DART

The Edge Of The Performance Envelope

From the grassroots to the top tier of professional racing, Dart has the winning combinations!

With products that span the spectrum of performance from street/strip to professional competition, Dart has aligned its product line in four distinct categories to simplify component selection. By using compatible components from within each category, performance enthusiasts, racers and engine builders can maximize the return on their investment in quality Dart components.

SPORTSMAN

The Sportsman Series emphasizes affordable performance with cast-iron blocks and cylinder heads that are vastly superior to OEM parts. Sportsman level racing, street performance and marine ranging from mild upgrades to serious competition. Compatible with stock components, off the shelf pistons and headers.

Cast Iron Cylinder Heads	High flowing as cast ports, stock or near stock valve angle & port location.
Cast Iron Blocks	Ductile iron main caps, stock oil filter pad, mechanical fuel pump provision.
Cast Aluminum Manifolds	Dual plane design, great low to mid-range torque & HP.

COMP

The Comp Series includes high-value parts such as the popular PRO 1 line of aluminum cylinder heads, as well as cast-iron and aluminum blocks with upgraded performance features that aren't available from the factories. Advanced sportsman level racing, street performance and marine ranging from serious upgrades to full competition. Compatible with stock components, off the shelf pistons, headers and valve train.

Aluminum Cylinder Heads	High flowing as cast ports, stock or near stock valve angle & port location
Cast Iron Blocks	Steel 4-bolt main caps, stock or dry sump oiling, mechanical fuel pump provision.
Aluminum Blocks	Steel 4-bolt main caps, stock or dry sump oiling, mechanical fuel pump provision.
Cast Aluminum Manifolds	Single plane high-rise manifolds for maximum power.

PRO

The Pro Series adds the precision of CNC-ported cylinder heads and proven block packages developed in conjunction with championship-winning racers and engine builders. Full competition components which are pre-engineered to make top level technology readily available.

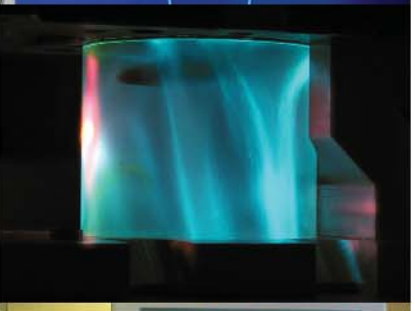
Aluminum Cylinder Heads	Fully CNC ported and chambered, stock or near stock valve angle & port location.
Cast Iron Blocks	Comp Series blocks with upgrades/modifications to cam, lifters, decks, bores, etc.
Aluminum Blocks	Comp Series blocks with upgrades/modifications to cam, lifters, decks, bores, etc.
Cast Aluminum Manifolds	Super Mod ported single plane and tunnel ram manifolds.

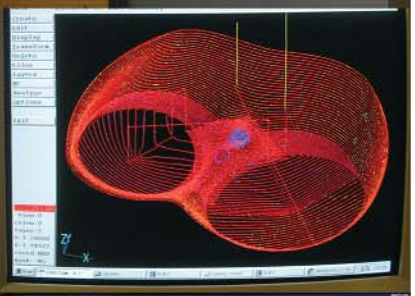
RACE

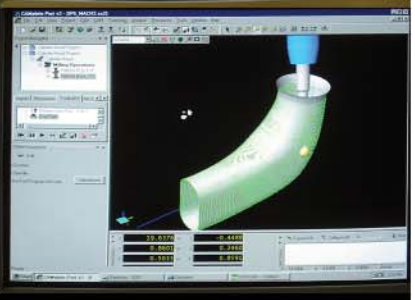
The Race Series embraces the highest level of motorsports technology with specialized components developed for maximum-effort competition. Highly specialized professional level racing components geared for experienced race engine builders.

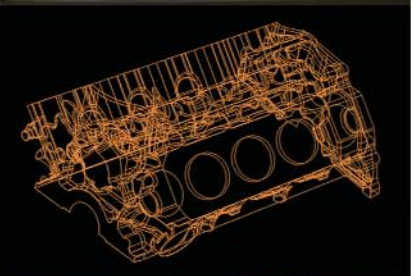
Aluminum Cylinder Heads	CNC ported and chambered, rolled valve angles, raised runners, relocated ports, etc.
Cast Iron Blocks	Raised cam location, spread oil pan rails, custom decks, 4-bolt mains, etc.
Aluminum Blocks	Raised cam location, spread oil pan rails, custom decks, 4-bolt mains, etc.
Billet Aluminum Blocks	Custom made to order

Pro Stock Technology At Sportsman Prices









Pro Stock is the most technically demanding class in drag racing. The unrelenting quest for increased power and durability is constantly advancing the technology of airflow, combustion efficiency, metallurgy and component reliability.

Participating as both a manufacturer and a race team, Dart is in a unique position which enables us to apply the technology usually found only in top level racing engines to our entire product line.

Wet flow testing is an example of this technology transfer. Our custom built wet flow bench has enabled Dart to develop port and chamber designs which carry more fuel in suspension, resulting in significant increases in horsepower. The Dart Platinum series iron and aluminum cylinder heads bring wet flow technology to affordable as-cast heads which produce awesome power.

Compacted Graphite (CG) is another example. Cast iron blocks and cylinder heads are available by special order from Dart with CG, which increases strength dramatically without added weight. CG is ideal for high-horsepower turbocharged, supercharged and nitrous applications.

Dart's in-house engine shop builds and tests dozens of engines every season. Dart's Pro Stock involvement provides real-world results that validate the high-tech approach. Our Pro Stock program and our daily interaction with professional engine builders allow us to stay abreast of developments and to continue to evolve Dart products.

Wet-flow testing is a major breakthrough in cylinder head develoment. Conventional flow benches simply can't duplicate the conditions that exist inside the ports when fuel is introduced to the airstream.
The centerpiece of Dart's cylinder head development program is a massive wet-flow bench that can flow up to 800 cfm at a test depression of 50 inches of water. In addition to the standard airflow readings, it also measures fuel flow in pounds-per-hour, which corresponds to the fuel consumed by a running engine. This ability to measure both dry airflow and wet airflow accurately has given Dart's R&D department critical information that has produced significant increases in horsepower and torque.

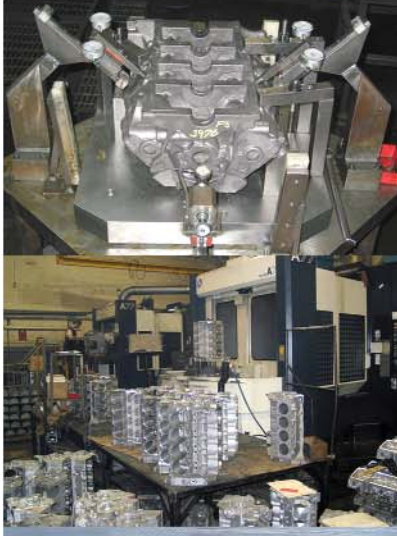
Dart employs the latest computer-aided design and manufacturing (CAD/CAM) techniques. After a new design is developed and tested, a digital coordinate measuring machine (CMM) creates an electronic file of the complex contours. This file then becomes a template for the computer numerical control machining centers (CNC) that duplicate the shapes in production Dart heads with absolute precision.

Dart's machining facility is equipped with 14 state of the art Makino horizontal CNC machining centers which operate 24 hours a day, 6 days a week. These are the same high quality production machines which are employed by major automotive and aerospace manufacturers, and are designed to hold precise tolerances in long-run production. These machines enable us to produce blocks and heads which are virtually ready to assemble without costly additional machining after you receive them.

We use pure virgin C355-T6 aluminum alloy exclusively in Dart heads and blocks. Made to aero-space standards, this premium alloy contains no remelted material. It is far superior to the A356-T6 alloy that is commonly used in aftermarket components, with greater strength and higher thermal properties which allow you to run higher compression and more timing. You'll never find heli-coils in Dart heads; our aluminum is tough enough to resist stripping without thread inserts.

Our advanced foundry technology minimizes core shift and produces smoother, more uniform castings. Every casting lot is individually qualified and CNC programs are updated continuously to ensure correct geometry is maintained.

Through cutting edge R&D and extensive real world testing on the dyno and the race track, Dart is constantly pushing the edges of the performance envelope to bring racers the most advanced and powerful engine components available.



About DART

Many of America's most successful companies can trace their roots to basements, tool sheds and spare bedrooms. Like Hewlett-Packard, Boeing, and Apple Computer, Dart Machinery began in humble surroundings. Richard Maskin founded Dart in 1981 in a two-car garage in Oak Park, Michigan. In the years since Maskin started his business with a desk and a telephone, Dart has become the proven leader in aftermarket cylinder heads, intake manifolds and engine blocks.

