Retains engine oil on surface even under extreme heat and pressure
- Fluoropolymer coating is a lubricant itself, which is great protection in the event of momentary oil starvation, such as start-up

Part #	Description
3521	Composite Coated 2.124" Big Block Camshaft Bearing



Part #3521

Roller Cam Bearings

- Decrease friction and control oil closely
- Steel jacketed and encapsulated for ease of installation

Part #	Description	Journal 1-4	Journal 5
351RCB-KIT	351 SVO Journal Diameter	3500RCB 2.165"	3501RCB 1.968"
350RCB-KIT	350 Chevrolet/360 Chrysler Journal Diameter	3501RCB 1.968"	3502RCB 1.968"



Part #350RCB

Roller Cam Bearing Installation Tool

The COMP Cams® Roller Cam Bearing Installation Tool is the tool of choice for many professional engine builders. This tool allows the engine builder to professionally install roller cam bearings in most automotive engine blocks. The kit includes a draw bar, swivel handle, alignment head and a 50mm bearing head. Other bearing heads sizes are available separately.

Part #	Description
5412	Cam Bearing Tool w/ 50mm Head
5413	Additional 47.64mm Needle Bearing Head
5414	Additional 50mm Needle Bearing Head
5415	Additional 55mm Needle Bearing Head
5416	Additional 60mm Needle Bearing Head



Part #5412

Universal Cam Bearing Installation Kit

- Cleanly and precisely installs or removes cam bearings in any engine block
- Range from 1.125" to 2.690" journal diameter
- Kit includes five expanding neoprene covered mandrels, a centering cone, extension rod and fitted plastic case

Part #	Description
5312	Universal Cam Bearing Installation Kit



Part #5312

Bearing Spacers

These bearing spacers from COMP Cams® allow 350 Chevrolet crankshaft installations into 400 Chevrolet blocks. Absolutely no machine work is required for installation; simply snap them in and install standard 350 bearings. You save the cost of buying thicker, more expensive bearings.

Part #	Description
5620	Chevrolet V8 Bearing Spacer Set to Place a 350 Crank In a 400 Block



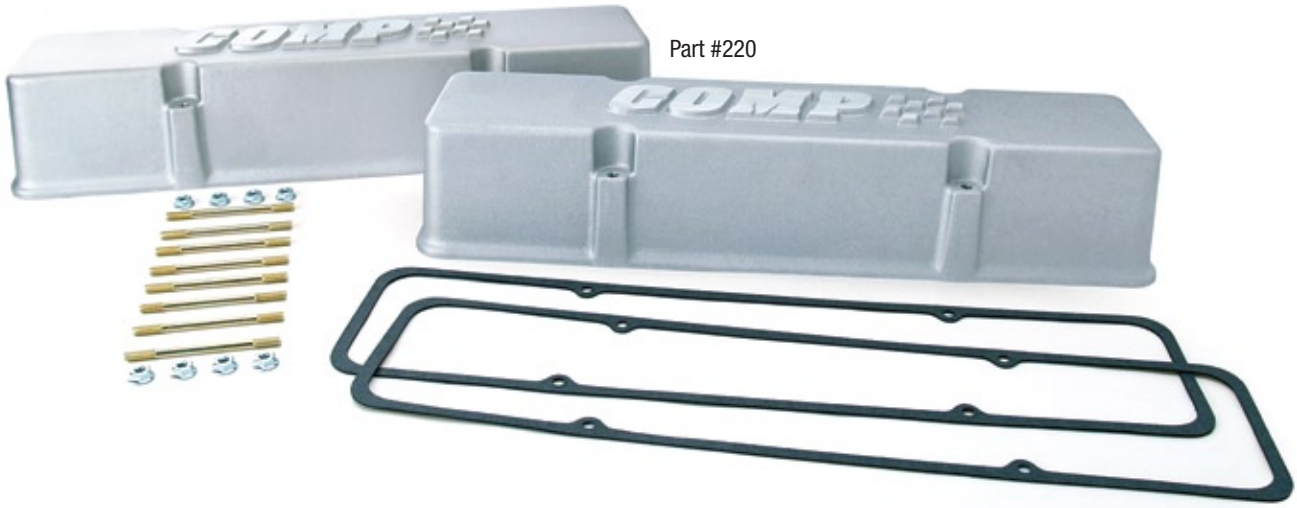
Part #5620

Cast Aluminum Valve Covers

COMP Cams® heavy-duty Cast Aluminum Valve Covers are machined flat where they mate to the head, so they are perfect for any aftermarket heads. The bolt bosses are raised to the top of the covers so that all of the force will be equally transmitted to the gasket surface. The top of the valve cover is thick enough to weld in any type of breather system, and the stability of the sides and rails will ensure that the gasket stays in place at all times. These Small and Big Block Chevrolet covers are packaged complete with gaskets, studs and nuts.

- Machined flat where they mate to the head
- Bolt bosses are raised to the top of the covers
- Top of the valve cover is thick enough to weld in any type of breather system
- Stability of the sides and rails ensure gasket stays in place at all times
- Valve covers come with gaskets, studs and nuts

Part #	Description
220	Chevrolet 265-400 Sand Cast Aluminum Valve Covers
230	Chevrolet 396-454 Sand Cast Aluminum Valve Covers
221	Hardware for #220 (Studs & Nuts)
231	Hardware for #230 (Studs & Nuts)
222	Small Block Replacement Gaskets
232	Big Block Replacement Gaskets



Part #220

Engine Finishing Kits

It's easy to overlook the small details. For engine builders focused on the larger components like camshafts, cylinder heads and pistons, small parts are often forgotten until the final stages of engine assembly. COMP Cams® Engine Finishing Kits include those often missing parts like woodruff keys, cylinder head alignment dowels, cam bolts, cam eccentrics (SB Ford) and timing cover and oil pump dowel pins that are so crucial to properly assembling your engine.

- Include parts such as woodruff keys, cylinder head alignment dowels, cam bolts, cam eccentrics, timing cover and oil pump dowel pins
- Available for Small and Big Block Chevrolet, Small Block Ford and Pontiac V8 engines

	Part #	Description
New	239	AMC 6 Cyl. 199-258 4.0L Finishing Kit
	233	Chevrolet 265-400 Engine Finishing Kit
	242	Chevrolet LT1 Engine Finishing Kit
	234	Chevrolet 396-454 Engine Finishing Kit
New	241	Chrysler 1964-05 V8 273-360 Engine Finishing Kit
New	243	Ford 5.0L Engine Finishing Kit
	235	Ford 5.0L, 302, 351W Engine Finishing Kit
New	244	Ford FE 1958-1976 Engine Finishing Kit
New	245	Ford FF 1968-1987 Engine Finishing Kit
New	247	Ford FF 1988-1997 Engine Finishing Kit
	238	Pontiac V8 Engine Hardware Finishing Kit

*Kit contents may vary by application, call for specific kit contents before ordering



Part #235

Vacuum Canisters

A vacuum reserve canister captures an extra shot of vacuum from your engine for your power brakes. The COMP Cams® Vacuum Canisters are for cars equipped with big cams and power brakes.

- Canisters double vacuum volume for power brakes
- Recommended for vehicles with 14" of vacuum or less

Part #	Description
5500	Electric Vacuum Pump Kit
5200	Vacuum Canister – Black Powder Coated Aluminum
5201	Vacuum Canister – Zinc Plated & Polished



Part #5201 Part #5200

Oil Restrictors

When building a high performance engine with a solid or solid roller cam, it is necessary to meter the amount of oil going through the lifters and up to the rocker arms. Too much oil to the top will starve the main and rod bearings and cause engine failure. These oil restrictors are simple and easy-to-use parts.

Part #	Description
4917	V8 Chevrolet Screw-In Type – .055" Orifice



Part #4917

Lifter Valley Standpipe

It is common practice in engine building to plug the oil drain holes in engines with a standpipe. Usually these are made of pipe and threaded into the holes. COMP Cams® offers a custom extruded aluminum version with an internal hex for installation. It is simple, inexpensive and much easier to use.

Part #	Description
4932	Lifter Valley Standpipe (Set of 8)



Part #4932

Fuel Pump Pushrods

When a high pressure fuel pump is run with a steel roller cam core, the stock fuel pump pushrod is not compatible with the steel core. You can damage an expensive roller cam as a result of wear at the fuel pump lobe. COMP Cams® offers several fuel pump pushrods for various applications.

Part #	Description
4607	Lightweight Tubing w/ Bronze Tip for Steel Cams
4620	Oldsmobile Rocket Block w/ Bronze tip for Steel Cams
4609	Steel Rod w/ Roller Tip (Not for BBC)
4616	Lightweight Tubing w/ Steel Tip for Cast Iron Cam
New 4626[A]	Chrysler 383-440, Hemi w/ Steel Tip
New 4646	Chrysler 383-440, Hemi w/ Bronze Tip

A. For use with cast flat tappet cams only, 3.220" in length



Part #4607 Part #4609 Part #4616 Part #4646

Gator Brand™ Performance Hose Clamps

Gator Brand™ Clamps are produced using a stainless steel continuous band with extruded, asymmetrical threads for reliable performance. The edges of the band are rolled to prevent any sharp edges from damaging the hose. This is especially important on silicone hoses that have a soft, vulnerable cover.

An asymmetrical (offset) gear box is employed to reduce clamp twist when tightening. The gear box housing is designed to remain stationary as the clamp is tightened to prevent movement over the hose. The combination of the asymmetrical gear box and the extruded threads provides an even clamping force over the surface of the hose that ensures proper sealing with minimal torque. Gator Brand™ Clamps hold up under 3.7 ft./lbs. (5nm) torque; conventional clamps strip and fail at this torque.

Gator Brand™ Clamps can be installed using a flat blade screwdriver, metric socket wrench or the Gator Brand™ Flexible Clamp Tool for maximum torque potential.

Gator Brand™ Clamps cover a size range of 5/16" (8mm) to 5.000" (120mm) with many part numbers to provide the jobber with effective clamp coverage with minimal inventory.

- Constructed of stainless steel continuous band with extruded, asymmetrical threads
- Asymmetrical (offset) gear box minimizes clamp twist when tightening
- Combination of asymmetrical gear box and extruded threads evens clamping force over hose surface
- Withstand up to 3.7 ft./lbs. (5nm) torque
- Sizes range from 5/16" (8mm) to 5.000" (120mm)

Part #	Size Range (inch)	Size Range (mm)	SAE Comparable Size
G3758	0.3125"-0.500"	8-12	2
G398	0.3125"-0.625"	8-16	3
G3912	0.500"-0.875"	12-20	6
G31216	0.625"-1.000"	16-27	8
G31220	0.750"-1.250"	20-32	10-12
G31225	1.000"-1.625"	25-40	16
G31230	1.1875"-1.750"	30-45	20
G31232	1.250"-2.000"	35-50	24
G31240	1.625"-2.375"	40-60	28
G31250	2.000"-2.750"	50-70	32-36
G31260	2.375"-3.125"	60-80	40
G31280	3.125"-4.000"	80-100	52-56
G312100	4.375"-5.000"	100-120	64
Accessories			
GFT-1	Gator Brand™ Flex Tool w/ 6 & 7 Sockets		



Part #G312100

Part #G398

Precise

Versatile

Balanced





TOOLS

Let COMP Cams® be your one stop shop for specialty automotive performance tools. Browse the largest and most up-to-date selection of tools specifically for performance enthusiasts – including items such as camshaft installation and degreeing tools, measuring tools, transmission and drivetrain tools, tech manuals, software and so much more.







Ford Intake Manifolds

Replace the stock lower intake manifold of your Ford 5.0L engine with our lightweight polymer unit and gain an average of 20 horsepower and an additional 300 rpm. With a weight savings of 16 lbs., this manifold is designed to deliver optimum horsepower potential without robbing your engine of torque and efficiency. The kit comes complete with all gaskets, vacuum fittings, bolts, hex key wrench, silicone sealant, instructions and an installation video.

Part #	Description
VH050	Ford. 5.0L Stock Lower Intake Polymer Manifold


Part #VH050

Spark Plug Wire Separators

- Contain internal reliefs and radiused corners to protect against wire damage
- Will fit any application and is available in kit form
- Easy-to-install and will not fall off after installation

Note: Product available in red (R), yellow (Y), blue (B), and black (BK). Please add (R), (Y), (B) or (BK) to end of part number when ordering.

Part #	Description
VHWS08	8mm Wire Separator Kit


Part #VHWS08 BK

Wire Separator Mounting Kit

- Safely secures wire separators to valve covers
- Kit contains (6) brackets, (2) spacers stands and all necessary hardware

Note: Product available in red (R), yellow (Y), blue (B), and black (BK). Please add (R), (Y), (B) or (BK) to end of part number when ordering.

Part #	Description
VH021	Wire Separator Mounting Kit


Part #VH021Y

Protective Lifter Case

- Constructed of chemically resistant, cleanable polymer
- 8 9/16" long, 2 7/16" wide and 2 1/4" tall

Part #	Description
VH040BK	Black Lifter Case



Part #VH040BK

Valve Train Organizer Trays

These COMP Cams® Valve Train Organizer Trays are perfect for novice or pro engine builders alike. These durable polymer trays neatly store your valve train components while assembling or rebuilding your engine. Organizers are labeled, front and rear, to help keep track of your part location for reassembly. Each tray has built-in handles to make easy work of moving parts around your shop or garage.

Part #	Description
5327	Valve Spring Organizer Tray
5329	Rocker Arm Organizer Tray


Part #5329

Part #5327

Crankshaft Sockets

- Specially designed 1/2" drive socket allows rotation of engine assembly
- Knurled retaining nut that holds degree wheel in place
- Can be loosened while on crank snout so that wheel can be turned independent of the engine when finding TDC

Part #	Description
4793	Chevrolet Small Block, 90° V6 & GM 4 Cylinder & 4.6L Ford 1.255" ID w/ 3/16" Keyway
4914	GM Gen III LS1/LS6 Crankshaft Socket
4797	Chevrolet Big Block – 1.610" ID w/ 3/16" Keyway
4798	All Ford, Buick & Pontiac V8 – 1.385" ID w/ 3/16" & 1/4" Keyways (Will Not Fit Buick 455)
4799	All Chrysler V8 (Also Fits Some Blowers) – 1.542" ID w/ a 3/16" & (2) 1/4" Keyways 180° Apart



Part #4793

Sportsman Degree Wheels

- Multiple sized degree wheels provide precision and accuracy
- Size allows for use on engine stand or with the engine still in vehicle
- Can be bolted onto most harmonic balancers or used with a COMP Cams® crankshaft socket
- Easy-to-read and clean

Part #	Description
4787	7.5" Sportsman Degree Wheel
4790	9" Sportsman Degree Wheel
4794	Replacement Pointer



Part #4787

Professional Degree Wheel

This giant 16" diameter Pro Degree Wheel is machined from a 1/4" thick aluminum plate, red anodized and precision engraved. The open design allows degree bushing changes while the wheel is still on the engine. This extreme precision tool is found in most NASCAR shops and is a must for any professional racer or engine builder.

- 1" center hole allows wheel to work with COMP® crankshaft sockets
- Use included reducer bushing along with a balancer bolt

Part #	Description
4791	16" Pro Degree Wheel



Part #4791

Universal Camshaft Degree Kit
(Cylinder Heads On Engine)

- Kit complete with necessary components to degree a camshaft
- Available for most popular engines
- Ships in a foam lined plastic carrying/storage case

Kit includes the following:

- #4790 – 9" Degree Wheel
- #4902 – Cam Checking Fixture
- #4909 – 0-1" Travel Dial Indicator
- #190DVD – Cam Degree DVD
- #4794 – Wire Degree Wheel Pointer
- #4795 – TDC Piston Stop
- #4758 – (2) Lightweight Checking Springs
- #145 – Cam Degreeing Instruction Booklet

Part #	Description
4796	Universal Cam Degree Kit

Note: We recommend the use of our crankshaft sockets with any degree kit



Part #4796

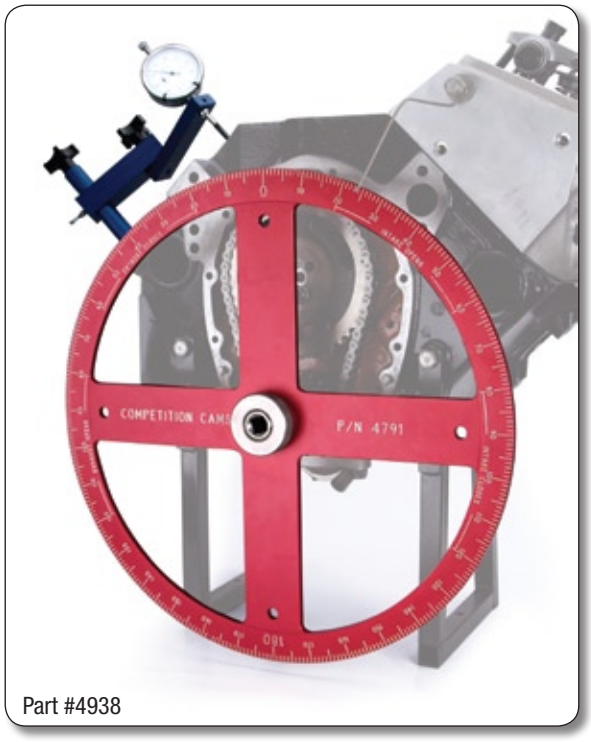
Pro Camshaft Degree Kits
(Cylinder Heads Off Engine)

This kit contains everything needed for camshaft degreeing when the cylinder heads are OFF of the engine, including the COMP Cams® 16" Pro Degree Wheel.

Kit includes the following:

- #4791-1 – 16" Pro Degree Wheel
- #4901 – Heads Off Degreeing Fixture
- #4909 – 0-1" Travel Dial Indicator
- #4912 – 5" Dial Indicator Extension
- #4933 – Plate Style TDC Stop
- #4794 – Wire Degree Wheel Pointer
- One Crankshaft Socket (See Engines Listed Below)

Part #	Description
4938	Chevrolet Small Block, 90° V6 & GM 4 Cylinder Kit
4939	Chevrolet Big Block Kit
4940	All Ford, Buick & Pontiac V8 Kit
4941	All Chrysler & V8 Kit



Part #4938

Camshaft Degree Kits
(Cylinder Heads Off Engine)

This kit contains everything needed for camshaft degreeing when the cylinder heads are OFF of the engine.

Kit includes the following:

- #4790 – 9" Degree Wheel
- #4901 – Heads Off Degreeing Fixture
- #4909 – 0-1" Travel Dial Indicator
- #4912 – 5" Dial Indicator Extension
- #4933 – Plate Style TDC Stop
- #4794 – Wire Degree Wheel Pointer
- One Crankshaft Socket (See Engines Listed Below)

Part #	Description
4934	Chevrolet Small Block, 90° V6 & GM 4 Cylinder Kit
4935	Chevrolet Big Block Kit
4936	All Ford, Buick & Pontiac V8 Kit
4937	All Chrysler V8 Kit



Part #4934

New Digital Precision Cam Degreeing Systems

The Digital Precision Cam Degreeing Systems allow serious engine builders to degree the camshaft of most domestic engines with extreme accuracy and in record time. The patented system utilizes an electronic encoder that enables the high-performance engine builder to calculate and display the intake centerline, in crankshaft degrees, to within one-tenth of a degree in about half the time required to accurately use a degree wheel.

- Precisely calculates and displays intake centerline to within one-tenth of a degree
- Cam and timing chain are completely accessible through degreeing process
- "Base Kit" includes computer only; "Pro Kit" includes computer, cam lobe indicator, piston dial indicator and necessary mounting hardware
- Engine specific crank adapters sold separately

Part #	Description
5646	Base Kit
5647	Pro Kit
5649	Small Block Chevy Adapter
5654	GM LS1 Adapter
5648	Big Block Chevy Adapter
5650	Ford Adapter
5651	Mopar Adapter
5652	Oldsmobile Adapter
5653	Pontiac Adapter
5655	Generic Adapter
5656	8 Piece Adapter Kit



Part #358001

Two-In-One Professional Crankshaft Nut Assemblies

- Two-piece assembly will allow you to turn engine in either direction using a large diameter socket
- Heavy-duty, heat-treated and convenient
- Provides secure method of attachment for harmonic dampers, etc.
- Available in three applications

Part #	Description
320	Chevrolet Small Block
322	Chevrolet Big Block
324	Ford

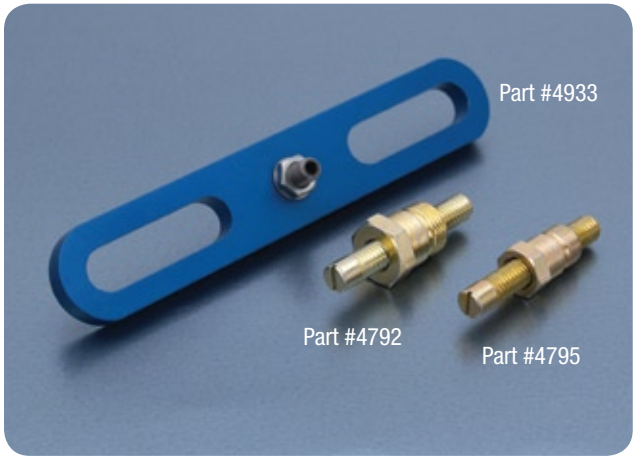


Part #320

Top Dead Center Stops

- Positively stop pistons in order to find Top Dead Center (TDC)
- Bolt-style screws into spark plug hole while plate-type bolts across any cylinder bore when heads are off

Part #	Description
4933	Deck Plate-Style – Heads Off (Universal)
4795	14mm Bolt-Style – Heads On (Most Engines)
4792	18mm Bolt-Style – Heads On (Big Block Ford)



Cam Degreeing Tools

This innovative tool actually slides down into the lifter bore and rides on top of the camshaft in order to measure lobe lift and base circle runout. Each tool includes two followers: one for flat tappet cams and one for rollers. Two models are available and each is double ended.

- Built-in o-ring holds tool firmly in the lifter bore while 1" travel dial indicator (not included) reads cam lift to .001"
- Two models available – one for GM (.842" dia.) and Ford (.875" dia.) and another for Chrysler (.904" dia.) and Top Fuel (1.0" dia.) lifter bores

Part #	Description
4925	GM & Ford Cam Degree Tool
4926	Chrysler & Top Fuel Cam Degree Tool
4927	Extension – for Hemi Design Blocks & 440
4909	Optional 0-1" Travel Dial Indicator

Dial indicator sold separately



Part #4925

Cam Checking Fixture
(Cylinder Heads On Engine)

This tools screws into any 1/4"-20 valve cover bolt hole and with the use of a dial indicator (not included), allows you to measure cam lift at the rocker arm, pushrod or lifter. This multi-functional tool can also be used to check rocker ratio, piston-to-valve clearance and even crankshaft end play.

Part #	Description
4902	Cam Checking Fixture - w/ Cylinder Heads On Engine
4909	Optional 0-1" Travel Dial Indicator

Dial indicator sold separately


Part #4902

Cam Checking Fixture
(Cylinder Heads Off Engine)

This fixture was designed to maintain proper geometry while holding a dial indicator (not included) and 5" extension (included) precisely over the lifters. This professional quality tool is much easier to use and more precise than using a magnetic indicator base when degreeing a cam.

Part #	Description
4901	Cam Checking Fixture for 1/2" and 7/16" Threads
4915	Cam Checking Fixture for 1/2" Head Studs
4909	Optional 0-1" Travel Dial Indicator

Dial indicator sold separately


Part #4901

Lifter Bore Grooving Tool

Developed by one of the top NASCAR engine builders, this innovative tool precisely grooves the lifter bore to ensure that pressure fed oil is directly injected into the contact area between lifter and camshaft. This increased oiling significantly reduces wear on the camshaft and lifters and decreases the risk of premature failure during break-in. This machining operation to the block is quick, easy, inexpensive and is the best insurance for a new camshaft.

- Complete with grooving tool, cutter and handle
- Carbide cutter available separately
- Engine must be disassembled to use this tool – cuts groove from .009" to .012"

Part #	Description
5003	.842" Dia. Grooving Tool (Std. Chevrolet Dia.)
5005	.844" Dia. Grooving Tool (Std. Ford Dia.)
5007	.904" Dia. Grooving Tool (Std. Chrysler Dia.)
5010	Kit Including .842", .874" & .904" Dia. Tools
5011	Kit Including .842" & .874" Dia. Tools
Replacement Parts	
5004I	Carbide Insert for Grooving Tool
5004BOLT	Replacement Bolt for Grooving Tool


Part #5003

Lifter Bushing Installation Tool

Until now, a block needed to be removed from the machine to have lifter bore bushings installed. But with the COMP Cams® Lifter Bushing Installation Tool, now it's an easy job that doesn't require extra work. Common size mandrels ship with the tool and are constructed from heat-treated steel, laser etched with the size and black oxided. A drag option mandrel is available separately.

- Installs both keyed and non-keyed lifter bore bushings
- Perfect alignment every time
- Kit includes all the most common mandrels – .842", .874", .904" & .937"

Part #	Description
5335	Lifter Bushing Installation Tool
5336	Mandrel Set for 1.062" Keyed Lifter



Checking Springs

- Low tension checking springs can be installed by hand in place of valve springs
- Simplify measuring piston-to-valve clearance, rocker ratio, cam degreeing, etc.
- Set of two springs is enough for one cylinder

Part #	Description
4758-2	Low Tension Checking Springs - Pair



Part #4758

Valve Spring Height Micrometers

- Quickest, easiest, most accurate way to measure valve spring installed height
- Installs just like a valve spring, then tool is expanded until it fully seats valve, locks and retainer
- Simulated installation allows ultra precise readings
- Tool is read like a micrometer and is accurate to .001"

Part #	Description
New 4950	.600"-.950" Spring Height Gauge (for Small Diameter Beehive™ Springs)
4928	1.400"-1.800" Range Height Micrometer
4929	1.600"-2.200" Range Height Micrometer
4930	1.600"-2.200" Range Height Micrometer (for Beehive™ Springs)



Part #4930

Part #4928

Part #4929

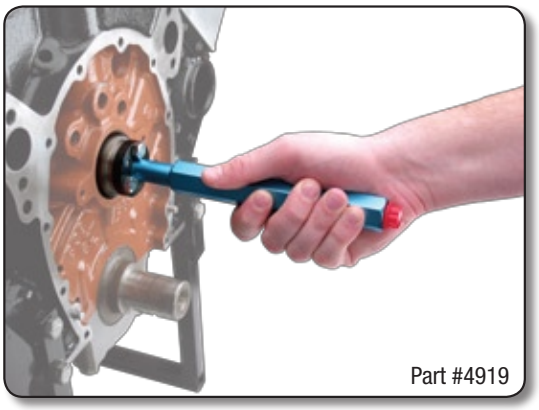
Part #4950

Camshaft Installation Handles

These simple, yet effective handles provide good leverage and a non-slip grip when installing or removing a cam. These tools save time, pinched fingers and nicked cam bearings. COMP Cams® carries two styles – one for Chevrolet specific engines and a universal kit.

- Universal handle includes five interchangeable adapters that fit most domestic V6 and V8 engines, including Chevrolet, Ford and Chrysler V8s
- Chevrolet specific handle includes necessary hardware that stores inside hex-design handle; fits both small & big block
- Chevrolet specific handle fits Small and Big Block Chevrolet

Part #	Description
5311	Universal Camshaft Installation Handle
4919	Chevrolet Camshaft Installation Handle w/ Hardware



Part #4919

Professional Two-In-One Harmonic Balancer Puller/Installation Tool

- Absolute “must” for serious engine builders
- Features a hardened threaded shaft with alloy nut combined with a roller thrust bearing puller plate
- Includes various size puller bolts for most uses
- Kit fits GM, Ford and Chrysler crankshafts
- Black oxide finished with included storage box

Part #	Description
300	Two-In-One Harmonic Balancer Puller/Installation Kit



Part #300

Universal Harmonic Balancer Installation Tool

- Universal kit fits all domestic and most foreign engine applications
- Utilizes thrust bearing to gently ease the harmonic balancer onto the crank snout
- Adapter sizes include 7/16", 1/2", 9/16", 5/8", 3/4", 12mm, 14mm and 16mm

Part #	Description
4920	Universal Harmonic Balancer Installation Kit

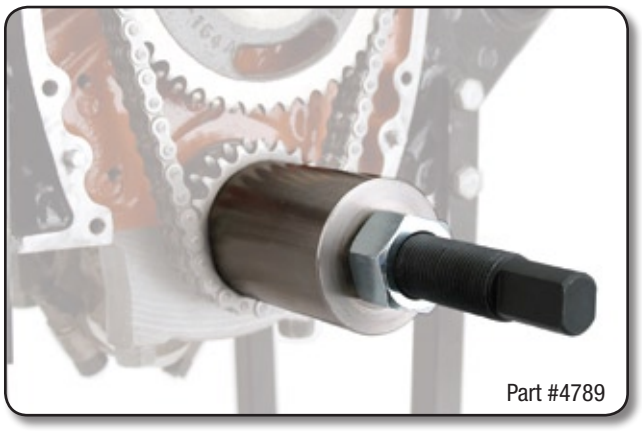


Part #4920

Crank Gear Installation Tool

The only way to ensure proper installation of the lower timing gear without fear of damage is to press it on with equal distribution of force over the entire surface of the gear. With the COMP Cams® Crank Gear Installation Tool used in conjunction with COMP® Part #4920 Harmonic Balancer Installer, equal and constant pressure is applied, and the chance of gear damage is minimized.

Part #	Description
4789	Crank Gear Installation Tool


Part #4789

Pro Valve Lock Removal & Installation Tools

Don't risk your fingers when removing or installing valve locks anymore. Our magnetic tool is definitely the best way to perform this delicate task. Several styles are available to cover most automotive and motorcycle applications.

To Install Locks: Compress valve spring, place valve locks on magnetic stem, push body of tool over the locks and position them on the valve stem, release valve spring.

To Remove Locks: Use the magnetic stem to pluck off the valve locks once the spring is compressed.

Part #	Description
5307	Pro Valve Lock Tool – 5mm, 5.5mm & 6mm Locks
5308	Pro Valve Lock Tool – 7mm, 8mm & 5/16" Locks
5309	Pro Valve Lock Tool – 11/32" Locks
5310	Pro Valve Lock Tool – 3/8" Locks


Part #5307

Seal Setters

If you're tired of sacrificing your time, your tools and your knuckles by trying to install Teflon seals on valve stems, then you need these COMP® Seal Setters.

- Two-part tool comprised of bullet-nose sleeve (.010" wall) and hand piece
- Quality construction will provide you with a lifetime

Part #	Description
5630	11/32" Seal Setter
5631	3/8" Seal Setter
5632	5/16" Seal Setter
5633	8mm Seal Setter


Part #5633

Valve Seal Installation Tool

- CNC-machined aluminum valve sealer makes installing Teflon seals easy
- Works with .500" and .531" Teflon seals
- Prevents seal distortion or gouging during installation
- Anodized for durability

Part #	Description
5334	Valve Seal Installer


Part #5334

Rocker Stud Puller & Tap Guide

- Provides convenient method to remove pressed-in rocker studs
- Simply slide tool over two side-by-side studs and crank down on retaining nut to force out the stud
- Use the tool with the supplied arbor to ensure proper alignment when tapping stud boss for screw-in studs

Part #	Description
5306	Rocker Stud Puller & Tap Guide


Part #5306

Adjustable Valve Spring Removers

- Spring removers are engineered from billet aluminum with heavy-duty construction to handle even the heaviest spring pressures
- Fully adjustable for different valve angles
- Screw mechanism maintains position to easily remove/install valve locks
- Retainer Housing Reducer is press-in reducer for use on COMP® spring changers, particularly for use on our adjustable valve spring removers on smaller diameter springs (eg. Beehive™ or Ford Modular springs)

Part #	Description
5642	Adjustable Valve Spring Remover – SBC LS1/LS6
5640	Adjustable Valve Spring Remover – SBC w/ Jesel/T&D Rockers
5643	Adjustable Valve Spring Remover – BBC w/ Jesel/T&D RockersA
5645	Adjustable Valve Spring Remover – Stud Mount/All 7/16" Studs
5644	Spring Remover Kit for Big Chief Heads
5641	Retainer Housing Reducer


Part #5642

Heavy-Duty Manual Valve Spring Compressor

Our super-duty compressor is constructed of a welded steel box-tubing frame and an over-center type clamping device that can compress any valve spring. The compressor arm slides up and down for adjustment and utilizes a locking pin for speed and ease of use. A base is offered to hold the unit upright in order to use the compressor in conjunction with a mini spring tester. A small engine and motorcycle model is also available.

Part #	Description
5333	Heavy-Duty Manual Compressor



Part #5333

New 2000 Valve Spring Compressors

The proprietary Wave Beam design of this 2000 Valve Spring Compressor provides ultra rigidity in a lightweight package. This heads off spring compressor features a dual adjustable design that allows for perfect positioning and easy access to valves and springs. The spring cage has a small 1" inside diameter flange that works perfectly with most popular valve springs.

Part #	Description
5601	2000 Valve Spring Compressor



Part #5601

New Deluxe Universal Overhead Spring Compressor

The Deluxe Universal Overhead Valve Spring Compressor easily removes valve springs on most cars and light trucks. This versatile spring compressor can be used with the cylinder heads on or off the engine. The unique tool features a removable handle that allows for use with a 5/8" socket or wrench in confined areas and an extra-long leg for more applications. For best results, use with our 14/18mm Air Operated Valve Holder (#5657) to pressurize the cylinder and keep the valves in place during removal of the springs and keepers.

Part #	Description
5606	Deluxe Universal Overhead Spring Compressor



Part #5606

Shaft Mount Valve Spring Compressors

If you've ever tried to remove high pressure valve springs with shaft mounted rocker arms while the cylinder heads are still on the engine, you know what a chore it can be. The COMP® Shaft Mount Valve Spring Compressors are designed to facilitate valve spring removal on heads with shaft mounted rockers.

- Bolt the tool shaft in place of the rocker shaft, place tool feet over retainer, slide on handle and pull down to compress spring
- Once valve locks are removed, flip the tool out of the way and remove the spring
- Simple reassembly

Part #	Description
5321	Chevrolet Small Block & 90° V6 Tool
5322	Chevrolet Big Block Tool
5325	Dart Big Chief Pivot Shaft (Use w/ BBC Tool)
5323	Mopar 318-360, W2 & 3.3 V6 Tool
5324	Mopar 383-440 & B1 Tools



Part #5321

Valve Spring Testers & Accessories

These spring testers are really the only sure way to check valve spring pressure. Our 1500 lb. model is constructed from steel and aluminum to create a sturdy yet portable design with a high-tech load cell that will read up to 2000 lbs. in .2 lb. increments. Features 3.5" diameter spring pads for larger spring diameters and a large, backlit 5" digital height display that requires a standard 9 volt battery operation.

The 1000 lb. model will handle springs up to 2" in diameter and 4 ½" free length and can read weights up to 1000 lbs. in 5 lb. increments. The use of a test spring is highly recommended as the unit can be tested and recalibrated in the field (sold separately). Also sod separately is an indicator bracket for this spring tester. Bracket mounts to spring tester shaft and allows installation of a dial indicator (not included) to measure spring height to .001" and includes 1 ½" standard and 2" dial indicator extension tip.

Part #	Description
New 5607	1500 lbs. Digital Arbor Spring Tester
5313	1000 lbs. Rimac Valve Spring Tester
5316	Calibrated Test Spring
4903	Indicator Bracket for Rimac Spring Tester
4909	Optional 0-1" Travel Dial Indicator

Test spring, indicator bracket and dial indicator sold separately



Part #5313

Adjustable On Head Valve Spring Tester

A great way to check spring pressure on an assembled engine, this billet aluminum tool fits onto your rocker arm for quick pressure checks.

- Adjustable for use with almost any rocker length
- Measures pressures up to 600 lbs.

Part #	Description
5639	Adjustable On Head Valve Spring



Part #5639

Mini Valve Spring Tester

- Hydraulic mini tester is designed to be portable and low cost alternative to bench top style spring testing
- 0-1000 lb. tester scaled in 20 lb. increments
- Includes rubber gauge protector and recalibration feature
- Hex-design body can be placed in a vise, used with an arbor press or used in a drill press (w/ flange)

Part #	Description
5314	1-1000 lbs. Mini Valve Spring Tester
5315	Drill Press Flange
5316	Calibrated Test Spring



Part #5316

Part #5314

New Valve Lash Adjustment Torque Wrench

The Valve Lash Adjusting Torque Wrench is a combination precision torque wrench and valve adjustment tool. This exceptional tool simplifies making precise valve lash settings by properly torquing adjuster nuts every time.

- One tool does all “shaft” style rocker arms
- Accepts any standard 3/8" drive socket (not included)
- Comes with 1/8", 5/32" and 3/16" hex keys

Part #	Description
5600	Valve Lash Adjustment Torque Wrench



Part #5600

EZ Valve Lash Wrenches

You no longer need three hands to adjust valves; you just need the right tool. Our EZ Valve Lash Wrenches make valve adjustment easier and quicker than ever.

- Constructed of 17-4 stainless steel
- Heat-treated and electropolished to satin finish
- Offer sizes for most popular polylock and set screw combinations

Part #	Description
5300	9/16" Wrench w 3/16" & 7/32" T-Handles
5301	5/8" Wrench w/ 3/16" & 7/32" T-Handles Fits COMP® Stud Mount Rockers
5302	7/16" Wrench w/ 1/8" T-Handle – Fits Jesel Rockers
5304	1/2" Wrench w/ 3/16" T-Handle – Fits T&D and COMP® Rockers
5303	9/16" Wrench w/ 1/8" T-Handle – Chrysler Hemi
5636	7/16" Wrench w 3/16" T-Handle – Chrysler Hemi
5637	1/2" Wrench w/ 3/16" T-Handle – Chrysler Hemi
5638	7/16" Wrench w/ 5/32" T-Handle
Replacement Parts	
5658	1/8" T-Handle
5659	3/16" T-Handle
5660	7/32" T-Handle
5661	5/32" T-Handle



Part #5300

New Dual Feeler Gauge Handle

The COMP Cams® Dual Feeler Gauge Handle holds two sets of feeler gauges on the same handle and is ideal for intake and exhaust or go, no-go gauges. This gauge handle will accept various styles of 1/2" wide feeler gauges (gauges not included) depending on your application.

Part #	Description
5602	Dual Feeler Gauge Handle



Part #5602

New Remote Starter Switch

How many times have you been working on an engine and needed someone to sit inside the car and bump the starter over, or worse yet, been showered with sparks when you used a screwdriver across the starter solenoid? Well, with our pushbutton Remote Starter Switch you can turn the engine over from under the hood, all by yourself. Just think how handy this will be the next time you adjust your valves.

Part #	Description
5635	Remote Starter Switch



Part #5635

Louis Tool

When switching factory Small Block Chevrolet heads over to 1.6 ratio rockers, the pushrod will rub on the bottom of the pushrod slot in the head. Long time cylinder head man Louis Cox designed this tool to simplify the modification needed in this situation.

- Tool allows use of hand drill and 5/16" drill bit to elongate the pushrod slot in the precise location and size necessary
- Tool is designed to wear so a new one should be purchased for each set of heads

Part #	Description
4710	Pushrod Slot Elongating Louis Tool



Part #4710

Pro Head CC Kit

This kit includes a 100cc precision glass buret, stand and clamp assembly, plexiglass chamber sealing plate and complete instructions.
Note: Burets and kits must be shipped by air service

Part #	Description
4974	Pro Head CC Kit
4991	Replacement 100cc x .2cc Glass Buret
4992	Replacement Stand & Clamp Assembly
4993	Replacement Plexiglass Sealing Plate

Cylinder head and holders not included



Part #4974

V-Style Head Holders

- Perfect for whenever you perform any type of cylinder head modifications or maintenance
- Stands give ability to place the heads in any position and rotate as necessary
- Also handy for holding cams and crankshafts
- Two version available – cast aluminum and welded steel

Part #	Description
5331	V-Style Aluminum Head Holders (Pair)
5332	V-Style Steel Head Holders (Pair)

Cylinder head not included



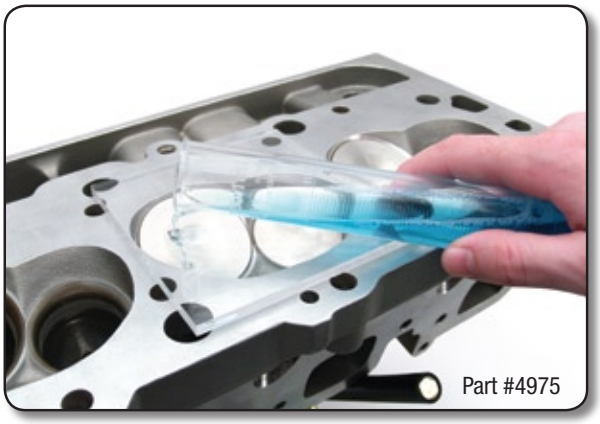
Part #5332

Economy Head CC Kit

- Uses 100cc graduated flask that measures in 1cc increments
- Gives accurate results without the expense of a buret
- Kit includes combustion chamber sealing plate

Part #	Description
4975	100cc x 1cc Economy Head CC Kit
4994	Replacement 100cc x 1cc Graduated Flask
4993	Replacement Plexiglass Sealing Plate

Cylinder head and holders not included



Part #4975

Dial Indicators & Extensions

- 0-1" Travel by .001" jeweled dial indicator is compatible with all COMP® products that require the use of a dial indicator
- Feature lug back, 3/8" shaft, 0-100 dial face and revolution counter
- Two length extensions available

Part #	Description
4909	0-1" Travel Dial Indicator
4912	5" Tip Extension
4911	6" Tip Extension



Part #4909

Magnetic Deck Checker

To calculate true compression ratio it's necessary to measure the distance between the deck surface of the block and the piston deck. Our machined aluminum deck checker incorporates magnets to hold itself firmly to the block for simple and accurate measurements. Mount a dial indicator (not included) in the center for deck height, or mount one indicator in each end to check piston rock.

Part #	Description
4900	Magnetic Deck Checker
4909	Optional 0-1" Travel Dial Indicator



Part #4900

Dial Indicator Magnetic Base

Mount a dial indicator (not included) to this base or mount it to the extension rod for a longer reach.

- Most compact mag base available but still provides 45 lbs. of pull
- Not just for end play measurement – great for cam degreeing and checking deck clearance, runout or end play

Part #	Description
4907	Compact Dial Indicator Magnetic Base
4909	Optional 0-1" Travel Dial Indicator

Dial indicator sold separately



Part #4907

Telescoping Gauge Set

- Used to measure slots, grooves, recesses, cylinders, etc.
- Especially useful for measuring valve spring installed height
- Each set contains (6) gauges, covering a total range of 5/16" to 6", all enclosed in a storage pouch

Part #	Description
5320	Telescoping Gauge Set – 5/16"-6" Range

Connecting rods not included



Part #5320

New Dial Bore Gauge Combo

Our two most popular sets are now being offered in one great combo. One tool measures rod bores, main bearings and cylinder bores – now at a cost that everyone can afford. And setting the bore gauge to zero with a master or micrometer allows you to see the difference in the bore that you are measuring so a precise measurement can be performed.

Kit Includes:

- Standard 2-6" bore gauge set-up
- Special adapter and anvil/shim kit for the 1.4" – 2.4" set
- Supplied with either a .0005" or .0001" precision dial indicator
- Can also be supplied with electronic indicators (#5646) in graduations of either .0005" or .0001" and can automatically zero in at any position and convert inch/metric with the push of a button

Part #	Description
5605	Dial Bore Gauge Combo



Part #5605

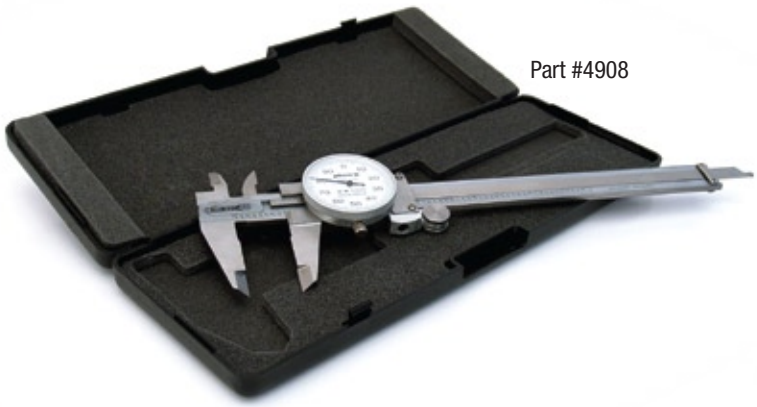
6" Calipers

Calipers are the handiest precision measuring tool available. The COMP Cams® 6" Dial Calipers can measure inside dimensions, outside dimensions or depth to .001" accuracy over their entire 6" range while the 6" Digital Calipers can read up to .0005" accuracy.

Features include:

- Rigid stainless steel body
- Smooth thumb rollers
- 0-100 Revolution dial
- Fitted case

Part #	Description
4908	0-6" .001" Dial Calipers
New 5634	0-6" .0005" Digital Calipers



Part #4908

Connecting Rod Balancer

This innovative fixture was designed to match-weigh a set of Small Block Chevrolet large journal connecting rods without the use of a scale. What this tool actually does is compare two rods at a time to show which one is heavier.

- Material can be removed from heavier rods until all are of equal weight
- Fixture will hold rods from either the big or small end so both rotating and reciprocating weights can be balanced

Part #	Description
4999	Connecting Rod Balancer

Connecting rods not included



Part #4999

Pushrod Assembly Tool

This simple tool makes assembling pushrod kits so easy that anyone can do it. Simply cut the tubing in a lathe, deburr the ends and use the assembly tool to press the ends in place, without the risk of splitting or bending the pushrod. Anyone who has ever used the block of wood and hammer technique will truly appreciate this innovative tool.

