

WORLD **PRODUCTS**

CATALOG - VOLUME XXII

VISIT THE NEW www.WorldCastings.com CHECK OUT OUR NEW WEBSITE

We've recently revamped our website to make it easier to navigate and access content. Additionally, we've added video to the site. Our goal is to keep building this library of informative content and provide you with important news on our product line. Here's what the new home page will look like:

Easy To Navigate!

Find what you're looking for FAST in our new site. You'll love the navigation.

Complete Dealer Info

Get hooked up with your local World Products retail source for fast service.

New World Custom Shop

Now you can order special engine combinations from our new Custom Shop!

Video Programs

Expand your horizons with informative "how to" videos on our website





SOME IMPORTANT INFORMATION ABOUT THIS CATALOG:

Those of you who have used previous World Product catalogs will notice some key changes in the way this 2009 catalog is laid out and how the various engines have been categorized. Previously, we've used "Daily Driver, Cruiser, World Class, Hardcore and Limited Edition" to describe a type of engine group that covered from mild to wild. Subsequently, we've added a number of hydraulic roller-cammed engines to the mix, so rather than add even more names we've opted to simply group them by engine family (i.e. Motown SBC, Merlin BBC, Warhawk LS-series, Man O'War SBF and Mopar Wedge/Hemi) and displacement. Now, everything from a mild street motor to a race engine can be found listed on the same page. We've also tried to use a logical progression within each engine family, starting with intake manifolds and going up to complete dyno-tested engines. With this new format, we think you'll find it easier to use our catalog.

World Products Is Here To Serve You!



DIRECT TO THE CONSUMER...

World Products has an extensive network of dealers nationwide that operate retail and mail order facilities. Our "Stocking Retail Partners" maintain a complete line of products in their inventories and can supply you with anything from a World Products intake manifold to a complete dyno-tested engine. You can find an up-to-date list of all these dealers by going to our website (www.worldcastings.com) and clicking on "World Retail Partners."



FOR MOTORSPORTS PROFESSIONALS...

There is a network of stocking Warehouse Distributors in the U.S. and many foreign countries ready to serve engine builders, tuner shops and performance retailers. Some of them have their own fleet of delivery trucks and can get heavy items, like short blocks, delivered to your door quickly and inexpensively. For a complete list of our worldwide WD network go to our website (www.worldcastings.com) and click on "Trade Partners."



INTRODUCING WORLD'S CUSTOM SHOP...

You can order special non-cataloged engines and component combinations from the World Custom Shop. For example, if you want to purchase a partial engine assembly with a polished aluminum block, blower pistons and a special camshaft grind, call World. You dream it—we can build it. Due to the custom nature of these projects, lead times of 30-60 days are required, as is a non-refundable deposit. Click on "Buy Online" on our website or call 631-737-0372.

The Custom Shop also serves as World's R&D operation, as combinations developed here can ultimately wind up becoming catalog items.

ABOUT WORLD PRODUCTS

If you were a performance enthusiast looking for cylinder heads prior to 1987, your choices were limited to scrounging through junkyards, going to a dealership for OEM parts, or spending a small fortune on aftermarket aluminum racing heads. There was no in-between option. At this point, noted speed merchant Bill Mitchell and a skilled team of engineering and manufacturing personnel collaborated to develop an affordable cast iron head for the small block Chevrolet that delivered impressive performance gains. Their first offering, the World Products Dart II® (now Sportsman II®) cylinder head, became an instant success and was named Product of the Year in 1988 by Hot Rod Magazine. It produces 30-70 HP over stock heads, and remains the ONLY high performance cast iron small block head to be certified for emissions compliance (E.O. #D-343-1).

Big block Chevrolet enthusiasts were next to benefit from World Products "magic" in the form of the highly effective Merlin® line of cylinder heads and engine blocks. Ultimately, the line has expanded to include both aluminum and cast iron blocks and cylinder heads, with complimenting intake manifolds. From street rods and drag cars to off-shore boats and monster trucks, you'll find Merlin power in charge.

The Merlin line has been bolstered by the addition of new Merlin X® aluminum blocks and intake manifolds. These represent a remarkable combination of advanced designs and state-of-the-art manufacturing technology to provide greater levels of performance at affordable prices.

World's commitment to Ford enthusiasts has also increased significantly, thanks to the introduction of the Man O' War® replacement block for 302/351 engines. With the block also came a natural progression to complete engines, with a wide variety of "Blue Oval" powerplants now available.

The biggest news, though, is the recent launch of the Warhawk® line of replacement blocks and cylinder heads for GM's LS1/LS7 and C5R offerings. World's engineering team has collaborated with leading engine builders and racers to create an LS-series block that has many important design features you won't find in the OEM block, plus two cylinder heads; a 12° LS7 model for serious competitors (uses LS7 components) and a 15° high performance replacement for the LS1. Without question, World's Warhawk

products will be setting performance records from coast to coast.

Mopar lovers! Your time has come! In 2008 World introduced the aluminum Hemi® and Wedge engine blocks. Numerous enhancements have been made from the original versions that came to market in the '60s.

World has also gone back to its roots with the venerable small block Chevy and introduced the Motown® line of cast iron and aluminum blocks and heads. Most recently, World has developed a superior 23° head for GM Vortec (220cc intakes) and an awesome-flowing 235cc model for today's generation of powerful big-inch small blocks. And there are more new developments on the horizon. Visit worldcastings.com and see what's new!

Engines are, of course, a major part of World's business. And it should be pointed out that as a primary manufacturer of engine blocks, cylinder heads and intakes manifolds, World Products is virtually in the same league as the OEM's.

There are several important reasons why World engines are able to produce such impressive horsepower and torque numbers and be totally reliable. The "secret" is that most of World's crate engines have relatively large displacements, which allows them to produce generous amounts of power—especially at lower RPM ranges. They're not stressed like smaller displacement powerplants.

Perhaps more important is the fact that these engines are based on high performance World engine blocks, cylinder heads and intake manifolds. When you compare them to OEM parts, you'll see a number of improvements that have been added by World.

The other part of the equation is that over the years World has built literally thousands of engines, and has learned how to maximize the efficiency of virtually every component through highly refined combinations. Camshafts are ground to World's specs by leading aftermarket firms and designed to take full advantage of the cylinder head and intake manifold flow characteristics. Specially blueprinted AED carburetors are also part of the equation.

Add it all up and you'll have to agree that World Products engines give you more than the factory. Awesome power, dyno-tested and certified performance, plus a rock-solid warranty. What does your local dealership offer?

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LEGAL NOTICES: World Products has made every effort to ensure the accuracy of this catalog, however we are not responsible for typographical errors or omissions. World reserves the right to change specifications and discontinue products without notice. Chevrolet and Ford are registered trademarks of General Motors and Ford Motor Co. respectively, and used for identification purposes only.

MOTOWN INTAKE MANIFOLDS

While most manufacturers of small block Chevy intake manifolds have designed theirs around 350 c.i.d. engines, World Products has developed a very efficient manifold that's proven to increase performance by 15-25 horsepower over the competition in larger displacement (383 c.i.d. and up) engines.

In addition to out-powering the competition, it's important to note that these single plane manifolds are designed to operate most efficiently in the

2500 to 7500 RPM range, and have the low-end throttle response and torque comparable to a dual plane. Look inside the plenum and you'll see a "turtle" on the manifold floor that helps bottom-end performance.

Models that accommodate a 4150-style carb are available for standard SBC (#061040) and "Vortec" (#061041) heads. Also available machined for an Accel EFI unit (#061040-EFI) or with a 4500 Dominator-style flange (#061050).



| Part # | Plenum | Flange | Deck Hght | NOS Bosses | EFI | RPM Range | OAH | Notes |
|------------|--------|--------|-----------|------------|-----|-------------|--------|-------|
| 061040 | Single | 4150 | 9.025" | Yes | No | 2500 - 7500 | 5.625" | |
| 061040-EFI | Single | 4150 | 9.025" | Yes | Yes | 2500 - 7500 | 5.625" | C |
| 061041 | Single | 4150 | 9.025" | Yes | No | 2500 - 7500 | 6.625" | |
| 061050 | Single | 4500 | 9.025" | Yes | No | 2500 - 7500 | 6.250" | |

Notes: C = Machined for Accel EFI unit

AVAILABLE OPTIONS:

polishing (6 to 8 weeks lead time)
Contact your World sales representative for details.

Accessories :

832910 Stainless steel intake manifold bolt kit (hex head)

SBC VALVE COVERS

Dress up your engine with the valve covers of your choice. Choose between chrome plated stamped steel or highly polished cast aluminum covers. New displacement-focused World polished aluminum covers let you show that size does matter.



| Part # | Description |
|------------|---------------------------------------|
| 070721 | MOTOWN tall chromed steel |
| 070810 | Sportsman polished aluminum |
| 070820 | MOTOWN polished aluminum |
| 070830 | HARDCORE polished aluminum |
| 070830S | LIMITED EDITION 454 polished aluminum |
| 07090-415W | 415 WORLD polished aluminum |
| 07090-427W | 427 WORLD polished aluminum |
| 07090-454W | 454 WORLD polished aluminum |
| 07090-M | MOTOWN polished aluminum |
| 07090-W | WORLD polished aluminum |

Accessories :

832910 Stainless steel intake manifold bolt kit (hex head)
832911 Stainless steel valve cover bolt kit (hex head) - Fits cast aluminum covers



MOTOWN 23° VORTEC-STYLE ALUMINUM HEADS

World Products has taken Chevrolet's popular Vortec-style cylinder head design to the next level with these superior-performing 23° Motown 220cc intake runner heads. Combine these high-flow ports with generous 2.080" diameter Manley stainless steel intake valves and you can see where the extra

power comes from. They're available bare, or in three different assemblies that are designed to match your camshaft's valve spring requirements. A multi-angle valve job and Manley stainless steel valves make the assemblies an excellent value and a real time-saver for engine builders.



Manley stainless steel valves

Dual valve cover bolt patterns for pre-1987 and later style covers

Raised valve cover rails to help eliminate oil leaks

Exclusive RightCast® technology assures optimum port accuracy

Extra thick deck and walls

Universal end pads accept both early and late model accessories



THE ULTIMATE AFTERMARKET VORTEC HEAD!

- Big 220cc intake ports
- Vortec-style chamber
- Efficient exhaust ports

Technical Data
Casting ID Number: WOR-077B
Material: 355-T6 alloy high density aluminum
Valve Seats: Hardened intake & exhaust
Valve Guides: Manganese bronze
Spring Seats: Machined for 1.560"
Valves: Manley stainless steel valves in assemblies
Guide Plates: Stock
Rocker Arm Studs: Screw-in style
Rocker Arms: 1.5 ratio (use of 1.6 ratio may require elongation of pushrod holes)
Intake Runner: Standard port location
Exhaust Ports: Standard location
Spark Plug: 14mm .750" reach gasket style
Valve Job: Multi-angle intake and radiused exhaust
Valve Cover Rail: Raised w/perimeter and center bolt pattern
Valve Angle: Stock 23°
Accessory Bolt Holes: Stock
Flow Numbers: Log on to worldcastings.com for detailed info



Efficient Vortec-style chamber design plus big 2.080" intake valves



RightCast® ports provide superior "out of the box" performance

VORTEC-Style cylinder heads

| Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|----------|----------|--------------|---------|-------------------|----------|---------|--|----------|-------|
| 024015 | Bare | 215 In/70 Ex | 64 | 2.080/1.600 11/32 | Straight | | | | |
| 024015-1 | Assembly | 215 In/70 Ex | 64 | 2.080/1.600 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .570" | C |
| 024015-2 | Assembly | 215 In/70 Ex | 64 | 2.080/1.600 11/32 | Straight | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | C |
| 024015-3 | Assembly | 215 In/70 Ex | 64 | 2.080/1.600 11/32 | Straight | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |

Assembly Includes: Head, valves, seals, springs, retainers, locks, rocker studs and guide plates

Notes:

C = 7° stamped heat treated steel valve locks, Manley 4140 chrome moly retainers and Nitrile umbrella seals
 E = 10° machined steel valve locks, Manley 4140 chrome moly retainers, Teflon seals and Manley Severe Duty valves

Accessories:

- 830450-8 5/16" SBC flat guide plate
- 830475-16 3/8" stock rocker arm stud
- 830480-16 7/16" stock rocker arm stud
- 830485-16 7/16" ARP rocker arm stud
- 832575 Head bolt kit for Motown SBC cast iron engine block
- 832536 Head stud kit for Motown SBC cast iron engine block
- 832537 Head stud kit for Motown SBC aluminum engine block
- 832003 7/16" SBC stud girdle
- 832910 Stainless steel intake manifold bolt kit (hex head)
- 832911 Stainless steel valve cover bolt kit (hex head)
- 832930 Stainless steel header stud kit

Available options:

- Polishing (6 to 8 weeks lead time)
- Contact your World sales representative for details.

Recommended Installation Items:

- Head Gaskets: Felpro #1003 (350) Felpro #1004 (400)
- Intake Gasket: Felpro #1205
- Exhaust Gasket: Felpro #1404
- Spark Plugs: 14mm .750" reach gasket style seat (Accel 416)
- Pushrods: Hardened pushrods are required with the use of guide plates

MOTOWN 23° ALUMINUM CYLINDER HEADS

They're great out of the box in "as cast" form. With 235cc intake runners they'll provide ample flow to keep up with the camshaft/intake combinations of most larger displacement small block Chevy engines. For those who desire optimum performance, World Products offers these heads CNC-ported

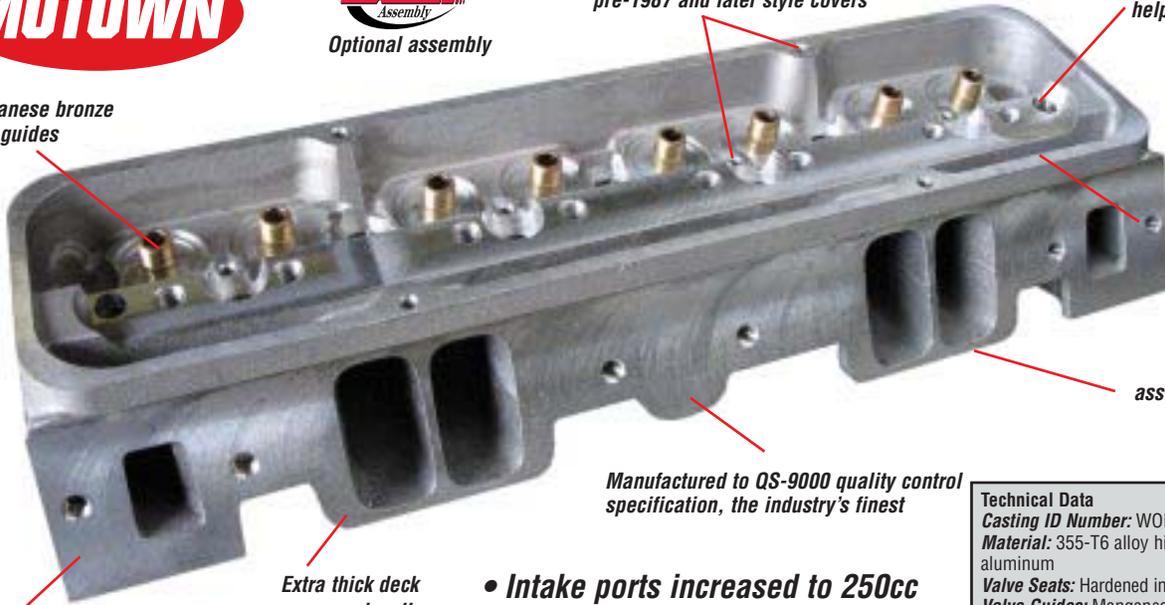
with 250cc intake runners and enlarged exhaust ports (90cc). The CNC-ported heads also boast larger 2.100" Manley stainless steel intake valves, so you can readily see the kind of power these designs—developed by Kuntz & Company—will deliver.



Manganese bronze valve guides

Dual valve cover bolt patterns for pre-1987 and later style covers

Raised valve cover rails to help eliminate oil leaks



Exclusive Rightcast® technology assures optimum port accuracy

Manufactured to QS-9000 quality control specification, the industry's finest

Made from 355-T6 alloy high density aluminum

Extra thick deck and walls

- Intake ports increased to 250cc
- Exhaust ports enlarged & shaped
- Chambers and bowls blended

NOW AVAILABLE CNC PORTED FOR EXTRA FLOW!



CNC-ported combustion chamber and bowls. Heads can be milled.



Exhaust port enlarged by 25% and CNC-ported



Designed by Kuntz & Co. CNC-ported to 250cc

ADD 30+ HP!

Technical Data
Casting ID Number: WOR-077A
Material: 355-T6 alloy high density aluminum
Valve Seats: Hardened intake & exhaust
Valve Guides: Manganese bronze
Spring Seats: Machined for 1.560"
Valves: Manley stainless steel valves in assemblies
Guide Plates: Stock
Rocker Arm Studs: Screw-in style
Rocker Arms: 1.5 ratio (use of 1.6 ratio may require elongation of pushrod holes)
Intake Runner: Standard port location
Exhaust Ports: Standard location
Spark Plug: 14mm .750" reach gasket style
Valve Job: Multi-angle intake and radiused exhaust
Valve Cover Rail: Raised w/perimeter and center bolt pattern
Valve Angle: Stock 23°
Accessory Bolt Holes: Stock
Flow Numbers: Log on to worldcastings.com for detailed info

| Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|----------|----------|--------------|---------|-------------------|-------|---------|--|----------|-------|
| 024020 | Bare | 235 In/70 Ex | 64 | 2.080/1.600 11/32 | Angle | | | | |
| 024020-2 | Assembly | 235 In/70 Ex | 64 | 2.080/1.600 11/32 | Angle | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | C |
| 024020-3 | Assembly | 235 In/70 Ex | 64 | 2.080/1.600 11/32 | Angle | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |

CNC Ported (Ports designed by Kuntz & Co.) ADD 30 EXTRA HORSEPOWER!

| Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|-----------|----------|--------------|---------|-------------------|-------|---------|--|----------|-------|
| 024020C | Bare | 250 In/90 Ex | 72* | 2.100/1.600 11/32 | Angle | | | | |
| 024020C-2 | Assembly | 250 In/90 Ex | 72* | 2.100/1.600 11/32 | Angle | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | C |
| 024020C-3 | Assembly | 250 In/90 Ex | 72* | 2.100/1.600 11/32 | Angle | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |

Assembly Includes: Head, valves, seals, springs, retainers, locks, rocker studs and guide plates

* Head can be milled to achieve the desired compression ratio

Notes:

C = 7" stamped heat treated steel valve locks, Manley 4140 chrome moly retainers and Nitrile umbrella seals

E = 10" machined steel valve locks, Manley 4140 chrome moly retainers, Teflon seals and Manley Severe Duty valves

| | | |
|--|--|---|
| Available options: | 832004 | 7/16" SBC stud girdle (fits 235/250cc cylinder heads) |
| Polishing (6 to 8 weeks lead time) | 832910 | Stainless steel intake manifold bolt kit (hex head) |
| Contact your World sales representative for details. | 832911 | Stainless steel valve cover bolt kit (hex head) |
| | 832930 | Stainless steel header stud kit |
| Accessories: | Recommended Installation Items: | |
| 830456 | 5/16" SBC flat guide plate (required for 235/250cc cylinder heads) | Head Gaskets: Felpro #1003 (350) Felpro #1004 (400) |
| 830480 | 7/16" stock rocker arm stud | Intake Gasket: Felpro #1206 |
| 830485 | 7/16" ARP rocker arm stud | Exhaust Gasket: Felpro #1404 |
| 832575 | Head bolt kit for Motown SBC cast iron engine block | Spark Plugs: 14mm .750" reach gasket style seat (Accel 416) |
| 832536 | Head stud kit for Motown SBC cast iron engine block | Pushrods: Hardened pushrods are required with the use of guide plates |
| 832537 | Head stud kit for Motown SBC aluminum engine block | |

SMALL BLOCK CHEVROLET

SMALL BLOCK CHEVROLET S/R & S/R TORQUER CAST IRON CYLINDER HEADS

There are several important reasons why World's S/R and S/R Torquer series cylinder heads are the preferred alternative to expensive OEM castings or junkyard rebuilds.

First, you should know these heads are designed with extra-thick decks and walls for improved reliability, as well as equipped with hardened steel exhaust seats that are compatible with today's unleaded gasolines. They also come with screw-in rocker arm studs for extra durability. Needless to say, the SR & SR Torquer are substantially more durable than OEM castings

Secondly, they are fully 50-state emissions legal. And, because they are an OEM replacement head, they are legal for use by many oval tracks and race sanctioning organizations.

In fact, NHRA accepts World castings #43600 and #43610 as replacements for Chevrolet 041, 186, 291, 292, 462 and 492 cylinder heads.

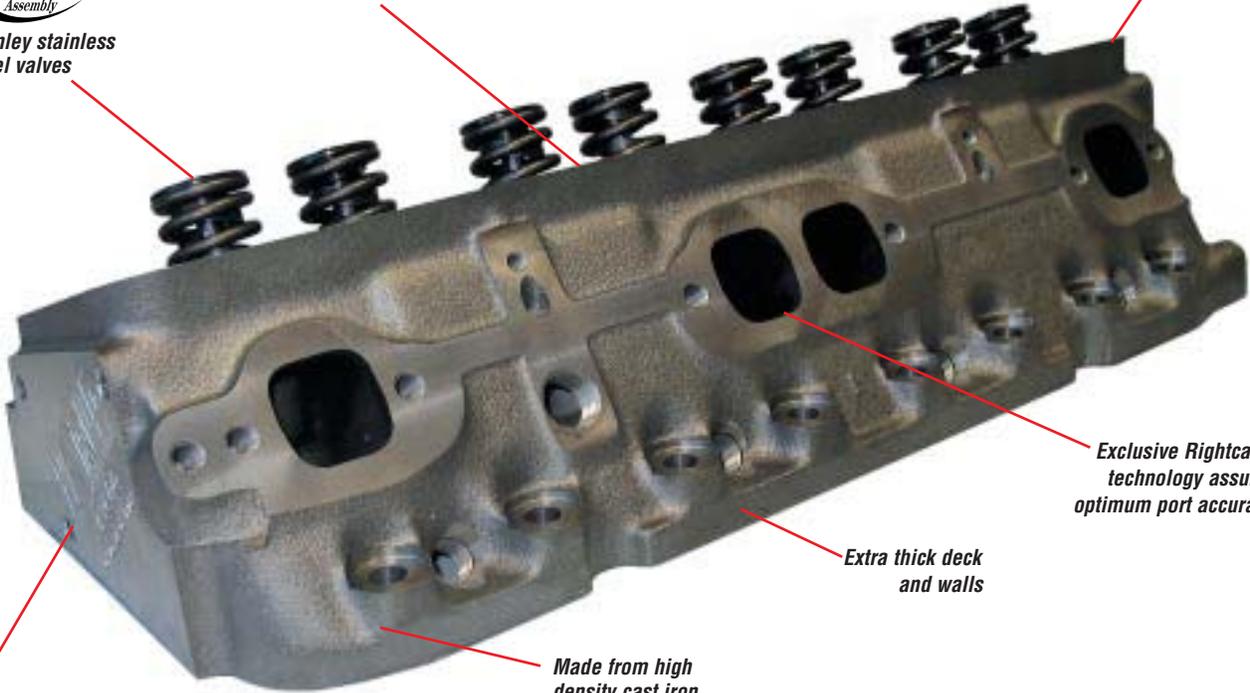
Valve cover rails have been raised and carefully machined to eliminate oil leaks, and the heads can accommodate either early style perimeter or late model center bolt valve covers.



Manley stainless steel valves

Dual valve cover bolt patterns for pre-1987 and later style covers

Raised valve cover rails to help eliminate oil leaks



Exclusive RightCast® technology assures optimum port accuracy

Extra thick deck and walls

Made from high density cast iron

Universal end pads accept both early and late model accessories



MORE DURABLE THAN OEM CASTINGS AND APPROVED BY RACING ASSOCIATIONS AS STOCK REPLACEMENTS



Available with 1.940" or 2.020" intake valves to suit your application.



RightCast® ports provide superior "out of the box" performance

Technical Data:

- Casting ID Number:** I-052, I-058
- Material:** High density cast iron
- Valve Seats:** Intake (integral), exhaust (hardened)
- Valve Guides:** Integral cast iron
- Spring Seats:** Machined for 1.560" and 1.250"
- Valves:** Manley stainless steel valves in assemblies
- Rocker Arm Studs:** Screw-in style
- Rocker Arms:** 1.5 ratio (use of 1.6 ratio will require elongation of pushrod holes)
- Intake Runner:** Standard port location
- Exhaust Ports:** Standard location
- Spark Plug:** 14mm 5/8" .460" reach tapered style
- Valve Job:** Multi-angle intake and radiused exhaust
- Valve Cover Rail:** Raised w/perimeter and center bolt pattern
- Valve Angle:** Stock 23°
- Accessory Bolt Holes:** Stock
- 50-State Emissions legal
- NHRA accepted as replacements World Part #'s 043600 and 043610 for Chevy 041, 186, 291, 292, 462 and 492 heads
- Accepted by many oval tracks and sanctions as stock replacements. Check with rule book.
- Flow Numbers:** Log on to worldcastings.com for detailed information.

MARINE CYLINDER HEADS NOW AVAILABLE

Designed for use as a replacement for MerCruiser engine based on the small block Chevy, these heads are built to operate at higher temperatures than standard automotive heads and feature Manley Inconel exhaust valves and Manley stainless steel intake valves for superior reliability.



S/R & S/R TORQUER CAST IRON CYLINDER HEADS

| S/R Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|------------|----------|--------------|---------|-------------------|----------|---------|--|----------|-------|
| 043600 | Bare | 170 In/65 Ex | 76 | 1.940/1.500 11/32 | Straight | | | | |
| 043600-1 | Assembly | 170 In/65 Ex | 76 | 1.940/1.500 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .560" | C |
| 043600-2 | Assembly | 170 In/65 Ex | 76 | 1.940/1.500 11/32 | Straight | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .560" | C |
| 043610 | Bare | 170 In/65 Ex | 67 | 1.940/1.500 11/32 | Straight | | | | |
| 043610-1 | Assembly | 170 In/65 Ex | 67 | 1.940/1.500 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .560" | C |
| 043610-2 | Assembly | 170 In/65 Ex | 67 | 1.940/1.500 11/32 | Straight | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .560" | C |
| 043640 | Bare | 170 In/65 Ex | 76 | 1.940/1.500 11/32 | Straight | | | | A |
| 043640-1 | Assembly | 170 In/65 Ex | 76 | 1.940/1.500 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .560" | A,C |
| 043640-2 | Assembly | 170 In/65 Ex | 76 | 1.940/1.500 11/32 | Straight | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .560" | A,C |
| 043650 | Bare | 170 In/65 Ex | 67 | 1.940/1.500 11/32 | Straight | | | | A |
| 043650-1 | Assembly | 170 In/65 Ex | 67 | 1.940/1.500 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .560" | A,C |
| 043650-2 | Assembly | 170 In/65 Ex | 67 | 1.940/1.500 11/32 | Straight | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .560" | A,C |
| 042650 | Bare | 170 In/65 Ex | 58 | 1.940/1.500 11/32 | Straight | | | | A,B |
| 042650-1 | Assembly | 170 In/65 Ex | 58 | 1.940/1.500 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .560" | A,B,C |
| 042650-2 | Assembly | 170 In/65 Ex | 58 | 1.940/1.500 11/32 | Straight | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .560" | A,B,C |
| 042750 | Bare | 170 In/65 Ex | 58 | 1.940/1.500 11/32 | Straight | | | | A,B |
| 042750-1 | Assembly | 170 In/65 Ex | 58 | 1.940/1.500 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .560" | A,B,C |
| 042750-2 | Assembly | 170 In/65 Ex | 58 | 1.940/1.500 11/32 | Straight | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .560" | A,B,C |

Marine

| Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|-----------|----------|--------------|---------|-------------------|----------|---------|--|----------|-------|
| 043600M-1 | Assembly | 170 In/65 Ex | 76 | 1.940/1.500 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .560" | D |
| 043610M-1 | Assembly | 170 In/65 Ex | 67 | 1.940/1.500 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .560" | D |

Bare Head Includes: 3/8" rocker studs (head is not machined for guide plates)

Assembly Includes: Head, valves, seals, springs, retainers, locks and rocker studs

Notes:

A = 1987 and later intake face

B = 305" engines

C = 7° stamped heat treated steel valve locks, Manley 4140 chrome moly retainers and nitrile umbrella seals

D = 10° machined steel valve locks, Manley 4140 chrome moly retainers, nitrile umbrella seals and Inconel exhaust valves (Marine version)

World #043600 = GM 333882, 460703, 462624, 468642, 3911032,3927187, 3932141, 3946813, 3947041, 3970126, 3973414, 3973493* 3974387, 3981598*, 3986339, 3998920, 3998991, 3998993, 3998997, 14020516, 14020517, 14020556, 14071114, 14079261

World #043610 = GM 3795896, 3814482, 3827185, 3884520, 3890462, 3911032, 3917290, 3917291, 3927186, 3932441, 3946813, 3973370, 3998993

* Requires drilling for steam holes

S/R Torquer

| Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|----------|----------|--------------|---------|-------------------|----------|---------|--|----------|-------|
| 042660 | Bare | 170 In/65 Ex | 67 | 2.020/1.600 11/32 | Straight | | | | |
| 042660-1 | Assembly | 170 In/65 Ex | 67 | 2.020/1.600 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .560" | C |
| 042660-2 | Assembly | 170 In/65 Ex | 67 | 2.020/1.600 11/32 | Straight | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .560" | C |
| 042670 | Bare | 170 In/65 Ex | 76 | 2.020/1.600 11/32 | Straight | | | | |
| 042670-1 | Assembly | 170 In/65 Ex | 76 | 2.020/1.600 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .560" | C |
| 042670-2 | Assembly | 170 In/65 Ex | 76 | 2.020/1.600 11/32 | Straight | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .560" | C |
| 042770 | Bare | 170 In/65 Ex | 76 | 2.020/1.600 11/32 | Straight | | | | A |
| 042770-1 | Assembly | 170 In/65 Ex | 76 | 2.020/1.600 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .560" | A,C |
| 042770-2 | Assembly | 170 In/65 Ex | 76 | 2.020/1.600 11/32 | Straight | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .560" | A,C |

Marine

| Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|-----------|----------|--------------|---------|-------------------|----------|---------|--|----------|-------|
| 042660M-1 | Assembly | 170 In/65 Ex | 67 | 2.020/1.600 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .560" | D |
| 042670M-1 | Assembly | 170 In/65 Ex | 76 | 2.020/1.600 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .560" | D |

Bare Head Includes: 3/8" rocker studs (head is not machined for guide plates)

Assembly Includes: Head, valves, seals, springs, retainers, locks and rocker studs

Notes:

A = 1987 and later intake face

C = 7° stamped heat treated steel valve locks, Manley 4140 chrome moly retainers and Nitrile umbrella seals

D = 10° machined steel valve locks, Manley 4140 chrome moly retainers, Nitrile umbrella seals and Inconel exhaust valves (Marine version)

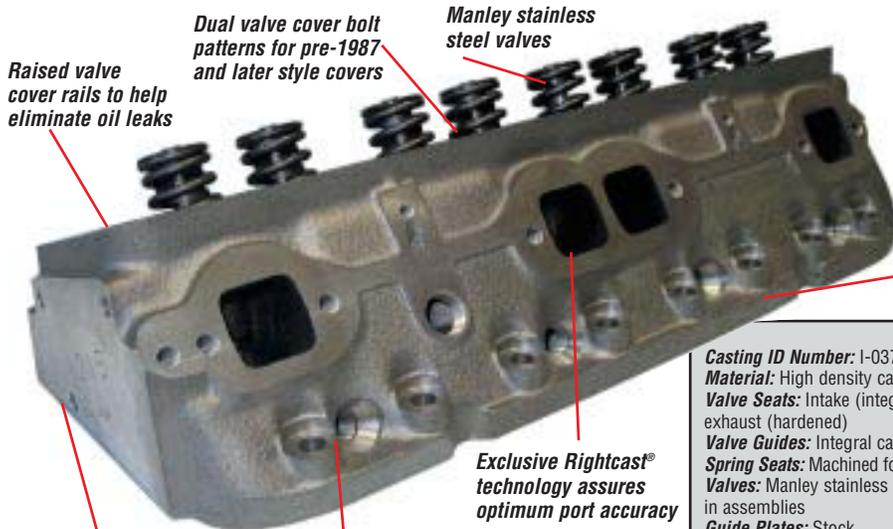
| Accessories: | Recommended Installation Items: |
|--|--|
| 830475 3/8" stock rocker arm stud | Head Gaskets: Felpro #1003 |
| 830480 7/16" stock rocker arm stud | Intake Gasket: Felpro #1204 or #1256 |
| 830485 7/16" ARP rocker arm stud | Exhaust Gasket: Felpro #1404 or #1405 |
| 832575 Head bolt kit for Motown SBC cast iron engine block | Spark Plugs: 14mm 5/8" .460" reach tapered seat (Accel 274 or 276, AC Delco 43TS or 44TS, Champion 670 or 802) |
| 832536 Head stud kit for Motown SBC cast iron engine block | Pushrods: OEM can be used. Hardened not required. |
| 832910 Stainless steel intake manifold bolt kit (hex head) | |
| 832911 Stainless steel valve cover bolt kit (hex head) | |
| 832930 Stainless steel header stud kit | |

SPORTSMAN II CAST IRON CYLINDER HEADS

The industry's most popular true high performance cast iron cylinder head has been continuously improved since its introduction 20 year ago. With 200cc intake and 69cc exhaust ports World's Sportsman II heads offer 30-70 horsepower gains over OEM heads, yet are 50-state emissions legal

(E.O. #D-343-1). World has expanded its selection of Sportsman II heads to include **special Marine versions** equipped with 10° valve locks, Nitrile umbrella seals and high-temp Inconel exhaust valves. They are an excellent replacement for MerCruiser® SBC applications

MerCruiser is a registered trademark of Mercury Marine



Raised valve cover rails to help eliminate oil leaks

Dual valve cover bolt patterns for pre-1987 and later style covers

Manley stainless steel valves



Highly efficient chambers



200cc intake runners

Extra thick deck and walls

Universal end pads accept both early and late model accessories

Available with either straight or angle spark plug holes

Exclusive Rightcast® technology assures optimum port accuracy



Technical Data:

Casting ID Number: I-037
Material: High density cast iron
Valve Seats: Intake (integral), exhaust (hardened)
Valve Guides: Integral cast iron
Spring Seats: Machined for 1.560" & 1.250" in assemblies
Valves: Manley stainless steel valves
Guide Plates: Stock
Rocker Arm Studs: Screw-in style
Rocker Arms: 1.5 ratio (use of 1.6 ratio will require elongation of pushrod holes)
Intake Runner: Standard port location
Exhaust Ports: Standard location

Spark Plug: 14mm 5/8" .460" reach tapered style
Valve Job: Multi-angle intake and radiused exhaust
Valve Cover Rail: Raised w/ perimeter and center bolt pattern
Valve Angle: Stock 23°
Accessory Bolt Holes: Stock
Flow Numbers: Log on to worldcastings.com for detailed info
 • 50-State Emissions legal
 • Accepted by most oval tracks and sanctions as stock replacements. Check with rule book..

| Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|----------|----------|--------------|---------|-------------------|----------|---------|--|----------|-------|
| 011150 | Bare | 200 In/69 Ex | 64 | 2.020/1.600 11/32 | Angle | | | | |
| 011150-1 | Assembly | 200 In/69 Ex | 64 | 2.020/1.600 11/32 | Angle | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .570" | C |
| 011150-2 | Assembly | 200 In/69 Ex | 64 | 2.020/1.600 11/32 | Angle | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | C |
| 011150-3 | Assembly | 200 In/69 Ex | 64 | 2.020/1.600 11/32 | Angle | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |
| 011250 | Bare | 200 In/69 Ex | 64 | 2.020/1.600 11/32 | Straight | | | | |
| 011250-1 | Assembly | 200 In/69 Ex | 64 | 2.020/1.600 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .570" | C |
| 011250-2 | Assembly | 200 In/69 Ex | 64 | 2.020/1.600 11/32 | Straight | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | C |
| 011250-3 | Assembly | 200 In/69 Ex | 64 | 2.020/1.600 11/32 | Straight | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |
| 012150 | Bare | 200 In/69 Ex | 72 | 2.020/1.600 11/32 | Angle | | | | |
| 012150-1 | Assembly | 200 In/69 Ex | 72 | 2.020/1.600 11/32 | Angle | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .570" | C |
| 012150-2 | Assembly | 200 In/69 Ex | 72 | 2.020/1.600 11/32 | Angle | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | C |
| 012150-3 | Assembly | 200 In/69 Ex | 72 | 2.020/1.600 11/32 | Angle | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |
| 012250 | Bare | 200 In/69 Ex | 72 | 2.020/1.600 11/32 | Straight | | | | |
| 012250-1 | Assembly | 200 In/69 Ex | 72 | 2.020/1.600 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .570" | C |
| 012250-2 | Assembly | 200 In/69 Ex | 72 | 2.020/1.600 11/32 | Straight | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | C |
| 012250-3 | Assembly | 200 In/69 Ex | 72 | 2.020/1.600 11/32 | Straight | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |

MARINE NEW!!!

| Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|-----------|----------|--------------|---------|-------------------|----------|---------|--|----------|-------|
| 011150M-1 | Assembly | 200 In/69 Ex | 64 | 2.020/1.600 11/32 | Angle | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .570" | D |
| 011150M-2 | Assembly | 200 In/69 Ex | 64 | 2.020/1.600 11/32 | Angle | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | D |
| 011250M-1 | Assembly | 200 In/69 Ex | 64 | 2.020/1.600 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .570" | D |
| 011250M-2 | Assembly | 200 In/69 Ex | 64 | 2.020/1.600 11/32 | Straight | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | D |
| 012150M-1 | Assembly | 200 In/69 Ex | 72 | 2.020/1.600 11/32 | Angle | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .570" | D |
| 012150M-2 | Assembly | 200 In/69 Ex | 72 | 2.020/1.600 11/32 | Angle | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | D |
| 012250M-1 | Assembly | 200 In/69 Ex | 72 | 2.020/1.600 11/32 | Straight | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .570" | D |
| 012250M-2 | Assembly | 200 In/69 Ex | 72 | 2.020/1.600 11/32 | Straight | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | D |

Assembly Includes: Head, valves, seals, springs, retainers, locks, rocker studs and guide plates

Notes:

C = 7° stamped heat treated steel valve locks, Manley 4140 chrome moly retainers and Nitrile umbrella seals
 D = 10° machined steel valve locks, Manley 4140 chrome moly retainers, Nitrile umbrella seals and Inconel exhaust valves (Marine version)
 E = 10° machined steel valve locks, Manley 4140 chrome moly retainers, Teflon seals and Manley Severe Duty valves

50 STATE EMISSIONS LEGAL:

Important note: World Sportsman II cylinder heads carry C.A.R.B. EO #D-343-1

| Recommended Installation Items: | Part # | Description |
|---------------------------------|---|-------------|
| Head Gaskets: | Felpro #1003 (350) Felpro #1004 (400) | |
| Intake Gasket: | Felpro #1205 | |
| Exhaust Gasket: | Felpro #1404 | |
| Spark Plugs: | 14mm 5/8" .460" reach tapered seat (Champion 670 or 802, Accel 276 or 276S) | |
| Pushrods: | Hardened pushrods are required with the use of guide plates | |
| Accessories: | | |
| 830450 | 5/16" SBC flat guide plate | |
| 830475 | 3/8" stock rocker arm stud | |
| 830480 | 7/16" stock rocker arm stud | |
| 830485 | 7/16" ARP rocker arm stud | |
| 832575 | Head bolt kit for Motown SBC cast iron engine block | |
| 832536 | Head stud kit for Motown SBC cast iron engine block | |
| 832003 | 7/16" SBC stud girdle | |
| 832910 | Stainless steel intake manifold bolt kit (hex head) | |
| 832911 | Stainless steel valve cover bolt kit (hex head) | |
| 832930 | Stainless steel header stud kit | |



MOTOWN CAST IRON CYLINDER HEADS

Designed for use in racing applications where cast iron heads are mandated, or for larger displacement small block street-type engines, World's 220 cc intake Motown heads are the ULTIMATE cast iron SBC head. Employing RightCast® ports, big 2.080" diameter intake valves and a highly efficient 64cc

combustion chamber, the Motown provides significant power increases over other heads on the market. They are ideally suited for use on small block Chevy engines of 383" or larger displacement. Available bare or in complete assemblies—as well as in straight or angle-plug configurations.