Maskin is well known to drag racing fans as a mechanical mastermind whose engines have won multiple NHRA Pro Stock world championships and dozens of national events. Like many successful entrepreneurs, Maskin turned his passion for drag racing into a thriving enterprise. The seeds were planted when Maskin competed with a variety of drag racing machines ranging from Modified Production Camaros to Pro Stock Gremlins. He developed raised intake runners, offset pushrods, and sheetmetal intake manifolds for his innovative Pro Stock engines in the mid-'70s - breakthroughs that were quickly imitated by rival racers. Eventually Maskin learned how to produce complete cylinder heads from scratch. This hands-on experience laid the foundation for Dart Machinery.

The company's first products were aluminum Hemi cylinder heads that dominated the Top Fuel and Funny car categories. These purpose-built heads provided the power that ultimately broke drag racing's 300 mph barrier and produced the first four-second Funny Car elapsed time. Maskin's Pro Stock roots were evident in the Race Series heads for big-block Chevrolet V8s that soon followed. In recent years, Dart's spread-port Big Chief heads have set the standard in classes ranging from Pro Street to Pro Mod. This tradition of innovation continued with the introduction of affordable Iron Eagle and PRO 1 cylinder heads for small-block and big-block Chevy V8s, followed by aluminum and cast-iron engine blocks designed to meet the specialized needs of racers and performance enthusiasts. The company has since expanded its product line to include small block Ford and Honda components.

Dart is committed to producing the best engine components available. All development, machining and assembly are done at Dart's own facilities in order to maintain the highest standards of quality. State of the art CNC machining centers, a computer controlled dynamometer and the proprietary "Speed Flow" technology / wet flow bench are among the assets which contribute to "the Dart advantage".

Maskin keeps current with the continuous advances in racing technology through Dart's Pro-Stock engine program. Dart also supports the sport as a Major Continency Sponsor with several national sanctioning bodies. "Our engine program and our daily interaction with leading engine builders and winning racers keeps Dart on the leading edge of technology," Maskin explains. "We apply everything we learn to produce more powerful and more reliable parts for Dart customers."

Dart Machinery's Technology Center in Troy, Michigan, houses the company's administrative offices, the R&D headquarters, and inspection, machining and warehouse operations. The immense CNC machining centers that produce Dart heads and blocks from raw castings are located in a separate manufacturing facility in nearby Melvindale, Michigan.

Dart Machinery was started with a desk, a telephone, and a dream. Today Dart is the acknowledged leader in producing race-winning components.

Dart founder and president Richard Maskin is well known to racing fans as a mechanical mastermind who develops championship winning engines and components.

Dart Machinery was founded in 1981 in a two-car garage in suburban Detroit. Today the company is headquartered at the Dart Technology Center in Troy, Michigan.

Tel 248-362-1188 Fax 248-362-2027 www.DartHeads.com

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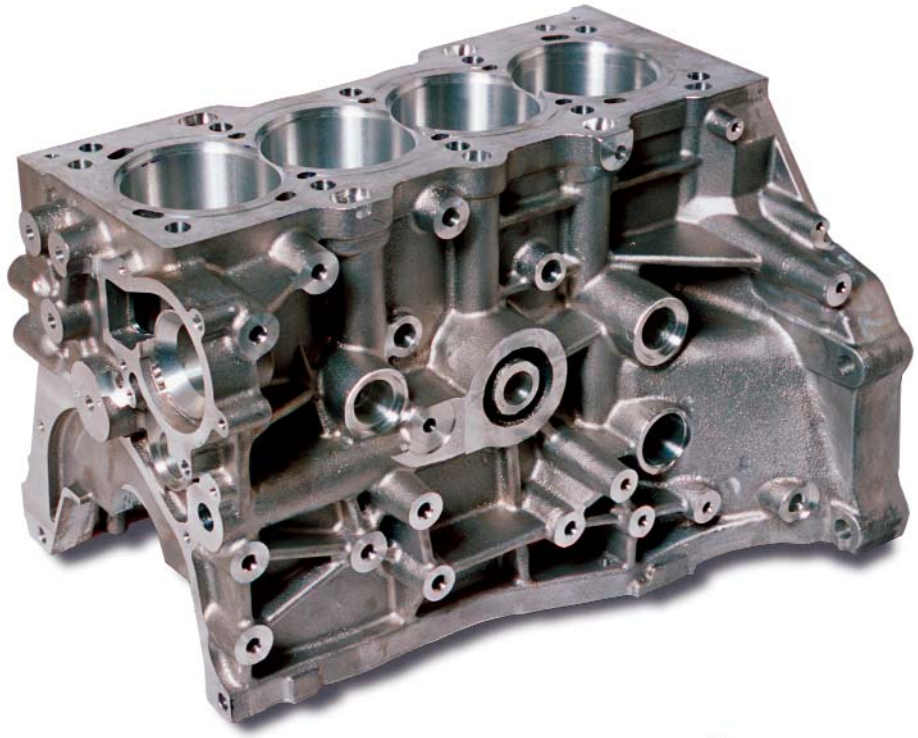
"The new Dart B-series block cures all of the problems associated with prepping a factory Honda block for serious horsepower"
Hot Compact & Imports Magazine

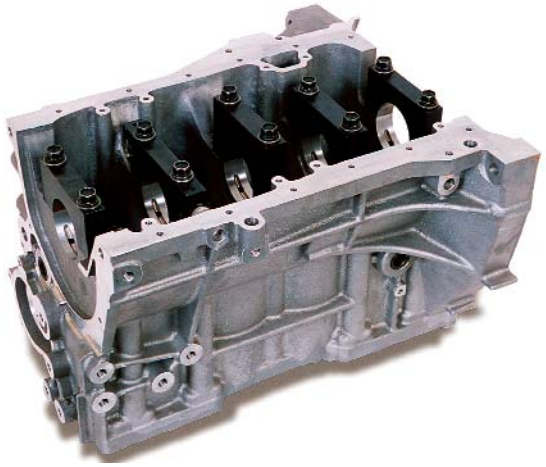
Honda B-Series Blocks

We offer the Dart Honda block in two versions that replace B18 and B20 castings. Both are built to withstand the extreme cylinder pressures created by turbochargers and nitrous oxide injection. We increased wall thickness in all critical areas and beefed up the bottom end with steel main bearing caps. Best of all, Dart blocks are compatible with production Honda cylinder heads, internal components and accessories.



- **Dart B18 block** has stock deck height and choice of standard 81.5mm bore or optional 84.5mm bore
- **Dart B20+ block** has extra-tall 226mm deck height and choice of standard 81.5mm bore or 84.5mm bore
- **Aerospace quality C355-T6 virgin aluminum alloy** provides maximum strength and durability
- **Replaceable ductile iron dry sleeves** are fully supported to reduce bore distortion and enhance ring seal
- **Closed deck design** increases rigidity and improves head gasket sealing
- **Steel main caps** with high-strength bolts increase bottom end strength and minimize bearing bore distortion
- **Strengthened main webbing** increases rigidity and improves head gasket and sleeve life
- **Extra large water jackets** enhance coolant circulation around cylinder barrels
- **Machined for piston oil sprayers** (not included) to reduce piston temperatures and prevent detonation
- **Uses stock components**, including oil pan, oil pump, water pump, alternator, and timing belt tensioner
- **Precision CNC machining** ensures consistent high quality and eliminates expensive "blueprinting"

NDRA Legal



PRO

Part No.	Mt'l	Description	Caps	Mains	Deck	Bore
31496702	Alum	B-20 Block	Steel	Std	226mm	81.5mm
31496802	Alum	B-20 Block	Steel	Std	226mm	84.5mm
31496701	Alum	B-18 Block	Steel	Std	211.5mm	81.5mm
31496801	Alum	B-18 Block	Steel	Std	211.5mm	84.5mm

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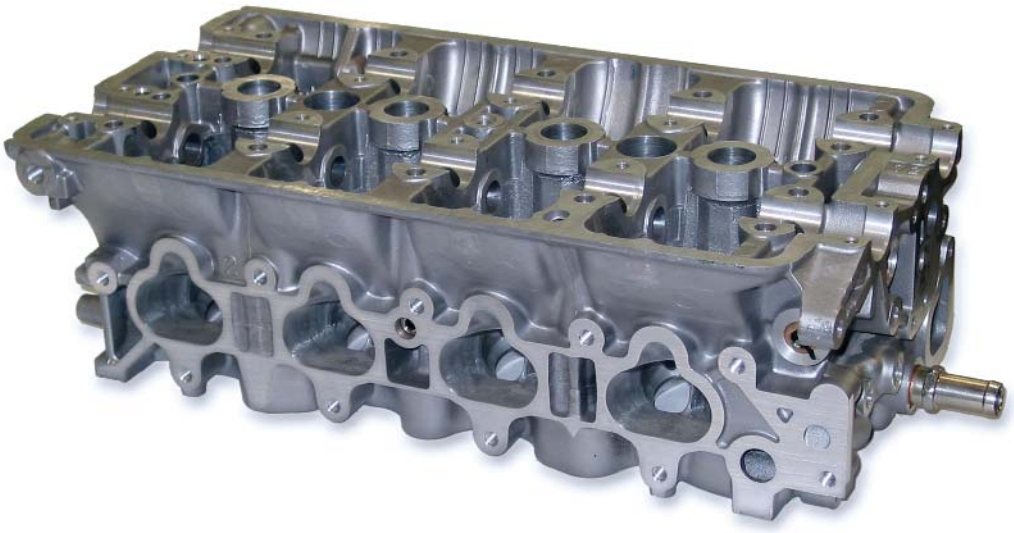
DART's CNC Ported Honda GSX Heads are based on factory new OE Honda GS-R VTEC castings, and are given a full digital CNC porting and combustion chamber reshaping for improved airflow and combustion characteristics.