Part #	Description
4913	Pushrod Assembly Tool



Part #4913

Engine Prelube Primers

- Allow the oil pump to be primed and the engine prelubed prior to initial start-up
- Eliminates the chance of a “dry start” and premature engine damage
- Primers drop in place of distributor and, with the use of a drill, spin the oil pump to supply oil to critical engine components
- Both models feature a top alignment collar and Chevrolet model includes a bushing to pressurize the upper valve train

Part #	Description
4921	Chevrolet V8 Oil Pump Primer
4922	Ford 260-351W 1/4" Oil Pump Primer



Part #4921

New Digital Protractor

COMP® now introduces a Digital Protractor that lets anyone measure angles with true digital accuracy. Check chassis set-ups, engine geometries or just level up that new piece of machinery. This is a tool you'll wonder how you ever did without and will find uses for it everywhere.

Part #	Description
5603	Digital Protractor



Part #5603

Temperature Gun

Use the latest infrared technology to determine the surface temperature of anything - track surface, tires, radiator, cylinder heads, etc. The COMP Cams® Raytech Infrared Temperature Gun runs on a 9-volt battery and has a range of 0-750º F. The easy-to-read LCD display even has a back-light feature, so it works in total darkness or bright sunshine.

Part #	Description
4996	Raytech Infrared Temperature Gun +/- 0-750°
4996-HC	Storage Case



Part #4996

New Optical Comparator Set

Brilliantly clear optics offer undistorted images and highly accurate measurements. The scales are photo-etched into the glass reticles, which are placed in actual contact with the measured object. This portable optical comparator is utilized to check diameters, angles, hole sizes, thread measurements, radii, thicknesses and many other applications via interchangeable reticles

Kit Includes:

- 10 x Optical comparator
- 9 Reticles
- Fitted storage case

Part #	Description
5604	Optical Comparator Set



Part #5604

CamQuest™ 6 Cam Selection Software

With the CamQuest™ 6 Cam Selection Software from COMP Cams®, even novice engine builders can select proper camshaft and valve train combinations like professionals. Users can simply answer a few application specific questions about their engine/vehicle combinations. Instantly the program provides the top matching COMP Cams® camshafts for your application, related valve train components, a complete camshaft spec card and even the engine's projected horsepower and torque output.

- Recommends cams based on criteria selection, provides spec card and predicts power and torque output
- Compares different types of cams (hyd. roller to flat tappet to solid roller) to see which is the best fit
- Picks cams for stock replacement to serious race applications and all points between (38 different usage classifications to choose from)
- Specifies all related valve train parts needed and probable output
- Works for carbureted, EFI, supercharged, turbo and nitrous applications
- Has a variety of popular head and manifold combinations to choose from, or you can enter exact flow numbers

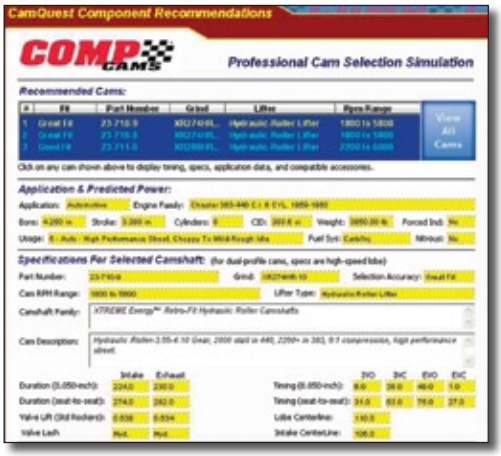


> "Without the slightest hesitation, I would absolutely recommend this product. It is the best way available to understand what an engine will give you before you actually build it."
> **-Jim Shewbert, *Jim Shewbert Power Systems***

Part #	Description
180950	CamQuest™ 6 Cam Selection Software



Easy to navigate, pull-down selection menus



Provides best cam choice, spec card and related parts



CamQuest™ even generates hp and torque graphs

Two Ways To Get Your Copy

1. Download it FREE straight from the COMP Cams® website at www.compcams.com/camquest.
2. Purchase the CamQuest™ 6 Promo Package, including:
   a. CamQuest™ 6 on CD
   b. COMP Cams® Racing T-Shirt (S-XXXL)
   c. Free Standard Ground Shipping in Continental United States

Part #CQ106-Size

New ProRacing Sim® Software

ProRacing Sim® offers a complete line of affordable and accurate computer software simulations. These programs were carefully designed to be easy-to-navigate for beginning automotive enthusiasts, yet robust enough to help the professional engine builder or racer find a winning edge. All software products incorporate a custom user interface designed for popular Windows 95/98/Me/NT/2000/XP and Vista applications.

SIM ENGINE SIMULATIONS

DeskTop Dyno5™

Capable of testing any 1-12 cylinder, 4-cycle engine, this innovative software features a custom interface that includes easy-to-use Direct-Click™ Menus that allow you to select from a wide variety of parts – or enter custom specs. DeskTop Dyno5™ also includes several calculators to aid you with detailed engine analysis, including a CamMath QuickCalculator™, Induction-Flow Calculator and an Air Flow Pressure-Drop Calculator.

- Detailed graphs display projected hp, torque, VE, engine pressures and more
- QuickIterator™ automated testing tool helps find optimum component combinations for virtually any engine application
- Includes combustion chamber modeling, improved accuracy and new component choices to put you within 5% of real dyno data
- Displays results at each 500 rpm from 1000 to 14,500 rpm



Part #	Description
186011	DeskTop Dyno5™ Software

DynoSim5™

Now you can dyno test your next engine project BEFORE you even build it. The DynoSim5™ software can accurately simulate any 4-cycle engine – including turbo, supercharged, nitrous and alternative fuel applications. Features include hundreds of new engines, advanced modeling, expanded results graphs and tables, comprehensive printouts, automatic updating over the web, and more. As a supplement to DynoSim5™, we now offer CamDisk8™ that will automatically install additional cam files to the cam library created when you installed DynoSim5™. With this additional disk, you will have access to over 6,000 camshafts that you can search, load and test in any simulated engine.

- Features combustion and ignition curve modeling, advanced rocker ratio mathematics, multiple graphs and data displays, and a higher degree of accuracy
- Incorporates new QuickIterator™ and ProIterator™ technologies that help find the best component combinations for optimal power
- Includes unique Pro Tools™ Kit that enhances functionality

* CamDisk8™ requires previous installation of DynoSim5™ and is compatible with DynoSim5™ only. CamDisk8™ is sold separately from DynoSim5™.

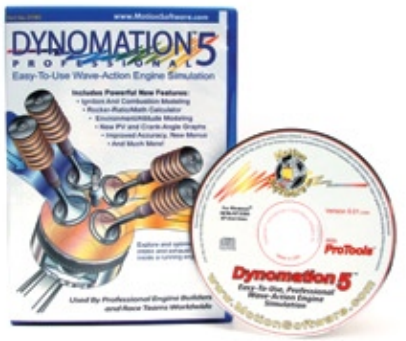


Part #	Description
181501	DynoSim5™ Software
180908	CamDisk8™

Dynomation-5™ Wave Action Engine Simulation

For the competitive engine builder, time is money. Thanks to the Dynomation-5™ Wave Action Engine Simulation, you can reduce the cost and time of engine development, while maintaining your competitive edge. By letting you peer inside a running engine, this advanced engine simulation reveals live pressure waves and mass flow in cylinders and engine passages. While Dynomation-5™ will accurately display how much power your engines makes, it will also show you where and how this power is achieved.

- 3D cutaway engine shows mass flow, port velocities and pressures – synchronized to the crank-angle data displayed in Dynomation-5™
- Fully analyzes induction runner lengths, port taper angles, port areas, cylinder head flow variations and cam timing
- Examines camshaft lift, duration, centerline and lobe separation angles



Part #	Description
181810	Dynomation-5™ Software

DRAG STRIP VEHICLE SIMULATIONS

DeskTop Drag5™

Rather than making trial runs at the track to determine the best setup for your street rod, motorcycle or dragster, why not save money and time by doing it all on your Windows-equipped PC? DeskTop Drag5™ is an inexpensive, yet highly-accurate 1/4- and 1/8-mile drag race simulation that allows you to analyze the winning potential of your vehicle by selecting various parts from built-in menus – or by entering your own custom specs. With this advanced software, you can model virtually any vehicle's design, weight, frontal area, aero drag, wheelbase, tires and even driving style.

- Features advanced graphics that display e.t., mph, engine and clutch (trans input shaft) rpm, acceleration, aero drag, tire slip, etc.
- Unique "zoom-in" feature allows you to analyze starting line or top-end performance
- Design, build and drag test cars, motorcycles, dragsters – front- or rear-wheel drive
- Uses an advanced Windows interface with easy-to-use DirectClick™ Menus
- Pop-up TimeSlip™ provides a detailed performance overview



Part #	Description
186401	DeskTop Drag5™ Software

DragSim5™

In the past, finding the optimal chassis, driveline, gear ratios and other characteristics for desired street or drag strip performance was an expensive process characterized by trial-and-error – but not anymore. With DragSim5™, you can assemble and test the performance of any vehicle imaginable on any 1/8 or 1/4-mile strip. A pop-up TimeSlip™ provides an easy-to-read visual summary of the overall vehicle performance. Also included is the sophisticated Traction Calculator™ that optimizes tire/track modeling and improves overall simulation accuracy.

- Build and test any domestic or sport compact vehicle on your PC; accurately determines speeds for front or real-wheel drive vehicles
- Analyze engine rpm, clutch rpm, acceleration, tire slip, e.t., aero drag and so much more
- ProTools™ Kit (optional) includes DataZones™, ProIterator™, ProData™ Display and ProPrinting™
- Determines the best components for street cars, motorcycles or dragsters
- Patented Traction Calculator™ improves simulation modeling and accuracy
- Pop-up TimeSlip™ gives an instant performance overview



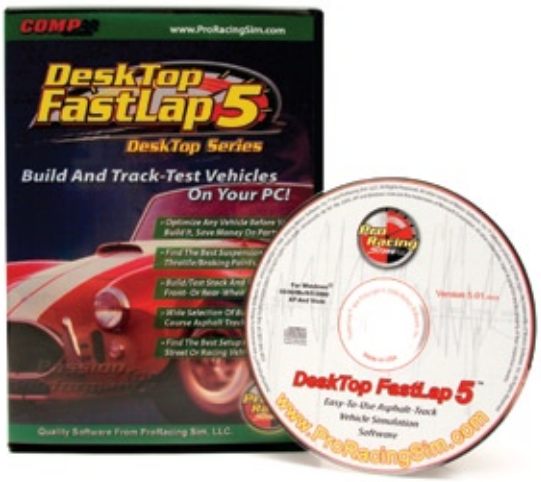
Part #	Description
181601	DragSim5™ Software

RACE VEHICLE SIMULATIONS

DeskTop FastLap5™

Using the latest in performance simulation technology, DeskTop FastLap5™ analyzes the handling capability of any vehicle on any closed-course, asphalt track. This top-of-the-line software can perform a comprehensive analysis of any vehicle, turn-by-turn, to provide you with the best chassis and vehicle setup. It can also run an extensive simulation and display lap times and full vehicle "telemetry" to within a small percentage of true track-test data. Once you choose your setup combination, DeskTop FastLap5™ will take your vehicle through a "hot lap" with instant results.

- Accurately design, build and simulate any vehicle on any closed-course, asphalt track in just a few seconds
- Tests weight, wheelbase, center of gravity, aerodynamics, shifting and braking points, tires, gear ratios, suspension, and power curves
- Features include DirectClick™ Menus, QuickAccess™ Buttons, precision data display with reticule, 160-page color users manual and more
- Choose from over 40 built-in tracks or model your own with help from the fully-graphic Track Editor™ application
- Custom user interface displays vehicle specs and track-testing results



Part #	Description
186301	DeskTop FastLap5™ Software

FastLapSim5™

Building a well-suited vehicle for road racing competition is a never-ending search for the perfect combination of suspension design, tires, gear ratios, braking points, steering path and a hundred other variables. Thanks to FastLapSim5™, you can accurately simulate the complex interaction of forces, speeds, and accelerations generated by stock, high-performance, or all-out race vehicles. This advanced software also features the Pro Tools™ Kit, which includes such enhanced features as DataZones™, real time data display, spring/damper calculator, ProData™ Display and ProPrinting™.

- Advanced road racing software accurately determines best possible elapsed time for any track – with any number of turns, ovals or autocrosses
- Pick from 40+ of the world's most well-known tracks or design any closed course using the innovative, built-in TrackEditor™
- Determines optimum driving path, shifting and braking points, aerodynamics, throttle positions, gear ratios and much more
- Software includes cutting-edge Pro Tools™ Kit that extends the functionality of many program features
- Easy-to-use interface allows comparison between as many as four vehicles at once – anything from stock cars to street racers to NASCAR



Part #	Description
181701	FastLapSim5™ Software

For more information visit www.proracingsim.com

PROMOTIONAL/REFERENCE

COMP Cams® Decals

Part #	Description
113	COMP Cams® 6" Decal
110	COMP Cams® 12" Contingency Decal
257	COMP Cams® 24" Decal
258	COMP Cams® 36" Decal
105	COMP Cams® 12" Spring Decal
111	COMP Cams® 12" Rocker Decal
115	COMP Cams® 12" Lifter Decal
149	COMP Cams® 12" Belt Drive Decal
COMP3-101	COMP Cams® 3 Decal Card
COMP3-103	COMP Cams® Logo Decal Card



COMP Cams® Banner

Part #	Description
308	COMP Cams® 3' x 8' Banner



Part #308

"The Proper Procedure To Install and Degree A Camshaft" DVD

This DVD takes you through the various stages of camshaft installation and the degreeing process, completely explaining each step. Whether you're a first time builder or a professional, you'll refer back to this DVD over and over.

Part #	Description
190DVD	"The Proper Procedure to Install & Degree a Camshaft" DVD

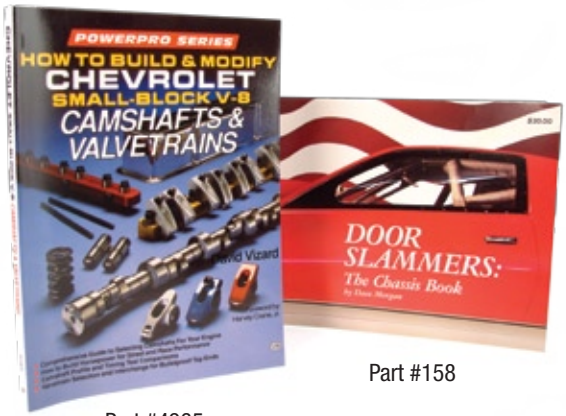


Part #190DVD

COMP Cams® Books

Covering all topics from race to street, the COMP Cams® collection of reference books is an easy way to get the information you need. The authors have conducted interviews with some of the biggest names in the business in order to bring you more accurate and reliable information. Some of the interviewees include John Lingenfelter, Earl Gaerte, Herb Fishel and many more. Hundreds of images will help explain technical aspects of tuning and operating your vehicle and help you make the most of your engine project.

Part #	Description
4965	How To Build & Modify Chevrolet Small Block V8 Camshafts & Valve Trains
158	Door Slammers: The Chassis Book



Part #158

Part #4965

Hats

Stylish, twill hats are fully adjustable and one size fits all. With full color embroidered logos on the front and www.compcams.com on the adjustable back strap, these low profile hats are both comfortable and great looking. Take your pick.

Part #	Description
C635B	COMP Cams® White Hat w/ Black Bill
C638	COMP Cams® Camo Hat
C639	COMP Cams® Black Hat
New C663	COMP Cams® Gray & Black Trucker Style Hat
New C1021	COMP Cams® Black & White Retro Logo Hat



Logo T-Shirts

The perfect choice for any race or street event or even working in your shop, these logo t-shirts are our most popular sellers. Available in a white or black version, each shirt has a small logo on the front left chest and a full size logo on the back. Also available is our Distressed Logo T-Shirt with a COMP Cams® logo on the chest and the words "Leader, Technology, Quality, Innovation, Power, Performance and Results" on the back. Each version is available in sizes Small through XXXL. When ordering, add a dash (-) and your size to the end of the part number listed.



Part #C1030



Part #C106


Part #C1020

Part #	Description
C106	COMP Cams® White Racing T-Shirt
C1020	COMP Cams® Black Logo T-Shirt
New C1030	COMP Cams® Distressed Logo T-Shirt

*When ordering, add "-size" to the end of the part number

New Wings T-Shirt

Want to stand out from the crowd? Try the COMP Cams® Wings T-Shirt, which features cool, custom wings graphics and COMP Cams® labeling on the front and back. The charcoal gray Gildan Ultra Cotton tee is pre-shrunk and available in sizes Small through XXXL. It displays a trendy, retro look that celebrates COMP Cams® more than three decades of successful valve train component development and race winning ways. When ordering, add a dash (-) and your size to the end of the part number listed.

Part #	Description
C1023	COMP Cams® Wings T-Shirt

*When ordering, add "-size" to the end of the part number



Part #C1023

New Retro Logo T-Shirts

COMP Cams® Retro Logo T-Shirts feature the message "Horsepower Never Goes Out of Style." With full color, pinup graphics on the back and the COMP Cams® retro logo on the front left chest area, these high-quality, Gildan Ultra Cotton t-shirts are pre-shrunk and will keep their shape for years to come and are available in sizes Small to XXXL in both white and black. When ordering, add a dash (-) and your size to the end of the part number listed.

Part #	Description
C1024	COMP Cams® White Retro Logo T-Shirt
C1025	COMP Cams® Black Retro Logo T-Shirt

*When ordering, add "-size" to the end of the part number





Part #C1025

Part #C1024

New Ladies T-Shirt

These pink tees feature a bright COMP Cams® graphic on the front that is sure to catch the eye. Specifically designed for women, these are cut to fit you and provide supreme comfort, not just another small-sized men's t-shirt hand me down. Available in sizes from Small through XXL, these are fitted t-shirts, not the "baby doll" cut commonly offered for women. Made from Gildan Ultra Cotton, they are guaranteed to deliver years of great looks. When ordering, add a dash (-) and your size to the end of the part number listed.

Part #	Description
C1026	COMP Cams® Ladies Pink T-Shirt

*When ordering, add "-size" to the end of the part number



Part #C1026

Youth T-Shirts

COMP Cams® now offers three different youth tees across all ages. For the toddlers, there is the Toddler Racing Tee that is available in 6 month, 12 month and 18 month sizes. For the older children, we offer the Youth Blue Tee that is available in sizes XS (2-4), S (6-8) and M (10-12). And last, for preteens, we offer the Youth Wings T-Shirt that is identical to our adult Wings tee, only in a youth size. Available in sizes L (14-16) and XL (18-20). Each shirt features full color, screen printed logos and graphics. When ordering, add a dash (-) and your size to the end of the part number listed.

Part #	Description
C1006	COMP Cams® Toddler T-Shirt
New C1028	COMP Cams® Youth Blue T-Shirt
New C1029	COMP Cams® Youth Wings T-Shirt

*When ordering, add "-size" to the end of the part number



Part #C1028

Part #C1029

Part #C1006

Dri Mesh Polos

These dri mesh polos provide the driest moisture wicking protection available to keep you cool, regardless of the weather. These shirts are made from 100% double poly mesh that stands up to repeated washings without fading and require no ironing and look great straight out of the suitcase – an important feature for traveling racers and performance enthusiasts. When ordering, add a dash (-) and your size to the end of the part number listed.

Part #	Description
C1014	COMP Cams® White Polo
C1015	COMP Cams® Black Polo
C1016	COMP Cams® Gray Polo

*When ordering, add "-size" to the end of the part number



Outerwear

COMP Cams® now offers a variety of outwear for those cool nights at the track. First, we have the COMP Cams® Crewneck and Hooded Sweatshirts. These black sweatshirts are made of a 50/50 blend and have a COMP® logo embroidered on the front left chest. Available in sizes M-XXXL.

Next is our high-quality jacket made from a durable Teklon nylon outer shell, which is backed by a lightweight fleece inner lining. Available in sizes Small through XXXL, the COMP Cams® Race Track Jacket features an embroidered COMP Cams® logo on the front left chest. The adjustable cuffs and elastic waist provide hours of comfortable use and the interior pockets are handy to carry personal items. When ordering any item, add a dash (-) and your size to the end of the part number listed.

Part #	Description
C1017	COMP Cams® Crewneck Sweatshirt
C1018	COMP Cams® Hooded Sweatshirt
C1022	COMP Cams® Race Track Jacket

*When ordering, add "-size" to the end of the part number



Apron

This handy three pocket apron is rugged and durable and is perfect for working on your race or street vehicle. These are black with the COMP Cams® logo on the middle chest and are one size fits all. Available separately is our embroidered self adhesive patch. Simply iron it on.

Part #	Description
C604	COMP Cams® Three Pocket Apron
C801	COMP Cams® Logo Self Adhesive Patch



Fender Cover

Made of heavy-duty padded vinyl, this fender cover has a non-skid backing to protect your car's finish. It resists acid and grease and is easily washable with mild solvents or detergents. Black with full color COMP Cams® logo.

Part #	Description
C603	COMP Cams® Fender Cover



Camshaft Installation Instructions

A cam is a highly sophisticated, high performance part and requires a little bit of "TLC" during installation and break-in. This instruction sheet (Part #145) has been broken down into several categories so that it will be easier for you to use. Some of the topics may not apply, but all of the information will be very beneficial during your cam installation. For step-by-step visual detail, we recommend that you refer to our 35 minute instructional video, "The Proper Procedure to Install and Degree a Camshaft" (Part #190DVD). If you have any questions or problems at any time during your installation, please do not hesitate to contact the toll free CAM HELP® line at 1-800-999-0853 from 7 a.m. to 8 p.m. Central Time Monday through Friday and 9:00 a.m. to 4 p.m. on Saturday.

Important:

In order for your new COMP Cams® camshaft to be covered under any warranty, you must use the recommended COMP Cams® lifters and valve springs. Failure to install new COMP Cams® lifters and valve springs with your new cam can cause the cam lobes to wear excessively and cause engine failure.

Installation:

Step 1: Prepare a clean work area, and assemble the tools needed for the camshaft installation. We suggest you acquire an automotive manual to help you determine which items must be removed from the engine in order to expose the timing chain, lifters and camshaft. A good, complete automotive manual will save you time.

Step 2: Once the camshaft, lifters and timing chain are exposed, line up the timing marks on the timing gears by rotating the crankshaft (Fig. A). This will position the #1 piston at Top Dead Center (TDC). Next, remove the camshaft timing chain sprocket, the timing chain and the camshaft retaining plate, if equipped. Remove all lifters, and reinstall the cam sprocket to serve as a handle. Slowly and carefully, "roll" the camshaft from the engine. Excessive force is not required. If the camshaft does not come out easily, stop immediately. Look for obstructions, such as a fuel pump rods, distributor gears, etc. Do not force the camshaft. Something is holding it in the block.



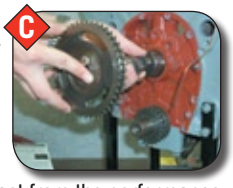
Step 3: Once the camshaft is out, pull the bottom timing gear off the snout of the crankshaft. In many cases you will need a gear puller to remove the crankshaft sprocket. The bottom gear is usually an interference fit, which may make it difficult to remove without the proper tool. Be careful not to damage the threads in the end of the crankshaft.

Step 4: Now is the time to inspect all of the old camshaft related components (timing chain set, distributor gear, etc.) for abnormal or excessive wear. For example, using an excessively worn distributor gear with a new camshaft could result in severe engine damage. We recommend replacing the distributor gear for the best results. It is also critical that the old lifters be properly disposed of and new lifters installed. Your camshaft warranty will be void if old lifters are used.

Step 5: Remove your new COMP Cams® camshaft from its packaging. Inspect all lobes and the gear, making sure the camshaft is intact. Next, compare the stamped numbers on the end of the cam with the spec card, making sure this is the correct cam. It is a good idea at this point to lightly wire brush the distributor gear and clean the cam with mineral spirits or an equivalent solvent. Remember, during the installation process, the cleaner you keep your new components, the better chance you have of avoiding any type of failure during break-in. Using the COMP Cams® Assembly Lube supplied with your cam, coat all lobes and the distributor gear. It is important to coat the lobes completely, yet not excessively. This same rule applies to the distributor gear and the fuel pump lobe (Fig. B). Coat the cam bearing journals with straight SAE 30 or 40 wt. oil. We do not recommend the use of synthetic oils with our cams and lifters during break-in.



Step 6: We recommend you install a new COMP Cams® timing chain and gear set for two reasons. First, the old chain is likely to be stretched beyond its service limits. Second, your old timing set, as well as many new ones on the market, may be machined to retard the cam timing. Either of these conditions will detract from the performance your camshaft was designed to deliver. Temporarily install the cam sprocket on the camshaft. The sprocket will again serve as a handle to help "roll" the cam into its bearings. Carefully slide the camshaft into the engine, oiling the bearing journals as it slides into the block (Fig. C). Excessive force is not necessary to install the cam. Take your time. You do not want to scar the camshaft or the cam bearing. Be sure you do not wipe away any of the assembly lube as you install the cam into the block. Once the cam is installed in the block, fully remove the cam sprocket. If your engine was equipped with a camshaft retaining plate, it should be installed at this time. Refer to your engine manual for the proper torque specs for the retaining plate bolts.



Step 7: Install the new crankshaft sprocket on the snout of the crankshaft (Fig. D). We recommend using a Crankshaft Timing Sprocket Installation Tool (Part #4789) in conjunction with our Balancer Installation Kit (Part #4920) for all applications having an interference fit crank sprocket.



Should You Degree Your New Cam?

It isn't absolutely necessary to degree the cam for the engine to run efficiently. We grind most of our hydraulic cam series four degrees advanced to make up for all machining tolerances. This will position the cam for the best street performance. However, to ensure maximum performance, we recommend you degree your new COMP Cams® camshaft. The purpose of degreeing a cam is to correct the errors and tolerances in the machining processes of the engine that affect camshaft timing. If you do decide to degree your new cam, we suggest the intake centerline method. It's simple, quick and efficient.

Step 8: Reinstall the cam sprocket temporarily. Check the timing mark alignment in your engine manual. Rotate the crankshaft and camshaft to their proper positions. Our Small Block Chevrolet has a "dot over dot" alignment as shown (Fig. E). Remove the camshaft sprocket, and install the new COMP Cams® chain. Bolt the cam sprocket to the cam, making sure the sprocket is pulled up flush onto the cam (Fig. F). Once again, make sure the timing marks are positioned properly and according to your manual.





Refer to your manual for the proper torque specifications before tightening the camshaft bolt or bolts. We also suggest that thread locker be applied to the threads of the camshaft bolts to assure the bolts remain torqued to the proper specification. This process is very important! Improperly torqued camshaft bolts can loosen and cause severe engine damage. A camshaft bolt locking plate is recommended for Chevrolet 262-400c.i. and 396-454c.i. engines. Ask for COMP Cams® Part #4605.



Step 9: Remove your new COMP Cams® lifters from the packaging, and clean the lifters thoroughly in mineral spirits or an equivalent solvent. Remember, in order to protect your camshaft warranty, new lifters must be installed. It is not necessary to "pre-pump" hydraulic lifters full of engine oil prior to installation and valve adjustment. It is actually undesirable to do so as the "pumped up" lifters will cause the valves to open during the adjustment process, rather than positioning the valve lifter plunger in its operating position as it should. "Pre-soaking" hydraulic lifters in a bath of engine oil is a good idea, but is not mandatory. It does ensure that the lifters are adequately lubricated on their outer surfaces prior to installation in the engine. It may also result in a quieter engine start-up as the oil in the bath may displace some air from the lifters' plunger reservoirs. Coat the bottom of all lifters with the COMP Cams® lube supplied with your cam (Fig. G). Install the lifters, making sure they will fit and rotate freely. Any excess clearance or tight lifters can cause damage to the camshaft and lead to engine failure.

If you are installing either a solid or hydraulic roller cam in your engine, now is the time to check cam end play. For instructions on how to do so, see "Checking Cam End Play" on page 406 of this master catalog. If you are installing a hydraulic or solid flat tappet cam in your engine, this step is not necessary in the majority of engines. This is because the taper ground into the cam lobes of these types of cams pushes the cam into the proper position and holds it there while the engine is running. Checking end play is also unnecessary in engines equipped with cam retaining plates, whether the cam used is a flat tappet or a roller.



Step 10: Next, we recommend you install COMP Cams® Roller Rocker Arms and Pushrods to ensure compatible mating surfaces and long life. Additionally, because of the increased stiffness, accuracy of ratios and roller tip, COMP® Roller Rockers can give you up to an extra 15 to 30 hp over stock or stamped rocker arms. (COMP Cams® Magnum Rockers and pushrods are conveniently packaged in our RP-Kits, see Fig. H). Clean all pushrods thoroughly because most engines oil through the center of them. If the original pushrods are being used, be especially sure they are clean inside and out. Apply a small amount of COMP Cams® lube or equivalent on each end of the pushrod and install into the engine (Fig. I). Clean all rocker arms thoroughly. If the original rockers are used, examine each one for excessive wear and replace any that are questionable. Apply a small amount of COMP Cams® lube on all contact areas of the rocker arm. With a clean cloth, wipe the tips of the valves clean and apply COMP Cams® lube on the tip of each valve where the rocker arm will come in contact with it. Also, be sure to check the valve tips for excessive wear.



Step 11: Install rocker arms onto the engine (Fig. J). Do not tighten the adjusting nut down before you go through the proper sequence. On engines with shaft mounted adjustable rocker arms, back off all adjusters completely before installation. Make sure the pushrod is in the lifter and the rocker arm seat when making valve adjustments.



For hydraulic lifter adjustment, turn the engine in the normal direction of rotation. When the exhaust valve moves to maximum lift, adjust the intake valve to zero lash with no pre-load. Turn the adjusting nut an additional ½ turn more. Rotate the engine over again until the intake valve reaches maximum lift and is almost all the way back down. Set the exhaust valve to zero lash plus ½ turn.



Adjust the valves on each cylinder in this manner until all valves are adjusted (Fig. K). If your engine has non-adjustable rocker arms, a lifter pre-load of .020" to .040" must be maintained.

See "Non-Adjustable Rocker Arms" for proper pre-load instructions. For mechanical lifter camshafts, follow the same adjustment procedure. Instead of lifter pre-load, use the prescribed valve lash clearance found on the cam specification card. Mechanical valve lash adjustment is recommended at every oil change.

Step 12: It is very important to fire the engine as quickly as possible. The only lubrication that the camshaft receives is from oil thrown off the crankshaft. First, change the oil and filter using an SE, SF grade or racing oil for initial break-in. In recent years, the lubricity of the oil and specifically the reduction of the important anti-wear additives such as zinc and phosphorus, which help break-in and overall camshaft life, have been drastically reduced. In terms of oil selection, COMP® recommends a high "ZDDP" content oil for the break-in procedure and regular operation. There are several companies that are now offering specialized "race/off-road" oils, high in anti-friction and anti-wear content, to combat this specific problem. These oils carry the SL rating and contain up to 1000 ppm of Zinc/Phosphorous.

Even more importantly, we strongly recommend the use of COMP Cams® Break-In Oil and Additive (see page 272 for part numbers) during break-in. While this additive was originally developed specifically for break-in protection, subsequent testing has proven the durability benefits of its long term use. This proprietary blend of anti-wear and extreme pressure additives promotes proper break-in and protects against premature cam and lifter failure by replacing some of the beneficial ingredients that companies have been forced to remove from off-the-shelf oils.

Once you've selected an oil, fill the new oil filter before installing. This allows the engine to achieve oil pressure immediately. Timing the engine properly the first time will be necessary for the engine to start quickly. Rotate the crankshaft in normal crankshaft rotation until the number one cylinder is coming up on the compression stroke. Align the timing mark on the balancer/dampener to the recommended factory initial timing setting, making sure that both valves on the #1 cylinder are closed. Install the distributor with the rotor pointing to the #1 plug wire on the cap. The engine should fire up as soon as it receives fuel.

Step 13: Important! As soon as the engine fires, bring the engine rpm to 1500 to 2000 during the first 30 minutes of operation. Slower engine speeds may not supply the camshaft with an adequate amount of oil for the break-in period. Change rpm periodically to direct oil splash to different areas of the camshaft. After the 30 minute break-in period, change the oil and filter again to be sure all contaminants and break-in lube are removed from the engine. If the camshaft you are using requires double valve springs, we recommend removing the inner spring for camshaft break-in.

Checking Cam End Play

Cam end play refers to how much a roller cam is allowed to move back and forth in the engine. Some end play is required to eliminate the possibility of wear occurring as a result of interference between the cam and other engine components. Excessive end play is detrimental as the cam will be misaligned in the lifter bores, causing the roller wheels on the lifters to run on the edge of the lobes instead of the center. If the end play is too large, it can result in the lifter from one cylinder hitting the lobe adjacent to it. Another important effect of cam end play is that as the cam moves back and forth, it advances and retards the ignition timing at the distributor gear.

The proper amount of end play is between .004" and .010" This can be checked rather easily by using a dial indicator and magnetic base on the front of the engine. Merely push the cam as far back in the engine as possible, zero the indicator on the upper timing gear, and pull the cam as far forward as it will go. The indicator reading will tell you the end play.

In Chevrolet engines, you have to have the front cover in place to check end play since the cover is the forward stop for the roller cam and timing gear combination. Also, you must have a cam button in place to take up the additional space between the gear and front cover. These are typically made of Teflon/fiber or steel. The steel buttons have a miniature roller bearing built in. All types are available from COMP Cams® in various lengths, depending on the type of front cover you are using.

The Chevrolet front cover makes using the dial indicator technique for end play determination difficult. Some of the front covers have an access hole with a pipe plug to allow a dial indicator extension to go through and contact the upper timing gear. Stamped front covers have no such provision. Therefore an alternate technique that can be used is to gently insert a long screwdriver in one of the lifter bores and carefully pry the cam back and forth using the sides of the lobe in the bore. Do not use excessive force to try and move the cam. Estimate from the lobe in its extreme positions on either side of the bore how much end play exists, and adjust accordingly. If the end play is too large, install some suitable shim material behind the cam button and recheck. If it is too small, carefully remove some material from the back of the cam button, reinstall it in the timing gear, and recheck.

One final note of warning – stamped steel Chevrolet front covers are typically very flexible where the cam buttons contact them. This is detrimental to maintaining a consistent amount of end play. Washers are available to weld inside the front covers to stiffen them. Also, the water pump fits tightly to some front covers and can act as a support. But for most race type roller cam applications we strongly recommend the use of a cast or billet aluminum front cover (Part #210) to eliminate any front cover flex induced change in end play.

Adjusting Valve Lash On Mechanical Camshafts

All COMP Cams® spec cards have hot lash specifications (operating temperature) that will work for initial start-up. Find yours and by hand, rotate the crankshaft (in the running direction) until the exhaust pushrod begins to move upward, opening the valve. You can now adjust the intake lash by tightening the rocker nut while the proper thickness feeler gauge is inserted between the valve stem and the tip of the rocker. Tighten the rocker nut until there is a slight drag when moving the feeler gauge. To adjust the exhaust valve, rotate the crankshaft until the intake pushrod moves all the way up and goes past the "top" until it is one-half to two-thirds of the way back down. Adjust the exhaust rocker nut (with the proper feeler gauge) using the procedure above. Repeat for all cylinders Note: You may find it easier to set and maintain valve lash using COMP Cams® polylocks.

After setting lash with the engine cold, start it following the break-in procedure described in step 13. After break-in, the engine will be at operating temperature. Due to thermal expansion, the lash will now be looser than it was when the engine was cold. Repeat the entire adjustment process above to ensure proper lash at operating temperature.

Setting Hydraulic Lifter Pre-load

When installing a hydraulic cam, hydraulic lifters, or rocker arms, it is necessary to establish the proper lifter pre-load. Insufficient lifter pre-load will cause excessive valve train noise. Excessive lifter pre-load will cause the engine to idle rough or have low manifold vacuum and can lead to severe engine damage. It is critical to engine efficiency and to the service life of the valve train (camshaft, lifters, pushrods, valve springs, etc.) for the lifters to have the proper amount of lifter pre-load. On any hydraulic lifter camshaft, the ideal lifter pre-load should be .030". A variance of +/– .010" is acceptable.

Adjustable Rocker Arms

Install the pushrods into the engine. Install the rocker arms, balls and nuts on the rocker studs. Be sure the pushrods are seated properly into the lifter and the rocker arm seats. Turn the engine over by hand in the direction of rotation until the exhaust pushrod just begins to move upward to open the valve. You are now ready to adjust the **intake** rocker of the same cylinder.

Carefully tighten the nut on the intake rocker arm while spinning the pushrod with your fingertips. You will feel a slight resistance in the pushrod when you have taken up all of the clearance. This is referred to as "zero lash." Now turn the adjusting nut ½ turn more (Fig. L). Generally, ½ turn on the adjusting nut will provide the suggested .030" pre-load.



Once again, turn the engine in the direction of running rotation until the intake pushrod comes all the way up and almost all the way back down. Now set the **exhaust** rocker to "zero lash" and add ½ turn. You now have set the pre-load on one cylinder. Repeat these same steps to set the pre-load on each cylinder.

Non-Adjustable Rocker Arms

In situations where you are dealing with non-adjustable rocker arms, a different procedure must be followed. After applying lube, install the push-

rods and torque all rocker arm bolts down in the proper sequence and torque specifications. Rotate the engine by hand in the normal direction of engine rotation until both the exhaust and intake valves have opened and closed completely. Allow a couple of minutes for the lifter to bleed down.

Using the valve cover gasket surface on the head as a reference point, place a mark on the pushrod. It is advisable to use a pencil or scribe to mark the pushrod. The smaller and more defined the mark, the more accurate the measurement. Be sure the reference point you choose for the first mark is easily accessible and easy to duplicate. You will be marking the pushrod twice. It must be from the same reference point and angle for the measurement to be accurate.

Loosen the rocker or rocker shaft bolts. Leave the rockers on the head so they support the pushrods. Be sure the pushrods are standing free in the lifters and do not have any pre-load. Using the same reference point, place a second mark on the pushrod. Make sure the angle and reference point are the same as the first mark.

You now have two marks on the pushrod – one with the assembly bolted into place as the engine will run and the second mark with the lifter unloaded. The distance between these two points will represent the amount of lifter pre-load your engine has.

If you find that the pre-load is not within .020" to .040" range, adjustment will be necessary. The simplest way to accomplish this is by using different length pushrods. These pushrods are available for most engines with non-adjustable rockers. When measuring to find the correct length needed, be sure to include the .030" pre-load that the lifter requires.

If your engine has pedestal style (bolt-mounted) rockers, you can use shims under the pedestal to lessen the pre-load. This method also works with shaft mounted rocker systems. Longer pushrods will be needed for insufficient pre-load.

In most cases, you will only need to check one intake and one exhaust pushrod; however, if your valve stem heights are not equal, you will need to check pre-load on each valve. If this procedure is not followed, it will almost certainly result in a poorly running engine and ultimately engine failure.

Rocker Arm Clearance

Rocker arm clearance must be checked at several places. It is very common with higher lift cams to have the rocker arm contact the rocker stud when the valve is at full open position. Be certain to check this, as lack of proper clearance will cause broken studs, broken pushrods or a worn-out camshaft.

The clearance between the rocker arm and the retainer must also be checked. This problem will be more pronounced when the valve is closed. The retainer is likely to contact the underside of the rocker arm right in the center. Be sure to maintain at least .030" clearance at this point (Fig. M).



When assembling the head, check the retainer-to-valve seal clearance. Sometimes, when you install a high lift cam and a different seal, this distance becomes too small. This will bind the valve train and result in camshaft failure. If the clearance does not measure the total valve lift +.060", the heads should go to a machine shop and the guides shortened. Pushrod clearance must also be checked, especially when using higher ratio rocker arms. The pushrod seat in the rocker is moved toward the stud in this case, so it must be checked at several different lift points.

Valve Springs

The number one factor in premature failure of a new camshaft is an improper or worn-out valve spring. Either incorrect pressure or an incorrect spring application will lead to a worn-out cam. For this reason, it is highly recommended that the corresponding part number COMP Cams® springs be used in any cam change.

Most aftermarket cams have much higher-than-stock lift. Therefore, the stock valve springs will "coil bind" or "stack" before the cam reaches its full lift. This condition will cause the cam to fail immediately. You should always use the recommended part number spring with a new cam, and check to be sure there is no coil bind. With the valve at full lift, check the clearance between the coils. You need to maintain a minimum of .060" between the coils at this point (Fig. N).



Excessive spring pressures will also lead to early failure. These pressures can be the result of incorrect springs, short valves, improper retainers or many other factors unrelated to the cam or the valve spring. The only way to ensure the correct pressure is to actually check the installed height and pressure.

Coil bind will not usually be a problem when lower lift camshafts are used. However, the Big Block Chevrolet is an exception to this rule. When installing any non-stock cam, it's recommended to check for coil bind, but it's imperative that coil bind be checked (see above) on higher lift camshafts. With most COMP® camshafts the valve springs MUST be replaced. Stock valve springs will not have sufficient travel for cams that incorporate additional lift.

Piston to Valve Clearance

Anytime a higher-than-stock lift or duration camshaft is installed, it is important to check piston-to-valve clearance. The High Energy™ series and smaller Magnum Cams, such as the 270H, 280H, 270S or 286AR camshafts, should not have this problem; however, the 292H, 294S, 280AR and larger camshafts may have an interference problem.

COMP Cams® strongly urges you to check the piston-to-valve clearance on the larger street cams and on all race cams. We recommend at least .100" clearance on the intake valve and at least .125" for exhaust valves. If aluminum connecting rods are used, add a minimum of .030" to the suggested clearance figures. Aluminum rods will stretch and expand more than a steel rod.

The easiest and possibly most accurate way to check piston-to-valve clearance is to place strips of modeling clay on top of one piston, then rotate the engine over by hand with the head bolted in place and all of the valve train with valves adjusted. When there is resistance in turning, stop. The piston has probably hit the valve.

A decision must be made to flycut the piston, which will involve completely disassembling the engine, or to exchange the cam for a profile that will fit into your engine. Do not try to operate the engine with less than .100" clearance on the intake and .125" on the exhaust. Costly engine damage will occur.

Camshaft Degreeing Instructions

The purpose of degreeing a camshaft is to ensure that it is phased correctly with the crankshaft. Some factors that may cause improper positioning are:

1. Cam or crank gear marked incorrectly
2. Incorrectly machined cam or crank gear keyways
3. Misindexed cam keyway or dowel pin
4. Improper machining of camshaft or crankshaft
5. Accumulation of machine tolerances – Remember that camshaft position or phasing to the engine is extremely important for the engine to operate at maximum efficiency.

Equipment needed to properly "degree" a camshaft is available from COMP Cams®. You will need:

1. Degree wheel
2. A rigid pointer that can be attached to the block
3. A dial indicator to accurately measure cam lift

   Note: Refer to your spec card for maximum lift and check your dial indicator to be sure it has sufficient range to measure the full cam lift.
4. Either a magnetic or attachable base to affix the dial indicator
5. A Top Dead Center piston stop
6. A solid lifter to fit your engine. Engines that have non-adjustable rocker arms will also require an adjustable pushrod length checker to accommodate that engine
7. A means to attach the degree wheel to the crankshaft

A Cam Degree Kit is available from COMP Cams® (Part #4796) (Fig. A)



The Intake Centerline Method

There are several accepted ways to degree a camshaft. At COMP Cams®, we feel the Intake Centerline Method is the easiest and most accurate. This method of cam degreeing is very practical and indifferent to design characteristics. It simply involves positioning the center, or point of maximum lift, of the #1 intake lobe with Top Dead Center (TDC) of the #1 piston. The Intake Centerline Method still requires accuracy to be correct, but it is somewhat more forgiving. Once you have degreed a camshaft using this method, you will be surprised at its ease. We also recommend positioning the dial indicator on the #1 intake retainer because lift measurements will include any deflection that may occur in the pushrod and rocker arm. This makes the degreeing process as accurate as possible in relation to what actually goes on inside the engine.

Time to Go to Work

Step 1: The camshaft and timing set have been installed. Make sure that the timing marks on both the cam gear and crank gear are aligned properly per the cam installation instructions. Use chalk or a similar marker to better define the marks.

Step 2: For example, we have our cam card, and it suggests we install the cam on 106° intake centerline. Install all the rocker arms and pushrods in the engine as normal. On the #1 intake lobe, install the solid lifter in place of the hydraulic lifter. If a solid lifter or roller cam is being checked, use that respective lifter. Adjust the #1 intake lash to exactly zero. Do not pre-load the lifter. Next, adjust the #1 exhaust lash to zero. You should be able to turn both pushrods with your fingers easily.

Step 3: Attach your COMP Cams® pointer (Part #4794) to the block. Many people will make a pointer out of some sort of rigid, yet manageable wire (Fig. B).



Step 4: Attach the degree wheel to the balancer and install the assembly on the crankshaft. There are several ways to attach the degree wheel to the crankshaft. In our example, the degree wheel is mounted to the balancer. The crank may be rotated from either the front or from the flywheel end. Obviously, if the engine is in the car, you must rotate from the front. Remember, the greater the leverage, the smoother the crank rotation, thus more accuracy. NEVER use the starter to turn the engine while degreeing the cam.

Step 5: Before installing the piston stop, rotate the crankshaft to get the #1 piston in approximate TDC position with both the intake and exhaust valves closed. This can be a rough guess, but it can save you from making a mistake later. Adjust your pointer to zero or TDC on the degree wheel.