SMALL BLOCK CHEVROLET



Manley stainless steel valves

Dual valve cover bolt patterns for pre-1987 and later style covers

Raised valve cover rails to help eliminate oil leaks

Exclusive Rightcast® technology assures optimum port accuracy

Extra thick deck and walls

Available with either straight or angle spark plug holes



Universal end pads accept both early and late model accessories

THE INDUSTRY'S MOST ADVANCED DESIGN—USED BY WINNING RACERS WHO MUST USE CAST IRON HEADS



Highly efficient combustion chamber and big 2.080" intakes



Generous 220cc intake runners employ RightCast® technology

| Technical Data: | |
|---|--|
| Casting ID Number: I-038 | Exhaust Ports: Standard location |
| Material: High density cast iron | Spark Plug: 14mm 5/8" .460" reach tapered style |
| Valve Seats: Intake (integral), exhaust (hardened) | Valve Job: Multi-angle intake and radiused exhaust |
| Valve Guides: Integral cast iron | Valve Cover Rail: Raised w/perimeter and center bolt pattern |
| Spring Seats: Machined for 1.560" and 1.250" | Valve Angle: Stock 23° |
| Valves: Manley stainless steel valves in assemblies | Accessory Bolt Holes: Stock Accepted by most oval tracks and sanctions. Check with rule book. |
| Guide Plates: Stock | Flow Numbers: Log on to worldcastings.com for detailed information. |
| Rocker Arm Studs: Screw-in style | |
| Rocker Arms: 1.5 ratio (use of 1.6 ratio will require elongation of pushrod holes) | |
| Intake Runner: Standard port location | |

| Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|----------|----------|--------------|---------|-------------------|----------|---------|--|----------|-------|
| 014150 | Bare | 220 In/70 Ex | 64 | 2.080/1.600 11/32 | Angle | | | | |
| 014150-2 | Assembly | 220 In/70 Ex | 64 | 2.080/1.600 11/32 | Angle | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | C |
| 014150-3 | Assembly | 220 In/70 Ex | 64 | 2.080/1.600 11/32 | Angle | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |
| 014250 | Assembly | 220 In/70 Ex | 64 | 2.080/1.600 11/32 | Straight | | | | |
| 014250-2 | Assembly | 220 In/70 Ex | 64 | 2.080/1.600 11/32 | Straight | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | C |
| 014250-3 | Assembly | 220 In/70 Ex | 64 | 2.080/1.600 11/32 | Straight | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |

Assembly Includes: Head, valves, seals, springs, retainers, locks, rocker studs and guide plates

Notes:

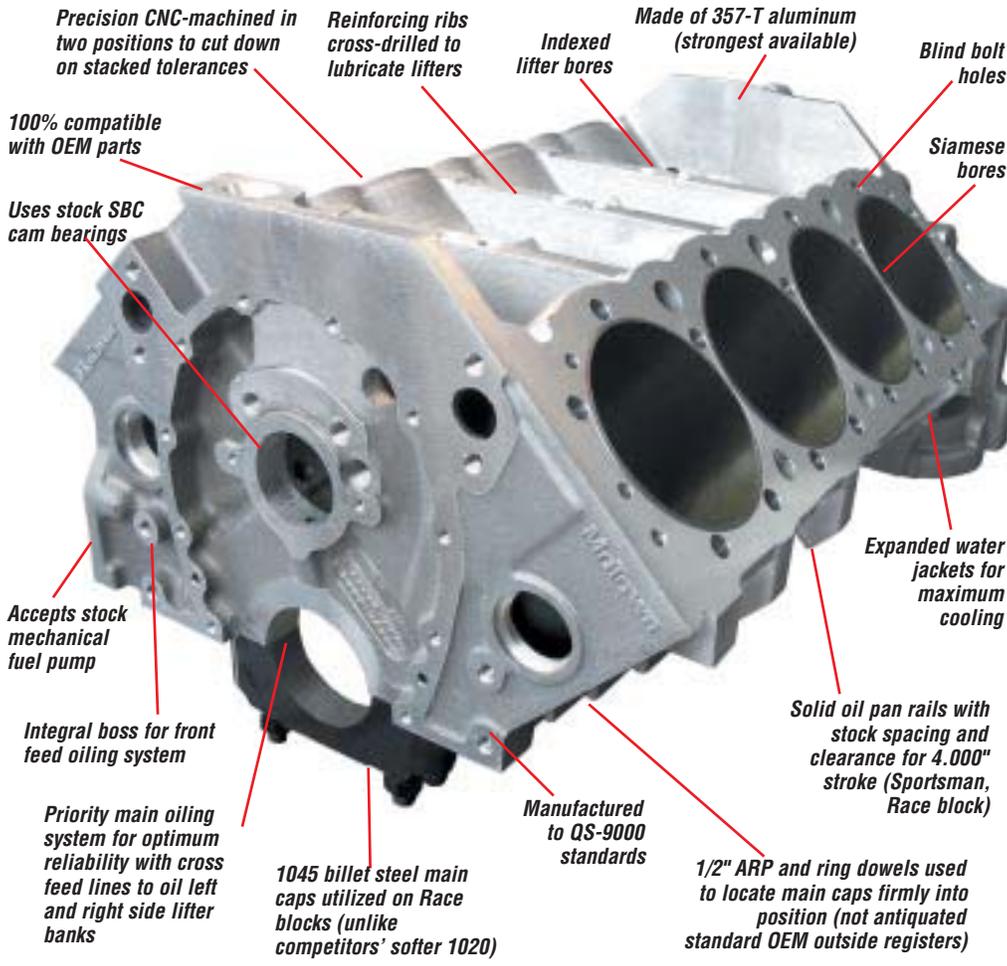
C = 7° Stamped heat treated steel valve locks, Manley 4140 chrome moly retainers and Nitrile umbrella seals
 E = 10° machined steel valve locks, Manley 4140 chrome moly retainers, Teflon seals and Manley Severe Duty valves

| | | |
|--|--|---------------------------------|
| Accessories: | 832930 | Stainless steel header stud kit |
| 830450 | 5/16" SBC flat guide plate | |
| 830475 | 3/8" stock rocker arm stud | |
| 830480 | 7/16" stock rocker arm stud | |
| 830485 | 7/16" ARP rocker arm stud | |
| 832575 | Head bolt kit for Motown SBC cast iron engine block | |
| 832536 | Head stud kit for Motown SBC cast iron engine block | |
| 832003 | 7/16" SBC stud girdle | |
| 832910 | Stainless steel intake manifold bolt kit (hex head) | |
| 832911 | Stainless steel valve cover bolt kit (hex head) | |
| Recommended Installation Items: | | |
| | Head Gaskets: Felpro #1003 (350) Felpro #1004 (400) | |
| | Intake Gasket: Felpro #1205 | |
| | Exhaust Gasket: Felpro #1404 | |
| | Spark Plugs: 14mm 5/8" .460" reach tapered seat (Champion 670 or 802, Accel 276 or 276S) | |
| | Pushrods: Hardened pushrods are required with the use of guide plates | |

MOTOWN ALUMINUM ENGINE BLOCK

From any angle, this aluminum block is the class of the SBC field. The exclusive horizontal ribs that set the Motown apart from all others serve several important functions, such as stabilizing and reinforcing the cylinder walls and enhancing cooling. They look cool, too.

There are also reinforcing ribs in the valley that connect the banks and add stability to the lifter bores. The ribs are drilled to cross-feed lifter galleys. What's more, the block is configured for priority main oiling to assure that the crankshaft is lubricated before the lifter.



Technical Data:
Casting ID Number: WOR-041
Material: 357-T6 Aluminum (absolute strongest available)
Deck Thickness: .600" minimum
Cam Bearings: Standard small block Chevrolet
Cam Location: Standard small block Chevrolet
Maximum Bore: 4.155"
Cylinder Sleeves: Centrifugally cast ductile iron dry sleeves
Cylinder Wall Thickness: .100" dry sleeve w/.300" aluminum wall support @ 4.155"
Water Jackets: Expanded for better cooling
Lubrication: Priority main oiling system
Oil System Features: Integral boss for front feed, boss for rear scavenge, rear main cap has provisions for wet sump pump, cross feed lines from left to right lifter banks
Filtration: Integral mount for spin-on filter
Oil Pan rails: Solid (stock width) clearanced for 4.000" stroke
Main Cap Material: made from 1045 Billet Steel (unlike competitors' softer 1020)
Main Caps: Sportsman and Race blocks have splayed 4-bolt caps (2, 3, 4) and straight 4-bolt caps (1, 5)
Main Cap Hardware: 1/2" ARP and ring dowels used to locate main caps firmly into position (not antiquated standard OEM outside registers)
Rear Main Seal: Two piece
Fuel Pump: Stock location
Motor Mounts: Dual (front and side)
Cylinder Head Bolt Holes: Blind tapped to prevent water leaks
Lifters Bosses: Clearanced for vertical bar lifters (can use standard height lifters)
Clutch Linkage: Standard mounts
Starter Mount: Stock location
Weight: Approximately 100lbs.

REINFORCING RIBS & 1045 BILLET MAIN CAPS SET MOTOWN APART FROM THE REST OF THE PACK!



| Part # | Series | Type | Deck | Bore | Mains | Lifters | Main Caps | Max Stroke |
|-------------|--------|---------|--------|--------|-------|---------|----------------------------------|------------|
| 084510 | Race | Bare | 9.025" | 3.990" | 350 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084510-4000 | Race | Prepped | 9.025" | 4.000" | 350 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084510-4030 | Race | Prepped | 9.025" | 4.030" | 350 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084520 | Race | Bare | 9.025" | 4.115" | 350 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084520-4125 | Race | Prepped | 9.025" | 4.125" | 350 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084520-4155 | Race | Prepped | 9.025" | 4.155" | 350 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084530 | Race | Bare | 9.025" | 4.115" | 400 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084530-4125 | Race | Prepped | 9.025" | 4.125" | 400 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084530-4155 | Race | Prepped | 9.025" | 4.155" | 400 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |

Bare Blocks Include: Screw-in freeze plugs, cam plugs and dowel pin kit
Prepped Blocks Include: Decks milled +/- .0025", honed main journals +/- .0004", plate honed cylinder bores .001" O.S. +/- .0005", honed lifter bores +/- .0005", hot tanked, cam bearings, freeze plugs, dowel pins and all pipe plugs are installed, deburred, sprayed w/rust prohibitor and wrapped

| Accessories: | Available options: | Additional Note: |
|---|------------------------------------|--|
| 832670-2 Oil restrictors for Motown SBC aluminum engine block (1 pair) | Cylinder boring | Due to varying engine builder preferences, the sleeves in a prepped block are not flush-milled with the deck and may vary. |
| 832670-4 Oil restrictors for Motown SBC aluminum engine block (2 pairs) | Lifter bushings | |
| 832521 Freeze plug and pipe plug kit for Motown SBC aluminum engine block | 50mm cam bearings | |
| 832522 Dowel pin kit for Motown SBC engine block | O-ring head decks | |
| 832537 ARP head stud kit Motown SBC aluminum block (2 heads) | Polishing (6 to 8 weeks lead time) | |
| 841107-NF Replacement sleeve for Motown SBC aluminum engine block | | |
| 832912 Stainless steel timing cover bolt kit (hex head) | | |
| 832913 Stainless steel oil pan bolt kit (hex head) | | |

Contact your World sales representative for details.

MOTOWN II CAST IRON BLOCK (23° & LS VERSIONS)

World Products has developed a block casting that accommodates all standard small block components—but can be finished to accept either First or Second Generation 23° small block Chevrolet cylinder heads or new Third Generation LS-series heads.

Think of the possibilities. You can use the block with all of your existing 23° components. Or you can go for a significant increase in power through the use of 15° or 12° LS-series cylinder heads—which flow significantly better than

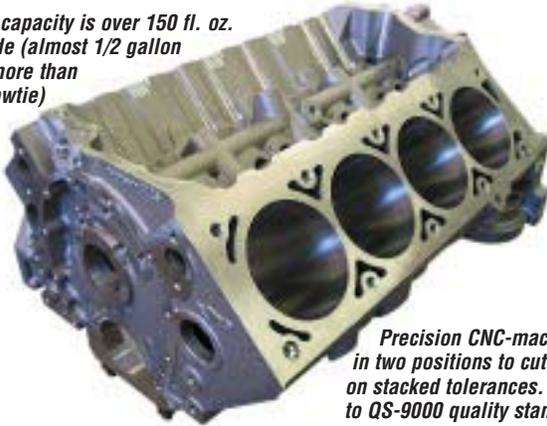
the early stuff. What's more, you'll be able to use the SBC ignition systems and avoid the intricate (and expensive) individual coil pack setup found on the LS.

The SBC version of the Motown II has water jackets to match the 23° heads and a 9.025" deck, while the LS version has a 9.240" deck and appropriate water jacketing. Both versions employ important changes to the oiling system, which assures a more controlled distribution of lubricant than possible with OEM designs. There are many benefits with a Motown II block!

- Uses standard SBC crank, cam bearings, ignition
- Can be ordered for SBC or LS cylinder heads
- Must use LS pistons and cam with LS lobes when using LS cylinder heads

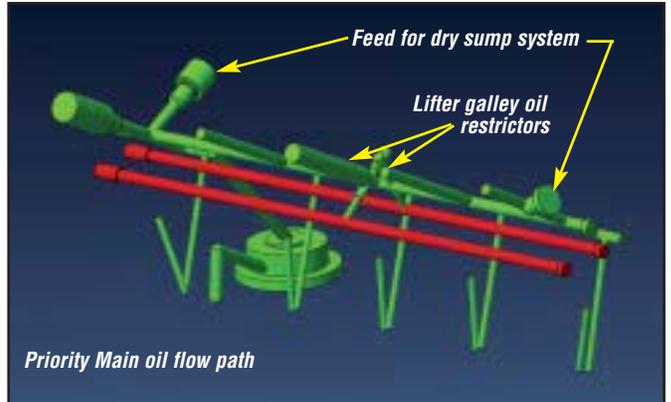
- Equipped with SBC and LS motor mounts
- LS version weighs 75 lbs. less than GM's LSX iron block
- Street, Sportsman and Race configurations
- Available bare or fully race-prepped

Water capacity is over 150 fl. oz. per side (almost 1/2 gallon total more than GM Bowtie)



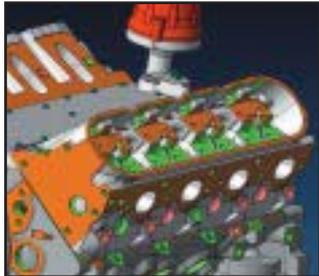
Precision CNC-machined in two positions to cut down on stacked tolerances. Made to QS-9000 quality standards

IMPORTANT IMPROVEMENTS TO THE SMALL BLOCK'S OILING SYSTEMS!

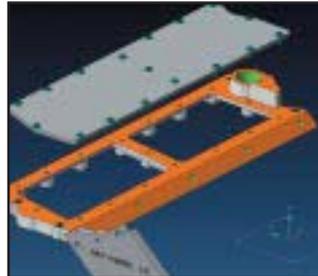


One of the more common problems with the OEM small block Chevrolet oiling system is the path taken by the lubricant to feed the lifters. The oil comes up in the back and then forward toward the lifters. It passes by the distributor, and if the O-ring on the distributor shaft is not perfectly in place, delivery can be compromised—essentially starving some of the lifters for oil. World has solved this problem by re-routing the oil so it emerges in the middle of the valley, and oil is directed toward the front and rear. It is also a easy matter of installing restrictors here to control the flow of oil to the lifters. What's more, a faulty or missing O-ring on the distributor shaft will have no negative impact on overall lubrication.

REVOLUTIONARY BLOCK DESIGN CAN BE FINISHED TO USE EITHER 23° SBC OR LS CYLINDER HEADS



The Motown II block can be finished with a 9.240" deck and a bolt pattern to accommodate LS-series heads.



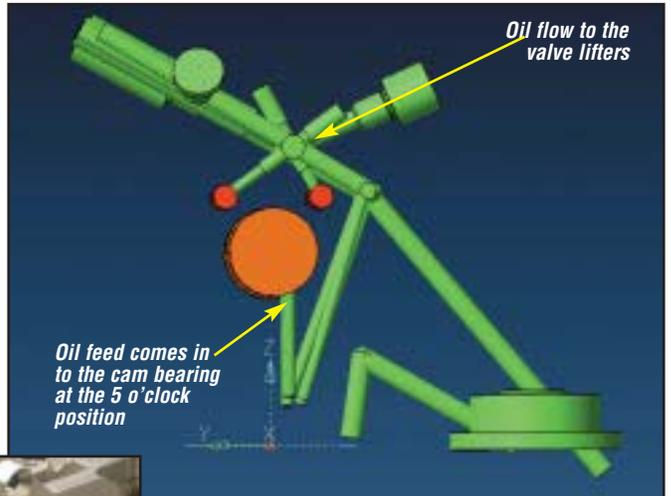
In order to use LS heads and intake system World has developed this unique spacer and valley cover.



The block has been designed to use standard SBC cam bearings, but can be ordered to accept 55mm bearings.



Motown II blocks are equipped with both front and side mounts for LS and standard SBC engine mounts.



A standard small block distributor can be used with either LS or SBC heads, avoiding use of coil pack ignitions



When using LS style cylinder heads on the new Motown II block you must route the water back to the radiator. These handy cooling adapters from World handle the task perfectly.

Another key improvement is the manner in which the lubricant flows to the cam bearings. In the OEM small block oil is introduced at the 6 o'clock position. What happens here is that when stiff valve springs are used, it literally pushes down on the cam and restricts the flow of lubricant. The World Motown II, on the other hand, has its feed at the 5 o'clock point, which allows oil to feed the cam bearings, even if high pressure springs are exerting a downward force on the camshaft.

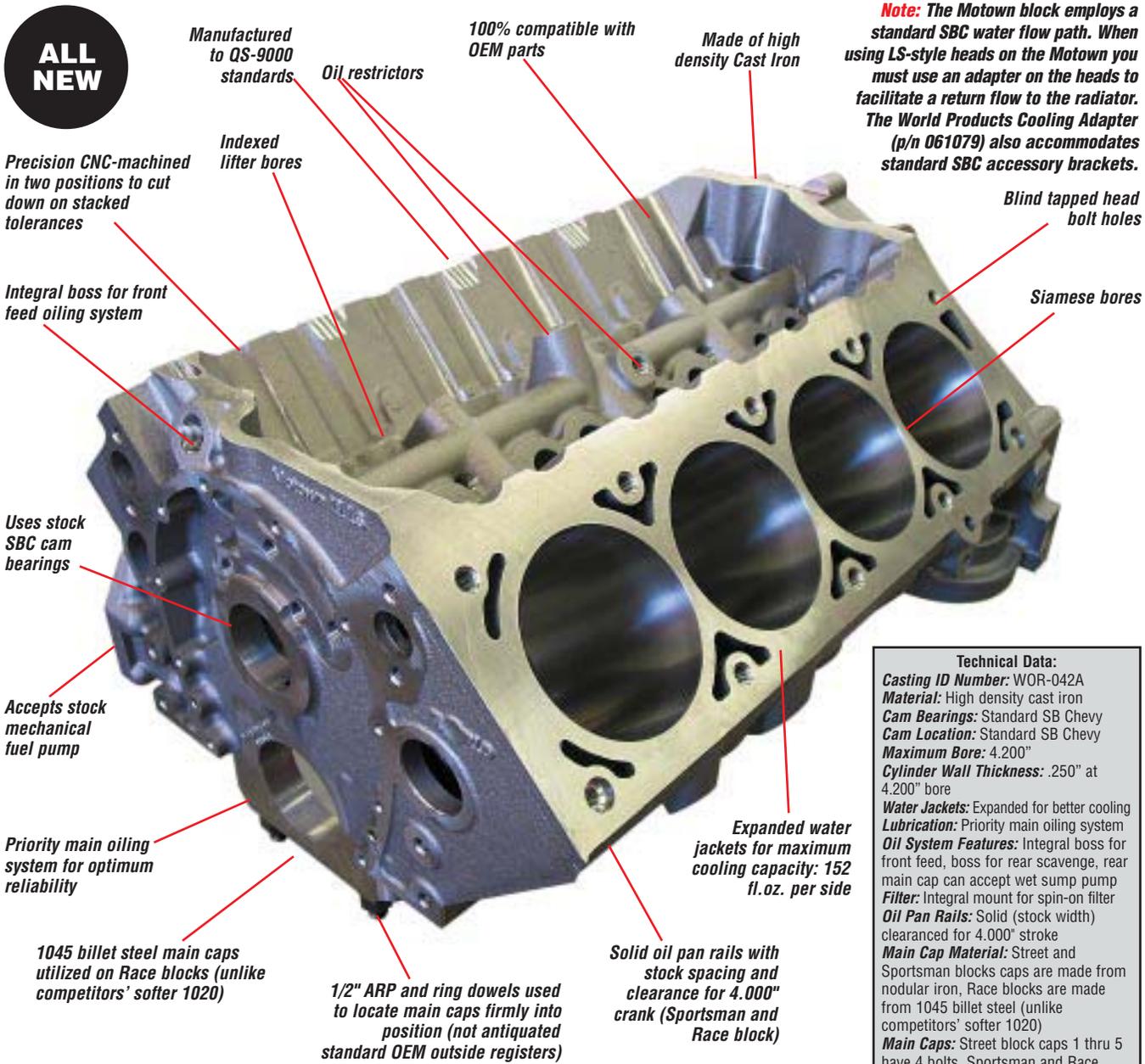
MOTOWN LS CAST IRON ENGINE BLOCK

The unique Motown LS block lets you utilize a full compliment of standard small block Chevy components with the decided advantage of being able to employ high flowing LS-type cylinder heads. In addition to the internal components, the Motown LS allows use of expensive already-purchased items

like pulley kits and external accessories. The block also boasts a coolant capacity in excess of 150 fluid ounces to provide superior cooling.

Motown LS blocks are offered both bare and fully race-prepped for your convenience.

Note: The Motown block employs a standard SBC water flow path. When using LS-style heads on the Motown you must use an adapter on the heads to facilitate a return flow to the radiator. The World Products Cooling Adapter (p/n 061079) also accommodates standard SBC accessory brackets.



ALL NEW

Precision CNC-machined in two positions to cut down on stacked tolerances

Integral boss for front feed oiling system

Uses stock SBC cam bearings

Accepts stock mechanical fuel pump

Priority main oiling system for optimum reliability

1045 billet steel main caps utilized on Race blocks (unlike competitors' softer 1020)

Manufactured to QS-9000 standards

Indexed lifter bores

Oil restrictors

100% compatible with OEM parts

Made of high density Cast Iron

Blind tapped head bolt holes

Siamese bores

Expanded water jackets for maximum cooling capacity: 152 fl.oz. per side

Solid oil pan rails with stock spacing and clearance for 4.000" crank (Sportsman and Race block)

1/2" ARP and ring dowels used to locate main caps firmly into position (not antiquated standard OEM outside registers)

Technical Data:
Casting ID Number: WOR-042A
Material: High density cast iron
Cam Bearings: Standard SB Chevy
Cam Location: Standard SB Chevy
Maximum Bore: 4.200"
Cylinder Wall Thickness: .250" at 4.200" bore
Water Jackets: Expanded for better cooling
Lubrication: Priority main oiling system
Oil System Features: Integral boss for front feed, boss for rear scavenge, rear main cap can accept wet sump pump
Filter: Integral mount for spin-on filter
Oil Pan Rails: Solid (stock width) clearanced for 4.000" stroke
Main Cap Material: Street and Sportsman blocks caps are made from nodular iron, Race blocks are made from 1045 billet steel (unlike competitors' softer 1020)
Main Caps: Street block caps 1 thru 5 have 4 bolts, Sportsman and Race blocks have splayed 4-bolt caps (2, 3, 4) and straight 4-bolt caps (1, 5)
Main Cap Hardware: 1/2" ARP and ring dowels used to locate main caps firmly into position (not antiquated standard OEM outside registers)
Rear Main Seal: Two piece SB Chevy
Fuel Pump: Stock location SB Chevy
Motor Mounts: Dual (frnt & side) SBC/ LS
Cylinder Head Bolt Holes: Blind tapped to prevent water leaks
Lifters Bosses: Clearanced for vertical bar lifters (can use std. height LS lifters)
Clutch Linkage: Standard mounts
Starter Mount: Stock location
Weight: Approximately 190lbs.

THE MOTOWN LS IS A UNIQUE ONE-OF-A-KIND BLOCK AVAILABLE ONLY FROM WORLD PRODUCTS!

| Accessories: | | Available options: | |
|--------------|--|--------------------|--|
| 832665-2 | Oil restrictors for Motown SBC cast iron block | Cylinder boring | |
| 832531 | Freeze & pipe plug kit for cast iron Motown SBC | Lifter bushings | |
| 832522 | Dowel pin kit for Motown SBC engine block | 50mm cam bearings | |
| 832576 | ARP head bolt kit for Motown LS cast iron block | O-ring head decks | |
| 832912 | Stainless steel timing cover bolt kit (hex head) | | |
| 832913 | Stainless steel oil pan bolt kit (hex head) | | |
| 061079 | Cooling adapters for LS heads (pair required) | | |

Contact your World sales representative for details.

| Part # | Series | Type | Deck | Bore | Mains | Lifters | Main Caps | Max Stroke |
|--------|-----------|------|--------|--------|-------|---------|-----------------|------------|
| 084080 | Sportsman | Bare | 9.240" | 4.115" | 400 | .8437" | Nodular Splayed | 4.000" |
| 084180 | Race | Bare | 9.240" | 4.115" | 400 | .8437" | Billet Splayed | 4.000" |



MOTOWN II CAST IRON ENGINE BLOCK

World Products has developed a refined version of its popular Motown block in the form of the Motown II, and now offers it in over two dozen iterations for Small Block Chevy applications. The Motown II boasts 152 fluid ounces of coolant per side and has a demonstrated stability that has been lauded by racers and professional engine builders alike. A Motown block won the inaugural Engine Masters Challenge and winner Joe Sherman said that it

was worth about 20 horsepower over others, thanks to its outstanding design and overall stability.

Motown II blocks are offered both bare and prepped. The prepped blocks come decked, plate-honed, de-burred, hot-tanked, freeze plugs, cam bearings and dowel pins installed, painted inside and out, machined surfaces are protected with rust preventative and the block is wrapped.

Manufactured to QS-9000 standards

Improved oil distribution

Available bare or race-prepped

Expanded water jackets hold 152 fl. oz. per side for improved cooling

Finished with 9.025" deck and blind tapped bolt holes for 23° heads

Accommodates all standard small block Chevy components

Precision CNC-machined in two positions to cut down on stacked tolerances

BLOCKS FOR 23° SBC HEADS LISTED HERE. LS BLOCKS ON PREVIOUS PAGE

| | | |
|---------------------|---|--|
| Accessories: | | |
| 832665-2 | Oil restrictors for Motown SBC cast iron block | 832913 Stainless steel oil pan bolt kit (hex head) |
| 832531 | Freeze plug and pipe plug kit for Motown SBC cast iron engine block | Available options: |
| 832522 | Dowel pin kit for Motown SBC engine block | Cylinder boring |
| 832575 | ARP SBC head bolt kit (2 heads) | Lifter bushings |
| 832536 | ARP SBC head stud kit (2 heads) | 50mm cam bearings |
| 832912 | Stainless steel timing cover bolt kit (hex head) | O-ring head decks |
| | | Contact your World sales representative for details. |

| |
|--|
| Technical Data: |
| Casting ID Number: WOR-042B |
| Material: High density cast iron |
| Cam Bearings: Standard small block Chevrolet (can machine to 50mm) |
| Cam Location: Standard SB Chevrolet |
| Maximum Bore: 4.200" |
| Cyli. Wall Thickness: .250" @ 4.200" |
| Water Jackets: Expanded capacity |
| Lubrication: Priority main oiling system |
| Oil System: Integral boss for front feed, boss for rear scavenge, rear main cap has provisions for wet sump pump |
| Filtration: Mount for spin-on filter |
| Oil Pan Rails: Solid (stock width) cleared for 4.000" stroke |
| Main Cap Material: Street and Sportsman blocks caps are made from nodular iron, Race blocks are made from 1045 billet steel (unlike competitors' softer 1020) |
| Main Caps: Street block caps 1 through 5 have 4 bolts, Sportsman and Race blocks have splayed 4-bolt caps (2, 3, 4) and straight 4-bolt caps (1, 5) |
| Main Cap Hardware: 1/2" ARP and ring dowels used to locate main caps firmly into position (not antiquated standard OEM outside registers) |
| Rear Main Seal: Two piece |
| Fuel Pump: Stock location |
| Motor Mounts: Dual (front and side) |
| Cylinder Head Bolt Holes: Blind tapped to prevent water leaks |
| Lifters Bosses: Cleared for vertical bar lifters (can use std. height lifters) |
| Clutch Linkage: Standard mounts |
| Starter Mount: Stock location |
| Weight: Approximately 190lbs. |

| Part # | Series | Type | Deck | Bore | Mains | Lifters | Main Caps | Max Stroke |
|-------------|-----------|---------|--------|--------|-------|---------|----------------------------------|------------|
| 084005 | Street | Bare | 9.025" | 3.990" | 350 | .8437" | Straight 4-Bolt | 4.000" |
| 084005-4000 | Street | Prepped | 9.025" | 4.000" | 350 | .8437" | Straight 4-Bolt | 4.000" |
| 084005-4030 | Street | Prepped | 9.025" | 4.030" | 350 | .8437" | Straight 4-Bolt | 4.000" |
| 084025 | Street | Bare | 9.025" | 4.115" | 400 | .8437" | Straight 4-Bolt | 4.000" |
| 084025-4125 | Street | Prepped | 9.025" | 4.125" | 400 | .8437" | Straight 4-Bolt | 4.000" |
| 084025-4155 | Street | Prepped | 9.025" | 4.155" | 400 | .8437" | Straight 4-Bolt | 4.000" |
| 084010 | Sportsman | Bare | 9.025" | 3.990" | 350 | .8437" | Nodular Splayed 4-Bolt | 4.000" |
| 084010-4000 | Sportsman | Prepped | 9.025" | 4.000" | 350 | .8437" | Nodular Splayed 4-Bolt | 4.000" |
| 084010-4030 | Sportsman | Prepped | 9.025" | 4.030" | 350 | .8437" | Nodular Splayed 4-Bolt | 4.000" |
| 084020 | Sportsman | Bare | 9.025" | 4.115" | 350 | .8437" | Nodular Splayed 4-Bolt | 4.000" |
| 084020-4125 | Sportsman | Prepped | 9.025" | 4.125" | 350 | .8437" | Nodular Splayed 4-Bolt | 4.000" |
| 084020-4155 | Sportsman | Prepped | 9.025" | 4.155" | 350 | .8437" | Nodular Splayed 4-Bolt | 4.000" |
| 084030 | Sportsman | Bare | 9.025" | 4.115" | 400 | .8437" | Nodular Splayed 4-Bolt | 4.000" |
| 084030-4125 | Sportsman | Prepped | 9.025" | 4.125" | 400 | .8437" | Nodular Splayed 4-Bolt | 4.000" |
| 084030-4155 | Sportsman | Prepped | 9.025" | 4.155" | 400 | .8437" | Nodular Splayed 4-Bolt | 4.000" |
| 084110 | Race | Bare | 9.025" | 3.990" | 350 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084110-4000 | Race | Prepped | 9.025" | 4.000" | 350 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084110-4030 | Race | Prepped | 9.025" | 4.030" | 350 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084120 | Race | Bare | 9.025" | 4.115" | 350 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084120-4125 | Race | Prepped | 9.025" | 4.125" | 350 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084120-4155 | Race | Prepped | 9.025" | 4.155" | 350 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084130 | Race | Bare | 9.025" | 4.115" | 400 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084130-4125 | Race | Prepped | 9.025" | 4.125" | 400 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |
| 084130-4155 | Race | Prepped | 9.025" | 4.155" | 400 | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.000" |

Bare Blocks Include: Dowel pin kit

Prepped Blocks Include: Decks milled +/- .0025", honed main journals +/- .0004", plate honed cylinder bores .001" O.S. +/- .0005", honed lifter bores +/- .0005", hot tanked, cam bearings, freeze plugs, dowel pins and all pipe plugs are installed, deburred painted inside and out, sprayed w/ rust prohibitor and wrapped

MOTOWN PARTIALS, SHORT BLOCKS & KITS

World's partial engines, short blocks, assemblies and kits provide an easy way for performance enthusiasts to get some serious power at very nominal prices. The blocks are race-prepped and machined to exacting tolerances. They are plate-honed—which ensures optimum piston ring sealing—and also have honed lifter bores. Blocks are thoroughly cleaned and painted, with freeze plugs and cam bearings installed and machined surfaces protected. Then they're carefully sealed and crated—ready for the builder to assemble.

The rotating kits consist of top quality 4340 forged steel crankshafts, 4340 forged steel H-beam connecting rods, forged aluminum pistons and a high performance ring set. The assembly is digitally balanced (internally).

Complete short block assemblies are offered, which combine a race-prepped block with a balanced rotating assembly. This combination is very popular with both do-it-yourself home builders and professional engine shops because of convenience and economy.

Also available are partial engines, which combine a short block assembly, cylinder head assemblies, plus camshaft and valve train. Add your own intake, exhaust and ignition systems. World Products offers a special package where the "partial" engine is completed, dyno tested, returned to its original form and backed by a 1-year, 12,000-mile warranty. This is your assurance of power and dependability—a World Products exclusive.



SHORT BLOCK ASSEMBLY -
Balanced rotating assembly installed in race-prepped Motown block



SHORT BLOCK KIT AND ROTATING ASSEMBLY - Kit contains a race-prepped Motown II iron block and an internally balanced rotating assembly with 4340 crank, H-beam rods, forged pistons, wrist pins, piston rings, plus rod and main bearings

| Part # | C.I.D. | Heads | Application | Compression | Camshaft | Induction | Dome | Notes |
|---------------------------------|--------|----------|-----------------|-------------|------------------|-----------|-------|-------|
| Partial Engine (Stage 2) | | | | | | | | |
| 110010 | 427 | Aluminum | Street | 10.1:1 | Hydraulic Roller | None | -20cc | A |
| 110110 | 427 | Aluminum | For Power Adder | 9.1:1 | Hydraulic Roller | None | -30cc | B |
| 110015 | 454 | Aluminum | Street | 11.1:1 | Hydraulic Roller | None | -12cc | A |
| Short Block Assembly | | | | | | | | |
| 101205 | 427 | | Street | 10.1:1 | None | None | -20cc | A |
| 101204 | 427 | | For Power Adder | 9.1:1 | None | None | -30cc | B |
| 101207 | 427 | | Race | 13.6:1 | None | None | 8cc | C |
| 101210 | 454 | | Street | 11.1:1 | None | None | -12cc | A |
| Short Block Kit | | | | | | | | |
| 101314 | 427 | | Street | 10.1:1 | None | None | -20cc | A |
| 101313 | 427 | | For Power Adder | 9.1:1 | None | None | -30cc | B |
| 101316 | 427 | | Race | 13.6:1 | None | None | 8cc | C |
| 101318 | 454 | | Street | 11.1:1 | None | None | -12cc | A |
| Rotating Kit | | | | | | | | |
| 101105 | 427 | | Street | 10.1:1 | None | None | -20cc | A |
| 101104 | 427 | | For Power Adder | 9.1:1 | None | None | -30cc | B |
| 101107 | 427 | | Race | 13.6:1 | None | None | 8cc | C |
| 101110 | 454 | | Street | 11.1:1 | None | None | -12cc | A |

Short Blocks Include: Decks milled +/- .005", honed main journals +/- .0004", plate honed cylinder bores .001" O.S. +/- .0005", honed lifter bores +/- .0005", hot tanked, cam bearings, freeze plugs, dowel pins and all pipe plugs are installed, deburred, sprayed w/rust prohibitor and wrapped, digitally internal balanced rotating assembly balanced within 2 grams

Short Block Kits Includes: Prepped block and balanced rotating kit

Complete Engine Includes: Pan to carb (or EFI), fully assembled, dyno tuned and tested and comes with a 2 year/24 month warranty (does not include starter, water pump or flywheel)

Stage 2 Partial Engine Includes: All the same premium components as the complete engines, less intake manifold, induction system, ignition system and damper

Notes :

A = Compression calculated with a 64cc head, .020" deck, -20cc piston and a .041" gasket

B = Compression calculated with a 64cc head, .020" deck, -30cc piston and a .041" gasket

C = Compression calculated with a 64cc head, .020" deck, 8cc piston and a .041" gasket

"Power Adder" combinations for supercharger, turbo or nitrous oxide applications

"For Power Adder" assemblies are suitable for use with supercharged or turbocharged applications

Accessories:

- 832575 - ARP SBC head bolt kit (2 heads)
- 832536 - ARP SBC head stud kit (2 heads)
- 832912 - Stainless steel timing cover bolt kit (hex head)
- 832913 - Stainless steel oil pan bolt kit (hex head)

Available options:

A 1-year, 12,000-mile Limited Warranty and dyno test is available on Partial Engines.

Contact your World sales representative for details.

MOTOWN 415 CID STAGE 1 PARTIAL ENGINE

SMALL BLOCK CHEVROLET

Here's the easy way to get an abundance of power without breaking the bank. Rather than spend your hard-earned money on a mundane 350 cubic inch small block—or even a 383 “stroker” motor, World gives you the way to step up to a big 415 c.i.d. package for about the same outlay as what a smaller engine would cost.

The foundation for this awesome package is World's new Motown II cast iron block—the most advanced cast iron SBC replacement block on the planet.

This “Sportsman” model block, which has splayed 4-bolt nodular iron main caps, is fitted with a 3.875" stroke Eagle 4340 forged steel crankshaft, Eagle 4340 forged steel H-beam connecting rods, Mahle -20cc dome forged

aluminum pistons (4.125" bore) and a high performance ring set. The rotating assembly is internally balanced. A hydraulic flat tappet cam, ground to World's specs by a leading aftermarket cam company, and a double-roller timing chain are also included.

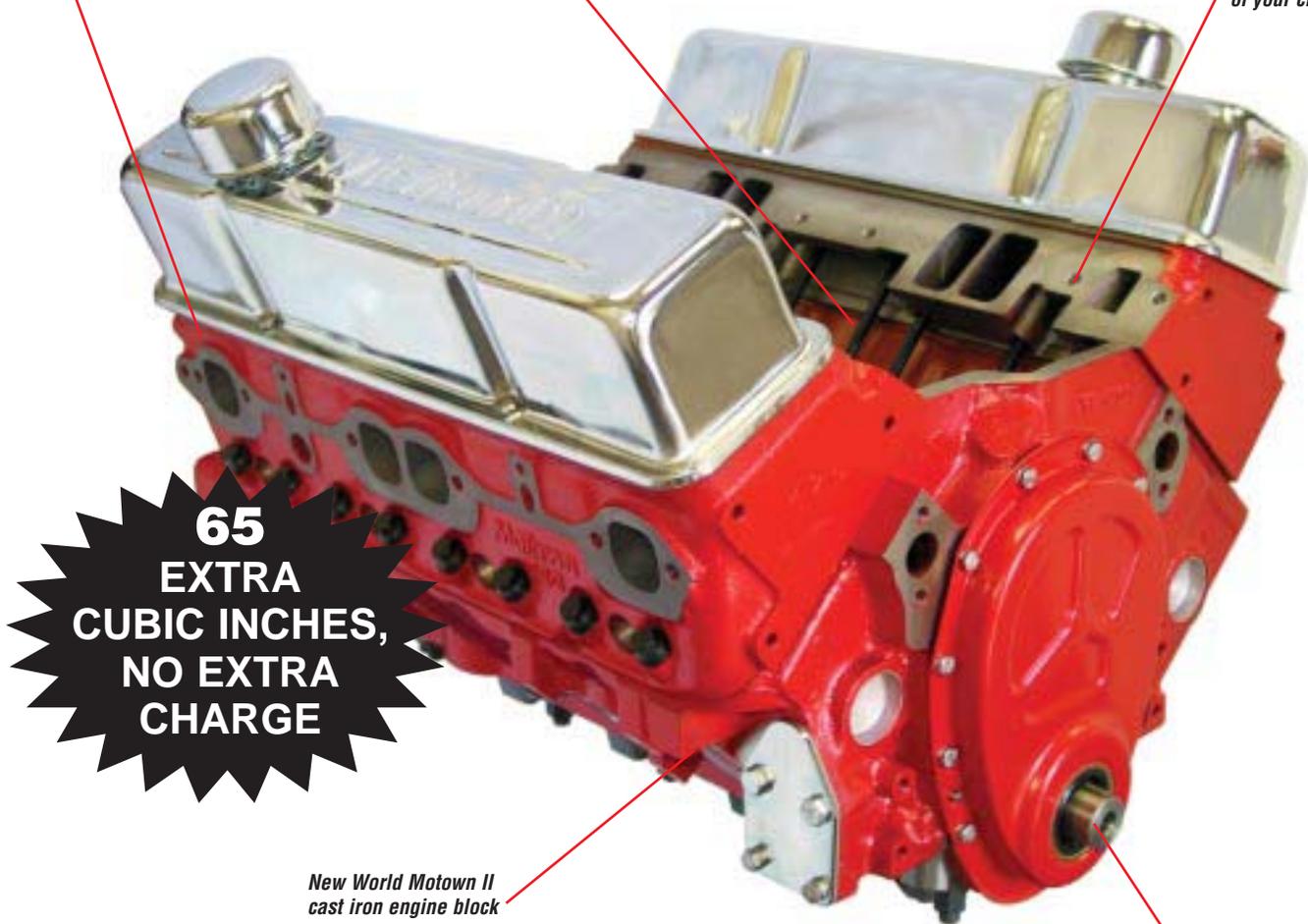
Breathing is handled by a pair of Motown 220cc cast iron cylinder heads that have a multi-angle valve job, are equipped with Manley stainless steel valves, high performance springs, Manley chrome moly retainers and screw-in studs.

With a compression ratio of 9.7:1, this combination will produce outstanding performance on pump gasoline. And with up to 65" more displacement at no extra charge, it's an outstanding value, too.

Motown cast iron 220cc intake heads

Hydraulic flat tappet camshaft and valve train

Ready for you to add the intake and ignition systems of your choice



65 EXTRA CUBIC INCHES, NO EXTRA CHARGE

New World Motown II cast iron engine block

Rotating assembly internally balanced

415 c.i.d. SMALL BLOCK CHEVY PARTIAL ENGINE
 This convenient package consists of a Motown II cast iron block with nodular caps and 4-bolt mains, 4.125" bore with 9.7:1 Mahle forged aluminum pistons, a 3.875" stroke 4340 forged steel crank and H-beam rods. The rotating assembly is internally balanced. A hydraulic flat tappet cam is employed, as is a double roller timing set. Heads are Motown cast iron with 220cc intake ports, and equipped with Manley stainless steel valves and high performance valve springs. The internal hardware is ARP. Compare this with a typical 350 small block package and you'll be getting 65 more cubic inches of displacement at no extra cost!

| Technical Data: | |
|---|--|
| Engine Block: Motown II cast iron | Crankshaft: Eagle Internally balanced |
| Deck Height: 9.025" | Connecting Rods: Eagle |
| Bore/Stroke: 4.125" x 3.875" | Pistons: Mahle |
| Main Caps: 4-bolt nodular splayed | Piston Rings: Total Seal/Mahle |
| Cylinder Heads: Motown 220cc cast iron | Gaskets: Fel-Pro |
| Valves: Manley Stainless steel | Internal Hardware: ARP |
| Timing Chain: Double roller | External Hardware: Totally Stainless |

| Part # | C.I.D. | Heads | Application | Compression | Camshaft | Induction | Dome | Notes |
|--------------------------|--------|-------------|-------------|-------------|-----------------------|-----------|-------|-------|
| Partial Engine 110005 | 415 | Motown iron | Street | 9.7:1 | Hydraulic Flat Tappet | None | -20cc | |

MOTOWN 427 CID SBC ENGINE

World's 427 has become the standard for the majority of serious performance enthusiasts who favor small block Chevy engines. And for good reason. With a 4.125" bore and 4.000" stroke this popular 7-liter engine combination delivers huge power and torque with total reliability. The newly-designed Motown II cast iron block and Motown 235cc aluminum heads are standard equipment.

The Motown 427 is available as a complete engine, in configurations ranging from a 520 HP hydraulic roller-cammed street motor to a 650 HP high compression race engine. Each engine is dyno-tested and certified to meet

published performance specs, and all street motors are backed by a 2-year, 24,000-mile limited warranty.

For those who wish to reduce engine weight by almost 100 lbs., World offers an aluminum block option. This is ideally suited for those who seek optimum acceleration, braking and handling.

Through World's Custom Shop the block, cylinder heads and intake manifold are available fully polished. This can certainly add the finishing touch to any engine compartment. Allow 6-8 weeks lead time.

LIGHTWEIGHT ALL-ALUMINUM MOTOWN 427 SMALL BLOCK WEIGHS ONLY 355 LBS. AND IMPROVES THE HANDLING AND PERFORMANCE OF ANY STREET MACHINE!

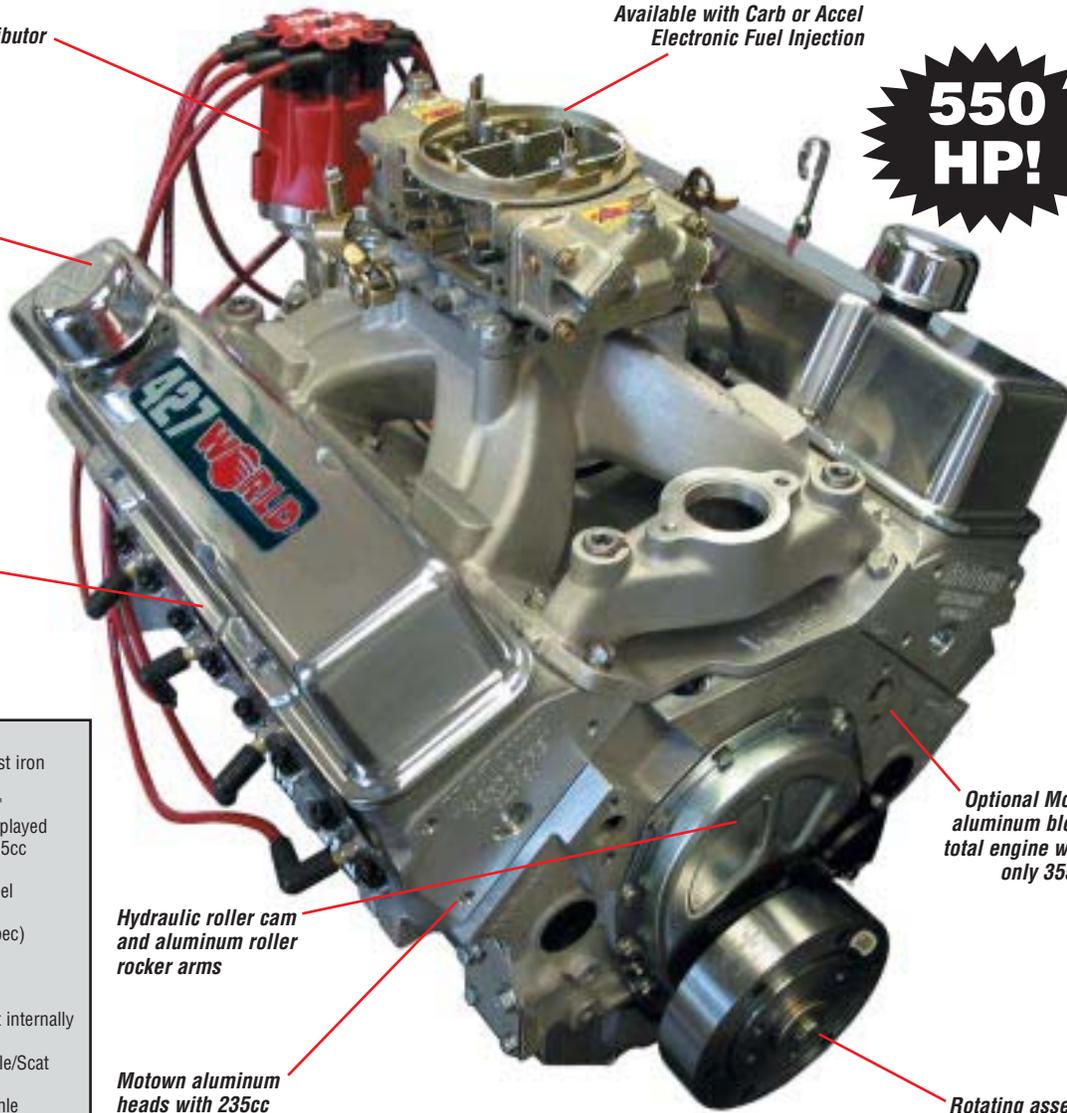
MSD E-curve distributor

Available with Carb or Accel Electronic Fuel Injection

Dyno-tested and backed with a 2-year warranty

550 HP!

Engine is equipped with components from leading aftermarket manufacturers like ARP, Clevite, Eagle, Fel-Pro, Manley, Mahle, Moroso, MSD and others



Hydraulic roller cam and aluminum roller rocker arms

Motown aluminum heads with 235cc intake runners

Optional Motown aluminum block—total engine weight only 355 lbs.