Honda Cylinder Head

Dart's GSR CNC Heads provide serious street or racing performance with optimized air flow, fuel atomization and combustion characteristics. Our extensive drag racing experience has been applied to produce a Honda head which increases power and performance dramatically. Ideal for turbcharged or nitrous oxide injected engines using Dart's B-18 , B-20+ or stock Honda blocks. Digital CNC porting and combustion chamber machining provides dimentionally accurate and consistent contours which translate into reliable power output.



NDRA & NHRA Legal

- **Made from brand new OE Honda** aluminum die castings - Honda Part #1 2100-P72-000
- **Digital CNC machined** ports and combustion chambers
- **135cc Intake Port** Volume (125cc stock)
- **90cc Exhaust Port** Volume
- **45cc Combustion Chamber** Vol. (81.5mm bore)
- **34mm Intake Valve** Dia. (33mm stock)
- **28mm Exhaust Valve** Dia.
- **Fits all B-Series blocks**
- **Legal in all sanctioning bodies**
- **Assemblies available** with:
  - Increased intake valve dia.
  - Titanium retainers
  - Heavy Duty valve springs
  - Custom spring cups

PRO

Part No.	Matl.	Port Vol.	Cham. Vol	Bore	Int/Exh Valves	Spring Dia.	Notes
17074020	Alum	135cc	45cc	81.5mm	34mm/28mm VJ		Bare Casting
17074123	Alum	135cc	45cc	81.5mm	34mm/28mm	.875D*	Assembled
17075020	Alum	135cc	48cc	84.5mm	34mm/28mm VJ		Bare Casting
17075123	Alum	135cc	48cc	84.5mm	34mm/28mm	.875D*	Assembled

*D= Double

"Dart Machinery, with it's Iron Eagle line of 302 and 351W race blocks, has emerged in the last two years as the undisputed leader throughout the entire all-Ford drag racing scene... in almost every class where aftermarket engine blocks are permitted."
5.0 Mustang & Super Fords

Ford Iron Blocks

Dart's iron blocks for Fords are designed to work with stock components, but are much more than a stock replacement. Designed from the ground up for hard core racing, all the weaknesses of the factory castings have been addressed.

Dart blocks are cast from premium high-strength iron with extra-thick cylinder \walls and decks. The main webs are beefed up and fitted with steel 4-bolt main caps.

Every Dart block is individually qualified prior to machining to ensure maximum thickness where you need it most, every time. Dart blocks are fully CNC machined and virtually ready to assemble with off-the-shelf components.

Turbocharged, Supercharged and Nitrous Applications!
Dart Cast Iron blocks are available with Compacted Graphite by special order. Double the strength without added weight.

SPORTSMAN

Sportsman Ford blocks have steel main caps, center 3 are 4-bolt and ends are 2-bolt. Cam bearings, freeze plugs and dowels are not included. Machined for stock roller lifters and spider. Rear external oil feed, crossover and restrictor provision.

Part No.	Mt'l.	Description	Caps	Main Size	Deck	Bore
31354175	Iron	302 Sportsman	Steel	302	8.200	4.000
31354275	Iron	302 Sportsman	Steel	302	8.200	4.125
31355135	Iron	351 Sportsman	Steel	Cleveland	9.500	4.000
31355235	Iron	351 Sportsman	Steel	Cleveland	9.500	4.125

COMP

Comp blocks have billet steel 4-bolt main caps, all 5. Includes coated cam bearings, freeze plugs and dowels. Machined with front and rear external oil feed, crossover and restrictor provision.

Part No.	Mt'l.	Description	Caps	Main Size	Deck	Bore
31384175	Iron	302 Std. Deck	Steel	302	8.200	4.000
31384275	Iron	302 Std. Deck	Steel	302	8.200	4.125
31384185	Iron	302 Tall Deck	Steel	302	8.700	4.000
31384285	Iron	302 Tall Deck	Steel	302	8.700	4.125
31384195	Iron	351 Short Deck	Steel	302	9.200	4.000
31384295	Iron	351 Short Deck	Steel	302	9.200	4.125
31385195	Iron	351 Short Deck	Steel	Cleveland	9.200	4.000
31385295	Iron	351 Short Deck	Steel	Cleveland	9.200	4.125
31385135	Iron	351 Std. Deck	Steel	Cleveland	9.500	4.000
31385235	Iron	351 Std. Deck	Steel	Cleveland	9.500	4.125

- **Siamesed cylinders:** Standard 4.00" or 4.125" cylinders can be safely bored to 4.185" diameter, Extra-thick walls prevent cracking and produce excellent ring seal
- **Four deck heights:** 8.200" (302), 8.700" (stroker 302), 9.200" (351C) and 9.500" (351W) allow increased displacements up to 468ci.
- **Steel four-bolt main bearing caps** are standard. Three center caps have splayed outer bolts for maximum strength; rear cap uses standard one-piece seal. Sportsman blocks use 4-bolt centers and 2-bolt end caps
- **Two main bearing diameters:** 302 (2.249") or 351C (2.749") allow choice of small or large journal crankshaft
- **Upgraded oiling system** has a complete stock-type system plus a low-restriction priority main oiling system with front and rear external oil pump feeds
- **Scalloped water jackets** increase coolant flow around cylinder barrels to prevent detonation, extend engine life and produce consistent cylinder temperatures
- **Stock components** make Dart blocks a direct replacement for most production small-blocks. Provisions for stock motor mounts, accessory drives, smog pumps, starter brackets, oil pans and pumps
- **Reinforced head bolt bosses** are blind tapped to prevent leaks and produce accurate torque readings. Extra-thick decks prevent head gasket leaks
- **Standard camshaft and camshaft drive** can be used. Lifter valley of sportsman block has bosses for production hydraulic roller lifters

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The ultimate Ford small-block! Working with leading racers and engine builders, we incorporated features that make the Dart aluminum block the best choice for an all-out competition engine.

Ford Aluminum Blocks

The Dart aluminum small-block is light, strong, and affordable. With displacements up to 450 cubic inches, the Dart aluminum block is ideal for sprint cars, Modifieds, late-model stock cars, dragsters, and unlimited competition classes. With pressed in dry sleeves, upgraded oiling and steel 4-bolt main caps, Dart's aluminum blocks have the features that Ford racers need to build powerful and reliable engines.

- **Premium alloy:** Dart aluminum blocks are cast from virgin 355-T6 aerospace alloy for superior strength and integrity
- **Siamesed cylinders:** Standard 4.00" or 4.125" cylinders can be safely bored to 4.165" diameter. Ductile iron sleeves and extra-thick walls prevent cracking and produce excellent ring seal
- **Scalloped water jackets** increase coolant flow around cylinder barrels to prevent detonation, extend engine life and produce consistent cylinder temperatures
- **Four deck heights:** 8.200" (302), 8.700" (stroker 302), 9.200" (351C) and 9.500" (351W) allow displacements up to 450ci.
- **Steel four-bolt main bearing caps** are standard. Three center caps have splayed outer bolts for maximum strength; rear cap uses standard one-piece seal
- **Two main bearing diameters:** 302 (2.249") or 351C (2.749") allow choice of small or large journal crankshaft
- **Provisions for stock motor mounts**, accessory drives, smog pumps, starter brackets, oil pans and pumps
- **Upgraded oiling system** has a complete stock-type system plus a low-restriction priority main oiling system with front and rear external oil pump feeds
- **Dual crossovers** allow oil flow to be metered with restrictors for roller lifter cams and/or roller rocker arms to reduce oil flow and windage
- **Reinforced head bolt bosses** are blind tapped to prevent leaks and produce accurate torque readings. Extra-thick decks prevent head gasket leaks
- **Standard camshaft** and camshaft drive can be used
- **Precision CNC machining** ensures consistent high quality and eliminates expensive "blueprinting"

COMP

Comp blocks have billet steel 4-bolt main caps, all 5. Includes coated cam bearings, freeze plugs and dowels. Machined with front and rear external oil feed, crossover and restrictor provision.