Step 6: Turn the crankshaft opposite the engine rotation approximately 15-20°. This will lower the position enough to allow the TDC stop to be installed in the spark plug hole. Screw in the piston stop until it touches the piston. (Fig. C). Continue to turn the engine in the same direction until the piston comes back up and touches the piston stop. Mark the degree wheel with a pen or pencil on the number the pointer is on (Fig. D). Turn the engine in the other direction, same as engine rotation, until the piston comes back up and touches the piston stop. Make a mark on the number the pointer is on (Fig. E).







Step 7: Remove the piston stop after marking the two points on your degree wheel. Rotate the crankshaft to the midpoint of the two marks. This point is TDC for cylinder #1. Without rotating the crankshaft, adjust the degree wheel to read 0° at the pointer (Fig. F). You are now ready to locate the intake lobe centerline relative to TDC. If you are not absolutely sure that your 0° mark is set at TDC, repeat this procedure. This step is critical to proper cam alignment.



Step 8: Attach the dial indicator to the dial indicator mount. Position the dial indicator mount so the tip will contact the retainer of the #1 intake valve (Fig. G). It is important that the indicator plunger be parallel to the valve stem. Any variance in the angle of the indicator will introduce geometric errors into the lift readings.



Step 9: Rotate the engine in the normal direction of crankshaft rotation until you reach maximum lift. The dial indicator will change direction at the point of maximum lift. At this point, set the dial to zero (Fig. H).



Step 10: Back the engine up (usually counter-clockwise) until the indicator reads .100". Turn the engine back in the normal direction of rotation until (usually clockwise) the dial indicator reads .050" before maximum lift. Record the degree wheel reading.

Step 11: Continue to rotate the engine over in its normal direction of rotation until the indicator goes past zero to .050" on the closing side of maximum lift. Again, record the degree wheel reading.

Step 12: Add the two numbers together and divide by two. That number will be the location of maximum lift of the intake lobe in relation to the crank and piston. This is the intake centerline. For example: The first degree wheel reading was 96°. The second reading was 116°. These two numbers (96 +116) added together will be 212. 212 divided by 2 will equal 106. Your actual intake centerline is 106°. Reference back to your cam spec card, and we see that the recommended intake centerline for your camshaft is 106°. Everything is where it should be.

In the event that your camshaft did not degree in per manufacturer's specs, it will be necessary to either advance (move ahead) or retard (move back) the cam to meet the suggested intake centerline. Depending on the engine application, there are several different suggested methods for advancing or retarding the camshaft.

One common method is by use of a crank gear with multiple keyways – each one being at a slightly different relationship to the gear teeth. A second method is used to offset bushings that fit on the cam pin and in the cam gear. The offset will advance or retard the cam depending on how the bushing is placed on the cam pin. Another method is by offset keys that fit into the crank gear keyway. A more elaborate system uses an adjustable timing gear. Contact COMP Cams® or your local COMP Cams® dealer for the method best suited to your application.

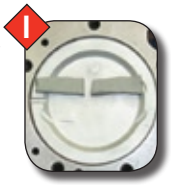
Note: When degreeing a cam, remember to look at the degree wheel as a full 360°, no matter how the degree wheel you're using is marked. Many degree wheels are marked in 90° or 180° increments. On wheels that are marked in 90° increments, keep in mind that you must continue to count the number of degrees past 90°. Be sure all readings are taken from TDC.

Keep in mind that to advance the cam, you must lower the intake centerline. For example, if our cam has a lobe separation of 110°, the cam is "straight up" when the intake centerline is 110°. Moving the centerline to 106° advances the cam 4°. If we change the centerline to 112°, this would be 2° retarded.

Checking Piston to Valve Clearance

Step 1: With the camshaft installed, remove the cylinder head from the block. Clean the combustion chamber and the top of the piston and valve reliefs. The cleaner the piston, the better the clay will stick to it.

Step 2: Apply a strip of model clay 3/8" to 1/2" wide and approximately 1/4" thick to the pistons. The clay strips should be placed perpendicular (across) to the intake and exhaust valve reliefs (Fig. I). Applying a small amount of oil to the clay will prevent it from sticking to the valves as they press into the clay.



Step 3: Reinstall the cylinder head with the gasket that is going to be used. It will not be necessary to re-torque the head yet. All head gasket manufacturers can tell you what the compressed thickness of their gasket will be. Measure the gasket before you install it permanently and add the difference of the gasket thickness to your piston to valve clearance. This will be within .001" or .002" of the exact clearance. Install a sufficient number of head bolts to secure the head in place while you are rotating the engine. Install the pushrods, lifters and rocker arms on the cylinder you have prepared for the clearance check.

Step 4: Adjust the rocker arms to their suggested clearance. If the camshaft you are checking uses the hydraulic lifters, you must temporarily use solid lifters in their place. Hydraulic lifters bleed down and would provide a false measurement. Once the hydraulic lifters are replaced with solid lifters, adjust the lash to zero. Be sure not to pre-load the valve spring (Fig. J). (Be sure to reinstall the hydraulic lifters before starting the engine).

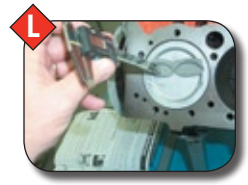


Step 5: Turn the engine over by hand in the normal direction of rotation. Be sure to rotate the engine over two times. This will be one complete revolution of the cam and assure you of an accurate reading on both the intake and exhaust. Remove the cylinder head from the block. Be sure to do this gently, so the clay is not disturbed. It may be stuck to the valves or combustion chamber, so be careful.

Step 6: With a razor or a sharp knife, slice the clay cleanly, lengthwise through the depression and peel half of it off the piston (Fig. K). The clay's thickness in the thinnest area will represent the minimum piston to valve clearance.



Step 7: To accurately check the thickness, use a set of dial calipers (Fig. L). The clay can also be measured close enough with a thin steel rule. Note: Be sure to check piston to valve clearance after the cam has been degreed in. The positioning of the cam in the engine will greatly affect the piston to valve clearance.



COMP Cams® carries a video entitled "The Proper Procedure to Install and Degree a Camshaft" (Part #190DVD). This video covers all of the points discussed here and illustrates many other helpful tips to achieve the maximum performance from your engine. If you wish to order this video, or if you have any other questions concerning your cam change, please call our toll free CAM HELP® line at 1-800-999-0853.

CAMHELP®
800.999.0853

Camshafts

1. Always use new lifters when installing a new camshaft.
The bottoms of the lifters are spherically ground, and the cam lobes are ground with taper across the face of the lobe. The mating of these two surfaces ensures that the lifter will rotate, thus reducing the chance of premature wear. If the lifter does not rotate, or if you install used lifters on a COMP Cams® camshaft, early failure will almost certainly result, and ***your warranty will not be valid.***

2. Check piston to valve clearance.
Insufficient clearance will render the engine inoperable. A minimum clearance of .100" on the intake valve and .125" on the exhaust must be maintained. When you advance or retard the cam, it dramatically changes piston-to-valve clearances. Most of our hydraulic cam series are ground with four degrees advance already in them. Always check clearance with the cam degreed in the correct position. See page 407 of this master catalog for instructions on checking piston-to-valve clearance.

3. Use the recommended valve springs for the cam being installed.
Incorrect pressure or incorrect spring application will almost certainly lead to a worn out cam. Most aftermarket cams have higher than stock lift and acceleration rates. Therefore, stock valve springs will "coil bind" or "stack" before the cam reaches full lift, causing it to fail immediately. This happens because there is not enough installed height or pressure with the stock springs. When a new cam is installed, always check the springs for coil bind. With the valve at full lift, check the clearance between the coils. Maintain a minimum of .060" between the coils at this point.

Excessive spring pressure causes cam failure and can be the result of incorrect springs, as well as short valves, improper retainers and many other factors unrelated to the camshaft or valve springs. The only way to ensure the correct pressure is to actually check the installed height and pressure.

4. Lubricate the camshaft prior to break-in.
The first few minutes are the most critical period in the life of a camshaft. For this reason, COMP Cams® has developed a special line of fluids for camshaft break-in. Part #103 is included with each flat tappet camshaft and several oil and break-in additives are also available (page 272) and highly recommended for COMP Cams® components. Spread a generous amount of the #103 lube on the cam lobes, distributor gear and fuel pump lobe. Also, lube the bottom of the lifters. Next, add one bottle of #159 to engine oil (page 272). In flat tappet race cams where double springs are recommended, it is beneficial to remove the inner springs prior to break-in. This limits the amount of force on the cam during this critical period. To ensure that the engine is pre-oiled correctly, use a priming tool (Part #4921 Small Block and Big Block Chevrolet only) and an electric drill before initial start-up. Also, if you are building several engines, our 1.2 ratio Hi-Tech™ Break-In Rocker Arms (Part #1112-16 Small Block Chevrolet only) save time, eliminating the need to change springs prior to break-in.

5. Read installation instruction brochure PRIOR to installation.
A little time spent reading the proper procedures for camshaft installation can save a great deal of time and money in the long run.

Rocker Arms

1. Be sure to lubricate ball pivot and stud with special lubricant (Part #102 or Part #106).
Like the camshaft, the first few minutes of a rocker arm's use are the most critical. Failure to lubricate this area upon installation will cause excessive wear and damage.

2. Use new pushrods.
Just like lifters match camshaft lobes, pushrod tips wear to match the pushrod seat in the rocker arm. Failure to change pushrods will result in improper contact between the old pushrod and the new rocker arm, causing damage to each. We recommend the use of our RP-Kits found on the page of your specific cam section.

3. On fully rollerized rocker arms, be sure to use the correct diameter polylocks.
Using the wrong sized polylocks will cause bearing failure in the trunion. Ensure that the rocker arm body clears the polylock on all sides throughout the cam lift cycle. Roller rocker arm trunions always have one side with a flat around the hole in the center of the trunion where the rocker stud is to stick through. This flat should always face up when installing the rocker over the stud. Also, be sure that the bottom surface of the polylock mates squarely with the flat on the trunion and not at an angle.

4. Check valve cover clearance.
Normally, it is not possible to use stock valve covers with roller rocker arms because the polylocks make the roller rocker arms taller. Install taller valve covers to ensure proper clearance.

Valve Springs

1. Once the valve springs have been installed, it is important to check for coil bind.
This means that when the valve is fully open, there must be a minimum of .060" clearance between the coils of both the inner and outer springs. If this clearance does not exist, you must change either the retainer or the valve to gain more installed height or change to a spring that will accommodate more lift.

2. Always check for clearance between the retainer and the inside face of the rocker arm.
This will be most evident while the valve is on the seat. Rocker arms are designed to clear specific spring diameters, so you should check to see that you have the proper rocker arm/retainer combination. This situation can also be the result of improper rocker geometry and may be corrected with different length pushrods or a different length valve.

3. Before removing the retainers, measure the distance from the bottom of the retainer to the top of the valve seal.
This distance must be greater than the lift of the valve. If not, the guide must be machined.

4. Use only the valve springs that will give the recommended spring pressure with the valve, both on the seat and at maximum lift.

Pushrods

1. When using guide plates, be sure to use hardened pushrods.
Failure to upgrade pushrods will cause the sides of the pushrods that touch the guide plates to become worn and will weaken the entire piece. Also, be sure that the correct end is interfacing with the guide plate. Some two-piece pushrods are only hardened at one end.

2. When installing our Magnum Rocker Arms, be sure to install new pushrods.
The old pushrods will show radius wear, making the old set incompatible with the precision pushrod seat of the new rocker arms.

3. Be sure that there is proper piston to valve clearance.
Bent pushrods, among other things, will surely result if a piston and valve touch. See the camshaft installation instructions preceding this section.

Timing Sets

1. Be sure bottom gear is square with the crankshaft when installing.
Improper installation of gears can result in cracked or completely broken gears. We suggest using our Part #4789 Crank Gear Installation Tool to push the gear on with our Part #4920 Balancer Installation Tool (see pages 384-385). Do not use a hammer and punch as the pressures cannot be evenly applied.

COMP Cams®
3406 Democrat Road
Memphis, TN 38118
ATTN: Tech Department

Name: _____
Address _____
_____
City: _____ State: _____ Zip: _____
Telephone (7-8 CST): _____
Email: _____

Tech information is available by mail, fax (901-366-1807), email at camhelp@compcams.com or phone (1-800-999-0853) 7 a.m - 8 p.m. Monday-Friday and Saturdays 9 a.m. - 4 p.m. CST. When completed, please FAX this form to (901-366-1807), or mail it to the address at the top of this page.

1. We need this information about your car:

Car Make, Model, and Year:_____
Engine Size:_____ How many cylinders?_____
Bore and Stroke:_____ Compression Ratio:_____
What type of connecting rod?_____
Rocker & Arm Ratio:_____ Carb Size:_____ Intake Manifold:_____
Is this vehicle computer controlled? ☐ Yes ☐ No
Is this vehicle required to meet emission standards? ☐ Yes ☐ No
Cylinder Heads: Year_____Part #_____Ported: ☐ Yes ☐ No
Valve Size: Intake_____Exhaust_____What type pistons?_____
Transmission Type: ☐ Auto ☐ Manual
Stall Speed of Torque Converter:_____
Rear Axle Ratio:_____Rear Tire Size:_____
What kind of fuel do you use?_____Octane Rating:_____
Dual Exhaust:_____Headers:_____
How much does this car weigh?_____
RPM Range of Engine: From_____ To_____

2. What type of cam do you want?

☐ Hydraulic Lifter ☐ Hydraulic Roller ☐ Solid Lifter ☐ Solid Roller ☐ Other (specify)
_____

3. How will this engine be used?

☐ Bracket Race ☐ Drag Race-what class?_____ ☐ Street and Strip ☐ Performance Street
☐ Economy Street ☐ Oval Track-what class?_____ ☐ Marine ☐ Jet Drive
☐ Prop Drive Class:_____

4. If computer controlled, what type of computer?

☐ Stock ☐ Stock with Chip or Programmer ☐ Large Injectors ☐ Mass Air Sensor ☐ Speed Density Sensor

5. What cam are you now using, or were you using? Stock:_____

Brand:_____ Part #:_____ Specs:_____

6. Considering the present performance of your vehicle, please answer the following questions.

Do you need:
More low speed torque? ☐ Yes ☐ No
More rpm? ☐ Yes ☐ No
Is idling speed important? ☐ Yes ☐ No

7. Is there any other information you feel we should consider for your particular application? _____
_____
_____

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www.compcams.com

General Policies

Technical and sales personnel are available from 7:00 a.m. to 8:00 p.m. CST, Monday through Friday and Saturday 9 a.m. to 4 p.m. CST. COMP Cams® is closed on Sundays and legal holidays.

Prior to contacting us for technical assistance, it is helpful to obtain a copy of the cam recommendation form from the catalog or our website. The information requested in this form will help us to recommend the best possible part for your application.

Technical assistance and advice is available through a variety of sources:
Phone: 901-795-2400
Toll Free CAM HELP® Line: 1-800-999-0853
Website: www.compcams.com
Email: camhelp@compcams.com
24-Hour Fax: 901-366-1807

Please note that our CAM HELP® line sometimes receives a large volume of calls. Our heaviest call volume is between the hours of 10:00 a.m. to 2:00 p.m. CST. If you experience an undue delay, please try calling during lower volume hours. Email tech questions are normally answered in less than 24 hours.

Goods Damaged in Shipment

All shipments are insured; therefore claims for damage must be made with the freight company. Do not return the merchandise to us unless prior arrangements have been made.

Limited Warranty

Competition Cams, Inc. warrants that all of its products are free from defects in material and workmanship, and against excessive wear for a period of 12 months from date of purchase. This limited warranty shall cover only the original purchaser. This warranty is valid on camshafts only where new lifters and proper valve springs are used, such as those found in COMP Cams® Kits.

Competition Cams, Inc.'s obligation under this warranty is limited to the repair or replacement of its product. To make a warranty claim, the part must be returned within one year of purchase to the address listed above, freight prepaid. Items covered under warranty will be returned to you freight collect.

It is the responsibility of the installer to ensure that all of the components are correct before installation. Proper assembly always requires that the installer measure all tolerances for proper clearance. We assume no liability for any errors made in tolerances, component selection, or installation.

There is absolutely no warranty on the following:

A) Any parts used in racing applications
B) Any product that has been physically altered, improperly installed or maintained;
C) Any product used in improper applications, abused, or not used in conjunction with the proper parts.

There are no implied warranties of merchantability or fitness for a particular purpose. There are no warranties, which extend beyond the description of the face hereof. Competition Cams, Inc. will not be responsible for incidental and consequential damages, property damage or personal injury damages to the extent permitted by law. Where required by law, implied warranties of merchantability and fitness are limited for a term of one (1) year from the date of original purchase. This limited warranty gives you specific legal rights and you may also have other legal rights, which vary from state to state.

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In order to provide better customer service, we require prior approval before a customer returns merchandise for warranty or for other reasons. To obtain a RMA, contact us by one of the means listed above. All merchandise returned to us should be sent freight prepaid and insured, and delivered to the address listed above. Items returned for credit must be in perfect condition.

You must also include inside the package: your name, address, phone number, fax and/or other contact information, along with an explanation of the problem and work to be done. This contact information is important because it allows us to get in touch with you concerning your parts.

Important Notice

This catalog has been completed using our best efforts. We assume no liability for errors contained herein. The catalog on our website is updated on a regular basis and should be used to supplement the information contained herein.

It is the responsibility of the installer to ensure that all of the components are correct before installation. Proper assembly always requires that the installer measure all tolerances for proper clearance. We assume no liability for any errors made in component selection or installation.

Prices on all products are subject to change without notice. We reserve the right to make changes in products at any time. Except as noted, products in this catalog may not be legal for sale or use in pollution-controlled motor vehicles (pre-1966 domestic vehicles certified to California standards, pre-1968 domestic vehicles certified to federal standards.)

This catalog, the information contained herein, and our part numbers used are copywritten by Competition Cams, Inc. 2009.

CAMHELP®
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COMP® Master Catalog Promo Pack

If you want to sport a COMP Cams® Racing T-Shirt and need a new master catalog, this special offer is the answer for you. Simply order this part number with the correct size t-shirt (Sizes S-XXXL) and receive your new COMP® t-shirt and a printed copy of the new COMP Cams® master reference guide.

Part #	Description	Price
CT2010	COMP® 2010 Master Catalog Promo Pack	$15.00

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Be on the cutting edge of technology by staying up-to-date with the latest aftermarket parts from the COMP Performance Group™. This special package includes a COMP Cams® Racing T-Shirt in your size and a catalog on CD that includes print literature from all of the COMP Performance Group™ companies, including: COMP Cams®, TCI®, RHS®, FAST™, ZEX™, Inglese™, Quarter Master® and more. Just some examples of CD material are master catalogs, product brochures, magazines, etc. Sizes S through XXXL are available.

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Email: _____

Part #	Description	Quantity	Total

Name: _____

CC#: _____

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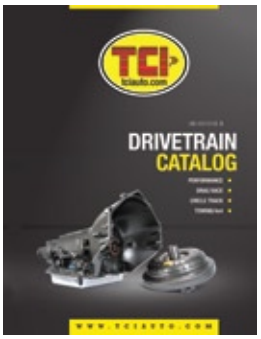
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COMP Cams® Thumpr™ Brochure

One of the most frequently asked questions of our CAM HELP™ technicians is "What camshaft will give my car an aggressive idle?" In their ongoing quest to redefine the limits of modern valve train technology, the COMP Cams® engineering team called upon 30+ years of design experience to develop the Thumpr™ line of camshafts. The result of this effort is a series of performance camshafts that deliver the ultimate in modern performance and an incredible exhaust note. Check out our Thumpr™ brochure for a complete application listing and matching components.

Part #	Description
COMP5-130	COMP Cams® Thumpr™ Brochure



TCI® Catalog

What began as a small performance torque converter shop has grown into the industry leader in the manufacture of revolutionary transmissions, torque converters, shifters and other drivetrain essentials. Each drivetrain component is backed by nearly 40 years of high-performance drivetrain technology and engineering expertise. See our 2010 master catalog for a complete lineup of the latest torque converters and transmissions in the performance aftermarket.

Part #	Description
999CATALOG2010	TCI® Catalog



RHS® Catalog

RHS® cylinder heads and engine blocks are the product of winning performance and unmatched quality. With advanced engineering technology and more standard features than any competing product, every RHS® product is designed, engineered and manufactured to deliver Power By Design™. RHS® is the answer to your need for superior quality and better performing aftermarket cylinder heads and engine blocks. Order the RHS® product catalog today for a complete application listing.

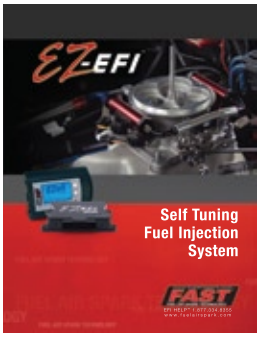
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No matter if your application is street, race or marine, FAST™ has the products and technical assistance to put the latest in fuel injection engineering and technology into your engine compartment. With a complete line of easy-to-use products, FAST™ is committed to bringing the best EFI experience to both racers and street enthusiast everywhere with superior fuel injection systems, intake manifolds, throttle bodies and other EFI components. Order your copy of the FAST™ catalog today.

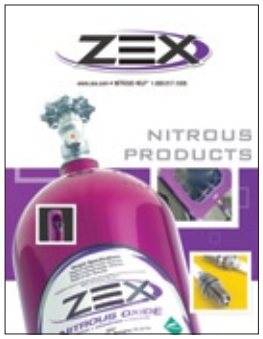
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F2009-1	FAST™ Catalog



FAST™ EZ-EFI™ Brochure

Fuel injection offers countless advantages over a carburetor, including an improved "state of tuning" for maximum performance. With the FAST™ EZ-EFI™ Self Tuning Fuel Injection System, you can have that performance without a lot of hassle or tuning experience. The EZ-EFI™ brochure gives a complete list of all necessary parts to install an EZ-EFI™, as well as a step-by-step start-up instruction sheet. For more information about the FAST™ EZ-EFI™ Self Tuning Fuel Injection System, request your copy of the brochure today.

Part #	Description
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ZEX™ Catalog

ZEX™ nitrous systems incorporate the most technically advanced features available to make gaining horsepower safe and easy. The innovative designs and direct fit kits provide quick installations and optimized performance. There's not a more cost effective performance upgrade in existence, and with nitrous accessories as well as kits, ZEX™ is sure to have everything you need. See the ZEX™ catalog with its easy-to-use quick reference guide to select the perfect nitrous system and accessories for you vehicle.

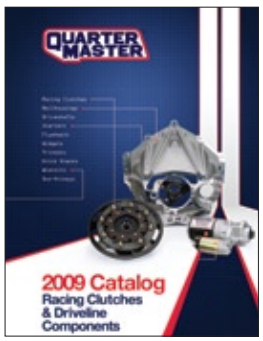
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Capturing and assembling your imagination into a superb performing and visually stunning induction system is what Inglese™ has been doing for over 30 years. As the market's foremost induction jeweler, Inglese™ is the first choice when it comes to affordable, exotic carburetion. Far from stopping at offering complete induction systems, Inglese™ is also your one-stop source for Weber parts and accessories. The Inglese™ catalog has a complete listing of systems or individual components so that you can order your custom system today.

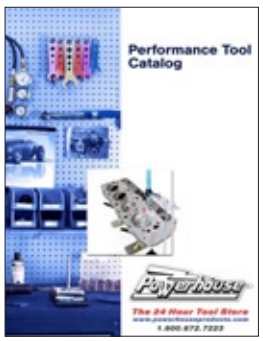
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For over 25 years, Quarter Master® has been the leader in high-quality, high performance racing clutches and driveline components. Being one of the first manufacturers in the industry to adopt CAD engineering and CNC-machining, Quarter Master® continue to stay ahead of the competition and have the reputation for building the most reliable clutch and driveline components in motorsports. Don't believe us? Try them out for yourself.

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Powerhouse® E-Catalog

Powerhouse® is the premier online store for engine builders and automotive machinists, providing performance tools and measuring instruments that are the industry standard in precision and durability. Powerhouse® also has state-of-the-art diagnostic equipment and specialty tools for unique tuning applications. Check out our endless supply of "how-to" automotive reference materials, including books, manuals, DVDs and even performance simulation software. No matter if you're an automotive machinist, racing enthusiast or engine builder, Powerhouse® has the tools and measuring instruments that make sure you turn precision into power.

Part #	Description
N/A	Visit us online at www.powerhouseproducts.com



Comp Performance Group™ 2010 Catalogs on CD

For a copy of all of these brochures and catalogs, request the COMP Performance Group™ Catalog on CD. This convenient CD includes all major company catalogs, including COMP Cams®, TCI®, RHS®, FAST™, ZEX™ and more, as well as brochures and other literature not listed on these pages. Go paperless and order your CD today.

Part #	Description
COMP107-7	CPG™ 2010 Catalogs on CD

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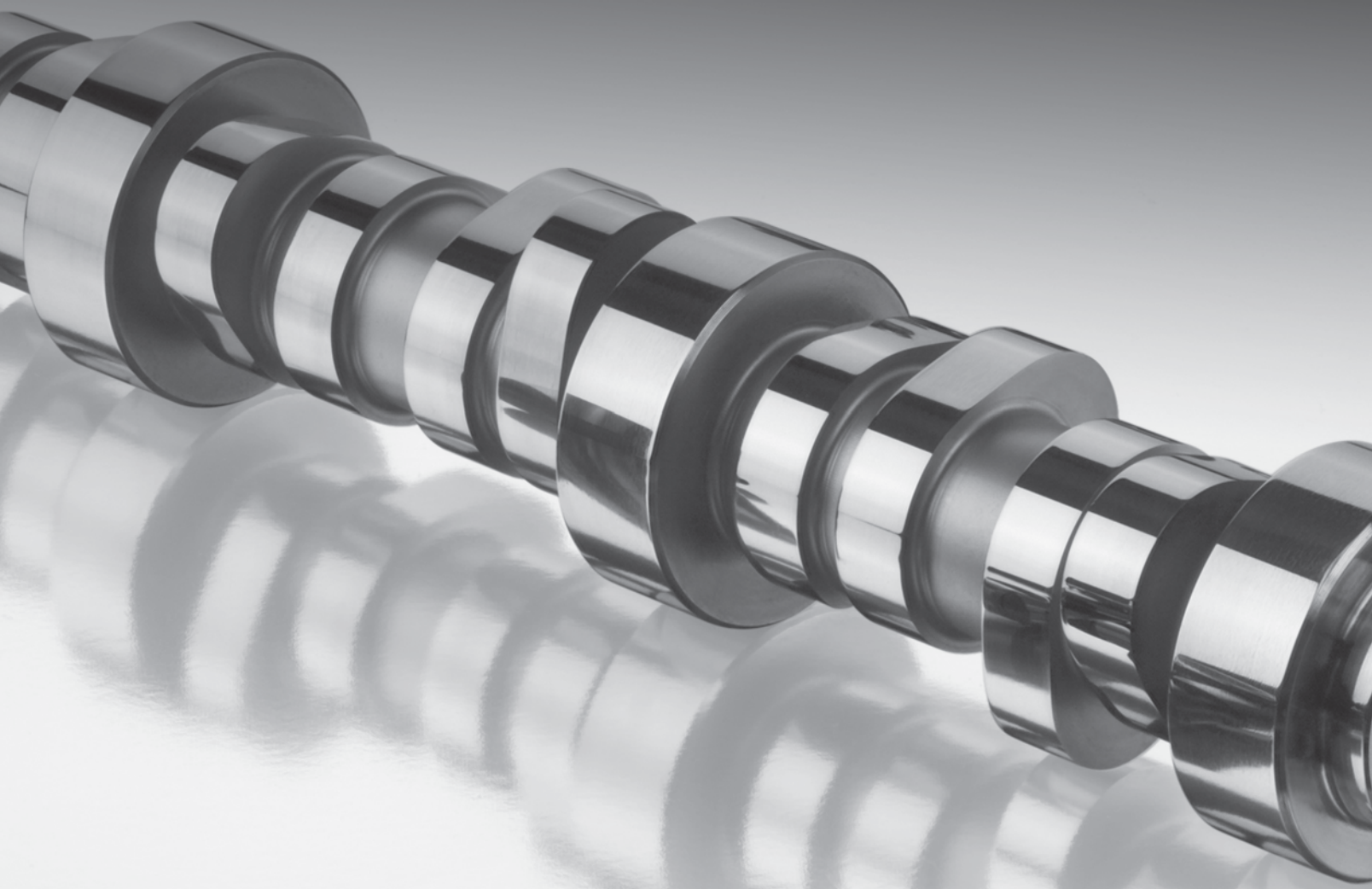
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MASTER LOBE PROFILE REFERENCE GUIDE

COMP CAMS®



COMP Cams® leads the industry in camshaft lobe offerings. With thousands of active lobes in the COMP library, the combinations are infinite for any given engine. That means that you can have a cam ground to your specific needs, and you have the broadest selection of lobes available anywhere.

Choosing a cam for your specific application is a four-step process:

1. Select a core
2. Select the lobes
3. Select a lobe separation angle
4. Determine the part number and grind number, and order the cam

Camshaft lobes are broken into families, with each family having been developed to fit the performance requirements for certain applications. So, it is in that context that lobe selection should begin.

1. Selecting a Core

Within the parameter of core applications, we have fifteen cores that cover many engine applications. They are designated as follows:

-0 Steel Billet Round Lobe
-5 Flat Tappet (Either Hydraulic or Solid Lifter)
-5RR Reverse Rotation Flat Tappet
-7 Special Flat Tappet
-8 Street Roller (Either Hydraulic or Solid Roller)
Special Material – Bronze Distributor Gear
Not Required on Most Applications
-9 Steel Billet Roller
-9L OHC Roller Left
-9R OHC Roller Right
-9W Welded Steel Billet Flat Tappet
-10 Steel Billet Roller
-11 Steel Billet Roller
-12 Steel Billet Roller
-14 4/7 Swap Steel Billet Roller
-16 Steel Flat Tappet
-47 4/7 Swap Steel Flat Tappet

Special Note: The -0 core is a round lobe core that is not heat-treated. These cores must be roughed and then heat-treated before finished lobe grinding takes place.

The complete core list follows on pages 421-423. The list is separated into the different cam core types. The part number in front of each core is used in ordering a custom ground cam for a particular engine type. It consists of a two-digit prefix designating the engine type, followed by a dash (-) and three consecutive zeros. The zeros indicate a custom ground cam. Next are a dash and number from the core designations previously listed.

Example:

EnginePrefix	Part Number	Core Type
12-	000	-9

The number 12- indicates Small Block Chevy (found on the core listing on pages 421-423).

The number 000 indicates a custom grind.

The -9 indicates steel billet roller core.

2. Selecting Lobes

The lobes are listed on pages 8-61 and represent the most current library of lobes offered by COMP Cams®. They are arranged in groups, each of which is unique in its application. Along with each group is a description of each type, which is intended to help clarify each family of lobes so that you may accurately select lobes for your application.

Some lobes specifically designated to be intake or exhaust lobes do not necessarily have to be run on the valve for which they were designed. If an exhaust lobe has the desired spec for intake (or vise versa) they may be used in that manner.

Keep in mind while viewing the listings that certain flat tappet lobes are designed to be used only with correct diameter lifters.

3. Choosing Lobe Separation Angle

Lobe separation angles (the angle in cam degrees between the intake and exhaust lobe are also referred to as “lobe centers”) are very engine combination dependent. In general, a tighter separation (ex. 104°-106°) results in a “peakier” torque curve more suited to stick-shift cars with multiple gear ratios to change between. Wider lobe separation (ex. 110°-112°) results in a broader, flatter torque curve that is more suited to automatic transmission cars with fewer gears from which to choose. Therefore, engines have to be more powerful over a broader rpm range. Also, as lobes get larger at .050” duration (275° and up), it is necessary to begin widening separation angles to lessen the amount of overlap that accumulates from the larger lobes.

One final note about lobe separation angles - the cam cores that are available for each application are designed for nominal, standard lobe separation angles. Straying from this nominal angle too far in one direction or another can result in the heat-treated surface of the core being ground through to the soft material underneath. Soft lobes will fail in an engine if allowed to run for very long. Whether or not the heat-treated surface is ground through also is obviously dependent on the lobe being ground on the core.

The bottom line is that not all grinds can go on every core that is available. More popular engines, like the Small Block Chevy, have a variety of cores available with varying lobe separation angles that can accommodate almost any grind. Less popular applications, like the Flathead Ford V8, only have one core available. Therefore, they are somewhat limited in terms of what grind will fit on the single existing core.

4. Determining a Part Number and Grind Number and Ordering

With the part number determined in the core selection process, the grind number is the final step prior to ordering the cam. This process is simple and is accomplished by picking up the “lobe number” that appears in the left column of the lobe selection chart.

The intake lobe will be first and the exhaust lobe will be second, followed by the lobe separation angle.

For example, if lobe 5201 is selected as the intake and 5203 is selected as the exhaust, with a 106° lobe separation angle and this configuration is to be ground on a Small Block Chevy core, the full number for ordering that cam would be:

Part #: 12-000-5 Grind #: CS 5201/5203-H106

Roller Cam Lobe Suffix Codes

When it comes to ordering a roller cam, there are two things that need to be considered: journal diameter and roller lifter wheel diameter. Journal size and wheel diameter are very important in making sure the lobe is performing to the specifications you require.

For example, if you were selecting lobes for a custom grind Big Block Chevrolet cam then you would need to make sure the lobes were designed for a Big Block Chevrolet journal diameter (1.948"). If Small Block Chevrolet lobes were used instead, the specifications of the cam would be inaccurate. The journal diameter of a Small Block Chevrolet is 1.868". The lobes on the big block cam would "grow" approximately 2 degrees if ground using small block lobe designs. The same principle applies to various roller lifter wheel diameters.

COMP Cams® has done the math for you, so all you need to do is make sure you order the lobes with the right suffixes to signify the correct journal diameter and roller lifter wheel diameter.

Master Suffix Codes for Various Roller Cam Journal Diameters:

T – 1.750" (Very Small-V6 Buick, etc.)
N – 0.900" Base Circle Diameter (Any Journal Size)
S – 1.868" (Small Block Chevrolet)
B – 1.948" or 1.968" (Big Block Chevrolet or 50mm)
F – 2.036", 2.051" or 2.081" (Small Block Ford and Cleveland)
R – 2.1653" or 2.1234" (55mm, LS1 or Big Block Ford)
M – 2.3622" (60mm)

Master Suffix Codes for Various Roller Lifter Wheel Diameters:

E – 0.812" (from 0.792" to 0.832")
G – 0.850" (from 0.830" to 0.870")
H – 0.950" (from 0.930" to 0.970")
U – 2.000" (1.000" Radius Sliding Tappet)
No Suffix – Standard (from 0.750" to 0.790")

Examples:

If you wanted to order a cam using lobe #4314 on the intake and lobe #4074 on the exhaust for a Big Block Chevy cam with standard journals, standard .750" lifter wheel diameter and a 110° lobe separation, your grind number would be:

CB 4314B/4074B R110

However, if you wanted to order a cam with the same specs for a Big Block Chevy but with 55mm journals and a .812" lifter wheel diameter, your grind number would be:

CB 4314RE/4074RE R110

Core Listings Non-Standard Journal Size

Chevrolet Small Block

1.868"	Stock Chevy Bearing Size
1.875"	Stock Block with Roller Bearings
1.948"	Stock Size Rocket Block or Big Block
1.968" or 50mm	Rocket Block with Roller Bearing
2.165" or 55mm	Large Roller Bearing

Chevrolet Big Block

1.948"	Stock Chevy Bearing Size
1.968"	Stock Block with Roller Bearings
2.124"	Pro Stock Roller Bearing (Same Size as Big Block Ford)
2.165" or 55mm	Large Roller Bearing "Jesel Core"
2.362" or 60mm	Large Roller Bearing

Ford Small Block, 351 Windsor & SVO Block

Journal #1 – 2.080"	Stock Ford Bearing Size
Journal #2 – 2.065"	Stock Ford Bearing Size
Journal #3 – 2.050"	Stock Ford Bearing Size
Journal #4 – 2.035"	Stock Ford Bearing Size
Journal #5 – 2.020"	Stock Ford Bearing Size
Journal #1, 2, 3 & 4 – 2.165"	Roller Bearing – "Large Roller Bearing" or "Roush Roller Bearing"
Journal #5 – 1.968"	Roller Bearing – "Large Roller Bearing" or "Roush Roller Bearing"
All Journals – 2.051"	Roller Bearing – "Ford Motor-sports" or "SVO Design Roller Bearing"
All Journals – 2.081"	Roller Bearing – New Design Ford SVO

Chrysler Small Block

Journal #1 – 1.998"	Stock Chrysler Bearing Size
Journal #2 – 1.982"	Stock Chrysler Bearing Size
Journal #3 – 1.967"	Stock Chrysler Bearing Size
Journal #4 – 1.951"	Stock Chrysler Bearing Size
Journal #5 – 1.561"	Stock Chrysler Bearing Size
Journal #1, 2, 3, & 4 – 1.969"	Joey Arrington Style Roller Bearing
Journal #5 – 1.575"	Joey Arrington Style Roller Bearing
All Journals – 1.968"	Mopar Performance Roller Bearing
2.362" or 60mm	Roller Bearing

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COMP Cams® Special Services

A partial listing of the most common high end treatments and special processes you can order for your COMP Cams® camshaft. Additional services are available; contact us for any special needs.

Camshaft Surface Preparations

Nitriding - Part #1-111-1

This is the most effective process for extending the life of a high performance flat tappet camshaft. Nitriding increases the hardness of the camshaft surface metal by physically injecting nitrogen "needles" into the surface of the lobes and journals to increase their resistance to wear.

Camshaft Micropolishing - Part #1-114-1

This procedure removes microscopic imperfections in the surface of the metal. Micropolishing can further increase the durability of the camshaft and can be performed to just the camshaft lobes or all wear surfaces.

Xtreme Surface Finish Enhancement - Part #1-137-1

Our highest-quality finishing process involving considerably more polishing than any other procedure. This is most commonly used in steel-on-steel contact valve train situations, such as high end circle track flat tappet camshafts where billet materials have repeated contact in extremely high rpm environments.

Precision Camshaft Measurement

Basic Camshaft Profiling - Part #1-126-1

Performed on two lobes of any camshaft, the component is measured to determine its lift, duration and lobe centerline specifications.

Adcole Camshaft Profiling - Part #1-125-1

Our highest precision camshaft measuring device, the Adcole checks all 16 camshaft lobes to determine that the cam meets all specifications requested by the customer. The Adcole measures camshaft specifications to 0.00001 of an inch.

Special Operations

Replacement of the Camshaft Dowel Pin - Part #1-120-1

This is a process which repairs camshafts where the current dowel pin has either been sheared off or damaged in some manner. The old dowel pin (or remaining part) is removed by machining and a new dowel pin is inserted.

Installation of Dual Dowel Pins - Part #1-121-1

For certain applications, dual dowel pins can be installed to further ensure that the camshaft and timing gear connection are secure. This is most commonly done with early model Ford V8's and classic Chrysler Hemi engines. We can also machine the timing gear to adapt to this new configuration.

Drilling and Tapping Camshaft Nose - Part #1-136-1

A process performed on Viper camshafts, the nose of the camshaft is drilled and then tapped to convert from a single timing gear bolt-up to a three-bolt aftermarket timing chain set. This allows for a wider selection of timing sets.

Machining a Rear Camshaft Journal Groove - Part #1-119-1

A process commonly performed on 1965-'66 Big Block 396cid Chevrolet engines, which features oiling systems that require a groove be cut into the rear journal of the camshaft. This was a two-year only condition, not required in all 1967 and newer Big Block Chevrolet engines.

Machining of the Rear Pump Drive - Part #1-116-1

Allows sprint cars-style engines to run the fuel pump from the rear of the camshaft rather than traditional placements.

Side Cutting of Camshaft Lobes - Part #1-127-1

A process often requested when the engine's lifter bores have been enlarged that helps to keep the lifters from making contact with adjacent lobes.

Sleeving of the Camshaft Journal - Part #1-132-1

Most popular with Ford Windsor engine roller bearing camshaft applications, a sleeve is placed around the standard rear journal to increase the size of the journal, making it compatible with rear roller bearing usage.

Fuel Pump Lobe Regrinding - Part #9-999-1

A refinishing process used to clean up a fuel pump lobe which may have been damaged or is showing excessive wear.

Pro Plasma™ Nitriding



Now available for any COMP Cams® flat tappet cam, Pro Plasma™ Nitriding is a patented process that infuses nitrogen into steel to deliver unmatched wear resistance. If your application isn't listed, see Camshaft Surface Preparations above to add nitriding to any flat tappet cam.