Rotating assembly internally balanced

Technical Data:

Engine Block: Motown II cast iron
Deck Height: 9.025"
Bore/Stroke: 4.125" x 4.000"
Main Caps: 4-bolt nodular splayed
Cylinder Heads: Motown 235cc aluminum
Valves: Manley stainless steel
Intake Manifold: Motown
Carburetor: AED (custom spec)
EFI: Accel
Distributor: MSD E-Curve
Timing Chain: Double roller
Crankshaft: 4340 Eagle/Scat internally balanced
Connecting Rods: 4340 Eagle/Scat
Pistons: Manley/Mahle
Piston Rings: Total Seal/Mahle
Gaskets: Fel-Pro
Internal Hardware: ARP
Exterior Hardware: Totally Stainless
Oil Pan: Moroso
Warranty: 2 year/24,000 mile limited (Street Series only)

Available options:

Polished cylinder heads & intake manifold (6 to 8 weeks lead time)
 CNC head porting (add 30 hp)

Aluminum block

Cast iron cylinder heads
 Contact your World sales representative for details.

| Part # | C.I.D. | HP | Application | Compression | Camshaft | Induction | Dome | Notes |
|------------------------|--------|-----|-------------|-------------|-----------------------|----------------|-------|-------|
| Complete Engine | | | | | | | | |
| 110210 | 427 | 550 | Street | 10.1:1 | Hydraulic Roller | 4150 - 870cfm | -20cc | A |
| 110310 | 427 | 550 | Street | 10.1:1 | Hydraulic Roller | EFI | -20cc | A |
| 101005 | 427 | 500 | Street | 10.1:1 | Hydraulic Flat Tappet | 4150 - 870cfm | -20cc | A |
| 101006 | 427 | 520 | Street | 10.1:1 | Hydraulic Flat Tappet | 4150 - 870cfm | -20cc | A |
| 101021 | 427 | 650 | Race | 13.6:1 | Solid Roller | 4500 - 1050cfm | 8cc | C |

Complete Engine Includes:

Pan to carb (or EFI), fully assembled, dyno tuned and tested. Comes with a 2 year/24 month warranty (does not include starter, water pump or flywheel)

Notes:

A = Compression calculated with a 64cc head, .020" deck, -12cc piston and a .041" gasket
 C = Compression calculated with a 64cc head, .020" deck, 8cc piston and a .041" gasket

MOTOWN 454 CID SBC ENGINE

SMALL BLOCK CHEVROLET

World Products offers "big block" performance in a small block package with its 454 c.i.d. Motown engines. With a 4.250" bore and 4.000" stroke, it can deliver serious horsepower and torque. They're based on the newly-designed Motown II cast iron block and 235cc intake Motown aluminum heads.

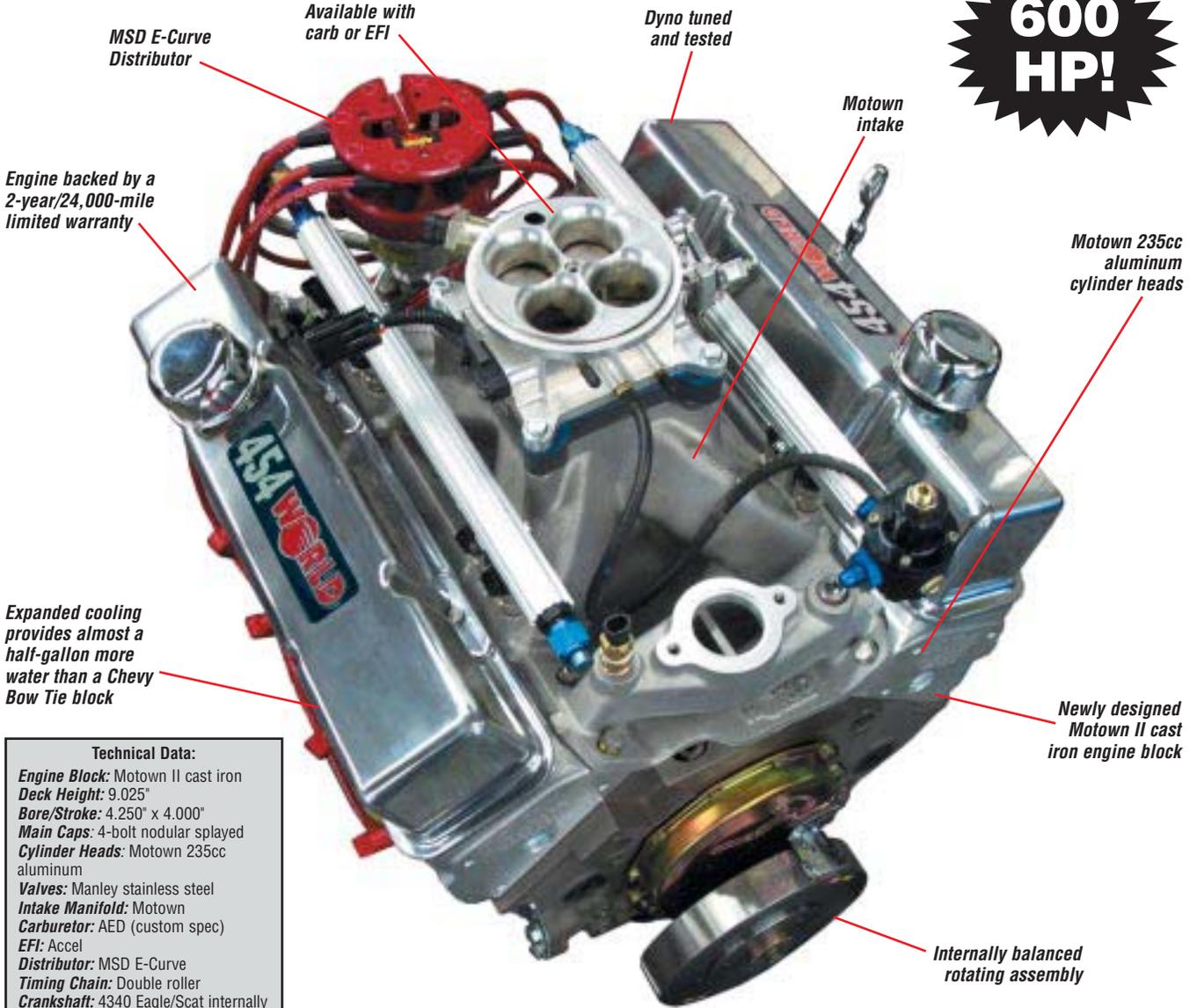
Complete engines are offered in three configurations; a hydraulic roller cam carbureted engine, one with an EFI, or a solid roller cam engine with a Dominator style carburetor. They are all conservatively rated at 600 horsepower, dyno tested and certified to meet published performance figures,

and backed by a 2-year, 24,000-mile limited warranty. An optional upgrade to CNC-ported heads is good for another 30 horsepower.

The 11.1:1 compression ratio package is also available as a partial engine, allowing you to add your intake and ignition systems. As an option, it can be broken in on the dyno and backed by a 1-year, 12,000-mile limited warranty (partial engine only).

Short block assemblies are available, as are short block kits. The rotating kits are also available separately.

600 HP!



Engine backed by a 2-year/24,000-mile limited warranty

Expanded cooling provides almost a half-gallon more water than a Chevy Bow Tie block

Technical Data:
Engine Block: Motown II cast iron
Deck Height: 9.025"
Bore/Stroke: 4.250" x 4.000"
Main Caps: 4-bolt nodular splayed
Cylinder Heads: Motown 235cc aluminum
Valves: Manley stainless steel
Intake Manifold: Motown
Carburetor: AED (custom spec)
EFI: Accel
Distributor: MSD E-Curve
Timing Chain: Double roller
Crankshaft: 4340 Eagle/Scat internally balanced
Connecting Rods: 4340 Eagle/Scat
Pistons: Manley/Mahle
Piston Rings: Total Seal/Mahle
Gaskets: Felpro
Internal Hardware: ARP
Exterior Hardware: Totally Stainless
Oil Pan: Moroso
Warranty: 2 year/24,000 mile limited (Street Series only)

GET THE POWER AND TORQUE OF A BIG BLOCK CHEVY IN THE COMPACT, EFFICIENT PACKAGE OF A MOTOWN SMALL BLOCK

Available options:
 Polished cylinder heads & intake manifold (6 to 8 weeks lead time) Cast iron cylinder heads
 CNC head porting (add 30 hp) Contact your World sales representative for details.

| Part # | C.I.D. | HP | Application | Compression | Camshaft | Induction | Dome | Notes |
|------------------------|--------|-----|-------------|-------------|------------------|--------------|-------|-------|
| Complete Engine | | | | | | | | |
| 110215 | 454 | 600 | Street | 10.5:1 | Hydraulic Roller | 4500 1050cfm | -18cc | A |
| 110315 | 454 | 600 | Street | 10.5:1 | Hydraulic Roller | EFI | -18cc | A |
| 101011 | 454 | 600 | Street | 10.5:1 | Solid Roller | 4500 1050cfm | -18cc | A |

Complete Engine Includes: Pan to carb (or EFI), fully assembled, dyno tuned and tested. Comes with a 2 year/24 month warranty (does not include starter, water pump or flywheel)

Notes:
 A = Compression calculated with a 64cc head, .020" deck, -12cc piston and a .051" gasket

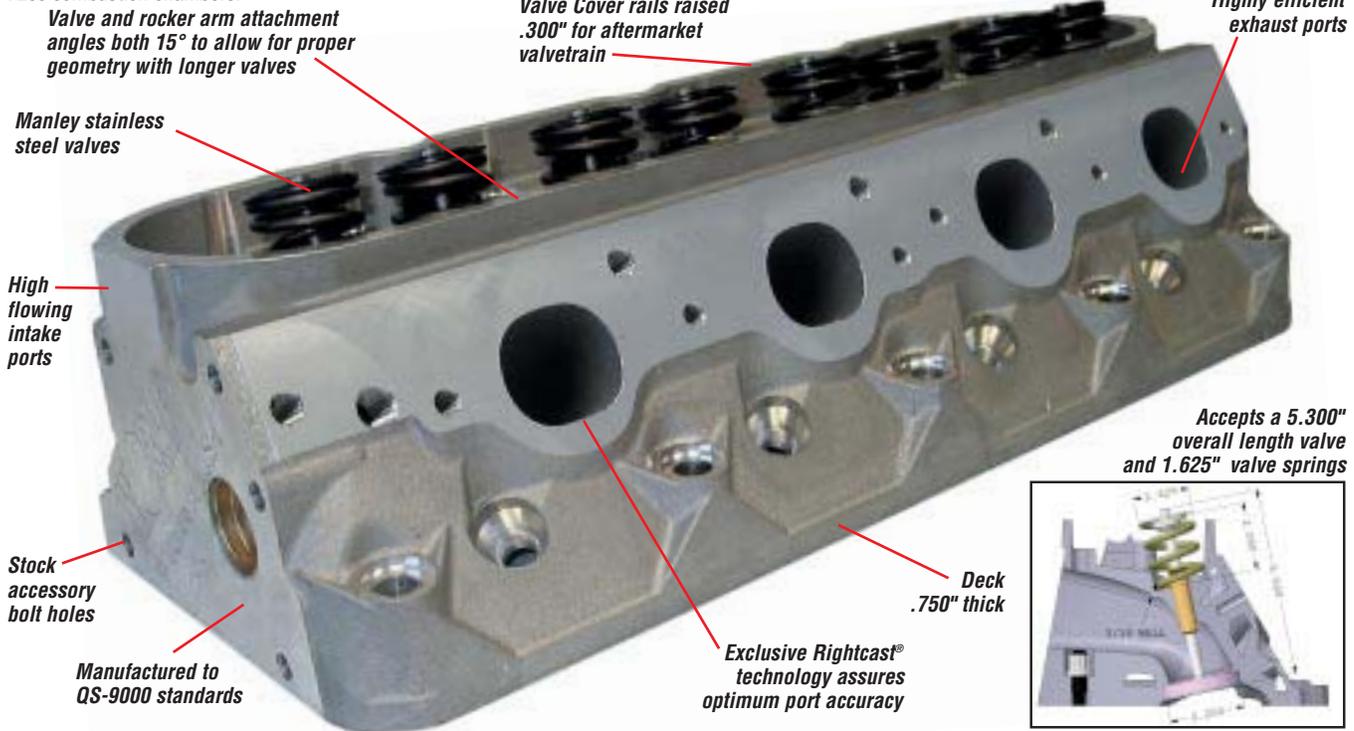
WARHAWK 15° ALUMINUM CYLINDER HEADS

Clearly the industry's most efficient replacement for the LS1 cylinder head, World's 15° Warhawk casting deliver more power than other aftermarket heads in its category.

A number of important features set the Warhawk 15° apart from others, including having the same 15° valve centerline and rocker arm attachment angles to ensure correct valve train geometry when longer valves are employed. The highly efficient 235cc intake (2.080" valve) and 87cc exhaust ports (1.600" valve) provide outstanding flow. You have a choice of 64cc or 72cc combustion chambers.

Want even more flow and power? World offers Warhawk 15° that are CNC-ported with the ports designed by noted horsepower merchants, Kuntz & Co. The intakes have been enlarged to 255cc runners, while the exhaust side has also been enhanced. Larger 2.100" intake valves are employed.

Available as bare castings, or in race-ready assemblies that have a multi-angle intake valve job and radiused exhaust, are equipped with Manley stainless steel valves, high performance springs and Manley chrome moly retainers. Compatible with stock LS1 rocker arms and OEM stands.



CNC-PORTED HEADS FOR EXTRA POWER!



CNC-ported exhaust port designed by Kuntz & Co.



255cc "cathedral" CNC intake port



CNC-machined chamber and bowl work

| | |
|---|---|
| <p>Casting ID Number: WOR-075 Material: 355-T6 alloy high density aluminum Valve Seats: Intake (hardened), exhaust (hardened) Valve Guides: Manganese bronze Spring Seats: Machined for 1.560" Valves: Manley stainless steel valves in assemblies Rocker Arms: Stock LS1 with stock stands Intake Runner: Standard port location Exhaust Ports: Standard location</p> | <p>Technical Data: Spark Plug: 14mm .750" reach gasket style Valve Job: Multi-angle intake and radiused exhaust Valve Cover Rail: Raised .300" for aftermarket valvetrain Valve Angle: Stock 15° Accessory Bolt Holes: Stock Flow Numbers: Log on to worldcastings.com for detailed information.</p> |
|---|---|

| Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|----------|----------|--------------|---------|------------------|------|---------|--|----------|-------|
| 025150 | Bare | 235 In/87 Ex | 64 | 2.080/1.600 5/16 | Std | | | | |
| 025150-2 | Assembly | 235 In/87 Ex | 64 | 2.080/1.600 5/16 | Std | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | E |
| 025150-3 | Assembly | 235 In/87 Ex | 64 | 2.080/1.600 5/16 | Std | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |
| 025250 | Bare | 235 In/87 Ex | 72 | 2.080/1.600 5/16 | Std | | | | |
| 025250-2 | Assembly | 235 In/87 Ex | 72 | 2.080/1.600 5/16 | Std | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | E |
| 025250-3 | Assembly | 235 In/87 Ex | 72 | 2.080/1.600 5/16 | Std | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |

CNC-Ported (Ports designed by Kuntz & Co.)

| | | | | | | | | | |
|-----------|----------|--------------|----|------------------|-----|---------|--|-------|---|
| 025150C | Bare | 255 In/90 Ex | 72 | 2.100/1.600 5/16 | Std | | | | |
| 025150C-2 | Assembly | 255 In/90 Ex | 72 | 2.100/1.600 5/16 | Std | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | E |
| 025150C-3 | Assembly | 255 In/90 Ex | 72 | 2.100/1.600 5/16 | Std | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |

Assembly Includes: Head, valves, seals, springs, retainers, locks and rocker studs and Manley Severe Duty valves

E = 10" machined steel valve locks, Manley 4140 chrome-moly retainers, Teflon seals

| | |
|--|--|
| <p>Recommended Installation Items: Head Gaskets: Felpro #1185 Intake Gasket: Felpro # stock GM O-ring for manifold Exhaust Gasket: Fel-Pro Spark Plugs: 14mm .708" reach tapered seat (Accel 526)</p> | <p>Available options: Polishing (6 to 8 weeks lead time) Contact your World sales representative for details.</p> |
| <p>Accessories: 832560 Head stud kit for Warhawk 9.240/9.800" LS engine block (standard bolt pattern)</p> | |

WARHAWK 12° ALUMINUM CYLINDER HEADS

LS CHEVROLET

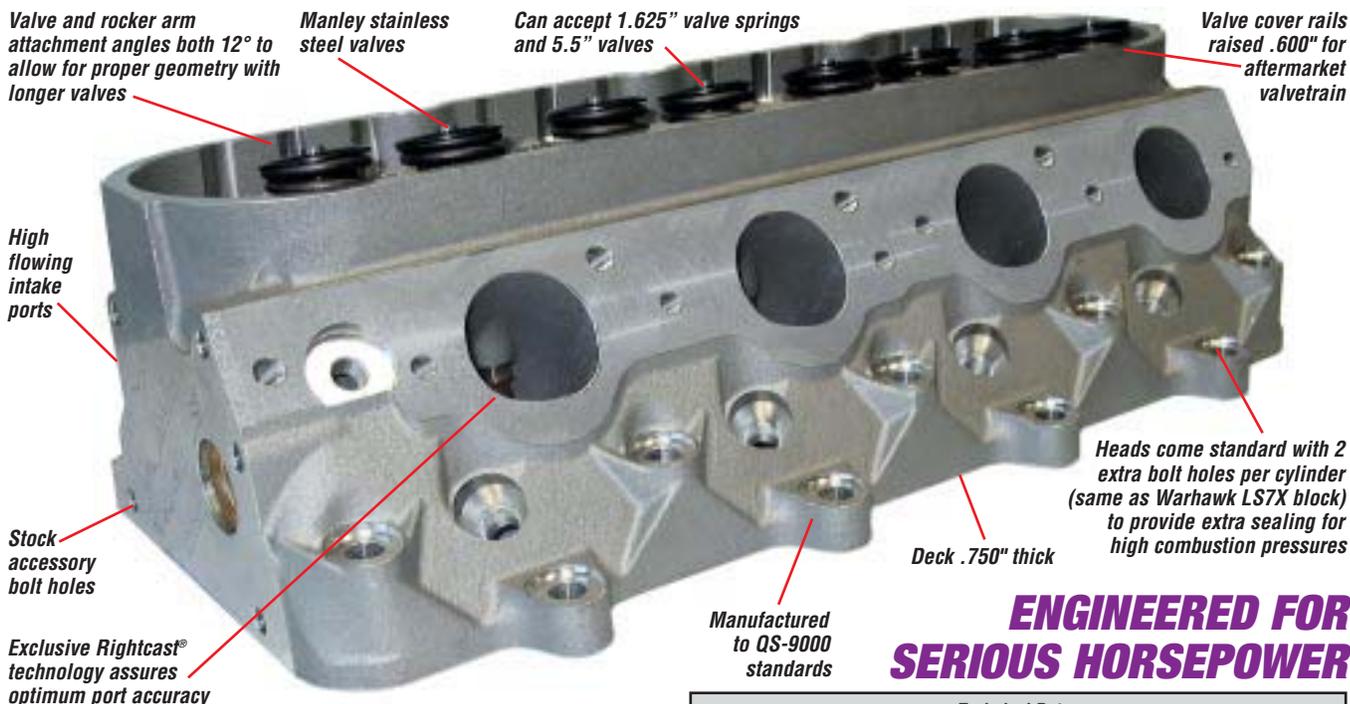
For maximum performance from an LS-series engine World's Warhawk 12° heads are the answer. As a result of superior port design and exclusive RightCast® technology, the Warhawk 12° has 285cc intake and 106cc exhaust runners that flow incredible numbers.

If even more flow is desired, World offers CNC-ported versions of this head that boast 296cc intake and 110cc exhaust runners. The ports were designed by noted LS specialist Kuntz & Co. and they're dyno-proven to crank out the power!

Available as bare castings, or in race-ready assemblies that have a multi-angle

intake valve job and radiused exhaust, are equipped with Manley 2.200" diameter intake and 1.600" exhaust stainless steel valves, high performance springs and Manley chrome moly retainers. Compatible with stock LS7 rocker arms and integral stands. The heads can accommodate 1.625" diameter valve springs and valves with an overall length of 5.500".

An important feature of the Warhawk 12° head is that it comes with two extra bolt holes per cylinder (same as Warhawk LS7X blocks) to provide extra sealing for power adder-boosted high combustion pressure applications.



ENGINEERED FOR SERIOUS HORSEPOWER

CNC-PORTED FOR MORE FLOW!



CNC-ported combustion chamber and bowl



CNC-ported 296cc intake runner



Kuntz & Co designed CNC exhaust port

Technical Data:

Casting ID Number: WOR-076

Material: 355-T6 alloy high density aluminum

Valve Seats: Intake (hardened), exhaust (hardened)

Valve Guides: Manganese bronze

Spring Seats: Machined for 1.560" (can be machined for 1.625")

Valves: Manley stainless steel valves in assemblies

Rocker Arms: Stock LS7 rockers and integral stands

Intake Runner: Standard port location

Exhaust Ports: Standard location

Spark Plug: 14mm .750" reach gasket style

Valve Job: Multi-angle intake and radiused exhaust

Valve Cover Rail: Raised .600" for aftermarket valvetrain

Valve Angle: Stock 12°

Accessory Bolt Holes: Stock

Flow Numbers: Log on to worldcastings.com for detailed information.

| Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|---|----------|---------------|---------|------------------|------|---------|--|----------|-------|
| 025350 | Bare | 285 In/106 Ex | 64 | No Valve Job | Std | | | | |
| 025350-2 | Assembly | 285 In/106 Ex | 64 | 2.200/1.600 5/16 | Std | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | E |
| 025350-3 | Assembly | 285 In/106 Ex | 64 | 2.200/1.600 5/16 | Std | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |
| 025400 | Bare | 285 In/106 Ex | 72 | No Valve Job | Std | | | | |
| 025400-2 | Assembly | 285 In/106 Ex | 72 | 2.200/1.600 5/16 | Std | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | E |
| 025400-3 | Assembly | 285 In/106 Ex | 72 | 2.200/1.600 5/16 | Std | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |
| CNC Ported (Ports designed by Kuntz & Co.) | | | | | | | | | |
| 025350C | Bare | 296 In/110 Ex | 72 | 2.200/1.600 5/16 | Std | | | | |
| 025350C-2 | Assembly | 296 In/110 Ex | 72 | 2.200/1.600 5/16 | Std | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | E |
| 025350C-3 | Assembly | 296 In/110 Ex | 72 | 2.200/1.600 5/16 | Std | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |

Assembly Includes: Head, valves, seals, springs, retainers, locks and rocker studs

Notes:

E = 10° machined steel valve locks, Manley 4140 chrome-moly retainers, Teflon seals and Manley Severe Duty valves

Assembled heads have a 50° multi-angle intake and a 50° radius exhaust valve job

| | |
|--|---|
| <p>Available OPTIONS: Polishing (6 to 8 weeks lead time) Contact your World sales representative for details.</p> <p>Accessories: 832560 Head stud kit for Warhawk 9.240/9.800" LS engine block (standard bolt pattern) 832561 Head stud kit for Warhawk 9.240" LS engine block (extra bolts for Pro bolt pattern)</p> | <p>832564 Head stud kit for Warhawk 9.800" LS engine block (extra bolts for Pro bolt pattern)</p> <p>Recommended Installation Items: Head Gaskets: Felpro #1185 Intake Gasket: Felpro #12082 Exhaust Gasket: Felpro # Spark Plugs: 14mm .708" reach tapered seat (Accel 526)</p> |
|--|---|

WARHAWK ALUMINUM ENGINE BLOCK

Made of 357-T6 aluminum (absolute strongest available)

100% compatible with OEM accessories

Indexed lifter bores

Provisions for two extra head studs per cylinder (optional use)

Blind tapped head bolt holes

Siamese bores

Uses stock cam bearings. Can be bored for 60mm

Priority main oiling system for optimum reliability

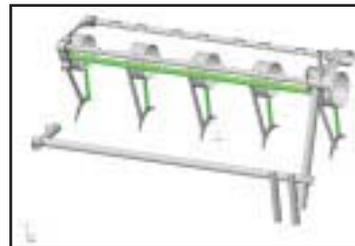
1045 billet steel main caps utilized on Race blocks (unlike competitors' softer 1020)

Precision CNC-machined in two positions to cut down on stacked tolerances

Equipped with both SBC and LS motor mounts

Redesigned water jackets for more support around the cylinder for big boost applications

Manufactured to QS-9000 standards



Priority Main Oiling System ensures that main bearings are lubricated first and the cylinder heads receive oil later along the flow path

WE URGE YOU TO COMPARE THE FEATURES AND MANUFACTURING QUALITY OF WORLD'S WARHAWK TO ANY OTHER LS-SERIES BLOCK ON THE MARKET—INCLUDING GM'S C5R AND LSX MODELS. YOU'LL SEE WHY WARHAWK IS YOUR BEST BET FOR PERFORMANCE & RELIABILITY!

Technical Data:

Casting ID Number: WOR-045B (9.240")
 WOR-045A (9.800")
Material: 357-T6 Aluminum (absolute strongest available)
Deck Thickness: .600" minimum
Cam Bearings: Stock (can machine to 60mm)
Cam Location: Stock
Maximum Bore: 4.155"
Cylinder Sleeves: Centrifugally cast ductile iron dry sleeves
Cylinder Wall Thickness: .100" dry sleeve w/.300" aluminum wall support @ 4.155"
Water Jackets: Redesigned for more support around the cylinder for big boost applications
Lubrication: Priority main oiling system

Oil Pan Rails: Solid (stock width) but redesigned internally to allow for a 4.500" stroke
Main Cap Material: Race blocks are made from 1045 billet steel (unlike competitors' softer 1020)
Main Caps: 4-bolt, cross-bolted
Main Cap Hardware: 7/16" ARP and ring dowels used to locate main caps firmly into position
Rear Main Seal: One piece
Motor Mounts: Stock LS and standard small block Chevrolet
Cylinder Head Bolt Holes: Blind tapped to prevent water leaks
Starter Mount: Stock location
Weight: Approximately 130lbs.

WARHAWK ALUMINUM ENGINE BLOCK

LS CHEVROLET

The ultimate replacement for Chevrolet LS1, LS7 or C5R blocks, World's "LS7X" has important improvements that even factory race blocks don't have. This translates into engine builders being able to obtain more power and enjoy improved reliability with Warhawk-based engines.

Let's start at the bottom end. Main caps made of 1045 alloy steel billet are employed. This material is tougher than the 1020 steel used by others. The caps are located by ring dowels and secured with 200,000 psi tensile strength 7/16" ARP main studs and cross-bolts.

It's important to note that the Warhawk uses a Priority Main oiling system, which feeds the crankshaft first and the top-end last. Others feed the top-end first and can starve the main bearings.

Water jackets are redesigned to provide more support around the cylinder—important for big boost applications. They also enhance cooling. The block is cast from 357-T6 alloy aluminum, the absolute strongest available.

Are you beginning to see a trend of leadership here?

World Products also recognized that in order for engine builders who employ power-adders to maintain high combustion pressures with complete reliability it was essential to improve the sealing of the LS. With this in mind World's engineering team added provisions for optional use of two extra head studs per cylinder. They are designed to work in concert with 12" Warhawk cylinder heads, which also have the extra bolt holes. Please note that the cast iron GM LSX block and the aluminum World Warhawk block do not have identical locations for the extra head bolts. Standard 4-bolt GM LS heads will fit.

Another way that World has improved upon the quality of its LS block is through the machining process (which are to QS-9000 standards). All Warhawk blocks are CNC-machined in only two fixturing positions, which prevents the problems that can occur with "production line" blocks that are machined in multiple operations and the tolerances "stack" from one machine to the next. Bottom line, World's Warhawk is the most advanced, precision-made block on the market for LS applications.

1045 alloy billet steel main caps and 200,000 psi ARP main studs plus cross-bolts ensure bottom end reliability!



The Warhawk' block is designed with priority main oiling so the bottom end gets fed first and "upstairs" last



WORLD'S RACE-PREPARED BLOCKS SAVE TIME AND MONEY!

For the enthusiast who is planning to assemble an engine in their home garage, getting the block in a race-prepped state is almost a no-brainer relative to saving time and money. World's experienced staff performs important basic operations:

- Decks milled +/- .0025"
- Honed main journals +/- .0004"
- Plate honed cylinder bores .001" O.S. +/- .0005"
- Honed lifter bores +/- .0005"
- Block hot tanked
- Cam bearings installed
- Freeze plugs, installed

- Dowel pins and all pipe plugs are installed
- Block deburred
- Machined surfaces sprayed with rust prohibitor
- Protectively wrapped

More and more professional engine builders are also recognizing the benefits of ordering race-prepped blocks instead of endeavoring to perform these many tasks themselves. Many have realized that their time can be better spent doing critical assembly work such as degreasing in camshafts and setting up the valve train. By employing race-prepped World blocks the shop's through-put can be accelerated, and there are demonstrated savings in terms of personnel, shop equipment, space and cash flow. Do the math.

| Part # | Series | Type | Deck | Bore | Mains | Lifters | Main Caps | Max Stroke |
|-------------|--------|---------|--------|--------|--------|---------|--------------------------|------------|
| 086505 | Race | Bare | 9.240" | 3.990" | 2.751" | .8437" | 1045 Billet Steel 4-Bolt | 4.500" |
| 086505-4000 | Race | Prepped | 9.240" | 4.000" | 2.751" | .8437" | 1045 Billet Steel 4-Bolt | 4.500" |
| 086505-4030 | Race | Prepped | 9.240" | 4.030" | 2.751" | .8437" | 1045 Billet Steel 4-Bolt | 4.500" |
| 086515 | Race | Bare | 9.240" | 4.115" | 2.751" | .8437" | 1045 Billet Steel 4-Bolt | 4.500" |
| 086515-4125 | Race | Prepped | 9.240" | 4.125" | 2.751" | .8437" | 1045 Billet Steel 4-Bolt | 4.500" |
| 086515-4155 | Race | Prepped | 9.240" | 4.155" | 2.751" | .8437" | 1045 Billet Steel 4-Bolt | 4.500" |
| 086525 | Race | Bare | 9.800" | 4.115" | 2.751" | .8437" | 1045 Billet Steel 4-Bolt | 4.500" |
| 086525-4125 | Race | Prepped | 9.800" | 4.125" | 2.751" | .8437" | 1045 Billet Steel 4-Bolt | 4.500" |
| 086525-4155 | Race | Prepped | 9.800" | 4.155" | 2.751" | .8437" | 1045 Billet Steel 4-Bolt | 4.500" |

Bare Blocks Include: Screw-in freeze plugs, cam plugs and dowel pin kit

Prepped Blocks Include: Decks milled +/- .005", honed main journals +/- .0004", plate honed cylinder bores .001" O.S. +/- .0005", honed lifter bores +/- .0005", hot tanked, cam bearings, freeze plugs, dowel pins and all pipe plugs are installed, deburred sprayed w/rust prohibitor and wrapped

Important Note: Due to varying engine builder preferences, the sleeves in an aluminum prepped block are not flush-milled with the deck and may vary.

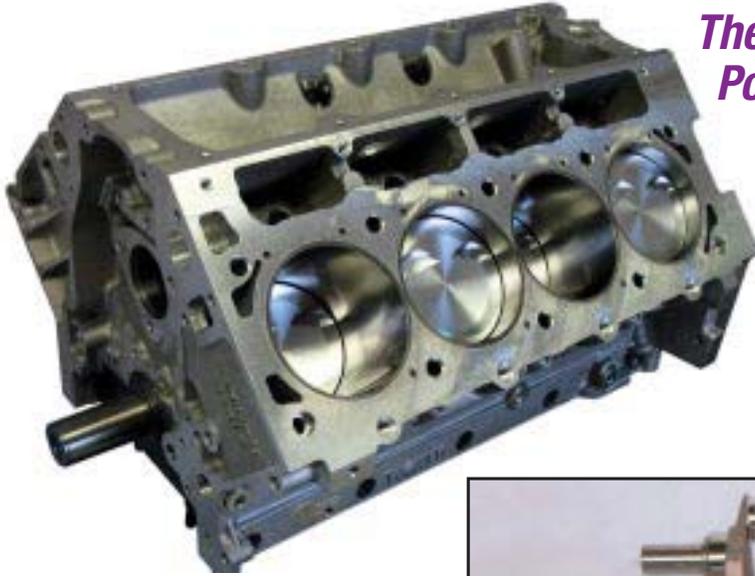
| Accessories: | | | |
|--------------|--|------------|--|
| 832560 | Head stud kit for Warhawk LS cylinder head/Warhawk 9.240/9.800" LS engine block (standard bolt pattern) | 832800 | Camshaft retainer plate |
| 832561 | Head stud kit for Warhawk LS cylinder head/Warhawk 9.240" LS engine block (extra bolts for Pro bolt pattern) | 832820 | Rear seal cover |
| 832564 | Head stud kit for Warhawk LS cylinder head/Warhawk 9.800" LS engine block (extra bolts for Pro bolt pattern) | 061070 | Intake manifold spacer for 9.800" Warhawk LS engine block with LS1 cylinder heads |
| 832875 | 9.240" engine block accessory kit (includes: cam plate, rear plate, valley plate, 4-bolt per cylinder head stud kit) | 061071 | Intake manifold spacer for 9.800" Warhawk LS engine block with LS7 cylinder heads. |
| 832876 | 9.240" engine block accessory kit (includes: cam plate, rear plate, valley plate, 6-bolt per cylinder head stud kit) | 061075 | Valley cover plate |
| 832877 | 9.800" engine block accessory kit (includes: cam plate, rear plate, valley plate, 4-bolt per cylinder head stud kit) | Z216-85950 | Rear main seal for LS engine |
| 832878 | 9.800" engine block accessory kit (includes: cam plate, rear plate, valley plate, 6-bolt per cylinder head stud kit) | Z216-85951 | Rear seal plate gasket for Warhawk LS engine block |
| | | 832517 | Screw-in freeze plug and pipe plug kit for Warhawk LS aluminum engine block |
| | | 832525 | Dowel pin kit for Warhawk LS engine block |
| | | 841106-NF | Cylinder sleeve for 9.800" Warhawk LS engine block (4.115" bore) |
| | | 841107-NF | Cylinder sleeve for 9.240" Warhawk LS engine block (3.990" bore) |

WARHAWK 427 & 454 CID

LS1 PARTIAL ENGINES, SHORT BLOCKS & ASSEMBLIES

World's Warhawk 427 and 454 LS1 partial engines and short blocks are designed for owners of Camaros, Corvettes and Firebirds who want the extra power and torque that comes with large displacement engines and want to use their existing intake systems (and possibly heads). These are excellent bolt-in swaps that will take your ride beyond the original engine sizes. The partial

engines feature Warhawk LS1 15° heads, which come with 235cc intake ports (also available with CNC-ported heads with 255cc runners. The assemblies feature a premium grade 4340 forged steel crank, 4340 forged steel H-beam rods, forged aluminum pistons and are digitally balanced (internal). The heads are compatible with all GM LS1-style valve train components. Listings on next page.



The Easy Way To Obtain Big-Inch Power For Late Model Camaros, Firebirds and 'Vettes. Replace The OEM 5.7 (345") and 6.0L (364") LS1 and LS2 Engines With a Big 427 or 454 Incher!



World's Rotating Assemblies Contain Top Quality Components From Many Of The Most Respected Companies In The Aftermarket. We Urge You To Compare These To What Comes In OEM Crate Motors!



Do-it-yourselfers will appreciate World's Short Block Kits. They include a race-prepped Warhawk aluminum engine block, a 4340 forged steel crankshaft (Eagle or Scat), a set of Eagle or Scat 4340 H-beam connecting rods, forged aluminum pistons (Mahle or Manley) and a high performance ring set (Mahle or Total Seal). The rotating assembly is digitally balanced (internally) to provide smooth operation. It is also available separately.

There are a number of components available from World for its Warhawk series of LS replacement engines. The valley cover, rear plate and cam cover are listed below. Also available are premium quality ARP® fasteners, as used in complete World engines. A rear main seal and seal plate gaskets, as well as a dowel pin kit, are also offered.



Accessories:

| | | | |
|--------|--|------------|---|
| 832560 | Head stud kit for Warhawk LS cylinder head/Warhawk 9.240/9.800" LS engine block (standard bolt pattern) | 061075 | Valley cover plate |
| 832564 | Head stud kit for Warhawk LS cylinder head/Warhawk 9.800" LS engine block (extra bolts for Pro bolt pattern) | Z216-85950 | Rear main seal for LS engine |
| 832875 | 9.240" engine block accessory kit (includes: cam plate, rear plate, valley plate, 4-bolt per cylinder head stud kit) | Z216-85951 | Rear seal plate gasket for Warhawk LS engine block |
| 832800 | Camshaft retainer plate | 832517 | Screw-in freeze plug and pipe plug kit for Warhawk LS aluminum engine block |
| 832820 | Rear seal cover | 832525 | Dowel pin kit for Warhawk LS engine block |
| | | 841107-NF | Cylinder sleeve for 9.240" Warhawk LS engine block (3.990" bore) |

WARHAWK 427 & 454 CID

LS1 PARTIAL ENGINES, SHORT BLOCKS & ASSEMBLIES

LS CHEVROLET

Shown with optional valve covers

Equipped with aluminum roller rocker arms and Manley stainless steel valves

Equipped with ARP 200,000 psi head studs

Warhawk 15° LS1 heads have 235cc intake ports and significantly out-flow factory heads. CNC-porting optional

Redesigned water jackets for more support around the cylinder for big boost applications

Rotating assembly is digitally balanced (internally)

| Part # | C.I.D. | Heads/Pistons | Application | Compression | Camshaft | Induction | Dome | Notes |
|---------------------------------|--------|-------------------|------------------|-------------|------------------|-----------|----------|-------|
| Partial Engine (Stage 2) | | | | | | | | |
| 103151A | 427 | Warhawk LS1 | Street | 11.5:1 | Hydraulic Roller | None | -8cc | A |
| 103153A | 427 | Warhawk LS1 | For Power Adders | 9.6:1 | Hydraulic Roller | None | -19cc | B |
| 103161A | 454 | Warhawk LS1 | Street | 11.5:1 | Hydraulic Roller | None | -14cc | A |
| 103163A | 454 | Warhawk LS1 | For Power Adders | 9.3:1 | Hydraulic Roller | None | -30cc | B |
| Short Block Assembly | | | | | | | | |
| 103251A | 427 | LS1 Applications | Street | 11.5:1 | None | None | -8cc | A |
| 103253A | 427 | LS1 Applications | For Power Adders | 9.6:1 | None | None | -19cc | B |
| 103255A | 427 | LS1 Applications | Race | 13.6:1 | None | None | 5cc | C |
| 103261A | 454 | LS1 Applications | Street | 11.5:1 | None | None | -14cc | A |
| 103263A | 454 | LS1 Applications | For Power Adders | 9.3:1 | None | None | -30cc | B |
| 103266A | 454 | LS7 Applications* | Race | 13.8:1 | None | None | 2cc Dome | D |
| Short Block Kit | | | | | | | | |
| 103351A | 427 | LS1 Applications | Street | 11.5:1 | None | None | -8cc | A |
| 103353A | 427 | LS1 Applications | For Power Adders | 9.6:1 | None | None | -19cc | B |
| 103355A | 427 | LS1 Applications | Race | 13.6:1 | None | None | 5cc | C |
| 103361A | 454 | LS1 Applications | Street | 11.5:1 | None | None | -14cc | A |
| 103363A | 454 | LS1 Applications | For Power Adders | 9.3:1 | None | None | -30cc | B |
| 103366A | 454 | LS7 Applications* | Race | 13.8:1 | None | None | 2cc Dome | D |
| Rotating Kit | | | | | | | | |
| 103451 | 427 | LS1 Applications | Street | 11.5:1 | None | None | -8cc | A |
| 103453 | 427 | LS1 Applications | Street | 9.6:1 | None | None | -19cc | B |
| 103455 | 427 | LS1 Applications | Race | 13.6:1 | None | None | 5cc | C |
| 103461 | 454 | LS1 Applications | Street | 11.5:1 | None | None | -14cc | A |
| 103463 | 454 | LS1 Applications | For Power Adders | 9.3:1 | None | None | -30cc | B |
| 103466 | 454 | LS7 Applications* | Race | 13.8:1 | None | None | 2cc Dome | D |

Partial Engine Includes: All the same premium components as the complete engines, less intake manifold, induction system, ignition system and damper

Short Blocks Include: Decks milled +/- .005", honed main journals +/- .0004", plate honed cylinder bores .001" O.S. +/- .0005", honed lifter bores +/- .0005", hot tanked, cam bearings, freeze plugs, dowel pins and all pipe plugs are installed, deburred sprayed w/rust prohibitor and wrapped, digitally internal balanced crank, pistons and connecting rods balanced within 2grms

Short Block Kits Include: Prepped block and balanced rotating kit

Notes:

- A = Compression calculated with a 64cc head, +.005" deck, -8cc piston and a .053" MLS gasket
 - B = Compression calculated with a 72cc head, +.005" deck, -19cc piston and a .053" MLS gasket
 - C = Compression calculated with a 64cc head, +.005" deck, 5cc piston and a .053" MLS gasket
 - D = Compression calculated with a 64cc head, +.005" deck, 2cc piston and a .053" MLS gasket
- All Warhawk 427/454 LS1 engines have a positive deck (piston above the engine block).