Part No.	Mt'l.	Description	Caps	Main Size	Deck	Bore
31344175	Alum	302 Std. Deck	Steel	302	8.200	4.000
31344275	Alum	302 Std. Deck	Steel	302	8.200	4.125
31344185	Alum	302 Tall Deck	Steel	302	8.700	4.000
31344285	Alum	302 Tall Deck	Steel	302	8.700	4.125
31344195	Alum	351 Short Deck	Steel	302	9.200	4.000
31344295	Alum	351 Short Deck	Steel	302	9.200	4.125
31345195	Alum	351 Short Deck	Steel	Cleveland	9.200	4.000
31345295	Alum	351 Short Deck	Steel	Cleveland	9.200	4.125
31345135	Alum	351 Std. Deck	Steel	Cleveland	9.500	4.000
31345235	Alum	351 Std. Deck	Steel	Cleveland	9.500	4.125

Whether you're building a mild street engine or a big inch fire breather, Dart has the right Ford heads to give you a performance advantage!

Ford Aluminum Heads

Dart's Ford Pro 1 Cylinder Heads are cast from the same virgin 355-T6 aircraft alloy that is used in Dart Pro-Stock heads. These Windsor style heads are available with CNC machined or as-cast ports. Standard valve angle and spacing is retained for bolt-on compatability. Exhaust runners are raised 0.135" for improved flow. As cast heads are bowl blended on 5-axis machining centers. Manganese bronze valve guides are used for long life, and hardened valve seats provide durability with unleaded fuels.

COMP
PRO1

Comp series aluminum cylinder heads feature high-flowing as-cast ports with profiled valve guide bosses and are bowl-blended on 5-axis CNC machining centers.

Part No.	Mt'l	Intk Port	Cham Vol.	Exh Port	Valves	Springs	Notes
13100080	Alum	170cc	62cc	75cc	1.94/1.60 VJ		Bare Casting
13111181	Alum	170cc	62cc	75cc	1.94/1.60	1.250S	
13111182	Alum	170cc	62cc	75cc	1.94/1.60	1.437D	
13200010	Alum	195cc	62cc	75cc	2.02/1.60 VJ		Bare Casting
13211111	Alum	195cc	62cc	75cc	2.02/1.60	1.250S	
13211112	Alum	195cc	62cc	75cc	2.02/1.60	1.437D	*S=Single*
13211113	Alum	195cc	62cc	75cc	2.02/1.60	1.550D	*D=Double*

PRO
PRO1 CNC

Pro series cylinder heads are based on dedicated castings which are fully CNC ported and have fully CNC'd chambers for maximum airflow and consistency.

Part No.	Mt'l	Intk Port	Cham Vol.	Exh Port	Valves	Springs	Notes
13071020	Alum	210cc	62cc	76cc	2.05/1.60 VJ		Bare Casting
13071122	Alum	210cc	62cc	76cc	2.05/1.60	1.437D	
13071123	Alum	210cc	62cc	76cc	2.05/1.60	1.550D	
13072040	Alum	225cc	62cc	87cc	2.08/1.60 VJ		Bare Casting
13072142	Alum	225cc	62cc	87cc	2.08/1.60	1.437D	
13072143	Alum	225cc	62cc	87cc	2.08/1.60	1.550D	

- **Premium alloy:** Dart aluminum heads are cast from virgin 355-T6 aerospace alloy for superior strength and integrity
- **Bolt on compatability:** Standard valve angle and spacing are retained. Accomodates all stock accessories
- **Four intake port sizes:** 170cc, 195cc, 210cc and 225cc cover applications from street cars to serious racing
- **Raised exhaust runners:** Raised 0.135" for improved flow
- **Heart shaped 62cc combustion chambers:** For improved combustion efficiency
- **Multi-angle intake seats** and radiused exhaust seats dramatically increase airflow
- **Hardened exhaust seats** are compatible with unleaded gasoline
- **Manganese bronze** valve guides for extended cylinder head life
- **Exhaust flange** uses the spread bolt pattern on CNC ported heads and standard pattern on as-cast heads

HEAD ASSEMBLIES

Assemblies Include:

Stainless steel valves, valve springs, retainers, locks, guide plates, studs and seals.

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Ford Head Parts Kits (includes steel retainers)

Part No.	Int.	Exh.	Spring
28111000F	2.02”	1.60”	1.250” single
28112000F	2.02”	1.60”	1.437” double
28113000F	2.02”	1.60”	1.550” double
28211000F	2.05”	1.60”	1.250” double
28212000F	2.05”	1.60”	1.437” double
28223000F	2.05”	1.60”	1.550” double
28323000F	2.05”	1.62”	1.550” double
28422000F	2.08”	1.60”	1.437” double
28423000F	2.08”	1.60”	1.550” double
28622000F	1.94”	1.60”	1.550” double
28623000F	1.94”	1.60”	1.550” double

Head Parts Kits

Dart parts kits include everything you need to assemble a cylinder head: stainless steel valves, springs, locks, retainers, seals, studs, and guideplates.
These kits contain the same high quality components we use in our cylinder head assemblies.

Oil Filter Adapter

Adapter to fit spin-on oil filters to Dart Ford blocks.
Part No. 32940000

Carburetor Spacers

Dart carburetor spacers are made from phenolic plastic, a material with exceptional insulating properties. Our “clover-leaf” design matches the shape of the manifold plenum - and positively prevents the throttle plate screws from falling out!

Part No.	Carb	Style
62100001	4150	½” open
62100002	4150	1” open
62100003	4500	¼” 4-hole
62100004	4500	½” 4-hole
62100005	4500	1” 4-hole
62100006	4500	1” open
62100007	2” aluminum adapter	4500 carb to 4150 manifold

Stud Kits

- Premium heat-treated materials produce proper clamping force.
- Precision rolled threads and centerless ground shanks increase strength.
- Stud length and thread engagement is optimized for Dart blocks and heads.
- Parallel-ground washers and top quality nuts included with stud kits.

Valves

We stock a huge inventory of stainless steel and titanium valves in a wide range of diameters and lengths. Please call with your specific requirements.

Valve Springs

Our in-house engine R&D program and our daily contact with top engine builders have taught us which springs will perform under the stress of competition. We offer valve springs for all types of engines, including street performance, oval track, and drag racing. Call us for the right spring for your combination!

Seats and Guides

Our ductile iron valve seats are machined from continuous cast solid bars. We heat treat our intake and exhaust seats to different specifications because of the different environments in which they operate. Replacement valve guides and guide liners are available for all Dart heads.

Gaskets

We have gaskets to fit every cylinder head we sell - including hard-to-find valve cover and exhaust gaskets. Most intake manifold gaskets are available in several thicknesses to maintain port alignment with milled blocks and heads. We carry composition and other head gaskets in a variety of bore sizes and thicknesses.

Sleeves

Premium quality sleeves are manufactured from high-strength ductile iron. Oversize sleeves available for restoring aluminum blocks to like-new condition.

Araldite Rapid Epoxy

We import this amazing epoxy from England because it’s the best in the world. We use it in our own engine shop daily. This two-part epoxy cures in minutes, so you can keep working instead of waiting for it to harden.

Repairs

When an engine disaster strikes, you can count on Dart to make it right. We offer repair services for all Dart cylinder heads. Our cylinder head specialists can bring dead heads back to life. They can weld chambers, repair ports and water jackets, and install new seats and guides. Prices are based on condition of head and extent of damage.

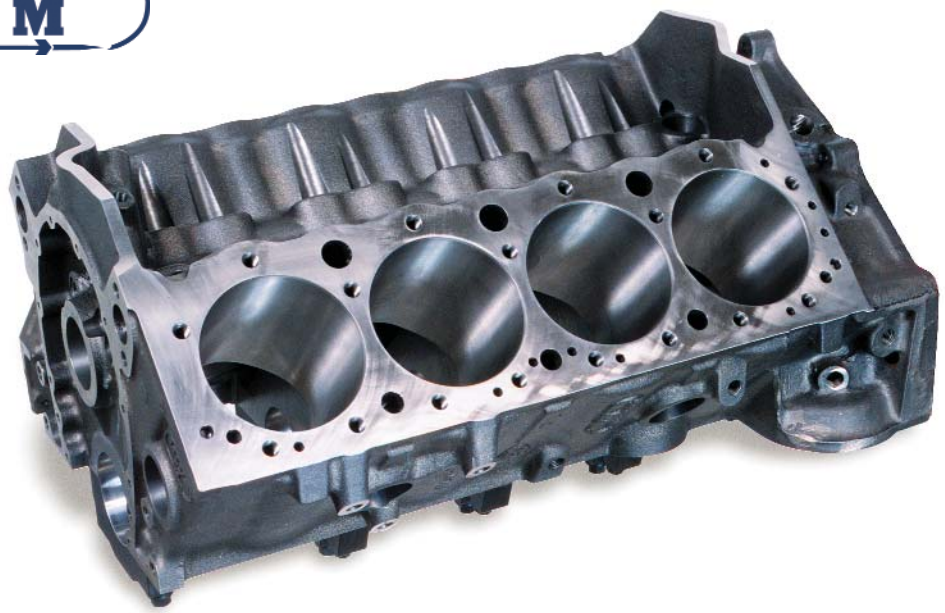
"It's a moral imperative to use an iron Dart block when you're pumping out over 1200 hp from a small-block Chevy" CAR CRAFT Magazine

Cast Iron Chevy Small Blocks

The Little M is designed from the ground up as a true high performance block which can be used with standard off-the-shelf small block components.
It is cast from premium high-strength iron and beefed up in all the critical areas.
With a standard deck height, extra-thick cylinder walls, and a competition oiling system, the Little M is the perfect starting point for a powerful and reliable engine for the street or the race track.