CORE #	CORE DESCRIPTION	ENGINE
FLAT TAPPET CAM CORES (HYDRAULIC OR SOLID)		
10-000-5	AMC	290-401 V8 (1966-91)
68-000-5	AMC	199-258 L6 (1964-95)
114-000-5	AMC	2.5L
63-000-5	BUICK	198-225 V6 Odd Fire (1962-67)
67-000-5	BUICK	231 V6 Odd Fire (1975-77)
69-000-5	BUICK	3.0L-4.1L V6 (1978-87)
90-000-5	BUICK	215 Aluminum V8
91-000-5	BUICK	364-401-425 V8
92-000-5	BUICK	350 V8 (1968-80)
96-000-5	BUICK	400-430-455 V8 (1967-76)
94-000-5	CADILLAC	368-425-472-500 V8
11-000-5	CHEVROLET	396-454 V8 (1967-96)
11-000-5RR	CHEVROLET	396-454 V8 Reverse Rotation (Marine Applications)
12-000-5[A]	CHEVROLET	262-400 V8 (1957-98)
12-000-5RR	CHEVROLET	262-400 V8 Reverse Rotation (Marine Applications)
15-000-5	CHEVROLET	200-229 V6 (1978-84)
16-000-5	CHEVROLET	2.8L, 3.1L and 3.4L (1980-95)
18-000-5	CHEVROLET	4.3L V6 (1983-97)
48-000-5	CHEVROLET	348-409 V8 (1958-65)
60-000-5	CHEVROLET	235 L6 Blue Flame (1952-62)
61-000-5	CHEVROLET	195-250 L6 (1962-85)
62-000-5	CHEVROLET	292 L6 (1963-90)
77-000-5	CHEVROLET	Chevette 1400cc (1976-77)/1600cc (1976-87)
20-000-5[A]	CHRYSLER	273-360 V8 (1968-99)
21-000-5	CHRYSLER	383-440 V8 Single-Bolt (1958-78)
22-000-5	CHRYSLER	2.2L, 2.5L L4 OHC (1981-93)
23-000-5	CHRYSLER	383-440 V8 Three-Bolt (1958-78)
24-000-5	CHRYSLER	426 Hemi V8 (1966-71)
26-000-5	CHRYSLER	392 Hemi V8
64-000-5	CHRYSLER	225 L6 (1960-85)
31-000-5	FORD	289-302 V8 (1962-99)
32-000-5	FORD	351C, 351M-400M V8 (1970-82)
33-000-5	FORD	352-428 V8 FE (1963-95)
34-000-5	FORD	429-460 V8 (1968-99)
35-000-5	FORD	302 HO (1985-95), 351W V8 (1969-95)
35-000-5RR	FORD	351W Reverse Rotation (Marine Applications)
36-000-5	FORD	2600, 2800 V6
37-000-5	FORD	272-292-312V8 Y-Block (1955-62
38-000-5	FORD	2800 V6 (1983-85)
41-000-7	FORD	Flathead V8 (1949-53)
44-000-5	FORD	3.8L (1984-87) Only
65-000-5	FORD	144-250 (1960-83)
66-000-5	FORD	240-300 L6 (1965-95)
70-000-6	FORD	2000, 2300 OHC L4 (1983-87)
71-000-5	FORD	1600 L4 OHC (1965-85)
72-000-5	FORD	2000 L4 OHC (1970-77) 3-Bearing Journal
104-000-5	FORD	V8 "FE" (1958-62)
10800E	FORD	2.0L Zetec Exhaust
10800I	FORD	2.0L Zetec Intake
81-000-5	HOLDEN	6 Cyl. Flat Tappet 186"
82-000-5	HOLDEN	252-308 V8 (1970-88)
83-000-5	INTERNATIONAL	304-392 V8 (1970-78)
95-000-5	MITSUBISHI	2000, 2600 L4 RWD & FWD (1979-87)
79-000-6	NISSAN	1600, 1800 L4 (1969-84)
80-000-5	NISSAN	6 Cyl. SOHC
84-000-6	NISSAN	2200-2800 (1970-84) Gun Drilled
88-000-6	NISSAN	NAP Z L4 (1981-89)
42-000-5	OLDSMOBILE	260-455 V8 91967-84)
103-000-5	OLDSMOBILE	V8 45° Bank Angle (1964-68)
53-000-5I	OLDSMOBILE	2.3 Quad 4 Intake
53-000-5E	OLDSMOBILE	2.3 Quad 4 Exhaust

A Different journal sizes available

14-000-5	PONTIAC	151 L4 (1977-78)
51-000-5	PONTIAC	265-455 V8 (1955-81)
52-000-5	PONTIAC	151 L4 Iron Duke (1978-89)
74-000-5	TOYOTA	2TC-3TC L4 OHV 1588-1700cc (1970-82)
87-000-5	TOYOTA	20R, 22R L4 (1975-89)
73-000-5	VOLKSWAGEN	1200, 1600 4 Cyl.
85-000-5	VOLKSWAGEN	1457, 1788 SOHC 4 Cyl. (1974-89)
SPECIAL FLAT TAPPET CAM CORES		
11-000-7	CHEVROLET	396-454 V8 Special Pro Core
12-000-7[A]	CHEVROLET	262-400 V8 Special Pro Core
12-000-9W[A]	CHEVROLET	262-400 V8 Welded Piece
03-000-9W[A]	CHEVROLET	Standard Chevrolet Block W/ SB2 Heads
04-000-9W[A]	CHEVROLET	SB2 Block W/ SB2 Heads
04-000-16[A]	CHEVROLET	SB2 Block/Heads – Steel
20-000-7[A]	CHRYSLER	"R" Block W/ 48° Lifter Bore
21-000-7	CHRYSLER	383-440 V8 Single-Bolt (1958-78)
55-000-9W	CHRYSLER	Dodge R5 Block W/ P7 Head
55-000-16	CHRYSLER	R5 Block/P7 Head –Steel
32-000-7	FORD	351C, 351M-400M V8 (1970-82)
35-000-7[A]	FORD	SVO V8
35-000-9W	FORD	SVO V8 – Welded Steel
35-000-16	FORD	SVO V8 – Steel
39-000-7	FORD	SVO V6 Odd Fire
41-000-7	FORD	Flathead V8
STREET ROLLER CAM CORES (HYDRAULIC OR SOLID ROLLER) (Special Material – Works W/ Most Standard Distributor Gears)		
01-000-8	CHEVROLET	454-502 Generation VI Big Block
07-000-8	CHEVROLET	LT1 Engine
08-000-8	CHEVROLET	262-400 V8 W/ Roller Cam (1987-98)
09-000-8	CHEVROLET	4.3L V6 W/ Roller Cam (1987-98)
11-000-8	CHEVROLET	396-454 V8 (1967-96)
12-000-8	CHEVROLET	262-400 V8 (1957-98)
18-000-8	CHEVROLET	4.3L V6 (1985-99)
56-000-8	CHEVROLET	4.3L V6 (1992-99) W/ Balance Shaft
97-000-10	CHRYSLER	V10 Viper
111-000-10	CHRYSLER	2003 & Up Viper Three-Bolt
112-000-11	CHRYSLER	5.7 & 6.1L Hemi V8
135-000-8E	CHRYSLER	Neon "Y" Engine Code Exhaust
135-000-8I	CHRYSLER	Neon "Y" Engine Code Intake
107-000-8	DODGE	Neon SOHC 2.0L (1995-01)
31-000-8	FORD	289-302 V8 (1962-99)
32-000-8	FORD	351C, 351M-400M V8 (1970-82)
35-000-8	FORD	302 HO (1985-95), 351W V8 (1969-99)
117-000-9	GM	6.5L Diesel
132-000-12	GM	Duramax 6.6L Diesel
119-000-8E	MITSUBISHI	4G63 Evolution VIII Exhaust (2003 & Up)
119-000-8I	MITSUBISHI	4G63 Evolution VII Intake (2003 & Up)
RACE ROLLER CAM CORES – STEEL BILLET		
10-000-9	AMC	390-401 V8 (1966-79)
67-000-9	BUICK	231 V6 Odd Fire (1975-77)
93-000-9	BUICK	Stage II Even Fire
02-000-9	CHEVROLET	200-229 V6 Odd Fire W/ Splayed Valve Head
08-000-9	CHEVROLET	262-400 V8 (1987-98)
07-000-9	CHEVROLET	LT1 Engine (1992-98)
11-000-9[A]	CHEVROLET	396-454 V8 (1967-96)
01-000-9	CHEVROLET	454-502 Generation VI Big Block
12-000-9[A]	CHEVROLET	262-400 V8 (1957-98)
03-000-9[A]	CHEVROLET	Standard Chevrolet Block W/ SB2 Heads
04-000-10[A]	CHEVROLET	SB2 Block W/ SB2 Heads
17-000-9	CHEVROLET	V6 Odd Fire Race
19-000-9	CHEVROLET	262-400 V8 W/ Splayed Valve or Buick Head
28-000-9	CHEVROLET	Gaerte L4
29-000-9	CHEVROLET	Gaerte L4 W/ Splayed Valve Head
48-000-9	CHEVROLET	348-409 V8 (1958-65)
76-000-9	GM	3800/3.8L V6 (1996-Present)
54-000-11	GM	LS1 Engine (1997-Present)
46-000-9	GM	8.1L V8

A Different journal sizes available

20-000-9[A]	CHRYSLER	273-360 V8 (1968-99)
23-000-9	CHRYSLER	383-440 V8 Three-Bolt (1958-78)
24-000-9[A]	CHRYSLER	426 Hemi V8 (1966-71)
26-000-9	CHRYSLER	392 Hemi V8
115-000-10	CHRYSLER	9 Bearing Hemi Pro Stock
31-000-9	FORD	289-302 V8 (1962-95)
32-000-9	FORD	351C, 351M-400M V8 (1970-82)
33-000-9	FORD	352-428 V8 FE (1963-76)
34-000-9	FORD	429-460 V8 (1968-99)
35-000-9[A]	FORD	302 HO (1985-95), 351W V8 (1969-99)
40-000-9	FORD	SVO V6 Even Fire
49-000-8	FORD	4.0L V6 (1990-97)
102-000-9R	FORD	4.6L SOHC Right Side Cam Set
102-000-9L	FORD	4.6L SOHC Left Side Cam Set
106-000-9LE	FORD	4.6L & 5.4L DOHC Left Exhaust
106-000-9LI	FORD	4.6L & 5.4L DOHC Left Intake
106-000-9RE	FORD	4.6L & 5.4L DOHC Right Exhaust
106-000-9RI	FORD	4.6L & 5.4L DOHC Right Intake
127-000-9L	FORD	4.6L 3 Valve Left
127-000-9R	FORD	4.6L 3 Valve Right
109-000-10	GM	R99/R03
113-000-9I	GM	Ecotech 2.2L DOHC Intake
113-000-9E	GM	Ecotech 2.2L DOHC Exhaust
116-000-12	GM	DRCE3 Pro Stock
82-000-9	HOLDEN	252-308 V8 (1970-88)
42-000-9	OLDSMOBILE	260-455 V8 (1965-90)
51-000-9	PONTIAC	265-455 V8 (1955-81)
52-000-9	PONTIAC	151 L4 Iron Duke
101-000-8E	MITSUBISHI	Intake Cam Set for 4G63
101-000-8I	MITSUBISHI	Exhaust Cam Set for 4G63
120-000-12	STERLING	Sterling V12
RACE ROLLER CAM CORES – STEEL BILLET (ROUND)		
10-000-0	AMC	390-401 V8 (1966-79)
122-000-0	BMW	Mini Cooper
67-000-0	BUICK	231 V6 Odd Fire (1975-77)
92-000-0	BUICK	350 V8
96-000-0	BUICK	400-430-455 V8 (1967-76)
61-000-0	CHEVROLET	194-230-250-292-L6 (1962-84)
03-000-0	CHEVROLET	Standard Chevrolet Block W/ SB2 Heads
07-000-0	CHEVROLET	LT1 Engine (1992-98)
11-000-0	CHEVROLET	396-454 V8 (1967-96)
12-000-0	CHEVROLET	262-400 V8 (1957-98)
54-000-0	CHEVROLET	LS1 Engine (1997-99)
14-000-0	CHEVROLET	153 L4 (1962-72)
15-000-0	CHEVROLET	200-229 V6 Even Fire
129-000-0	CHEVROLET	3.4L V6 (2001 & Up)
20-000-0	CHRYSLER	273-360 V8 (1968-99)
21-000-0	CHRYSLER	383-440 V8 Single-Bolt (1958-78)
24-000-0	CHRYSLER	426 Hemi V8 (1966-71)
26-000-0	CHRYSLER	Chrysler Donovan Block
134-000-0	CHRYSLER	70MM Hemi Pro Stock
72-000-0	FORD	2000 L4 OHC (1970-77)
66-000-0	FORD	240-300 L6 (1965-Present)
31-000-0	FORD	289-302 V8 (1962-95) and SVO V8
05-000-0	FORD	SVO V8 W/ Mirror Image Heads
32-000-0	FORD	351C, 351M-400M V8 (1970-82)
34-000-0	FORD	429-460 Vi (1968-99)
30-000-0	HARLEY DAVIDSON®	80" Evolution
42-000-0	OLDSMOBILE	260-455 V8 (1965-90)
51-000-0	PONTIAC	265-455 Vi (1955-81)
52-000-0	PONTIAC	151 L4 Iron Duke

A Different journal sizes available

HYDRAULIC FLAT TAPPET

HIGH ENERGY™ HYDRAULICS

These lobes are to be used in applications where torque, mileage and vacuum are primary considerations. High Energy™ Hydraulics can be used as intake or exhaust lobes. They are simple street performance stock improvement lobes. This group must use a minimum tappet diameter of .842" (Chevrolet) or larger.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050"	@ .200"		106°	110°	1.5	1.6	1.7
High Energy™ Rated Duration @ .006" Tappet Lift .842" Min. Dia.	5224	240-4	192	96	.2600	.024	.017	.390	.416	.442
	5225	244-1	196	97	.2567	.028	.020	.385	.411	.436
	5223	244-2	196	101	.2666	.028	.020	.400	.427	.453
	5226	248-2	200	102	.2600	.034	.025	.390	.416	.442
	5206	252-5	206	109	.2706	.041	.031	.406	.433	.460
	5200	252-4	206	113	.2835	.041	.031	.425	.454	.482
	5211	260-7	212	119	.2933	.049	.038	.440	.469	.499
	5205	260-8	212	117	.2795	.049	.038	.419	.447	.475
	5207	260-9	212	122	.2960	.050	.039	.444	.474	.503
	5212	268-4	222	130	.3090	.064	.052	.464	.494	.525
	5232	268-5	218	124	.2853	.059	.047	.428	.456	.485
	5222	268-6	218	128	.3026	.060	.048	.454	.484	.514
	5215	268-9	218	128	.2960	.059	.047	.444	.474	.503

MAGNUM HYDRAULICS

Magnum Hydraulics are to be used in performance applications with a minimum tappet diameter of .842" (Chevrolet) or larger. These lobes are more aggressive in their design characteristics and can be used as intake or exhaust lobes. They are a bigger brother to the High Energy™ family and are frequently used by the budget-minded Saturday night racer. They also provide a very "throaty" sound.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Magnum Rated Duration @ .006" Tappet Lift .842" Min. Dia.	5201	270-4	224	135	.3130	.069	.057	.470	.501	.532
	5202	270-5	224	132	.3000	.068	.056	.450	.480	.510
	5239	276-3	228	140	.3160	.077	.064	.474	.506	.537
	5213	276-4	226	136	.3090	.072	.060	.464	.494	.525
	5216	280-3	230	137	.3063	.077	.064	.459	.490	.521
	5203	280-4	230	140	.3200	.079	.066	.480	.512	.544
	5240	280-9	232	142	.3220	.080	.067	.483	.515	.547
	5241	284-3	236	146	.3160	.091	.078	.474	.506	.537
	5208	286-3	236	148	.3270	.089	.075	.491	.523	.556
	5229	288-9	237	148	.3220	.090	.076	.483	.515	.547
	5214	292-2	244	153	.3340	.101	.087	.501	.534	.568
	5204	292-3	244	151	.3235	.101	.087	.485	.518	.550
	5209	296-3	246	158	.3400	.106	.092	.510	.544	.578
	5210	305-3	253	163	.3500	.118	.104	.525	.560	.595
	5217	305-4	253	162	.3380	.118	.104	.507	.541	.575

DUAL ENERGY™ HYDRAULICS

Designed for the Dual Energy Cam™ series, these lobes are good for everyday driving where a broad torque curve is necessary. Very easy on related components. Designed as both intake and exhaust lobes. Minimum tappet diameter of .842" is necessary. These lobes produce good power for a daily driver or a weekend toy used as an occasional bracket race car.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Dual Energy™ Rated Duration @ .006" Tappet Lift .842" Min. Dia.	5110A	255	203	110	.281	.036	.028	.422	.450	.478
	5146	255	203	110	.281	.036	.028	.422	.450	.478
	5310	254	204	109	.271	.037	.027	.407	.434	.461
	5128	265	211	117	.295	.049	.039	.443	.472	.502
	5312	265	211	112	.280	.049	.039	.420	.448	.476
	5128	273	211	117	.295	.049	.039	.443	.472	.502
	5166	265	211	117	.295	.049	.039	.443	.472	.502
	5120A	261	212	121	.301	.049	.039	.452	.482	.512
	5311	261	213	120	.286	.046	.039	.429	.458	.486
	5000	263	216	123	.292	.052	.042	.438	.467	.496
	5126A	275	219	125	.308	.057	.047	.462	.493	.524
	5326	275	219	123	.298	.057	.048	.447	.477	.507
	5326	283	219	123	.298	.084	.048	.447	.477	.507
	5163	275	219	125	.308	.057	.047	.462	.493	.524
	5130	275	219	125	.308	.057	.047	.462	.493	.524
	5127	269	221	129	.310	.062	.051	.465	.496	.527
	5315	272	221	124	.298	.062	.051	.447	.477	.507
	5006	275	223	128	.304	.057	.050	.456	.486	.517
	5129	276	227	134	.308	.074	.062	.462	.493	.524
	5136A	277	229	137	.321	.074	.062	.482	.514	.546
	5327	283	229	136	.313	.074	.062	.470	.501	.532
	5002	283	233	146	.320	.074	.070	.480	.512	.544
	5135	284	235	139	.321	.082	.070	.482	.514	.546

THUMPR™ HYDRAULICS

The Thumpr™ lobe profiles are designed to optimize the character and sound while providing excellent stability and a very wide power range in hydraulic flat tappet applications. Specific profiles are developed uniquely for intake and exhaust.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Thumpr™ Int. Rated Duration @ .006" Tappet Lift .842" Min. Dia.	5040	279	227	138	.319	.074	.061	.479	.510	.542
	5042	287	235	146	.326	.088	.074	.489	.522	.554
	5044	295	243	154	.333	.101	.088	.500	.533	.566
Thumpr™ Int. CB Rated Duration @ .006" Tappet Lift .842" Min. Dia.	5020	279	227	132	.293	.073	.060	.440	.469	.498
	5022	287	235	141	.300	.086	.073	.450	.480	.510
	5024	295	243	149	.307	.100	.086	.461	.491	.522
Thumpr™ Int. FW Rated Duration @ .006" Tappet Lift .875" Min. Dia.	5520	279	227	137	.306	.073	.060	.459	.490	.520
	5522	287	235	145	.313	.087	.073	.470	.501	.532
	5524	295	243	153	.320	.101	.087	.480	.512	.544
Thumpr™ Int. CRS Rated Duration @ .006" Tappet Lift .904" Min. Dia.	5820	279	227	142	.324	.075	.062	.486	.518	.551
	5822	287	235	150	.331	.089	.075	.497	.530	.563
	5824	295	243	158	.338	.103	.089	.507	.541	.575

THUMPR™ HYDRAULICS

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Thumpr™ Exh. Rated Duration @ .006" Tappet Lift .842" Min. Dia.	5055	297	241	148	.310	.094	.082	.465	.496	.527
	5057	305	249	156	.317	.107	.094	.476	.507	.539
	5059	313	257	164	.324	.120	.107	.486	.518	.551
Thumpr™ Exh. CB Rated Duration @ .006" Tappet Lift .842" Min. Dia.	5031	297	241	140	.284	.093	.080	.426	.454	.483
	5033	305	249	148	.291	.107	.093	.437	.466	.495
	5035	313	257	157	.298	.120	.107	.447	.477	.507
Thumpr™ Exh. FW Rated Duration @ .006" Tappet Lift .875" Min. Dia.	5531	297	241	143	.297	.093	.080	.446	.475	.505
	5533	305	249	152	.304	.107	.094	.456	.486	.517
	5535	313	257	160	.311	.121	.107	.467	.498	.529
Thumpr™ Exh. CR5 Rated Duration @ .006" Tappet Lift .904" Min. Dia.	5831	297	241	149	.315	.094	.081	.473	.504	.536
	5833	305	249	157	.322	.109	.094	.483	.515	.547
	5835	313	257	165	.329	.123	.108	.494	.526	.559

NOSTALGIA PLUS™ HYDRAULICS

Designed to mimic the sound of the great engines of the past while improving performance by applying today's design techniques, these profiles are used in the Nostalgia Plus™ series to capture the essence of the factory muscle cars of the 60s and 70s. These profiles are slightly slower off the seat than the Xtreme Energy™ profiles but have excellent area under the curve for outstanding power.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Nostalgia Plus™ Rated Duration @ .006" Tappet Lift .842" Min. Dia.	5066	258	211	120	.284	.048	.036	.426	.454	.483
	5067	265	218	124	.280	.057	.045	.420	.448	.476
	5068	276	229	140	.312	.078	.064	.468	.499	.530
	5069	283	236	147	.308	.088	.074	.462	.493	.524
	5070	286	239	151	.322	.095	.081	.483	.515	.547
	5071	293	246	157	.318	.105	.091	.477	.509	.541

RACE HYDRAULICS

These are the largest hydraulic designs COMP Cams® offers. With a minimum tappet diameter of .842" or larger needed, these designs are intended for all out racing only. The larger lobes (268° - 270° - 276° @ .050" duration) were designed with large cubic inch motors in mind in a high rpm envrionment. These lobes have smooth ramps to make it easier for the spring to control the valve.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Race Hydraulics Rated Duration @ .006" Tappet Lift .842" Min. Dia.	5195	312-5	260	169	.3600	.128	.114	.540	.576	.612
	5221	312-6	260	171	.3530	.131	.117	.530	.565	.600
	5196	320-5	268	178	.3600	.143	.129	.540	.576	.612
	5197	320-9	268	175	.3530	.141	.128	.530	.565	.600
	5198	320-10	270	180	.3675	.147	.133	.551	.588	.625
	5199	328-8	276	185	.3675	.156	.142	.551	.588	.625

XTREME ENERGY™ HYDRAULICS

Designed to maximize torque, acceleration and throttle response while providing excellent high rpm horsepower. A faster intake valve opening increases engine vacuum and enhances throttle response. Special intake closing ramps close the valve sooner, providing more cylinder pressure and torque without resulting in excessive valve train noise. Faster ramps achieve maximum velocity sooner, increasing the area under the lift curve and providing maximum horsepower. Smoother exhaust designs allow for a more effective purge of spent gases from the combustion chamber to further increase horsepower.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Xtreme Energy™ Int. Lobes Rated Duration @ .006" Tappet Lift .842" Min. Dia.	5437	240	196	106	.275	.026	.018	.413	.440	.468
	5440	250	206	117	.288	.041	.030	.432	.461	.490
	5430	250	206	114	.277	.041	.030	.416	.443	.471
	5441	256	212	124	.298	.050	.038	.447	.477	.507
	5431	256	212	120	.283	.050	.038	.425	.453	.481
	5442	262	218	130	.308	.060	.047	.462	.493	.524
	5432	262	218	128	.297	.060	.047	.446	.475	.505
	5443	268	224	137	.318	.070	.056	.477	.509	.541
	5433	268	224	134	.303	.070	.056	.455	.485	.515
	5444	270	226	139	.321	.073	.060	.482	.514	.546
	5414	270	226	136	.303	.073	.060	.455	.485	.515
	5445	274	230	143	.325	.080	.066	.488	.520	.553
	5435	274	230	140	.303	.080	.066	.455	.485	.515
	5446	278	234	147	.332	.087	.073	.498	.531	.564
	5447	284	240	153	.338	.097	.084	.507	.541	.575
	5418	288	244	157	.335	.104	.091	.503	.536	.570
	5448	290	246	159	.344	.108	.094	.516	.550	.585
	5438	294	250	163	.360	.115	.101	.540	.576	.612
	5449	294	250	163	.346	.115	.101	.519	.554	.588
	5439	298	254	167	.360	.122	.108	.540	.576	.612
	5419	298	254	166	.338	.122	.108	.507	.541	.575
Xtreme Energy™ Exh. Lobes Rated Duration @ .006" Tappet Lift .842" Min. Dia.	5207	260	212	121	.296	.050	.040	.444	.474	.503
	5205	260	212	117	.280	.050	.040	.420	.448	.476
	5230	268	218	128	.303	.059	.048	.455	.485	.515
	5232	268	218	124	.285	.059	.047	.428	.456	.485
	5212	268	222	130	.309	.064	.052	.464	.494	.525
	5201	270	224	133	.313	.067	.056	.470	.501	.532
	5202	270	224	132	.300	.068	.056	.450	.480	.510
	5203	280	230	140	.320	.078	.065	.480	.512	.544
	5216	280	230	138	.306	.078	.066	.459	.490	.520
	5208	286	236	144	.327	.085	.072	.491	.523	.556
	5238	286	236	143	.306	.086	.073	.459	.490	.520
	5214	292	244	154	.334	.100	.087	.501	.534	.568
	5209	296	246	154	.340	.101	.088	.510	.544	.578
	5210	305	253	160	.350	.111	.098	.525	.560	.595
	5231	306	256	165	.349	.120	.106	.524	.558	.593
	5238	286	236	143	.306	.086	.073	.459	.490	.520
	5231	308	256	165	.350	.120	.106	.525	.560	.595
	5234	316	264	170	.285	.132	.118	.428	.456	.485
	5233	316	264	173	.353	.133	.120	.530	.565	.600

XTREME ENERGY XFI™ HYDRAULICS

The Xtreme Energy XFI™ series is designed for use with modern induction systems, heads, springs and rockers. The XFI™ intake lobes have more lift than the base Xtreme series, and the XFI™ exhaust lobes have more area under the curve, for better exhaust flow, than the base exhaust series. These are the first hydraulic flat tappet profiles designed for use with COMP Cams® Beehive ovate valve springs, such as the #26915, #26918 and #26120. The combination of these profiles, the Beehive™ Springs, and our Ultra Pro Magnum™ Rocker Arms in higher ratios, makes for the most revolutionary improvement in hydraulic flat tappet design to date by bringing race winning technology to the street.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Xtreme XFI™ Int. Lobes Rated Duration @ .006" Tappet Lift .842" Min. Dia.	5082	252	208	121	.298	.044	.032	.447	.477	.507
	5083	256	212	125	.305	.050	.038	.458	.488	.519
	5084	260	216	129	.312	.056	.044	.468	.499	.530
	5085	262	218	131	.315	.060	.047	.473	.504	.536
	5086	268	224	138	.325	.070	.057	.488	.520	.553
	5087	274	230	143	.336	.081	.067	.504	.538	.571
	5088	280	236	150	.345	.091	.077	.518	.552	.587
	5089	286	242	156	.355	.102	.088	.533	.568	.604
	5090	292	248	162	.365	.112	.098	.548	.584	.621
Xtreme XFI™ Exh. Lobes Rated Duration @ .006" Tappet Lift .842" Min. Dia.	5101	266	217	127	.295	.059	.047	.443	.472	.502
	5103	272	223	134	.308	.068	.056	.462	.493	.524
	5105	280	231	143	.322	.082	.068	.483	.515	.547
	5107	290	241	154	.342	.099	.085	.513	.547	.581
	5109	302	253	166	.362	.120	.106	.543	.579	.615

PURPLE PLUS HYDRAULICS (0.904" MIN. TAPPET)

These use the same ramps as our Nostalgia Plus™ lobes but have more velocity for use with Chrysler/Mopar .904" minimum tappet diameters.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Purple Plus Rated Duration @ .006" Tappet Lift .904" Min. Dia.	6882	280	233	148	.316	.086	.071	.474	.506	.537
	6883	287	240	153	.316	.096	.082	.474	.506	.537
	6884	284	239	154	.323	.097	.082	.485	.517	.549
	6885	291	246	159	.323	.107	.092	.485	.517	.549
	6886	292	247	163	.339	.111	.097	.509	.542	.576
	6887	299	254	169	.339	.123	.108	.509	.542	.576

XTREME MOPAR HYDRAULICS (0.904" MIN. TAPPET)

Xtreme Energy™ designs optimized for use with .904" minimum tappet diameters. The additional velocity allowed with the Chrysler/Mopar .904" tappet results in more area and more lift than any of our other comparable hydraulic designs. These are the best large tappet hydraulics ever.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Xtreme Mopar Int. Lobes Rated Duration @ .006" Tappet Lift .904" Min. Dia.	5964	275	231	149	.350	.083	.069	.525	.560	.595
	5965	285	241	159	.363	.101	.087	.545	.581	.617
	5960	289	245	163	.356	.109	.094	.534	.570	.605
	5961	295	251	169	.356	.120	.105	.534	.570	.605
	5966	295	251	169	.376	.120	.105	.564	.602	.639
Xtreme Mopar Exh. Lobes Rated Duration @ .006" Tappet Lift .904" Min. Dia.	5984	287	237	151	.350	.090	.076	.525	.560	.595
	5985	297	247	161	.363	.107	.093	.545	.581	.617
	5980	301	251	166	.360	.115	.101	.540	.576	.612
	5981	307	257	171	.360	.126	.111	.540	.576	.612
	5986	307	257	171	.376	.126	.111	.564	.602	.639

HYDRAULIC ROLLER

HIGH ENERGY™ & MAGNUM HYDRAULIC ROLLERS - LOW & HIGH LIFT

The low lift profiles were designed for street and marine use. The low lift adds dependability and reliability for extended use applications. The high lift versions of the hydraulic rollers are designed for all out applications where high lift is desired because of cylinder head or engine modifications. They function well for street/strip. These lobes run well in big cubic inch marine engines.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Hydraulic Roller Low Lift Rated Duration @ .006" Tappet Lift	3100	230	178	93	.2700	.014	.009	.405	.432	.459
	3101	240	188	103	.2850	.022	.015	.428	.456	.485
	3102	242	191	97	.2600	.024	.017	.390	.416	.442
	3103	246	192	110	.3000	.024	.017	.450	.480	.510
	3104	254	199	116	.3000	.032	.024	.450	.480	.510
	3105	256	200	118	.3100	.035	.026	.465	.496	.527
	3106	262	206	116	.3000	.041	.032	.450	.480	.510
	3160	266	210	116	.2853	.047	.037	.428	.456	.485
	3050	264	210	127	.3200	.047	.037	.480	.512	.544
	3168	273	215	119	.2853	.052	.041	.428	.456	.485
	3161	276	220	123	.2853	.060	.049	.428	.456	.485
	3051	274	220	134	.3200	.061	.050	.480	.512	.544
	3162	292	230	128	.2853	.075	.064	.428	.456	.485
	3052	284	230	142	.3200	.077	.064	.480	.512	.544
	3163	302	240	135	.2853	.090	.078	.428	.456	.485
	3053	296	240	148	.3200	.091	.078	.480	.512	.544
	3164	312	250	142	.2853	.104	.092	.428	.456	.485
Hydraulic Roller High Lift Rated Duration @ .006" Tappet Lift	3118	260	206	126	.3330	.041	.032	.500	.533	.566
	3107	266	210	130	.3330	.047	.037	.500	.533	.566
	3108	270	215	133	.3330	.055	.044	.500	.533	.566
	3114	281	220	134	.3200	.060	.048	.480	.512	.544
	3109	276	220	138	.3400	.060	.049	.510	.544	.578
	3110	284	224	136	.3330	.066	.054	.500	.533	.566
	3119	280	224	144	.3500	.066	.054	.525	.560	.595
	3112	290	230	143	.3400	.075	.063	.510	.544	.578
	3111	286	230	152	.3735	.078	.065	.560	.598	.635
	3122	290	236	160	.3800	.091	.076	.570	.608	.646
	3113	304	242	158	.3670	.101	.087	.551	.587	.624
	3150	307	244	158	.3600	.100	.087	.540	.576	.612
	3120	304	244	161	.3830	.101	.087	.575	.613	.651
	3115	304	244	164	.4000	.104	.090	.600	.640	.680
	3170	315	248	161	.3600	.105	.091	.540	.576	.612
	3151	318	252	164	.3600	.111	.097	.540	.576	.612
	3116	314	252	169	.4000	.115	.100	.600	.640	.680
	3171	325	258	169	.3600	.122	.108	.540	.576	.612
	3152	329	262	172	.3600	.127	.113	.540	.576	.612
	3117	324	262	177	.4200	.130	.115	.630	.672	.714

THUMPR™ HYDRAULIC ROLLERS

The Thumpr™ lobe profiles are designed to optimize the character and sound, while providing excellent stability and a very wide power range in hydraulic roller applications. Specific profiles are developed uniquely for intake and exhaust.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Thumpr™ Int. Rated Duration @ .006" Tappet Lift	3028	275	219	134	.335	.058	.047	.503	.536	.570
	3022	283	227	142	.341	.070	.058	.512	.546	.580
	3024	291	235	150	.347	.082	.070	.521	.555	.590
	3026	299	243	157	.354	.096	.082	.531	.566	.602
	3056	307	251	165	.361	.110	.096	.542	.578	.614
	3058	315	259	173	.368	.125	.110	.552	.589	.626
	3528	275	219	133	.325	.058	.047	.488	.520	.553
	3532	283	227	140	.331	.070	.058	.497	.530	.563
	3534	291	235	148	.337	.082	.070	.506	.539	.573
	3536	299	243	156	.344	.096	.082	.516	.550	.585
	3552	283	227	139	.321	.070	.058	.482	.514	.546
	3554	291	235	146	.327	.082	.070	.491	.523	.556
	3556	299	243	154	.334	.096	.082	.501	.534	.568
Thumpr™ Exh. Rated Duration @ .006" Tappet Lift	3031	295	233	142	.325	.082	.070	.488	.520	.553
	3043	303	241	149	.331	.094	.082	.497	.530	.563
	3045	311	249	157	.338	.107	.094	.507	.541	.575
	3047	319	257	165	.345	.120	.107	.518	.552	.587
	3541	295	233	139	.315	.082	.070	.473	.504	.536
	3543	303	241	147	.321	.094	.082	.482	.514	.546
	3545	311	249	155	.328	.107	.094	.492	.525	.558
	3547	319	257	164	.335	.120	.107	.503	.536	.570
	3563	303	241	145	.311	.094	.082	.467	.498	.529
	3565	311	249	153	.318	.106	.093	.477	.509	.541
	3567	319	257	161	.325	.119	.106	.488	.520	.553

XTREME ENERGY™ HYDRAULIC ROLLERS

These designs share all of the characteristics of the flat tappet lobes but we have added the new technology of CRC (Constant Radius of Curvature) inverted radius of curvature ramp designs. COMP Cams® has enhanced this technique to ensure durability with these most aggressive hydraulic roller designs. The high lift versions that have lobe numbers in the 3100's are more aggressive over the nose and will require more spring or less rpm. These lobes run well in street/strip and marine applications. With more agressive and faster ramps, they also provide good vacuum.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Xtreme Energy™ Rated Duration @ .006" Tappet Lift Small Block Journal	3322	244	192	89	.245	.026	.018	.368	.392	.417
	3323	249	198	104	.265	.032	.024	.398	.424	.451
	3304	252	200	113	.285	.034	.026	.428	.456	.485
	3310	252	200	122	.315	.034	.026	.473	.504	.536
	3305	256	204	116	.285	.039	.030	.428	.456	.485
	3302	258	206	124	.305	.041	.032	.458	.488	.519
	3311	258	206	128	.320	.041	.032	.480	.512	.544
	3188	258	206	132	.336	.042	.032	.504	.538	.571
	3300	262	210	126	.305	.046	.036	.458	.488	.519
	3312	264	212	133	.325	.049	.039	.488	.520	.553
	3301	266	214	129	.305	.052	.041	.458	.488	.519
	3190	266	214	141	.353	.053	.042	.530	.565	.600

XTREME ENERGY™ HYDRAULIC ROLLERS Cont.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Xtreme Energy™ Rated Duration @ .006" Tappet Lift Small Block Journal	3313	270	218	139	.330	.058	.046	.495	.528	.561
	3314	276	224	145	.335	.068	.055	.503	.536	.570
	3192	276	224	152	.378	.069	.056	.567	.605	.643
	3315	282	230	151	.340	.078	.064	.510	.544	.578
	3194	282	230	157	.389	.078	.064	.584	.622	.661
	3316	288	236	157	.347	.089	.075	.521	.555	.590
	3196	288	236	162	.390	.090	.075	.585	.624	.663
	3317	294	242	164	.360	.101	.086	.540	.576	.612
	3318	300	248	171	.375	.114	.097	.563	.600	.638
	3319	306	254	178	.387	.127	.110	.581	.619	.658
Xtreme Energy™ Rated Duration @ .006" Tappet Lift Big Block Journal	3340	252	200	118	.300	.034	.026	.450	.480	.510
	3341	258	206	123	.300	.042	.032	.450	.480	.510
	3342	264	212	127	.300	.050	.039	.450	.480	.510
	3343	270	218	131	.300	.058	.047	.450	.480	.510
	3344	276	224	136	.300	.068	.055	.450	.480	.510
	3345	282	230	141	.300	.078	.065	.450	.480	.510
	3346	288	236	147	.306	.089	.075	.459	.490	.520
	3347	294	242	155	.318	.100	.085	.477	.509	.541
	3348	300	248	162	.329	.111	.096	.494	.526	.559
	3349	306	254	170	.341	.123	.108	.512	.546	.580
	3414	310	258	173	.341	.130	.115	.512	.546	.580
	3415	312	260	174	.341	.133	.118	.512	.546	.580
Xtreme Energy™ Rated Duration @ .006" Tappet Lift Ford Journal	3628	256	208	133	.333	.044	.033	.500	.533	.566
	3610	264	212	131	.320	.050	.039	.480	.512	.544
	3630	266	216	140	.340	.056	.044	.510	.544	.578
	3611	270	218	136	.320	.058	.047	.480	.512	.544
	3612	276	224	140	.320	.068	.055	.480	.512	.544
	3632	274	224	148	.347	.069	.056	.521	.555	.590
	3633	278	228	152	.352	.076	.062	.528	.563	.598
	3613	288	230	144	.320	.078	.065	.480	.512	.544
	3634	282	232	155	.353	.084	.069	.530	.565	.600
	3635	286	236	159	.356	.092	.076	.534	.570	.605
	3636	290	240	162	.359	.099	.084	.539	.574	.610
	3637	294	244	166	.362	.107	.091	.543	.579	.615
	3638	298	248	169	.365	.115	.099	.548	.584	.621

XTREME 4X4™ HYDRAULIC ROLLERS

Due to the allowances of lower engine speed, these designs are slightly faster than the original Xtreme Energy™ Hydraulic Rollers. Great low and mid-range torque. They are some of our most aggressive hydraulic roller lobes and run well in street, off-road and four-wheeling.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Xtreme 4X4 Rated Duration @ .006" Tappet Lift Small Block Journal	3324	259	210	131	.316	.047	.036	.474	.506	.537
	3326	263	214	134	.316	.052	.041	.474	.506	.537
	3303	265	216	136	.316	.056	.044	.474	.506	.537
	3306	269	220	138	.316	.062	.049	.474	.506	.537
	3307	273	224	141	.316	.069	.056	.474	.506	.537
	3308	279	230	145	.316	.079	.065	.474	.506	.537
	3309	283	234	148	.316	.087	.072	.474	.506	.537

XTREME ENERGY XFI™ HYDRAULIC ROLLERS

The Xtreme Energy XFI™ Series is designed for use with modern induction systems, heads, springs and rockers. The XFI™ intake lobes have more lift than the base Xtreme series, and the XFI™ exhaust lobes have more area under the curve, for better exhaust flow, than the base exhaust series. These are designed for use with COMP Cams® Beehive ovate valve springs such as the #26915, #26918 & #26120. The combination of these profiles, the Beehive™ Springs, and our Ultra Pro Magnum™ Rocker Arms in higher ratios, makes for the most revolutionary improvement in hydraulic roller design to date by bringing race winning technology to the street.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Xtreme XFI™ Int. Lobes Rated Duration @ .006" Tappet Lift Hydraulic Roller	3010	252	202	128	.344	.036	.027	.516	.550	.585
	3011	256	206	132	.347	.041	.032	.521	.555	.590
	3012	260	210	136	.350	.047	.036	.525	.560	.595
	3013	264	214	139	.353	.052	.041	.530	.565	.600
	3014	268	218	143	.356	.058	.047	.534	.570	.605
	3015	274	224	149	.358	.068	.055	.537	.573	.609
	3016	280	230	154	.360	.079	.065	.540	.576	.612
	3017	286	236	159	.362	.090	.075	.543	.579	.615
	3018	292	242	165	.365	.102	.087	.548	.584	.621
Xtreme XFI™ Exh. Lobes Rated Duration @ .006" Tappet Lift Hydraulic Roller	3033	264	212	135	.341	.050	.040	.512	.546	.580
	3034	270	218	141	.347	.059	.048	.521	.555	.590
	3035	276	224	147	.353	.069	.056	.530	.565	.600
	3036	282	230	152	.355	.080	.066	.533	.568	.604
	3037	288	236	158	.357	.091	.076	.536	.571	.607
	3038	294	242	163	.360	.102	.087	.540	.576	.612
	3039	300	248	169	.362	.114	.098	.543	.579	.615

XTREME MARINE™ HYDRAULIC ROLLERS

The These profiles use the same design techniques of the base Xtreme Energy™ Hydraulic Rollers but have been optimized to increase power and durability when run at steady rpm for extended periods of time. Specifically designed for big blocks with heavier valve train components.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Xtreme Marine™ Rated Duration @ .006" Tappet Lift Big Block Journal	3354	286	230	142	.322	.074	.062	.483	.515	.547
	3355	292	236	146	.322	.085	.071	.483	.515	.547
	3356	298	242	153	.333	.095	.081	.500	.533	.566
	3357	304	248	159	.333	.106	.092	.500	.533	.566
	3358	310	254	163	.338	.116	.101	.507	.541	.575
	3359	316	260	169	.338	.126	.112	.507	.541	.575
	3362	322	266	174	.342	.136	.122	.513	.547	.581
	3363	328	272	179	.347	.146	.132	.521	.555	.590
	3364	334	278	185	.353	.155	.142	.530	.565	.600

XTREME MARINE™ HYDRAULIC ROLLERS – HIGH LIFT

These have the same ramp designs as the lower lift Xtreme Marine™ designs but have higher lift to enhance power output with cylinder head and engine modifications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Xtreme Marine High Lift Rated Duration @ .006" Tappet Lift Big Block Journal	3473	290	234	152	.360	.081	.068	.540	.576	.612
	3474	292	236	154	.360	.085	.071	.540	.576	.612
	3410	294	238	154	.350	.088	.075	.525	.560	.595
	3475	294	238	156	.360	.088	.075	.540	.576	.612
	3376	296	240	157	.360	.092	.078	.540	.576	.612
	3411	300	244	159	.350	.099	.085	.525	.560	.595
	3479	300	244	163	.380	.100	.085	.570	.608	.646
	3370	304	248	167	.380	.107	.092	.570	.608	.646
	3377	306	250	166	.360	.111	.096	.540	.576	.612
	3371	308	254	171	.380	.119	.103	.570	.608	.646
	3372	314	258	175	.380	.126	.111	.570	.608	.646
	3373	318	262	179	.380	.134	.118	.570	.608	.646
	3374	322	266	182	.380	.142	.126	.570	.608	.646
	3375	326	270	186	.380	.149	.134	.570	.608	.646
	3447	330	274	190	.380	.157	.141	.570	.608	.646

HUC HYDRAULIC ROLLER SERIES

The HUC series hydraulic rollers are very smooth designs intended for high rpm use with heavy valves. These are very similar to the Xtreme Marine™ High Lift Lobe series but are slightly more stable.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE		@ .006	@ .050	@ .200		106°	110°	1.6	1.7	1.8
HUC Rated Duration @ .006" Tappet Lift	13050	294	239	158	0.365	.093	.079	.584	.621	.657
	13052	302	247	166	0.372	.108	.093	.595	.632	.670
	13053	306	251	169	0.372	.115	.100	.595	.632	.670
	13054	310	255	173	0.372	.123	.108	.595	.632	.670
	13056	318	263	181	0.372	.139	.123	.595	.632	.670
HUC High Lift Rated Duration @ .006" Tappet Lift	13064	310	255	175	0.400	.124	.108	.640	.680	.720
	13066	318	263	183	0.400	.140	.124	.640	.680	.720
	13068	326	271	190	0.400	.156	.140	.640	.680	.720

XTREME RPM FOR LS1

Designed with Xtreme Energy™ technology to provide excellent power with the LS1's enhanced cylinder head design and high rpm performance. These provide outstanding low rpm torque with increased stability when coupled with the LS1's larger base circle and 1.7:1+ rocker ratios. High lift versions are excellent for use with improved heads, manifolds and the COMP #26915 and #26918 valve springs.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Xtreme RPM for LS1 Rated Duration @ .006" Tappet Lift LS1 55mm Journal	3750	260	206	121	.302	.043	.034	.453	.483	.513
	3751	266	212	126	.306	.051	.040	.459	.490	.520
	3766	270	216	130	.308	.056	.045	.462	.493	.524
	3752	272	218	132	.310	.059	.048	.465	.496	.527
	3767	274	220	134	.312	.062	.051	.468	.499	.530
	3753	278	224	137	.314	.069	.056	.471	.502	.534
	3754	280	226	139	.315	.072	.059	.473	.504	.536
	3755	282	228	141	.316	.075	.062	.474	.506	.537
	3735	284	230	142	.317	.078	.065	.476	.507	.539
	3756	286	232	144	.318	.082	.069	.477	.509	.541
	3757	290	236	147	.320	.088	.075	.480	.512	.544
	3659	309	256	166	.325	.123	.109	.488	.520	.553
Xtreme RPM for LS1 High Lift Rated Duration @ .006" Tappet Lift LS1 55mm Journal	3707	261	208	128	.326	.045	.036	.489	.522	.554
	3708	263	210	129	.327	.048	.039	.491	.523	.556
	3709	265	212	131	.328	.051	.041	.492	.525	.558
	3710	267	214	133	.329	.054	.043	.494	.526	.559
	3711	269	216	135	.330	.056	.045	.495	.528	.561
	3712	271	218	136	.331	.059	.048	.497	.530	.563
	3713	273	220	138	.332	.062	.051	.498	.531	.564
	3714	275	222	140	.333	.066	.054	.500	.533	.566
	3715	277	224	142	.334	.069	.056	.501	.534	.568
	3716	279	226	143	.335	.072	.059	.503	.536	.570
	3717	281	228	145	.336	.075	.062	.504	.538	.571
	3718	283	230	147	.337	.079	.066	.506	.539	.573
	3719	285	232	148	.338	.082	.069	.507	.541	.575
	3706	287	234	150	.339	.086	.072	.509	.542	.576
	3705	289	236	152	.340	.089	.075	.510	.544	.578
	3652	291	238	154	.344	.093	.079	.516	.550	.585
	3653	293	240	156	.346	.096	.082	.519	.554	.588
	3654	295	242	158	.348	.100	.085	.522	.557	.592
	3655	297	244	160	.350	.103	.089	.525	.560	.595
	3656	299	246	162	.350	.107	.092	.525	.560	.595
	3657	301	248	164	.350	.111	.097	.525	.560	.595
	3658	303	250	166	.350	.114	.100	.525	.560	.595
	3660	305	252	168	.350	.118	.103	.525	.560	.595
	3661	307	254	169	.350	.122	.107	.525	.560	.595
	3662	309	256	170	.350	.125	.110	.525	.560	.595
	3663	311	258	172	.350	.129	.114	.525	.560	.595
	3666	315	262	174	.350	.135	.120	.525	.560	.595
	3667	319	266	177	.350	.141	.127	.525	.560	.595
	3668	323	270	180	.350	.147	.133	.525	.560	.595

XTREME ENERGY™ XE-R FOR LS1

The XE-R designs are our most aggressive hydraulic roller ramps to date. They are quicker off and on the seat than the original Xtreme Energy™ series, yet they are still stable with rigid valve train and optimized spring selection. These profiles provide even more area than the comparable Small Block Chevrolet designs that are often used by other companies to "grow" a more aggressive lobe for LS1 applications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE		@ .006	@ .050	@ .200		106°	110°	1.5	1.6	1.7
XE-R for LS1 Rated Duration @ .006" Tappet Lift LS1 55mm Journal	3720	269	220	143	0.342	.062	.049	.513	.547	.581
	3721	271	222	144	0.342	.065	.052	.513	.547	.581
	3722	273	224	146	0.342	.069	.055	.513	.547	.581
	3723	275	226	147	0.344	.073	.059	.516	.550	.585
	3724	277	228	149	0.346	.076	.062	.519	.554	.588
	3725	279	230	151	0.348	.080	.065	.522	.557	.592
	3726	281	232	153	0.350	.083	.069	.525	.560	.595
	3727	283	234	155	0.352	.087	.072	.528	.563	.598
	3728	285	236	157	0.354	.091	.076	.531	.566	.602
	3729	287	238	159	0.356	.095	.079	.534	.570	.605
	3730	289	240	161	0.358	.099	.083	.537	.573	.609
	3731	291	242	163	0.359	.102	.087	.539	.574	.610
	3732	293	244	165	0.360	.106	.091	.540	.576	.612
	3733	295	246	167	0.361	.110	.095	.542	.578	.614
	3734	297	248	169	0.362	.114	.098	.543	.579	.615

XTREME ENERGY™ LSL HYDRAULIC ROLLERS FOR LS1

The LSL series has been designed with enhanced characteristics from our latest professional drag racing profiles. These have excellent ramp quickness but are designed in a way to improve stability over other designs with such short seat timing. The increased lift works great with the latest Gen III and LS cylinder head port designs by providing excellent area above 1/2-inch valve lift.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
LSL for LS1 Rated Duration @ .006" Tappet Lift LS1 55mm Journal	13014	265	215	139	0.355	.054	.042	.568	.604	.639
	13015	269	219	143	0.357	.060	.048	.571	.607	.643
	13016	273	223	147	0.359	.067	.054	.574	.610	.646
	13017	277	227	151	0.361	.074	.060	.578	.614	.650
	13018	281	231	154	0.363	.081	.067	.581	.617	.653
	13019	285	235	158	0.365	.089	.074	.584	.621	.657
	13020	289	239	162	0.367	.096	.081	.587	.624	.661
	13021	293	243	166	0.367	.105	.089	.587	.624	.661
	13022	297	247	169	0.367	.113	.097	.587	.624	.661
	13023	301	251	173	0.367	.121	.105	.587	.624	.661
	13024	305	255	176	0.367	.129	.113	.587	.624	.661
	13025	309	259	180	0.367	.137	.121	.587	.624	.661
	13026	313	263	183	0.367	.145	.129	.587	.624	.661
	13027	317	267	187	0.367	.153	.137	.587	.624	.661
	13028	321	271	190	0.367	.160	.144	.587	.624	.661
	13029	325	275	193	0.367	.167	.151	.587	.624	.661

XTREME ENERGY™ LSK HYDRAULIC ROLLERS FOR LS1

The LSK series has been designed with enhanced characteristics from our latest professional drag racing profiles. These have excellent ramp quickness. They are VERY hard on parts and not recommended in street applications!