Important Note:

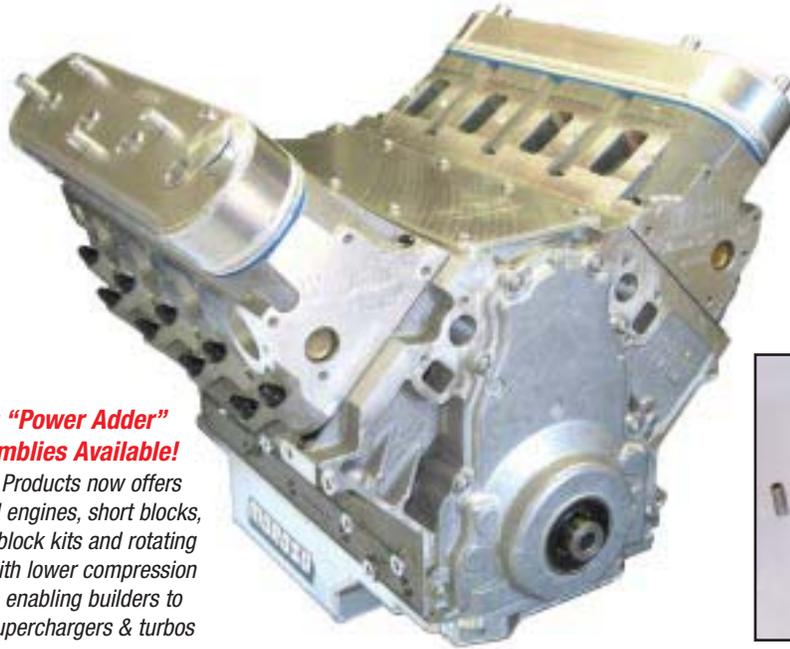
- All Warhawk block assemblies are equipped with a 24 tooth reluctor. For a 58 tooth reluctor add letter Z to part number.
- For a 58 tooth reluctor with long crank snout (for dry sump applications) add letters YZ to part number.
- * 454 Race shorts and rotating kits use LS7 style pistons*

WARHAWK 427 & 481 CID

LS7 PARTIAL ENGINES & ASSEMBLIES

For those who want to add serious horsepower to their Camaros, Corvettes and Firebirds, World offers big-inch combinations that feature Warhawk LS7 style heads and the highly regarded Warhawk aluminum block. These 7L & 8L powerhouses can provide breathtaking performance thanks to use of the big Warhawk 12° heads with 285cc intake and 106cc exhaust ports. As an option,

you can order CNC ported heads, which feature high-flowing 296cc intake runners and efficient 110cc exhaust ports. Short blocks and block/rotating kit packages are also offered. They are compatible with GM's LS7 components. The block and head can accommodate two extra head bolts per cylinder which provides necessary sealing for big-boost combinations.



Note: "Power Adder" Assemblies Available!

World Products now offers partial engines, short blocks, short block kits and rotating kits with lower compression ratios, enabling builders to add superchargers & turbos

| Part # | C.I.D. | Heads/Pistons | Application | Compression | Camshaft | Induction | Dome | Notes |
|-----------------------------|--------|-----------------|------------------|-------------|------------------|-----------|----------|-------|
| Partial Engine | | | | | | | | |
| 103152A | 427 | Warhawk LS7 | Street | 11.5:1 | Hydraulic Roller | None | -8cc | A |
| 103154A | 427 | Warhawk LS7 | For Power Adders | 9.6:1 | Hydraulic Roller | None | -19cc | B |
| 103172A | 481 | Warhawk LS7 | Street | 11.6:1 | Hydraulic Roller | None | -19cc | D |
| 103174A | 481 | Warhawk LS7 | For Power Adders | 9.8:1 | Hydraulic Roller | None | -30cc | E |
| Short Block Assembly | | | | | | | | |
| 103252A | 427 | LS7 Application | Street | 11.5:1 | None | None | -8cc | A |
| 103254A | 427 | LS7 Application | For Power Adders | 9.6:1 | None | None | -19cc | B |
| 103256A | 427 | LS7 Application | Race | 13.6:1 | None | None | 5cc | C |
| 103272A | 481 | LS7 Application | Street | 11.6:1 | None | None | -19cc | D |
| 103274A | 481 | LS7 Application | For Power Adders | 9.8:1 | None | None | -30cc | E |
| 103276A | 481 | LS7 Application | Race | 13.6:1 | None | None | Flat Top | F |
| Short Block Kit | | | | | | | | |
| 103352A | 427 | LS7 Application | Street | 11.5:1 | None | None | -8cc | A |
| 103354A | 427 | LS7 Application | For Power Adders | 9.6:1 | None | None | -19cc | B |
| 103356A | 427 | LS7 Application | Race | 13.6:1 | None | None | 5cc | C |
| 103372A | 481 | LS7 Application | Street | 11.6:1 | None | None | -19cc | D |
| 103374A | 481 | LS7 Application | For Power Adders | 9.8:1 | None | None | -30cc | E |
| 103376A | 481 | LS7 Application | Race | 13.6:1 | None | None | Flat Top | F |
| Rotating Kit | | | | | | | | |
| 103452 | 427 | LS7 Application | Street | 11.5:1 | None | None | -8cc | A |
| 103454 | 427 | LS7 Application | For Power Adders | 9.6:1 | None | None | -19cc | B |
| 103456 | 427 | LS7 Application | Race | 13.6:1 | None | None | 5cc | C |
| 103472 | 481 | LS7 Application | Street | 11.6:1 | None | None | -19cc | D |
| 103474 | 481 | LS7 Application | For Power Adders | 9.8:1 | None | None | -30cc | E |
| 103476 | 481 | LS7 Application | Race | 13.6:1 | None | None | Flat Top | F |

Partial Engine Includes: All the same premium components as the complete engines, less intake manifold, induction system, ignition system and damper
Short Blocks Include: Decks milled +/- .005", honed main journals +/- .0004", plate honed cylinder bores .001" O.S. +/- .0005", honed lifter bores +/- .0005", hot tanked, cam bearings, freezeze plugs, dowel pins and all pipe plugs are installed, deburred sprayed w/rust prohibitor and wrapped, digitally internal balanced crank, pistons and connecting rods balanced within 2grms
Short Block Kits Includes: Prepped block and balanced rotating kit

Notes :
 A = Compression calculated with a 64cc head, +.005" deck, -8cc piston and a .053" MLS gasket
 B = Compression calculated with a 72cc head, +.005" deck, -19cc piston and a .053" MLS gasket
 C = Compression calculated with a 64cc head, +.005" deck, 5cc piston and a .053" MLS gasket
 D = Compression calculated with a 64cc head, +.010" deck, -19cc piston and a .053" MLS gasket
 E = Compression calculated with a 64cc head, +.010" deck, -30cc piston and a .053" MLS gasket
 F = Compression calculated with a 64cc head, +.005" deck, flat top piston and a .053" MLS gasket

Important Note:
 All Warhawk block assemblies are equipped with a 24 tooth reluctor.
 For a 58 tooth reluctor add letter Z to part number.
 For a 58 tooth reluctor with long crank snout (for dry sump applications) add letters YZ to part number.

All Warhawk 427/481 LS7 engines have a positive deck (piston above the engine block).

WARHAWK 427 CID LS1 & LS7 ENGINES

Starting at a dyno-tested 600 horsepower, the Warhawk 427 with LS1 heads has almost 20% more power than any normally aspirated Corvette engine, and comes with your choice of an EFI or carburetor. Want even more power? Get the Warhawk 427 with LS7 heads (235cc vs. 285cc intakes) for a whopping 650 HP on pump gasoline. Not enough? World offers the a Warhawk 427 with a solid roller cam in place of the hydraulic rollers and a 13.6:1 compression ratio that requires use of racing gas—good for 700 or 750 HP depending on

which heads are employed. Add another 30 HP for optional CNC ported heads.

These engines are based on World's highly acclaimed Warhawk aluminum block and equipped with a 4340 forged steel crank (Eagle or Scat), 4340 forged steel H-beam rods (Eagle or Scat), forged aluminum pistons (Manley or Mahle) and high performance rings (Mahle or Total Seal).

Each engine is dyno-tested and performance certified. The Street engines come with a 2-year, 24,000-mile warranty.

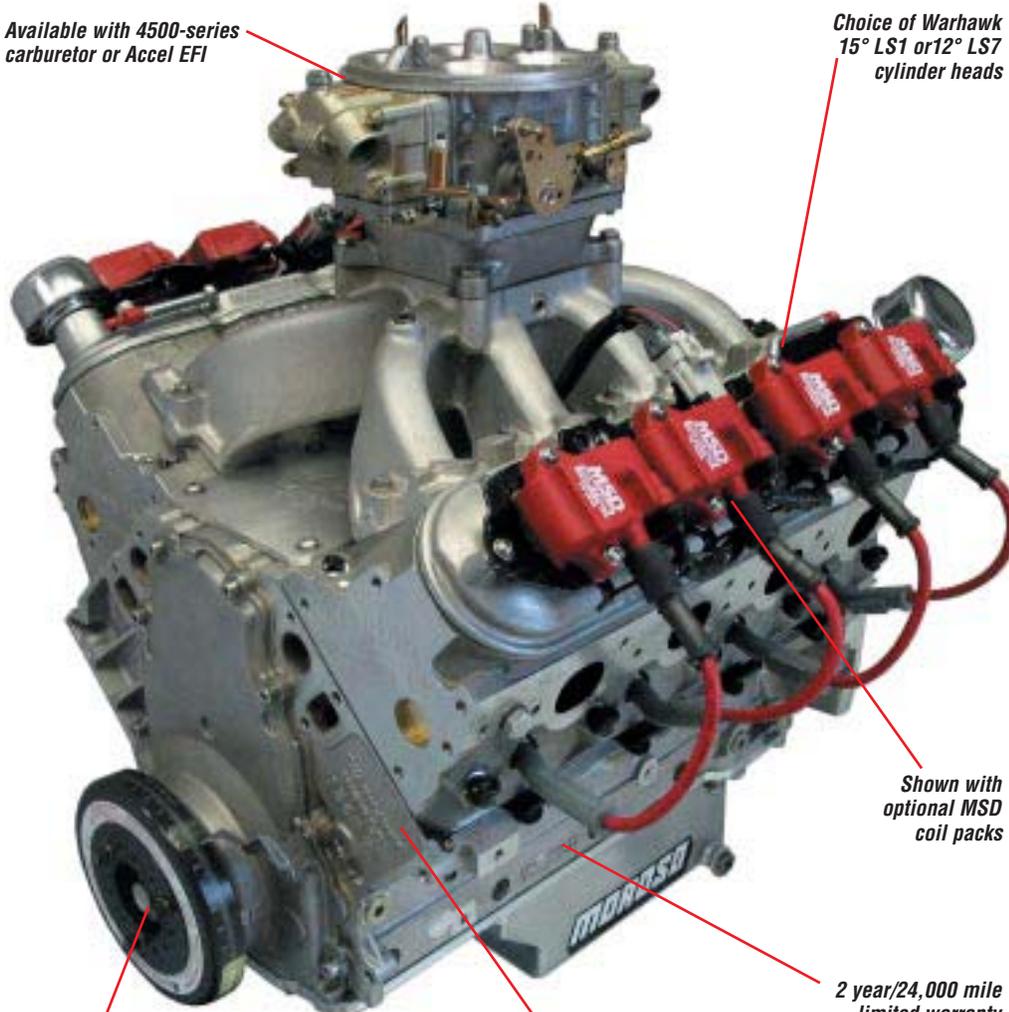
LS CHEVROLET

Available with 4500-series carburetor or Accel EFI

Choice of Warhawk 15° LS1 or 12° LS7 cylinder heads



From 600 To 700 Normally Aspirated Horsepower! Dyno Tested And Ready To Rumble!



Shown with optional MSD coil packs

2 year/24,000 mile limited warranty (Street engines)

Rotating assembly digitally balanced internally

Warhawk LS aluminum engine block

Technical Data:

Engine Block: Warhawk (Y block)
Deck Height: 9.240"
Bore/Stroke: 4.125" x 4.000"
Main Caps: 4-bolt, cross-bolted billet
Cylinder Heads: Warhawk 15° LS1 or 12° LS7 style aluminum
Valves: Manley stainless steel
Carburetor: AED (or Accel EFI)
Timing Chain: Double roller
Crankshaft: 4340 Eagle/Scat internally balanced
Connecting Rods: 4340 Eagle/Scat
Pistons: Manley/Mahle
Gaskets: Fel-Pro
Internal Hardware: ARP®
Exterior Hardware: Totally Stainless
Oil Pan: Moroso
Warranty: 2 year/24,000 mile limited (Street Series only)

| Part # | C.I.D. | Heads | HP | Application | Compression | Camshaft | Induction | Dome | Notes |
|------------------------|--------|-------|-----|-------------|-------------|------------------|--------------|------|-------|
| Complete Engine | | | | | | | | | |
| 103051A | 427 | LS1 | 600 | Street | 11.5:1 | Hydraulic Roller | 4500 1050cfm | -8cc | A |
| 103052A | 427 | LS7 | 625 | Street | 11.5:1 | Hydraulic Roller | 4500 1050cfm | -8cc | A |
| 103059A | 427 | LS1 | 600 | Street | 11.5:1 | Hydraulic Roller | EFI | -8cc | A |
| 103060A | 427 | LS7 | 625 | Street | 11.5:1 | Hydraulic Roller | EFI | -8cc | A |
| 103057A | 427 | LS1 | 675 | Race | 13.6:1 | Solid Roller | 4500 1050cfm | 5cc | B |
| 103058A | 427 | LS7 | 725 | Race | 13.6:1 | Solid Roller | 4500 1050cfm | 5cc | B |

Complete Engine Includes: Pan to carb (or EFI), fully assembled, dyno tuned and tested and comes with a 2 year/24 month warranty (does not include starter, water pump, flywheel or electronics)

Notes :

A = Compression calculated with a 64cc head, +.005" deck, -8cc piston and a .053" MLS gasket
 B = Compression calculated with a 64cc head, +.005" deck, 5cc piston and a .053" MLS gasket
 All Warhawk 427 LS7 engines have a positive deck (piston above the engine block).

Important Note:

All Warhawk block assemblies are equipped with a 24 tooth reluctor. For a 58 tooth reluctor add letter Z to part number. For a 58 tooth reluctor with long crank snout (for dry sump applications) add letters YZ to part number.

Available options:

Polished aluminum engine block, cylinder heads and intake manifold (6 to 8 weeks lead time)
 Polished cylinder heads and intake manifold (6 to 8 weeks lead time)
 CNC head porting (add 30 hp)

1 year/12,000 mile limited warranty (includes dyno break-in) Partial engine only MSD ignition

Contact your World sales representative for details.

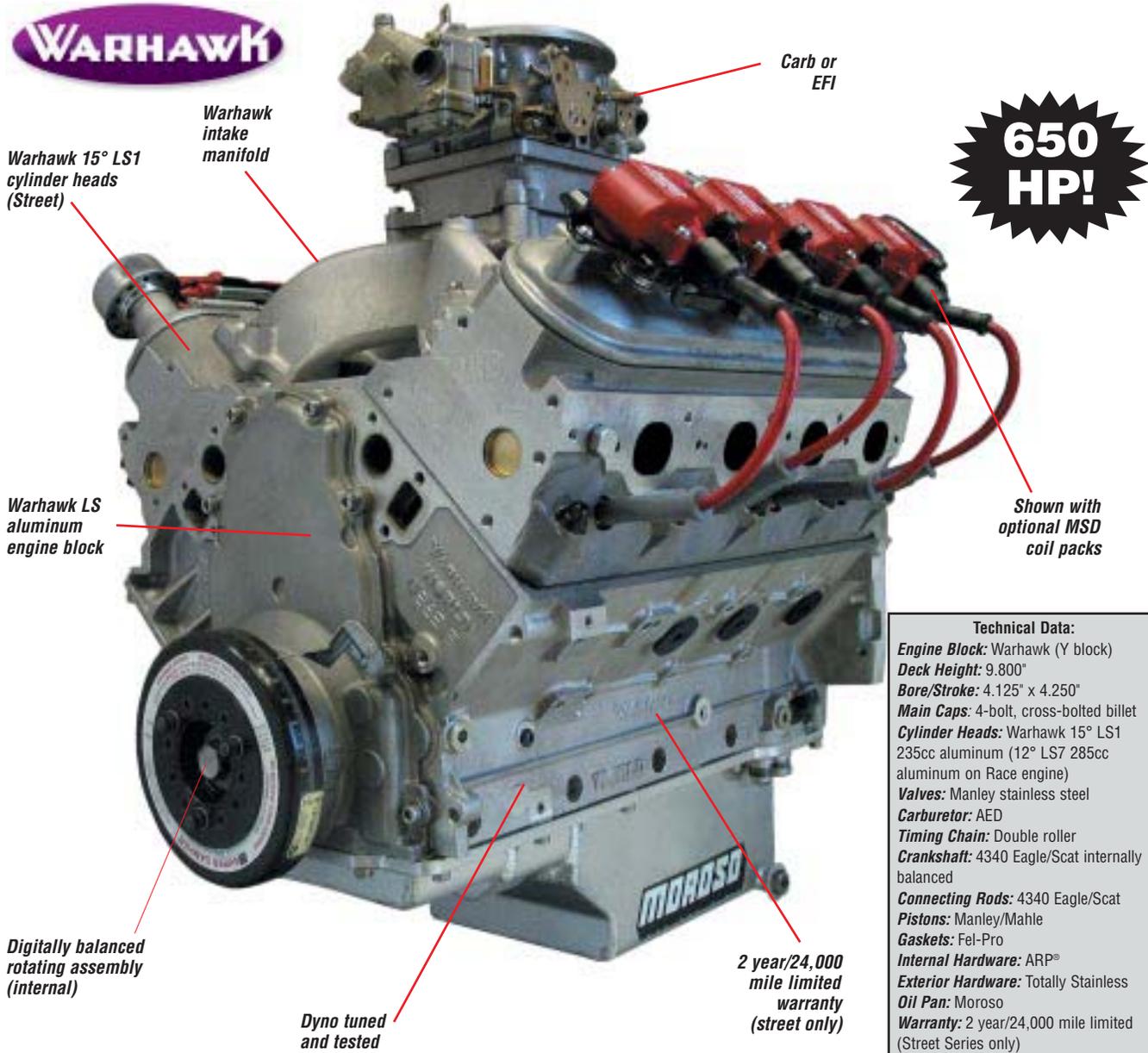
WARHAWK 454 CID LS1/LS7 ENGINES

For those seeking awesome torque World offers a trio of 454 cubic inch Warhawk engines that come with a 4.125" bore and 4.250" stroke, these big-inch powerhouses take you far beyond factory offerings. They've got about a hundred ponies over the latest Corvette Z06 engines.

For street applications there's a 635 horsepower engine with a hydraulic roller cam and your choice of a carburetor or Accel EFI. These engines are

equipped with World's Warhawk LS1-style 15° cylinder heads with 235cc intake runners. A high compression Race engine is also offered. It has a solid roller cam and larger 285cc intake LS7-style Warhawk 12° cylinder heads. It puts out 775 horsepower on racing gas.

For even more power, engines are available with optional CNC-ported heads. They're conservatively rated as being worth 30 extra horsepower.



WARHAWK

Warhawk 15° LS1 cylinder heads (Street)
Warhawk intake manifold

Warhawk LS aluminum engine block

Digitally balanced rotating assembly (internal)

Dyno tuned and tested

Carb or EFI

650 HP!

Shown with optional MSD coil packs

| Technical Data: | |
|---------------------------|--|
| Engine Block: | Warhawk (Y block) |
| Deck Height: | 9.800" |
| Bore/Stroke: | 4.125" x 4.250" |
| Main Caps: | 4-bolt, cross-bolted billet |
| Cylinder Heads: | Warhawk 15° LS1 235cc aluminum (12° LS7 285cc aluminum on Race engine) |
| Valves: | Manley stainless steel |
| Carburetor: | AED |
| Timing Chain: | Double roller |
| Crankshaft: | 4340 Eagle/Scat internally balanced |
| Connecting Rods: | 4340 Eagle/Scat |
| Pistons: | Manley/Mahle |
| Gaskets: | Fel-Pro |
| Internal Hardware: | ARP® |
| Exterior Hardware: | Totally Stainless |
| Oil Pan: | Moroso |
| Warranty: | 2 year/24,000 mile limited (Street Series only) |

| Part # | C.I.D. | Heads | HP | Application | Compression | Camshaft | Induction | Dome | Notes |
|------------------------|--------|-------|-----|-------------|-------------|------------------|--------------|----------|-------|
| Complete Engine | | | | | | | | | |
| 103061A | 454 | LS1 | 650 | Street | 11.5:1 | Hydraulic Roller | 4500 1050cfm | -14cc | A |
| 103069A | 454 | LS1 | 650 | Street | 11.5:1 | Hydraulic Roller | EFI | -14cc | A |
| 103068A | 454 | LS7 | 725 | Race | 13.8:1 | Solid Roller | 4500 1050cfm | 2cc Dome | B |

Complete Engine Includes: Pan to carb (or EFI), fully assembled, dyno tuned and tested and comes with a 2 year/24 month warranty (does not include starter, water pump, flywheel or electronics)

Notes:
 A = Compression calculated with a 64cc head, +.005" deck, -14cc piston and a .053" MLS gasket
 B = Compression calculated with a 64cc head, +.005" deck, 2cc piston and a .053" MLS gasket
 All Warhawk 454 LS1 engines have a .005" positive deck (pistons above the engine block)

Important Note:
 All Warhawk block assemblies are equipped with a 24 tooth reluctor. For a 58 tooth reluctor add letter Z to part number. For a 58 tooth reluctor with long crank snout (for dry sump applications) add letters YZ to part number.

| | |
|---|--|
| <p>Available options: Polished aluminum engine block, cylinder heads and intake manifold (6 to 8 weeks lead time) Polished cylinder heads and intake manifold (6 to 8 weeks lead time) CNC head porting (add 30 hp)</p> | <p>1 year/12,000 mile limited warranty (includes dyno break-in) Partial engine only MSD ignition</p> <p>Contact your World sales representative for details.</p> |
|---|--|

WARHAWK 481 CID LS7 ENGINE

LS CHEVROLET

World Products has always advocated the premise that "There's no substitute for cubic inches!" Large displacement engines are the perfect way to get exceptional power without sacrificing reliability. World's Warhawk 481 LS7 engine is a case in point. Thanks in no small part to its whopping 481 cubic inch displacement, you'll get 725 dyno-tested horses from engines topped with either an EFI or Dominator-style carburetor. These Street-rated engines have hydraulic roller cams and use pump gasoline. A solid roller cammed-engine with 13.5:1 compression (requires racing gas) is rated at 825 horsepower.

The awesome performance of these engines can also be attributed to the Warhawk 12° LS7-style heads that are employed. With 285cc intake and 106cc exhaust ports they provide outstanding flow. They also feature a Warhawk aluminum block that's fitted with a balanced rotating assembly consisting of a 4340 forged steel crank (Callies), 6440 forged steel H-beam rods (Callies Compstar), forged aluminum pistons (Manley or Mahle) and high performance rings (Mahle or Total Seal).

For even more power order this engine with optional CNC-ported cylinder heads. With 296cc intake and 110cc exhaust ports they're worth 30 extra HP!



Warhawk 12° LS7 cylinder heads

Available with carb or EFI

Dyno tuned and tested

Warhawk LS aluminum engine block

Shown with optional MSD coil packs

2 year/24,000 mile limited warranty

Rotating assembly digitally balanced (internally)

Lubrication system far superior to OEM design

| Technical Data: | |
|---------------------------|---|
| Engine Block: | Warhawk (Y block) |
| Deck Height: | 9.800" |
| Bore/Stroke: | 4.125" x 4.500" |
| Main Caps: | 4-bolt, cross-bolted billet |
| Cylinder Heads: | Warhawk 12° LS7 285cc aluminum |
| Valves: | Manley stainless steel |
| Carburetor: | AED |
| Timing Chain: | Double roller |
| Crankshaft: | 4340 Callies internally balanced |
| Connecting Rods: | 4340 Eagle/Scat |
| Pistons: | Manley/Mahle |
| Gaskets: | Fel-Pro |
| Internal Hardware: | ARP |
| Exterior Hardware: | Totally Stainless |
| Oil Pan: | Moroso |
| Warranty: | 2 year/24,000 mile limited (Street Series only) |

| Part # | C.I.D. | HP | Application | Compression | Camshaft | Induction | Dome | Notes |
|------------------------|--------|-----|-------------|-------------|------------------|--------------|----------|-------|
| Complete Engine | | | | | | | | |
| 103072A | 481 | 725 | Street | 11.6:1 | Hydraulic Roller | 4500 1050cfm | -19cc | A |
| 103080A | 481 | 725 | Street | 11.6:1 | Hydraulic Roller | EFI | -19cc | A |
| 103078A | 481 | 825 | Race | 13.5:1 | Solid Roller | 4500 1050cfm | Flat Top | B |

Complete Engine Includes: Pan to carb (or EFI), fully assembled, dyno tuned and tested and comes with a 2 year/24 month warranty (does not include starter, water pump, flywheel or electronics)

Notes :

A = Compression calculated with a 64cc head, +.010" deck, -19cc piston and a .053" MLS gasket
 B = Compression calculated with a 64cc head, +.005" deck, flat top piston and a .053" MLS gasket
 All Warhawk 481 LS7 engines have a positive deck (piston above the engine block .010") except drag race, which is .005" above block.

Important Note:

All Warhawk block assemblies are equipped with a 24 tooth reluctor. For a 58 tooth reluctor add letter Z to part number. For a 58 tooth reluctor with long crank snout (for dry sump applications) add letters YZ to part number.

| | |
|--|--|
| Available options: Polished aluminum engine block, cylinder heads and intake manifold (6 to 8 weeks lead time) Polished cylinder heads and intake manifold (6 to 8 weeks lead time) CNC head porting (add 30 hp) | 1 year/12,000 mile limited warranty (includes dyno break-in) MSD ignition Contact your World sales representative for details. |
|--|--|

BIG BLOCK CHEVROLET MERLIN INTAKE MANIFOLDS

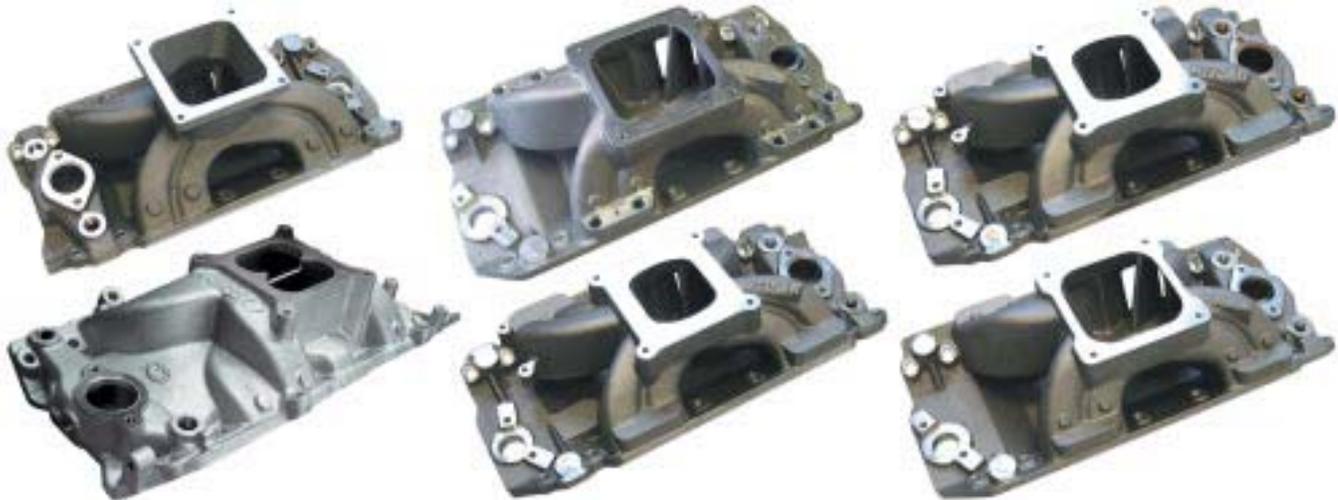
Because World Products specializes in large displacement engines, it would stand to reason that the company would develop intake manifolds designed for big-inch motors. This is certainly the case with the Merlin family of intakes, of which several models are intended for use on 500 cubic inch and larger big block Chevy engines. In fact, an extensive manifold dyno test on a 632 c.i.d. engine showed the Merlin (p/n 063040) to produce 35 more horsepower than the competition!

In addition to out-powering the competition, it's important to note that these single plane manifolds are designed to operate most efficiently in the

2500 to 7500 RPM range (or 3500-8500), and have excellent low-end throttle response. They are also equipped with bosses to accommodate installing nitrous oxide port nozzles.

Models that accommodate a 4150-style carb and those for a 4500-style "Dominator" are offered for both standard and tall deck applications, as are manifolds specially machined for EFI setups.

World also offers a complete line of Merlin intake manifolds for marine applications. They feature an integral brass water jacket to eliminate corrosion when in a saltwater environment.



| Part # | Marine | Flange | Deck | NOS Bosses | EFI | Plenum | RPM Range | OAH | Notes |
|------------|--------|--------|---------|------------|-----|--------|-------------|--------|-------|
| 063020 | | 4150 | 9.800" | No | No | Dual | 1500 - 6500 | 6.000" | |
| 063030 | | 4150 | 9.800" | Yes | No | Single | 2500 - 7500 | 6.000" | |
| 063030-EFI | | 4150 | 9.800" | Yes | Yes | Single | 2500 - 7500 | 6.000" | C |
| 063031 | | 4150 | 10.200" | Yes | No | Single | 2500 - 7500 | 6.375" | |
| 063032 | | 4500 | 9.800" | Yes | No | Single | 2500 - 7500 | 8.125" | |
| 063033 | | 4500 | 10.200" | Yes | No | Single | 2500 - 7500 | 8.250" | |
| 063040 | | 4500 | 9.800" | Yes | No | Single | 3500 - 8500 | 6.125" | B |
| 063040-EFI | | 4500 | 9.800" | Yes | Yes | Single | 3500 - 8500 | 6.125" | B, C |
| 063041 | | 4500 | 10.200" | Yes | No | Single | 3500 - 8500 | 6.375" | B |
| 063034 | Yes | 4150 | 9.800" | Yes | No | Single | 2500 - 7500 | 6.000" | A |
| 063035 | Yes | 4150 | 10.200" | Yes | No | Single | 2500 - 7500 | 6.375" | A |
| 063036 | Yes | 4500 | 9.800" | Yes | No | Single | 2500 - 7500 | 8.125" | A |
| 063037 | Yes | 4500 | 10.200" | Yes | No | Single | 2500 - 7500 | 8.250" | A |
| 063042 | Yes | 4500 | 9.800" | Yes | No | Single | 3500 - 8500 | 6.125" | A, B |
| 063043 | Yes | 4500 | 10.200" | Yes | No | Single | 3500 - 8500 | 6.375" | A, B |

Notes:

A = Integral brass water jacket cast in place (Marine version)

B = Recommended for larger cubic inch engines such as a 500" and up

C = Machined for Accel EFI unit

Available options:

polishing (6 to 8 weeks lead time)

Contact your World sales representative for details.

Accessories:

832922

Stainless steel intake manifold bolt kit (hex head)
- Fits 9.800" deck only

BBC VALVE COVERS

Dress up your engine with the valve covers of your choice. New displacement-focused World polished aluminum covers let you show that size does matter.

| Part # | DESCRIPTION |
|------------|---------------------------------------|
| 070742 | MERLIN short chromed steel |
| 070850S | LIMITED EDITION 632 polished aluminum |
| 07093-509W | 509 WORLD polished aluminum |
| 07093-540W | 540 WORLD polished aluminum |
| 07093-572W | 572 WORLD polished aluminum |
| 07093-632W | 632 WORLD polished aluminum |
| 07093-M | MERLIN polished aluminum |
| 07093-W | WORLD polished aluminum |

Accessories:

832920

Stainless steel valve cover bolt kit (hex head)
- Fits stamped steel and aluminum covers



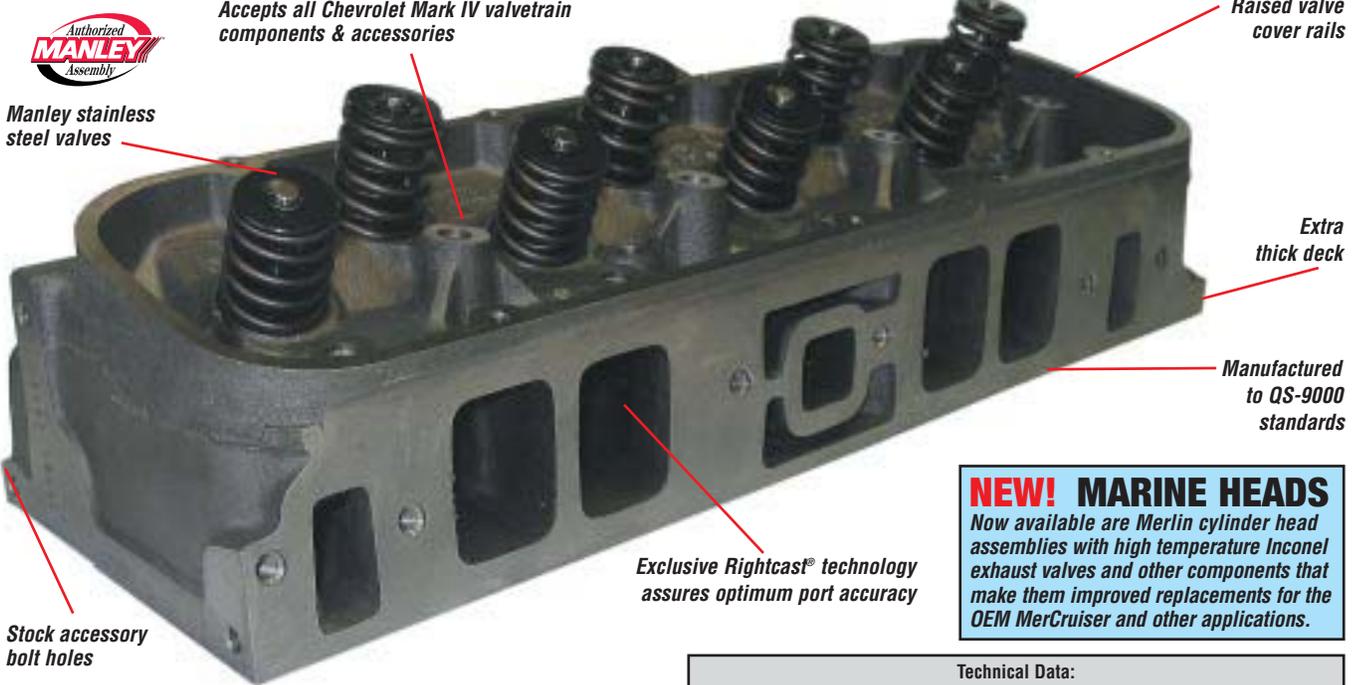
MERLIN OVAL & RECTANGULAR PORT CAST IRON CYLINDER HEADS

BIG BLOCK CHEVROLET

World's Merlin series has earned a reputation as the performance industry standard for Big Block Chevy power. The cast iron Merlins are available in both oval and rectangular port designs, with intake ports offered in 269, 320 and 345cc configurations. Choose the port size that will provide the optimum balance of flow and velocity for your engine combination. They are

available bare, or in complete assemblies that feature multi-angle valve jobs, Manley stainless steel valves and valve springs matched to camshaft requirements

New this year are special Marine heads with ultra high temperature Inconel exhaust valves and other special components.



NEW! MARINE HEADS
Now available are Merlin cylinder head assemblies with high temperature Inconel exhaust valves and other components that make them improved replacements for the OEM MerCruiser and other applications.



Choice of 269cc oval port or 320cc and 345cc rectangular intakes



119cc combustion chamber with 2.300" intake and 1.880" exhaust

| Technical Data: | |
|--|--|
| Casting ID Number: WOR-043D (269cc), WOR-043C (320cc), WOR-043B (345cc) | Rocker Arms: Standard |
| Material: High density cast iron | Intake Runner: Standard port location |
| Valve Seats: Intake (integral), exhaust (hardened insert) | Exhaust Ports: Standard location |
| Valve Guides: Integral cast iron | Spark Plug: 14mm 5/8" .460" reach tapered style |
| Spring Seats: Machined for 1.560" (can machine to 1.625") | Valve Job: Multi-angle intake and radiused exhaust |
| Valves: Manley stainless steel valves in assemblies | Valve Cover Rail: Raised |
| Guide Plates: Stock (for best fit use World #830465) | Valve Angle: Stock 24° |
| Rocker Arm Studs: Screw-in style | Accessory Bolt Holes: Stock |
| | Chamber Design: Open |
| | Flow Numbers: Log on to worldcastings.com for detailed information. |

| Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|-------------------------|----------|-----------------|---------|-------------------|------|---------|--|----------|-------|
| Oval Port | | | | | | | | | |
| 030040 | Bare | 269 In / 137 Ex | 119 | 2.300/1.880 11/32 | Std | | | | |
| 030040-1 | Assembly | 269 In / 137 Ex | 119 | 2.300/1.880 11/32 | Std | 1.550 D | 125lb @ 1.980 300lb @ 1.380 CB @ 1.160 | .750" | C |
| 030040-2 | Assembly | 269 In / 137 Ex | 119 | 2.300/1.880 11/32 | Std | 1.550 D | 150lb @ 1.910 350lb @ 1.260 CB @ 1.210 | .650" | C |
| Rectangular Port | | | | | | | | | |
| 030620 | Bare | 320 In / 137 Ex | 119 | 2.300/1.880 11/32 | Std | | | | |
| 030620-2 | Assembly | 320 In / 137 Ex | 119 | 2.300/1.880 11/32 | Std | 1.550 D | 150lb @ 1.910 350lb @ 1.260 CB @ 1.210 | .650" | C |
| 030620-3 | Assembly | 320 In / 137 Ex | 119 | 2.300/1.880 11/32 | Std | 1.550 D | 225lb @ 1.910 520lb @ 1.210 CB @ 1.160 | .700" | E |
| 030620-4 | Assembly | 320 In / 137 Ex | 119 | 2.300/1.880 11/32 | Std | 1.640 D | 275lb @ 2.000 600lb @ 1.200 CB @ 1.050 | .900" | F |
| 030630 | Bare | 345 In / 137 Ex | 119 | 2.300/1.880 11/32 | Std | | | | |
| 030630-2 | Assembly | 345 In / 137 Ex | 119 | 2.300/1.880 11/32 | Std | 1.550 D | 150lb @ 1.910 350lb @ 1.260 CB @ 1.210 | .650" | C |
| 030630-3 | Assembly | 345 In / 137 Ex | 119 | 2.300/1.880 11/32 | Std | 1.550 D | 225lb @ 1.910 520lb @ 1.210 CB @ 1.160 | .700" | E |
| 030630-4 | Assembly | 345 In / 137 Ex | 119 | 2.300/1.880 11/32 | Std | 1.640 D | 275lb @ 2.000 600lb @ 1.200 CB @ 1.050 | .900" | F |
| Marine - NEW!!! | | | | | | | | | |
| 030040M-1 | Assembly | 269 In / 137 Ex | 119 | 2.300/1.880 11/32 | Std | 1.550 D | 125lb @ 1.980 300lb @ 1.380 CB @ 1.160 | .750" | D |
| 030620M-2 | Assembly | 320 In / 137 Ex | 119 | 2.300/1.880 11/32 | Std | 1.550 D | 150lb @ 1.910 350lb @ 1.260 CB @ 1.210 | .650" | D |
| 030630M-2 | Assembly | 345 In / 137 Ex | 119 | 2.300/1.880 11/32 | Std | 1.550 D | 150lb @ 1.910 350lb @ 1.260 CB @ 1.210 | .650" | D |

Assembly Includes: Head, valves, seals, springs, retainers, locks, rocker studs and guide plates

Notes:

C = 7° Stamped heat treated steel valve locks, Manley 4140 chrome moly retainers and Nitrile umbrella seals
 D = 10° machined steel valve locks, Manley 4140 chrome moly retainers, Nitrile umbrella seals and Manley Inconel exhaust valves
 E = 10° machined steel valve locks, Manley 4140 chrome moly retainers, Teflon seals and Manley Severe Duty valves

MERLIN III ALUMINUM CYLINDER HEADS

This highly evolved, race-proven cylinder head is capable of supporting in excess of 800 horsepower in "as cast" form. World's Merlin III aluminum heads are available with 310cc or 350cc intake runners. The exhaust ports are 132cc. For those seeking more power, World now offers Merlin III heads with

CNC-ported combustion chambers and ports. This raises the bar to a choice of 345 or 380cc intake runners. The port designs were developed by noted NMCA, NHRA, NMRA horsepower merchant, Kuntz & Company, and have proven their effectiveness on the track.

MERLIN III

Raised valve cover rails

Accepts all Chevrolet Mark IV valvetrain components & accessories

Valve spring packages available for various camshaft requirements



Manley stainless steel valves

Exhaust port bolt bosses raised 1" for unrestricted air flow

Extra thick deck

Exclusive Rightcast® technology assures optimum port accuracy

Stock accessory bolt holes

Manufactured to QS-9000 standards

NOW AVAILABLE CNC-PORTED FOR MORE FLOW ...GOOD FOR 30 HORSEPOWER OVER "AS CAST" MERLIN III CYLINDER HEADS!



World's Merlin III Aluminum Heads are now available with CNC-machined combustion chambers, bowls, intake and exhaust ports. The designs are by Kuntz & Co.—a highly regarded builder of racing engines used in NHRA, NMCA & NMRA competition.



CNC-ported intakes are offered in both 345cc and 380cc sizes, with the exhaust ports also enlarged beyond the "as cast" 132cc port size. Heads are available bare or in complete assemblies.

Now available fully polished from the World Custom Shop

SEE COMPLETE LISTING OF MERLIN III BARE, ASSEMBLED AND CNC-PORTED CYLINDER HEADS ON FOLLOWING PAGE

Technical Data:

Casting ID Number: WOR-070C (310cc), WOR-070B (350cc)

Material: 355-T6 alloy high density aluminum

Valve Seats: Intake (hardened), exhaust (hardened inserts)

Valve Guides: Manganese bronze

Spring Seats: Machined for 1.560" (can be machined for 1.625")

Valves: Manley stainless steel valves in assemblies

Guide Plates: Stock (for best fit use World #830466)

Rocker Arm Studs: Screw-in style

Rocker Arms: Standard

Intake Runner: Standard port location

Exhaust Ports: Standard location

Spark Plug: 14mm .750" reach gasket style

Valve Job: Multi-angle intake and radiused exhaust

Valve Cover Rail: Raised

Valve Angle: Stock 24°

Accessory Bolt Holes: Stock Open Chamber Design

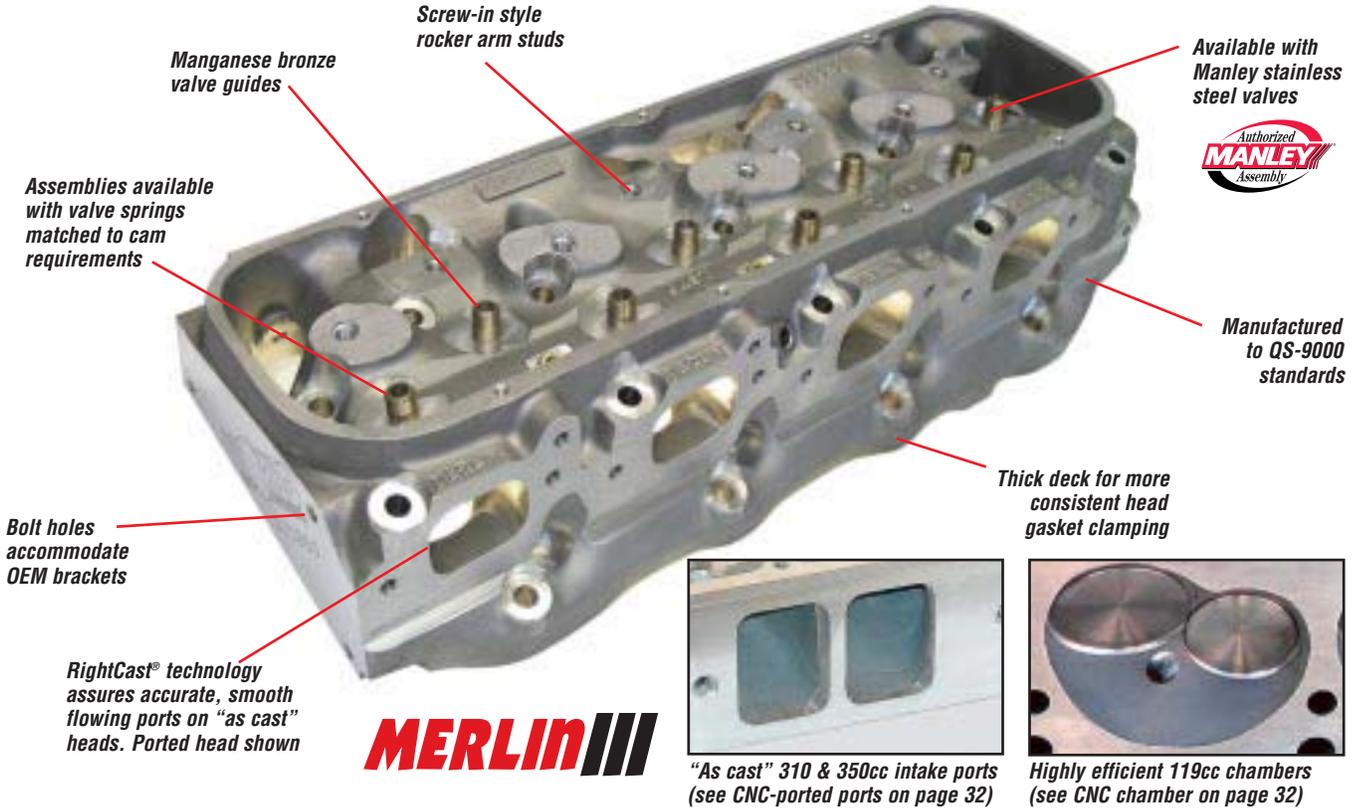
Flow Numbers: Log on to worldcastings.com for detailed information.