Turbocharged, Supercharged and Nitrous Applications!
Dart Cast Iron blocks are available with Compacted Graphite by special order. Double the strength without added weight.

LITTLE M



SPORTSMAN

Sportsman blocks have nodular iron main caps, center 3 are 4-bolt and ends are 2-bolt. Cam bearings, freeze plugs and dowels are not included. Machined with rear external oil feed, crossover and restrictor provision.

Part No.	Mt'l	Description	Caps	Mains	Deck	Bore
31151111	Iron	Sportsman	Ductile	350	9.025	4.000
31151211	Iron	Sportsman	Ductile	350	9.025	4.125
31152111	Iron	Sportsman	Ductile	400	9.025	4.000
31152211	Iron	Sportsman	Ductile	400	9.025	4.125

COMP

Comp blocks have billet steel 4-bolt main caps, all 5. Includes coated cam bearings, freeze plugs and dowels. Machined with front and rear external oil feed, crossover and restrictor provision.

Part No.	Mt'l	Description	Caps	Mains	Deck	Bore
31131111	Iron	Little M	Steel	350	9.025	4.000
31131211	Iron	Little M	Steel	350	9.025	4.125
31132111	Iron	Little M	Steel	400	9.025	4.000
31132211	Iron	Little M	Steel	400	9.025	4.125

PRO

The Pro Series adds special racing oriented features which were previously only available as costly custom work from specialized machine shops. These include a cam upgrade to 50mm and block lightening options.

Part No.	Mt'l	Option	Caps	Mains	Deck	Bore
31131111LT	Iron	Lightened	Steel	350	9.025	4.000
31131113	Iron	50mm Cam	Steel	350	9.025	4.000
31131211LT	Iron	Lightened	Steel	350	9.025	4.125
31131213	Iron	50mm Cam	Steel	350	9.025	4.125
31132211LT	Iron	Lightened	Steel	400	9.025	4.125
31132213	Iron	50mm Cam	Steel	400	9.025	4.125

- **Uses standard small-block parts**, including cam, timing chain, oil pump, oil pan, oil filter, motor mounts, mechanical fuel pump, and clutch linkage
- **Extra-thick cylinder walls** resist cracking and improve ring seal for more power (minimum .275" thick with 4.185" bore)
- **Scalloped water jacket** walls improve flow around cylinders for better cooling
- **Priority main oiling system** directs oil to main bearings first for more dependable lubrication
- **Front & rear oil inlets** simplifiy plumbing with external pump
- **Blind-tapped head bolt holes** prevent water leaks
- **Extra-thick decks** ensure reliable head gasket seal
- **Standard small-block deck height** allows use of off-the-shelf parts
- **Four-bolt main bearing caps** maintain proper bearing clearance under high loads
- **Splayed outer bolts** on middle main bearing caps prevent cracks
- **Front four-bolt cap** clears standard oil pan
- **Rear four-bolt cap** uses standard oil pump and two-piece seal - no adapter required!
- **Open lifter valley** improves oil return to pan
- **Enlarged lifter bosses** accommodate offset and oversize lifters

Tel 248-362-1188 Fax 248-362-2027 www.DartHeads.com

We designed the Iron Eagle block to meet the needs of hot rodders, stock car racers, sprint car teams, drag racers, and road racers who want a real racing block at an affordable price.

SBC Iron Eagle Blocks

Iron Eagle small-blocks are available in standard (9.025") and tall-deck (9.325") versions so you can select the crankshaft stroke and connecting rod length that's right for your combination. We raised the camshaft and spread the oil pan rails to provide extra clearance for stroker cranks. The versatile Iron Eagle block is the perfect starting point for a big-inch small-block project - you can build a 455ci small-block with Dart!

Turbocharged, Supercharged and Nitrous Applications!
Dart Cast Iron blocks are available with Compacted Graphite by special order. Double the strength without added weight.

- **Siamesed cylinders:** Standard 4.00" or 4.125" cylinders can be safely bored to 4.185". Ductile iron sleeves and extra-thick walls prevent cracking and produce excellent ring seal
- **Relocated oil pan rails** are spread .400" per side (.800" wider than stock) to increase crank/rod clearance and reduce windage losses
- **Oil pan bolt holes** are relocated in line with main caps to eliminate interference with rotating assembly
- **Main bearing bores** available for 350 (2.45") and 400 (2.65") bearings allow engine builders to maximize crankshaft strength and minimize friction
- **Steel four-bolt main bearing caps** increase bottom end strength and minimize bearing bore distortion. **Rear main cap** has mount for internal oil pump
- **Two-piece rear main seal** fits standard racing crank shafts without adapters
- **Raised camshaft.391"** (4.912" camshaft-to-crankshaft centerlines) provides more clearance for stroker cranks and eliminates need for fragile small base circle cams
- **Big-block camshaft bearings** allow the use of cams with larger base circle diameter to improve strength and reduce twisting with cam-driven pumps
- **Chain, belt, and gear camshaft drives** are available for Iron Eagle and Aluminum blocks
- **Dual starter mounts** allow starter to be mounted on either side of block for chassis and oil pan clearance
- **Side and front engine mounts** accommodate any type of chassis mounting
- **Fuel pump boss** mounts a standard small-block mechanical fuel pump (requires .200" longer big-block pushrod)
- **Scalloped water jackets** increase coolant flow around cylinder barrels to prevent detonation, extend engine life and produce consistent cylinder temperatures

RACE

Race series blocks have a raised cam location and spread oil pan rails to clear large stroker crankshafts. Coated cam bearings, freeze plugs and dowels are included. Machined with front and rear external oil feed, crossover and restrictor provision.

Part No.	Mt'l	Cam	Caps	Mains	Deck	Bore
31121112	Iron	BBC	Steel	350	9.025	4.000
31121212	Iron	BBC	Steel	350	9.025	4.125
31121222	Iron	BBC	Steel	350	9.325	4.125
31122112	Iron	BBC	Steel	400	9.025	4.000
31122212	Iron	BBC	Steel	400	9.025	4.125
31122222	Iron	BBC	Steel	400	9.325	4.125

Working with leading engine builders, we incorporated features that make the Dart block the best choice for an all-out competition engine.

Aluminum Chevy Small Block

We applied our years of experience in manufacturing aluminum cylinder heads to create the ultimate aluminum small-block.

At 95 pounds total weight, the Dart aluminum small-block is light, strong, and affordable. With displacements up to 455 cubic inches (4.190" bore x 4.125" stroke), the Dart aluminum block is ideal for sprint cars, Modifieds, late-model stock cars, dragsters, and unlimited competition classes.

RACE

Race series blocks have a raised cam location and spread oil pan rails to clear large stroker crankshafts. Coated cam bearings, freeze plugs and dowels are included. Machined with front and rear external oil feed, crossover and restrictor provision.

Part No.	Mt'l	Cam	Caps	Mains	Deck	Bore
31111112	Alum	BBC	Steel	350	9.025	4.000
31111113	Alum	50mm	Steel	350	9.025	4.000
31111122	Alum	BBC	Steel	350	9.325	4.000
31111132	Alum	BBC	Steel	350	9.500	4.000
31111212	Alum	BBC	Steel	350	9.025	4.125
31111213	Alum	50mm	Steel	350	9.025	4.125
31111222	Alum	BBC	Steel	350	9.325	4.125
31111232	Alum	BBC	Steel	350	9.500	4.125
31112112	Alum	BBC	Steel	400	9.025	4.000
31112122	Alum	BBC	Steel	400	9.325	4.000
31112132	Alum	BBC	Steel	400	9.500	4.000
31112212	Alum	BBC	Steel	400	9.025	4.125
31112213	Alum	50mm	Steel	400	9.025	4.125
31112222	Alum	BBC	Steel	400	9.325	4.125
31112232	Alum	BBC	Steel	400	9.500	4.125