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
LSK for LS1 Rated Duration @ .006" Tappet Lift LS1 55mm Journal	2124	265	215	142	0.370	.054	.042	.592	.629	.666
	2125	269	219	145	0.372	.060	.048	.595	.632	.670
	2126	273	223	149	0.374	.066	.054	.598	.636	.673
	2127	277	227	153	0.376	.074	.060	.602	.639	.677
	2128	281	231	156	0.378	.081	.067	.605	.643	.680
	2129	285	235	160	0.380	.089	.074	.608	.646	.684
	2130	289	239	164	0.382	.096	.081	.611	.649	.688
	2131	293	243	168	0.384	.104	.089	.614	.653	.691
	2132	297	247	171	0.386	.113	.096	.618	.656	.695
	2133	301	251	175	0.388	.121	.104	.621	.660	.698
	2134	305	255	179	0.390	.130	.113	.624	.663	.702
	2135	309	259	183	0.390	.138	.121	.624	.663	.702
	2136	313	263	186	0.390	.146	.129	.624	.663	.702

LSN & LSD SERIES FOR DOD

These two series are designed for GM LS applications with Displacement on Demand. Because of extra travel of the deactivation lifter seat before it locks in lock mode, these profiles must be designed differently than the non-cylinder deactivation lobes. The result is that the LSD "Deac" profiles look more like solid lifter profiles as that motion is akin to about 0.005" lash at the tappet. The LSN "non-Deac" profiles are more like standard hydraulic roller designs at the seat but matched to the LSN profiles over the nose. Note: Cylinders 1-4-6-7 are the "Deac" or Deactivation cylinders and 2-3-5-6 are the "non-Deac" cylinders.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE		@ .006	@ .050	@ .200		106°	110°	1.6	1.7	1.8
LSN (Non-Deac) Rated Duration @ .006" Tappet Lift 55mm Journal .7756" BCR	13300	262	210	123	0.294	.047	.037	.470	.500	.529
	13301	266	214	126	0.294	.053	.042	.470	.500	.529
	13302	270	218	130	0.294	.059	.048	.470	.500	.529
	13303	274	222	133	0.294	.065	.053	.470	.500	.529
	13304	278	226	137	0.294	.072	.059	.470	.500	.529
	13305	282	230	140	0.294	.079	.065	.470	.500	.529
	13306	286	234	144	0.294	.086	.072	.470	.500	.529
	13307	290	238	147	0.294	.092	.079	.470	.500	.529
LSD (Deac) Rated Duration @ .006" Tappet Lift 55mm Journal .7756" BCR	13310	274	212	123	0.294	.047	.037	.470	.500	.529
	13311	278	216	127	0.294	.053	.042	.470	.500	.529
	13312	282	220	130	0.294	.059	.048	.470	.500	.529
	13313	286	224	133	0.294	.065	.053	.470	.500	.529
	13314	290	228	137	0.294	.072	.059	.470	.500	.529
	13315	294	232	140	0.294	.079	.065	.470	.500	.529
	13316	298	236	144	0.294	.086	.072	.470	.500	.529
	13317	302	240	147	0.294	.092	.079	.470	.500	.529
	13318	306	244	151	0.294	.099	.085	.470	.500	.529

CHEATER HR LIFT RULE COMPETITION HYDRAULIC ROLLERS

The Cheater HR Lift Rule profiles can be run with either hydraulic roller lifters or with solid roller lifters and tight (0.010" to 0.016") lash settings. These are very popular in Mustang lift rule class racing. These lobes are very aggressive and are "race only" designed lobes.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Cheater HR Rated Duration @ .006" Tappet Lift RACE ONLY	3390	289	236	148	.312	.085	.072	.468	.499	.530
	3391	291	238	150	.312	.088	.075	.468	.499	.530
	3392	293	240	152	.312	.091	.078	.468	.499	.530
	3393	295	242	154	.312	.095	.081	.468	.499	.530
	3394	297	244	156	.312	.098	.085	.468	.499	.530
	3395	299	246	158	.312	.102	.088	.468	.499	.530
	3396	301	248	160	.312	.105	.091	.468	.499	.530
	3397	303	250	162	.312	.109	.095	.468	.499	.530
	3335	321	268	180	.312	.142	.127	.468	.499	.530
	3336	307	254	166	.316	.116	.102	.474	.506	.537
	3338	311	258	170	.316	.123	.109	.474	.506	.537
	3337	319	266	178	.316	.138	.123	.474	.506	.537
	3339	329	270	182	.316	.146	.139	.474	.506	.537
	3284	307	254	167	.323	.116	.102	.485	.517	.549
	3282	311	258	171	.323	.124	.109	.485	.517	.549
	3285	319	266	179	.323	.139	.124	.485	.517	.549
	3283	323	270	183	.323	.146	.131	.485	.517	.549
	3299	289	236	150	.329	.085	.072	.494	.526	.559
	3297	297	244	158	.329	.098	.085	.494	.526	.559
	3298	305	252	166	.329	.113	.098	.494	.526	.559
	3295	297	244	159	.334	.099	.085	.501	.534	.568
	3296	301	248	163	.334	.106	.092	.501	.534	.568
	3404	285	232	147	.341	.078	.065	.512	.546	.580
	3400	289	236	151	.341	.085	.072	.512	.546	.580
	3398	293	240	155	.341	.091	.078	.512	.546	.580
	3384	297	244	159	.341	.098	.085	.512	.546	.580
	3399	301	248	163	.341	.106	.091	.512	.546	.580
	3385	305	252	167	.341	.113	.098	.512	.546	.580
	3386	309	256	171	.341	.120	.106	.512	.546	.580
	3387	313	260	175	.341	.128	.113	.512	.546	.580
	3388	317	264	179	.341	.136	.120	.512	.546	.580
	3389	321	268	183	.341	.143	.128	.512	.546	.580
	3405	325	272	187	.341	.151	.136	.512	.546	.580
	3288	307	254	171	.365	.118	.103	.548	.584	.621
	3286	311	258	175	.365	.125	.110	.548	.584	.621
	3289	319	266	183	.365	.141	.125	.548	.584	.621
	3287	323	270	187	.365	.149	.133	.548	.584	.621

MUSTANG R LIFT RULE COMPETITION HYDRAULIC ROLLERS

These are very similar to the Cheater HR series but more aggressive off the seat and provide more area.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Mustang R Rated Duration @ .006" Tappet Lift RACE ONLY	3329	273	224	140	0.312	.069	.056	.468	.499	.530
	3330	279	230	145	0.312	.079	.065	.468	.499	.530
	3331	285	236	149	0.312	.090	.076	.468	.499	.530
	3332	291	242	153	0.312	.101	.086	.468	.499	.530
	3333	297	248	158	0.312	.111	.097	.468	.499	.530
	3334	303	254	162	0.312	.121	.107	.468	.499	.530

XTREME HARLEY HYDRAULIC ROLLERS

Designed to maximize torque, acceleration, and throttle response for V-Twins while providing excellent high rpm horsepower. A faster valve opening increases engine vacuum and enhances throttle response, providing improved roll on power. Special closing ramps close the valve sooner, providing more cylinder pressure and torque without resulting in excessive valve train noise. The faster Xtreme Energy™ ramps achieve maximum velocity sooner, increasing the area under the lift curve and providing maximum airflow and horsepower.

	LOBE NUMBER	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC			THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO	
CAMSHAFT TYPE		@ .053	@ .200		98°	102°	106°	1.625	1.65
Xtreme Energy™ Rated Duration @ .053" Tappet Lift	3822	228	148	.360	.103	.089	.076	.585	.594
	3809	230	147	.346	.106	.091	.079	.562	.571
	3810	236	153	.350	.117	.102	.088	.569	.578
	3823	236	155	.360	.118	.103	.089	.585	.594
	3832	244	160	.350	.134	.118	.103	.569	.578
	3824	244	162	.360	.134	.118	.103	.585	.594
	3833	252	167	.350	.149	.132	.118	.569	.578
	3825	252	169	.360	.149	.132	.118	.585	.594
	3834	260	174	.350	.161	.146	.131	.569	.578
	3826	260	176	.360	.163	.147	.133	.585	.594
	3816	264	180	.370	.170	.156	.140	.601	.611
	3835	268	181	.350	.174	.160	.146	.569	.578
	3827	268	183	.360	.176	.162	.147	.585	.594
	3817	268	183	.370	.177	.162	.147	.601	.611
	3818	272	187	.370	.184	.170	.155	.601	.611
	3819	276	191	.370	.191	.176	.162	.601	.611

SOLID FLAT TAPPET

HIGH ENERGY™ & MAGNUM SOLIDS

The High Energy™ Solid is the mechanical version of the High Energy™ Hydraulic. Because these designs incorporate a mechanical (solid) lifter, the valve actuation is quicker than the High Energy™ Hydraulics, thus producing slightly more power than its hydraulic counterpart. The Magnum Solid Lifter series is designed to allow the valve lash to be varied from .015" to .030". This tuning tool can be used to fine tune any high performance application to a razor sharp edge.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
High Energy™ Rated Duration @ .015" Tappet Lift .842" Min. Dia.	5190	240-3	190	104	.266	.031	.023	.399	.426	.452
	6114	244-3	200	108	.266	.031	.023	.399	.426	.452
	6038	264-1	220	130	.293	.062	.050	.440	.469	.499
Magnum Rated Duration @ .015" Tappet Lift .842" Min. Dia.	6017	270-3	224	135	.312	.064	.054	.468	.499	.530
	6002	282-2	236	145	.330	.082	.069	.495	.528	.561
	6007	294-3	248	154	.350	.096	.084	.525	.560	.595
	6003	306-5	260	164	.370	.119	.100	.555	.592	.629

NOSTALGIA PLUS™ SOLIDS

Like the Nostalgia Plus™ Hydraulics, these lobes are designed to mimic the sound of the great engines of the past while improving performance by applying today's design techniques. The solid lifter design allows more precise valve control and allows further tuning through lash adjustment. When lashed at .015" these designs provide that distinct metallic, mechanical sound made famous be the most powerful of the great factory muscle cars.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Nostalgia Plus™ Rated Duration @ .015" Tappet Lift .842" Min. Dia.	6068	276	239	149	.320	.094	.080	.480	.512	.544
	6069	283	246	155	.317	.104	.090	.476	.507	.539
	6070	284	247	158	.336	.108	.094	.504	.538	.571
	6071	291	254	164	.332	.118	.104	.498	.531	.564

XTREME ENERGY™ SOLIDS

The Xtreme Energy™ Solids are designed with similar characteristics to the Xtreme Energy™ Hydraulics to maximize torque, acceleration, and throttle response while providing even more high rpm horsepower by taking advantage of the increased stability of a solid design. The Xtreme Energy™ Solids have ramps that provide shorter seat timing than all but the race solids but feature a special closing section to eliminate excessive noise.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Xtreme Energy™ Rated Duration @ .015" Tappet Lift .842" Min. Dia.	6052	256	218	129	.311	.057	.046	.467	.498	.529
	6083	262	224	135	.313	.067	.054	.470	.501	.532
	6053	262	224	135	.319	.067	.054	.479	.510	.542
	6084	268	230	140	.313	.077	.064	.470	.501	.532
	6054	268	230	141	.326	.077	.064	.489	.522	.554
	6055	274	236	147	.335	.087	.073	.503	.536	.570
	6056	280	242	153	.341	.097	.083	.512	.546	.580
	6057	282	244	156	.347	.101	.087	.521	.555	.590
	6089	290	252	164	.352	.115	.101	.528	.563	.598
	6059	290	252	164	.361	.115	.101	.542	.578	.614
	6091	298	260	171	.352	.129	.155	.528	.563	.598
	6061	298	260	172	.373	.129	.155	.560	.597	.634

THUMPR™ SOLID FLAT TAPPET

The Thumpr™ lobe profiles are designed to optimize the character and sound, while providing excellent stability and a very wide power range in solid flat tappet applications. Specific profiles are developed uniquely for the intake and exhaust.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO			
CAMSHAFT TYPE		@ .015	@ .050	@ .200		106°	110°	1.43	1.5	1.6	1.7
Thumpr™ Intake Rated Duration @ .015" Tappet Lift .842" Min. Dia.	6440	268	231	140	.319	.079	.066	.456	.479	.510	.542
	6442	276	239	148	.326	.092	.079	.466	.489	.522	.554
	6444	284	247	156	.333	.106	.092	.476	.500	.533	.566
Thumpr™ Exhaust Rated Duration @ .015" Tappet Lift .842" Min. Dia.	6455	287	245	152	.313	.101	.088	.448	.470	.501	.532
	6457	295	253	160	.320	.115	.101	.458	.480	.512	.544
	6459	303	261	168	.327	.128	.115	.468	.491	.523	.556

HIGH TORQUE SOLIDS

The High Torque Solid is designed to be used on .842" or larger tappet diameters. These are our most winning, all-around solid designs. Tappet acceleration rates are high to produce maximum torque vs. horsepower in an all out racing engine. Works well as exhaust when coupled with TL or XTQ intake designs.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
High Torque Rated Duration @ .020" Tappet Lift .842" Min. Dia. .018" Lash	6015	270-1	235	144	.330	.082	.068	.495	.528	.561
	6001	280-1	242	152	.338	.094	.080	.507	.541	.575
	6014	285-1	250	156	.355	.104	.092	.533	.568	.604
	6016	290-1	255	160	.360	.111	.098	.540	.576	.612
	6009	295-1	260	164	.370	.119	.100	.555	.592	.629
	6018	300-1	265	169	.375	.126	.113	.563	.600	.638
	6000	305-1	270	175	.385	.136	.123	.578	.616	.655
	6010	310-1	275	177	.390	.142	.129	.585	.624	.663
	6004	310-2	270	175	.375	.143	.129	.563	.600	.638
	6011	320-1	283	184	.392	.163	.149	.588	.627	.666
	6005	320-2	280	182	.375	.156	.142	.563	.600	.638

HIGH RPM SOLIDS

These designs are to be used primarily on motors with 1.7 or greater rocker ratios. Design rates have been carefully chosen to allow these designs to run higher engine speeds than their high torque counterparts.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
High RPM Rated Duration @ .020" Tappet Lift .842" Min. Dia. .018" Lash	6019	284-1	246	152	.326	.097	.083	.489	.522	.554
	6012	294-1	256	162	.341	.114	.100	.512	.546	.580
	6013	304-1	266	172	.356	.131	.117	.534	.570	.605
	6006	314-1	276	182	.371	.148	.134	.557	.594	.631
	6027	324-1	286	191	.386	.165	.151	.579	.618	.656
	6028	328-3	290	184	.400	.168	.154	.600	.640	.680
	6029	334-2	296	200	.400	.182	.168	.600	.640	.680

HI-TECH™ SOLIDS

These designs represent an excellent mix of horsepower, torque, rpm and durability. They work with .842" or larger diameter tappet, producing very good results. These have been used successfully in everything from Sprint Cup and endurance applications to drag racing and hobby stocks.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Hi-Tech™ Rated Duration @ .020" Tappet Lift .842" Min. Dia. .018" Lash	6030	300-4	262	166	.365	.121	.108	.548	.584	.621
	6031	304-4	266	170	.370	.128	.114	.555	.592	.629
	6032	308-4	270	174	.375	.134	.120	.563	.600	.638
	6033	312-4	274	177	.380	.140	.127	.570	.608	.646
	6034	316-4	278	181	.385	.147	.133	.578	.616	.655
	6035	320-4	282	186	.390	.154	.140	.585	.624	.663
	6036	324-4	286	192	.400	.163	.149	.600	.640	.680

TIGHT LASH SOLIDS

The designs for the Tight Lash Solid .842" diameter lifters feature shorter seat timing and more area than similar designs. Good in restricted or open rules circle track racing. The larger designs perform very well in drag racing.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Tight Lash Rated Duration @ .020" Tappet Lift .842" Min. Dia. .018" Lash	6312	TL264	234	143	.3300	.083	.070	.495	.528	.561
	6313	TL268	238	147	.3350	.089	.077	.503	.536	.570
	6314	TL272	242	151	.3400	.096	.083	.510	.544	.578
	6301	TL276	246	154	.3476	.102	.089	.521	.556	.591
	6302	TL280	250	158	.3534	.109	.095	.530	.565	.601
	6303	TL284	254	162	.3600	.114	.101	.540	.576	.612
	6304	TL288	259	166	.3667	.121	.108	.550	.587	.623
	6305	TL292	262	169	.3734	.127	.113	.560	.597	.635
	6306	TL296	266	173	.3800	.133	.119	.570	.608	.646
	6307	TL300	270	177	.3867	.139	.125	.580	.619	.657
	6308	TL304	274	181	.3934	.143	.130	.590	.629	.669
	6310	TL312	282	191	.4067	.162	.148	.610	.651	.691

HIGH RPM SERIES II SOLIDS

High RPM Series II Solids are more aggressive than the original High RPM and Hi-Tech™ Solid Profiles. They are designed for use in applications that need the area of an XTQ style lobe, but are required to operate at higher engine speeds than that fast of a ramp will allow. **Note:** Cams using these lobes should have provisions for increased oiling. Please consult with our tech representative.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
High RPM II Rated Duration @ .020" Tappet Lift .842" Min. Dia. .018" Lash	6330	287	256	167	.367	.121	.107	.551	.587	.624
	6331	291	260	171	.371	.128	.114	.557	.594	.631
	6332	295	264	175	.376	.135	.121	.564	.602	.639
	6333	299	268	179	.380	.142	.128	.570	.608	.646
	6334	303	272	183	.384	.149	.135	.576	.614	.653
	6335	307	276	187	.389	.156	.142	.584	.622	.661
	6336	311	280	191	.393	.163	.149	.590	.629	.668

XTX SOLIDS

The XTX Solids are an excellent choice for exhaust profiles to be coupled with either the XTQ or MH profiles or can be used for both intake and exhaust in high rpm applications. The closing side is similar to the High Torque profiles, but this design incorporates a faster opening side to increase torque and provide more area. The lifts are slightly less than the High Torque profiles to increase the nose radius and reduce wear. **Note:** Cams using these lobes should have provisions for increased oiling. Please consult with our tech representative.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
XTX Rated Duration @ .020" Tappet Lift .842" Min. Dia. .018" Lash	6400	272	238	145	.335	.086	.074	.503	.536	.570
	6402	276	242	149	.341	.092	.080	.512	.546	.580
	6404	280	246	153	.347	.099	.086	.521	.555	.590
	6406	284	250	157	.351	.105	.092	.527	.562	.597
	6408	288	254	161	.355	.112	.098	.533	.568	.604
	6410	292	258	165	.359	.118	.105	.539	.574	.610
	6412	296	262	169	.363	.125	.111	.545	.581	.617
	6414	300	266	173	.367	.132	.118	.551	.587	.624
	6416	304	270	177	.371	.139	.125	.557	.594	.631
	6418	308	274	181	.375	.146	.132	.563	.600	.638
	6420	312	278	185	.379	.153	.139	.569	.606	.644

XTQ SOLIDS

The XTQ Solid design sets the new standard for aggressive .842" lifter designs. With seat timing as low as our original Tight Lash series and more area than our famous "XX" .875" series, these designs give their racers a clear edge over the competition. Smaller designs are intended for restricted applications; larger designs can be used in open applications with an optimized valve spring selection and lighter valve train. **Note:** Cams using these lobes should have provisions for increased oiling. Please consult with a tech representative.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
XTQ Rated Duration @ .020" Tappet Lift .842" Min. Dia. .018" Lash	6275	248XTQ	218	129	.310	.057	.046	.465	.496	.527
	6276	254XTQ	224	135	.318	.067	.054	.477	.509	.541
	6277	260XTQ	230	141	.325	.077	.064	.488	.520	.553
	6258	266XTQ	236	147	.334	.087	.073	.501	.534	.568
	6259	270XTQ	240	152	.340	.094	.080	.510	.544	.578
	6260	274XTQ	244	156	.346	.101	.087	.519	.554	.588
	6261	278XTQ	248	160	.354	.108	.094	.531	.566	.602
	6262	282XTQ	252	164	.360	.115	.101	.540	.576	.612
	6263	286XTQ	256	168	.366	.122	.108	.549	.586	.622
	6264	290XTQ	260	172	.372	.129	.115	.558	.595	.632
	6265	294XTQ	264	176	.378	.136	.122	.567	.605	.643
	6266	298XTQ	268	180	.386	.143	.129	.579	.618	.656
	6267	302XTQ	272	184	.392	.150	.136	.588	.627	.666
	6268	306XTQ	276	188	.398	.157	.143	.597	.637	.677
	6269	310XTQ	280	192	.404	.164	.150	.606	.646	.687
	6270	314XTQ	284	196	.410	.171	.157	.615	.656	.697

MAX AREA (MA) SOLIDS

The Max Area Series is designed for 2 BBL and stock intake applications in which airflow is limited. This series of lobes utilizes low seat timing with maximum area under the curve. These lobes perform best with a 1.7 or 1.8 rocker ratio and can be used with an .842" lifter. **Note:** Cams using these lobes should have provisions for increased oiling. Please consult with a tech representative.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Max Area Rated Duration @ .020" Tappet Lift .842" Min. Dia.	6208	MA251-1	225	135	.319	.064	.053	.479	.510	.542
	6209	MA255-1	229	139	.326	.072	.059	.489	.522	.554
	6210	MA259-1	232	143	.330	.076	.064	.495	.528	.561
	6211	MA263-1	236	147	.331	.090	.077	.497	.530	.563
	6212	MA267-1	240	151	.333	.097	.083	.500	.533	.566
	6213	MA271-1	244	155	.340	.104	.091	.510	.544	.578
	6214	MA275-1	248	159	.340	.109	.096	.510	.544	.578
	6215	MA279-1	252	161	.340	.116	.103	.510	.544	.578
	6216	MA283-1	256	164	.340	.123	.109	.510	.544	.578
	6217	MA287-1	260	168	.340	.129	.116	.510	.544	.578
	6218	MA291-1	264	171	.340	.136	.123	.510	.544	.578
	6219	MA295-1	268	176	.345	.143	.129	.518	.552	.587
	6222	MA299-1	272	179	.345	.149	.136	.518	.552	.587

MAX AREA LIFT RULE SOLIDS

The Max Area Lift Rule lobes can be run with solid lifters or Ultra Pro Magnum™ style hydraulic lifters. They are more aggressive off the seat than the parent Max Area Series for tighter lash and less rocker. They work well in lift rule oval track, road race and high rpm NHRA Stock Eliminator classes. Will check 21° larger at .006" than .020". Specifically designed to optimize dynamic valve motion and produce maximum power, these lobes use the experience gained from racing the MA profile and the new techniques learned from Spintron® testing to provide the best performance in all lift rule applications. Grouped in lobe lift increments for convenient selection. **Note:** Cams using these lobes should have provisions for increased oiling. Please consult with a tech representative.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Max Area Low Lift Rated Duration @ .020" Tappet Lift .842" Min. Dia. .010"-.020" Lash	5695	273	246	124	.237	.100	.088	.356	.379	.403
	5696	277	250	127	.237	.106	.094	.356	.379	.403
	5704	283	256	142	.242	.117	.105	.363	.387	.411
	5718	275	248	140	.252	.103	.090	.378	.403	.428
	5720	279	252	144	.252	.109	.096	.378	.403	.428
	5719	283	256	148	.252	.115	.103	.378	.403	.428
	5708	293	266	159	.255	.131	.119	.383	.408	.434
	5645	257	230	124	.260	.076	.063	.390	.416	.442
	5744	261	234	129	.260	.083	.070	.390	.416	.442
	5746	265	238	133	.260	.089	.076	.390	.416	.442
	5550	267	240	134	.260	.093	.080	.390	.416	.442
	5553	274	248	142	.260	.107	.093	.390	.416	.442
	5643	281	254	148	.260	.115	.102	.390	.416	.442
	5644	265	238	134	.266	.089	.076	.399	.426	.452
	5649	273	246	143	.266	.103	.090	.399	.426	.452
	5646	275	248	145	.266	.106	.093	.399	.426	.452
	5650	277	250	146	.266	.109	.096	.399	.426	.452
	5651	281	254	150	.266	.115	.102	.399	.426	.452
	5652	285	258	154	.266	.122	.110	.399	.426	.452
	5653	289	262	159	.266	.129	.116	.399	.426	.452
	5647	291	264	161	.266	.132	.120	.399	.426	.452
	5654	293	266	163	.266	.135	.123	.399	.426	.452
	5655	297	270	167	.266	.141	.129	.399	.426	.452
	5657	301	274	170	.266	.147	.135	.399	.426	.452
	5692	283	256	156	.273	.121	.108	.410	.437	.464
	5694	291	264	165	.273	.134	.121	.410	.437	.464
	5697	303	276	176	.275	.152	.140	.413	.440	.468
	5698	297	270	171	.278	.144	.131	.417	.445	.473
	5667	257	230	135	.283	.078	.064	.425	.453	.481
	5668	265	238	142	.283	.091	.077	.425	.453	.481
	5669	269	242	145	.283	.098	.084	.425	.453	.481
	5670	273	246	148	.283	.104	.090	.425	.453	.481
	5656	276	250	152	.283	.110	.097	.425	.453	.481
	5658	283	256	156	.283	.121	.107	.425	.453	.481
	5659	286	260	161	.283	.127	.113	.425	.453	.481
	5666	290	264	165	.283	.136	.123	.425	.453	.481
	5663	295	268	171	.283	.144	.131	.425	.453	.481
	5664	301	274	172	.283	.149	.136	.425	.453	.481
	5665	303	276	174	.283	.151	.139	.425	.453	.481
	5661	287	260	166	.288	.130	.116	.432	.461	.490
	5662	291	264	169	.288	.136	.122	.432	.461	.490
	5678	279	252	152	.290	.113	.100	.435	.464	.493
	5680	286	259	158	.294	.121	.108	.441	.470	.500
	5679	294	267	167	.296	.134	.121	.444	.474	.503
	5676	263	236	143	.300	.088	.074	.450	.480	.510
	5677	267	240	147	.300	.095	.081	.450	.480	.510
	5681	271	244	151	.300	.102	.088	.450	.480	.510

MAX AREA LIFT RULE SOLIDS Cont.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Max Area Low Lift Rated Duration @ .020" Tappet Lift .842" Min. Dia. .010"-.020" Lash	5682	275	248	155	.300	.109	.095	.450	.480	.510
	5683	279	252	158	.300	.116	.102	.450	.480	.510
	5684	283	256	162	.300	.123	.109	.450	.480	.510
	5685	287	260	166	.300	.130	.116	.450	.480	.510
	5686	291	264	170	.300	.136	.123	.450	.480	.510
	6174	274	248	158	.304	.109	.095	.456	.486	.517
	5713	280	254	158	.306	.116	.103	.459	.490	.520
	5714	282	256	160	.306	.119	.106	.459	.490	.520
	5715	284	258	162	.306	.123	.109	.459	.490	.520
	6192	266	240	150	.312	.095	.081	.468	.499	.530
	6193	270	244	154	.312	.102	.088	.468	.499	.530
	6194	274	248	158	.312	.109	.095	.468	.499	.530
	6195	278	252	162	.312	.116	.102	.468	.499	.530
	6196	282	256	166	.312	.123	.109	.468	.499	.530
	6197	286	260	170	.312	.130	.116	.468	.499	.530
	6198	290	264	174	.312	.137	.123	.468	.499	.530
	6199	294	268	178	.312	.144	.130	.468	.499	.530
	6200	298	272	182	.312	.151	.137	.468	.499	.530
	6231	262	236	148	.322	.088	.075	.483	.515	.547
	6232	266	240	152	.322	.095	.081	.483	.515	.547
	6234	274	248	160	.322	.109	.095	.483	.515	.547
	6235	278	252	164	.322	.116	.102	.483	.515	.547
	6237	286	260	172	.322	.131	.116	.483	.515	.547
	6238	290	264	176	.322	.138	.124	.483	.515	.547
	6239	294	268	180	.324	.145	.131	.486	.518	.551
	6246	296	270	182	.320	.148	.134	.480	.512	.544
	6240	300	274	186	.324	.155	.141	.486	.518	.551
	6249	304	278	190	.324	.162	.148	.486	.518	.551
	6241	262	236	149	.330	.088	.075	.495	.528	.561
	6242	266	240	152	.330	.095	.081	.495	.528	.561
	6243	270	244	156	.330	.102	.088	.495	.528	.561
	6244	274	248	160	.330	.109	.095	.495	.528	.561
	6245	278	252	164	.330	.116	.102	.495	.528	.561
	6247	282	256	167	.330	.124	.109	.495	.528	.561

JF .330" LIFT SOLIDS

The JF .330" Lift Solids are designed for use in lift rule classes that require higher rpm or lighter springs than needed with the Max Area Lift Rule series. The JF designs are also good for use with very high rockers in more open applications. Can also be run in hydraulic lifter applications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
JF .330" Lift Rated Duration @ .020" Tappet Lift .842" Min. Dia.	6160	273	244	153	.330	.100	.087	.495	.528	.561
	6161	277	248	157	.330	.107	.094	.495	.528	.561
	6162	281	252	161	.330	.114	.100	.495	.528	.561
	6163	285	256	164	.330	.121	.107	.495	.528	.561
	6164	289	260	167	.330	.126	.113	.495	.528	.561
	6165	293	264	170	.330	.132	.119	.495	.528	.561
	6166	295	266	172	.330	.136	.122	.495	.528	.561
	6167	297	268	174	.330	.139	.126	.495	.528	.561
	6168	299	270	176	.330	.143	.129	.495	.528	.561
	6169	301	272	178	.330	.146	.133	.495	.528	.561

MH SOLIDS

MH solids are the most aggressive .842" solid lifter profiles available. These are best in restricted applications where maximum torque and power are required and valve train rules are open except for requiring .842" flat tappets. COMP Cams® #26094 valve spring, 3/8" min. pushrod diameter, Hi-Tech™ Lifters and shaft mounted rockers are all highly recommended. Please consult with a CAM HELP® technician or one of our engine builder sales personnel before using these profiles to reduce the risk from improper component selection. **Note:** Cams using these lobes should have provisions for increased oiling. Please consult with a tech representative.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
MH Rated Duration @ .020" Tappet Lift .842" Min. Dia. .018" Lash	6252	262	236	149	.345	.088	.075	.518	.552	.587
	6286	264	238	151	.348	.092	.078	.522	.557	.592
	6253	266	240	153	.350	.095	.081	.525	.560	.595
	6289	268	242	155	.354	.099	.085	.531	.566	.602
	6282	270	244	157	.357	.102	.088	.536	.571	.607
	6251	272	246	159	.360	.106	.092	.540	.576	.612
	6281	274	248	161	.362	.109	.095	.543	.579	.615
	6250	276	250	163	.365	.113	.099	.548	.584	.621
	6280	278	252	165	.367	.116	.102	.551	.587	.624
	6254	280	254	167	.368	.120	.106	.552	.589	.626
	6283	282	256	169	.370	.124	.109	.555	.592	.629
	6284	284	258	171	.372	.127	.113	.558	.595	.632
	6255	286	260	173	.375	.131	.116	.563	.600	.638
	6285	288	262	175	.377	.134	.120	.566	.603	.641
	6256	290	264	177	.380	.138	.124	.570	.608	.646

GRI SERIES SOLIDS

The GRI series .842" solid lifter profiles were designed using the latest techniques to fill in the gap between the XTQ and MH families while providing better dynamics than with either other design. These should be used only on nitrided camshafts. Also, the mating lifters should be inspected and sorted by the chamfer with only small chamfer lifters used on these designs. Please consult with a CAM HELP® technician or one of our engine builder sales personnel before using these profiles to reduce the risk from improper component selection. **Note:** Cams using these lobes should have provisions for increased oiling. Please consult with a tech representative.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
GRI Series Rated Duration @ .020" Tappet Lift	16200	265	238	150	0.346	.091	.078	.519	.554	.588
	16202	269	242	154	0.353	.098	.084	.530	.565	.600
	16204	273	246	158	0.360	.105	.091	.540	.576	.612
	16206	277	250	162	0.367	.112	.098	.551	.587	.624
	16208	281	254	166	0.373	.119	.105	.560	.597	.634
	16210	285	258	170	0.379	.126	.112	.569	.606	.644
	16212	289	262	174	0.385	.133	.119	.578	.616	.655
	16214	293	266	178	0.391	.140	.126	.587	.626	.665
	16216	297	270	182	0.397	.147	.133	.596	.635	.675
	16218	301	274	186	0.403	.154	.140	.605	.645	.685
	16220	305	278	190	0.409	.161	.147	.614	.654	.695
	16222	309	282	194	0.415	.168	.154	.623	.664	.706

MHF SOLIDS

MHF solids are similar to the MH series but have even more velocity and more area to take complete advantage of the larger .875" Ford lifter. Please consult with a CAM HELP® technician or one of our engine builder sales personnel before using these profiles to reduce the risk from improper component selection. **Note:** Cams using these lobes should have provisions for increased oiling. Please consult with a tech representative.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
MHF Rated Duration @ .020" Tappet Lift .875" Min. Dia. .018" Lash	7393	260	234	150	.355	.085	.071	.533	.568	.604
	7394	262	236	152	.357	.089	.075	.536	.571	.607
	7395	264	238	154	.359	.093	.078	.539	.574	.610
	7404	266	240	156	.361	.096	.082	.542	.578	.614
	7405	268	242	158	.362	.100	.085	.543	.579	.615
	7406	270	244	160	.364	.104	.089	.546	.582	.619
	7408	274	248	164	.369	.111	.096	.554	.590	.627
	7409	278	252	168	.373	.118	.104	.560	.597	.634
	7411	282	256	172	.380	.126	.111	.570	.608	.646
	7412	286	260	176	.385	.133	.118	.578	.616	.655
	7413	290	264	180	.390	.141	.126	.585	.624	.663
	7414	294	268	184	.395	.148	.133	.593	.632	.672
	7415	296	270	186	.397	.152	.137	.596	.635	.675
	7416	298	272	188	.400	.156	.141	.600	.640	.680

FL & SQ SOLIDS

The FL series is designed to provide excellent area under the curve with an .875" tappet. These work well in place of TLs where .875" lifters can be used. Excellent in restricted applications with 1.65:1 to 1.75:1 rocker arms. Increased valve spring loads are recommended for higher rpm. The SQ designs are the larger cousins of the FL series and can be used in higher rpm applications with increased spring loads. **Note:** Cams using these lobes should have provisions for increased oiling. Please consult with a tech representative.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
FL .875" Rated Duration @ .020" Tappet Lift .875" Min. Dia.	7130	FL268	239	153	.356	.091	.078	.534	.570	.605
	7131	FL272	243	157	.361	.098	.084	.542	.578	.614
	7132	FL276	247	161	.366	.106	.091	.549	.586	.622
	7133	FL280	251	165	.371	.113	.098	.557	.594	.631
	7134	FL284	254	169	.381	.120	.106	.572	.610	.648
SQ .875" Rated Duration @ .020" Tappet Lift .875" Min. Dia.	7250	289	260	175	.385	.132	.117	.578	.616	.655
	7262	291	262	177	.385	.135	.120	.578	.616	.655
	7260	293	264	179	.390	.138	.123	.585	.624	.663
	7263	295	266	181	.390	.142	.127	.585	.624	.663
	7261	297	268	183	.400	.146	.131	.600	.640	.680
	7265	300	270	185	.400	.150	.135	.600	.640	.680
	7266	302	272	187	.400	.154	.139	.600	.640	.680
	7267	304	274	189	.400	.158	.143	.600	.640	.680

HIGH RPM DASH 12 SOLIDS

Designed to turn high engine speeds while maintaining control of the valve. Must use .875" diameter lifter. For use with 1.65-1.7+ rocker arms. Easy on valve train components. Intake designs have faster opening ramps and can be used on intake or exhaust. Exhaust designs have symmetrical ramps and are smoother. **Note:** Cams using these lobes should have provisions for increased oiling. Please consult with a tech representative.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
High RPM Dash 12 Int. Rated Duration @ .020" Tappet Lift .875" Min. Dia.	7160	292-12	258	168	.375	.120	.106	.563	.600	.638
	7161	296-12	262	171	.380	.128	.113	.570	.608	.646
	7162	300-12	266	176	.390	.130	.116	.585	.624	.663
	7163	302-12	268	179	.395	.134	.119	.593	.632	.672
	7164	304-12	270	180	.395	.138	.123	.593	.632	.672
	7165	306-12	272	182	.400	.142	.127	.600	.640	.680
	7166	308-12	274	183	.400	.145	.130	.600	.640	.680
	7168	312-12	278	188	.408	.153	.138	.612	.653	.694
	7158	314-12	280	190	.410	.156	.142	.615	.656	.697
	7159	318-12	284	194	.410	.164	.149	.615	.656	.697
High RPM Dash 12 Exh. Rated Duration @ .020" Tappet Lift .875" Min. Dia.	7169	312-11	276	184	.400	.148	.134	.600	.640	.680
	7170	316-12	280	188	.408	.155	.141	.612	.653	.694
	7174	318-11	282	190	.410	.159	.145	.615	.656	.697
	7171	320-12	284	192	.410	.163	.148	.615	.656	.697
	7172	322-12	286	194	.410	.167	.152	.615	.656	.697

DASH 13 SOLIDS

Dash 13 Solids are very similar to both the Dash 12 and XX open designs. These provide a more modern, in-between series that can handle more rocker ratio than either of the two earlier families. **Note:** Cams using these lobes should have provisions for increased oiling.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Dash 13 Rated Duration @ .020" Tappet Lift .875" Min. Dia.	7185	310-13	276	186	.392	.151	.136	.627	.666	.706
	9185	310	276	186	.402	.151	.136	.643	.683	.724
	7186	312-13	278	188	.394	.155	.140	.630	.670	.709
	9186	312	278	188	.404	.155	.140	.646	.687	.727
	7187	314-13	280	190	.396	.159	.144	.634	.673	.713
	9187	314	280	190	.406	.159	.144	.650	.690	.731
	7188	316-13	282	192	.398	.163	.148	.637	.677	.716
	9188	316	282	192	.408	.163	.148	.653	.694	.734
	7189	318-13	284	194	.400	.166	.151	.640	.680	.720
	9189	318	284	194	.410	.166	.151	.656	.697	.738
	7190	320-13	286	196	.402	.170	.155	.643	.683	.724
	9190	320	286	196	.412	.170	.155	.659	.700	.742
	7191	322-13	288	198	.403	.174	.159	.645	.685	.725
	9191	322	288	198	.414	.174	.159	.662	.704	.745
	7192	324-13	290	200	.404	.178	.163	.646	.687	.727
	9192	324	290	200	.416	.178	.163	.666	.707	.749
	7193	326-13	292	202	.405	.182	.167	.648	.689	.729
	9193	326	292	202	.418	.182	.167	.669	.711	.752
	7194	328-13	294	204	.406	.186	.171	.650	.690	.731
	9194	328	294	204	.420	.186	.171	.672	.714	.756
	7015	330-13	296	206	.407	.189	.174	.651	.692	.733
	9195	330	296	206	.422	.189	.174	.675	.717	.760
	7016	332-13	298	208	.408	.193	.178	.653	.694	.734

F3 EXHAUST SOLIDS

The F3 Exhaust Solids are like the Dash 13 high lift lobes, but they have a faster opening ramp ramp design to help increase torque while increasing opening area to reduce pumping losses. **Note:** Cams using these lobes should have provisions for increased oiling.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
F3 EXHAUST Rated Duration @ .020" Tappet Lift .875" Min. Dia.	9158	314	283	194	.410	.166	.151	.656	.697	.738
	9159	316	285	196	.412	.170	.155	.659	.700	.742
	9160	318	287	198	.414	.174	.159	.662	.704	.745
	9161	320	289	200	.416	.178	.163	.666	.707	.749
	9162	322	291	202	.418	.182	.167	.669	.711	.752

D3C SOLIDS

D3C Solids are like the Dash 13 designs but with slightly less velocity for coated tappets.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
D3C Series Rated Duration @ .020" Tappet Lift .875" Min. Dia.	9384	312	278	187	.390	.154	.140	.624	.663	.702
	9385	314	280	189	.392	.158	.144	.627	.666	.706
	9386	316	282	191	.394	.162	.147	.630	.670	.709
	9387	318	284	193	.396	.166	.151	.634	.673	.713
	9388	320	286	195	.398	.169	.155	.637	.677	.716
	9389	322	288	197	.400	.173	.158	.640	.680	.720

XX SERIES SOLIDS

The smaller Restricted designs are very aggressive. The larger Open designs are for continuous high rpm, providing stability over 8500 with good related components. Both require proper spring selection and regular maintenance. Very good horsepower curves. Proper break-in is very critical with these lobe designs. Best when used with COMP® HTL Lifters and 1.6-1.7 rocker ratios. **Note:** Cams using these lobes should have provisions for increased oiling. Please consult with a tech representative.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
XX Series Rated Duration @ .020" Tappet Lift .875" Min. Dia.	7110	278XX	246	159	.365	.102	.088	.548	.584	.621
	7113	280XX	248	160	.365	.103	.090	.548	.584	.621
	7114	282XX	250	162	.370	.106	.092	.555	.592	.629
	7115	284XX	254	166	.366	.114	.100	.549	.586	.622
	7136	286XX	256	168	.378	.118	.104	.567	.605	.643
	7116	288XX	258	170	.380	.120	.107	.570	.608	.646
	7118	294XX	262	175	.390	.129	.115	.585	.624	.663
	7117	298XX	266	180	.400	.137	.122	.600	.640	.680
Open Designs Rated Duration @ .020" Tappet Lift .875" Min. Dia.	7068	292XX	260	170	.390	.124	.110	.585	.624	.663
	7069	296XX	264	174	.395	.133	.119	.593	.632	.672
	7071	300XX	268	178	.400	.139	.122	.600	.640	.680
	7072	302XX	270	180	.403	.141	.124	.605	.645	.685
	7073	304XX	272	182	.406	.145	.126	.609	.650	.690
	7074	306XX	274	184	.408	.148	.131	.612	.653	.694
	7075	308XX	276	186	.410	.153	.133	.615	.656	.697
	7125	310XX	278	190	.415	.158	.139	.623	.664	.706
	7077	312XX	280	191	.415	.161	.143	.623	.664	.706
	7078	314XX	282	193	.418	.165	.150	.627	.669	.711
	7127	316XX	284	196	.420	.169	.146	.630	.672	.714
	7135	320XX	288	200	.420	.177	.154	.630	.672	.714

HIGH ROCKER RATIO SOLIDS

Specially designed for NASCAR Sprint Cup restrictor plate engines. Use with 2.0:1 intake rocker and 1.9:1 exhaust along with a #927 valve spring. Very smooth for 2.0:1 design and very easy on other valve train parts. **Note:** Cams using these lobes should have provisions for increased oiling. Please consult with a tech representative.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
High Ratio Rated Duration @ .020" Tappet Lift .875" Min. Dia.	7380	261	230	141	.325	.075	.063	.618	.650	.683
	7381	265	234	144	.325	.081	.069	.618	.650	.683
	7382	270	238	146	.325	.087	.075	.618	.650	.683
	7388	272	240	149	.335	.090	.078	.637	.670	.704
	7383	274	242	152	.335	.094	.081	.637	.670	.704
	7386	276	244	153	.335	.097	.084	.637	.670	.704
	7384	278	246	154	.335	.100	.087	.637	.670	.704
	7387	280	248	157	.340	.104	.090	.646	.680	.714
	7385	282	250	158	.340	.107	.094	.646	.680	.714
	7389	286	254	163	.350	.114	.100	.665	.700	.735
	7396	292	260	169	.355	.125	.111	.675	.710	.746
	7399	298	266	175	.360	.136	.121	.684	.720	.756

HIGH ROCKER RATIO SERIES II SOLIDS

Specially designed for NASCAR Sprint Cup restrictor plate engines. Use with 2.0:1 intake rocker and 1.9:1 exhaust along with #927 valve spring. More aggressive than earlier 2.0:1 design but still very easy on valve train parts.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
High Ratio Series II Rated Duration @ .020" Tappet Lift .875" Min. Dia.	7353	266	236	148	.332	.087	.063	.631	.664	.697
	7354	268	238	150	.335	.090	.076	.637	.670	.704
	7355	270	240	152	.338	.093	.080	.642	.676	.710
	7356	272	242	154	.342	.097	.083	.650	.684	.718
	7357	274	244	157	.345	.101	.087	.656	.690	.725
	7358	276	246	158	.345	.104	.090	.656	.690	.725
	7359	278	248	160	.345	.108	.093	.656	.690	.725
	7362	280	250	162	.345	.111	.097	.656	.690	.725
	7363	282	252	164	.345	.115	.100	.656	.690	.725
	7364	284	254	166	.345	.119	.104	.656	.690	.725
	7365	286	256	167	.345	.122	.108	.656	.690	.725
	7366	288	258	169	.345	.126	.111	.656	.690	.725
	7367	290	260	170	.345	.129	.115	.656	.690	.725
	7368	292	262	172	.345	.133	.118	.656	.690	.725