MERLIN III ALUMINUM CYLINDER HEADS

We've taken our popular Merlin III design and CNC-ported the combustion chambers and ports. The net result is a head that combines excellent flow and

velocity and has been proven to produce 40 horsepower more than the as-cast Merlin on a 572 C.I.D. engine. It's also a great value!

BIG BLOCK CHEVROLET



| Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|---|----------|-----------------|---------|-------------------|------|---------|--|----------|-------|
| 020650 | Bare | 310 In / 132 Ex | 119 | 2.300/1.880 11/32 | Std | | | | |
| 020650-2 | Assembly | 310 In / 132 Ex | 119 | 2.300/1.880 11/32 | Std | 1.550 D | 150lb @ 1.910 350lb @ 1.260 CB @ 1.210 | .650" | C |
| 020650-3 | Assembly | 310 In / 132 Ex | 119 | 2.300/1.880 11/32 | Std | 1.550 D | 225lb @ 1.910 520lb @ 1.210 CB @ 1.160 | .700" | E |
| 020650-4 | Assembly | 310 In / 132 Ex | 119 | 2.300/1.880 11/32 | Std | 1.640 D | 275lb @ 2.000 600lb @ 1.200 CB @ 1.050 | .900" | F |
| 020660 | Bare | 350 In / 132 Ex | 119 | 2.300/1.880 11/32 | Std | | | | |
| 020660-2 | Assembly | 350 In / 132 Ex | 119 | 2.300/1.880 11/32 | Std | 1.550 D | 150lb @ 1.910 350lb @ 1.260 CB @ 1.210 | .650" | C |
| 020660-3 | Assembly | 350 In / 132 Ex | 119 | 2.300/1.880 11/32 | Std | 1.550 D | 225lb @ 1.910 520lb @ 1.210 CB @ 1.160 | .700" | E |
| 020660-4 | Assembly | 350 In / 132 Ex | 119 | 2.300/1.880 11/32 | Std | 1.640 D | 275lb @ 2.000 600lb @ 1.200 CB @ 1.050 | .900" | F |
| CNC Ported (Ports designed by Kuntz & Co.) | | | | | | | | | |
| Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
| CNC Ported (Ports designed by kuntz & co.) | | | | | | | | | |
| 020650C | Bare | 350 In/ 135 Ex | 125* | 2.300/1.880 11/32 | Std | | | | |
| 020650C-2 | Assembly | 350 In/ 135 Ex | 125* | 2.300/1.880 11/32 | Std | 1.550 D | 150lb @ 1.910 350lb @ 1.260 CB @ 1.210 | .650" | C |
| 020650C-3 | Assembly | 350 In/ 135 Ex | 125* | 2.300/1.880 11/32 | Std | 1.550 D | 225lb @ 1.910 520lb @ 1.210 CB @ 1.160 | .700" | E |
| 020650C-4 | Assembly | 350 In/ 135 Ex | 125* | 2.300/1.880 11/32 | Std | 1.640 D | 275lb @ 2.000 600lb @ 1.200 CB @ 1.050 | .900" | F |
| 020660C | Bare | 370 In/ 135 Ex | 125* | 2.300/1.880 11/32 | Std | | | | |
| 020660C-2 | Assembly | 370 In/ 135 Ex | 125* | 2.300/1.880 11/32 | Std | 1.550 D | 150lb @ 1.910 350lb @ 1.260 CB @ 1.210 | .650" | C |
| 020660C-3 | Assembly | 370 In/ 135 Ex | 125* | 2.300/1.880 11/32 | Std | 1.550 D | 225lb @ 1.910 520lb @ 1.210 CB @ 1.160 | .700" | E |
| 020660C-4 | Assembly | 370 In/ 135 Ex | 125* | 2.300/1.880 11/32 | Std | 1.640 D | 275lb @ 2.000 600lb @ 1.200 CB @ 1.050 | .900" | F |
| Marine | | | | | | | | | |
| Part # | Type | Runners | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
| CNC Ported (Ports designed by kuntz & co.) | | | | | | | | | |
| 020650M-2 | Assembly | 310 In / 132 Ex | 119 | 2.300/1.880 11/32 | Std | 1.550 D | 150lb @ 1.910 350lb @ 1.260 CB @ 1.210 | .650" | D |
| 020660M-2 | Assembly | 350 In / 132 Ex | 119 | 2.300/1.880 11/32 | Std | 1.550 D | 150lb @ 1.910 350lb @ 1.260 CB @ 1.210 | .650" | D |
| 020650CM-2 | Assembly | 350 In/ 135 Ex | 125* | 2.300/1.880 11/32 | Std | 1.550 D | 150lb @ 1.910 350lb @ 1.260 CB @ 1.210 | .650" | D |
| 020660CM-2 | Assembly | 350 In/ 135 Ex | 125* | 2.300/1.880 11/32 | Std | 1.550 D | 150lb @ 1.910 350lb @ 1.260 CB @ 1.210 | .650" | D |

Assembly Includes: Head, valves, seals, springs, retainers, locks, rocker studs and guide plates

* Can be milled to desired compression

Notes:

- C = 7° Stamped heat treated steel valve locks, Manley 4140 chrome-moly retainers and Nitrile umbrella seals
- D = 10° machined steel valve locks, Manley 4140 chrome-moly retainers, Nitrile umbrella seals and Inconel exhaust valves (Marine version)
- E = 10° machined steel valve locks, Manley 4140 chrome-moly retainers, Perfect Circle Teflon seals and Manley Race Master valves
- F = 10° machined steel valve locks, Manley titanium retainers, Teflon seals, Manley Nextek springs and Manley Severe Duty valves

| | |
|---|---|
| Recommended Installation Items: | Exhaust Gasket: Felpro #1410 |
| Head Gaskets: Felpro #1017-1 | Spark Plugs: 14mm .750" reach gasket seat (Accel 416) |
| Intake Gasket: Felpro #1211 Mr. Gasket #121 | |

MERLIN X BBC ALUMINUM BLOCK



Precision CNC machined in two positions to cut down on stacked tolerances

100% compatible with OEM parts

Indexed lifter bores

Made of 357-T aluminum (strongest available)

Expanded water jackets for maximum cooling

Siamese bores

Blind tapped head bolt holes

Uses stock BBC cam bearings

Accepts stock mechanical fuel pump

Priority main oiling system for optimum reliability with cross feed lines to oil left and right side lifter banks

1/2" ARP® and ring dowels used to locate main caps firmly into position (not antiquated standard OEM outside registers)

Solid oil pan rails with stock spacing and clearanced for large stroke cranks

1045 billet steel main caps utilized on Race blocks (unlike competitors' softer 1020)

Side ribs for extra strength and cooling

Manufactured to QS-9000 standards

Accessories:

- 832660-2** - Oil restrictors for Merlin BBC cast iron engine block
- 832518** - Freeze plug and pipe plug kit for Merlin BBC aluminum engine block
- 832523** - Dowel pin kit for Merlin BBC engine block
- 832545** - Head stud kit for Merlin BBC cylinder head/Merlin BBC aluminum engine block
- 841104-DF** - Replacement sleeve for Merlin 9.800/10.200" BBC aluminum engine block (4.250" bore)
- 841105-DF** - Replacement sleeve for Merlin 9.800/10.200" BBC aluminum engine block (4.500" bore)
- 832912** - Stainless steel timing cover bolt kit (hex head)

832921 - Stainless steel oil pan bolt kit (hex head)

Options Available:

- Available options:
- Cylinder boring
 - Lifter bushings
 - 55mm cam bearings
 - O-ring head decks
 - Polishing (6 to 8 weeks lead time)
- Contact your World sales representative for details.

Technical Data

Casting ID Number: WOR-016B (9.800"), WOR-016A (10.200")
Material: 357-T6 Aluminum (absolute strongest available)
Deck Thickness: .600" minimum
Cam Bearings: Standard big block Chevrolet (can machine to 55mm)
Cam Location: Standard big block Chevy
Maximum Bore: 4.530"
Cylinder Sleeves: Centrifugally Cast Ductile Iron Dry Sleeves
Cylinder Wall Thickness: .100" dry sleeve w/.300" aluminum wall support @ 4.155"
Water Jackets: Expanded capacity
Lubrication: Priority main oiling system
Filtration: Integral mount for spin-on filter
Oil Pan Rails: Solid (stock width)
Main Cap Material: Sportsman block

caps are made from nodular iron, Race blocks are made from 1045 billet steel (unlike competitors' softer 1020)
Main Caps: Sportsman and Race blocks have played 4-bolt caps (2, 3, 4) and straight 4-bolt caps (1, 5)
Main Cap Hardware: 1/2" ARP and ring dowels used to locate main caps firmly into position (not antiquated standard OEM outside registers)
Rear Main Seal: Two piece
Fuel Pump: Stock location
Motor Mounts: Dual (front and side)
Cylinder Head Bolt Holes: Blind tapped to prevent water leaks
Lifters Bosses: Clearanced for vertical bar lifters (can use standard ht.lifters)
Clutch linkage: Standard mounts
Starter Mount: Stock location
Weight: Approximately 140lbs

MERLIN X BBC ALUMINUM BLOCK

BIG BLOCK CHEVROLET

In the highly refined "Merlin X" aluminum block, World Products has incorporated a significant number of key technical features that set it apart from the competition. And because it's been designed specifically for the street, marine and "Super" drag class market, the price of the "Merlin X" is very competitive. Dollar for dollar, you won't find a better value in big block technology. It's manufactured to QS-9000 quality control standards.

One easy-to-spot difference between the "Merlin X" block and others is the use of horizontal ribs. Not only do they look cool, but they also serve to

improve engine cooling and reinforce the cylinder bores.

Total bottom-end dependability is achieved through use of 1045 alloy steel billet splayed 4-bolt mains (much stronger than commonly-used 1020 steel) with genuine ARP main studs and bolts.

The "Merlin III" is compatible with all GMC Gen IV components (cam location is standard), and is the best foundation for building a large displacement Big Block Chevy with total reliability. Factor in pricing that's more than competitive, and you've got a winner!

EXCLUSIVE HORIZONTAL REINFORCING RIBS



World's ribbed Merlin X block provides extra cooling and outstanding cylinder stability. It also gives the Merlin X a distinctive look.

SUPERIOR BOTTOM-END DEPENDABILITY



With 4-bolt splayed 1045 alloy billet steel main caps and 200,000 psi ARP® main studs and bolts, superior reliability is assured.

DESIGNED FOR VALVE TRAIN STABILITY



Reinforcing ribs provide improved bank-to-bank stability and indexed lifter bores assure optimum valve train operating efficiency.

MANY WORLD "CUSTOM SHOP" OPTIONS



Merlin X blocks are available fully polished through World's "Custom Shop," as are a number of other popular special order options.

| Part # | Series | Type | Deck | Bore | Mains | Lifters | Main Caps | Max Stroke |
|-------------|--------|---------|---------|--------|--------|----------------------------------|-----------|------------|
| 085500 | Race | Bare | 9.800" | 4.240" | .8437" | 1045 Billet Steel Splayed 4-Bolt | | 4.375 |
| 085500-4250 | Race | Prepped | 9.800" | 4.250" | .8437" | 1045 Billet Steel Splayed 4-Bolt | | 4.375 |
| 085500-4280 | Race | Prepped | 9.800" | 4.280" | .8437" | 1045 Billet Steel Splayed 4-Bolt | | 4.375 |
| 085501 | Race | Bare | 9.800" | 4.490" | .8437" | 1045 Billet Steel Splayed 4-Bolt | | 4.375 |
| 085501-4500 | Race | Prepped | 9.800" | 4.500" | .8437" | 1045 Billet Steel Splayed 4-Bolt | | 4.375 |
| 085501-4530 | Race | Prepped | 9.800" | 4.530" | .8437" | 1045 Billet Steel Splayed 4-Bolt | | 4.375 |
| 085510 | Race | Bare | 10.200" | 4.240" | .8437" | 1045 Billet Steel Splayed 4-Bolt | | 4.750 |
| 085510-4250 | Race | Prepped | 10.200" | 4.250" | .8437" | 1045 Billet Steel Splayed 4-Bolt | | 4.750 |
| 085510-4280 | Race | Prepped | 10.200" | 4.280" | .8437" | 1045 Billet Steel Splayed 4-Bolt | | 4.750 |
| 085511 | Race | Bare | 10.200" | 4.490" | .8437" | 1045 Billet Steel Splayed 4-Bolt | | 4.750 |
| 085511-4500 | Race | Prepped | 10.200" | 4.500" | .8437" | 1045 Billet Steel Splayed 4-Bolt | | 4.750 |
| 085511-4530 | Race | Prepped | 10.200" | 4.530" | .8437" | 1045 Billet Steel Splayed 4-Bolt | | 4.750 |

Bare Blocks Include: Screw-in freeze plugs, cam plugs and dowel pin kit

Prepped Blocks Include: Decks milled +/- .005", honed main journals +/- .0004", plate honed cylinder bores .001" O.S. +/- .0005", honed lifter bores +/- .0005", hot tanked, cam bearings, freeze plugs, dowel pins and all pipe plugs are installed, deburred sprayed w/ rust prohibitor and wrapped

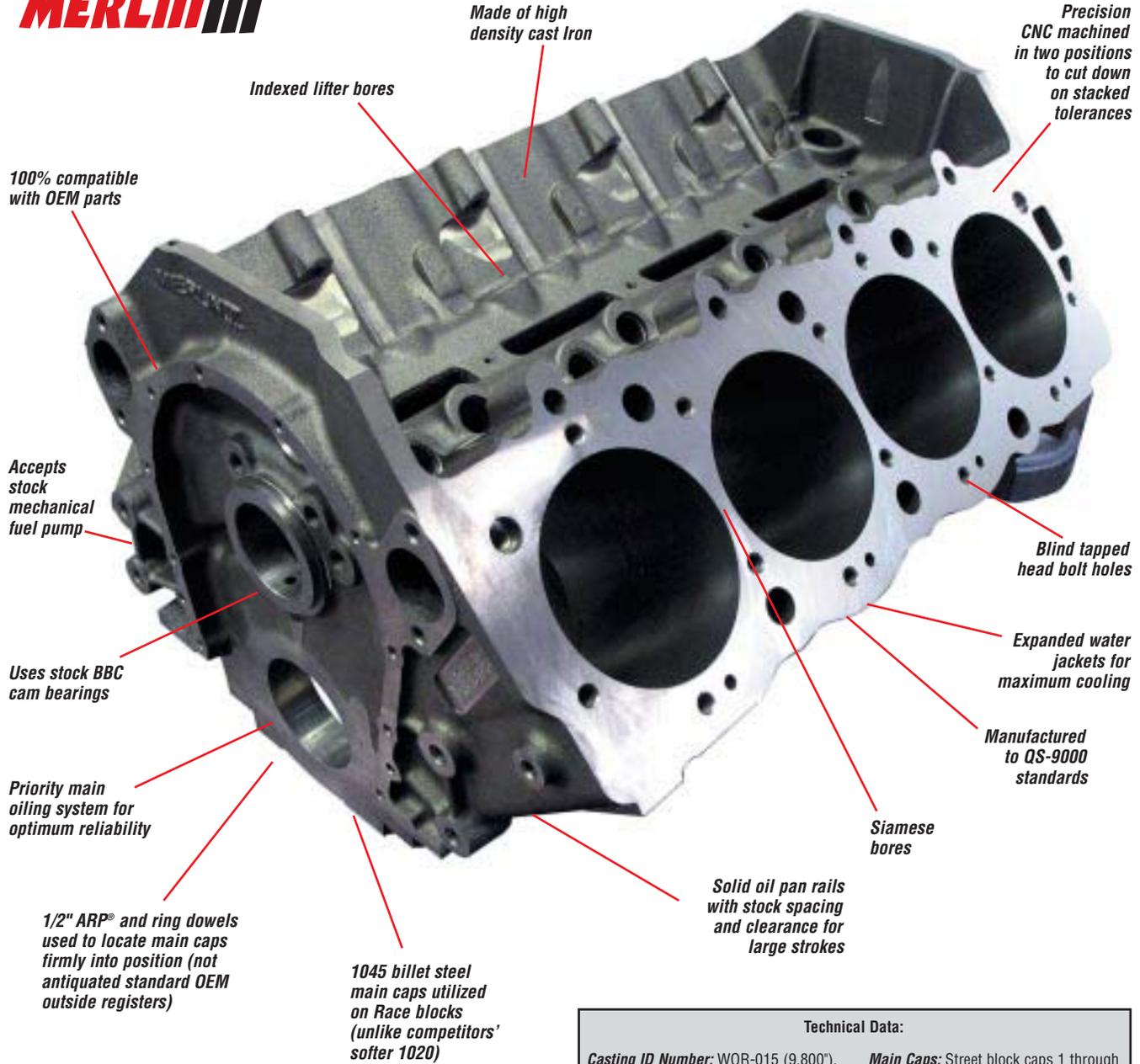
Important Note: Due to varying engine builder preferences, the sleeves in an aluminum prepped block are not flush-milled with the deck and may vary.

Merlin III BBC CAST IRON BLOCK

Now in its third iteration, World's continually-upgraded Merlin III cast iron block is the perfect foundation for any Big Block Chevrolet engine assembly. Made of a high density iron and manufactured to QS-9000 specs on just two fixtures (eliminates tolerance stacking common to production lines), the Merlin

III can be bored to 4.625" maximum and is clearanced for a 4.750" crank (10.2" deck). With a reinforced bottom end featuring optional 4-bolt splayed billet steel main caps, the Merlin III block can handle serious horsepower with complete reliability. It's an excellent all-around value, too!

MERLIN III



ALL WORLD PRODUCTS BLOCKS ARE AVAILABLE BARE OR RACE-PREPARED FOR YOUR ADDED CONVENIENCE

- Plate honed to the desired bore size
- Block thoroughly washed
- Painted
- Cam bearings & freeze plugs installed
- Machined surfaces protected with oil

| Technical Data: | |
|---|--|
| Casting ID Number: WOR-015 (9.800"), WOR-017 (10.200") | Main Caps: Street block caps 1 through 5 have 4 bolts, Sportsman and Race blocks have splayed 4-bolt caps (2, 3, 4) and straight 4-bolt caps (1, 5) |
| Material: High density cast Iron | Main Cap Hardware: 1/2" ARP® and ring dowels used to locate main caps firmly into position (not antiquated standard OEM outside registers) |
| Cam Bearings: Standard big block Chevrolet (can machine to 55mm) | Rear Main Seal: Two piece |
| Cam Location: Standard big block Chevy | Fuel Pump: Stock location |
| Maximum Bore: 4.625" | Motor Mounts: Dual (front and side) |
| Cylinder Wall Thickness: .250" @ 4.600" | Cylinder Head Bolt Holes: Blind tapped to prevent water leaks |
| Water Jackets: Expanded for better cooling | Lifters Bosses: Clearanced for vertical bar lifters (can use standard height lifters) |
| Lubrication: Priority main oiling system | Clutch linkage: Standard mounts |
| Filtration: Integral mount for spin-on filter | Starter Mount: Stock location |
| Oil Pan Rails: Solid (stock width) | Weight: Approximately 270lbs |
| Main Cap Material: Street and Sportsman block caps are made from nodular iron, Race blocks are made from 1045 billet steel (unlike competitors' softer 1020) | |

Merlin III BBC CAST IRON BLOCK

BIG BLOCK CHEVROLET



| Part # | Series | Type | Deck | Bore | Lifters | Main Caps | max Stroke |
|-------------|-----------|---------|---------|--------|---------|------------------------|------------|
| 085005 | Street | Bare | 9.800" | 4.240" | .8437" | Straight 4-Bolt | 4.375 |
| 085005-4250 | Street | Prepped | 9.800" | 4.250" | .8437" | Straight 4-Bolt | 4.375 |
| 085005-4280 | Street | Prepped | 9.800" | 4.280" | .8437" | Straight 4-Bolt | 4.375 |
| 085035 | Street | Bare | 10.200" | 4.240" | .8437" | Straight 4-Bolt | 4.750 |
| 085035-4250 | Street | Prepped | 10.200" | 4.250" | .8437" | Straight 4-Bolt | 4.750 |
| 085035-4280 | Street | Prepped | 10.200" | 4.280" | .8437" | Straight 4-Bolt | 4.750 |
| 081100 | Sportsman | Bare | 9.800" | 4.240" | .8437" | Nodular Splayed 4-Bolt | 4.375 |
| 081100-4250 | Sportsman | Prepped | 9.800" | 4.250" | .8437" | Nodular Splayed 4-Bolt | 4.375 |
| 081100-4280 | Sportsman | Prepped | 9.800" | 4.280" | .8437" | Nodular Splayed 4-Bolt | 4.375 |
| 081101 | Sportsman | Bare | 9.800" | 4.490" | .8437" | Nodular Splayed 4-Bolt | 4.375 |
| 081101-4500 | Sportsman | Prepped | 9.800" | 4.500" | .8437" | Nodular Splayed 4-Bolt | 4.375 |
| 081101-4530 | Sportsman | Prepped | 9.800" | 4.530" | .8437" | Nodular Splayed 4-Bolt | 4.375 |
| 081102 | Sportsman | Bare | 9.800" | 4.590" | .8437" | Nodular Splayed 4-Bolt | 4.375 |
| 081102-4600 | Sportsman | Prepped | 9.800" | 4.600" | .8437" | Nodular Splayed 4-Bolt | 4.375 |
| 081110 | Sportsman | Bare | 10.200" | 4.240" | .8437" | Nodular Splayed 4-Bolt | 4.750 |
| 081110-4250 | Sportsman | Prepped | 10.200" | 4.250" | .8437" | Nodular Splayed 4-Bolt | 4.750 |
| 081110-4280 | Sportsman | Prepped | 10.200" | 4.280" | .8437" | Nodular Splayed 4-Bolt | 4.750 |
| 081111 | Sportsman | Bare | 10.200" | 4.490" | .8437" | Nodular Splayed 4-Bolt | 4.750 |
| 081111-4500 | Sportsman | Prepped | 10.200" | 4.500" | .8437" | Nodular Splayed 4-Bolt | 4.750 |
| 081111-4530 | Sportsman | Prepped | 10.200" | 4.530" | .8437" | Nodular Splayed 4-Bolt | 4.750 |
| 081112 | Sportsman | Bare | 10.200" | 4.590" | .8437" | Nodular Splayed 4-Bolt | 4.750 |
| 081112-4600 | Sportsman | Prepped | 10.200" | 4.600" | .8437" | Nodular Splayed 4-Bolt | 4.750 |

| Part # | Series | Type | Deck | Bore | Lifters | Main Caps | max Stroke |
|-------------|--------|---------|---------|--------|---------|----------------------------------|------------|
| 085000 | Race | Bare | 9.800" | 4.240" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.375 |
| 085000-4250 | Race | Prepped | 9.800" | 4.250" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.375 |
| 085000-4280 | Race | Prepped | 9.800" | 4.280" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.375 |
| 085010 | Race | Bare | 9.800" | 4.490" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.375 |
| 085010-4500 | Race | Prepped | 9.800" | 4.500" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.375 |
| 085010-4530 | Race | Prepped | 9.800" | 4.530" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.375 |
| 085012 | Race | Bare | 9.800" | 4.590" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.375 |
| 085012-4600 | Race | Prepped | 9.800" | 4.600" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.375 |
| 085100 | Race | Bare | 10.200" | 4.240" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.750 |
| 085100-4250 | Race | Prepped | 10.200" | 4.250" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.750 |
| 085100-4280 | Race | Prepped | 10.200" | 4.280" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.750 |
| 085110 | Race | Bare | 10.200" | 4.490" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.750 |
| 085110-4500 | Race | Prepped | 10.200" | 4.500" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.750 |
| 085110-4530 | Race | Prepped | 10.200" | 4.530" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.750 |
| 085112 | Race | Bare | 10.200" | 4.590" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.750 |
| 085112-4600 | Race | Prepped | 10.200" | 4.600" | .8437" | 1045 Billet Steel Splayed 4-Bolt | 4.750 |

Bare Blocks Include: Decks milled +/- .005", honed main journals +/- .0004", plate honed cylinder bores .001" O.S. +/- .0005", honed lifter bores +/- .0005" hot tanked, cam bearings, freeze plugs, dowel pins and all pipe plugs are installed, deburred paint inside and out, sprayed w/ rust prohibitor and wrapped

| | | | |
|---------------------|--|--|---|
| Accessories: | | 832921 | Stainless steel oil pan bolt kit (hex head) |
| 832660-2 | Oil restrictors for Merlin BBC cast iron engine block | | |
| 832532 | Freeze plug and pipe plug kit for Merlin BBC cast iron engine block | | |
| 832523 | Dowel pin kit for Merlin BBC engine block | | |
| 832580 | Head bolt kit for Merlin BBC cast iron head | | |
| 832581 | Head bolt kit for Merlin BBC aluminum head | | |
| 832015-8 | Head bolts (long outers for Merlin cylinder head) | | |
| 832546 | Head stud kit for Merlin BBC cylinder head/Merlin BBC cast iron engine block | | |
| 832912 | Stainless steel timing cover bolt kit (hex head) | | |
| | | Options Available: | |
| | | Cylinder boring | |
| | | Lifter bushings | |
| | | 55mm cam bearings | |
| | | O-ring head decks | |
| | | Contact your World sales representative for details. | |

MERLIN 509 CID BBC STAGE 1 PARTIAL ENGINE

World Products has developed this package for the performance enthusiast who is faced with rebuilding a 396, 427, 454 or 502-inch Big Block Chevy and would like to gain some serious displacement at virtually no extra cost! This 509 c.i.d. engine will also make a great foundation for any engine swap project. Just add an intake, exhaust and ignition system (plus oil pan, pick-up and damper) and

you're on your way to a 500-plus HP engine combination with stump-pulling torque. It features a new Merlin II cast iron block, a digitally balanced rotating assembly consisting of a 4340 forged steel crank, 4340 steel H-beam rods, forged aluminum pistons and high performance rings. The heads have Manley stainless steel valves and are topped with aluminum roller rocker arms.



Genuine Manley stainless steel valves

Aluminum roller rocker arms

High velocity 269cc intake oval port heads



Multi-angle valve job w/radiused exhausts

Equipped with 4340 alloy forged steel crank, 4340 forged H-beam connecting rods and forged pistons

9.8" deck Merlin III cast iron engine block

Get Increased Displacement At Absolutely No Extra Cost!

| Technical Data: | |
|---|---|
| Casting ID Number: WOR-015 Engine | Connecting Rods: 4340 Eagle |
| Block: Merlin III cast iron | Pistons: Mahle |
| Deck Height: 9.800" | Gaskets: Fel-Pro |
| Bore/Stroke: 4.500" x 4.000" | Internal Hardware: ARP® |
| Main Caps: 4-bolt nodular splayed | External Hardware: Totally Stainless |
| Cylinder Heads: Merlin Oval Port 269cc cast iron | Valve Cover: World aluminum |
| Valves: Manley stainless steel | The following parts are not included: Carburetor, intake manifold, ignition (distributor, coil, wires and spark plugs), damper, oil pan and pick-up |
| Timing Chain: Double roller | |
| Crankshaft: 4340 Eagle internally balanced | |

396 + 113 "Free Inches" = 509"
427 + 82 "Free Inches" = 509"
454 + 55 "Free Inches" = 509"

| Part # | C.i.d. | Heads | Application | Type | Compression | Camshaft | Induction | Dome |
|--------|--------|-----------|-------------|---------|-------------|-----------------------|-----------|------|
| 130031 | 509 | Cast Iron | Street | Partial | 9.5:1 | Hydraulic Flat Tappet | None | 12cc |

Individualize With Custom Shop Options!

Now you can make a good thing even better, thanks to the options that are available through World's Custom Shop. You can obtain engines with increased power through ordering them equipped with CNC-ported cylinder heads. This is a conservative 30 horsepower increase. From an appearance standpoint, you can get an aluminum block, intake manifold and cylinder heads beautifully polished to a mirror-like finish. The 572 c.i.d. motor pictured here is equipped with a Merlin X aluminum block, Merlin III aluminum heads and a Merlin intake manifold—all of which have been polished. If you want to use a supercharger, the engine can be ordered as a partial with pistons and camshaft matched to your requirements. Have it your way with World Products!

Polished Merlin intake manifold

Optional CNC porting adds 30 HP

Polished Merlin X aluminum block

Polished Merlin III aluminum cylinder heads

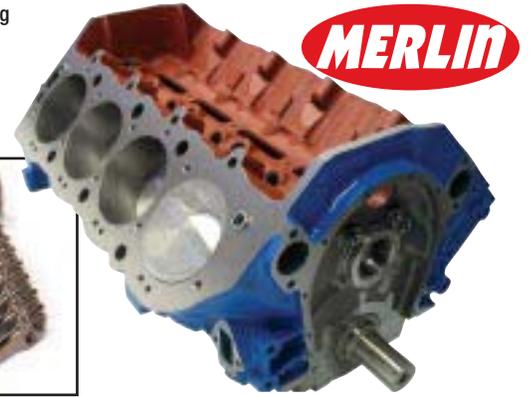
Optional custom oil filter



MERLIN THE KING OF BIG BLOCK CHEVY ENGINES!

BIG BLOCK CHEVROLET

The name "Merlin" has become synonymous with Big Block Chevy power and World keeps adding to the legend. Now you can get everything from a "partial" engine to a do-it-yourself kit with a race-prepped block and fully balanced rotating assembly. Only top quality components are used, such as a 4340 forged steel crank (Eagle or Callies), 4340 forged steel H-beam rods, forged aluminum pistons (Manley or Mahle) and high performance rings (Mahle or Total Seal). Special low compression partial engines, short blocks and rotating kits available for use with superchargers and turbochargers.



GROUND-THUMPING HP AND TORQUE IS YOURS THE EASY WAY WITH A BIG-INCH MERLIN SHORT BLOCK, KIT OR PARTIAL



| Part # | C.I.D. | Heads | Application | Compression | Camshaft | Induction | Dome | Notes |
|---------------------------------|--------|------------------|------------------|-------------|------------------|-----------|----------|-------|
| Partial Engine (Stage 2) | | | | | | | | |
| 130032 | 509 | Merlin III alum. | Street | 9.5:1 | Hydraulic Roller | None | 12cc | A |
| 130132 | 509 | Merlin III alum. | For Power Adders | 8.6:1 | Hydraulic Roller | None | Flat Top | A |
| 130034 | 540 | Merlin III alum. | Street | 9.5:1 | Hydraulic Roller | None | 5cc | A |
| 130134 | 540 | Merlin III alum. | For Power Adders | 8.4:1 | Hydraulic Roller | None | -15cc | A |
| 130036 | 572 | Merlin III alum. | Street | 10.8:1 | Hydraulic Roller | None | 15cc | A |
| 130136 | 572 | Merlin III alum. | For Power Adders | 8.6:1 | Hydraulic Roller | None | -20cc | A |
| 130038 | 632 | Merlin III alum. | Street | 10.4:1 | Hydraulic Roller | None | -6cc | B |
| Short Block Assembly | | | | | | | | |
| 108225 | 509 | | Street | 9.5:1 | None | None | 12cc | A |
| 108224 | 509 | | For Power Adders | 8.6:1 | None | None | Flat Top | A |
| 108250 | 540 | | Street | 9.5:1 | None | None | 5cc | A |
| 108249 | 540 | | For Power Adders | 8.4:1 | None | None | -15cc | A |
| 108252 | 540 | | Race | 13.5:1 | None | None | 46cc | A |
| 108260 | 572 | | Street | 10.8:1 | None | None | 15cc | A |
| 108259 | 572 | | For Power Adders | 8.6:1 | None | None | -20cc | A |
| 108262 | 572 | | Race | 13.7:1 | None | None | 42cc | A |
| 108270 | 632 | | Street | 10.4:1 | None | None | -6cc | B |
| 108272 | 632 | | Race | 14.1:1 | None | None | 33cc | B |
| Short Block Kit | | | | | | | | |
| 108325 | 509 | | Street | 9.5:1 | None | None | 12cc | A |
| 108324 | 509 | | For Power Adders | 8.6:1 | None | None | Flat Top | A |
| 108350 | 540 | | Street | 9.5:1 | None | None | 5cc | A |
| 108349 | 540 | | For Power Adders | 8.4:1 | None | None | -15cc | A |
| 108352 | 540 | | Race | 13.5:1 | None | None | 46cc | A |
| 108360 | 572 | | Street | 10.8:1 | None | None | 15cc | A |
| 108359 | 572 | | For Power Adders | 8.6:1 | None | None | -20cc | A |
| 108362 | 572 | | Race | 13.7:1 | None | None | 42cc | A |
| 108370 | 632 | | Street | 10.4:1 | None | None | -6cc | B |
| 108372 | 632 | | Race | 14.1:1 | None | None | 33cc | B |
| Rotating Kit | | | | | | | | |
| 108100 | 509 | | Street | 9.5:1 | None | None | 12cc | A |
| 108101 | 509 | | For Power Adders | 8.6:1 | None | None | Flat Top | A |
| 108150 | 540 | | Street | 9.5:1 | None | None | 5cc | A |
| 108149 | 540 | | For Power Adders | 8.4:1 | None | None | -15cc | A |
| 108153 | 540 | | Race | 13.5:1 | None | None | 46cc | A |
| 108160 | 572 | | Street | 10.8:1 | None | None | 15cc | A |
| 108159 | 572 | | For Power Adders | 8.6:1 | None | None | -20cc | A |
| 108162 | 572 | | Race | 13.7:1 | None | None | 42cc | A |
| 108170 | 632 | | Street | 10.4:1 | None | None | -6cc | B |
| 108173 | 632 | | Race | 14.1:1 | None | None | 33cc | B |

Partial Engine Includes: All the same premium components as the complete engines, less intake manifold, induction system, ignition system and damper
Short Blocks Include: Decks milled +/- .005", honed main journals +/- .0004", plate honed cylinder bores .001" O.S. +/- .0005", honed lifter bores +/- .0005", hot tanked, cam bearings, freeze plugs, dowel pins and all pipe plugs are installed, deburred sprayed w/ rust prohibitor and wrapped, digitally internal balanced crank, pistons and connecting rods balanced within 2grms
Short Block Kits Includes: Prepped block and balanced rotating kit

Notes:
 A = Compression for 509, 540 & 572 calculated with a 119cc head, .020" deck, and a Fel-Pro 1017 gasket. Dome volumes as specified above.
 B = Compression for 632 calculated with a 119cc head, .005" deck, and a Fel-Pro 1057 gasket. Dome volumes as specified above.

| | |
|---|--|
| Available options: | CNC head porting (add 30 hp) |
| Aluminum engine block | Cast iron cylinder heads |
| Polished aluminum engine block, cylinder heads and intake manifold (6 to 8 weeks lead time) | 1 year/12,000 mile limited warranty (includes dyno break-in) Partial engine only |
| Polished cylinder heads and intake manifold (6 to 8 weeks lead time) | Contact your World sales representative for details. |

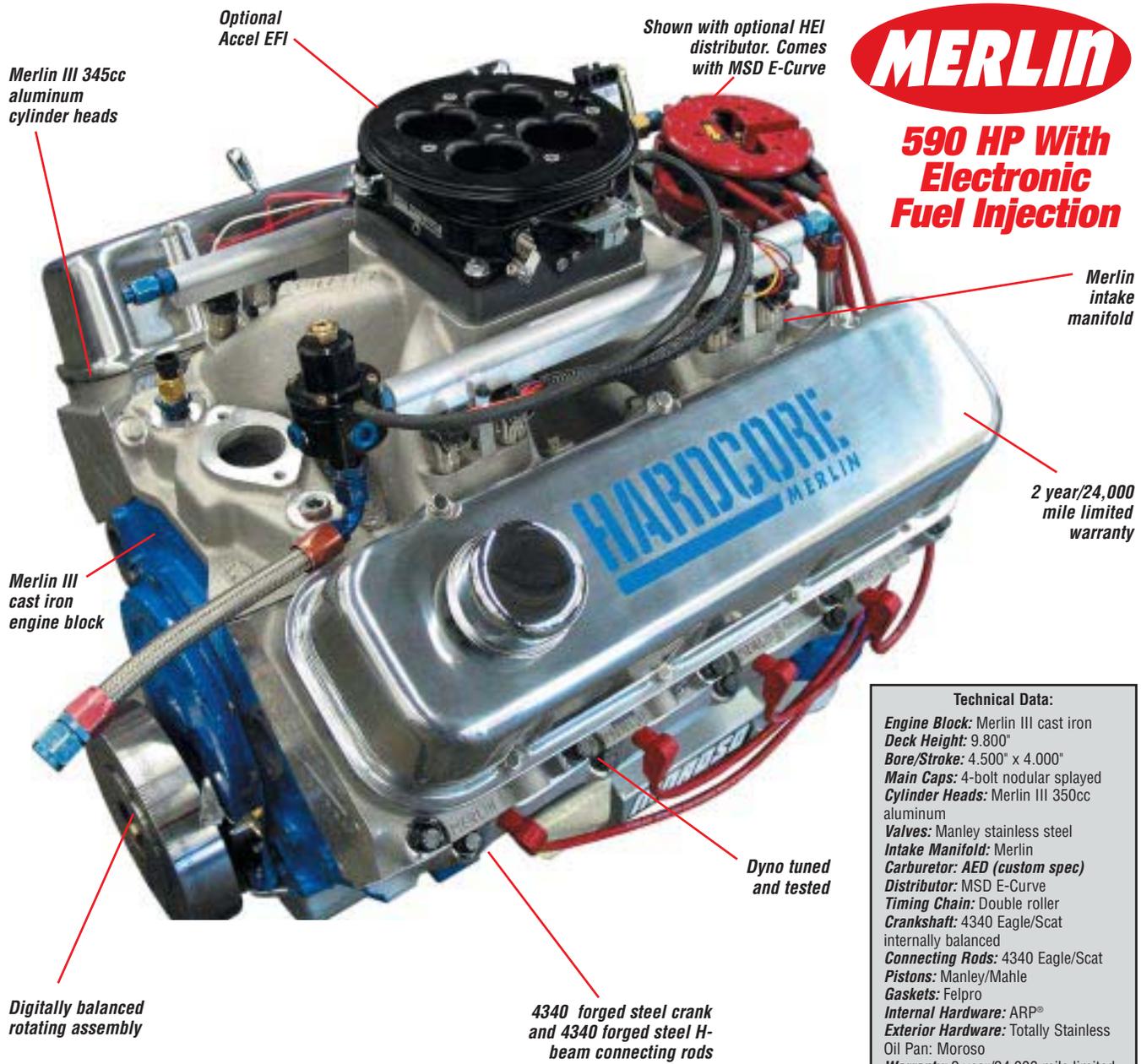
BIG BLOCK CHEVROLET MERLIN 509 CID BBC ENGINE

Here's an interesting engine package that's perfect for many street rods and street machines. With 509 cubic inches, it's got plenty of torque, and yet with a hydraulic roller (or hydraulic flat tappet) cam and 9.5:1 compression, it's a low-maintenance combination that's designed for optimum reliability. Of

course, with 590 dyno-tested horsepower for the hydraulic roller cammed models, there's an abundance of performance. The engine features a World Merlin III cast iron block and Merlin III aluminum heads, 4340 forged steel crank and H-beam connecting rods, forged aluminum pistons and all the good stuff!



590 HP With Electronic Fuel Injection



Technical Data:
Engine Block: Merlin III cast iron
Deck Height: 9.800"
Bore/Stroke: 4.500" x 4.000"
Main Caps: 4-bolt nodular splayed
Cylinder Heads: Merlin III 350cc aluminum
Valves: Manley stainless steel
Intake Manifold: Merlin
Carburetor: AED (custom spec)
Distributor: MSD E-Curve
Timing Chain: Double roller
Crankshaft: 4340 Eagle/Scat internally balanced
Connecting Rods: 4340 Eagle/Scat
Pistons: Manley/Mahle
Gaskets: Felpro
Internal Hardware: ARP®
Exterior Hardware: Totally Stainless
Oil Pan: Moroso
Warranty: 2 year/24,000 mile limited (Street Series only)

| Part # | C.I.D. | HP | Heads | Application | Compression | Camshaft | Induction | Dome | Notes |
|------------------------|--------|-----|-----------|-------------|-------------|-----------------------|-------------|------|-------|
| Complete Engine | | | | | | | | | |
| 130232 | 509 | 590 | Aluminum | Street | 9.5:1 | Hydraulic Roller | 4150 870cfm | 12cc | A |
| 130332 | 509 | 590 | Aluminum | Street | 9.5:1 | Hydraulic Roller | EFI | 12cc | A |
| 108000 | 509 | 540 | Cast Iron | Street | 9.5:1 | Hydraulic Flat Tappet | 4150 870cfm | 12cc | B |
| 108001 | 509 | 560 | Aluminum | Street | 9.5:1 | Hydraulic Flat Tappet | 4150 870cfm | 12cc | A |

Complete Engine Includes: Pan to carb (or EFI), fully assembled, dyno tuned and tested and comes with a 2 year/24 month warranty (does not include starter, water pump or flywheel)
Notes:
A = Compression calculated with a 119cc head, .020" deck, 12cc piston and a .041" gasket

| Available options: | |
|---|--|
| Aluminum engine block | Cast iron cylinder heads (except 10800) |
| Polished aluminum engine block, cylinder heads and intake manifold (6 to 8 weeks lead time) | |
| Polished cylinder heads and intake manifold (6 to 8 weeks lead time) | Contact your World sales representative for details. |
| CNC head porting (add 30 hp) | |

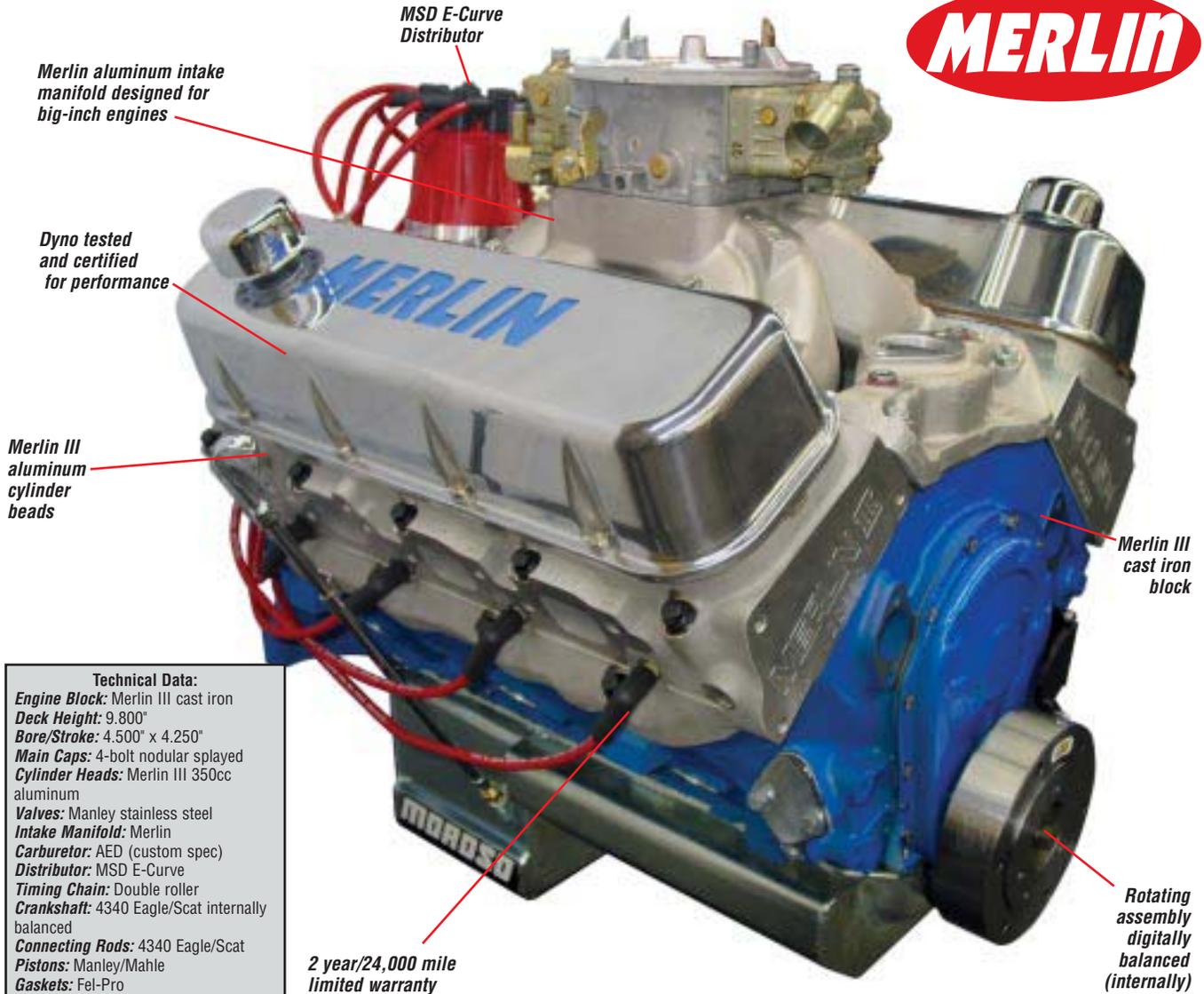


MERLIN 540 CID BBC ENGINE

Even though they're "only" 540 cubic inches, these Merlins are a step above factory 572-inch crate motors. Factors like the Merlin III cast iron block, Merlin III aluminum heads, and a full compliment of premium grade internal components from leading aftermarket manufacturers make the difference. Add

to the fact that each engine is dyno-tested and certified to meet published performance standards and backed by a 2-year/24,000-mile warranty and you can see why the advantage goes to World Products. Also available in a racing version that puts out 825 horsepower.