- **Premium alloy:** Dart aluminum blocks are cast from virgin 355-T6 aerospace alloy for superior strength and integrity
- **Siamesed cylinders:** Standard 4.00" or 4.125" cylinders can be safely bored to 4.185". Ductile iron sleeves and extra-thick walls prevent cracking and produce excellent ring seal
- **Relocated oil pan rails** are spread .400" per side (.800" wider than stock) to increase crank/rod clearance and reduce windage losses
- **Oil pan bolt holes** are relocated in line with main caps to eliminate interference with rotating assembly
- **Main bearing bores** available for 350 (2.45") and 400 (2.65") bearings allow engine builders to maximize crankshaft strength and minimize friction
- **Steel four-bolt main bearing caps** increase bottom end strength and minimize bearing bore distortion. **Rear main cap** has mount for internal oil pump
- **Two-piece rear main seal** fits standard racing crank shafts without adapters
- **Raised camshaft.391"** (4.912" camshaft-to-crankshaft centerlines) provides more clearance for stroker cranks and eliminates need for fragile small base circle cams
- **Big-block camshaft bearings** allow the use of cams with larger base circle diameter to improve strength and reduce twisting with cam-driven pumps
- **Chain, belt, and gear camshaft drives** are available for Iron Eagle and Aluminum blocks
- **Dual starter mounts** allow starter to be mounted on either side of block for chassis and oil pan clearance
- **Side and front engine mounts** accommodate any type of chassis mounting
- **Fuel pump boss** mounts a standard small-block mechanical fuel pump (requires .200" longer big-block pushrod)
- **Scalloped water jackets** increase coolant flow around cylinder barrels to prevent detonation, extend engine life and produce consistent cylinder temperatures

Tel 248-362-1188 Fax 248-362-2027 www.DartHeads.com

Dart's airflow R&D, precision casting techniques and superior 355-T6 aerospace aluminum alloy produce as-cast ports that rival fully ported heads at a fraction of the price.

GM LS-Series Cylinder Heads

Dart's new aluminum cylinder head for GM LS-series small-block V8 engines offers higher performance and more versatility than factory designs. The Dart LS1-style high-performance cylinder head has better airflow, more efficient combustion, and more user-friendly features than production LS1 castings - and costs less than comparable OEM heads. The Dart LS1-style cylinder head retains stock valve angles, stock valve locations and stock accessory mounting holes to make installation easy. Virtually everything else has been improved.

- **Premium alloy:** Dart aluminum heads are cast from virgin 355-T6 aerospace alloy for superior strength and integrity
- **Two intake port sizes:** 205cc and 225cc, cover applications from trucks and street machines to racing applications
- **Standard multi-angle intake seats**, radiused exhaust seats and CNC-machined valve bowls enhance airflow
- **Manganese bronze valve guides** and interlocking hardened valve seats ensure long-term reliability
- **Extra-thick walls** provide material for porting
- **Additional metal** above the ports accommodates valvetrain upgrades
- **Racing-inspired combustion chamber** improves flame propagation and increases airflow
- **Intake valve diameters** are matched to port volumes, with 2.02-inch valves for 205cc ports and 2.05-inch valves for 225cc intake runners
- **Optimized 85cc exhaust ports** (15cc larger than stock) and 1.60-inch exhaust valves scavenge the cylinders quickly
- **Bolt on compatability:** Standard valve angle and spacing are retained. Accomodates all stock accessories

COMP

PRO1

Comp series aluminum cylinder heads feature high-flowing as-cast ports with profiled valve guide bosses and are bowl-blended on 5-axis CNC machining centers.

Part No.	Mt'l	Intk Port	Cham Vol.	Valves	Springs	Notes
11010010	Alum	205cc	62cc	2.02/1.60 VJ		Bare Casting
11011112	Alum	205cc	62cc	2.02/1.60	1.290	Beehive
11020020	Alum	225cc	62cc	2.05/1.60 VJ		Bare Casting
11021122	Alum	225cc	62cc	2.05/1.60	1.290	Beehive

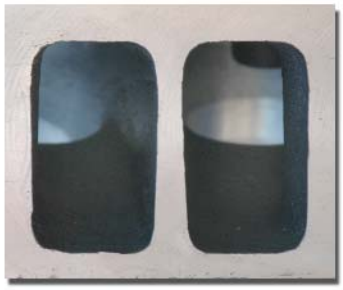
HEAD ASSEMBLIES

Assemblies Include:

Stainless steel valves, valve springs, retainers, locks and seals.

Small Block Chevy Iron Eagle S/S Cylinder Heads

Dart Iron Eagle S/S heads produce great throttle response and low to mid-range torque for street performance engines. Our precision cast ports and chambers produce outstanding air flow without time consuming porting. These heads are a vast improvement over factory originals. Why spend good money reconditioning questionable junkyard parts when you can have brand new Dart heads for a few dollars more.



HEAD ASSEMBLIES

Assemblies Include:
Stainless steel valves, valve springs, retainers, locks, guide plates, studs and seals.

- **Premium high density cast iron** for maximum power and durability
- **Extra-thick decks** for increased durability
- **Heart shaped chambers** improve combustion efficiency
- **Multi-angle intake** & radiused exhaust seats improve flow
- **Hardened exhaust seats** for compatability with unleaded fuels
- **Screw-in rocker studs** won't pull out
- **Machined valve cover rails** eliminate leaks
- **End pads are machined** for stock accessories
- **Assemblies** available with premium components

SPORTSMAN

Part No.	Description	Chamber	Valves	Int. Port
10021070	55-86 Std. Intake Face	72cc	1.94"/1.50"	165cc
10021010	55-86 Std. Intake Face	72cc	2.02"/1.60"	165cc
10024360	55-86 Std. Face w/ Self-Aligning Rockers	76cc	1.94"/1.50"	165cc
10024267	55-86 Std. Face w/ Self-Aligning Rockers	76cc	2.02"/1.60"	165cc
10024365	*87-95 Late Model Intake Face w/ Self-Aligning Rockers - Non- LT1/LT4	67cc	1.94"/1.50"	165cc
10021070S	*87-95 Late Model Intake Face w/ Self-Aligning Rockers - Non- LT1/LT4	72cc	1.94"/1.50"	165cc
10024364	*87-95 Late Model Intake Face w/ Self-Aligning Rockers - Non- LT1/LT4	76cc	1.94"/1.50"	165cc
10024370	*96-99 Vortec Intake Face w/ Self-Aligning Rockers - Non-LSx	67cc	1.94"/1.50"	165cc

* Center bolt valve covers only.

"The Iron Eagle will move more air than any other unported iron small-block Chevy head ... these heads offer a great bang for the buck"
Stock Car Racing Magazine

Small Block Chevy Iron Eagle Platinum Heads

The result of three decades of cylinder head development, Iron Eagle Platinum Series heads incorporate features that were previously available only in expensive aluminum cylinder heads. Using proprietary Speed Flow[tm] technology, Dart has developed more efficient port designs with improved velocity and flow capabilities. The combustion chambers and ports have been redesigned for greater breathing characteristics and more controllable combustion. Casting walls are cleaner and more consistent, resulting in greater control over flow, heat and combustion.

- **Four Intake Port Sizes:** 180cc*, 200cc, 215cc, and 230cc - cover applications from street to all-out racing
- **Standard 23° valve angle** allows use of off-the-shelf pistons and valve train components
- **Standard port location** and intake bolt pattern fit most manifolds
- **Pushrod holes are enlarged** for clearance with high-ratio rocker arms
- **Combustion chambers** available with choice of 72cc, 64cc or 49cc volume to tailor compression ratio to individual requirements
- **5-axis CNC bowl blended** for optimal flow characteristics
- **Heart-shaped chambers** improve combustion efficiency and fit most standard pistons
- **Multi-angle intake seats** and radiused exhaust seats dramatically increase airflow
- **Hardened exhaust seats** are compatible with unleaded gasoline
- **Manganese bronze** intake valve guides and phosphorous bronze exhaust valve guides extend cylinder head life
- **Spark plug holes** are machined for tapered seat 5/8" hex "peanut" plugs
- **Dual bolt pattern** accepts flange mount and center-bolt valve covers

* 180cc Iron Eagles do not have all "platinum" features.