TDLC SOLIDS

The TDLC Solids are a cross between the Oval+ and FE designs but with lower velocity for use with coated tappets.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.9	2.0	2.1
TDLC Rated Duration @ .020" Tappet Lift .875" Min. Dia.	9374	297	266	176	.384	.134	.120	.730	.768	.806
	9375	299	268	178	.386	.138	.124	.733	.772	.811
	9376	301	270	180	.388	.142	.127	.737	.776	.815
	9377	303	272	182	.390	.145	.131	.741	.780	.819

N SERIES SOLIDS

Our most popular NASCAR Sprint Cup designs, these provide excellent power and reliability. Very stable at high rpm (8600+) with #927 springs proper valve train selection. Excellent high end power with slightly less low end torque than XX series. Needs .875" HTL tappet and true lifter bores with very careful break-in.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
N Series Int. Rated Duration @ .020" Tappet Lift .875" Min. Dia.	7020	294N-1	262	174	.401	.129	.115	.602	.642	.682
	7021	298N-2	266	176	.410	.134	.120	.615	.656	.697
	7022	300N-1	268	173	.406	.132	.121	.609	.650	.690
	7028	302N-1	270	181	.410	.143	.128	.615	.656	.697
	7023	304N-1	272	183	.412	.147	.132	.618	.659	.700
	7084	306N-1	274	186	.411	.151	.136	.617	.658	.699
	7085	308N-1	276	187	.411	.155	.141	.617	.658	.699
	7086	310N-1	278	189	.411	.158	.143	.617	.658	.699
	7087	312N-1	280	191	.411	.161	.147	.617	.658	.699
N Series Exh. Rated Duration @ .020" Tappet Lift .875" Min. Dia.	7120	304N-3E	266	174	.390	.128	.114	.585	.624	.663
	7121	308N-1E	270	179	.400	.133	.119	.600	.640	.680
	7122	310N-1E	271	178	.390	.137	.123	.585	.624	.663
	7123	314N-1E	276	183	.400	.145	.131	.600	.640	.680
	7124	318N-1E	280	186	.405	.149	.135	.608	.648	.689

OVAL+ SOLIDS

These profiles have their design based on the ever popular N1 series but have been optimized for the higher rocker ratios, tighter lash settings and lower compression used in today's Sprint Cup engines. For use with 1.7 to 1.8:1 rockers (or more in qualifying). Requires the same care as the N1 for break-in.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.75	1.8
Oval+ Rated Duration @ .020" Tappet Lift .875" Min. Dia.	7037	299	266	177	.399	.136	.122	.678	.698	.718
	7038	301	268	179	.401	.140	.125	.682	.702	.722
	7039	303	270	181	.403	.143	.128	.685	.705	.725
	7040	305	272	183	.405	.147	.132	.689	.709	.729
	7041	307	274	185	.407	.151	.136	.692	.712	.733
	7042	309	276	187	.409	.154	.140	.695	.716	.736
	7043	311	278	189	.411	.158	.143	.699	.719	.740
	7044	313	280	191	.413	.162	.147	.702	.723	.743
	7049	315	282	193	.415	.165	.151	.706	.726	.747

FE .875 SOLIDS

These designs are for use in NASCAR Sprint Cup with high rocker ratios. Typically used with 1.75 to 1.80:1 ratios for race and 1.9 to 2.0:1 ratios for qualifying. These are very comparable to the Oval+ Solids but should be a little better below peak torque and above peak power if the valve train is optimized.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.75	1.8
FE .875 Rated Duration @ .020" Tappet Lift .875" Min. Dia.	7665	299	267	178	.398	.138	.123	.677	.697	.716
	7666	301	269	180	.400	.141	.127	.680	.700	.720
	7667	303	271	182	.402	.145	.130	.683	.704	.724
	7668	305	273	184	.405	.149	.134	.689	.709	.729
	7669	307	275	186	.408	.153	.137	.694	.714	.734
	7670	309	277	188	.411	.156	.141	.699	.719	.740
	7671	311	279	190	.413	.159	.145	.702	.723	.743

T1N SERIES – VERY HIGH RPM .875" FLAT TAPPET

The T1N series is the next step in the evolution of the N1, Oval+ and FE series. These are optimized for use on Tool Steel cams and work very well with the popular DLC tappet coatings. T1N profiles have been used very successfully on both the intake and exhaust side.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.8	1.9	2.0
T1N Rated Duration @ .020" Tappet Lift .875" Min. Dia.	9360	303	270	181	.394	.142	.128	.709	.749	.788
	9361	305	272	183	.396	.146	.131	.713	.752	.792
	9362	307	274	185	.398	.150	.135	.716	.756	.796
	9363	309	276	187	.400	.153	.139	.720	.760	.800
	9364	311	278	189	.402	.157	.142	.724	.764	.804
	9365	313	280	191	.404	.161	.146	.727	.768	.808
	9366	315	282	193	.406	.164	.150	.731	.771	.812
	9367	317	284	195	.408	.168	.153	.734	.775	.816
	9368	319	286	197	.410	.172	.157	.738	.779	.820
	9369	321	288	199	.412	.176	.161	.742	.783	.824
	9370	323	290	201	.414	.179	.164	.745	.787	.828

NRX SOLIDS

The NRX Solids are designed for use in NASCAR Sprint Cup engines with 55mm or larger journals. They are designed with higher lobe lifts than the standard journal families to allow either less ratio or higher lift. Use in applications with less that 55mm journals will result in a small nose radius and premature wear.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.75	1.8
NRX Rated Duration @ .020" Tappet Lift .875" Min. Dia.	7203	299	266	179	.414	.139	.124	.704	.725	.745
	7204	301	268	181	.416	.143	.128	.707	.728	.749
	7205	303	270	183	.418	.147	.132	.711	.732	.752
	7206	305	272	185	.420	.151	.136	.714	.735	.756
	7207	307	274	187	.422	.155	.139	.717	.739	.760
	7208	309	276	189	.424	.158	.143	.721	.742	.763
	9709	311	278	191	.426	.162	.147	.724	.746	.767
	9710	313	280	193	.428	.166	.151	.728	.749	.770
	9711	315	282	195	.430	.170	.155	.731	.753	.774
	9712	317	284	197	.432	.174	.158	.734	.756	.778
	9713	319	286	199	.434	.177	.162	.738	.760	.781
	9714	321	288	201	.436	.181	.166	.741	.763	.785

CHRYSLER SPECIAL SOLIDS

These lobes are for use only in Chrysler engines with .904" tappet diameter. The "Specials" are used in 426c.i. or larger engines. Developed for the Top Fuel drag racing program, these designs offer excellent torque and horsepower.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Chrysler Special Rated Duration @ .020" Tappet Lift .904" Min. Dia.	6129	324-7	290	200	.433	.176	.161	.650	.693	.736
	6130	328-10	296	208	.425	.193	.178	.638	.680	.723
	6132	330-1	290	200	.410	.170	.154	.615	.656	.697
	6133	330-2	292	200	.395	.175	.160	.592	.632	.671
	6131	334-1	296	203	.413	.186	.171	.620	.660	.702
	6134	335-1	300	207	.438	.193	.177	.657	.700	.745

MP SOLIDS

The MP Series uses a design similar to the TL Series except these have more area due to being designed with more velocity for a .904" minimum tappet diameter. They are very good in Late Model Stock applications where rules allow the larger tappet diameter. **Note:** Cams using these lobes should have provisions for increased oiling. Please consult with a tech representative.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
MP Rated Duration @ .020" Tappet Lift .904" Min. Dia. .018" Lash	6610	274	247	162	.345	.108	.093	.518	.552	.587
	6611	284	251	166	.355	.115	.100	.533	.568	.604
	6612	288	256	171	.365	.123	.108	.548	.584	.621

MM SOLIDS

MM solids are similar to the MH and MHF series but have even more velocity and more area to take complete advantage of the larger .904" Chrysler/Mopar lifter. Please consult with a CAM HELP® technician or one of our engine builder sales personnel before using these profiles to reduce the risk from improper component selection. **Note:** Cams using these lobes should have provisions for increased oiling. Please consult with a tech representative.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
MM Rated Duration @ .020" Tappet Lift .904" Min. Dia. .018" Lash	6580	261	235	153	.350	.089	.075	.525	.560	.595
	6581	265	239	157	.358	.096	.082	.537	.573	.609
	6582	269	243	161	.366	.104	.089	.549	.586	.622
	6579	271	245	163	.370	.108	.093	.554	.591	.628
	6583	273	247	165	.373	.111	.096	.560	.597	.634
	6584	277	251	169	.380	.119	.104	.570	.608	.646
	6585	281	255	173	.388	.126	.111	.582	.621	.660
	6586	285	259	177	.396	.134	.119	.594	.634	.673
	6587	289	263	181	.404	.142	.126	.606	.646	.687
	6588	293	267	185	.411	.149	.134	.617	.658	.699
	6589	297	271	189	.418	.157	.142	.627	.669	.711
	6590	301	275	193	.426	.164	.149	.639	.682	.724
	6591	305	279	197	.433	.172	.157	.650	.693	.736

Engine Break-In Oil Lubricants

Utilizing a special blend of extreme pressure additives (including the proper levels of Zinc) not found in conventional engine oils, COMP Cams® Engine Break-In Oil and Additive promote proper break-in and protect against premature camshaft, lifter and valve train failure.



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SOLID ROLLER

HIGH ENERGY™ STREET ROLLER

Designed specifically for street use, these street rollers offer unique approach ramps, allowing the use of lower seat pressure to ensure long life. These lobes are very "soundy or throaty" because of the opening and closing ramp designs.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
High Energy™ Street Roller Rated Duration @ .015" Tappet Lift Valve Lash 0.020"	1496	268HER-2	224	141	.350	.068	.056	.525	.560	.595
	4002	272HER-2	228	144	.350	.073	.061	.525	.560	.595
	1498	276HER-2	232	148	.350	.078	.066	.525	.560	.595
	1474	280HER-2	236	152	.366	.085	.072	.550	.586	.623
	1476	288HER-4	244	158	.366	.098	.084	.550	.586	.623
	4220	300HER-2	255	170	.383	.119	.104	.575	.613	.651
	4221	308HER-4	262	176	.383	.130	.115	.575	.613	.651

XTREME ENERGY™ STREET ROLLER

This Xtreme family of lobes delivers the responsiveness, torque, and reliability only available with COMP Cams® Xtreme designs coupled with the high rpm power of modern race roller designs. Our development test included Spintron® dynamics evaluations, engine dyno testing, chassis dyno testing, and three Hot Rod Power Tours. Coupled with the COMP Cams® Endure-X™ Roller Lifters, these profiles bring street roller technology into the new millennium.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Xtreme Energy™ Street Standard Ratio Rated Duration @ .015" Tappet Lift Valve Lash 0.014" - 0.018"	4870	256XSR	218	141	.360	.056	.045	.540	.576	.612
	4871	262XSR	224	147	.360	.066	.053	.540	.576	.612
	4872	268XSR	230	153	.368	.076	.062	.552	.589	.626
	4873	274XSR	236	159	.376	.087	.072	.564	.602	.639
	4874	280XSR	242	164	.380	.098	.083	.570	.608	.646
	4875	286XSR	248	170	.384	.110	.094	.576	.614	.653
	4876	292XSR	254	176	.388	.122	.106	.582	.621	.660
	4877	298XSR	260	181	.392	.135	.118	.588	.627	.666
	4878	304XSR	266	187	.398	.137	.130	.597	.637	.677
	4879	310XSR	272	193	.404	.159	.143	.606	.646	.687
Xtreme Energy™ Street High Ratio Rated Duration @ .015" Tappet Lift Valve Lash 0.014" - 0.018"	4850	259	219	131	.330	.055	.045	.495	.528	.561
	4851	265	225	136	.330	.064	.053	.495	.528	.561
	4855	267	227	138	.330	.067	.055	.495	.528	.561
	4854	270	230	140	.330	.070	.058	.495	.528	.561
	4852	274	234	144	.330	.076	.064	.495	.528	.561
	4853	280	240	149	.335	.086	.053	.503	.536	.570
	4856	284	244	152	.335	.092	.079	.503	.536	.570
	4857	288	248	155	.335	.099	.085	.503	.536	.570
	4858	292	252	161	.346	.106	.092	.519	.554	.588
	4859	296	256	164	.346	.112	.099	.519	.554	.588
	4860	300	260	167	.346	.119	.105	.519	.554	.588
	4861	308	268	173	.346	.132	.118	.519	.554	.588

BASE DESIGN ROLLERS

These lobes range from extra gentle to very aggressive. Included in this group are the High Torque Roller and High Torque Oval Roller series used in the early 1980s.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Base Designs Rated Duration @ .020" Tappet Lift	1460	285-2	252	164	.375	.110	.096	.563	.600	.638
	1462	286-1	250	162	.392	.112	.096	.588	.627	.666
	1464	295-2	262	174	.366	.128	.114	.549	.586	.622
	1465	295-3	262	176	.390	.128	.113	.585	.624	.663
	4034	295-5	260	170	.394	.116	.102	.591	.630	.670
	1473	296-1	260	173	.393	.124	.108	.590	.629	.668
	1466	296-2	265	180	.400	.137	.121	.600	.640	.680
	1492	302-1	265	177	.395	.132	.116	.593	.632	.672
	4000	305-2	272	186	.366	.146	.132	.549	.586	.622
	1609	305-3	270	186	.418	.146	.130	.627	.669	.711
	4035	305-4	272	184	.394	.151	.135	.591	.630	.670
	4059	306-1	270	186	.400	.145	.130	.600	.640	.680
	4242	306-2	273	190	.416	.153	.137	.624	.666	.707
	1611	308-2	275	191	.452	.156	.139	.678	.723	.768
	1612	309-2	276	196	.420	.163	.146	.630	.672	.714
	1613	310-2	280	195	.545	.165	.147	.818	.872	.927
	1479	312-2	279	197	.425	.167	.150	.638	.680	.723
	4066	316-1	276	186	.413	.150	.134	.620	.661	.702
	4244	316-2	284	200	.433	.176	.159	.650	.693	.736
	1617	316-3	282	200	.454	.173	.156	.681	.726	.772
	1628	324-4	287	201	.423	.174	.159	.635	.677	.719
	1658	320-1	281	196	.450	.164	.148	.675	.720	.765
	1620	320-2	288	201	.434	.179	.163	.651	.694	.738
	1486	321-4	284	196	.440	.170	.154	.660	.704	.748
	4025	322-1	282	193	.427	.163	.147	.641	.683	.726
	1469	322-2	288	204	.458	.185	.165	.687	.733	.779
	4062	323-5	287	202	.460	.180	.164	.690	.736	.782
	4087	324-2	286	197	.454	.171	.155	.681	.726	.772
	1630	325-4	288	198	.440	.176	.160	.660	.704	.748
	1394	327-5	290	204	.460	.179	.163	.690	.736	.782
	1659	328-1	286	192	.413	.163	.145	.620	.661	.702
	1639	329-5	292	200	.440	.177	.161	.660	.704	.748
	1619	319-2	285	202	.456	.179	.161	.684	.730	.775
	1392	319-3	285	200	.460	.173	.156	.690	.736	.782

HI-TECH™ ROLLERS

These designs are typically used with high rocker ratios (1.65-1.75) and efficient cylinder heads. The Hi-Tech™ .400" is great for Big Block Chevrolet, Big Block Fords and Clevelands. Due to their lower acceleration rates, these lobe designs are also very well suited for small block high endurance applications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Hi -Tech™ Rated Duration @ .020" Tappet Lift	1461	288-7	251	167	.400	.116	.102	.600	.640	.680
	4210	296-7	259	175	.400	.129	.114	.600	.640	.680
	4211	306-7	269	182	.400	.146	.131	.600	.640	.680
	4058	316-7	279	190	.400	.161	.146	.600	.640	.680

HI-TORQUE .406" ROLLERS

The Hi-Torque .406", when coupled with higher rocker ratios (1.7 and up), results in very aggressive valve motion. These provide excellent torque curves and great responsiveness. The smaller lobes are great for restricted applications and the larger lobes provide stronger alternatives to the Hi-Torque .440" profiles, when coupled with higher rocker ratios to achieve equivalent valve lift.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Hi-Torque .406" Rated Duration @ .020" Tappet Lift	4600	280-6	248	169	.406	.106	.091	.609	.650	.690
	4601	284-6	252	172	.406	.114	.098	.609	.650	.690
	1477	288-6	256	176	.406	.122	.106	.609	.650	.690
	4209	292-6	260	180	.406	.131	.114	.609	.650	.690
	4206	296-4	264	184	.406	.139	.122	.609	.650	.690
	4207	300-7	268	188	.406	.148	.131	.609	.650	.690
	4208	304-7	272	192	.406	.156	.136	.609	.650	.690
	4205	308-7	276	195	.406	.164	.147	.609	.650	.690
	1481	312-14	280	199	.406	.173	.156	.609	.650	.690

HI-TECH™ .420" EXHAUST ROLLERS

These designs are used primarily on the exhaust side of the motor. The Hi-Tech™ .420" offers controlled valve opening which promotes torque over broad ranges. These lobes are great for oval track cams.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Hi -Tech™ .420" Exhaust Rated Duration @ .020" Tappet Lift	4005	294-6	256	171	.420	.117	.103	.630	.672	.714
	4007	296-6	258	173	.420	.123	.108	.630	.672	.714
	4003	298-6	260	175	.420	.125	.111	.630	.672	.714
	4027	300-6	262	177	.420	.130	.115	.630	.672	.714
	4029	302-6	264	179	.420	.133	.117	.630	.672	.714
	4023	304-6	266	180	.420	.137	.122	.630	.672	.714
	4046	306-6	268	182	.420	.141	.126	.630	.672	.714
	4045	308-6	270	183	.420	.144	.129	.630	.672	.714
	4047	310-6	272	185	.420	.148	.133	.630	.672	.714
	4019	312-6	274	187	.420	.151	.136	.630	.672	.714
	4049	316-6	278	189	.420	.158	.142	.630	.672	.714

XTREME ENERGY™ DURAMAX STREET ROLLERS

These lobes are similar to the Xtreme Energy™ Street Rollers and are optimized for the GM Duramax applications. Intake profiles are designed around a 1.37:1 ratio and exhaust profiles for a 1.69:1 ratio. The exhaust lobes are slightly less aggressive for the Duramax valve train system. These profiles are designed for .006" to .010" cold lash. The exhaust lobes go up in 14° increments compared to 12° for the intakes, in order to reduce exhaust pumping losses in higher rpm applications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.37	1.37	1.37
Xtreme Energy™ Duramax Street Int. Lobes Rated Duration @ .006" Tappet Lift	4884	246	185	106	.306	.019	.014	.420	.420	.420
	4886	258	197	119	.329	.030	.022	.450	.450	.450
	4888	270	209	132	.350	.044	.034	.480	.480	.480
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.69	1.69	1.69
Xtreme Energy™ Duramax Street Exh. Lobes Rated Duration @ .006" Tappet Lift Rated Duration @ .020" Tappet Lift	4894	254	188	84	.249	.028	.022	.420	.420	.420
	4896	268	202	101	.266	.041	.033	.450	.450	.450
	4898	282	216	117	.284	.057	.047	.480	.480	.480

HI-TECH™ .420" ROLLERS

The Hi-Tech™ .420" is primarily used in oval track racing with good cylinder heads. The ramp designs are easy on valve springs, yet produce good power. They are great for long rod motors. They are also popular in bracket and marine applications where power with durability is a must. Also available in Ford Small Block and Chevy Big Block or 50mm sizes to prevent "cam growth" in the grinding process, allowing the engine builder to have more control over the tuning process.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Hi-Tech™.420" Rated Duration @ .020" Tappet Lift	4001	284-5	248	165	.420	.108	.094	.630	.672	.714
	4004	286-5	250	167	.420	.112	.098	.630	.672	.714
	4006	288-5	252	169	.420	.116	.101	.630	.672	.714
	4009	290-5	254	171	.420	.119	.105	.630	.672	.714
	4008	292-5	256	173	.420	.123	.108	.630	.672	.714
	4013	294-5	258	175	.420	.127	.112	.630	.672	.714
	4017	296-5	260	177	.420	.131	.116	.630	.672	.714
	4015	298-5	262	179	.420	.136	.120	.630	.672	.714
	4022	300-5	264	181	.420	.140	.124	.630	.672	.714
	4020	302-5	266	183	.420	.143	.127	.630	.672	.714
	4024	304-5	268	184	.420	.146	.130	.630	.672	.714
	4018	306-5	270	186	.420	.150	.134	.630	.672	.714
	4026	308-5	272	188	.420	.154	.138	.630	.672	.714
	4016	310-5	274	189	.420	.157	.141	.630	.672	.714
	4028	312-5	276	190	.420	.160	.144	.630	.672	.714
	4030	314-5	278	192	.420	.163	.148	.630	.672	.714
	4031	316-5	280	193	.420	.166	.151	.630	.672	.714
	4032	318-5	282	195	.420	.170	.154	.630	.672	.714

RT SERIES ROLLERS

The RT series provides shorter seat timing and more area than our Hi-Tech™ .420" series. This results in great torque and power potential. Available in Ford Small Block and Chevy Big Block or 50mm sizes to prevent "cam growth" in the grinding process, allowing the engine builder to have more control over the tuning process of the cam.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
RT Series Rated Duration @ .020" Tappet Lift	4121	RT274-1	244	167	.410	.101	.086	.615	.656	.697
	4123	RT276-2	246	169	.412	.105	.089	.618	.659	.700
	4124	RT278-3	248	171	.414	.107	.092	.621	.662	.704
	4126	RT280-1	250	173	.416	.113	.097	.624	.666	.707
	4127	RT282-1	252	175	.418	.117	.101	.627	.669	.711
	4130	RT284-1	254	177	.421	.120	.104	.632	.674	.716
	4128	RT286-1	256	179	.423	.125	.109	.635	.677	.719
	4129	RT288-1	258	181	.426	.131	.114	.639	.682	.724
	4131	RT290-1	260	183	.430	.134	.117	.645	.688	.731
	4132	RT292-1	262	185	.430	.140	.123	.645	.688	.731
	4133	RT294-1	264	186	.430	.142	.125	.645	.688	.731
	4134	RT296-1	266	189	.430	.148	.130	.645	.688	.731
	4135	RT298-1	268	190	.435	.150	.132	.653	.696	.740
	4136	RT300-1	270	191	.435	.154	.137	.653	.696	.740
	4137	RT302-1	272	193	.435	.158	.141	.653	.696	.740
	4139	RT304-1	274	195	.435	.162	.144	.653	.696	.740
	4138	RT308-1	278	197	.435	.168	.151	.653	.696	.740

NC SERIES ROLLERS

Designed with aggressive opening side of the RT series lobe and the easier closing rate of the ever popular Hi-Tech™-5 series, the NC series allows good engine speed, stability and durability. This fast open, slower closing design works very well on the exhaust side of many applications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
NC Series Rated Duration @ .020" Tappet Lift	4151	284	252	172	.405	.115	.099	.608	.648	.689
	4152	286	254	173	.405	.117	.101	.608	.648	.689
	4150	288	256	177	.415	.123	.107	.623	.664	.706
	4153	290	258	178	.415	.125	.109	.623	.664	.706
	4149	292	260	181	.421	.131	.114	.632	.674	.716
	4145	295	262	183	.421	.138	.122	.632	.674	.716
	4147	296	264	183	.421	.140	.123	.632	.674	.716
	4144	298	266	185	.425	.143	.127	.638	.680	.723
	4146	300	268	187	.430	.146	.130	.645	.688	.731
	4143	302	270	190	.430	.153	.136	.645	.688	.731
	4148	304	272	192	.430	.158	.141	.645	.688	.731

NSC SERIES ROLLERS

The NSC series is very similar to the original NC series but uses a smoother -6 style closing ramp. This fast open, slower closing design works very well on the exhaust side of many applications, especially those that are larger displacement or higher engine speed than where we would use the original NC designs.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
NSC Series Rated Duration @ .020" Tappet Lift	4163	309	276	195	.440	.167	.150	.660	.704	.748
	4167	311	278	196	.440	.170	.154	.660	.704	.748
	4168	313	280	198	.440	.174	.158	.660	.704	.748
	4162	315	282	200	.440	.178	.162	.660	.704	.748
	4160	317	284	201	.440	.181	.165	.660	.704	.748
	4164	319	286	203	.440	.185	.169	.660	.704	.748
	4165	321	288	205	.440	.189	.173	.660	.704	.748
	4166	323	290	207	.440	.193	.177	.660	.704	.748

RZ SERIES ROLLERS

The RZ Rollers are designed for high rpm circle track, drag race and endurance applications that benefit from higher lift while requiring stability and reliability. Designed for 1.6:1 to 1.8:1 rockers, these profiles incorporate the latest developments in high rpm and high rocker ratio developments.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
RZ Series Rated Duration @ .020" Tappet Lift	4260	RZ293	260	174	.428	.122	.107	.643	.685	.728
	4262	RZ297	264	178	.430	.129	.114	.645	.688	.731
	4264	RZ301	268	182	.432	.137	.122	.648	.691	.734
	4265	RZ303	270	184	.433	.141	.125	.650	.693	.736
	4266	RZ305	272	186	.434	.145	.129	.651	.694	.738
	4267	RZ307	274	188	.435	.149	.133	.653	.696	.740
	4268	RZ309	276	190	.436	.153	.137	.654	.698	.741
	4269	RZ311	278	192	.437	.157	.141	.656	.699	.743
	4270	RZ313	280	194	.438	.161	.145	.657	.701	.745
	4271	RZ315	282	196	.439	.164	.148	.659	.702	.746
	4272	RZ317	284	197	.440	.168	.152	.660	.704	.748
	4273	RZ319	286	199	.441	.172	.156	.662	.706	.750
	4274	RZ321	288	201	.442	.176	.160	.663	.707	.751
	4276	RZ325	292	205	.444	.183	.167	.666	.710	.755
	4277	RZ329	296	208	.446	.191	.175	.669	.714	.758

RZ LOW LIFT ROLLERS

These lower lift versions of the RZ family work very well in high endurance applications where maximum valve lift needs to be limited to ensure maximum valve spring life.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
RZ Low Lift Rated Duration @ .020" Tappet Lift	2314	283	250	161	.370	.103	.089	.555	.592	.629
	2315	287	254	164	.370	.110	.096	.555	.592	.629
	4294	289	256	167	.390	.113	.099	.585	.624	.663
	2318	291	258	168	.370	.117	.103	.555	.592	.629
	4293	291	258	171	.400	.118	.103	.600	.640	.680
	4295	293	260	171	.390	.121	.106	.585	.624	.663
	4283	295	262	171	.370	.124	.110	.555	.592	.629
	4286	295	262	175	.400	.125	.110	.600	.640	.680
	4284	297	264	174	.375	.128	.113	.563	.600	.638
	4278	299	266	178	.400	.133	.118	.600	.640	.680
	4285	301	268	178	.380	.135	.121	.570	.608	.646
	4287	301	268	180	.400	.136	.121	.600	.640	.680
	4296	303	270	181	.385	.139	.125	.578	.616	.655
	4279	305	272	182	.380	.143	.128	.570	.608	.646
	2735	315	282	194	.420	.164	.148	.630	.672	.714
	2298	317	284	193	.380	.163	.149	.570	.608	.646

RX SERIES ROLLERS

These are similar to our RT Series but are designed for a higher rpm operating range. These were developed to allow the performance of RT designs in applications that operate well over 8400 rpm such as the NASCAR Nationwide, Camping World Truck series and ARCA engines. RX profiles were developed using dynamic testing to ensure stability over 9000 rpm even when coupled with a 1.7:1 rocker arm.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
RX Series Rated Duration @ .020" Tappet Lift	4301	286	253	172	.427	.114	.099	.641	.683	.726
	4302	288	255	174	.428	.118	.103	.642	.685	.728
	4303	290	257	176	.429	.122	.107	.644	.686	.729
	4304	292	259	177	.430	.126	.110	.645	.688	.731
	4305	294	261	179	.431	.130	.114	.647	.690	.733
	4308	296	263	181	.432	.134	.118	.648	.691	.734
	4309	298	265	183	.433	.139	.122	.650	.693	.736
	4310	300	267	185	.434	.143	.126	.651	.694	.738
	4311	302	269	187	.435	.147	.130	.653	.696	.740
	4312	304	271	189	.436	.151	.134	.654	.698	.741
	4313	306	273	191	.437	.155	.138	.656	.699	.743
	4314	308	275	193	.438	.160	.143	.657	.701	.745
	4315	310	277	195	.439	.164	.147	.659	.702	.746
	4316	312	279	197	.440	.168	.151	.660	.704	.748
	4317	314	281	199	.440	.172	.155	.660	.704	.748
	4318	316	283	201	.440	.176	.159	.660	.704	.748
	4319	318	285	203	.440	.180	.163	.660	.704	.748
	4340	320	287	205	.440	.185	.167	.660	.704	.748
	4341	322	289	207	.440	.189	.172	.660	.704	.748

CR SERIES ROLLERS

The CR series profiles are excellent for high rpm, high rocker ratio applications where good valve train components can be used. The smaller profiles work well in restricted applications where extended life is required and the larger profiles are excellent in high rpm open applications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.75	1.8
CR Series Rated Duration @ .020" Tappet Lift	4345	CR281	250	168	.395	.111	.096	.672	.691	.711
	4346	CR283	252	170	.395	.115	.100	.672	.691	.711
	4347	CR285	254	172	.395	.119	.104	.672	.691	.711
	4348	CR287	256	174	.395	.123	.107	.672	.691	.711
	4349	CR289	258	176	.395	.127	.111	.672	.691	.711
	4382	CR291	260	178	.395	.131	.115	.672	.691	.711
	4383	CR293	262	179	.395	.135	.119	.672	.691	.711
	4384	CR295	264	181	.395	.139	.123	.672	.691	.711
	4385	CR297	266	183	.395	.143	.127	.672	.691	.711
	4386	CR299	268	185	.395	.147	.131	.672	.691	.711
	2486	299	268	186	.420	.147	.131	.714	.735	.756
	4387	CR301	270	186	.395	.150	.134	.672	.691	.711
	4388	CR303	272	188	.395	.154	.138	.672	.691	.711
	2488	303	272	190	.420	.156	.139	.714	.735	.756
	4389	CR305	274	190	.395	.158	.142	.672	.691	.711
	4390	CR307	276	192	.395	.161	.146	.672	.691	.711
	2490	307	276	194	.420	.164	.147	.714	.735	.756
	4391	CR309	278	193	.395	.165	.149	.672	.691	.711
	4682	CR311	280	195	.395	.169	.153	.672	.691	.711
	2492	311	280	198	.420	.172	.155	.714	.735	.756
	4683	CR313	282	197	.395	.172	.157	.672	.691	.711
	4684	CR315	284	199	.395	.176	.161	.672	.691	.711
	2494	315	284	201	.420	.180	.163	.714	.735	.756
	4685	CR317	286	200	.395	.180	.165	.672	.691	.711
	4686	CR319	288	202	.395	.183	.168	.672	.691	.711
	4687	CR321	290	204	.395	.187	.172	.672	.691	.711

CR LIFT RULE ROLLERS

These low lift designs are based on the CR series rollers and are specifically designed for lift rule applications, such as USAR Cup. Typically they will be used with either 1.65:1 or 1.7:1 rocker ratios but would be stable with up to 1.8:1 ratios.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.65	1.7
CR Lift Rule .367" Rated Duration @ .020" Tappet Lift	4436	275	244	161	.367	.100	.085	.587	.606	.624
	4427	279	248	165	.367	.107	.092	.587	.606	.624
	4428	283	252	168	.367	.115	.100	.587	.606	.624
	4429	287	256	172	.367	.123	.107	.587	.606	.624
	4430	291	260	175	.367	.130	.115	.587	.606	.624
	4431	295	264	179	.367	.138	.122	.587	.606	.624
	4432	299	268	182	.367	.146	.130	.587	.606	.624
	4433	303	272	186	.367	.153	.137	.587	.606	.624
	4438	307	276	189	.367	.159	.145	.587	.606	.624
CR Lift Rule .378" Rated Duration @ .020" Tappet Lift	4445	283	252	168	.378	.115	.100	.605	.624	.643
	4447	287	256	172	.378	.123	.107	.605	.624	.643
	4449	291	260	175	.378	.131	.115	.605	.624	.643
	4451	295	264	179	.378	.138	.123	.605	.624	.643

ZT SERIES ROLLERS

The ZT rollers are a high rocker ratio, high rpm series designed to take advantage of new valve spring developments that allow valve lifts up to and above .750" in endurance applications. These are designed for NASCAR Nationwide, Camping World Truck series, ARCA, and other endurance applications that have similar rpm and lift requirements. Recommended for use with either COMP® #26099 or #26091 springs.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.75	1.8
ZT Series Rated Duration @ .020" Tappet Lift	4814	290	258	175	.406	.124	.110	.690	.711	.731
	4815	292	260	177	.407	.128	.114	.692	.712	.733
	4816	294	262	179	.408	.133	.117	.694	.714	.734
	4817	296	264	181	.409	.137	.121	.695	.716	.736
	4818	298	266	182	.410	.141	.125	.697	.718	.738
	4819	300	268	184	.411	.145	.129	.699	.719	.740
	4820	302	270	186	.412	.149	.133	.700	.721	.742
	4821	304	272	188	.413	.153	.137	.702	.723	.743
	4822	306	274	190	.412	.157	.141	.700	.721	.742
	4823	308	276	192	.416	.161	.144	.707	.728	.749
	4824	310	278	194	.418	.165	.149	.711	.732	.752
	4826	312	280	196	.418	.169	.152	.711	.732	.752
	4827	314	282	198	.420	.173	.157	.714	.735	.756

ZS SERIES ROLLERS

The ZS Rollers are a high ratio roller series for restricted applications limited to below 8400 rpm. These are very good for applications that benefit from higher lift than the HRR series. These profiles work well with the new generation valve springs such as COMP® #26099 and #26091. The ZS Series II are the same as the .413" lobe lift versions except these have increasing lobe lift as the duration increases.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.75	1.8
ZS Series .413" Lift Rated Duration @ .020" Tappet Lift	4402	284	254	175	.413	.122	.106	.702	.723	.743
	4404	288	258	179	.413	.130	.114	.702	.723	.743
	4405	290	260	181	.413	.134	.118	.702	.723	.743
	4406	292	262	183	.413	.139	.122	.702	.723	.743
	4407	294	264	184	.413	.143	.126	.702	.723	.743
	4408	296	266	186	.413	.147	.130	.702	.723	.743
	4409	298	268	188	.413	.151	.134	.702	.723	.743
	4416	302	272	192	.413	.159	.142	.702	.723	.743
	4418	306	276	195	.413	.167	.150	.702	.723	.743
ZS Series II Rated Duration @ .020" Tappet Lift	2950	280	250	175	.420	.114	.098	.714	.735	.756
	2952	284	254	179	.424	.122	.106	.721	.742	.763
	2953	286	256	181	.426	.126	.110	.724	.746	.767
	2954	288	258	183	.428	.131	.114	.728	.749	.770
	2958	296	266	184	.434	.147	.130	.738	.760	.781

TS SERIES ROLLERS

These are an additional series of high rocker ratio profiles that are similar to both the ZT and ZS series, but these are designed for slightly less rocker ratio.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.75	1.8
TS Series Rated Duration @ .020" Tappet Lift	4837	295	264	183	.422	.141	.125	.717	.739	.760
	4838	297	266	185	.423	.145	.129	.719	.740	.761
	4839	299	268	187	.425	.149	.133	.723	.744	.765
	4840	301	270	189	.426	.153	.137	.724	.746	.767
	4841	303	272	191	.427	.157	.141	.726	.747	.769
	4842	305	274	192	.428	.161	.145	.728	.749	.770

TD, TJ & TJS SERIES ROLLERS

These TD designs are excellent for high ratio, four barrel gauge 390 carb rules such as NASCAR Nationwide and Camping World Truck series applications. The TJs have slightly more lift but are a little smoother. The TJS series is basically the same as the TJ except for a slightly softer closing ramp.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.75	1.8
TD Series Rated Duration @ .020" Tappet Lift	2978	288	258	176	.411	.127	.112	.699	.719	.740
	2979	290	260	178	.412	.131	.116	.700	.721	.742
	2980	292	262	180	.413	.135	.119	.702	.723	.743
	2981	294	264	182	.414	.139	.123	.704	.725	.745
	2982	296	266	184	.415	.143	.127	.706	.726	.747
	4321	298	268	186	.416	.147	.131	.707	.728	.749
	2983	300	270	188	.418	.151	.135	.711	.732	.752
	2984	302	272	190	.420	.156	.139	.714	.735	.756
	2985	304	274	192	.421	.159	.143	.716	.737	.758
	4327	306	276	193	.424	.163	.147	.721	.742	.763
	4328	308	278	195	.426	.167	.151	.724	.746	.767
	4329	310	280	197	.428	.171	.155	.728	.749	.770
	2989	312	282	199	.430	.175	.159	.731	.753	.774
TJ Series Rated Duration @ .020" Tappet Lift	2962	296	266	184	.420	.143	.127	.714	.735	.756
	2963	298	268	185	.422	.147	.131	.717	.739	.760
	2964	300	270	187	.424	.151	.135	.721	.742	.763
	2965	302	272	189	.426	.156	.139	.724	.746	.767
TJS Series Rated Duration @ .020" Tappet Lift	2881	297	266	183	.419	.412	.126	.712	.733	.754
	2882	299	268	185	.421	.146	.130	.716	.737	.758
	2885	305	274	191	.427	.158	.142	.726	.747	.769

HIGH RATIO RESTRICTED ROLLERS

The HRR designs, when coupled with high rocker ratios, result in extremely quick valve action. 8100 rpm maximum with light valve train. Very good in restricted applications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.75	1.8
High Ratio Restricted Rated Duration @ .020" Tappet Lift	4358	HRR260	230	152	.374	.078	.065	.636	.655	.673
	4359	HRR262	232	154	.377	.082	.068	.641	.660	.679
	4361	HRR264	234	156	.380	.085	.071	.646	.665	.684
	4362	HRR266	236	158	.383	.089	.075	.651	.670	.689
	4363	HRR268	238	160	.386	.093	.078	.656	.676	.695
	4364	HRR270	240	162	.389	.097	.082	.661	.681	.700
	4198	272	242	163	.380	.101	.085	.646	.665	.684
	4365	HRR272	242	164	.392	.101	.085	.666	.686	.706
	4366	HRR274	244	166	.396	.105	.089	.673	.693	.713
	4199	276	246	167	.380	.109	.093	.646	.665	.684
	4367	HRR276	246	168	.396	.109	.093	.673	.693	.713
	4196	278	248	169	.380	.113	.097	.646	.665	.684
	4368	HRR278	248	170	.396	.113	.097	.673	.693	.713
	4370	HRR282	252	173	.396	.121	.104	.673	.693	.713
	4371	HRR284	254	175	.396	.125	.108	.673	.693	.713
	4372	HRR286	256	177	.396	.129	.112	.673	.693	.713
	4373	HRR288	258	179	.396	.133	.116	.673	.693	.713
	4374	HRR290	260	180	.396	.137	.120	.673	.693	.713
	4375	HRR292	262	182	.396	.141	.124	.673	.693	.713
	4376	HRR294	264	184	.396	.145	.128	.673	.693	.713
	4377	HRR296	266	186	.396	.149	.133	.673	.693	.713
	4378	HRR298	268	188	.396	.153	.137	.673	.693	.713

RP SERIES ROLLERS

The RP Rollers are a high ratio roller series for restricted applications limited to below 8400 rpm. These are based off of our latest flat tappet restrictor plate designs but have increased area as allowed with roller tappets. For use with 1.8 to 1.95:1 rocker ratios.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.8	1.85	1.9
RP Series Rated Duration @ .020" Tappet Lift	2507	270	240	159	.381	.093	.080	.686	.705	.724
	2508	272	242	161	.381	.097	.083	.686	.705	.724
	2509	274	244	163	.381	.101	.086	.686	.705	.724
	2510	276	246	165	.381	.104	.090	.686	.705	.724
	2511	278	248	166	.381	.108	.093	.686	.705	.724
	2512	280	250	168	.381	.112	.097	.686	.705	.724
	2513	282	252	170	.381	.115	.101	.686	.705	.724
	2514	284	254	172	.381	.119	.104	.686	.705	.724
	2515	286	256	173	.381	.123	.108	.686	.705	.724
	2516	288	258	175	.381	.127	.112	.686	.705	.724
	2517	290	260	177	.381	.131	.115	.686	.705	.724
	2518	292	262	179	.381	.135	.119	.686	.705	.724
	2519	294	264	180	.381	.138	.123	.686	.705	.724
	2520	296	266	182	.381	.142	.127	.686	.705	.724

SP SERIES ROLLERS

The SP Rollers are a high ratio roller series for restricted applications limited to below 8200 rpm. These lobes are more aggressive than the RP series and can be used successfully with lower rocker ratios. For use with 1.7 to 1.9:1 rocker ratios. Also used in some hydraulic roller applications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.8	1.9
SP Series Rated Duration @ .020" Tappet Lift	1514	264	236	158	.374	.089	.074	.636	.673	.711
	1515	268	240	161	.374	.096	.081	.636	.673	.711
	4793	273	245	166	.378	.108	.092	.643	.680	.718
	4784	275	247	168	.380	.112	.096	.646	.684	.722
	4785	277	249	170	.382	.116	.100	.649	.688	.726
	4788	279	251	172	.384	.120	.104	.653	.691	.730
	4789	281	253	174	.386	.124	.108	.656	.695	.733
	4830	283	255	176	.388	.128	.112	.660	.698	.737
	4831	285	257	178	.390	.133	.116	.663	.702	.741

RC SERIES ROLLERS

The RC rollers are designed to be faster off the seat than the RT profiles with more area than the High Torque .440" profiles. These are slightly less aggressive than the new TK profiles. Very good for Sprint Car and Late Model applications. Also used in some hydraulic roller applications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
RC Series Rated Duration @ .020" Tappet Lift	4176	280	250	175	.425	.118	.101	.638	.680	.723
	4178	284	254	178	.425	.127	.110	.638	.680	.723
	4180	288	258	182	.430	.136	.118	.645	.688	.731
	4181	290	260	184	.430	.140	.122	.645	.688	.731
	4182	292	262	186	.430	.144	.127	.645	.688	.731
	4183	294	264	188	.430	.149	.131	.645	.688	.731
	4184	296	266	190	.435	.153	.135	.653	.696	.740
	4185	298	268	192	.435	.158	.140	.653	.696	.740
	4186	300	270	194	.435	.162	.144	.653	.696	.740

TK SERIES ROLLERS

The TK series is our most aggressive standard rocker ratio series to date. These designs get from .020" to .050" tappet lift and back from .050" to .020" tappet lift in only 28°. That quickness makes this series the most intense roller profiles COMP® has ever released, providing more duration at .200" and more area than comparable profiles. Excellent for all out Sprint Car and Late Model applications. Please consult with a CAM HELP® technician or one of our engine builder sales personnel for proper component selection.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
TK Series Rated Duration @ .020" Tappet Lift	4639	TK258	230	156	.405	.078	.064	.608	.648	.689
	4640	TK262	234	160	.410	.085	.071	.615	.656	.697
	4641	TK266	238	164	.415	.093	.078	.623	.664	.706
	4642	TK270	242	168	.420	.101	.085	.630	.672	.714
	4643	TK274	246	172	.425	.109	.093	.638	.680	.723
	4609	TK277	249	175	.430	.118	.101	.645	.688	.731
	4610	TK279	251	177	.430	.122	.105	.645	.688	.731
	4611	TK281	253	179	.430	.127	.109	.645	.688	.731
	4612	TK283	255	180	.430	.131	.114	.645	.688	.731
	4613	TK285	257	182	.430	.135	.118	.645	.688	.731
	4614	TK287	259	184	.430	.140	.122	.645	.688	.731
	4572	TK289-420	261	184	.420	.147	.129	.630	.672	.714
	4615	TK289	261	186	.430	.144	.126	.645	.688	.731
	4573	TK291-420	263	186	.420	.149	.131	.630	.672	.714
	4616	TK291	265	188	.430	.149	.131	.645	.688	.731
	4574	TK293-420	265	188	.420	.151	.134	.630	.672	.714
	4617	TK293	265	190	.430	.153	.135	.645	.688	.731
	4576	TK295-420	267	190	.420	.155	.138	.630	.672	.714
	4618	TK295	267	191	.430	.157	.140	.645	.688	.731
	4577	TK297-420	269	191	.420	.159	.142	.630	.672	.714
	4619	TK297	269	193	.430	.162	.144	.645	.688	.731
	4620	TK299	271	195	.430	.166	.148	.645	.688	.731
	4621	TK301	273	197	.430	.170	.154	.645	.688	.731
	4622	TK303	275	199	.430	.174	.157	.645	.688	.731
	4623	TK305	277	201	.430	.178	.161	.645	.688	.731
	4624	TK307	279	202	.430	.183	.165	.645	.688	.731
	4625	TK309	281	204	.430	.187	.169	.645	.688	.731
	4627	TK311	283	206	.430	.191	.173	.645	.688	.731
	4628	TK313	285	208	.430	.195	.178	.645	.688	.731
TK Series – .455" Rated Duration @ .020" Tappet Lift 1.948" or Larger Journals Only	1528	273	245	172	.455	.109	.093	.683	.728	.774
	1530	277	249	176	.455	.118	.101	.683	.728	.774
	1532	281	253	179	.455	.127	.109	.683	.728	.774
	1534	285	257	183	.455	.135	.118	.683	.728	.774
	1536	289	261	187	.455	.144	.126	.683	.728	.774
	1538	293	265	190	.455	.153	.135	.683	.728	.774
	1540	297	269	194	.455	.162	.144	.683	.728	.774
	1542	301	273	198	.455	.170	.154	.683	.728	.774