BIG BLOCK CHEVROLET



Technical Data:
Engine Block: Merlin III cast iron
Deck Height: 9.800"
Bore/Stroke: 4.500" x 4.250"
Main Caps: 4-bolt nodular splayed
Cylinder Heads: Merlin III 350cc aluminum
Valves: Manley stainless steel
Intake Manifold: Merlin
Carburetor: AED (custom spec)
Distributor: MSD E-Curve
Timing Chain: Double roller
Crankshaft: 4340 Eagle/Scat internally balanced
Connecting Rods: 4340 Eagle/Scat
Pistons: Manley/Mahle
Gaskets: Fel-Pro
Internal Hardware: ARP®
Exterior Hardware: Totally Stainless
Oil Pan: Moroso
Warranty: 2 year/24,000 mile limited (Street Series only)

World's Merlin 540 Out-Performs GM Crate 572s!

| Part # | C.I.D. | HP | Application | Compression | Camshaft | Induction | Dome | Notes |
|------------------------|--------|-----|-------------|-------------|-----------------------|--------------|------|-------|
| Complete Engine | | | | | | | | |
| 130234 | 540 | 650 | Street | 9.5:1 | Hydraulic Roller | 4150 870cfm | 5cc | A |
| 130334 | 540 | 650 | Street | 9.5:1 | Hydraulic Roller | EFI | 5cc | A |
| 108050 | 540 | 580 | Street | 9.5:1 | Hydraulic Flat Tappet | 4150 870cfm | 5cc | A |
| 108051 | 540 | 600 | Street | 9.5:1 | Hydraulic Flat Tappet | 4150 870cfm | 5cc | A |
| 108081 | 540 | 825 | Race | 13.5:1 | Solid Roller | 4500 1050cfm | 46cc | B |

Complete Engine Includes: Pan to carb (or EFI), fully assembled, dyno tuned and tested and comes with a 2 year/24 month warranty (does not include starter, water pump or flywheel)

Notes:

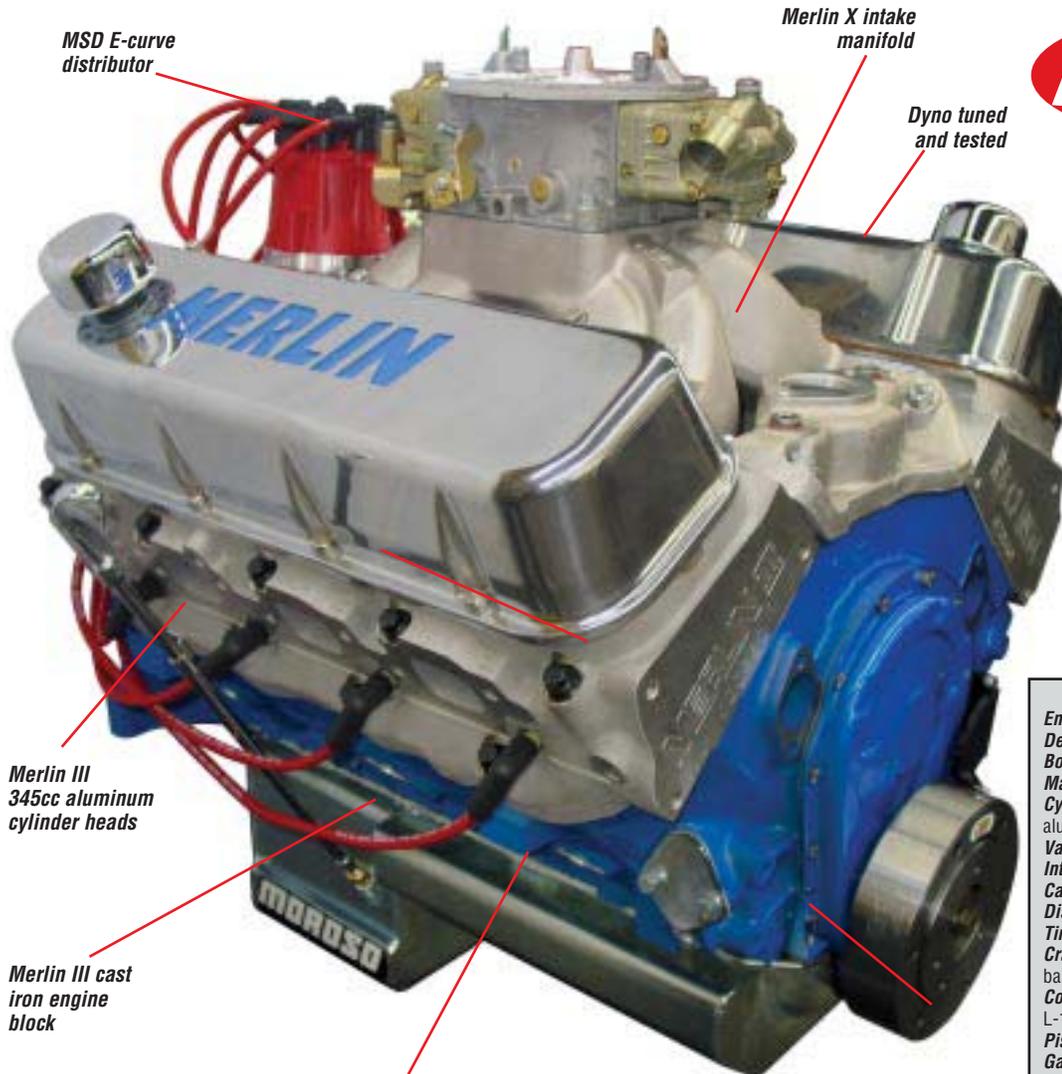
A = Compression calculated with a 119cc head, .020" deck, 5cc piston and a .041" gasket
 B = Compression calculated with a 119cc head, .020" deck, 46cc piston and a .041" gasket

| Available options: | |
|---|--|
| Aluminum engine block | Cast iron cylinder heads |
| Polished aluminum engine block, cylinder heads and intake manifold (6 to 8 weeks lead time) | 1 year/12,000 mile limited warranty (includes dyno break-in) Partial engine only |
| Polished cylinder heads and intake manifold (6 to 8 weeks lead time) | Contact your World sales representative for details. |
| CNC head porting (add 30 hp) | |

MERLIN 572 CID BBC ENGINE

The 572 c.i.d. Merlin is one of the most popular engines in the entire World Products lineup. And it's easy to see why. Most performance enthusiasts who seek serious horsepower appreciate the benefits of a 572 c.i.d. engine. And when they compare what they get in a Merlin, as opposed to a factory "crate motor" of the same displacement, World wins hands-down! Consider that World and GM are similar as they are manufacturers who produce the engine block, cylinder heads and intake manifold. But where the big difference lies is that

World sources its internal components from the aftermarket and the OEMs use many stock parts. The bottom line is that World engines contain premium grade components from the likes of ARP, Clevite, Eagle, Fel-Pro, Mahle, Manley, Moroso and MSD. Each Merlin is assembled by experienced, professional engine builders, carefully broken in, and dyno-tested to assure that it meets published performance standards. The engine (except the racing version) are backed by a 2-year/24,000 mile warranty. Now you know why World has the best values!



MSD E-curve distributor

Merlin X intake manifold

Dyno tuned and tested

Merlin III 345cc aluminum cylinder heads

Merlin III cast iron engine block

2 year/24,000 mile limited warranty

Digitally balanced rotating assembly (internally)

**Dyno-Proven
735 HP Output
On Pump Gas
And Backed
With A 2-Year
24,000-Mile
Warranty.
Compare This
To GM Crates!**

Technical Data:

Engine Block: Merlin III cast iron
Deck Height: 10.200"
Bore/Stroke: 4.500" x 4.500"
Main Caps: 4-bolt nodular splayed
Cylinder Heads: Merlin III 345cc aluminum
Valves: Manley stainless steel
Intake Manifold: Merlin X
Carburetor: AED (custom spec)
Distributor: MSD E-Curve
Timing Chain: Double roller
Crankshaft: 4340 Eagle/Scat internally balanced
Connecting Rods: 4340 Eagle/Scat with L-19 rod bolts
Pistons: Manley/Mahle
Gaskets: Felpro
Internal Hardware: ARP®
Exterior Hardware: Totally Stainless
Oil Pan: Moroso
Warranty: 2 year/24,000 mile limited (Street Series only)

| Part # | C.I.D. | HP | Application | Compression | Camshaft | Induction | Dome | Notes |
|------------------------|--------|-----|-------------|-------------|-------------------|--------------|------|-------|
| Complete Engine | | | | | | | | |
| 130236 | 572 | 735 | Street | 10.8:1 | Hydraulic Roller | 4500 1050cfm | 15cc | A |
| 130336 | 572 | 735 | Street | 10.8:1 | Hydraulic Roller | EFI | 15cc | A |
| 108056 | 572/ | 700 | Street | 10.8:1 | Solid Flat Tappet | 4500 1050cfm | 15cc | A |
| 108086 | 572 | 850 | Race | 13.7:1 | Solid Roller | 4500 1050cfm | 42cc | B |

Complete Engine Includes: Pan to carb (or EFI), fully assembled, dyno tuned and tested and comes with a 2 year/24 month warranty (does not include starter, water pump or flywheel)

Notes:

A = Compression calculated with a 119cc head, .020" deck, 15cc piston and a .041" gasket
 B = Compression calculated with a 119cc head, .020" deck, 42cc piston and a .041" gasket

Available options:

- Aluminum engine block
- Polished aluminum engine block, cylinder heads and intake manifold (6 to 8 weeks lead time)
- Polished cylinder heads and intake manifold (6 to 8 weeks lead time)
- CNC head porting (add 30 hp)
- Cast iron cylinder heads
- Contact your World sales representative for details.

MERLIN 632 CID BBC ENGINE

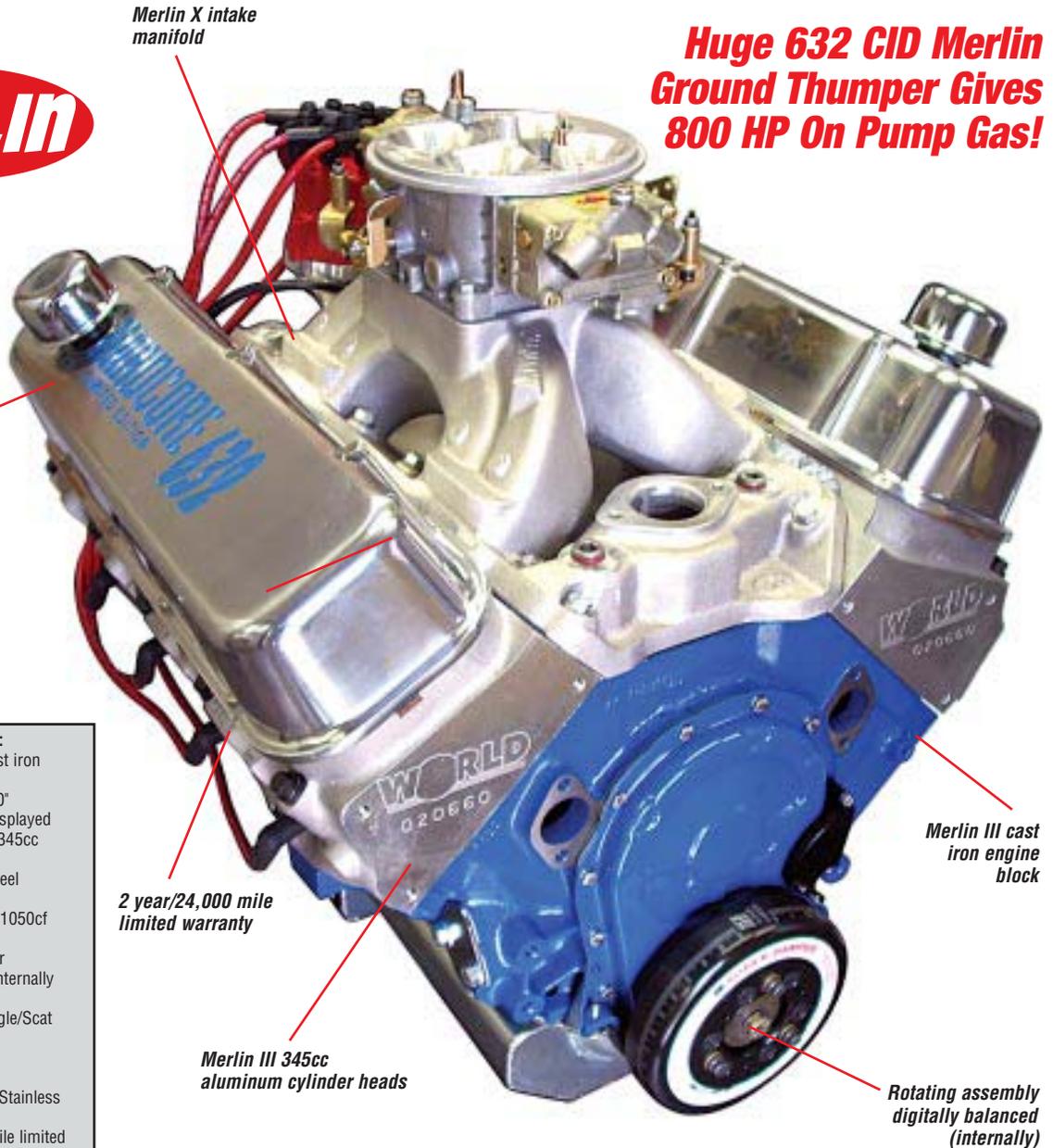
The old adage of "there's no substitute for cubic inches" certainly holds true in the form of World's 632 c.i.d. Merlin Big Block Chevy. Increasing the displacement of an engine is a sure-fire way to add horsepower and torque without placing undue strain on the rotating assembly or valve train. And it is

for the reason that World Products can back an 800 horsepower engine with a 2-year/24,000-mile warranty.

World Products also offers this 632-inch behemoth in a Race engine form with an output of 900 horsepower using racing gas. It's awesome!

BIG BLOCK CHEVROLET

**Huge 632 CID Merlin
Ground Thumper Gives
800 HP On Pump Gas!**



Dyno tuned and tested

Technical Data:
Engine Block: Merlin III cast iron
Deck Height: 10.200"
Bore/Stroke: 4.500" x 4.750"
Main Caps: 4-bolt nodular splayed
Cylinder Heads: Merlin III 345cc aluminum
Valves: Manley stainless steel
Intake Manifold: Merlin X AED (custom spec) 4500 - 1050cf
Distributor: MSD E-Curve
Timing Chain: Double roller
Crankshaft: 4340 Callies (internally balanced)
Connecting Rods: 4340 Eagle/Scat
Pistons: Manley/Mahle
Gaskets: Felpro
Internal Hardware: ARP®
Exterior Hardware: Totally Stainless
Oil Pan: Moroso
Warranty: 2 year/24,000 mile limited (Street Series only)

2 year/24,000 mile limited warranty

Merlin III 345cc aluminum cylinder heads

Merlin III cast iron engine block

Rotating assembly digitally balanced (internally)

| Part # | C.I.D. | HP | Application | Compression | Camshaft | Induction | Dome | Notes |
|------------------------|--------|-----|-------------|-------------|------------------|--------------|------|-------|
| Complete Engine | | | | | | | | |
| 130238 | 632 | 800 | Street | 10.4:1 | Hydraulic Roller | 4500 1050cfm | -6cc | A |
| 130338 | 632 | 800 | Street | 10.4:1 | Hydraulic Roller | EFI | -6cc | A |
| 108090 | 632 | 900 | Race | 14.1:1 | Solid Roller | 4500 1050cfm | 33cc | B |

Complete Engine Includes: Pan to carb (or EFI), fully assembled, dyno tuned and tested and comes with a 2 year/24 month warranty (does not include starter, water pump or flywheel)

Notes:

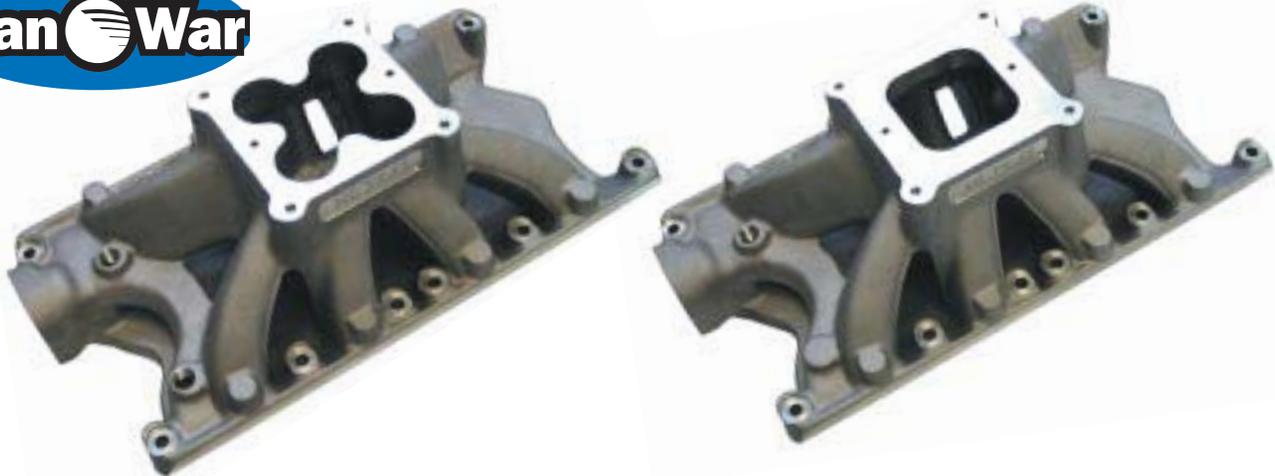
A = Compression calculated with a 119cc head, .005" deck, -6cc piston and a .039" gasket
 B = Compression calculated with a 119cc head, .005" deck, 33cc piston and a .039" gasket

| Available options: | |
|---|--|
| Aluminum engine block | Cast iron cylinder heads |
| Polished aluminum engine block, cylinder heads and intake manifold (6 to 8 weeks lead time) | 1 year/12,000 mile limited warranty (includes dyno break-in) Partial engine only |
| Polished cylinder heads and intake manifold (6 to 8 weeks lead time) | Contact your World sales representative for details. |
| CNC head porting (add 30 hp) | |

MAN O'WAR INTAKE MANIFOLDS

World Products has expanded its offering of intake manifolds for 302/351 Ford applications to include highly effective single plane designs for use with both raised roof and standard port heads. Developed in collaboration with CHI of Australia, the Man O'War intake for tall port (raised roof) heads provides

outstanding flow for these 9.500" deck applications. Also now available from World Products is a companion intake designed for use with standard port position heads. Both are offered in configurations for 4150 series or large 4500 (Dominator) carb flanges, and equipped with bosses for nitrous systems.



| Part # | Plenum | Flange | Deck Hght | NOS Bosses | EFI | RPM Range | OAH | Notes |
|--------|--------|--------|-----------|------------|-----|-------------|--------|-------|
| 063415 | Single | 4150 | 9.500" | Yes | No | 3500 - 8500 | 7.500" | E |
| 063416 | Single | 4500 | 9.500" | Yes | No | 3500 - 8500 | 7.500" | E |
| 063417 | Single | 4150 | 9.500" | Yes | No | 3500 - 8500 | 7.500" | D |
| 063418 | Single | 4500 | 9.500" | Yes | No | 3500 - 8500 | 7.500" | D |

Notes:

D = Fits standard port head
E = Fits tall port (raised roof) head

AVAILABLE OPTIONS:

polishing (6 to 8 weeks lead time)
Contact your World sales representative for details.

ACCESSORIES :

832901 Stainless steel intake manifold bolt kit for 302 engines (hex head)
832902 Stainless steel intake manifold bolt kit for 351 engines (hex head)

SBF VALVE COVERS

Dress up your engine with the valve covers of your choice. Choose between chrome plated stamped steel or highly polished cast aluminum covers. New displacement-focused World polished aluminum covers let you show that size does matter. For a finishing touch, grab a set of stainless steel valve cover bolts. Similar hex-head bolts are also available for intake manifold installations. Finish your engine with World valve covers.

| Part # | DESCRIPTION |
|------------|-----------------------------|
| 070860 | MAN O'WAR polished aluminum |
| 070870 | HARDCORE polished aluminum |
| 07095-302W | 302 WORLD polished aluminum |
| 07095-347W | 347 WORLD polished aluminum |
| 07095-351W | 351 WORLD polished aluminum |
| 07095-371W | 371 WORLD polished aluminum |
| 07095-427W | 427 WORLD polished aluminum |
| 07095-460W | 460 WORLD polished aluminum |
| 07095-M | MAN O'WAR polished aluminum |
| 07095-W | WORLD polished aluminum |

Accessories :

832910 Stainless steel intake manifold bolt kit (hex head)
832911 Stainless steel valve cover bolt kit (hex head) - Fits cast aluminum covers



070870



#070860



#070895-W



#07095-371W



#07095-349W



#07095-427W



#07095-460W

WINDSOR JR./SR. SBF HEADS

CAST IRON CYLINDER HEADS

When it comes to high performance replacements for factory cast iron heads, World's Windsor series (Jr. and Sr.) has the market covered. The Jr. has 180cc intake runners and the Sr. boasts 200cc ports. These, plus the 64cc

exhaust port are substantially larger than OEM Ford heads. Add a highly efficient combustion chamber design and larger valves and you have big bolt-on power. These heads are also 50-state emissions legal factory replacements.



Manley stainless steel valves

Universal end pads accept both early and late model accessories

Bolts on to 1987-94 Mustang engines with no loss of compression



Raised valve cover rails to help eliminate oil leaks

Extra thick deck and walls

Exclusive RightCast® technology assures optimum port accuracy

SPECIAL MARINE HEADS NOW AVAILABLE!

Equipped with high temperature Inconel exhaust valves



Highly efficient combustion chamber design plus larger diameter valves



RightCast® ports provide superior "out of the box" performance

Technical Data:

Casting ID Number: I-056 (180cc), I-061 (200cc)

Material: High density cast iron

Valve Seats: Intake (integral), exhaust (hardened insert)

Valve Guides: Integral cast iron

Spring Seats: Machined for 1.560" and 1.250"

Valves: Manley stainless steel valves in assemblies

Guide Plates: Special World part #830460-8

Rocker Arm Studs: Screw-in style

Rocker Arms: Adjustable rockers recommended. 1.6 ratio (use of 1.73 ratio will require elongation of pushrod holes)

Intake Runner: Standard port location

Exhaust Ports: Standard location (dual exhaust bolt pattern to accommodate large custom headers)

Spark Plug: 14mm 5/8" .460" reach tapered style

Valve Job: Multi-angle intake and radiused exhaust

Valve Cover Rail: Raised

Valve Angle: Stock 20°

Accessory Bolt Holes: Stock

50-State Emissions legal

Flow Numbers: Log on to worldcastings.com for detailed information.

| Part # | Type | RUNNERS | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|----------|----------|----------------|---------|----------------------|------|--|-------------|----------|-------|
| 053030 | Bare | 180 In / 64 Ex | 58 | 1.940/1.600 11/32Std | | | | | |
| 053030-1 | Assembly | 180 In / 64 Ex | 58 | 1.940/1.600 11/32Std | | 1.250 S 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | | .570" | C |
| 053030-2 | Assembly | 180 In / 64 Ex | 58 | 1.940/1.600 11/32Std | | 1.437 D 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | | .600" | C |
| 053030-3 | Assembly | 180 In / 64 Ex | 58 | 1.940/1.600 11/32Std | | 1.550 D 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | | .700" | E |
| 053040 | Bare | 200 In / 64 Ex | 64 | 2.020/1.600 11/32Std | | | | | |
| 053040-1 | Assembly | 200 In / 64 Ex | 64 | 2.020/1.600 11/32Std | | 1.250 S 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | | .570" | C |
| 053040-2 | Assembly | 200 In / 64 Ex | 64 | 2.020/1.600 11/32Std | | 1.437 D 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | | .600" | C |
| 053040-3 | Assembly | 200 In / 64 Ex | 64 | 2.020/1.600 11/32Std | | 1.550 D 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | | .700" | E |

MARINE NEW!

| Part # | Type | RUNNERS | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|-----------|----------|----------------|---------|----------------------|------|--|-------------|----------|-------|
| 053030M-1 | Assembly | 180 In / 64 Ex | 58 | 1.940/1.600 11/32Std | | 1.250 S 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | | .570" | D |
| 053030M-2 | Assembly | 180 In / 64 Ex | 58 | 1.940/1.600 11/32Std | | 1.437 D 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | | .600" | D |
| 053040M-1 | Assembly | 200 In / 64 Ex | 64 | 2.020/1.600 11/32Std | | 1.250 S 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | | .570" | D |
| 053040M-2 | Assembly | 200 In / 64 Ex | 64 | 2.020/1.600 11/32Std | | 1.437 D 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | | .600" | D |

Assembly Includes: Head, valves, seals, springs, retainers, locks, rocker studs and guide plates

Notes:

C = 7° Stamped heat treated steel valve locks, Manley 4140 chrome-moly retainers and Nitrile umbrella seals

D = 10° machined steel valve locks, Manley 4140 chrome-moly retainers, Nitrile umbrella seals and Inconel exhaust valves (Marine version)

E = 10° machined steel valve locks, Manley 4140 chrome-moly retainers, Teflon seals and Manley Race Master valves

NOTE:

50 State Emissions Legal: Important note: Windsor Jr./Sr. cylinder heads carry C.A.R.B. EO #D-343-1

| Accessories: | | |
|--------------|---|--|
| 830460 | 5/16" SBF flat guide plate | 832900 Stainless steel valve cover bolt kit (hex head) |
| 830475 | 3/8" stock rocker arm stud | 832930 Stainless steel header stud kit |
| 830480 | 7/16" stock rocker arm stud | |
| 830485 | 7/16" ARP® rocker arm stud | |
| 832585 | Head bolt kit for Man O'War SBF cast iron/aluminum engine block | Recommended Installation Items: |
| 832552 | Head stud kit for Man O'War SBF cast iron/aluminum engine block | Head Gaskets: Felpro #1011-2 (CAUTION: Do not use Felpro #1011-1) |
| 832006 | 7/16" SBF stud girdle | Intake Gasket: Felpro #90361 |
| 832901 | Stainless steel intake manifold bolt kit for 302 engines (hex head) | Exhaust Gasket: Felpro #1415 |
| 832902 | Stainless steel intake manifold bolt kit for 351 engines (hex head) | Spark Plugs: 14mm 5/8" .460" reach tapered seat (Champion 670 or 802, Accel 416) |
| | | Pushrods: Hardened pushrods are required with the use of guide plates |

MAN O'WAR 18° ALUMINUM CYLINDER HEADS

Designed to provide serious horsepower for street/strip applications, the 18° Man O'War has excellent flow characteristics in its "as cast" form. You have a choice of 200 or 225cc intake runners to provide the optimum balance

of flow and velocity. Add our CNC porting option for even more flow and added combustion efficiency. With valves and rocker arm attachment parallel at 18°, they're compatible with OEM valve train. A powerful bolt-on for Mustangs!



Manley stainless steel valves

Raised valve cover rails to help eliminate oil leaks

Accepts multiple exhaust flanges

Universal end pads accept both early and late model accessories

Extra thick deck and walls



Exclusive Rightcast® technology assures optimum port accuracy

CNC PORTED HEADS!

"These ports are correct in size, shape and have really good flow numbers. Combined with an efficient chamber and plug location, these heads will easily make over 700 NA horsepower. All in all a really good choice!"

-Jim Kuntz



Highly efficient CNC-ported chamber and large valves boost performance



CNC-ported intake runners offered in both 228 and 242cc designs

| Technical Data: | |
|---|---|
| Casting Number ID: WOR-080B (200cc), WOR-080A (225cc) | Intake Runner: standard port location |
| Material: 355-T6 alloy high density aluminum | Exhaust Ports: Standard location (dual exhaust bolt pattern to accommodate large custom headers) |
| Valve Seats: Intake (hardened), exhaust (hardened) | Spark Plug: 14mm .750" reach gasket style |
| Valve Guides: Manganese bronze | Valve Job: Multi-angle intake and radiused exhaust |
| Spring Seats: Machined for 1.560" | Valve Cover Rail: Raised |
| Valves: Manley stainless steel valves in assemblies | Valve Angle: 18° |
| Guide Plates: Special World part #830462 | Accessory Bolt Holes: Stock |
| Rocker Arms: Adjustable rockers recommended, 1.6 ratio | Flow Numbers: Log on to worldcastings.com for detailed information. |
| Rocker Arm Studs: Screw-in style | |

| Part # | Type | Runners | Chmb. Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|----------|----------|----------------|----------------------|------|---------|--|----------|-------|
| 023005 | Bare | 200 In / 65 Ex | 64 2.020/1.600 11/32 | Std | | | | |
| 023005-1 | Assembly | 200 In / 65 Ex | 64 2.020/1.600 11/32 | Std | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .570" | C |
| 023005-2 | Assembly | 200 In / 65 Ex | 64 2.020/1.600 11/32 | Std | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | C |
| 023005-3 | Assembly | 200 In / 65 Ex | 64 2.020/1.600 11/32 | Std | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |
| 023010 | Bare | 225 In / 66 Ex | 64 2.080/1.600 11/32 | Std | | | | |
| 023010-2 | Assembly | 225 In / 66 Ex | 64 2.080/1.600 11/32 | Std | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | C |
| 023010-3 | Assembly | 225 In / 66 Ex | 64 2.080/1.600 11/32 | Std | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |

| Part # | Type | Runners | Chmb. Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|---|----------|----------------|-----------------------|------|---------|--|----------|-------|
| CNC Ported (Ports designed by Kuntz & Co.) | | | | | | | | |
| 023005C | Bare | 228 In / 73 Ex | 72* 2.080/1.600 11/32 | Std | | | | |
| 023005C-1 | Assembly | 228 In / 73 Ex | 72* 2.080/1.600 11/32 | Std | 1.250 S | 100lb @ 1.810 300lb @ 1.250 CB @ 1.200 | .570" | C |
| 023005C-2 | Assembly | 228 In / 73 Ex | 72* 2.080/1.600 11/32 | Std | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | C |
| 023005C-3 | Assembly | 228 In / 73 Ex | 72* 2.080/1.600 11/32 | Std | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |
| 023010C | Bare | 242 In / 75 Ex | 72* 2.100/1.600 11/32 | Std | | | | |
| 023010C-2 | Assembly | 242 In / 75 Ex | 72* 2.100/1.600 11/32 | Std | 1.437 D | 125lb @ 1.810 340lb @ 1.210 CB @ 1.160 | .600" | C |
| 023010C-3 | Assembly | 242 In / 75 Ex | 72* 2.100/1.600 11/32 | Std | 1.550 D | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |

Assembly Includes: Head, valves, seals, springs, retainers, locks, rocker studs and guide plates

* Can be milled to achieve desired compression

Notes:

C = 7° Stamped heat treated steel valve locks, Manley 4140 chrome-moly retainers and Nitrile umbrella seals
 E = 10° machined steel valve locks, Manley 4140 chrome-moly retainers, Teflon seals and Manley Severe Duty valves

| | | |
|--|--|---|
| Available options: | 832901 | Stainless steel intake manifold bolt kit for 302 engines (hex head) |
| Polishing (6 to 8 weeks lead time) | 832902 | Stainless steel intake manifold bolt kit for 351 engines (hex head) |
| Contact your World sales representative for details. | 832900 | Stainless steel valve cover bolt kit (hex head) |
| | 832930 | Stainless steel header stud kit |
| Accessories: | Recommended Installation Items: | |
| 830462 | 5/16" SBF flat guide plate | Head Gaskets: Felpro #1011-2, 1031L, 1031R |
| 830475 | 3/8" stock rocker arm stud | (CAUTION: Do not use Felpro #1011-1) |
| 830480 | 7/16" stock rocker arm stud | Intake Gasket: Felpro #1262R |
| 830485 | 7/16" ARP rocker arm stud | Exhaust Gasket: Felpro #1415 |
| 832585 | Head bolt kit for Man O'War SBF cast iron engine block | Spark Plugs: 14mm .750" reach gasket seat (Accel 416) |
| 832552 | Head stud kit for Man O'War SBF cast iron engine block | Pushrods: Hardened pushrods are required with the use of guide plates |
| 832007 | 7/16" SBF stud girdle | |

MAN O'WAR 10° ALUMINUM CYLINDER HEADS

World's engineering team has developed what is the ultimate competition cylinder head for 302/351 Ford small block applications. It features a highly advantageous 10° valve angle (with parallel rocker arm mounting) and some humongous ports. The "as cast" intakes are available in 275 and 285cc intake

runners with huge 102cc exhaust ports. Add the CNC porting option with ports designed by Kuntz & Co. and a 310cc intake is yours. Designed for use with all power-adders, the 10° Man O'War comes with provisions to use s two extra head bolts per cylinder as is offered with the companion Man O'War block.

SMALL BLOCK FORD



Manley stainless steel valves



Universal end pads accept both early and late model accessories

Valve and rocker arm C/L parallel at 10°

Raised valve cover rails to help eliminate oil leaks

Exclusive Rightcast® technology assures optimum port accuracy

Provisions for two extra head bolts per cylinder

Extra thick deck and walls

CNC-PORTED HEADS AVAILABLE FOR THE ULTIMATE IN FLOW AND PERFORMANCE!



CNC ported combustion chamber and ports designed by Kuntz & Co.



Big 310cc intake runners and 106cc exhaust ports deliver huge HP gains



| Technical Data: | |
|---|--|
| Casting ID Number: WOR-081 | Intake Runner: Standard port location |
| Material: 355-T6 alloy high density aluminum | Exhaust Ports: Standard location |
| Valve Seats: Intake (hardened), exhaust (hardened) | Spark Plug: 14mm .750" reach gasket style |
| Valve Guides: Manganese bronze | Valve Job: Multi-angle intake and radiused exhaust |
| Spring Seats: Machined for 1.560" | Valve Cover Rail: Raised |
| Valves: Manley stainless steel valves in assemblies | Valve Angle: 10° |
| Guide Plates: Special World part #830463 | Accessory Bolt Holes: Stock |
| Rocker Arm Studs: Adjustable roller rocker, If T&D or Jesel Shaft system is to be used, a 5.700" valve may be required | Flow Numbers: Log on to worldcastings.com for detailed information. |

| Part # | Type | RUNNERS | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|----------|----------|-----------------|---------|------------------|------|---------|--|----------|-------|
| 023012 | Bare | 275 In / 102 Ex | 64 | No Valve Job | Std | | | | |
| 023012-3 | Assembly | 275 In / 102 Ex | 64 | 2.200/1.600 5/16 | Std | 1.550 S | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |
| 023015 | Bare | 285 In / 102 Ex | 64 | No Valve Job | Std | | | | |
| 023015-3 | Assembly | 285 In / 102 Ex | 64 | 2.200/1.600 5/16 | Std | 1.550 S | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |

| Part # | Type | RUNNERS | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift | Notes |
|---|----------|----------------|---------|------------------|------|---------|--|----------|-------|
| CNC Ported (Ports designed by kuntz & co.) | | | | | | | | | |
| 023015C | Bare | 310 In/ 106 Ex | 72* | 2.200/1.600 5/16 | Std | | | | |
| 023015C-3 | Assembly | 310 In/ 106 Ex | 72* | 2.200/1.600 5/16 | Std | 1.550 S | 200lb @ 1.900 480lb @ 1.200 CB @ 1.150 | .700" | E |

Assembly Includes: Head, valves, seals, springs, retainers, locks

* Can be milled to achieve desired compression

Notes:

C = 7° Stamped heat treated steel valve locks, Manley 4140 chrome-moly retainers and Nitrile umbrella seals
 D = 10° machined steel valve locks, Manley 4140 chrome-moly retainers, Nitrile umbrella seals and Inconel exhaust valves
 E = 10° machined steel valve locks, Manley 4140 chrome-moly retainers, Teflon seals and Manley Severe Duty valves

Assembled heads have a 50° multi-angle intake and a 50° radius exhaust valve job

| | | |
|---|---|---|
| Available options: | 832901 | Stainless steel intake manifold bolt kit for 302 engines (hex head) |
| Polishing (6 to 8 weeks lead time) | 832902 | Stainless steel intake manifold bolt kit for 351 engines (hex head) |
| Contact your World sales representative for details. | 832900 | Stainless steel valve cover bolt kit (hex head) |
| | 832930 | Stainless steel header stud kit |
| Accessories: | Recommended Installation Items: | |
| 832585 Head bolt kit for Man O'War SBF aluminum or iron engine block (standard Ford bolt pattern) | Due to the unique nature of the Man O'War 10° head, several manufacturers are developing products for this application. Since they will be released after the publication of this catalog, we ask that you check our website for details. | |
| 832552 Head stud kit for Man O'War SBF aluminum or iron engine block (standard Ford bolt pattern) | | |
| 832553 Head stud kit with extra studs for 10° heads on Man O'War block (Pro bolt pattern) | | |

MAN O'WAR ALUMINUM BLOCK

World's unique Man O'War aluminum block represents the state-of-the-art design in small block Ford technology. It incorporates many important features that leading Ford racers have asked for. The aluminum Man O'War tips the scales at only 90 lbs., is reinforced throughout, and has provisions for two

extra head bolts per cylinder (optional use) to provide superior clamping of the heads—essential for high combustion pressure applications. World's 10° Man O'War heads are similarly equipped Add 1045 billet steel splayed 4-bolt mains and ARP hardware for bottom end strength and bring on the power-adders!



Made of 357-T6 Aluminum (absolute strongest available)

Uses stock SBF cam bearings

Priority main oiling system for optimum reliability

1045 billet steel main caps utilized on Race blocks (unlike competitors' softer 1020)

1/2" ARP® and ring dowels used to locate main caps firmly into position (not antiquated standard OEM outside registers)

Provisions for two extra rod bolts per cylinder (optional use)

Blind tapped head bolt holes

100% compatible with OEM parts

Siamese bores

Expanded water jackets for maximum cooling

Precision CNC machined in two positions to cut down on stacked tolerances

Solid oil pan rails-stock spacing

Accepts stock mechanical fuel pump

Accessories:

- 832665-2 Oil restrictors for Man O'War aluminum engine block
- 832516 Freeze plug and pipe plug kit for Man O'War aluminum engine block
- 832524 Dowel pin kit for Man O'War aluminum engine block
- 841102-DF Replacement sleeve for Man O'War 8.200" SBF aluminum engine block (3.990" bore)
- 841103-DF Replacement sleeve for Man O'War 9.500" SBF aluminum engine block (3.990" bore)
- 832903 Stainless steel timing cover bolt kit (hex head)
- 832904 Stainless steel oil pan bolt kit (hex head)

Options Available:

- Cylinder boring
- Lifter bushings
- 60mm cam bearings
- O-ring head decks
- Polishing (6 to 8 weeks lead time)

Contact your World sales representative for details.

MAN O'WAR ALUMINUM BLOCK

There are many important reasons why World's Man O'War aluminum blocks are the most reliable of their kind on the market. It features a Priority Main Oiling System, which ensures that the crankshaft is lubricated first and the cylinder heads last. Water jackets are expanded over other block designs to improve cooling. And the block is reinforced in all critical areas, including bulkheads, mains and valley. It's a CAD-engineered masterpiece. The bottom end is anchored by splayed 4-bolt mains that are manufactured from 1045

alloy, which is considerably stronger than the 1020 alloy typically used by others. The Man O'War block has also been designed to allow use of two extra head bolts/studs per cylinder. This increased clamping force is essential when power-adders, like superchargers or turbochargers, are employed. World's 10° Man O'War aluminum heads likewise have provisions to use the two extra bolts per cylinder. Man O'War blocks have been used to win important racing titles, as well as the Engine Masters Challenge.



A look at the valley of the aluminum Man O'War block shows the reinforcing ribs and lifter pads. Lifter bores are indexed to assure optimum valve train geometry.



The bottom end of the aluminum Man O'War block is also a study in engineering excellence. Race blocks are equipped with billet steel splayed 4-bolt mains.