SPORTSMAN

Part No.	Mt'l	Intk Port	Cham Vol.	Plug	Int/Ex Valves	Springs	Notes
10110010	Iron	180	64	AP	2.02/1.60 VJ		Bare
10110010F	Iron	180	49	AP	2.02/1.60 VJ		Bare
10111111	Iron	180	64	AP	2.02/1.60	1.250S	
10111112	Iron	180	64	AP	2.02/1.60	1.437D	
10120010	Iron	180	64	ST	2.02/1.60 VJ		Bare
10121111	Iron	180	64	ST	2.02/1.60	1.250S	
10121112	Iron	180	64	ST	2.02/1.60	1.437D	
10210010	Iron	180	72	AP	2.02/1.60 VJ		Bare
10211111	Iron	180	72	AP	2.02/1.60	1.250S	
10211112	Iron	180	72	AP	2.02/1.60	1.437D	
10220010	Iron	180	72	ST	2.02/1.60 VJ		Bare
10221111	Iron	180	72	ST	2.02/1.60	1.250S	
10221112	Iron	180	72	ST	2.02/1.60	1.437D	
PLATINUM							
10310010PF	Iron	200	49	AP	2.02/1.60 VJ		Bare
10310010P	Iron	200	64	AP	2.02/1.60 VJ		Bare
10311111P	Iron	200	64	AP	2.02/1.60	1.250S	
10311112P	Iron	200	64	AP	2.02/1.60	1.437D	
10311113P	Iron	200	64	AP	2.02/1.60	1.550D	
10410010P	Iron	200	72	AP	2.02/1.60 VJ		Bare
10411111P	Iron	200	72	AP	2.02/1.60	1.250S	
10411112P	Iron	200	72	AP	2.02/1.60	1.437D	
10411113P	Iron	200	72	AP	2.02/1.60	1.550D	
10320010P	Iron	200	64	ST	2.02/1.60 VJ		Bare
10321111P	Iron	200	64	ST	2.02/1.60	1.250S	
10321112P	Iron	200	64	ST	2.02/1.60	1.437D	
10321113P	Iron	200	64	ST	2.02/1.60	1.550D	
10420010P	Iron	200	72	ST	2.02/1.60 VJ		Bare
10421111P	Iron	200	72	ST	2.02/1.60	1.250S	
10421112P	Iron	200	72	ST	2.02/1.60	1.437D	
10421113P	Iron	200	72	ST	2.02/1.60	1.550D	
10510020PF	Iron	215	49	AP	2.05/1.60 VJ		Bare
10510020P	Iron	215	64	AP	2.05/1.60 VJ		Bare
10511122P	Iron	215	64	AP	2.05/1.60	1.437D	
10511123P	Iron	215	64	AP	2.05/1.60	1.550D	
10520020P	Iron	215	64	ST	2.05/1.60 VJ		Bare
10521122P	Iron	215	64	ST	2.05/1.60	1.437D	
10521123P	Iron	215	64	ST	2.05/1.60	1.550D	
10610020P	Iron	215	72	AP	2.05/1.60 VJ		Bare
10611122P	Iron	215	72	AP	2.05/1.60	1.437D	
10611123P	Iron	215	72	AP	2.05/1.60	1.550D	
10620020P	Iron	215	72	ST	2.05/1.60 VJ		Bare
10621122P	Iron	215	72	ST	2.05/1.60	1.437D	
10621123P	Iron	215	72	ST	2.05/1.60	1.550D	
10710040PF	Iron	230	49	AP	2.08/1.60 VJ		Bare
10710040P	Iron	230	64	AP	2.08/1.60 VJ		Bare
10711143P	Iron	230	64	AP	2.08/1.60	1.550D	
10720040P	Iron	230	64	ST	2.08/1.60 VJ		Bare
10721143P	Iron	230	64	ST	2.08/1.60	1.550D	
10810040P	Iron	230	72	AP	2.08/1.60 VJ		Bare
10811143P	Iron	230	72	AP	2.08/1.60	1.550D	
10820040P	Iron	230	72	ST	2.08/1.60 VJ		Bare
10821143P	Iron	230	72	ST	2.08/1.60	1.550D	

HEAD ASSEMBLIES

Assemblies Include:

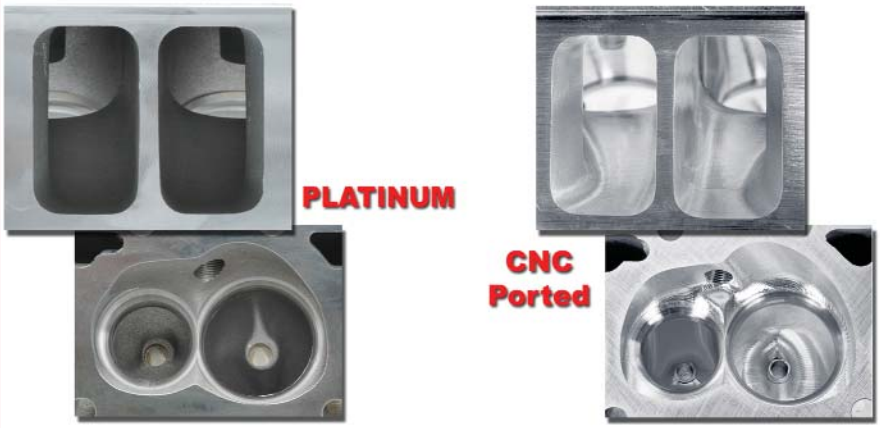
Stainless steel valves, valve springs, retainers, locks, guide plates, studs and seals.

Not intended for sale or use in connection with pollution controlled motor vehicles

NEW "Platinum" PRO 1 aluminum cylinder heads for small-block V8's deliver advanced airflow technology at an unbeatable price!

PRO 1 Small Block Chevy Heads

Dart's highly popular PRO 1 cylinder heads now benefit from the proprietary Speed Flow™ technology which revolutionized the Iron Eagle line a year ago with the Platinum series. Wet flow testing and advanced manufacturing techniques have produced redesigned ports and chambers, resulting in greater breathing characteristics and more controllable combustion.



COMP

Part No.	Mt'l	Intk Port	Cham Vol.	Plug	Int/Ex Valves	Springs	Notes
11110010P	Alum	180	64	AP	2.02/1.60 VJ		Bare
11111111P	Alum	180	64	AP	2.02/1.60	1.250S	
11111112P	Alum	180	64	AP	2.02/1.60	1.437D	
11120010P	Alum	180	64	ST	2.02/1.60 VJ		Bare
11121111P	Alum	180	64	ST	2.02/1.60	1.250S	
11121112P	Alum	180	64	ST	2.02/1.60	1.437D	
11210010P	Alum	180	72	AP	2.02/1.60 VJ		Bare
11211111P	Alum	180	72	AP	2.02/1.60	1.250S	
11211112P	Alum	180	72	AP	2.02/1.60	1.437D	
11220010P	Alum	180	72	ST	2.02/1.60 VJ		Bare
11221111P	Alum	180	72	ST	2.02/1.60	1.250S	
11221112P	Alum	180	72	ST	2.02/1.60	1.437D	
11310010P	Alum	200	64	AP	2.02/1.60 VJ		Bare
11311111P	Alum	200	64	AP	2.02/1.60	1.250S	
11311112P	Alum	200	64	AP	2.02/1.60	1.437D	
11311113P	Alum	200	64	AP	2.02/1.60	1.550D	
11320010P	Alum	200	64	ST	2.02/1.60 VJ		Bare
11321111P	Alum	200	64	ST	2.02/1.60	1.250S	
11321112P	Alum	200	64	ST	2.02/1.60	1.437D	
11321113P	Alum	200	64	ST	2.02/1.60	1.550D	
11410010P	Alum	200	72	AP	2.02/1.60 VJ		Bare
11411111P	Alum	200	72	AP	2.02/1.60	1.250S	
11411112P	Alum	200	72	AP	2.02/1.60	1.437D	
11411113P	Alum	200	72	AP	2.02/1.60	1.550D	
11420010P	Alum	200	72	ST	2.02/1.60 VJ		Bare
11421111P	Alum	200	72	ST	2.02/1.60	1.250S	
11421112P	Alum	200	72	ST	2.02/1.60	1.437D	
11421113P	Alum	200	72	ST	2.02/1.60	1.550D	
11510020P	Alum	215	64	AP	2.05/1.60 VJ		Bare
11511122P	Alum	215	64	AP	2.05/1.60	1.437D	
11511123P	Alum	215	64	AP	2.05/1.60	1.550D	
11520020P	Alum	215	64	ST	2.05/1.60 VJ		Bare
11521122P	Alum	215	64	ST	2.05/1.60	1.437D	
11521123P	Alum	215	64	ST	2.05/1.60	1.550D	
11610020P	Alum	215	72	AP	2.05/1.60 VJ		Bare
11611122P	Alum	215	72	AP	2.05/1.60	1.437D	
11611123P	Alum	215	72	AP	2.05/1.60	1.550D	
11620020P	Alum	215	72	ST	2.05/1.60 VJ		Bare
11621122P	Alum	215	72	ST	2.05/1.60	1.437D	
11621123P	Alum	215	72	ST	2.05/1.60	1.550D	
11710040P	Alum	230	64	AP	2.08/1.60 VJ		Bare
11711143P	Alum	230	64	AP	2.08/1.60	1.550D	
11720040P	Alum	230	64	ST	2.08/1.60 VJ		Bare
11721143P	Alum	230	64	ST	2.08/1.60	1.550D	
11810040P	Alum	230	72	AP	2.08/1.60 VJ		Bare
11811143P	Alum	230	72	AP	2.08/1.60	1.550D	
11820040P	Alum	230	72	ST	2.08/1.60 VJ		Bare
11821143P	Alum	230	72	ST	2.08/1.60	1.550D	

PRO

CNC Ported Heads

11970040	Alum	227	64	AP	2.08/1.60 VJ		Bare
11971143	Alum	227	64	AP	2.08/1.60 VJ	1.550D	

- **Premium alloy:** Dart aluminum heads are cast from virgin 355-T6 aerospace alloy for superior strength and integrity
- **Bolt on compatability:** Standard valve angle and spacing are retained. Accomodates all stock accessories
- **Combustion chambers** available with 64cc or 72cc volume to tailor compression ratio to individual requirements
- **Heart-shaped chambers** improve combustion efficiency and fit most standard pistons
- **Multi-angle intake seats** and radiused exhaust seats dramatically increase airflow
- **Hardened exhaust seats** are compatible with unleaded gasoline
- **Manganese bronze** valve guides for extended cylinder head life
- **Raised exhaust port roof** improves flow while retaining standard port location and bolt pattern
- **Choice of angled or straight** spark plugs to clear manifolds and headers
- **Spark plug holes** are machined for gasketed 3/4" reach plugs
- **As-cast heads are bowl-blended** on 5-axis CNC machining centers
- **Dual exhaust bolt pattern** is provided for easy header fitment

HEAD ASSEMBLIES

Assemblies Include:

Stainless steel valves, valve springs, retainers, locks, guide plates, studs and seals.