SP-TK HI-LIFT ROLLERS

These higher lift designs are based on the TK .455" series rollers but have faster opening side velocities and more lobe lift. For use with 1.948" or larger journals only.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
SP-TK Hi-Lift Rated Duration @ .020" Tappet Lift 1.948" or Larger Journals Only	1519	276	248	175	.470	.114	.097	.705	.752	.799
	1520	280	252	179	.470	.123	.105	.705	.752	.799
	1521	284	256	183	.470	.131	.113	.705	.752	.799
	1522	288	260	187	.470	.140	.122	.705	.752	.799
	1523	292	264	190	.470	.149	.131	.705	.752	.799
	1524	296	268	194	.470	.158	.140	.705	.752	.799

TK LIFT RULE .347" ROLLERS

These low lift designs are based on the TK series rollers and are specifically designed for lift rule applications, such as USAR Cup. Typically they will be used with 1.8:1 ratios.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.75	1.8	1.85
TK Lift Rule .347" Rated Duration @ .020" Tappet Lift	1416	263	235	154	.347	.089	.074	.607	.625	.642
	1417	267	239	158	.347	.096	.081	.607	.625	.642
	1418	271	243	161	.347	.104	.089	.607	.625	.642
	1419	275	247	165	.347	.111	.096	.607	.625	.642
	4421	279	251	168	.347	.119	.104	.607	.625	.642
	4422	283	255	171	.347	.126	.111	.607	.625	.642
	4423	287	259	174	.347	.134	.118	.607	.625	.642
	4424	291	263	177	.347	.141	.126	.607	.625	.642
	1427	295	267	180	.347	.147	.133	.607	.625	.642
	1429	299	271	184	.347	.154	.140	.607	.625	.642

SPL SERIES ROLLERS

The SPL rollers are very similar to the TK family but have special ramps designed to be used with looser lash values. These lobes are designed for hot lash settings in the .022" to .028" range. Otherwise, they should perform as well as the TK family in high torque applications that respond well to aggressive lobe profiles.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
SPL Series Rated Duration @ .020" Tappet Lift	2906	291	260	184	.435	.137	.120	.696	.740	.783
	2907	295	264	188	.435	.146	.128	.696	.740	.783
	2908	299	268	192	.435	.154	.137	.696	.740	.783
	2909	303	272	195	.435	.163	.145	.696	.740	.783

VK LIFT RULE .323" ROLLERS

These low lift designs are similar to the low lift TKs but are optimized with quicker ramps for the lower lobe lift. Designed for lift rule solid roller applications including revised NMRA specs.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.55	1.6	1.65
VK Lift Rule .323" Rated Duration @ .020" Tappet Lift	2688	276	249	161	.323	.112	.098	.501	.517	.533
	2689	280	253	164	.323	.119	.105	.501	.517	.533
	2690	284	257	167	.323	.126	.112	.501	.517	.533
	2691	288	261	171	.323	.133	.119	.501	.517	.533
	2692	292	265	174	.323	.140	.126	.501	.517	.533
	2693	296	269	178	.323	.147	.133	.501	.517	.533
	2694	300	273	181	.323	.153	.139	.501	.517	.533

DSZ SERIES ROLLERS

The DSZ rollers are tight lash designs based on our high lift DSP and DSS series but optimized with quicker ramps for shorter duration applications. These lobes have shorter seat timing than even the TK series. DSZ rollers provide great torque and power in limited engine speed or limited ratio applications. DSZ profiles are also very good with limited travel hydraulic roller lifters if noise is not a primary concern.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE		@ .020	@ .050	@ .200		106°	110°	1.5	1.6	1.7
DSZ Series Rated Duration @ .020" Tappet Lift Journal = B,F,R,M	12500	267	240	166	.394	.098	.083	.591	.630	.670
	12502	271	244	170	.398	.106	.090	.597	.637	.677
	12504	275	248	174	.402	.115	.098	.603	.643	.683
	12506	279	252	177	.406	.123	.106	.609	.650	.690
	12508	283	256	181	.410	.132	.115	.615	.656	.697
	12510	287	260	185	.414	.141	.123	.621	.662	.704
DSZ H Series Rated Duration @ .020" Tappet Lift Journal = F,R,M	12522	271	244	170	.415	.106	.090	.623	.664	.706
	12524	275	248	174	.419	.115	.098	.629	.670	.712
	12526	279	252	178	.423	.124	.106	.635	.677	.719
	12528	283	256	182	.427	.132	.115	.641	.683	.726
	12530	287	260	186	.431	.141	.124	.647	.690	.733

CSZ SERIES ROLLERS

The CSZ rollers are "tweaked" versions of the DSZ profiles for use in standard jounal Small Block Chevy applications and higher lift Big Block Chevy or 50mm. These are not quite as quick as the DSZ profiles, and they give up a little area and stability compared to the larger journal versions. However, this as close to a DSZ as you can get with a smaller journal. Also good for hydraulic rollers if noise is not a primary concern.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE		@ .020	@ .050	@ .200		106°	110°	1.5	1.6	1.7
CSZ Series Rated Duration @ .020" Tappet Lift Journal = S	12550	268	240	165	.394	.098	.082	.591	.630	.670
	12552	272	244	169	.398	.106	.090	.597	.637	.677
	12554	276	248	173	.402	.114	.098	.603	.643	.683
	12556	280	252	177	.406	.123	.106	.609	.650	.690
	12558	284	256	181	.410	.132	.114	.615	.656	.697
	12560	288	260	185	.414	.140	.123	.621	.662	.704
CSZ H Series Rated Duration @ .020" Tappet Lift Journal = S, B	12572	272	244	170	.415	.106	.090	.623	.664	.706
	12574	276	248	174	.419	.114	.098	.629	.670	.712
	12576	280	252	178	.423	.123	.106	.635	.677	.719
	12578	284	256	182	.427	.132	.114	.641	.683	.726
	12580	288	260	186	.431	.141	.123	.647	.690	.733

HI-TECH .440" INTAKE ROLLERS

These lobes are to be used in medium to large cubic inch engines. The Hi-Tech™ .440" are designed with ported cylinder heads in mind and are easy on springs. These designs are very stable at high engine speeds.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Hi-Tech™ .440" Int. Rated Duration @ .020" Tappet Lift	3207	296-16	260	178	.440	.132	.116	.660	.704	.748
	4076	301-6	264	181	.440	.141	.125	.660	.704	.748
	4119	303-6	266	183	.440	.144	.129	.660	.704	.748
	4077	305-6	268	184	.440	.147	.132	.660	.704	.748
	4078	309-6	272	187	.440	.153	.137	.660	.704	.748
	4079	313-6	276	189	.440	.157	.142	.660	.704	.748
	4080	317-6	280	192	.440	.161	.146	.660	.704	.748
	4081	321-6	284	195	.440	.168	.153	.660	.704	.748
	4082	325-6	287	198	.440	.173	.158	.660	.704	.748

HI-TORQUE .440"

These designs are very aggressive and can be used with a variety of rocker ratios. Smaller designs work well in oval track motors and larger designs work in drag racing applications. The High Torque .440" designs are stable to 8200+ rpm.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Hi-Torque .440" Rated Duration @ .020" Tappet Lift	4217	278-8	250	174	.440	.115	.099	.660	.704	.748
	4216	280-8	252	176	.440	.119	.102	.660	.704	.748
	4240	284-8	256	178	.440	.122	.105	.660	.704	.748
	4241	288-8	260	182	.440	.131	.114	.660	.704	.748
	4243	292-8	264	186	.440	.140	.123	.660	.704	.748
	4245	296-8	268	190	.440	.149	.131	.660	.704	.748
	4252	300-8	272	194	.440	.157	.139	.660	.704	.748
	4253	304-8	276	197	.440	.177	.160	.660	.704	.748
	4213	308-8	280	201	.440	.185	.167	.660	.704	.748
	4214	312-8	284	205	.440	.191	.174	.660	.704	.748
	4254	316-8	288	210	.440	.198	.180	.660	.704	.748

HI-TORQUE .460" ROLLERS

The High Torque .460" is primarily used in drag racing applications with or without ported heads. They are less aggressive than the High Torque .440" designs.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Hi-Torque .460" Rated Duration @ .020" Tappet Lift	1393	319-7	285	200	.460	.180	.163	.690	.736	.782
	4075	323-7	287	202	.460	.185	.169	.690	.736	.782
	1395	327-7	290	205	.460	.192	.176	.690	.736	.782

HI-TORQUE .420" EXHAUST ROLLERS

The High Torque .420" Exhaust is primarily used in drag racing applications with or without ported heads and can be used with a variety of rocker ratios.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Hi-Torque .420" Exh. Rated Duration @ .020" Tappet Lift	1660	307-4	275	192	.420	.165	.152	.630	.672	.714
	1480	311-4	279	194	.420	.173	.156	.630	.672	.714
	4070	317-2	283	197	.420	.172	.156	.630	.672	.714
	4065	323-6	288	200	.420	.177	.161	.630	.672	.714

HIGH RATIO – HIGH RPM SUPER STOCK ROLLERS

These profiles are designed to increase high rpm performance in NHRA Super Stock applications when coupled with a 1.8:1 to 2.0:1 rocker arm. Optimized for the higher rpm capability of the latest Super Stock cylinder heads.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.8	1.9	2.0
High Ratio-High RPM Super Stock Rated Duration @ .020" Tappet Lift	4480	298	266	182	.414	.136	.119	.745	.787	.828
	4482	302	270	186	.414	.143	.127	.745	.787	.828
	4483	304	272	188	.414	.147	.131	.745	.787	.828
	4484	306	274	189	.414	.151	.135	.745	.787	.828
	4485	308	276	191	.416	.155	.139	.749	.790	.832
	4486	310	278	193	.418	.160	.143	.752	.794	.836

HXL SERIES ROLLERS

The HXL Series Rollers are intended for high lift applications that require maximum torque and extended rpm. These fall somewhere in between the RX and TK series in terms of aggressiveness but provide more lobe lift. They are closest to the High Torque .440" lobes but have incorporated our latest profile advancements that should allow higher engine speeds and improved dynamics.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
HXL Series Rated Duration @ .020" Tappet Lift	2222	281	252	175	.434	.118	.102	.694	.738	.781
	2223	283	254	177	.436	.122	.106	.698	.741	.785
	2224	285	256	179	.438	.126	.110	.701	.745	.788
	2225	287	258	181	.440	.130	.114	.704	.748	.792
	2226	289	260	183	.442	.135	.118	.707	.751	.796
	2227	291	262	185	.444	.139	.122	.710	.755	.799
	2228	293	264	187	.446	.144	.126	.714	.758	.803
	2229	295	266	189	.448	.148	.130	.717	.762	.806
	2230	297	268	191	.450	.152	.135	.720	.765	.810
	2231	299	270	193	.452	.157	.139	.723	.768	.814
	2232	301	272	195	.454	.161	.143	.726	.772	.817
	2233	303	274	197	.454	.166	.148	.726	.772	.817
	2234	305	276	199	.454	.170	.152	.726	.772	.817
	2235	307	278	201	.454	.174	.156	.726	.772	.817
	2236	309	280	202	.454	.178	.161	.726	.772	.817
	2237	311	282	204	.454	.183	.165	.726	.772	.817
	2208	313	284	206	.454	.187	.169	.726	.772	.817
	2209	315	286	208	.454	.191	.173	.726	.772	.817
	2210	317	288	210	.454	.195	.177	.726	.772	.817

HXX SERIES ROLLERS

The HXX series rollers are exhaust optimized versions of our popular HXL Intake lobes.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
HXX Series Rated Duration @ .020" Tappet Lift	12198	294	264	187	.445	.143	.126	.668	.712	.757
	12200	298	268	191	.445	.152	.134	.668	.712	.757
	12202	302	272	194	.445	.161	.143	.668	.712	.757
	12204	306	276	198	.445	.169	.152	.668	.712	.757
	12206	310	280	202	.445	.178	.161	.668	.712	.757
	12208	314	284	206	.445	.187	.169	.668	.712	.757

HPX SERIES ROLLERS

The HPX Series Rollers are higher lift, more aggressive versions of the HXX lobes for use in larger journal applications. These also work well with less rocker ratio and can be used on the intake or exhaust.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
HPX Series Rated Duration @ .020" Tappet Lift	12230	316	288	215	.495	.208	.188	.743	.792	.842
	12232	320	292	219	.495	.218	.198	.743	.792	.842
	12234	324	296	223	.495	.227	.207	.743	.792	.842

HXX LL SERIES ROLLERS

These are softer ramp designs, like the HXL designs, but with lower lift. Work well for AL block applications with higher ratios, or anywhere as an exhaust lobe.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
HXX LL Series Rated Duration @ .020" Tappet Lift	12050	292	262	180	.390	.135	.119	.585	.663	.702
	12052	296	266	184	.392	.143	.127	.588	.666	.706
	12054	300	270	188	.394	.151	.134	.591	.670	.709

IXL SERIES ROLLERS

The IXL Series is very similar to the HXL but is optimized for higher rocker ratios. This family also incorporates a design characteristic which should improve stability at very high rpm. These are quicker off the seat than the RX profiles, but the IXL nose shape will provide better stability with high ratios.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.8	1.9
IXL Series Rated Duration @ .020" Tappet Lift	2539	295	265	182	.420	.140	.125	.714	.756	.798
	2540	297	267	184	.422	.144	.128	.717	.760	.802
	2541	299	269	186	.424	.148	.132	.721	.763	.806
	2542	301	271	188	.426	.152	.136	.724	.767	.809
	2543	303	273	190	.428	.156	.140	.728	.770	.813
	2544	305	275	192	.430	.160	.144	.731	.774	.817

UB SERIES ROLLERS

The UB Series Rollers are based on some of our most popular high rpm, NASCAR style .875 flat tappet designs but are optimized to take advantage of the additional tappet velocity allowed with roller lifters. These are quicker off the seat than the HXL series but have slightly less high lift area. Performance will be similar to the HXL, but certain port designs and valve train systems will have a clear preference.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
UB Series Rated Duration @ .020" Tappet Lift	2214	287	257	179	.446	.126	.110	.714	.758	.803
	2215	289	259	181	.447	.130	.114	.715	.760	.805
	2246	291	261	183	.448	.135	.118	.717	.762	.806
	2247	293	263	185	.449	.139	.122	.718	.763	.808
	2238	295	265	186	.450	.143	.128	.720	.765	.810
	2239	297	267	188	.451	.147	.130	.722	.767	.812
	2240	299	269	190	.452	.152	.135	.723	.768	.814
	2241	301	271	192	.453	.156	.139	.725	.770	.815
	2242	303	273	194	.454	.160	.143	.726	.772	.817
	2243	305	275	196	.455	.164	.147	.728	.774	.819
	2244	307	277	198	.456	.168	.151	.730	.775	.821
	2245	309	279	200	.457	.172	.155	.731	.777	.823
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.8	1.9
UB Series Rated Duration @ .020" Tappet Lift	2265	285	255	176	.423	.122	.106	.719	.761	.804
	2267	287	257	178	.424	.126	.110	.721	.763	.806
	2273	289	259	179	.425	.130	.114	.723	.765	.808
	2274	291	261	181	.426	.134	.118	.724	.767	.809
	2275	293	263	183	.427	.138	.122	.726	.769	.811
	2276	295	265	185	.428	.142	.126	.728	.770	.813
	2277	297	267	187	.430	.146	.130	.731	.774	.817
	2278	299	269	189	.432	.150	.134	.734	.778	.821
	2279	301	271	191	.434	.155	.138	.738	.781	.825
	2280	303	273	193	.436	.159	.142	.741	.785	.828
	2281	305	275	195	.438	.163	.146	.745	.788	.832

UBL SERIES ROLLERS

The UBL series is based on the UB design, but is faster off the seat for improved performance in limited engine speed and lower lobe lift applications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
UBL Series Rated Duration @ .020" Tappet Lift	2195	283	254	174	.410	.120	.105	.656	.697	.738
	2196	287	258	179	.410	.128	.113	.656	.697	.738
	2198	295	266	185	.410	.144	.128	.656	.697	.738
	2199	299	270	189	.410	.152	.136	.656	.697	.738

UBLL SERIES ROLLERS

The UBL series is based on the UB design but is faster off the seat for improved performance in limited engine speed and lower lobe lift applications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.9	2.0	2.1
UBLL Series Rated Duration @ .020" Tappet Lift	2201	289	260	177	.389	.131	.116	.739	.778	.817
	2202	291	262	179	.390	.135	.119	.741	.780	.819
	2203	293	264	181	.391	.139	.123	.743	.782	.821

UBA SERIES ROLLERS

The UBA series is based on the UB design but is faster off the seat for improved performance in limited engine speed applications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
UBA Series Rated Duration @ .020" Tappet Lift	2248	285	256	179	.444	.126	.110	.710	.755	.799
	2249	287	258	181	.446	.131	.114	.714	.758	.803
	2250	289	260	183	.448	.135	.118	.717	.762	.806
	2251	291	262	185	.450	.139	.122	.720	.765	.810
	2252	293	264	187	.452	.144	.126	.723	.768	.814
	2253	295	266	189	.454	.148	.131	.726	.772	.817
	2254	297	268	191	.456	.153	.135	.730	.775	.821
	2255	299	270	193	.458	.157	.139	.733	.779	.824
	2256	301	272	195	.460	.161	.144	.736	.782	.828
	2257	303	274	197	.462	.166	.148	.739	.785	.832
	2258	305	276	199	.464	.170	.152	.742	.789	.835

DSP SERIES ROLLERS

The DSP fits nicely in between the UBA and DSS families. These profiles work great either in lower ratio, high rpm applications or in lower engine speed applications where you can use a faster lobe.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
DSP Series Rated Duration @ .020" Tappet Lift	12172	283	254	179	.465	.124	.107	.744	.791	.837
	12174	287	258	183	.467	.133	.115	.747	.794	.841
	12176	291	262	187	.469	.142	.124	.750	.797	.844
	12178	295	266	191	.471	.151	.133	.754	.801	.848
	12180	299	270	195	.473	.160	.142	.757	.804	.851

DSS SERIES ROLLERS

The DSS rollers are based off the best aspects of the HXL and DR series. These work very well in high torque applications that can take advantage of an aggressive high lobe lift design. The DSS series is a very good choice for applications where valve motion similar to that of an aggressive high ratio lobe is desired without going with an extreme rocker ratio. Available for 1.948" and larger journal sizes but cannot be ground on standard journal Small Block Chevy or small base circle cores.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
DSS Series Rated Duration @ .020" Tappet Lift	2551	288	260	187	.476	.139	.121	.714	.762	.809
	2555	299	262	189	.477	.143	.125	.716	.763	.811
	2557	292	264	191	.478	.148	.130	.717	.765	.813
	2559	294	266	192	.479	.153	.134	.719	.766	.814
	2560	296	268	194	.480	.157	.139	.720	.768	.816
	2521	298	270	196	.481	.162	.143	.722	.770	.818
	2522	300	272	198	.482	.166	.148	.723	.771	.819
	2523	302	274	200	.483	.171	.152	.725	.773	.821
	2524	304	276	202	.484	.176	.157	.726	.774	.823
	2525	306	278	204	.485	.180	.161	.728	.776	.825
	2526	308	280	206	.486	.185	.166	.729	.778	.826
	2527	310	282	208	.487	.189	.170	.731	.779	.828
	2528	312	284	210	.488	.194	.175	.732	.781	.830
	2529	314	286	212	.489	.199	.180	.734	.782	.831

HIGH RPM INTAKE ROLLERS

The High RPM Intake Rollers are used on highly modified, high rpm drag race motors. They are used primarily with ported heads that incorporate light weight valves and high spring loads.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
High RPM Intake Rated Duration @ .020" Tappet Lift	1301	318-6	278	195	.465	.161	.144	.698	.744	.791
	1309	324-7	284	198	.456	.171	.154	.684	.730	.775
	1302	324-6	284	200	.471	.172	.155	.706	.753	.800
	1030	324-30	288	207	.510	.188	.171	.765	.816	.867
	1046	326-30	293	211	.510	.198	.180	.765	.816	.867
	4107	328-6	288	201	.456	.177	.161	.684	.730	.775
	4068	328-5	288	203	.476	.180	.163	.714	.761	.810
	4085	328-11	288	203	.483	.179	.162	.724	.773	.821
	4091	330-10	287	203	.480	.180	.163	.720	.768	.816
	4063	332-7	292	204	.456	.184	.167	.684	.730	.775
	1490	332-6	292	206	.476	.188	.171	.714	.761	.810
	4118	336-4	296	209	.476	.195	.178	.714	.761	.810

REV DRAG RACE INTAKE ROLLERS

The REV Drag Race Rollers use some of the latest ramp designs to provide excellent torque, power and high speed stability for high rpm competition drag race applications. When coupled with high rocker ratios, these profiles provide more area than comparable standard ratio designs.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
REV Drag Race Int. Rated Duration @ .020" Tappet Lift	1770	301	268	188	.460	.147	.130	.736	.782	.828
	1771	303	270	190	.460	.152	.135	.736	.782	.828
	1839	305	272	192	.460	.156	.139	.736	.782	.828
	1840	307	274	194	.460	.160	.143	.736	.782	.828
	1842	311	278	198	.460	.169	.151	.736	.782	.828
	1844	315	282	201	.460	.177	.160	.736	.782	.828
	1846	319	286	205	.460	.186	.168	.736	.782	.828

TS PRO SERIES ROLLERS

The TS PRO Series is our most aggressive Pro Stock series to date, with faster ramps than the DR Drag Series. These designs get from .020" to .050" tappet lift and back in only 30°, resulting in the quickest drag race rollers COMP® has released. Excellent for Pro Stock style drag racing applications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.8	1.9
TS PRO Series Rated Duration @ .020" Tappet Lift	1372	TS309	278	202	.535	.176	.157	.910	.963	1.017
	1373	TS311	280	204	.537	.181	.162	.913	.967	1.020
	1374	TS313	282	206	.539	.186	.167	.916	.970	1.024
	1375	TS315	284	208	.541	.191	.172	.920	.974	1.028
	1376	TS317	286	210	.543	.196	.176	.923	.977	1.032
	1377	TS319	288	212	.545	.201	.181	.927	.981	1.036

RX DRAG RACE INTAKE ROLLERS

The RX Drag Race Rollers are similar to the REV designs, except they have more lift and use sections of our popular RX ramp. These designs have proven to provide an outstanding combination of high rpm power and stability while not sacrificing torque. Excellent in applications from high end bracket engines to Comp Eliminator and Pro Stock.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
RX Drag Race .470" Lobe Lift Rated Duration @ .020" Tappet Lift	1806	294	261	181	.470	.131	.114	.752	.799	.846
	1808	298	265	185	.470	.139	.122	.752	.799	.846
	1810	302	269	189	.470	.148	.131	.752	.799	.846
	1812	306	273	193	.470	.156	.139	.752	.799	.846
	1814	310	277	196	.470	.165	.147	.752	.799	.846
	1816	314	281	200	.470	.174	.156	.752	.799	.846
	1817	316	283	202	.470	.178	.160	.752	.799	.846
	1718	318	285	204	.470	.183	.165	.752	.799	.846
	1820	322	289	208	.470	.191	.173	.752	.799	.846
RX Drag Race .484" Lobe Lift Rated Duration @ .020" Tappet Lift	1826	310	277	197	.484	.165	.148	.774	.823	.871
	1828	314	281	201	.484	.174	.156	.774	.823	.871
	1829	316	283	203	.484	.179	.161	.774	.823	.871
	1719	318	285	204	.484	.183	.165	.774	.823	.871
	1832	322	289	208	.484	.191	.174	.774	.823	.871

DR PRO DRAG RACE INTAKE ROLLERS

The DR Pro Drag lobes are more aggressive than the RX Pro Drag lobes. They are use in professional class drag racing or similar applications and are not recommended for use above 10,000 rpm. These use our latest design techniques to provide excellent area and improved dynamics over similar profiles.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.8	1.9
DR Pro Drag Race Int. Rated Duration @ .020" Tappet Lift	1912	301	270	193	.507	.155	.137	.862	.913	.963
	1914	305	274	197	.509	.164	.146	.865	.916	.967
	1924	307	276	199	.520	.169	.150	.884	.936	.988
	1925	309	278	201	.521	.173	.155	.886	.938	.990
	1926	311	280	203	.521	.178	.159	.886	.938	.990
	1927	313	282	205	.522	.183	.164	.887	.940	.992
	1928	315	284	207	.523	.188	.169	.889	.941	.994
	1929	317	286	209	.524	.193	.173	.891	.943	.996
	1930	319	288	211	.525	.198	.178	.893	.945	.998
	1931	321	290	213	.526	.202	.183	.894	.947	.999
	1932	323	292	215	.527	.207	.188	.896	.949	1.001
	1933	325	294	217	.528	.212	.192	.898	.950	1.003
	1934	327	296	219	.529	.217	.197	.899	.952	1.005

RX PRO DRAG RACE INTAKE ROLLERS

These use the same ramps as the RX Drag Race .484" lobes but have more lift for all out applications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
RX Pro Drag Race Int. Rated Duration @ .020" Tappet Lift	1722	308	275	195	.488	.161	.143	.781	.830	.878
	1724	310	277	197	.491	.165	.148	.786	.835	.884
	1726	312	279	199	.492	.170	.152	.787	.836	.886
	1727	314	281	201	.493	.175	.156	.789	.838	.887
	1728	316	283	203	.496	.180	.160	.794	.843	.893
	1729	318	285	205	.497	.184	.165	.795	.845	.895
RX Pro Drag Race Int. .515" Lobe Lift Rated Duration @ .020" Tappet Lift	1742	310	277	197	.515	.166	.148	.824	.876	.927
	1743	312	279	199	.515	.170	.152	.824	.876	.927
	1744	314	281	201	.515	.175	.157	.824	.876	.927
	1736	316	283	203	.515	.180	.161	.824	.876	.927
	1745	318	285	205	.515	.184	.166	.824	.876	.927
	1737	320	287	207	.515	.189	.170	.824	.876	.927
	1746	322	289	209	.515	.193	.175	.824	.876	.927
	1747	326	293	213	.515	.202	.184	.824	.876	.927
	1748	330	297	217	.515	.211	.192	.824	.876	.927
	1749	334	301	220	.515	.220	.201	.824	.876	.927

CE DRAG RACE INTAKE ROLLERS

The CE Drag Race Intake Profiles are intended for very large port, high flow cylinder head applications. They work well in the high rpm range where Comp Eliminator and similar high rpm small displacement engines operate.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
CE Drag Race Int. Rated Duration @ .020" Tappet Lift	1286	310	274	189	.484	.154	.138	.774	.823	.871
	1288	314	278	192	.484	.162	.146	.774	.823	.871
	1295	316	280	194	.484	.166	.150	.774	.823	.871
	1260	318	282	194	.474	.160	.144	.758	.806	.853
	1278	318	282	196	.484	.170	.153	.774	.823	.871
	1268	320	284	196	.476	.165	.148	.762	.809	.857
	1271	320	284	198	.484	.174	.157	.774	.823	.871
	1272	322	286	198	.478	.169	.152	.765	.813	.860

DASH 31 ROLLERS

The Dash 31 Rollers are a more aggressive cousin of the original -30 lobes popular in Pro Stock in the early 90s. These have been used successfully in Pro Stock but are preferred for use in applications operating below 9000 rpm. These profiles result in excellent torque and make very good power up to the limiting speed of the valve train.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
Dash 31 Rated Duration @ .020" Tappet Lift	1186	306-31	275	198	.520	.166	.147	.832	.884	.936
	1188	308-31	277	200	.520	.171	.152	.832	.884	.936
	1176	310-31	279	202	.520	.176	.157	.832	.884	.936
	1180	312-31	281	204	.520	.181	.162	.832	.884	.936

MOUNTAIN MOTOR ROLLERS

These are assorted intake profiles that have been developed for large cubic inch, blown, and/or nitrous applications that respond favorably to more area and are not required to run over 9000 rpm. These have been used with high rocker ratios to result in over 1.000" valve lift in lower rpm applications.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.8	1.9
Mountain Motor Rated Duration @ .020" Tappet Lift	1027	322	292	214	.517	.206	.187	.879	.931	.982
	1028	326	296	218	.525	.216	.197	.893	.945	.998
	1240	324	294	214	.520	.201	.182	.884	.936	.988

HIGH RPM EXHAUST ROLLERS

These lobes are used on the exhaust side of highly modified, high rpm race engines. The cylinder head efficiency directly determines the design used.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
High RPM Exh. Rated Duration @ .020" Tappet Lift	4050	319-1	280	185	.400	.152	.137	.600	.640	.680
	4067	322-3	284	190	.420	.160	.145	.630	.672	.714
	4074	326-4	288	194	.420	.166	.151	.630	.672	.714
	1495	328-2	291	222	.427	.181	.165	.640	.683	.725
	4055	330-1	292	196	.420	.168	.152	.630	.672	.714
	1484	330-5	292	196	.420	.173	.158	.630	.672	.714
	1320	332-2	292	203	.440	.182	.166	.660	.704	.748
	1485	334-3	296	200	.420	.179	.165	.630	.672	.714
	4247	336-5	296	205	.440	.188	.172	.660	.704	.748
	1487	338-2	300	204	.420	.185	.171	.630	.672	.714
	1306	340-3	300	208	.440	.193	.177	.660	.704	.748
	1489	342-2	302	207	.420	.192	.177	.630	.672	.714
	4051	342-3	302	210	.460	.198	.182	.690	.736	.782
	4064	344-3	304	214	.470	.207	.190	.705	.752	.799
	1494	344-4	304	211	.440	.201	.185	.660	.704	.748
	4052	344-5	304	214	.460	.207	.190	.690	.736	.782
	4053	348-1	308	217	.460	.212	.195	.690	.736	.782
	1152	352-1	312	222	.477	.222	.205	.715	.765	.810
	4056	356-5	316	227	.480	.231	.214	.720	.768	.816
	4057	360-5	320	230	.480	.238	.221	.720	.768	.816

JX DRAG RACE EXHAUST ROLLERS

The JX Drag Race Exhaust profiles are good complements to either the CE, REV or RX intake designs. They are intended for very large port, high flow cylinder head applications and work well in the high rpm range where Comp Eliminator and similar high rpm small displacement engines operate.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
JX Drag Race Exh. Rated Duration @ .020" Tappet Lift	1285	333	292	196	.460	.167	.152	.736	.782	.828
	1261	335	294	198	.446	.171	.156	.714	.758	.803
	1287	335	294	198	.460	.171	.156	.736	.782	.828
	1291	337	296	200	.460	.175	.160	.736	.782	.828
	1263	339	298	201	.446	.179	.163	.714	.758	.803
	1289	339	298	202	.460	.179	.163	.736	.782	.828
	1269	341	300	203	.448	.183	.167	.717	.762	.806
	1293	341	300	203	.460	.183	.167	.736	.782	.828
	1273	343	302	205	.450	.187	.171	.720	.765	.810

XCX DRAG RACE EXHAUST ROLLERS

The XCX rollers provide state-of-the-art ramp designs with the ramp characteristics required to decrease pumping losses and allow exhaust gasses from overlap to provide signal to accelerate the intake charge into the cylinder in large port, drag race applications. These modern designs are very stable and respond well to rocker ratio increases.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
XCX Drag Race Exh. Rated Duration @ .020" Tappet Lift	1850	320	282	194	.460	.162	.146	.736	.782	.828
	1960	324	286	198	.450	.170	.154	.720	.765	.810
	1860	326	288	200	.470	.175	.158	.752	.799	.846
	1962	328	290	202	.450	.179	.162	.720	.765	.810
	1862	330	292	204	.470	.183	.166	.752	.799	.846
	1964	332	294	206	.450	.187	.170	.720	.765	.810
	1864	334	296	208	.470	.192	.175	.752	.799	.846
	1966	336	298	210	.450	.195	.178	.720	.765	.810
	1866	338	300	212	.470	.200	.183	.752	.799	.846
	1968	340	302	214	.450	.203	.186	.720	.765	.810
	1868	342	304	216	.470	.209	.191	.752	.799	.846
XCX Pro Drag Race Exh. Rated Duration @ .020" Tappet Lift	1871	330	292	205	.500	.184	.167	.800	.850	.900
	1872	332	294	207	.502	.188	.171	.803	.853	.904
	1873	334	296	209	.504	.193	.175	.806	.857	.907
	1874	336	298	211	.506	.197	.180	.810	.860	.911
	1875	338	300	213	.508	.202	.184	.813	.864	.914
	1876	340	302	215	.510	.206	.188	.816	.867	.918
	1877	342	304	217	.512	.211	.193	.819	.870	.922
	1878	344	306	219	.514	.215	.197	.822	.874	.925
	1879	346	308	221	.516	.220	.202	.826	.877	.929

XJX DRAG RACE EXHAUST ROLLERS

The XJX Drag Race lobes are like the XCX but with higher acceleration rates, more lift and more area under the curve. The assymetrical design with higher opening acceleration helps move more exhaust gas at bottom dead center, reducing losses as the piston comes up, driving the remaining exhaust from the cylinder. These profiles are designed for very stiff valve train systems with 60mm journals and larger, .850" diameter roller lifter wheels.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
XJX Pro Drag Race Exh. Rated Duration @ .020" Tappet Lift	1680	334	296	214	.538	.204	.184	.861	.915	.968
	1681	336	298	216	.540	.209	.189	.864	.918	.972
	1682	338	300	218	.542	.214	.194	.867	.921	.976
	1683	340	302	220	.544	.219	.199	.870	.925	.979
	1684	342	304	222	.546	.224	.204	.874	.928	.983
	1685	344	306	224	.548	.229	.209	.877	.932	.986
	1686	346	308	226	.550	.234	.214	.880	.935	.990

PRO MOD EXHAUST ROLLERS

The Pro Mod Exhaust Series is very similar to the original High RPM Exhaust series but with higher lifts and larger durations. These are excellent for either Mountain Motors or Pro Mod applications where more time and more area are required to scavenge the cylinder.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.6	1.7	1.8
Pro Mod Exhaust Rated Duration @ .020" Tappet Lift	1181	352	312	226	.510	.231	.212	.816	.867	.918
	1183	356	316	228	.510	.235	.217	.816	.867	.918
	1185	360	320	232	.510	.244	.226	.816	.867	.918
	1187	364	324	235	.510	.250	.233	.816	.867	.918
	1189	368	328	240	.510	.259	.242	.816	.867	.918

DRZ PRO STOCK DRAG ROLLERS

These profiles are High RPM Pro Stock designs for use in modern professional drag race classes.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.8	1.9	2.0
DRZ Pro Stock Drag Rated Duration @ .020" Tappet Lift	1975	306	275	200	.560	.168	.149	1.008	1.064	1.120
	1976	308	277	201	.562	.172	.154	1.012	1.068	1.124
	1977	310	279	203	.564	.177	.158	1.015	1.072	1.128
	1978	312	281	205	.566	.182	.163	1.019	1.075	1.132
	1979	314	283	206	.568	.186	.167	1.022	1.079	1.136
	1980	316	285	208	.570	.191	.172	1.026	1.083	1.140

DQS PRO STOCK DRAG ROLLERS

These profiles are High RPM Pro Stock designs for use in modern professional drag race classes.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.8	1.9	2.0
DQS Pro Stock Drag Rated Duration @ .020" Tappet Lift	1939	309	279	204	.566	.180	.160	1.019	1.075	1.132
	1943	311	281	206	.568	.185	.166	1.022	1.079	1.136
	1945	313	283	208	.570	.190	.170	1.026	1.083	1.140

DRS DRAG RACE ROLLERS

The DRS Drag Race lobes are the "evil cousin" of the DR drags. These are designed for very stiff valve train systems incorporating 60mm or larger cam journals. The major intensity of these are less than 30°, and these lobes provide more area under the curve than any previous designs.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.8	1.9	2.0
DRS Drag Race Rated Duration @ .020" Tappet Lift	1986	302	273	199	.560	.168	.148	1.008	1.064	1.120
	1987	304	275	201	.563	.173	.153	1.013	1.070	1.126
	1988	306	277	203	.566	.178	.158	1.019	1.075	1.132
	1989	308	279	205	.569	.183	.163	1.024	1.081	1.138
	1990	310	281	207	.572	.188	.167	1.030	1.087	1.144
	1991	312	283	209	.575	.193	.172	1.035	1.093	1.150
	1992	314	285	211	.578	.198	.177	1.040	1.098	1.156
	1993	316	287	213	.581	.203	.182	1.046	1.104	1.162
	1982	320	291	217	.585	.213	.192	1.053	1.112	1.170

DRI PRO STOCK DRAG ROLLERS

These profiles are High RPM Pro Stock designs for use in modern professional drag race classes.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.8	1.9	2.0
DRI Pro Stock Drag Rated Duration @ .020" Tappet Lift	2037	308	279	208	.575	.190	.169	1.035	1.093	1.150
	2039	309	280	209	.576	.192	.171	1.037	1.094	1.152
	2041	310	281	210	.577	.195	.174	1.039	1.096	1.154
	2042	312	283	212	.579	.200	.179	1.042	1.100	1.158
	2043	314	285	214	.581	.205	.184	1.046	1.104	1.162
	2044	316	287	216	.583	.211	.189	1.049	1.108	1.166
	2045	318	289	218	.585	.216	.195	1.053	1.112	1.170

DRI PRO STOCK DRAG ROLLERS

The DRI Pro Stock designs fill the gap between current Pro Stock and Mountain Motor Designs. For 60mm journals and .850" roller wheels.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.8	1.9	2.0
DRI Pro Stock Drag Rated Duration @ .020" Tappet Lift	2290	306	277	206	.582	.185	.164	1.048	1.106	1.164
	2291	308	279	208	.584	.190	.169	1.051	1.110	1.168
	2292	310	281	210	.586	.195	.174	1.055	1.113	1.172
	2294	314	285	214	.590	.206	.184	1.062	1.121	1.180
	2296	316	289	218	.594	.217	.195	1.069	1.129	1.188

DRI HI-LIFT PRO DRAG ROLLERS

The DRI Drag Race lobes are the big inch versions of the DR drags. These are designed for very stiff valve train systems incorporating 62.85mm & 65mm cam journals. The major intensity of these are less than 30°, and these lobes provide more lift.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.8	1.9
DRI Hi-Lift Pro Drag Rated Duration @ .020" Tappet Lift	1568	310	281	210	.632	.197	.175	1.074	1.138	1.201
	1570	314	285	214	.636	.208	.186	1.081	1.145	1.208
	1572	318	289	218	.640	.220	.197	1.088	1.152	1.216

DRM PRO STOCK DRAG ROLLERS

These profiles are High RPM Pro Stock designs for use in modern professional drag race classes.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.8	1.9	2.0
DRM Pro Stock Drag Rated Duration @ .020" Tappet Lift	2387	303	274	202	.570	.175	.155	1.026	1.083	1.140
	2390	305	276	204	.572	.180	.160	1.030	1.087	1.144
	2391	307	278	206	.574	.185	.165	1.033	1.091	1.148
	2399	308	279	207	.575	.188	.167	1.035	1.093	1.150
	2392	309	280	208	.576	.190	.170	1.037	1.094	1.152
	2393	311	282	210	.578	.196	.175	1.040	1.098	1.156

DRP PRO STOCK DRAG ROLLERS

These profiles are High RPM Pro Stock designs for use in modern professional drag race classes.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.8	1.9
DRP Pro Stock Drag Rated Duration @ .020" Tappet Lift	2385	309	281	210	.593	.195	.174	1.008	1.067	1.127
	2586	311	283	212	.595	.201	.180	1.012	1.071	1.131
	2587	313	285	214	.597	.206	.185	1.015	1.075	1.134
	2588	315	287	216	.599	.212	.190	1.018	1.078	1.138
	2589	317	289	218	.601	.217	.196	1.022	1.082	1.142

DRX DRAG RACE EXHAUST ROLLERS

The DRX Drag Race Exhaust lobes are a faster version of our XCX designs. They have a faster opening to increase torque and have more area under the curve. These work well with DRS intake lobes on 60mm or larger cores.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.8	1.9	2.0
DRX Drag Race Exh. Rated Duration @ .020" Tappet Lift	1995	335	300	215	.529	.202	.185	.952	1.005	1.058
	1996	337	302	217	.531	.207	.189	.956	1.009	1.062
	1997	339	304	219	.533	.212	.193	.959	1.013	1.066
	1998	341	306	221	.535	.216	.198	.963	1.017	1.070
	1999	343	308	223	.537	.221	.202	.967	1.020	1.074

XK PRO STOCK DRAG ROLLERS

These profiles are High RPM Pro Stock designs for use in modern professional drag race classes.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.8	1.9	2.0
XK Pro Stock Drag Rated Duration @ .020" Tappet Lift	1734	334	297	217	.566	.215	.194	1.019	1.075	1.132
	1735	336	299	219	.566	.220	.199	1.019	1.075	1.132
	1723	337	300	220	.566	.222	.202	1.019	1.075	1.132
	1695	338	301	222	.566	.225	.204	1.019	1.075	1.132
	2724	340	303	223	.568	.229	.208	1.022	1.079	1.136
	2725	342	305	225	.570	.234	.213	1.026	1.083	1.140
	2726	344	307	227	.572	.239	.218	1.030	1.087	1.144
	2727	346	309	229	.574	.244	.223	1.033	1.091	1.148
	2728	348	311	231	.576	.249	.228	1.037	1.094	1.152

NX PRO STOCK EXHAUST ROLLERS

These profiles are High RPM Pro Stock designs for use in modern professional drag race classes.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.8	1.9	2.0
NX Pro Stock Exh. Rated Duration @ .020" Tappet Lift	2577	332	301	224	.562	.230	.211	1.012	1.068	1.124
	2578	334	303	226	.564	.235	.215	1.015	1.072	1.128
	2579	336	305	228	.566	.240	.220	1.019	1.075	1.132
	2580	338	307	230	.568	.246	.226	1.022	1.079	1.136
	2581	340	309	232	.570	.251	.231	1.026	1.083	1.140

XKL PRO STOCK DRAG ROLLERS

These profiles are High RPM Pro Stock designs for use in modern professional drag race classes.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.7	1.8	1.9
XKL Pro Stock Drag Rated Duration @ .020" Tappet Lift	1833	334	298	220	.588	.220	.200	1.000	1.058	1.117
	1834	336	300	222	.590	.226	.205	1.003	1.062	1.121
	1775	338	302	224	.592	.231	.210	1.006	1.066	1.125
	1835	340	304	226	.594	.236	.215	1.010	1.069	1.129
	1836	342	306	228	.596	.242	.220	1.013	1.073	1.132
	1837	344	308	230	.598	.247	.226	1.017	1.076	1.136
	1847	346	310	232	.600	.253	.231	1.020	1.080	1.140
	1848	348	312	234	.602	.258	.236	1.023	1.084	1.144
	1849	350	314	236	.604	.264	.242	1.027	1.087	1.148
	1858	352	316	238	.606	.269	.247	1.030	1.091	1.151
	1859	354	318	240	.608	.275	.253	1.034	1.094	1.155

XK .635" PRO DRAG ROLLERS

The XK Drag Race Exhaust lobes are a faster version of our XCX designs. The .635" lift series is optimized for big inch applications and 62.85 or 65mm journals.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.8	1.9	2.0
XK .635" Pro Drag Rated Duration @ .020" Tappet Lift	1562	348	311	232	.635	.254	.232	1.080	1.143	1.207
	1563	352	315	236	.635	.264	.242	1.080	1.143	1.207
	1564	356	319	240	.635	.275	.253	1.080	1.143	1.207
	1565	360	323	244	.635	.286	.264	1.080	1.143	1.207

UDR FUEL & ALC INTAKE ROLLERS

The UDR designs take advantage of our latest design techniques for Chrysler Hemi drag racing classes. These will provide higher lift and more area than older designs while improving stability for higher rpm operation with the Hemi style valve train geometry. For 2.124"+ journals and .800"+ roller wheels.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.68	1.73	1.78
UDR Fuel Int. Rated Duration @ .020" Tappet Lift	2067	306	273	192	.520	.154	.137	.874	.900	.926
	2068	310	277	196	.523	.162	.145	.879	.905	.931
	2073	314	281	199	.526	.171	.153	.884	.910	.936
	2074	318	285	203	.526	.180	.162	.884	.910	.936
	2075	322	289	207	.526	.189	.171	.884	.910	.936
	2076	326	293	211	.526	.199	.180	.884	.910	.936
	2077	330	297	215	.526	.208	.189	.884	.910	.936

FDR FUEL & ALC INTAKE ROLLERS

The FDR designs are similar to the UDR designs but have more lift and faster ramps. These are designed around for slightly lower rpm than the UDR series but should be stable in most applications. For 2.124"+ journals and .800"+ roller wheels.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.68	1.73	1.78
FDR Fuel Int. Rated Duration @ .020" Tappet Lift	2082	319	287	207	.536	.187	.169	.900	.927	.954
	2083	323	291	211	.536	.197	.178	.900	.927	.954
	2084	327	295	215	.536	.206	.187	.900	.927	.954
	2085	331	299	219	.536	.216	.197	.900	.927	.954

FCX FUEL & ALC EXHAUST ROLLERS

The FCX designs are based on our popular XCX exhaust designs but have limited opening acceleration to accommodate the increased cylinder pressures seen at exhaust opening in these applications. These will work on the intake side but are optimized for the exhaust. For 2.124"+ journals and .800"+ roller wheels.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.68	1.73	1.78
FCX Fuel Exh. Rated Duration @ .020" Tappet Lift	2171	316	277	191	.512	.154	.138	.860	.886	.911
	2169	320	281	195	.512	.163	.146	.860	.886	.911
	2162	324	285	199	.512	.171	.154	.860	.886	.911
	2163	328	289	203	.512	.180	.162	.860	.886	.911
	2164	332	293	207	.512	.189	.171	.860	.886	.911
	2165	336	297	211	.512	.198	.180	.860	.886	.911
	2166	340	301	215	.512	.206	.188	.860	.886	.911
	2167	344	305	219	.512	.215	.197	.860	.886	.911

EF FUEL & ALC INTAKE ROLLERS

These profiles are top fuel designs for use in modern professional drag race classes.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.68	1.73	1.78
EF Fuel Int. Rated Duration @ .020" Tappet Lift	2096	329	295	211	.475	.198	.180	.798	.822	.846
	2097	329	295	212	.500	.200	.182	.840	.865	.890
	2098	335	301	217	.475	.210	.193	.798	.822	.846
	2099	335	301	218	.500	.213	.195	.840	.865	.890

FLI FUEL INTAKE ROLLERS

These profiles are top fuel designs for use in modern professional drag race classes.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.68	1.73	1.78
FLI Fuel Int. Rated Duration @ .020" Tappet Lift	2114	329	296	214	.513	.203	.185	.862	.887	.913
	2115	333	300	218	.515	.212	.194	.865	.891	.917
	2116	337	304	221	.517	.221	.202	.869	.894	.920

FLX FUEL EXHAUST ROLLERS

The FDR designs are similar to the UDR designs but have more lift and faster ramps. These are designed around for slightly lower rpm than the UDR series but should be stable in most applications. For 2.124"+ journals and .800"+ roller wheels.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.68	1.73	1.78
FDR Rollers Rated Duration @ .020" Tappet Lift	2138	333	298	213	.510	.203	.186	.857	.882	.908
	2139	337	302	217	.512	.212	.195	.860	.886	.911
	2140	341	306	221	.514	.221	.203	.864	.889	.915

CHRYSLER SPECIAL RACE ROLLER

These designs are for Chryslers only. The "Special Roller" offers a variety of lobes used primarily on 383-426W-426 Hemis and 440 motors in Super Street, Super Stock, Pro Stock, and Alcohol burning Hemis.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200		106°	110°	1.5	1.6	1.7
Chrysler Specials Rated Duration @ .020" Tappet Lift	1661	314-1	274	190	.480	.148	.132	.720	.768	.816
	1625	320-8	282	202	.500	.179	.161	.750	.800	.850
	1634	327-2	286	198	.500	.175	.159	.750	.800	.850
	4248	324-8	286	204	.500	.186	.167	.750	.800	.850
	4083	333-1	292	202	.500	.174	.168	.750	.800	.850
	1642	330-9	292	208	.500	.193	.176	.750	.800	.850
	1635	327-3	290	206	.485	.186	.169	.728	.776	.825
	1491	331-3	294	208	.485	.191	.174	.728	.776	.825
	1649	335-4	294	212	.485	.199	.183	.728	.776	.825
	1650	336-3	298	214	.500	.204	.186	.750	.800	.850
	1662	342-4	304	217	.500	.214	.197	.750	.800	.850

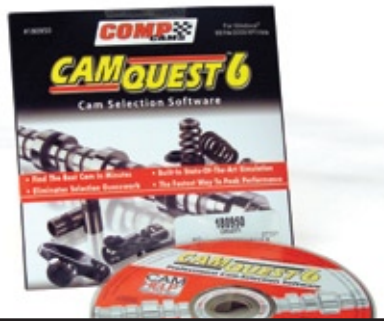
OVERHEAD CAM

FORD MODULAR XTREME ENERGY™ 4.6 & 5.4L – SOHC or DOHC

These profiles are developed for use in Ford Modular engines. The .550" versions are more aggressive off the seat and have more area. The .500" lift versions will work in 1998 and earlier SOHC engines without cylinder head modifications. They also work very well in DOHC applications that have been modified to accept .500" valve lift. The .425" versions are best suited DOHC applications with 1999 or later PI cylinder heads and can be used with stock valve train. Valve durations and lift given for stock valve, lifter and rocker geometry.