Technical Data:

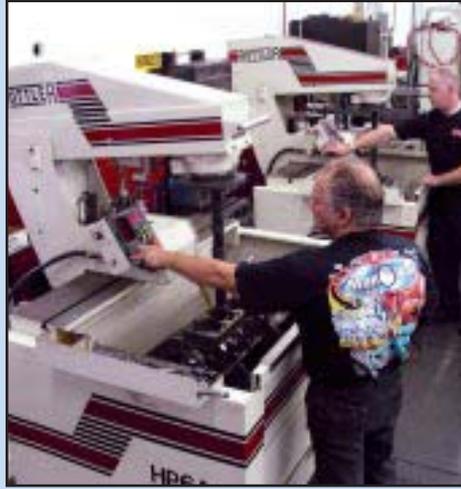
Casting ID Number: WOR-352D (8.200"), WOR-352A (9.500")
 Material: 357-T6 aluminum (absolute strongest available)
Deck Thickness: .600" minimum
Cam Bearings: Standard small block Ford (can machine to 55mm)
Cam Location: Standard small block Ford
Maximum Bore: 4.155"
Cylinder Sleeves: Centrifugally cast ductile iron dry sleeves
Cylinder Wall Thickness: .100" dry sleeve w/.300" aluminum wall support @ 4.155"
Water Jackets: Expanded for better cooling
Lubrication: Priority main oiling system
Oil System Features: .500" feed; bosses for dry sump
Filtration: Mount for spin-on filter
Oil Pan Rails: Solid (stock width)
Main Cap Material: Sportsman block caps are made from nodular iron, Race blocks are made from 1045 billet steel (unlike competitors' softer 1020)
Main Caps: Sportsman and Race blocks have splayed 4-bolt caps (2, 3, 4) and straight 4-bolt caps (1, 5)
Main Cap Hardware: 1/2" ARP and ring dowels used to locate main caps firmly into position (not antiquated standard OEM outside registers)
Rear Main Seal: Two piece Fuel Pump: Stock location
Motor Mounts: Stock
 Cylinder Head Bolt Holes: Blind tapped to prevent water leaks
Lifters Bosses: Clearanced for vertical bar lifters (can use standard height lifters)
Starter Mount: Stock location
Weight: Approximately 90lbs

THE BENEFITS OF ORDERING "RACE-PREPPED" BLOCKS

For the enthusiast who is planning to assemble an engine in their home garage, getting the block in a race-prepped state is almost a no-brainer. World's experienced staff performs important basic operations:

- Decks milled +/- .0025"
- Honed main journals +/- .0004"
- Plate honed cylinder bores .001" O.S. +/- .0005"
- Honed lifter bores +/- .0005"
- Block hot tanked
- Cam bearings installed
- Freeze plugs, installed
- Dowel pins and all pipe plugs are installed
- Block deburred
- Machined surfaces sprayed with rust prohibitor
- Protectively wrapped

More and more professional engine builders are also recognizing the benefits of ordering race-prepped blocks instead of endeavoring to perform these many tasks themselves. Many have realized that their time can be better spent doing critical assembly work such as degreasing in camshafts and setting up the valve train. By employing race-prepped World blocks the shop's through-put can be accelerated, and there are demonstrated savings in terms of personnel, shop equipment, space and cash flow. Do the math.



One of the key operations in race-prepping a block is honing the cylinders to the desired specifications using special plates to simulate the loads exerted on the block by the cylinder heads. World employs highly accurate Rottler Power Hones for the task.

| Part # | Series | Type | Deck | Bore | Mains | Lifters | Main Caps | Max Stroke |
|-------------|--------|---------|--------|--------|--------|---------|----------------------------------|------------|
| 087510 | Race | Bare | 8.200" | 3.990" | 2.248" | .875" | 1045 Billet Steel Splayed 4-Bolt | 3.500" |
| 087510-4000 | Race | Prepped | 8.200" | 4.000" | 2.248" | .875" | 1045 Billet Steel Splayed 4-Bolt | 3.500" |
| 087510-4030 | Race | Prepped | 8.200" | 4.030" | 2.248" | .875" | 1045 Billet Steel Splayed 4-Bolt | 3.500" |
| 087520 | Race | Bare | 8.200" | 4.115" | 2.248" | .875" | 1045 Billet Steel Splayed 4-Bolt | 3.500" |
| 087520-4125 | Race | Prepped | 8.200" | 4.125" | 2.248" | .875" | 1045 Billet Steel Splayed 4-Bolt | 3.500" |
| 087520-4155 | Race | Prepped | 8.200" | 4.155" | 2.248" | .875" | 1045 Billet Steel Splayed 4-Bolt | 3.500" |
| 087572 | Race | Bare | 9.500" | 3.990" | 2.749" | .875" | 1045 Billet Steel Splayed 4-Bolt | 4.250" |
| 087572-4000 | Race | Prepped | 9.500" | 4.000" | 2.749" | .875" | 1045 Billet Steel Splayed 4-Bolt | 4.250" |
| 087572-4030 | Race | Prepped | 9.500" | 4.030" | 2.749" | .875" | 1045 Billet Steel Splayed 4-Bolt | 4.250" |
| 087582 | Race | Bare | 9.500" | 4.115" | 2.749" | .875" | 1045 Billet Steel Splayed 4-Bolt | 4.250" |
| 087582-4125 | Race | Prepped | 9.500" | 4.125" | 2.749" | .875" | 1045 Billet Steel Splayed 4-Bolt | 4.250" |
| 087582-4155 | Race | Prepped | 9.500" | 4.155" | 2.749" | .875" | 1045 Billet Steel Splayed 4-Bolt | 4.250" |

Bare Blocks Include: Screw-in freeze plugs, cam plugs and dowel pin kit

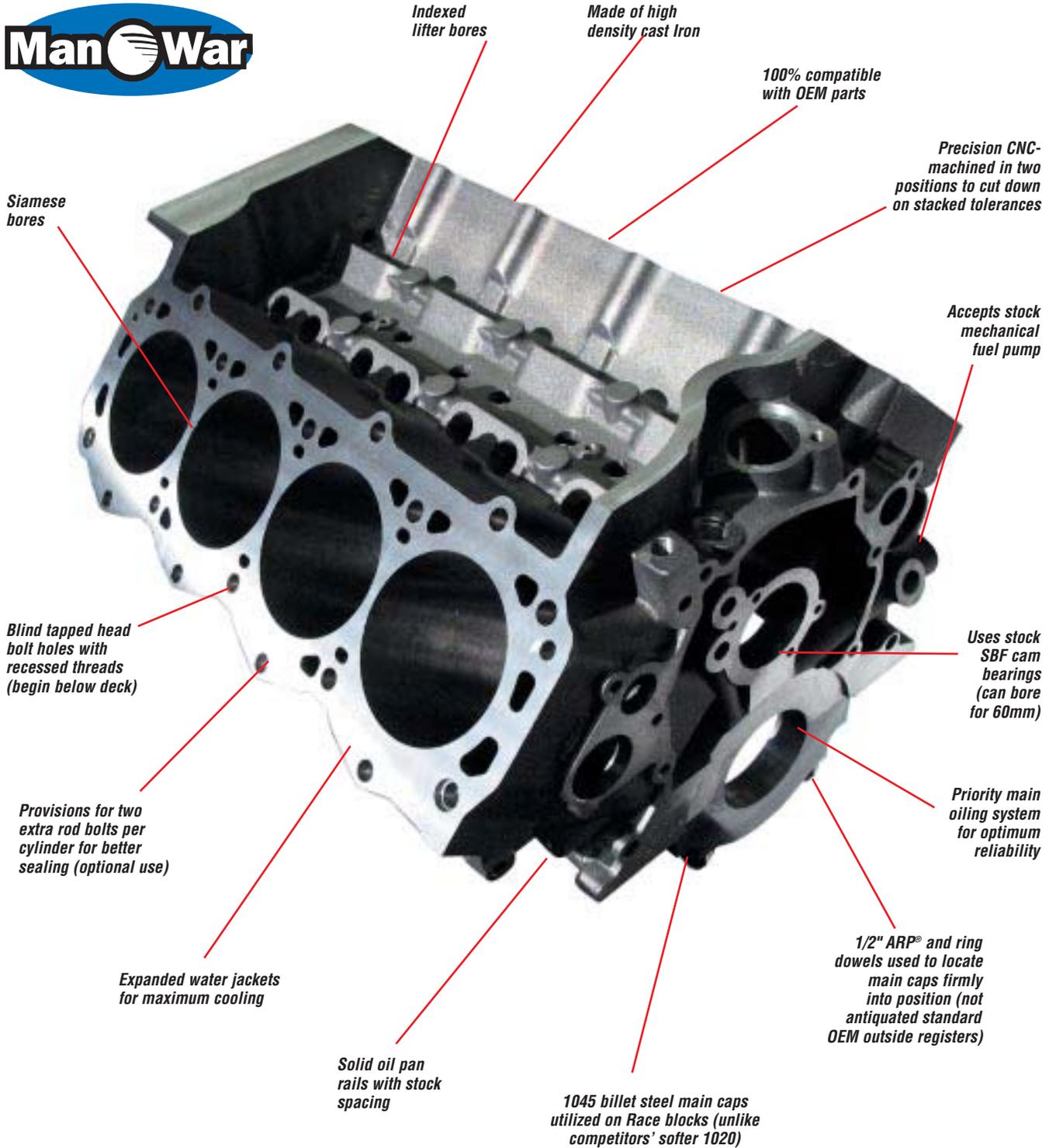
Prepped Blocks Include: Decks milled +/- .005", honed main journals +/- .0004", plate honed cylinder bores .001" O.S. +/- .0005", honed lifter bores +/- .0005", hot tanked, cam bearings, freeze plugs, dowel pins and all pipe plugs are installed, deburred sprayed w/ rust prohibitor and wrapped

Important Note: Due to varying engine builder preferences, the sleeves are not flush-milled with the deck and may vary.

MAN O'WAR CAST IRON BLOCK

From all measurable standards, World's trend-setting Man O'War cast iron block is the ultimate replacement for factory 302/351 blocks. It comes in various deck heights to match the application. The 8.2" block is a direct bolt-in for 5.0L Mustangs and compatible with OEM heads and exhaust systems. 9.2

and 9.5" deck blocks are also offered. You should know that the Man O'War block was used to win the Engine Masters Challenge, and that its design allows huge displacements. Add provisions for 2 extra head bolts per cylinder and you can see why it's a favorite of serious "Blue Oval" racers.



Indexed lifter bores

Made of high density cast Iron

100% compatible with OEM parts

Precision CNC-machined in two positions to cut down on stacked tolerances

Siamese bores

Accepts stock mechanical fuel pump

Blind tapped head bolt holes with recessed threads (begin below deck)

Uses stock SBF cam bearings (can bore for 60mm)

Provisions for two extra rod bolts per cylinder for better sealing (optional use)

Priority main oiling system for optimum reliability

Expanded water jackets for maximum cooling

1/2" ARP® and ring dowels used to locate main caps firmly into position (not antiquated standard OEM outside registers)

Solid oil pan rails with stock spacing

1045 billet steel main caps utilized on Race blocks (unlike competitors' softer 1020)

Accessories:

- 832665-2 Oil restrictors for Man O'War cast iron engine block
- 832533 Freeze plug and pipe plug kit for Man O'War cast iron engine block
- 832524 Dowel pin kit for Man O'War cast iron engine block
- 832904 Stainless steel oil pan bolt kit (hex head)

Available options:

- Cylinder boring
- Lifter bushings
- 60mm cam bearings
- O-ring head decks

Contact your World sales representative for details.

MAN O'WAR CAST IRON BLOCK

World Products has advanced small block Ford performance potential to the next level with the Man O'War block. This block was designed scratch (in collaboration with a leading NASCAR team) using CAD/CAM and 3D design technology. With the ability to design not only the part—but the tooling to

manufacture it—World's engineering team has come up with an elegant design that can be cast and machined to exacting specs. Like all other World blocks, the Man O'War is machined using only two fixturing operations, avoiding the tolerance "stacking" found in OEM production lines.

Available in 8.2, 9.2 and 9.5" deck heights to work with all 302/351 Ford engine combinations. It's the perfect foundation for any SBF engine!



Superior lubrication is assured through Priority Main Oiling and large .500" feed passages.



The Man O'War's crankcase is designed to clear a 4.250" stroke crankshaft for big-inch engines.



The block also incorporates bosses for lifter cross-feeds (shown) as well as bosses for dry sump oiling.



Recessed threads (begin below deck) and blind tapped bolt holes assure proper clamping.

Casting ID Number: WOR-351D (8.200"), WOR-351B (9.200"), WOR-351A (9.500")
 Material: High density cast iron
 Cam Bearings: Standard small block Ford (can machine to 60mm)
 Cam Location: Standard small block Ford
 Maximum Bore: 4.200"
 Cylinder Wall Thickness: .250" @ 4.200"
 Water Jackets: Expanded for better cooling
 Lubrication: Priority main oiling system Oil System Features: .500" feed; bosses for dry sump
 Filtration: Integral mount for spin-on filter
 Oil Pan Rails: Solid (stock width)
 Main Cap Material: Sportsman block caps are made from nodular iron, Race

blocks are made from 1045 billet steel (unlike competitors' softer 1020)
 Main Caps: Sportsman and Race blocks have played 4-bolt caps (2, 3, 4) and straight 4-bolt caps (1, 5)
 Main Cap Hardware: 1/2" ARP® and ring dowels used to locate main caps firmly into position (not antiquated standard OEM outside registers)
 Rear Main Seal: Two piece
 Fuel Pump: Stock location
 Motor Mounts: Stock
 Cylinder Head Bolt Holes: Blind tapped to prevent water leaks
 Lifters Bosses: Clearanced for vertical bar lifters (can use standard height lifters)
 Starter Mount: Stock location
 Weight: from 170 lbs. for 8.2 deck block to 200 lbs for 9.5" deck block

| Part # | Series | Type | Deck | Bore | Mains | Lifters | Main Caps | max Stroke |
|-------------|-----------|---------|--------|--------|--------|---------|----------------------------------|------------|
| 087010 | Sportsman | Bare | 8.200" | 3.990" | 2.248" | .875" | Nodular Splayed 4-Bolt | 3.500" |
| 087010-4000 | Sportsman | Prepped | 8.200" | 4.000" | 2.248" | .875" | Nodular Splayed 4-Bolt | 3.500" |
| 087010-4030 | Sportsman | Prepped | 8.200" | 4.030" | 2.248" | .875" | Nodular Splayed 4-Bolt | 3.500" |
| 087020 | Sportsman | Bare | 8.200" | 4.115" | 2.248" | .875" | Nodular Splayed 4-Bolt | 3.500" |
| 087020-4125 | Sportsman | Prepped | 8.200" | 4.125" | 2.248" | .875" | Nodular Splayed 4-Bolt | 3.500" |
| 087020-4155 | Sportsman | Prepped | 8.200" | 4.155" | 2.248" | .875" | Nodular Splayed 4-Bolt | 3.500" |
| 087052 | Sportsman | Bare | 9.200" | 3.990" | 2.479" | .875" | Nodular Splayed 4-Bolt | 3.500" |
| 087052-4000 | Sportsman | Prepped | 9.200" | 4.000" | 2.479" | .875" | Nodular Splayed 4-Bolt | 3.500" |
| 087052-4030 | Sportsman | Prepped | 9.200" | 4.030" | 2.479" | .875" | Nodular Splayed 4-Bolt | 3.500" |
| 087070 | Sportsman | Bare | 9.500" | 3.990" | 2.248" | .875" | Nodular Splayed 4-Bolt | 4.250" |
| 087070-4000 | Sportsman | Prepped | 9.500" | 4.000" | 2.248" | .875" | Nodular Splayed 4-Bolt | 4.250" |
| 087070-4030 | Sportsman | Prepped | 9.500" | 4.030" | 2.248" | .875" | Nodular Splayed 4-Bolt | 4.250" |
| 087072 | Sportsman | Bare | 9.500" | 3.990" | 2.749" | .875" | Nodular Splayed 4-Bolt | 4.250" |
| 087072-4000 | Sportsman | Prepped | 9.500" | 4.000" | 2.749" | .875" | Nodular Splayed 4-Bolt | 4.250" |
| 087072-4030 | Sportsman | Prepped | 9.500" | 4.030" | 2.749" | .875" | Nodular Splayed 4-Bolt | 4.250" |
| 087082 | Sportsman | Bare | 9.500" | 4.115" | 2.749" | .875" | Nodular Splayed 4-Bolt | 4.250" |
| 087082-4125 | Sportsman | Prepped | 9.500" | 4.125" | 2.749" | .875" | Nodular Splayed 4-Bolt | 4.250" |
| 087082-4155 | Sportsman | Prepped | 9.500" | 4.155" | 2.749" | .875" | Nodular Splayed 4-Bolt | 4.250" |
| 087110 | Race | Bare | 8.200" | 3.990" | 2.248" | .875" | 1045 Billet Steel Splayed 4-Bolt | 3.500" |
| 087110-4000 | Race | Prepped | 8.200" | 4.000" | 2.248" | .875" | 1045 Billet Steel Splayed 4-Bolt | 3.500" |
| 087110-4030 | Race | Prepped | 8.200" | 4.030" | 2.248" | .875" | 1045 Billet Steel Splayed 4-Bolt | 3.500" |
| 087120 | Race | Bare | 8.200" | 4.115" | 2.248" | .875" | 1045 Billet Steel Splayed 4-Bolt | 3.500" |
| 087120-4125 | Race | Prepped | 8.200" | 4.125" | 2.248" | .875" | 1045 Billet Steel Splayed 4-Bolt | 3.500" |
| 087120-4155 | Race | Prepped | 8.200" | 4.155" | 2.248" | .875" | 1045 Billet Steel Splayed 4-Bolt | 3.500" |
| 087170 | Race | Bare | 9.500" | 3.990" | 2.248" | .875" | 1045 Billet Steel Splayed 4-Bolt | 4.250" |
| 087170-4000 | Race | Prepped | 9.500" | 4.000" | 2.248" | .875" | 1045 Billet Steel Splayed 4-Bolt | 4.250" |
| 087170-4030 | Race | Prepped | 9.500" | 4.030" | 2.248" | .875" | 1045 Billet Steel Splayed 4-Bolt | 4.250" |
| 087172 | Race | Bare | 9.500" | 3.990" | 2.749" | .875" | 1045 Billet Steel Splayed 4-Bolt | 4.250" |
| 087172-4000 | Race | Prepped | 9.500" | 4.000" | 2.749" | .875" | 1045 Billet Steel Splayed 4-Bolt | 4.250" |
| 087172-4030 | Race | Prepped | 9.500" | 4.030" | 2.749" | .875" | 1045 Billet Steel Splayed 4-Bolt | 4.250" |
| 087182 | Race | Bare | 9.500" | 4.115" | 2.749" | .875" | 1045 Billet Steel Splayed 4-Bolt | 4.250" |
| 087182-4125 | Race | Prepped | 9.500" | 4.125" | 2.749" | .875" | 1045 Billet Steel Splayed 4-Bolt | 4.250" |
| 087182-4155 | Race | Prepped | 9.500" | 4.155" | 2.749" | .875" | 1045 Billet Steel Splayed 4-Bolt | 4.250" |

Bare Blocks Include: Dowel pin kit

Prepped Blocks Include: Decks milled +/- .005"; honed main journals +/- .0004"; plate honed cylinder bores .001" O.S. +/- .0005"; honed lifter bores +/- .0005"; hot tanked, cam bearings, freeze plugs, dowel pins and all pipe plugs are installed, deburred paint inside and out, sprayed w/ rust prohibitor and wrapped

MAN O'WAR

PARTIALS, SHORT BLOCKS AND ROTATING KITS

World Products makes it easy to add some big-inch power to most mid-60s and later Fords through its highly regarded Man O'War replacement for the venerable 302/351 Blue Oval offerings. With World's Partial engines you can employ your existing intake, exhaust and ignition systems—as well as the oil pan. This represents a cost-effective way to bolt in big-inch horsepower.

Do-it-yourselfers and professional engine builders are likewise provided a number of excellent options in the form of short block assemblies and kits, as well as rotating kits. As with World's engines, the rotating kits come with 4340 forged steel cranks, 4340 forged steel H-beam rods, forged aluminum pistons and high performance rings—all digitally balanced (internally) and ready to go!



The Best Way To Obtain Big-Inch Performance For Any Mustang, Cobra Or Other Ford Product. Replace Your 302/351 Engine With World Man O'War Power!



Like Ford, World Products is a primary manufacturer of engine blocks, cylinder heads and intake manifolds. But unlike the OEMs, World turns to the aftermarket for internal components instead of using "stock" parts. This enables World to produce engines that are so rugged and reliable that they're backed by a 2-year, 24,000-mile Limited Warranty.

World's Man O'War cast iron block was designed in collaboration with a leading NASCAR team. It has many key improvements over the OEM design—including reinforcement in all critical areas. What's more, it's manufactured to the industry's highest quality control standards, QS-9000, and is made using only two positions to eliminate the tolerance "stacking" that is common to engines that pass long many stations on an assembly line. And if that's not enough, many factory "crate engines" use ordinary 2-bolt main blocks, while the Man O'War has splayed 4-bolt mains and ARP hardware!

The crankshafts are 4340 forged steel (not cast), and the connecting rods are likewise forged from this race-proven alloy. You get forged pistons (not cast) and the entire rotating assembly is digitally balanced (internally) to fight harmonics. Do you think the OEMs take these important extra steps? We urge you to compare the extra features and benefits that are built in to every World engine, partial or short block.

World Now Offers Special "Power Adder" Partial Engine & Short Block Combos For Use With Superchargers And Turbos!



| Part # | C.I.D. | Head | Application | Compression | Camshaft | Induction | Dome | Notes |
|----------------------------------|--------|----------|-------------|-------------|------------------|-----------|-------|-------|
| Partial Engine (Stage II) | | | | | | | | |
| 120020 | 427 | Aluminum | Street | 10:1 | Hydraulic Roller | None | -20cc | A |
| 120120 | 427 | Aluminum | Power Adder | 8.8:1 | Hydraulic Roller | None | -35cc | A |
| 120025 | 460 | Aluminum | Street | 11.1:1 | Hydraulic Roller | None | -16cc | B |
| Short Block Assembly | | | | | | | | |
| 102220 | 427 | | Street | 10:1 | None | None | -20cc | A |
| 102219 | 427 | | Power Adder | 8.8:1 | None | None | -35cc | A |
| 102221 | 427 | | Race | 13.4:1 | None | None | 7cc | A |
| 102225 | 460 | | Street | 11.1:1 | None | None | -16cc | B |
| Short Block Kit | | | | | | | | |
| 102320 | 427 | | Street | 10:1 | None | None | -20cc | A |
| 102319 | 427 | | Power Adder | 8.8:1 | None | None | -35cc | A |
| 102321 | 427 | | Race | 13.4:1 | None | None | 7cc | A |
| 102325 | 460 | | Street | 11.1:1 | None | None | -16cc | B |
| Rotating Kit | | | | | | | | |
| 102120 | 427 | | Street | 10:1 | None | None | -20cc | A |
| 102119 | 427 | | Power Adder | 8.8:1 | None | None | -35cc | A |
| 102121 | 427 | | Race | 13.4:1 | None | None | 7cc | A |
| 102125 | 460 | | Street | 11.1:1 | None | None | -16cc | B |

A = Compression calculated using a 64cc chamber, .020" deck, and Fel-Pro 1031 gasket. Dome volume as per specified

B = Compression calculated using a 64cc chamber, .020" deck, and Fel-Pro 1134 gasket. Dome volume as per specified

MAN O'WAR

371 CID SBF STAGE 1 PARTIAL ENGINE

Here's the easy and economical way for a 5.0L Mustang owner to make it a 6-liter-plus powerhouse. Simply swap out the OEM short block and cylinder head "long block" in your Mustang for this 371 c.i.d. package. It features the highly regarded Man O'War cast iron block that contains a digitally balanced rotating assembly consisting of a 4340 forged steel crankshaft and 4340 H-

beam connecting rods, forged aluminum pistons and high performance rings. The 200cfm Windsor Sr. heads provide an excellent balance of flow and velocity for great throttle response and equally impressive top end power. The cam is specially designed for this combination and you should see close to 500HP with then right intake, exhaust and ignition systems. Go for it!

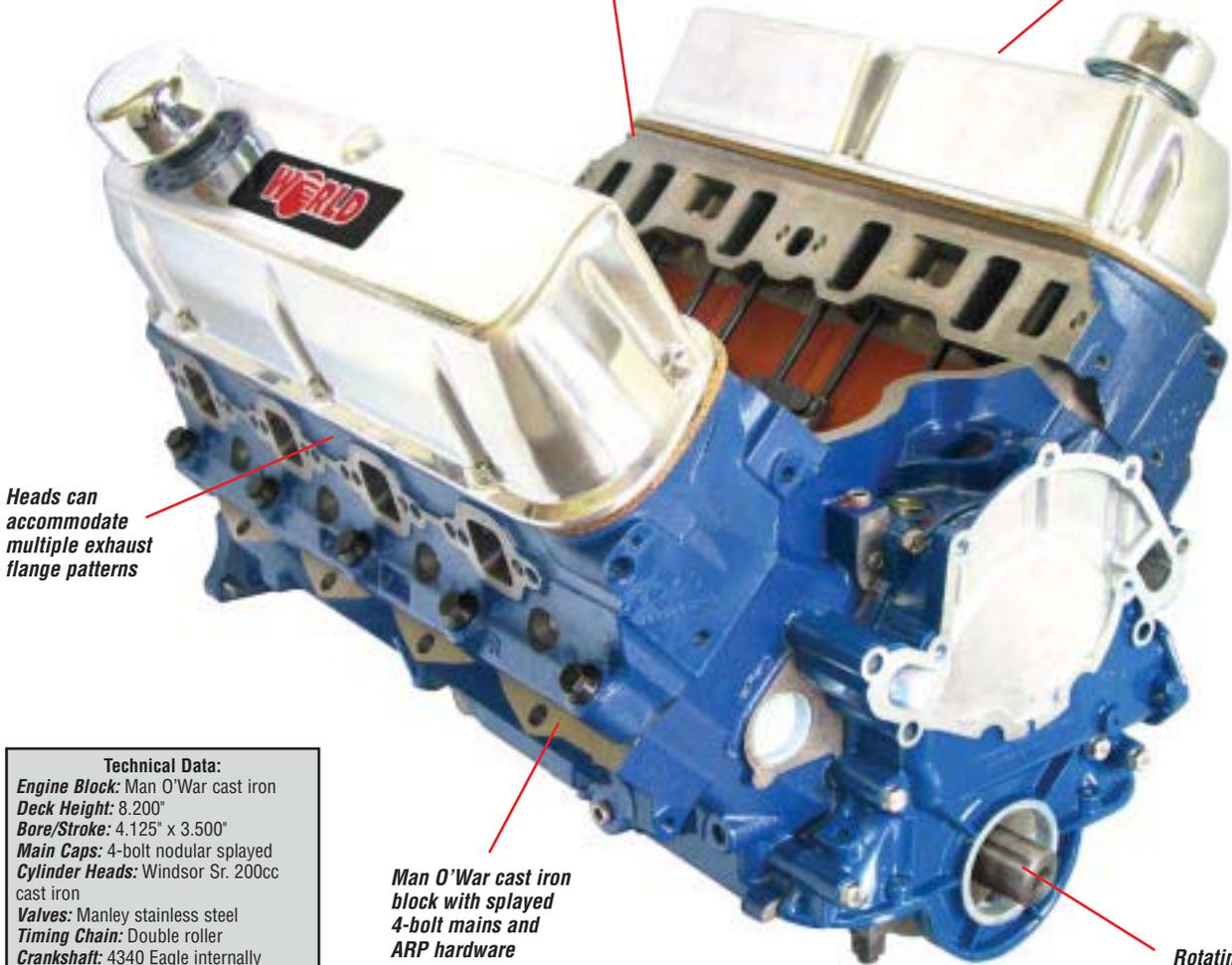


Horsepower For Your "Blue Oval"

Equipped with 200cc intake port World Windsor Sr. cast iron heads. A perfect compliment to a 5.0L Mustang's EFI or carburetor.



Cylinder heads equipped with Manley stainless steel valves, high performance springs, and aluminum roller rocker arms.



Heads can accommodate multiple exhaust flange patterns

Man O'War cast iron block with splayed 4-bolt mains and ARP hardware

Rotating assembly digitally balanced (internally)

Technical Data:
Engine Block: Man O'War cast iron
Deck Height: 8.200"
Bore/Stroke: 4.125" x 3.500"
Main Caps: 4-bolt nodular splayed
Cylinder Heads: Windsor Sr. 200cc cast iron
Valves: Manley stainless steel
Timing Chain: Double roller
Crankshaft: 4340 Eagle internally balanced
Connecting Rods: 4340 Eagle
Pistons: Mahle
Gaskets: Fel-Pro
Internal Hardware: ARP®
Exterior Hardware: Totally Stainless

The following parts are not included: Carburetor, intake manifold, ignition (distributor, coil, wires and spark plugs), damper, oil pan and pick-up

Got a 5.0L Mustang? Here's An Easy Way To Get An Extra 69 Cubic Inches of Displacement At No Extra Cost. Step Up To 6.0+L Man O'War Power!

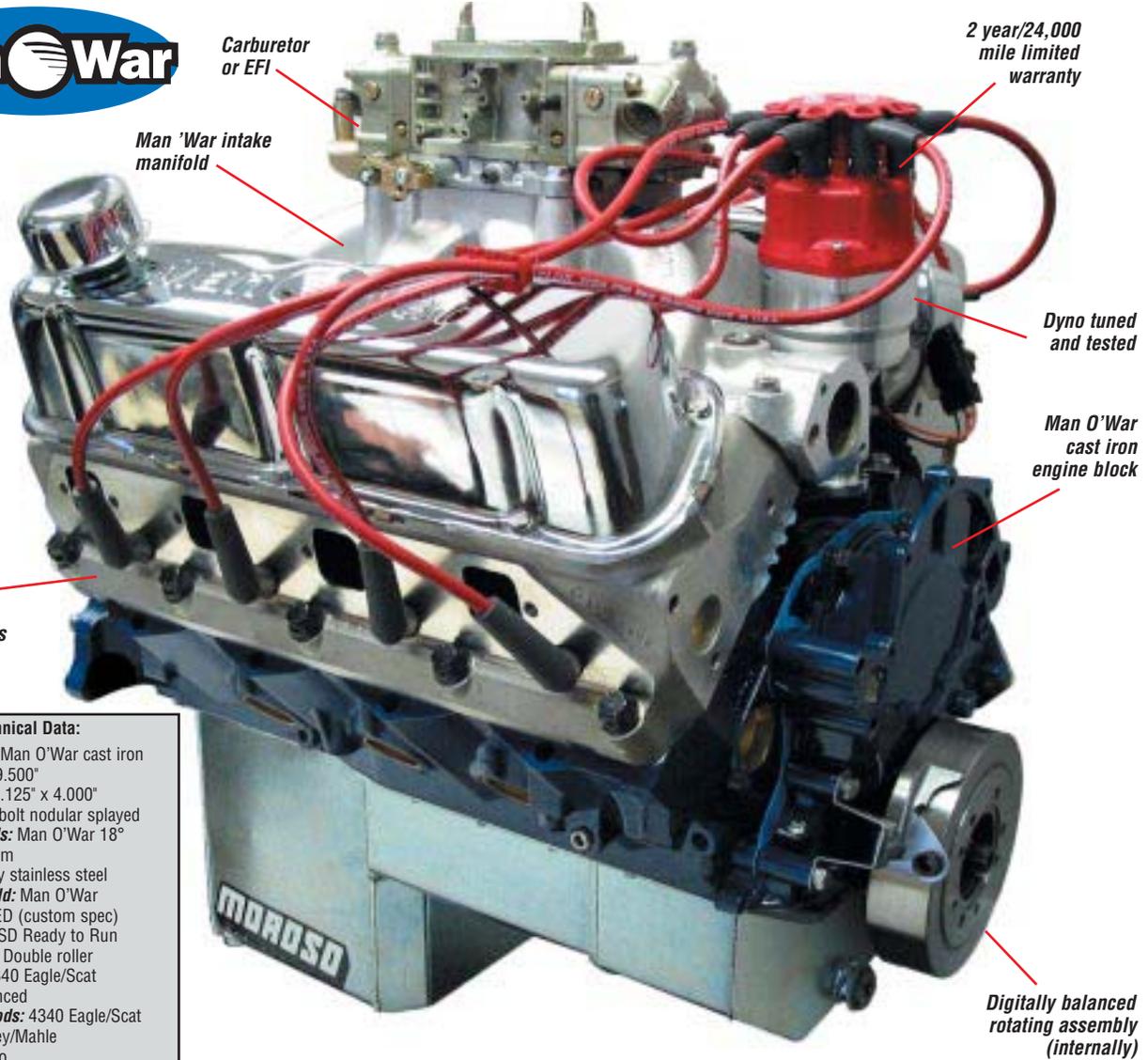
| Partial Engines | | | | | | | | |
|-----------------|--------|-------------|-------------|-------------|-----------------------|-----------|-------|-------|
| Part # | C.I.D. | Application | Heads | Compression | Camshaft | Induction | Dome | Notes |
| 120010 | 371 | Street | Windsor Sr. | 9.5:1 | Hydraulic Flat Tappet | None | -13cc | A |

A = Compression calculated using a 64cc chamber, .020" deck, and Fel-Pro 1031 gasket. Dome volume as per specified

MAN O'WAR 427 CID SBF ENGINE

A big favorite with builders of Cobra kit cars, World's 427 c.i.d. Man O'War delivers 525 horsepower from an engine that weighs considerably less than the bulky Ford FE that came in some of Carroll Shelby's iconic sports cars. And it certainly out-powers garden variety 302/351 engines found in others.

The Man O'War 427 can certainly be employed in a variety of other Ford street rods and street machines with great success. It's also available in a 650 HP racing version. Partial engines, short block assemblies and kits, plus rotating kits for this 4.125" bore x 4.000 stroke combination are also available.



Carburetor or EFI

2 year/24,000 mile limited warranty

Man 'War intake manifold

Dyno tuned and tested

Man O'War cast iron engine block

Man O'War 18° 225cc aluminum cylinder heads

Digitally balanced rotating assembly (internally)

Technical Data:

Engine Block: Man O'War cast iron
Deck Height: 9.500"
Bore/Stroke: 4.125" x 4.000"
Main Caps: 4-bolt nodular splayed
Cylinder Heads: Man O'War 18° 225cc aluminum
Valves: Manley stainless steel
Intake Manifold: Man O'War
Carburetor: AED (custom spec)
Distributor: MSD Ready to Run
Timing Chain: Double roller
Crankshaft: 4340 Eagle/Scat internally balanced
Connecting Rods: 4340 Eagle/Scat
Pistons: Manley/Mahle
Gaskets: Felpro
Internal Hardware: ARP®
Exterior Hardware: Totally Stainless
Oil Pan: Moroso
Warranty: 2 year/24,000 mile limited (Street Series only)

525 Horsepower From 427 Cubic Inches!

| Part # | Cu.In. | HP | Application | Type | Compression | Camshaft | Induction | Dome | Notes |
|------------------------|--------|-----|-------------|----------|-------------|-----------------------|--------------|-------|-------|
| Complete Engine | | | | | | | | | |
| 120220 | 427 | 525 | Street | Complete | 10:1 | Hydraulic Roller | 4150 870cfm | -20cc | A |
| 120320 | 427 | 525 | Street | Complete | 10:1 | Hydraulic Roller | EFI | -20cc | A |
| 102046 | 427 | 500 | Street | Complete | 10:1 | Hydraulic Flat Tappet | 4150 870cfm | -20cc | A |
| 102091 | 427 | 650 | Race | Complete | 13.4:1 | Solid Roller | 4500 1050cfm | 7cc | B |

Complete Engine Includes: Pan to carb (or EFI), fully assembled, dyno tuned and tested and comes with a 2 year/24 month warranty (does not include starter, water pump or flywheel) pistons and connecting rods balanced within 2grms

Notes:

A = Compression calculated with a 64cc head, .020" deck, -20cc piston and a .041" gasket
 B = Compression calculated with a 64cc head, .020" deck, 7cc piston and a .041" gasket

Add "H" to part number for a front sump pan

| Available options: | |
|---|--|
| Aluminum engine block | Cast iron cylinder heads |
| Polished aluminum engine block, cylinder heads and intake manifold (6 to 8 weeks lead time) | 1 year/12,000 mile limited warranty (includes dyno break-in) Partial engine only |
| Polished cylinder heads and intake manifold (6 to 8 weeks lead time) | Contact your World sales representative for details. |
| CNC head porting (add 30 hp) | |

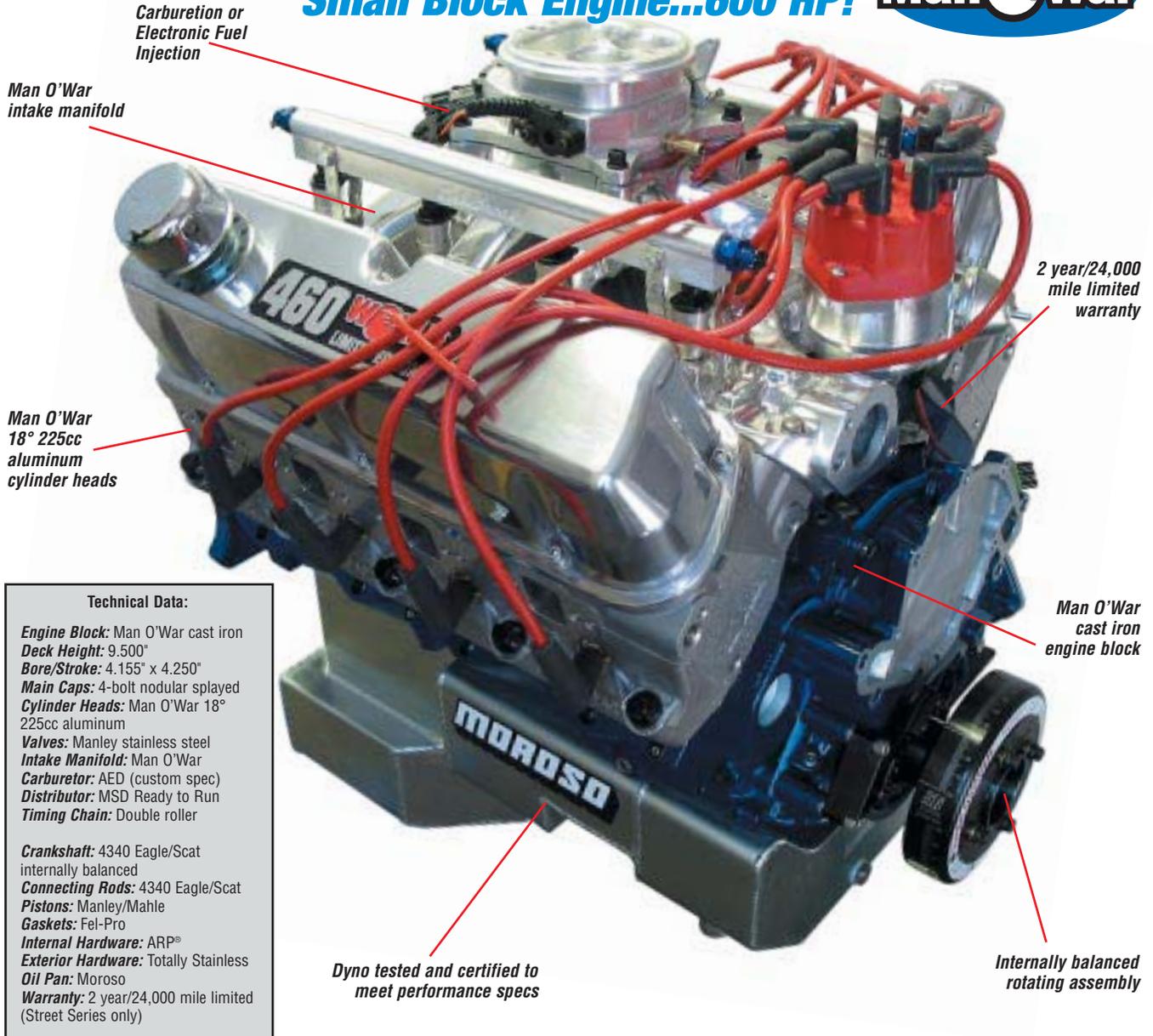
MAN O'WAR 460 CID SBF ENGINE

In the 460 c.i.d. Man O'War engines, World Products delivers the torque and horsepower of Ford's biggest big block in a small block package. This is possible because the Man O'War block was designed to accommodate a crank stroke of 4.250". Couple this with a 4.155" bore and you've got 460 cubic

inches of Blue Oval power. A pair of Man O'War 18° aluminum cylinder heads provide ample breathing, as does the Man O'War intake—which can be fitted with either a 4500 series carb or an Accel EFI. This 460-inch combination is also available as a partial engine, short block assembly and kit, or rotting kit.

SMALL BLOCK FORD

Get Big Block Performance In a Small Block Engine...600 HP!



Technical Data:
Engine Block: Man O'War cast iron
Deck Height: 9.500"
Bore/Stroke: 4.155" x 4.250"
Main Caps: 4-bolt nodular splayed
Cylinder Heads: Man O'War 18° 225cc aluminum
Valves: Manley stainless steel
Intake Manifold: Man O'War
Carburetor: AED (custom spec)
Distributor: MSD Ready to Run
Timing Chain: Double roller
Crankshaft: 4340 Eagle/Scat internally balanced
Connecting Rods: 4340 Eagle/Scat
Pistons: Manley/Mahle
Gaskets: Fel-Pro
Internal Hardware: ARP®
Exterior Hardware: Totally Stainless
Oil Pan: Moroso
Warranty: 2 year/24,000 mile limited (Street Series only)

| Part # | Cu.In. | HP | Application | Type | Compression | Camshaft | Induction | Dome | Notes |
|------------------------|--------|-----|-------------|----------|-------------|------------------|--------------|-------|-------|
| Complete Engine | | | | | | | | | |
| 120225 | 460 | 600 | Street | Complete | 11.1:1 | Hydraulic Roller | 4500 1050cfm | -16cc | A |
| 120325 | 460 | 600 | Street | Complete | 11.1:1 | Hydraulic Roller | EFI | -16cc | A |
| 102075 | 460 | 600 | Street | Complete | 11.1:1 | Solid Roller | 4500 1050cfm | -16cc | A |

Complete Engine Includes: Pan to carb (or EFI), fully assembled, dyno tuned and tested and comes with a 2 year/24 month warranty (does not include starter, water pump or flywheel)
Partial Engine Includes: All the same premium components as the complete engines, less intake manifold, induction system, ignition system and damper

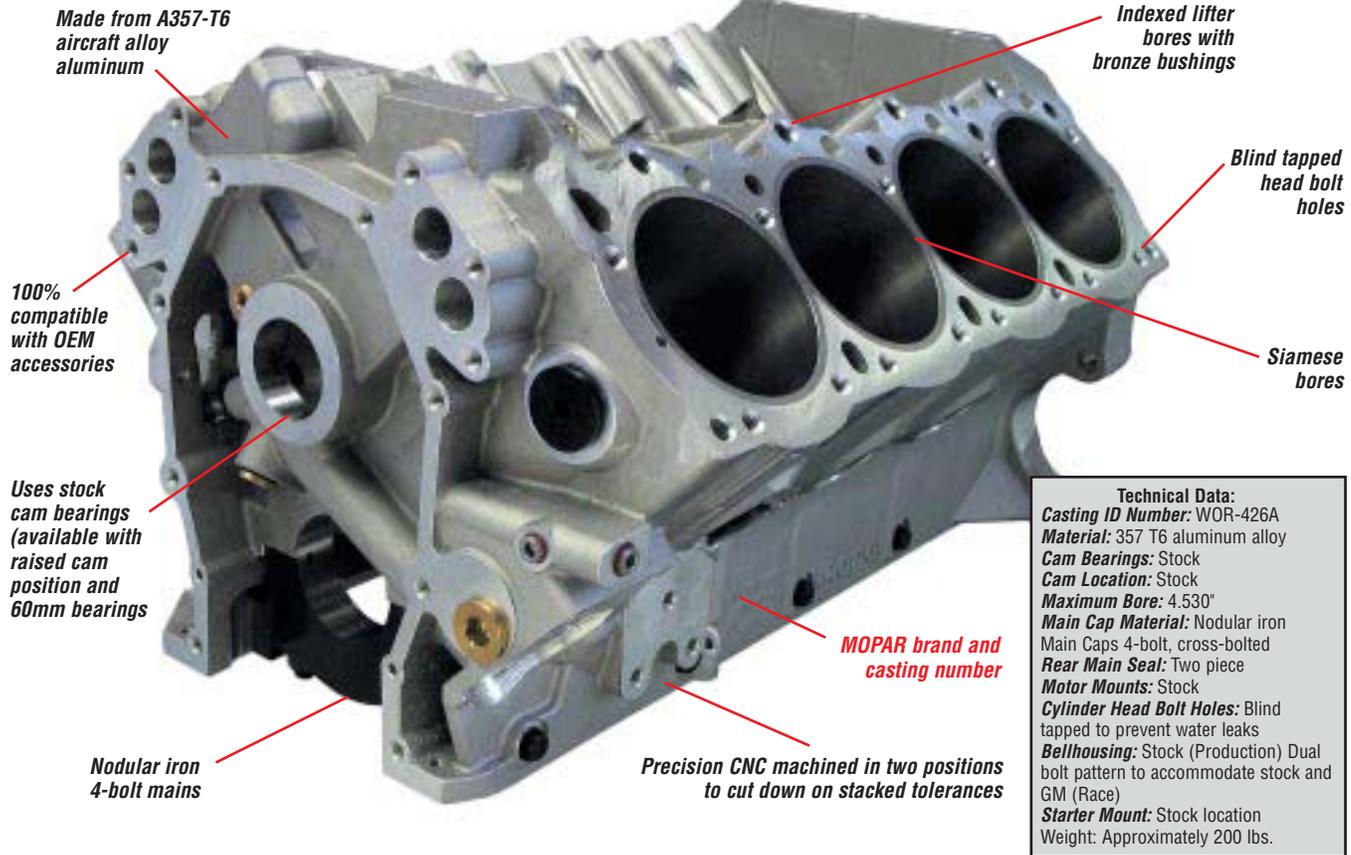
Notes:
 A = Compression calculated with a 64cc head, .020" deck, -16cc piston and a .041" gasket
 Add "H" to part number for a front sump pan

Available options:
 Aluminum engine block
 Polished aluminum engine block, cylinder heads and intake manifold (6 to 8 weeks lead time)
 Polished cylinder heads and intake manifold (6 to 8 weeks lead time)
 CNC head porting (add 30 hp)
 Cast iron cylinder heads
 1 year/12,000 mile limited warranty (includes dyno break-in) Partial engine only
 Contact your World sales representative for details.

HEMI®/WEDGE BIG BLOCK MOPAR® ALUMINUM BLOCK

World Products engineers have collaborated with leading Mopar racers and developed a highly refined version of the original 426-style HEMI® block, as well as a Wedge version. It has been designed using CAD/CAM and 3D technology not available when the original was developed, and is therefore

has both advanced features, but is also manufactured to far more critical specifications. It features a dual pattern Mopar/GM bellhousing, more efficient lubrication, and can be ordered with a raised cam location. This is the ultimate block for Mopar HEMI® and WEDGE applications!



| Part # | Series | Deck | Bore | Mains | Lifters | Main Caps | max Stroke | Notes |
|--------------|---------|---------|--------|---------|---------|----------------|------------|-------|
| Hemi | | | | | | | | |
| 088510 | Bare | 10.725" | 4.240" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| 088510-4250 | Prepped | 10.725" | 4.250" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| 088510-4280 | Prepped | 10.725" | 4.280" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| 088515 | Bare | 10.725" | 4.490" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| 088515-4500 | Prepped | 10.725" | 4.500" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| 088515-4530 | Prepped | 10.725" | 4.530" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| 088520 | Bare | 10.725" | 4.490" | 2.9427" | No | Nodular 4-Bolt | 4.750" | |
| Wedge | | | | | | | | |
| 088550 | Bare | 10.725" | 4.310" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| 088550-4320 | Bare | 10.725" | 4.320" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| 088550-4350 | Bare | 10.725" | 4.350" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| 088555 | Bare | 10.725" | 4.490" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| 088555-4500 | Bare | 10.725" | 4.500" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| 088555-4530 | Bare | 10.725" | 4.530" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| 088560 | Bare | 10.725" | 4.490" | 2.9427" | No | Nodular 4-Bolt | 4.750" | A |

Bare Blocks Include: freeze plugs, oil restrictors, pipe plugs, rear seal adapter, pick-up tube adapter, cam plugs and dowel pin kit

Prepped Blocks Include: Decks milled +/- .005", honed main journals +/- .0004", plate honed cylinder bores .001" O.S. +/- .0005", honed lifter bores +/- .0005", hot tanked, cam bearings, freeze plugs, dowel pins and all pipe plugs are installed, deburred sprayed w/ rust prohibitor and wrapped

Important Note: Due to varying engine builder preferences, the sleeves in a prepped block are not flush-milled with the deck and may vary.

Notes:
A = Raised cam, no lifter holes

* MOPAR and HEMI are registered trademarks of Chrysler LLC

| | |
|--|--|
| <p>Accessories:</p> <p>831932 Oil restrictor 832824 Pick-up tube adapter (Hemi) 832825 Pick-up tube adapter (Wedge) 831964 Rear seal adapter 831985 Cam bearing set</p> | <p>Available options:</p> <p>Cylinder boring O-ring head decks Polishing (6 to 8 weeks lead time)</p> <p>Contact your World sales representative for details.</p> |
|--|--|

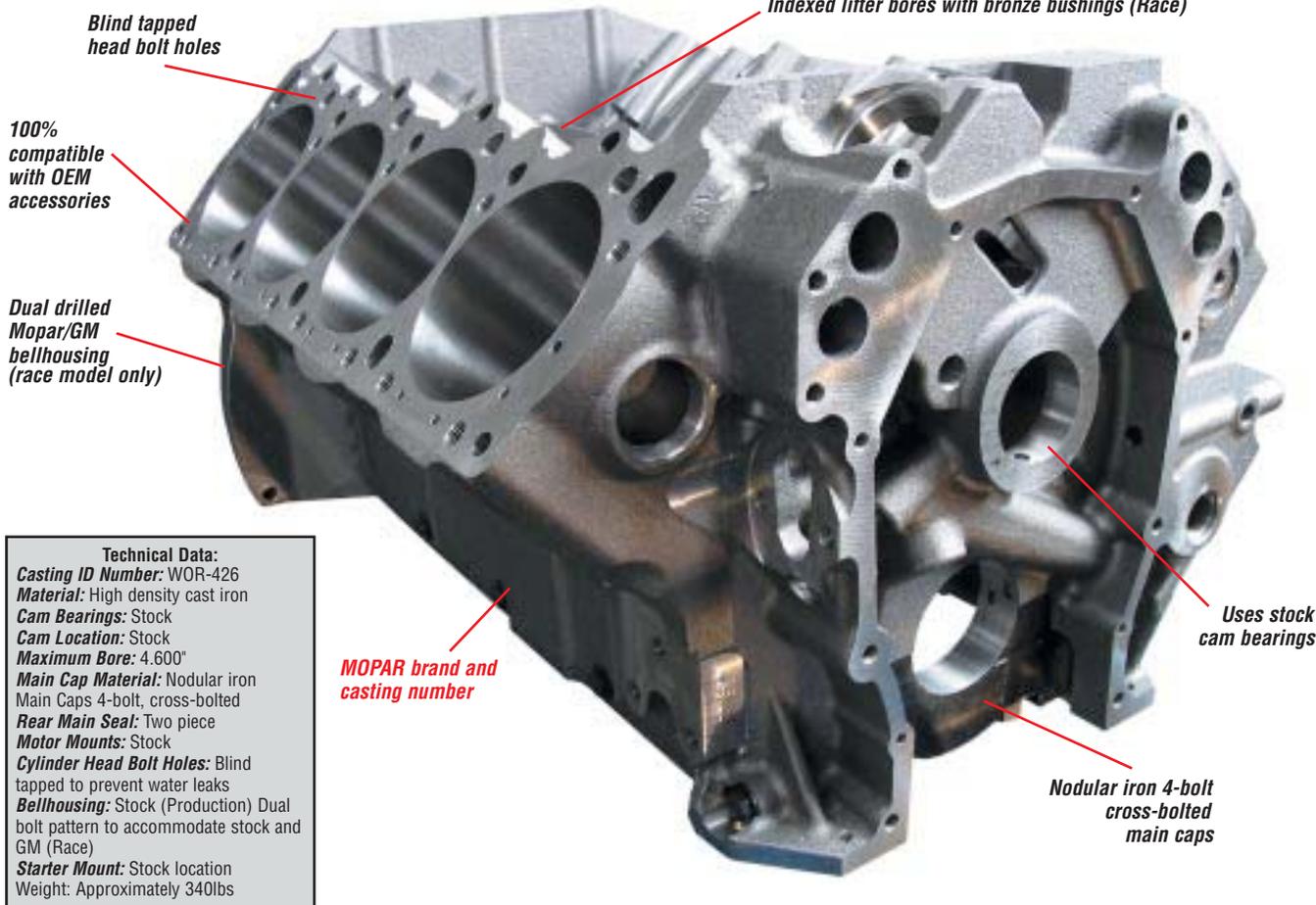
MOPAR® HEMI®/WEDGE

HEMI®/WEDGE CAST IRON BLOCK

World Products also offers a highly refined cast iron replacement block for 426 HEMI® and 413-426-440 WEDGE applications. This production-type block is made from high density cast iron, and incorporates key design

improvements also found in the aluminum race block. This block (as does the aluminum version) carries the Mopar® brand and casting number. Naturally, it is fully compatible with all OEM Chrysler components.

BIG BLOCK MOPAR



Technical Data:
Casting ID Number: WOR-426
Material: High density cast iron
Cam Bearings: Stock
Cam Location: Stock
Maximum Bore: 4.600"
Main Cap Material: Nodular iron
 Main Caps 4-bolt, cross-bolted
Rear Main Seal: Two piece
Motor Mounts: Stock
Cylinder Head Bolt Holes: Blind tapped to prevent water leaks
Bellhousing: Stock (Production) Dual bolt pattern to accommodate stock and GM (Race)
Starter Mount: Stock location
 Weight: Approximately 340lbs

| Part # | Series | Type | Deck | Bore | Mains | Lifters | Main Caps | Max Stroke | Notes |
|--------------|------------|------------|---------|--------|---------|---------|----------------|------------|-------|
| Hemi | | | | | | | | | |
| P5153942-W | Production | Bare | 10.725" | 4.240" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| P5155072-W | Production | Bare/Honed | 10.725" | 4.250" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | C |
| P5153943-W | Production | Bare | 10.725" | 4.240" | 2.9427" | No | Nodular 4-Bolt | 4.750" | B |
| P5153861-W | Production | Bare | 10.725" | 4.490" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| P5153862-W | Production | Bare/Honed | 10.725" | 4.500" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | C |
| P5155015-W | Race | Bare | 10.725" | 4.240" | 2.9427" | No | Nodular 4-Bolt | 4.750" | A |
| P5153867-W | Race | Bare | 10.725" | 4.490" | 2.9427" | No | Nodular 4-Bolt | 4.750" | A |
| Wedge | | | | | | | | | |
| P5153944-W | Production | Bare | 10.725" | 4.310" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| P5153863-W | Production | Bare | 10.725" | 4.490" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | |
| P5153860-W | Production | Bare/Honed | 10.725" | 4.500" | 2.9427" | .9054" | Nodular 4-Bolt | 4.750" | C |
| P5153871-W | Race | Bare | 10.725" | 4.490" | 2.9427" | No | Nodular 4-Bolt | 4.750" | A |
| P5153870-W | Race | Bare/Honed | 10.725" | 4.500" | 2.9427" | No | Nodular 4-Bolt | 4.750" | A,C |

Bare Blocks Include: Freeze plugs, oil restrictors, pipe plugs, rear seal adapter, pick-up tube adapter, cam plugs and dowel pin kit
Prepped Blocks Include: Decks milled +/- .005", honed main journals +/- .0004", plate honed cylinder bores .001" O.S. +/- .0005", honed lifter bores +/- .0005", hot tanked, cam bearings, freeze plugs, dowel pins and all pipe plugs are installed, deburred sprayed w/ rust prohibitor and wrapped

* MOPAR and HEMI are registered trademarks of Chrysler LLC

Notes:
 A = Raised cam, no lifter holes
 B = Standard cam, no lifter holes
 C = Honed to size but not prepped

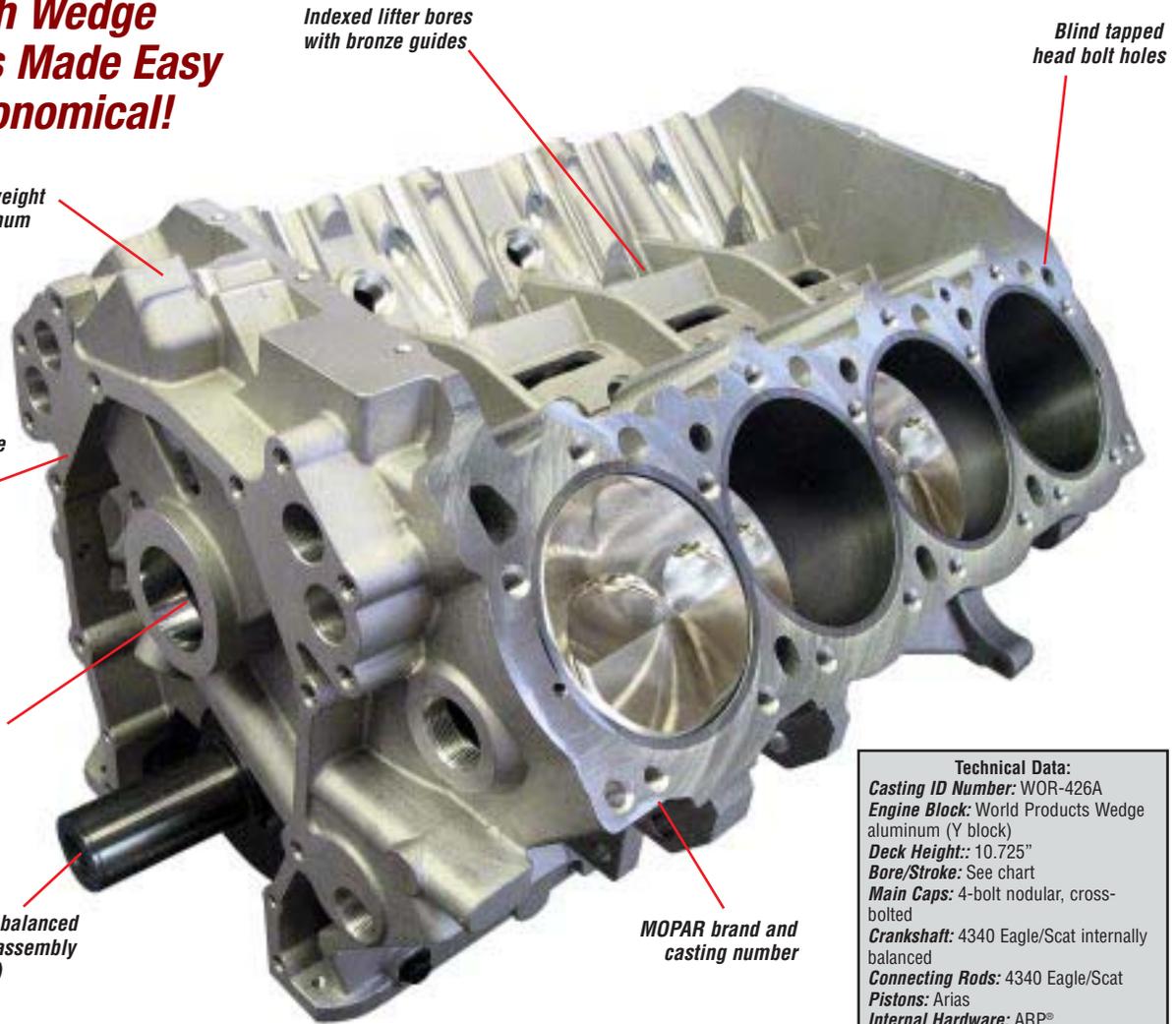
| | |
|---|---|
| <p>Accessories: 831932-2 Oil restrictors 832824 Pick-up tube adapter (Hemi) 832825 Pick-up tube adapter (Wedge) 831964 Rear seal adapter 831985 Cam bearing set</p> | <p>Available options: Cylinder boring Lifter bushings O-ring head decks</p> <p>Contact your World sales representative for details.</p> |
|---|---|

WEDGE 528-540-572 SHORT BLOCK

Mopar enthusiasts who would like a serious infusion of horsepower and torque into their rides, while also chopping off performance-robbing front end weight, can take advantage of these big-inch short block assemblies from World Products. Based on World's new aluminum block, these expertly

assembled Wedge short blocks feature a 4340 forged steel crank, 4340 forged steel H-beam connecting rods, forged aluminum pistons and high performance rings. The rotating assembly is digitally balanced (internally), and with a 10.2:1 compression ratio it's compatible with pump gasoline.

Big-Inch Wedge Engines Made Easy And Economical!



Technical Data:
Casting ID Number: WOR-426A
Engine Block: World Products Wedge aluminum (Y block)
Deck Height: 10.725"
Bore/Stroke: See chart
Main Caps: 4-bolt nodular, cross-bolted
Crankshaft: 4340 Eagle/Scat internally balanced
Connecting Rods: 4340 Eagle/Scat
Pistons: Arias
Internal Hardware: ARP®

| Part # | C.I.D. | Application | Type | Compression | Camshaft | Induction | Dome | Notes |
|-----------------------------|--------|-------------|----------|-------------|----------|-----------|-------|-------|
| Short Block Assembly | | | | | | | | |
| 109211A | 528 | Street | Assembly | 10.5:1 | None | None | -24cc | A |
| 109251A | 540 | Street | Assembly | 10.2:1 | None | None | -27cc | B |
| 109261A | 572 | Street | Assembly | 10.2:1 | None | None | -34cc | C |
| Short Block Kit | | | | | | | | |
| 109311A | 528 | Street | Kit | 10.5:1 | None | None | -24cc | A |
| 109351A | 540 | Street | Kit | 10.2:1 | None | None | -27cc | B |
| 109361A | 572 | Street | Kit | 10.2:1 | None | None | -34cc | C |
| Rotating Kit | | | | | | | | |
| 109411 | 528 | Street | Kit | 10.5:1 | None | None | -24cc | A |
| 109451 | 540 | Street | Kit | 10.2:1 | None | None | -27cc | B |
| 109461 | 572 | Street | Kit | 10.2:1 | None | None | -34cc | C |

Short Blocks Include: Decks milled +/- .005", honed main journals +/- .0004", plate honed cylinder bores .001" O.S. +/- .0005", honed lifter bores +/- .0005", hot tanked, cam bearings, freeze plugs, dowel pins and all pipe plugs are installed, deburred sprayed w/ rust inhibitor and wrapped, digitally internal balanced crank, pistons and connecting rods balanced within 2grms
Short Block Kits Includes: Prepped block and balanced rotating kit

Notes:
A = Compression calculated with a 75cc head, .005" deck, -24cc piston and a .051" gasket
B = Compression calculated with a 75cc head, .020" deck, -27cc piston and a .051" gasket
C = Compression calculated with a 75cc head, .020" deck, -34cc piston and a .051" gasket

Available options:
Polished aluminum engine block,

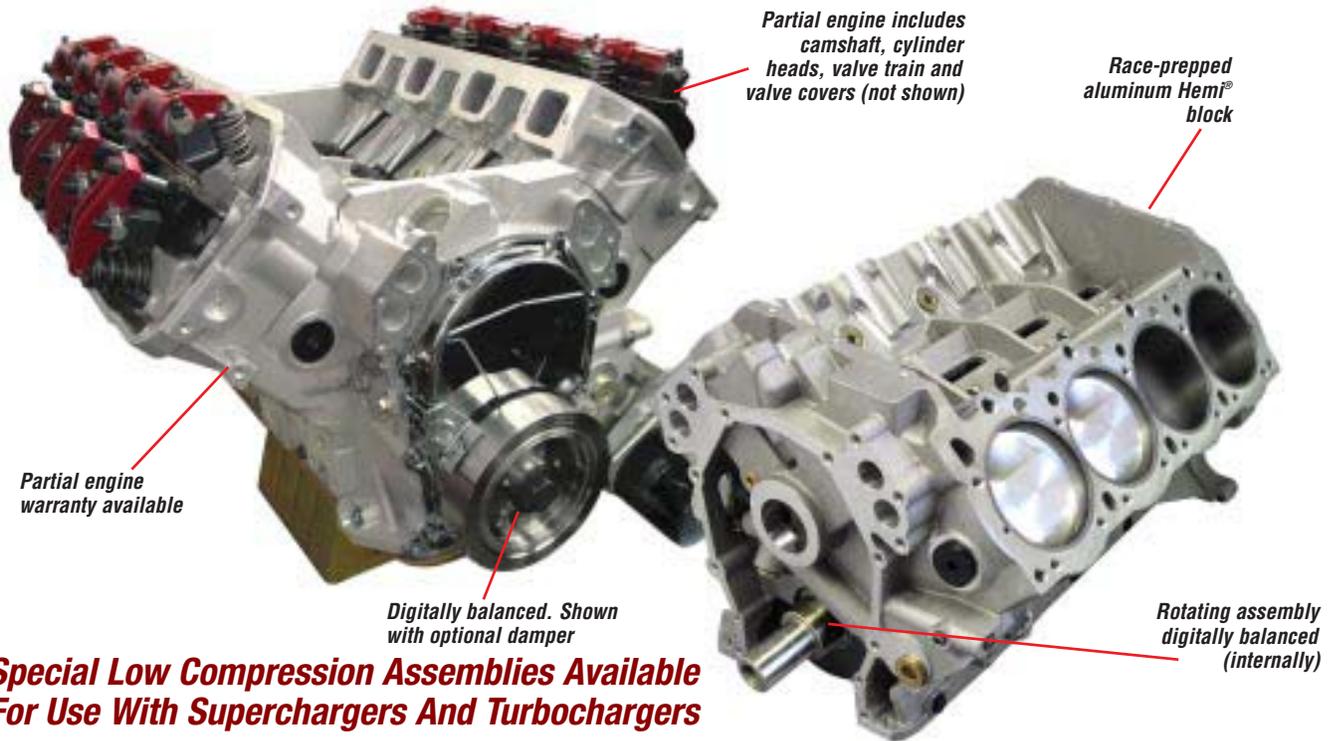
Contact your World sales representative for details.

HEMI PARTIALS, SHORT BLOCKS, KITS

Mopar enthusiasts who would like a serious infusion of horsepower and torque into their rides, while also chopping off performance-robbing front end weight, can take advantage of these big-inch short block assemblies from World Products. Based on World's new aluminum block, these expertly

assembled short blocks feature a 4340 forged steel crank, 4340 forged steel H-beam connecting rods, forged aluminum pistons and high performance rings. The rotating assembly is digitally balanced (internally), and with a 10.5:1 compression ratio it's fine with pump gasoline.

BIG BLOCK MOPAR



Special Low Compression Assemblies Available For Use With Superchargers And Turbochargers

| Part # | C.I.D. | Heads | Application | Compression | Camshaft | Induction | Dome | Notes |
|----------------------------------|--------|----------|-------------|-------------|------------------|-----------|------|-------|
| Partial Engine - Stage II | | | | | | | | |
| 150052A | 528 | Aluminum | Street | 10.4:1 | Hydraulic Roller | None | 70cc | A |
| 150152A | 528 | Aluminum | Power Adder | 8.5:1 | Hydraulic Roller | None | 40cc | A |
| 150054A | 540 | Aluminum | Street | 10.3:1 | Hydraulic Roller | None | 70cc | A |
| 150154A | 540 | Aluminum | Power Adder | 8.4:1 | Hydraulic Roller | None | 40cc | A |
| 150056A | 572 | Aluminum | Street | 10.5:1 | Hydraulic Roller | None | 65cc | A |
| Short Block Assembly | | | | | | | | |
| 109210A | 528 | | Street | 10.4:1 | None | None | 70cc | A |
| 109209A | 528 | | Power Adder | 8.5:1 | None | None | 40cc | A |
| 109250A | 540 | | Street | 10.3:1 | None | None | 70cc | A |
| 109249A | 540 | | Power Adder | 8.4:1 | None | None | 40cc | A |
| 109260A | 572 | | Street | 10.5:1 | None | None | 65cc | A |
| Short Block Kit | | | | | | | | |
| 109310A | 528 | | Street | 10.4:1 | None | None | 70cc | A |
| 109309A | 528 | | Power Adder | 8.5:1 | None | None | 40cc | A |
| 109350A | 540 | | Street | 10.3:1 | None | None | 70cc | A |
| 109349A | 540 | | Power Adder | 8.4:1 | None | None | 40cc | A |
| 109360A | 572 | | Street | 10.5:1 | None | None | 65cc | A |
| Rotating Kit | | | | | | | | |
| 109410 | 528 | | Street | 10.4:1 | None | None | 70cc | A |
| 109409 | 528 | | Power Adder | 8.5:1 | None | None | 40cc | A |
| 109450 | 540 | | Street | 10.3:1 | None | None | 70cc | A |
| 109449 | 540 | | Street | 8.4:1 | None | None | 40cc | A |
| 109460 | 572 | | Street | 10.5:1 | None | None | 65cc | A |

Partial Engine Includes: All the same premium components as the complete engines, less intake manifold, induction system, ignition system and damper

Short Blocks Include: Decks milled +/- .005", honed main journals +/- .0004", plate honed cylinder bores .001" O.S. +/- .0005", honed lifter bores +/- .0005", hot tanked, cam bearings, freeze plugs, dowel pins and all pipe plugs are installed, deburred sprayed w/ rust prohibitor and wrapped, digitally internal balanced crank, pistons and connecting rods balanced within 2grms

Short Block Kits Includes: Prepped block and balanced rotating kit

Notes:

A = All compressions calculated with a 170cc head, .Fel-Pro 1104 gasket, and deck heights as follows: 528 = .005", 540 = .020", 572 = .020". Dome volumes are as specified above

Available options:
 Polished aluminum engine block, cylinder heads and intake manifold (6 to 8 weeks lead time)
 Polished cylinder heads and intake manifold (6 to 8 weeks lead time)
 CNC head porting (add 30 hp)

Partial Engine Warranty: 1 year/12,000 mile limited warranty (includes dyno break-in)
 Contact your World sales representative for details..

HEMI 528 CID ENGINE

World Products now offers a trio of 426-style HEMI® engines. For openers there's this 528 c.i.d. version that's got 102 more cubic inches of displacement than the factory original, which translates into an abundance of torque. It's based on World's new HEMI® aluminum block, which is superior to the OEM

offering in many ways. Add a pair of deep-breathing aluminum heads and a robust rotating assembly consisting of a forged steel 4340 crank and rods, plus a set of famed Arias 70cc dome forged pistons. Available with an Accel EFI or a 4500 series carb, this powerful beast puts out 650 horsepower!

Dyno tested and certified to meet performance specs

Available with a 4-barrel carb or Electronic Fuel Injection

Backed by a 2 year/24,000 mile limited warranty

World Products Hemi aluminum engine block

Rotating assembly is digitally balanced (internally)

Technical Data:
Engine Block: World Products Hemi aluminum (Y block)
Deck Height: 10.725"
Bore/Stroke: 4.500" x 4.150"
Main Caps: 4-bolt nodular, cross-bolted
Cylinder Heads: Aluminum
Valves: Manley stainless steel
Carburetor: AED (custom spec)
Distributor: MSD E-Coil
Timing Chain: Double roller
Crankshaft: 4340 Eagle/Scat internally balanced
Connecting Rods: 4340 Eagle/Scat
Pistons: Arias
Gaskets: Felpro
Internal Hardware: ARP
Exterior Hardware: Totally Stainless
Oil Pan: Milodon
Warranty: 2 year/24,000 mile limited (Street Series only)

102 More Cubic Inches Than The Original 426 Hemi Translates Into Huge Gains In Horsepower & Torque!

| Part # | C.I.D. | HP | Heads | Application | Compression | Camshaft | Induction | Dome | Notes |
|------------------------|--------|-----|----------|-------------|-------------|-------------------|--------------|------|-------|
| Complete Engine | | | | | | | | | |
| 150252A | 528 | 650 | Aluminum | Street | 10.4:1 | Solid Flat Tappet | 4500 1050cfm | 70cc | A |
| 150352A | 528 | 650 | Aluminum | Street | 10.4:1 | Solid Flat Tappet | EFI | 70cc | A |

Complete Engine Includes: Pan to carb (or EFI), fully assembled, dyno tuned and tested and comes with a 2 year/24 month warranty (does not include starter, water pump or flywheel)

Notes:

A = Compression calculated with a 170cc head, .005" deck, 70cc piston and a .051" gasket

Available options:

Polished aluminum engine block, cylinder heads and intake manifold (6 to 8 weeks lead time)
 Polished cylinder heads and intake manifold (6 to 8 weeks lead time)
 CNC head porting (add 30 hp)

Contact your World sales representative for details..

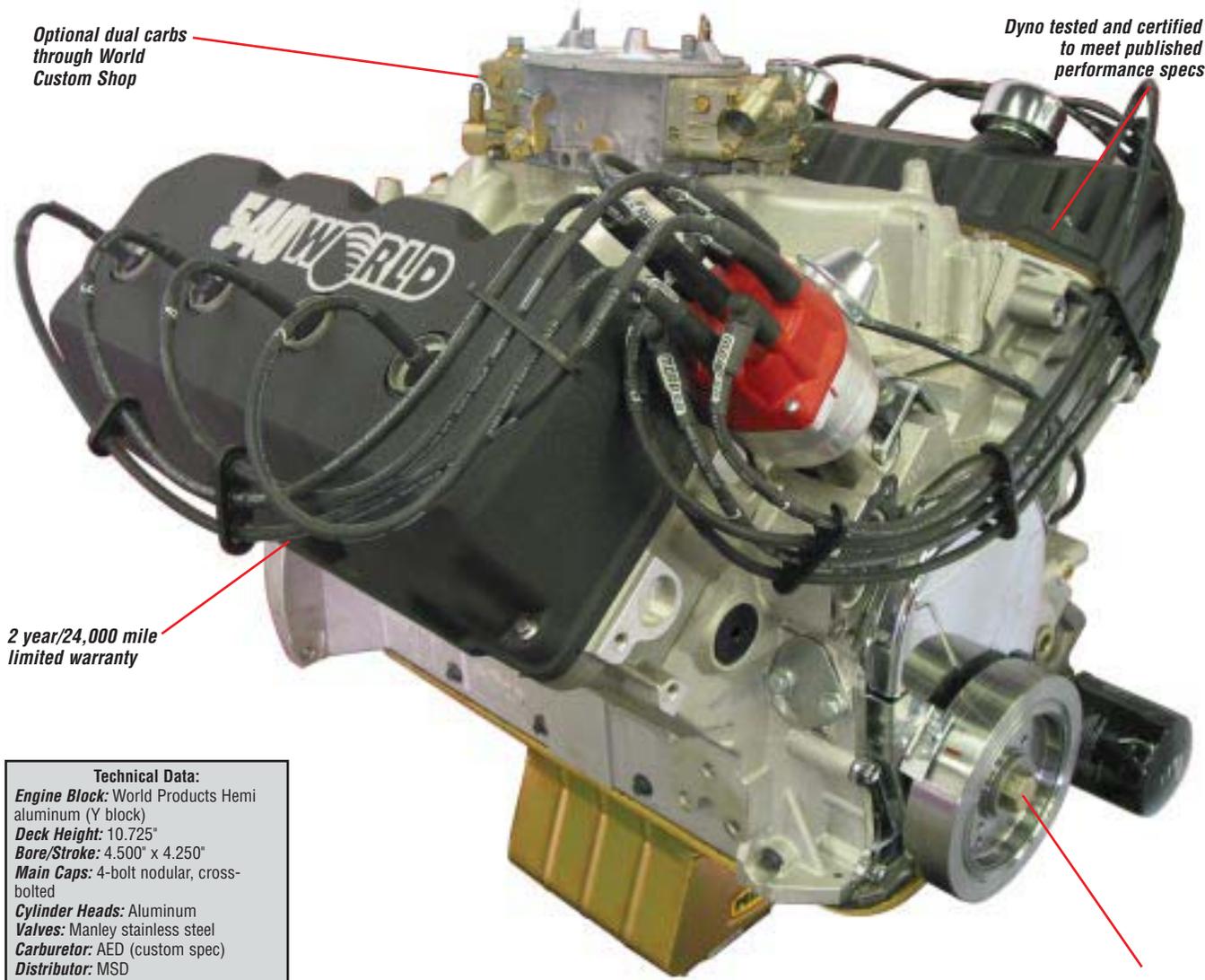


HEMI 540 CID ENGINE

At 540 cubic inches, this bad boy has over 25% more displacement than the original 426 HEMI®. Inside this highly refined new block from World are a forged steel crankshaft, forged steel H-beam rods, 70cc dome forged pistons, a specially ground hydraulic roller cam, and a pair of Hemi heads, we're looking at 695 ponies with your choice of electronic fuel injection or a

Dominator-type carburetor —over 200 HP more than any Mopar ever left the factory with at the height of the Muscle Car Era. World Custom Shop options can add even more to the performance. What's more, because this engine has all the best in aftermarket engine components it is backed by a 2-year, 24,000-mile warranty.

BIG BLOCK MOPAR



Optional dual carbs through World Custom Shop

Dyno tested and certified to meet published performance specs

2 year/24,000 mile limited warranty

Rotating assembly digitally balanced (internally)

Technical Data:
Engine Block: World Products Hemi aluminum (Y block)
Deck Height: 10.725"
Bore/Stroke: 4.500" x 4.250"
Main Caps: 4-bolt nodular, cross-bolted
Cylinder Heads: Aluminum
Valves: Manley stainless steel
Carburetor: AED (custom spec)
Distributor: MSD
Timing Chain: Double roller
Crankshaft: 4340 Eagle/Scat internally balanced
Connecting Rods: 4340 Eagle/Scat
Pistons: Arias
Gaskets: Fel-Pro
Internal Hardware: ARP
Exterior Hardware: Totally Stainless
Oil Pan: Milodon
Warranty: 2 year/24,000 mile limited (Street Series only)

World's New Aluminum HEMI® Block Is The Perfect Foundation For An All-Around Superior Powerplant!

| Part # | C.I.D. | HP | Heads | Application | Compression | Camshaft | Induction | Dome | Notes |
|------------------------|--------|-----|----------|-------------|-------------|-------------------|--------------|------|-------|
| Complete Engine | | | | | | | | | |
| 150254A | 540 | 685 | Aluminum | Street | 10.3:1 | Solid Flat Tappet | 4500 1050cfm | 70cc | A |
| 150354A | 540 | 685 | Aluminum | Street | 10.3:1 | Solid Flat Tappet | EFI | 70cc | A |

Complete Engine Includes: Pan to carb (or EFI), fully assembled, dyno tuned and tested and comes with a 2 year/24 month warranty (does not include starter, water pump or flywheel)

Notes:

A = Compression calculated with a 170cc head, .005" deck, 70cc piston and a .051" gasket

Available options:
 Polished aluminum engine block, cylinder heads and intake manifold (6 to 8 weeks lead time)
 Polished cylinder heads and intake manifold (6 to 8 weeks lead time)
 CNC head porting (add 30 hp)

Contact your World sales representative for details.

HEMI 572 CID ENGINE

For those who desire the ultimate in ground-pounding, streetable power, World offers this humongous 572 c.i.d. HEMI® engine that puts out an “easy” 735 horsepower on World’s DTS dynos (3). This, of course, would turn any Dodge or Plymouth into a performance powerhouse. A new World Products aluminum

Hemi block (which carries the Mopar logo and part number) is the foundation for this engine. A forged steel crank and rods, 65cc dome forged aluminum pistons, and a solid flat tappet cam developed especially for this combination bring it all together. Of course, it’s fully warranted for 2-years or 24,000 miles.

Available with 1050 cfm carb or Electronic Fuel Injection

Backed by a 2 year/24,000 mile limited warranty

World Products Hemi aluminum engine block

Rotating assembly is digitally balanced (internal)

Technical Data:
Engine Block: World Products Hemi aluminum (Y block)
Deck Height: 10.725"
Bore/Stroke: 4.500" x 4.500"
Main Caps: 4-bolt nodular, cross-bolted
Cylinder Heads: Aluminum
Valves: Manley stainless steel
Carburetor: AED (custom spec)
Distributor: MSD
Timing Chain: Double roller
Crankshaft: 4340 Eagle/Scat internally balanced
Connecting Rods: 4340 Eagle/Scat
Pistons: Arias
Gaskets: Felpro
Internal Hardware: ARP®
Exterior Hardware: Totally Stainless
Oil Pan: Milodon
Warranty: 2 year/24,000 mile limited (Street Series only)

At 572 Cubic Inches, This Bad Boy HEMI® Is Loaded With The Kind Of Power Mopar Enthusiasts Can Dig!

| Part # | C.I.D. | HP | Heads | Application | Compression | Camshaft | Induction | Dome | Notes |
|------------------------|--------|-----|----------|-------------|-------------|-------------------|--------------|------|-------|
| Complete Engine | | | | | | | | | |
| 150256A | 572 | 735 | Aluminum | Street | 10.5:1 | Solid Flat Tappet | 4500 1050cfm | 65cc | A |
| 150356A | 572 | 735 | Aluminum | Street | 10.5:1 | Solid Flat Tappet | EFI | 65cc | A |

Complete Engine Includes: Pan to carb (or EFI), fully assembled, dyno tuned and tested and comes with a 2 year/24 month warranty (does not include starter, water pump or flywheel)
Notes:

A = Compression calculated with a 170cc head, .005" deck, 70cc piston and a .051" gasket

Available options:

- Polished aluminum engine block, cylinder heads and intake manifold (6 to 8 weeks lead time)
- Polished cylinder heads and intake manifold (6 to 8 weeks lead time)
- CNC head porting (add 30 hp)

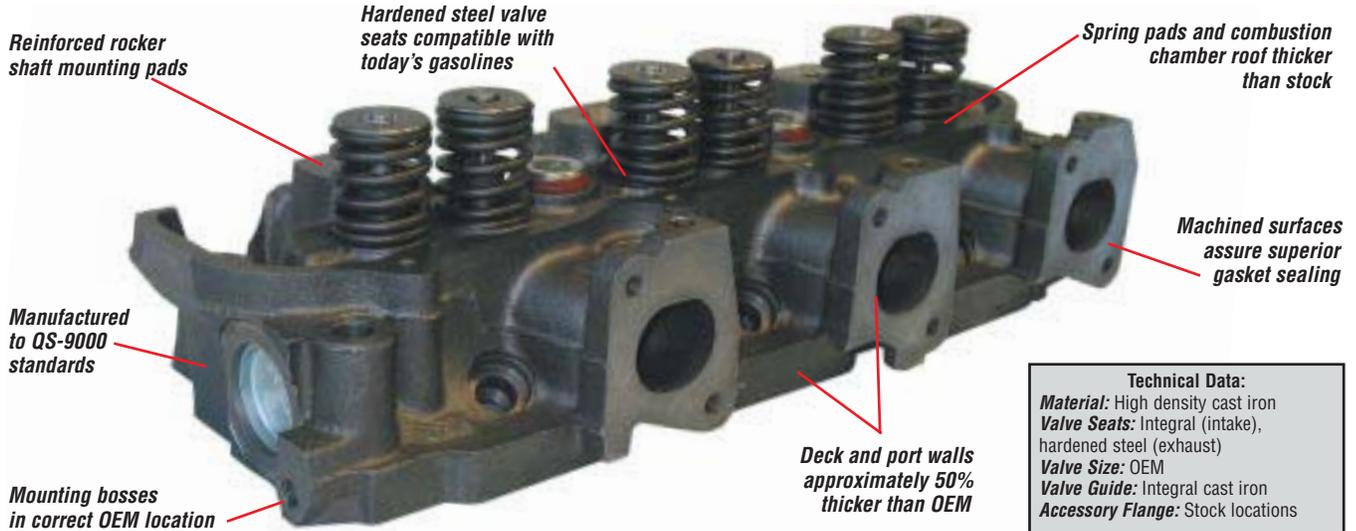
Contact your World sales representative for details.

S/R CAST IRON CYLINDER HEADS

2.9L V6 FORD

The factory cylinder heads used on Ford's 2.9L V-6 engines have earned a reputation for cracking. So World's engineering team developed a replacement head that's got port walls approximately 50% thicker than the OEM castings. The combustion chamber roof and spring pads are likewise thicker, as are the

shaft mounting pads—all of which contributes to it's outstanding durability. Machined gasket surfaces cure pesky oil leaks. Given the track record of OEM heads, engine builders are advised to invest in World S/R heads for the 2.9L V-6 rather than put a lot of work into OEM castings, which will likely fail.



Technical Data:
Material: High density cast iron
Valve Seats: Integral (intake), hardened steel (exhaust)
Valve Size: OEM
Valve Guide: Integral cast iron
Accessory Flange: Stock locations

| Part # | Type | RUNNERS | Chamber | Valves | Plug | Spring | Spring Spec | Max Lift |
|----------|----------|----------------|---------|------------------|------|--------|-------------|----------|
| 052900 | Bare | 180 In / 64 Ex | 58 | 1.657/1.419 5/16 | | Std | | |
| 052900-1 | Assembly | 180 In / 64 Ex | 58 | 1.657/1.419 5/16 | | Std | 1.167 S | 40lb |

Assembly Includes: Head, valves, seals, springs, retainers, locks, rocker studs and guide plates

WORLD APPAREL

If you're one of us who proudly identifies as a performance enthusiast, here are some nifty garments to add to your wardrobe. We've got cool jackets, colorful T-shirts and a distinctive cap. They're only available online or direct from World Products. Visit www.worldcastings.com or call 631-981-1918 for ordering information. Please state size when ordering. Thank you.

APPAREL



| Part # | DESCRIPTION |
|--|------------------------|
| WPP500 | 3 season jacket |
| WPP505 | Leather varsity jacket |
| WPP020 | Motown T-shirt |
| WPP021 | Merlin T-shirt |
| WPP022 | Man O'War T-shirt |
| (Specify size at end of part number: M, L or XL) | |
| WPP015 | Baseball cap |

LIMITED ENGINE WARRANTY

World Products Street Engines have a 2 year/24,000 mile limited warranty. Please see our website (worldcastings.com) for a complete explanation of the terms and conditions of the warranty coverage.

OTHER PRODUCTS WARRANTY

World Products Inc. (World) manufactures parts to meet QS 9000 specifications. In addition, all parts go through several inspection procedures before shipping. However, YOU ARE THE FINAL INSPECTOR. Please note: Inspect all parts before doing any machine work or assembly. Remember the saying "measure twice and cut once." If any defects are found or suspected, call World before proceeding. World will replace or repair at its option any defective part which has not been modified or misused within one year of the INVOICE purchase date. ANY MODIFICATION OR MARINE USE OF PARTS WILL VOID ALL WARRANTIES (does not apply to marine cylinder heads or intake manifolds.)

WORLD MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, REGARDING PARTS. THIS WARRANTY IS EXCLUSIVE AND IT IS EXPRESSLY MADE IN LIEU OF, AND WORLD HEREBY DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESSED, IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.

World's sole and exclusive obligation and liability with respect to parts sold is expressly limited to repair or replacement, at World's option, of parts. In no event will World be liable for any claim of any kind for direct or indirect incidental, consequential or special damages, whether known or unknown, including without limitation, cost of labor, installation, disassembly, lost revenues and profits, loss of property, production, or injury to persons and/or property. The maximum liability of World for any and all damages with respect to any part is limited to an amount not to exceed the original purchase price of the part.

This warranty gives specific legal rights and you may also have other rights which vary from state to state. DO NOT CONTACT THE DEALER FROM WHICH YOU PURCHASED YOUR PARTS. If you have any question, please contact:

World Products Customer Service
(631) 981-1918 Tel.
(631) 737-0467 Fax

WARRANTY CLAIMS:

Contact Customer Service to obtain a Return Material Authorization (RMA) number directly from World Products for any warranty return. DO NOT CONTACT THE DEALER. DO NOT RETURN PARTS WITHOUT AUTHORIZATION. Returned product must be shipped prepaid. COLLECT SHIPMENTS WILL BE REFUSED. Returned parts must have RMA Number on the outside of the package, a copy of the original bill of sale inside and a written explanation of the suspected defect. If the item is found defective, World Products will repair or replace it at its discretion and return it freight prepaid. No additional labor claims will be paid. There will be no exceptions to this rule.

The logo for World Products features the word "WORLD" in large, bold, red capital letters. The letter "O" is replaced by a stylized globe with horizontal lines. Below "WORLD" is the word "PRODUCTS" in a smaller, bold, red font with a slight shadow effect.

Call our tech line for additional information

631-981-1918

Fax: 631-737-0467

Visit our website for the name of your nearest dealer, or download our latest catalog in PDF form.

www.WorldCastings.com

51 Trade Zone Court, Ronkonkoma, NY 11779