	DESIGN NUMBER	RATED DURATION AT VALVE	DURATION IN DEGREES AT VALVE		LOBE LIFT	VALVE LIFT
CAMSHAFT TYPE			@ .050	@ .200		
XE Ford 4.6/5.4L Rated Duration @ .006" Valve Lift Valve Lift Given w/ Stock Geometry	9240	254	218	164	.236	.425
	9241	258	222	171	.236	.425
	9242	262	226	177	.236	.425
	9243	266	230	179	.236	.425
	9244	270	234	182	.236	.425
	9245	274	238	186	.236	.425
	9320	256	220	165	.250	.450
	9321	260	224	168	.250	.450
	9322	264	228	172	.250	.450
	9323	268	232	176	.250	.450
	9324	272	236	179	.250	.450
	9325	276	240	183	.250	.450
	9341	258	222	169	.263	.475
	9342	262	226	172	.263	.475
	9343	266	230	176	.263	.475
	9344	270	234	180	.263	.475
	9345	274	238	183	.263	.475
	9346	278	242	186	.263	.475
	9254	254	216	164	.274	.500
	9256	262	224	171	.274	.500
	9257	268	230	177	.274	.500
	9258	270	232	179	.274	.500
	9259	274	236	182	.274	.500
	9260	278	240	186	.274	.500
	9266	262	226	177	.300	.550
	9267	266	230	181	.300	.550
	9268	270	234	185	.300	.550
	9269	274	238	189	.300	.550
	9270	278	242	192	.300	.550
	9271	282	246	196	.300	.550
	9272	286	250	199	.300	.550
	9273	290	254	203	.300	.550

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FORD MODULAR XTREME ENERGY™ 4.6 & 5.4L – 3V

These profiles are developed for use in 3V Ford Modular engines. Note that the effective rocker ratio is much higher in this application than in the 2V or 4V. The base circles are also smaller, hence the other profiles are not recommended in 3V applications. Also, these 3V intake profiles are quicker than the exhaust due to the much lighter valves.

	DESIGN NUMBER	RATED DURATION AT VALVE	DURATION IN DEGREES AT VALVE		VALVE LIFT	LOBE LIFT	THEORETICAL VALVE LIFT @ "0" LASH ROCKER ARM RATIO		
CAMSHAFT TYPE			@ .050	@ .200			2.0	2.05	2.1
XE 3V Mod. Int. Rated Duration @ .006" Valve Lift	9234	253	214	161	.480	.236	.472	.484	.496
	9236	261	222	169	.490	.241	.482	.494	.506
	9237	265	226	173	.500	.246	.492	.504	.517
	9238	269	230	177	.510	.251	.502	.515	.527
	9239	273	234	181	.520	.255	.510	.523	.536
XE 3V Mod. Exh. Rated Duration @ .006" Valve Lift	9246	270	227	169	.470	.234	.468	.480	.491
	9247	274	231	173	.475	.235	.470	.482	.494
	9248	278	235	177	.480	.237	.474	.486	.498
	9251	282	239	181	.485	.240	.480	.492	.504
	9252	286	243	185	.490	.243	.486	.498	.510
XE 3V LL Mod. Int. Rated Duration @ .006" Valve Lift	19202	253	214	160	.450	.222	.444	.455	.466
	19203	257	218	163	.450	.222	.444	.455	.466
	19204	261	222	167	.450	.222	.444	.455	.466
	19205	265	226	171	.450	.222	.444	.455	.466
	19207	273	234	179	.450	.222	.444	.455	.466
	19209	281	242	186	.450	.222	.444	.455	.466
XE 3V LL Mod. Exh. Rated Duration @ .006" Valve Lift	19213	270	227	169	.450	.223	.446	.457	.468
	19214	274	231	173	.450	.223	.446	.457	.468
	19215	278	235	176	.450	.223	.446	.457	.468
	19216	282	239	180	.450	.223	.446	.457	.468
	19221	298	246	186	.450	.223	.446	.457	.468
Rated Duration @ .006" Valve Lift Faster Int. XE 3V TVK Int. Rated Duration @ .006" Valve Lift	19223	306	254	193	.450	.223	.446	.457	.468
	19225	314	262	201	.450	.223	.446	.457	.468
	19194	264	228	176	.500	.246	.492	.504	.517
	19240	256	221	171	.523	.256	.512	.525	.538
	19242	264	229	179	.535	.262	.524	.537	.550
	19244	272	237	187	.547	.267	.534	.547	.561
	19246	280	245	195	.559	.273	.546	.560	.573
XE 3V TVK Exh. Rated Duration @ .006" Valve Lift	19251	267	228	176	.538	.265	.530	.543	.557
	19253	275	236	184	.550	.271	.542	.556	.569
	19254	279	240	188	.555	.273	.546	.560	.573
	19255	283	244	192	.560	.275	.550	.564	.578
	19256	287	248	195	.560	.275	.550	.564	.578
	19258	295	256	203	.560	.275	.550	.564	.578

FORD 2000-2300 OHC STREET

These profiles are designed for use in Ford 2000-2300 OHC (Pinto) applications with factory style sliding followers. Cams must be nitrided after ground and will require extra time. Valve durations and lift given for stock valve, lifter and rocker geometry.

	DESIGN NUMBER	VALVE DURATION		LOBE LIFT	VALVE LIFT
CAMSHAFT TYPE		@ .010"	@ .050"		
Street Profiles Hydraulic Lifter Valve Lift Given w/ Stock Geometry	8022	240	200	.240	.400
	8023	252	210	.246	.406
	8024	260	218	.252	.420
	8025	268	226	.264	.440
	8026	280	236	.277	.460
Street Profiles Solid Lifter .010" Lash	8006	272	242	.282	.445
	8007	294	264	.292	.463
	8008	300	278	.350	.580

FORD 2000-23000 OHC RACE

These profiles are designed for use in Ford 2000-2300 OHC (Pinto) applications with factory style sliding followers. Cams must be nitrided after ground and will require extra time. Valve durations and lift given for stock valve, lifter and rocker geometry.

	DESIGN NUMBER	VALVE DURATION		LOBE LIFT	VALVE LIFT
CAMSHAFT TYPE		@ .010"	@ .050"		
Race Profiles Base Designs Solid Lifter .010" Lash Valve Lift Given w/ Stock Geometry	8064	270	238	.280	.460
	8066	280	248	.300	.500
	8098	280	248	.270	.460
	8096	288	256	.300	.500
	8090	300	268	.345	.575
Race Profiles .480" Lift Rule Solid Lifter .010" Lash	8312	288	260	.284	.480
	8314	292	264	.284	.480
	8316	296	268	.284	.480
Race Profiles Base Designs Solid Lifter .010" Lash	8304	294	272	.297	.516
	8306	300	278	.297	.516
	8325	314	282	.297	.516
	8327	320	288	.297	.516



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FORD 2000-2300 OHC RACE ROLLER FOLLOWER

These profiles are designed for use in Ford 2000-2300 OHC (Pinto) applications with roller followers.

	DESIGN NUMBER	VALVE DURATION		LOBE LIFT	VALVE LIFT
CAMSHAFT TYPE	Int./Exh.	@ .010"	@ .050"		
Race Profiles High-Tech™ Designs Roller Lifter .010" Lash	8374/8375	279	246	.344	.620
	8376/8377	283	250	.344	.620
	8380/8381	291	258	.344	.620
	8382/8383	295	262	.344	.620
	8384/8385	299	266	.344	.620
	8386/8387	303	270	.344	.620
CAMSHAFT TYPE	Int.	@ .010"	@ .050"		
Race Profiles RT Style Designs Roller Lifter .010" Lash	8360	286	258	.355	.645
	8362	290	262	.360	.655
	8364	294	266	.363	.660
	8366	298	270	.363	.660

GM ECOTECH - XTREME ENERGY™ HYDRAULIC ROLLER OHC

These profiles are designed for use in GM Ecotech applications. Valve durations and lift given for stock valve, lifter and rocker geometry.

	DESIGN NUMBER	RATED DURATION AT VALVE	DURATION IN DEGREES AT VALVE		LOBE LIFT	VALVE LIFT
CAMSHAFT TYPE		@ .006"	@ .050"	@ .200"		
Street Hydraulic Int. Rated Duration @ .006" Valve Lift	8754	240	198	141	.251	.423
	8756	246	204	146	.251	.423
	8758	252	210	151	.251	.423
	8760	258	216	157	.260	.440
	8762	264	222	164	.270	.456
Street Hydraulic Exh. Rated Duration @ .006" Valve Lift	8755	244	200	140	.248	.419
	8757	250	206	145	.248	.419
	8759	256	212	150	.248	.419
	8761	262	218	156	.258	.436
	8763	268	224	163	.268	.453
Race Designs Int. Rated Duration @ .006" Valve Lift	8766	292	247	186	.294	.499
	8770	303	259	198	.300	.511
	8780	310	267	207	.350	.591
Race Designs Exh. Rated Duration @ .006" Valve Lift	8767	294	249	187	.294	.499
	8771	306	261	199	.300	.512
	8781	314	268	208	.350	.591

MITSUBISHI 4G63 - XTREME ENERGY™ HYDRAULIC ROLLER OHC

These profiles are designed for use in Mitsubishi 4G63 applications. Valve durations and lift given for stock valve, lifter and rocker geometry.

	DESIGN NUMBER	VALVE DURATION		LOBE LIFT	VALVE LIFT	INT./ EXH.
CAMSHAFT TYPE		@ .004"	@ .050"			
Mitsubishi 4G63 Street Hydraulic Rated Duration @ .004" Valve Lift	8735	251	204	.237	.407	INT.
	8736	250	204	.229	.391	EXH.
	8737	259	212	.239	.411	INT.
	8738	258	212	.232	.395	EXH.
	8739	259	212	.239	.411	INT.
	8740	258	212	.232	.395	EXH.
	8741	266	220	.242	.415	INT.
	8742	266	220	.234	.399	EXH.
	8745	256	210	.255	.434	INT.
	8746	257	210	.239	.411	EXH.

NISSAN L16, 18, 20B

These profiles are designed for use in Nissan L16, 18, 20B applications. Valve durations and lift given for stock valve and rocker geometry.

	DESIGN NUMBER	VALVE DURATION		LOBE LIFT	VALVE LIFT
CAMSHAFT TYPE		@ .010"	@ .050"		
Street Profiles	8250	240	194	.285	.400
	8255	252	204	.293	.410
	8251	260	214	.301	.420
	8252	268	222	.308	.430
	8253	280	236	.330	.460
	8254	292	246	.344	.480
Race Profiles	8260	294	258	.395	.573
	8261	300	264	.400	.580
	8262	306	270	.405	.587

TOYOTA 20R-22RE

These profiles are designed for use in Toyota 20R-22RE applications. Valve durations and lift given for stock valve and rocker geometry.

	DESIGN NUMBER	VALVE DURATION		LOBE LIFT	VALVE LIFT
CAMSHAFT TYPE	INT./EXH.	@ .010"	@ .050"		
Street Profiles	8216/8217	247	206	.282	.419
	8218/8219	255	214	.288	.429
	8202/8203	263	222	.295	.440
	8204/8205	271	230	.301	.450
	8206/8207	279	238	.321	.484
Race Profiles	8232/8233	317	275	.308	.460
	8234/8235	321	279	.305	.457
	8236/8237	325	283	.305	.457
	8240/8241	321	279	.328	.505
	8242/8243	325	283	.328	.505

VW OR DIRECT 1" TAPPET

	DESIGN NUMBER	RATED DURATION AT VALVE	DURATION IN DEGREES AT VALVE		LOBE LIFT	MIN. LIFTEROD	MIN. BCR
CAMSHAFT TYPE		@ .010"	@ .050"	@ .200"			
VW or Direct 1" Tappet Direct - Bucket	6800	216	180	95	.260	1.000	.640
	6801	226	190	109	.280	1.000	.620
	6802	236	200	122	.300	1.000	.600
	6803	246	210	134	.320	1.000	.580
	6804	256	220	145	.340	1.000	.560
	6805	266	230	153	.360	1.000	.540
	6806	276	240	162	.380	1.000	.520
	6807	286	250	169	.400	1.000	.500
	6808	296	260	179	.420	1.000	.480

Thumpr™ Flat Head Ford - Direct Solid 1" Tappet (CCW ROTATION)

	DESIGN NUMBER	RATED DURATION AT VALVE	DURATION IN DEGREES AT VALVE		LOBE LIFT	MIN. LIFTEROD	MIN. BCR
CAMSHAFT TYPE		@ .010"	@ .050"	@ .200"			
Intake 1" Tappet Direct	19520	267	227	160	.354	1.000	0.540
	19522	275	235	169	.368	1.000	0.526
	19524	283	243	177	.382	1.000	0.512
Exhaust 1" Tappet Direct	19531	299	241	151	.350	1.000	0.544
	19533	307	249	160	.364	1.000	0.530
	19535	315	257	168	.378	1.000	0.516

Can also be used in VW applications

OHC – MULTIPURPOSE BUCKET DESIGNS

	DESIGN NUMBER	RATED DURATION AT VALVE	DURATION IN DEGREES AT VALVE		LOBE LIFT	MIN. LIFTEROD	MIN. BCR
CAMSHAFT TYPE		@ .010"	@ .050"	@ .200"			
OHC Direct - Bucket	9048	248	215	146	.365	1.080	.550
	9042	256	222	150	.360	1.020	.550
	9045	274	228	144	.320	.900	.500
	9044	264	230	158	.360	1.000	.500
	9046	273	238	162	.360	.980	.500

QUAD 4 – BUCKET DESIGNS

	DESIGN NUMBER	RATED DURATION AT VALVE	DURATION IN DEGREES AT VALVE		LOBE LIFT	MIN. LIFTEROD	MIN. BCR
CAMSHAFT TYPE		@ .010"	@ .050"	@ .200"			
Quad 4 Direct – Bucket	9013	260	226	160	.410	1.100	.650
	9014	266	232	166	.420	1.100	.650
	9015	272	238	172	.430	1.100	.650

OHZ – STREET/STRIP BUCKET DESIGNS

	DESIGN NUMBER	RATED DURATION AT VALVE	DURATION IN DEGREES AT VALVE		LOBE LIFT	MIN. LIFTEROD	MIN. BCR
CAMSHAFT TYPE		@ .006"	@ .050"	@ .200"			
OHZ Direct – Bucket	9090	258	214	149	.400	1.180	.680
	9091	262	218	153	.400	1.180	.660
	9092	268	224	158	.400	1.180	.640
	9093	274	230	163	.400	1.180	.620
	9086	280	236	168	.400	1.180	.600
	9087	286	242	173	.400	1.180	.600
OHZ Direct – Bucket	9094	264	220	153	.380	1.180	.650
	9095	272	228	160	.380	1.180	.630
	9109	280	235	150	.320	1.025	.500
	9096	280	236	166	.380	1.180	.610
	9108	284	239	163	.360	1.025	.500

OHRX – HIGH RPM BUCKET DESIGN

	DESIGN NUMBER	RATED DURATION AT VALVE	DURATION IN DEGREES AT VALVE		LOBE LIFT	MIN. LIFTEROD	MIN. BCR
CAMSHAFT TYPE		0.010"	@ .050"	@ .200"			
OHRX Direct – Bucket	9072	281	260	199	.480	1.200	.550
	9073	287	266	204	.490	1.200	.550
	9074	293	272	210	.500	1.200	.550

PCI INTAKE SERIES – LIMITED RPM OHC 33mm BUCKET

Fast Intake OHC Lift Rule & RPM Limited - 33mm Bucket, 0.738" BCR. Can be used with Hydraulic Bucket and zero lash or with Solid Bucket and 0.005" to 0.010" lash.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		
CAMSHAFT TYPE		@ .006	@ .010	@ .020	@ .050	@ .200		106°	110°	114°
PCI 33 Rated Duration @ .006" Tappet Lift	19701	293	282	267	248	192	0.498	.144	.122	.100
	19702	297	286	271	252	196	0.498	.155	.133	.111
	19703	301	290	275	256	200	0.498	.166	.144	.122

PCX EXHAUST SERIES – LIMITED RPM OHC 33mm BUCKET

Exhaust OHC Lift Rule & RPM Limited – 33mm Bucket, 0.738" BCR. Can be used with Hydraulic Bucket and zero lash or with Solid Bucket and 0.005" to 0.010" lash.

	LOBE NUMBER	RATED DURATION	DURATION IN DEGREES		DURATION IN DEGREES		LOBE LIFT	TAPPET LIFT @ TDC		
CAMSHAFT TYPE		@ .006	@ .010	@ .020	@ .050	@ .200		106°	110°	114°
PCX 33 Rated Duration @ .006" Tappet Liftt	19704	290	280	264	242	185	0.498	.126	.104	.083
	19705	294	284	268	246	189	0.498	.137	.115	.093
	19706	298	288	272	250	193	0.498	.148	.126	.104
	19707	302	292	276	254	197	0.498	.159	.137	.115
	19708	306	296	280	258	201	0.498	.170	.148	.126

CAMSHAFT TERMS

.050" Duration – duration measured in crank degrees from the point where the lifter rises .050" from the base circle on the opening side of the cam lobe to the point on the closing side of the lobe where the lifter drops to .050" from the base circle

Advance – decreases the intake centerline and increases the exhaust centerline

Advertised Duration – point of measurement for advertised duration can occur at any lift above the base circle – the lower the point of measurement for lift, the higher the duration angle

Base Circle – part of the lobe profile that does not move the lifter

Bottom Dead Center – position of a piston in which it is nearest to the crankshaft

Cam Centerline – where the actual centerline of the #1 cylinder intake lobe is in relation to the #1 piston, defined in degrees of crank rotation after Top Dead Center

Cam Follower – a roller or flat faced companion to the camshaft that transfers the action of the cam to the rest of the valve train by sliding or rolling on the cam lobe surface

Cam Lift – maximum distance the cam profile will lift the lifter above the base circle

Cam Lobe Separation – the actual spacing of the intake and exhaust lobes from each other for the same cylinder, a fixed amount ground into the shaft at the time of manufacture

Cam Profile – actual shape of the cam lobe

Camshaft – consists of a cylindrical rod running the length of the cylinder bank with a number of oblong lobes protruding from it, one for each valve. The cams force the valves open by pressing on the valve, or on some intermediate mechanism, as they rotate.

Cam Walk – condition which occurs with roller tappet camshafts as a result of the forces of the cam being driven from one end and also from the forces of the lifters on the camshaft

Dual Pattern – cams in which the intake lobe design is different from that of the exhaust

Duration – the total angle in crankshaft degrees that a valve is open – duration determines where the power range will be for a cam

Dynamometer (Dyno) – apparatus for measuring the torque of an automobile engine at various rpm and converting to horsepower

Exhaust Centerline – angle in crank degrees between the event of maximum exhaust lift and that cylinder's piston coming to TDC

Gross Valve Lift – total cam lift multiplied by the rocker arm ratio

Hydraulic Flat Tappet – flat tappet lifter has a flat appearing base that rides on the cam lobe face, rotating slowly within the lifter bore; internally, the lifter features a cavity that fills with oil and a piston that is depressed by the pushrod and valve spring

Hydraulic Roller – lifters equipped with a roller wheel that tracks along the camshaft lobe, reducing wear and friction, and enabling faster lobe ramp rates than flat tappet cams; quiet operation lifters feature the same internal design as hydraulic flat tappet lifters with internal cavities and pistons but do not rotate within the lifter bore

Intake Centerline – angle in crank degrees between a cylinder's piston coming to TDC and the event of maximum intake lift.

Lobe Centerline – imaginary line that goes from the center of the base circle through the point of maximum lift on a lobe

Lobe Profile – contour of the cam lobe that determines how high and how long the valve is open

Lobe Separation – equal to ½ the angle in crankshaft degrees of rotation between the maximum exhaust valve lift and maximum intake lift

Net Valve Lift – gross valve lift minus the valve lash set for a mechanical camshaft – not specified for hydraulic cams

Mechanical Tappet – solid link between the cam lobe which it is riding on and the pushrod which rides upon it

Nose – top or full lift portion of the cam love, more specifically where the lifter and valve are kept open for as long as possible before the transition to the closing ramps are initiated

Overlap – angle in crankshaft degrees that both the intake and exhaust valves are open simultaneously when the piston is at Top Dead Center

Pre-Load – in hydraulic lifters the distance that pushrod submerges into a lifter's pushrod seat (approximately .020"-.070"

Ramps – lash ramp, opening ramp and closing ramp; portions of the cam love which do the actual lifting up or setting down of the lifter from the base circle or close valve part of the cam lobe

Retard – increases the intake centerline and decreases the exhaust centerline

Retro-Fit Hydraulic Roller – contain all of the same benefits and limitations as a standard hydraulic roller cam, however include specialized base circle to accommodate the taller hydraulic roller lifters in blocks that were factory equipped with a flat tappet valve train set-up

Solid/Mechanical Flat Tappet – original race engine lifter, feature a more aggressive street performance or racing profile and are capable of higher engine rpm than hydraulic flat tappet camshafts; flat appearing lifter bottom follows the contours of the camshaft to operate the valve train components at the appropriate time, rotating within the lifter bore in a similar fashion to the hydraulic flat tappet lifter; solid lifter does not have the internal cavity and piston found with the hydraulic lifter and does not expand or contract with engine temperature

Solid/Mechanical Roller – highest of all performance level camshafts; feature most aggressive camshaft lobe profiles and withstand the highest valve spring pressures; also use roller lifters that do not include an adjustment for valve train component expansion due to internal engine heat and requires regular lash adjustment service

Top Dead Center – crankshaft rotational position where the piston is furthest from the crankshafts center line

Valve – mushroomed shaped object which is used to regulate the incoming fresh air/fuel mixture and the outgoing exhaust geases in the cylinder of an internal combustion engine

Valve Event – opening and closing points of the valve with relation to the crankshaft

Valve Lash – mechanical clearance between the cam lobe and valve stem or transfer rocker when the valve is fully closed

Valve Train – components of train of parts used to operate the valves in conjunction with the camshaft

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1027	473	1465	454	1639	454	1837	477	1989	475	2169	478
1028	473	1466	454	1642	479	1839	470	1990	475	2171	478
1030	470	1469	454	1649	479	1840	470	1991	475	2195	469
1046	470	1473	454	1650	479	1842	470	1992	475	2196	469
1152	473	1474	453	1658	454	1844	470	1993	475	2198	469
1176	472	1476	453	1659	454	1846	470	1995	477	2199	469
1180	472	1477	455	1660	466	1847	477	1996	477	2201	469
1181	474	1479	454	1661	479	1848	477	1997	477	2202	469
1183	474	1480	466	1662	479	1849	477	1998	477	2203	469
1185	474	1481	455	1680	474	1850	474	1999	477	2208	467
1186	472	1484	473	1681	474	1858	477	2037	475	2209	467
1187	474	1485	473	1682	474	1859	477	2039	475	2210	467
1188	472	1486	454	1683	474	1860	474	2041	475	2214	468
1189	474	1487	473	1684	474	1862	474	2042	475	2215	468
1240	473	1489	473	1685	474	1864	474	2043	475	2222	467
1260	472	1490	470	1686	474	1866	474	2044	475	2223	467
1261	473	1491	479	1695	477	1868	474	2045	475	2224	467
1263	473	1492	454	1718	471	1871	474	2067	478	2225	467
1268	472	1494	473	1719	471	1872	474	2068	478	2226	467
1269	473	1495	473	1722	472	1873	474	2073	478	2227	467
1271	472	1496	453	1723	477	1874	474	2074	478	2228	467
1272	472	1498	453	1724	472	1875	474	2075	478	2229	467
1273	473	1514	462	1726	472	1876	474	2076	478	2230	467
1278	472	1515	462	1727	472	1877	474	2077	478	2231	467
1285	473	1519	464	1728	472	1878	474	2082	478	2232	467
1286	472	1520	464	1729	472	1879	474	2083	478	2233	467
1287	473	1521	464	1734	477	1912	471	2084	478	2234	467
1288	472	1522	464	1735	477	1914	471	2085	478	2235	467
1289	473	1523	464	1736	472	1924	471	2096	479	2236	467
1291	473	1524	464	1737	472	1925	471	2097	479	2237	467
1293	473	1528	463	1742	472	1926	471	2098	479	2238	468
1295	472	1530	463	1743	472	1927	471	2099	479	2239	468
1301	470	1532	463	1744	472	1928	471	2114	479	2240	468
1302	470	1534	463	1745	472	1929	471	2115	479	2241	468
1306	473	1536	463	1746	472	1930	471	2116	479	2242	468
1309	470	1538	463	1747	472	1931	471	2124	436	2243	468
1320	473	1540	463	1748	472	1932	471	2125	436	2244	468
1372	471	1542	463	1749	472	1933	471	2126	436	2245	468
1373	471	1562	478	1770	470	1934	471	2127	436	2246	468
1374	471	1563	478	1771	470	1939	475	2128	436	2247	468
1375	471	1564	478	1775	477	1943	475	2129	436	2248	469
1376	471	1565	478	1806	471	1945	475	2130	436	2249	469
1377	471	1568	476	1808	471	1960	474	2131	436	2250	469
1392	454	1570	476	1810	471	1962	474	2132	436	2251	469
1393	466	1572	476	1812	471	1964	474	2133	436	2252	469
1394	454	1609	454	1814	471	1966	474	2134	436	2253	469
1395	466	1611	454	1816	471	1968	474	2135	436	2254	469
1416	464	1612	454	1817	471	1975	475	2136	436	2255	469
1417	464	1613	454	1820	471	1976	475	2138	479	2256	469
1418	464	1617	454	1826	471	1977	475	2139	479	2257	469
1419	464	1619	454	1828	471	1978	475	2140	479	2258	469
1427	464	1620	454	1829	471	1979	475	2162	478	2265	468
1429	464	1625	479	1832	471	1980	475	2163	478	2267	468
1460	454	1628	454	1833	477	1982	475	2164	478	2273	468
1461	454	1630	454	1834	477	1986	475	2165	478	2274	468
1462	454	1634	479	1835	477	1987	475	2166	478	2275	468
1464	454	1635	479	1836	477	1988	475	2167	478	2276	468

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2277	468	2557	470	3017	432	3190	430	3344	431	3545	430
2278	468	2559	470	3018	432	3192	431	3345	431	3547	430
2279	468	2560	470	3022	430	3194	431	3346	431	3552	430
2280	468	2577	477	3024	430	3196	431	3347	431	3554	430
2281	468	2578	477	3026	430	3207	465	3348	431	3556	430
2290	476	2579	477	3028	430	3282	437	3349	431	3563	430
2291	476	2580	477	3031	430	3283	437	3354	432	3565	430
2292	476	2581	477	3033	432	3284	437	3355	432	3567	430
2294	476	2586	476	3034	432	3285	437	3356	432	3610	431
2296	476	2587	476	3035	432	3286	437	3357	432	3611	431
2298	458	2588	476	3036	432	3287	437	3358	432	3612	431
2314	458	2589	476	3037	432	3288	437	3359	432	3613	431
2315	458	2688	464	3038	432	3289	437	3362	432	3628	431
2318	458	2689	464	3039	432	3295	437	3363	432	3630	431
2385	476	2690	464	3043	430	3296	437	3364	432	3632	431
2387	476	2691	464	3045	430	3297	437	3370	433	3633	431
2390	476	2692	464	3047	430	3298	437	3371	433	3634	431
2391	476	2693	464	3050	429	3299	437	3372	433	3635	431
2392	476	2694	464	3051	429	3300	430	3373	433	3636	431
2393	476	2724	477	3052	429	3301	430	3374	433	3637	431
2399	476	2725	477	3053	429	3302	430	3375	433	3638	431
2486	459	2726	477	3056	430	3303	431	3376	433	3652	434
2488	459	2727	477	3058	430	3304	430	3377	433	3653	434
2490	459	2728	477	3100	429	3305	430	3384	437	3654	434
2492	459	2735	458	3101	429	3306	431	3385	437	3655	434
2494	459	2881	461	3102	429	3307	431	3386	437	3656	434
2507	462	2882	461	3103	429	3308	431	3387	437	3657	434
2508	462	2885	461	3104	429	3309	431	3388	437	3658	434
2509	462	2906	464	3105	429	3310	430	3389	437	3659	434
2510	462	2907	464	3106	429	3311	430	3390	437	3660	434
2511	462	2908	464	3107	429	3312	430	3391	437	3661	434
2512	462	2909	464	3108	429	3313	431	3392	437	3662	434
2513	462	2950	460	3109	429	3314	431	3393	437	3663	434
2514	462	2952	460	3110	429	3315	431	3394	437	3666	434
2515	462	2953	460	3111	429	3316	431	3395	437	3667	434
2516	462	2954	460	3112	429	3317	431	3396	437	3668	434
2517	462	2958	460	3113	429	3318	431	3397	437	3705	434
2518	462	2962	461	3114	429	3319	431	3398	437	3706	434
2519	462	2963	461	3115	429	3322	430	3399	437	3707	434
2520	462	2964	461	3116	429	3323	430	3400	437	3708	434
2521	470	2965	461	3117	429	3324	431	3404	437	3709	434
2522	470	2978	461	3118	429	3326	431	3405	437	3710	434
2523	470	2979	461	3119	429	3329	437	3410	433	3711	434
2524	470	2980	461	3120	429	3330	437	3411	433	3712	434
2525	470	2981	461	3122	429	3331	437	3414	431	3713	434
2526	470	2982	461	3150	429	3332	437	3415	431	3714	434
2527	470	2983	461	3151	429	3333	437	3447	433	3715	434
2528	470	2984	461	3152	429	3334	437	3473	433	3716	434
2529	470	2985	461	3160	429	3335	437	3474	433	3717	434
2539	468	2989	461	3161	429	3336	437	3475	433	3718	434
2540	468	3010	432	3162	429	3337	437	3479	433	3719	434
2541	468	3011	432	3163	429	3338	437	3528	430	3720	435
2542	468	3012	432	3164	429	3339	437	3532	430	3721	435
2543	468	3013	432	3168	429	3340	431	3534	430	3722	435
2544	468	3014	432	3170	429	3341	431	3536	430	3723	435
2551	470	3015	432	3171	429	3342	431	3541	430	3724	435
2555	470	3016	432	3188	430	3343	431	3543	430	3725	435

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3726	435	4026	456	4134	456	4248	479	4349	459	4482	466
3727	435	4027	455	4135	456	4252	466	4358	461	4483	466
3728	435	4028	456	4136	456	4253	466	4359	461	4484	466
3729	435	4029	455	4137	456	4254	466	4361	461	4485	466
3730	435	4030	456	4138	456	4260	457	4362	461	4486	466
3731	435	4031	456	4139	456	4262	457	4363	461	4572	463
3732	435	4032	456	4143	457	4264	457	4364	461	4573	463
3733	435	4034	454	4144	457	4265	457	4365	461	4574	463
3734	435	4035	454	4145	457	4266	457	4366	461	4576	463
3735	434	4045	455	4146	457	4267	457	4367	461	4577	463
3750	434	4046	455	4147	457	4268	457	4368	461	4600	455
3751	434	4047	455	4148	457	4269	457	4370	461	4601	455
3752	434	4049	455	4149	457	4270	457	4371	461	4609	463
3753	434	4050	473	4150	457	4271	457	4372	461	4610	463
3754	434	4051	473	4151	457	4272	457	4373	461	4611	463
3755	434	4052	473	4152	457	4273	457	4374	461	4612	463
3756	434	4053	473	4153	457	4274	457	4375	461	4613	463
3757	434	4055	473	4160	457	4276	457	4376	461	4614	463
3766	434	4056	473	4162	457	4277	457	4377	461	4616	463
3767	434	4057	473	4163	457	4278	458	4378	461	4617	463
3809	438	4058	454	4164	457	4279	458	4382	459	4618	463
3810	438	4059	454	4165	457	4283	458	4383	459	4619	463
3816	438	4062	454	4166	457	4284	458	4384	459	4620	463
3817	438	4063	470	4167	457	4285	458	4385	459	4621	463
3818	438	4064	473	4168	457	4286	458	4386	459	4622	463
3819	438	4065	466	4176	462	4287	458	4387	459	4623	463
3822	438	4066	454	4178	462	4293	458	4388	459	4624	463
3823	438	4067	473	4180	462	4294	458	4389	459	4625	463
3824	438	4068	470	4181	462	4295	458	4390	459	4627	463
3825	438	4070	466	4182	462	4296	458	4391	459	4628	463
3826	438	4074	473	4183	462	4301	458	4402	460	4639	463
3827	438	4075	466	4184	462	4302	458	4404	460	4640	463
3832	438	4076	465	4185	462	4303	458	4405	460	4641	463
3833	438	4077	465	4186	462	4304	458	4406	460	4642	463
3834	438	4078	465	4196	461	4305	458	4407	460	4643	463
3835	438	4079	465	4198	461	4308	458	4408	460	4682	459
4000	454	4080	465	4199	461	4309	458	4409	460	4683	459
4001	456	4081	465	4205	455	4310	458	4416	460	4684	459
4002	453	4082	465	4206	455	4311	458	4418	460	4685	459
4003	455	4083	479	4207	455	4312	458	4421	464	4686	459
4004	456	4085	470	4208	455	4313	458	4422	464	4687	459
4005	455	4087	454	4209	455	4314	458	4423	464	4784	462
4006	456	4091	470	4210	454	4315	458	4424	464	4785	462
4007	455	4107	470	4211	454	4316	458	4427	459	4788	462
4008	456	4118	470	4213	466	4317	458	4428	459	4789	462
4009	456	4119	465	4214	466	4318	458	4429	459	4793	462
4013	456	4121	456	4216	466	4319	458	4430	459	4814	460
4015	456	4123	456	4217	466	4321	461	4431	459	4815	460
4016	456	4124	456	4220	453	4327	461	4432	459	4816	460
4017	456	4126	456	4221	453	4328	461	4433	459	4817	460
4018	456	4127	456	4240	466	4329	461	4436	459	4818	460
4019	455	4128	456	4241	466	4340	458	4438	459	4819	460
4020	456	4129	456	4242	454	4341	458	4445	459	4820	460
4022	456	4130	456	4243	466	4345	459	4447	459	4821	460
4023	455	4131	456	4244	454	4346	459	4449	459	4822	460
4024	456	4132	456	4245	466	4347	459	4451	459	4823	460
4025	454	4133	456	4247	473	4348	459	4480	466	4824	460

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4826	460	5070	426	5232	424, 427	5659	443	6003	438	6167	444
4827	460	5071	426	5233	427	5661	443	6004	440	6168	444
4830	462	5082	428	5234	427	5662	443	6005	440	6169	444
4831	462	5083	428	5238	427	5663	443	6006	440	6174	444
4837	460	5084	428	5239	424	5664	443	6007	438	6192	444
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6281	445	6611	452	7124	450	7363	449	8255	484	9093	486
6282	445	6612	452	7125	448	7364	449	8260	484	9094	486
6283	445	6800	485	7127	448	7365	449	8261	484	9095	486
6284	445	6801	485	7130	446	7366	449	8262	484	9096	486
6285	445	6802	485	7131	446	7367	449	8304	482	9108	486
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9271	480	9387	448	12524	465	13053	433	16220	445	19702	486
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9273	480	9389	448	12528	465	13056	433	19194	481	19704	486
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9324	480	9713	451	12556	465	13301	436	19207	481	5110A	425
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9341	480	12050	468	12560	465	13303	436	19213	481	5126A	425
9342	480	12052	468	12572	465	13304	436	19214	481	5136A	425
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9369	451	12232	467	13023	435	16202	445	19256	481	8382/8383	483
9370	451	12234	467	13024	435	16204	445	19258	481	8384/8385	483
9374	449	12500	465	13025	435	16206	445	19520	485	8386/8387	483
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9376	449	12504	465	13027	435	16210	445	19524	485		
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9384	448	12508	465	13029	435	16214	445	19533	485		
9385	448	12510	465	13050	433	16216	445	19535	485		

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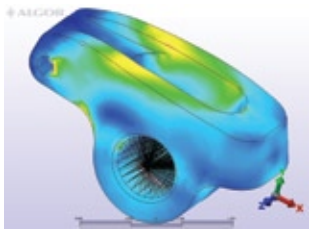
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PERFORMANCE TECHNOLOGY PARTNER

COMP Cams® has positioned itself as the industry leader in advanced technology, research and new product development, particularly in camshaft lobe design and other valve train components. To uphold these ideals, we must continuously incorporate the most sophisticated manufacturing processes and test equipment in the world and employ the most brilliant engineering minds in the industry. COMP Cams® spends thousands of hours and millions of dollars developing and testing new camshaft and valve train designs to stay at the forefront of the performance automotive industry.







Design Technology & Engineering Resources

- 25+ Master engineers & specialty designers
- 2 Independent proprietary cam design software seats
- 2 Valve train dynamic simulation programs
- Proprietary engine and airflow simulation seats
- ALGOR Finite Element Analysis (FEA) Software
- Computational Fluid Dynamics (CFD) Software
- ProE 3D Software CAD Modeling Software
- SolidWorks 3D Mechanical Design Software
- AutoDesk Inventory Digital Prototyping Software

Manufacturing Resources

- 4 Okuma GC-34 Nh CNC Cam Grinders
- 2 Landis 3L CNC Cam Grinders
- 18 Berco Manual Master Type Cam Grinders
- Okuma 8 Axis LT300-MY CNC Cam Lathe (manufacture custom cam cores in single set-up)
- 5 Okuma Captain L-370 CNC Lathes
- 5 Manual engine lathes
- 2 Adcole 911 Camshaft Inspection Gauges
- CMM (Coordinate Measuring Machine)
- ELTROPULS Pulsed Plasma Nitriding System



Okuma GC-34 Nh CNC Cam Grinder



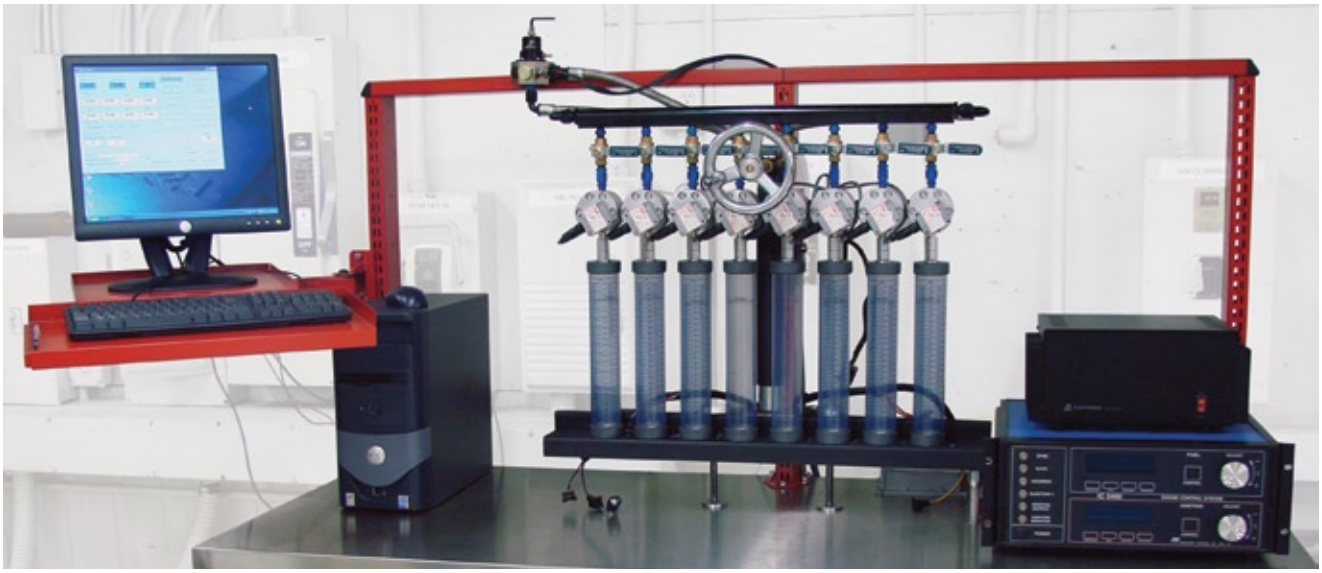
ELECTROPLUS Pulsed Plasma Nitriding System

Research & Testing Equipment

- 3 Engine dynamometers
- 2 Chassis dynamometers
- 2 Spintron® cells with proprietary instrumentation
  - High speed data acquisition
  - Laser tracking
  - Strain gauging
  - Load cells
  - Proximity sensors
  - High speed video
- Optron Vision Tracking System
- CFIA (Computerized Fuel Injector Analysis) Station
- SuperFlow1020 Airflow Bench



Dynamic Valve Train Research Cell



CFIA (Computerized Fuel Injector Analysis) Station



Product Support & Global Distribution

- Full line of packaging & warehousing services
- Large technical support staff
- Internal Marketing & Advertising agency
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- FedEx Priority Partner (also headquartered in Memphis, TN)
- Worldwide freight & air shipping services
- Facilities located minutes from Memphis International Airport
- Memphis, TN is distribution capital of USA



NOTES

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See the full line of Endure Performance Lubricants on page 272 of this Master Catalog.

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- Proprietary COMP Cams® break-in formula includes ZDDP (Zinc & Phosphorous), Molybdenum & the optimal blend of detergents
- Improves surface mating for all critical areas of your engine
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