Not intended for sale or use in connection with pollution controlled motor vehicles

Tel 248-362-1188 Fax 248-362-2027 www.DartHeads.com

Dart 23° Race Series heads are engineered for exceptional out of the box performance in an easy to install package.

220 Race Series SBC Heads

Dart 23° 220 heads give you a true racing head and still allow the use of off the shelf pistons, manifolds and headers.They are cast with extra-thick walls to allow extensive porting and modification. These heads are ideal for serious street performance, bracket racing and restricted oval classes that require a stock type casting. The 220 is the ultimate in 23° small block cylinder heads.

- **Shallow combustion chamber design** improves combustion and allows use of larger valves for improved airflow
- **Interlocking ductile iron valve seats** are compatible with stainless steel and titanium valves
- **Spark plugs are shifted** toward bore centerline to enhance flame travel and reduce spark advance requirement
- **Refined intake port** design reduces turbulence and improves airflow
- **Optional spread exhaust ports** allow use of larger primary tubes without header plates
- **Water passages between exhaust ports** improve cooling and prevent "hot spots" that can cause head gasket failure
- **Gasketed 3/4" reach spark plugs** offer widest selection of heat ranges
- **Integral bosses** can be drilled for fuel injection down nozzles

CNC Ported Heads

Intake and exhaust ports can be fully CNC-machined and seats prepared with competition valve job for maximum flow.

See page 33 for information on CNC porting options.

Race-ready assemblies include stainless steel or optional titanium valves, 1.550" dual springs, 10° titanium retainers and locks, valve seals, and spring seats.

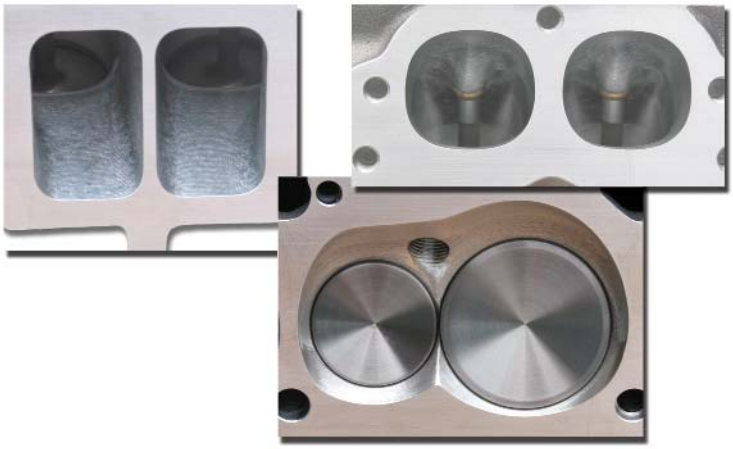
RACE

Part No.	Mt'l	Description	Runner Position	Exhaust Pattern	Porting Program	Chamber Volume	Port Vol.	Int/Ex Valves	Springs	Cyl. Bore	Notes
12100000	Alum	Dart 220	Std.	Std.		64cc	220cc				Bare
12131010	Alum	Dart 220	Std.	Std.	SuperMod	67cc	232cc	2.055/1.600		4.030	Bare
12131111	Alum	Dart 220	Std.	Std.	SuperMod	67cc	232cc	2.055/1.600	1.550D	4.030	
12132030	Alum	Dart 220	Std.	Std.	SuperMod	67cc	232cc	2.080/1.600		4.155	Bare
12132131	Alum	Dart 220	Std.	Std.	SuperMod	67cc	232cc	2.080/1.600	1.550D	4.155	
12132050	Alum	Dart 220	Std.	Std.	SuperMod	67cc	232cc	2.100/1.600		4.155	Bare
12132151	Alum	Dart 220	Std.	Std.	SuperMod	67cc	232cc	2.100/1.600	1.550D	4.155	
12171010	Alum	Dart 220	Std.	Std.	Full Port	62cc	248cc	2.055/1.600		4.030	Bare
12171111	Alum	Dart 220	Std.	Std.	Full Port	62cc	248cc	2.055/1.600	1.550D	4.030	
12172030	Alum	Dart 220	Std.	Std.	Full Port	62cc	248cc	2.080/1.600		4.155	Bare
12172131	Alum	Dart 220	Std.	Std.	Full Port	62cc	248cc	2.080/1.600	1.550D	4.155	
12172050	Alum	Dart 220	Std.	Std.	Full Port	62cc	248cc	2.100/1.600		4.155	Bare
12172151	Alum	Dart 220	Std.	Std.	Full Port	62cc	248cc	2.100/1.600	1.550D	4.155	
12200000	Alum	Dart 220	Std.	Spread		64cc	220cc				Bare
12231010	Alum	Dart 220	Std.	Spread	SuperMod	67cc	232cc	2.055/1.600		4.030	Bare
12231111	Alum	Dart 220	Std.	Spread	SuperMod	67cc	232cc	2.055/1.600	1.550D	4.030	
12232030	Alum	Dart 220	Std.	Spread	SuperMod	67cc	232cc	2.080/1.600		4.155	Bare
12232131	Alum	Dart 220	Std.	Spread	SuperMod	67cc	232cc	2.080/1.600	1.550D	4.155	
12232050	Alum	Dart 220	Std.	Spread	SuperMod	67cc	232cc	2.100/1.600		4.155	Bare
12232151	Alum	Dart 220	Std.	Spread	SuperMod	67cc	232cc	2.100/1.600	1.550D	4.155	
12271010	Alum	Dart 220	Std.	Spread	Full Port	62cc	248cc	2.055/1.600		4.030	Bare
12271111	Alum	Dart 220	Std.	Spread	Full Port	62cc	248cc	2.055/1.600	1.550D	4.030	
12272030	Alum	Dart 220	Std.	Spread	Full Port	62cc	248cc	2.080/1.600	1.550D	4.155	Bare
12272131	Alum	Dart 220	Std.	Spread	Full Port	62cc	248cc	2.080/1.600	1.550D	4.155	
12272050	Alum	Dart 220	Std.	Spread	Full Port	62cc	248cc	2.100/1.600		4.155	Bare
12272151	Alum	Dart 220	Std.	Spread	Full Port	62cc	248cc	2.100/1.600	1.550D	4.155	
To be released in fall of 2006											
12300000	Alum	Dart 220	Raised	Std.		64cc	220cc				Bare
12371030	Alum	Dart 220	Raised	Std.	Full Port	62cc	248cc	2.080/1.600		4.030	Bare
12371231	Alum	Dart 220	Raised	Std.	Full Port	62cc	248cc	2.080/1.600	1.550D	4.030	
12372030	Alum	Dart 220	Raised	Std.	Full Port	62cc	248cc	2.080/1.600		4.155	Bare
12372231	Alum	Dart 220	Raised	Std.	Full Port	62cc	248cc	2.080/1.600	1.550D	4.155	
12372050	Alum	Dart 220	Raised	Std.	Full Port	62cc	248cc	2.100/1.600		4.155	Bare
12372251	Alum	Dart 220	Raised	Std.	Full Port	62cc	248cc	2.100/1.600	1.550D	4.155	
12372070	Alum	Dart 220	Raised	Std.	Full Port	62cc	248cc	2.125/1.600		4.155	Bare
12372271	Alum	Dart 220	Raised	Std.	Full Port	62cc	248cc	2.125/1.600	1.550D	4.155	
12400000	Alum	Dart 220	Raised	Spread		64cc	220cc				Bare
12471030	Alum	Dart 220	Raised	Spread	Full Port	62cc	248cc	2.080/1.600		4.030	Bare
12471231	Alum	Dart 220	Raised	Spread	Full Port	62cc	248cc	2.080/1.600	1.550D	4.030	
12472030	Alum	Dart 220	Raised	Spread	Full Port	62cc	248cc	2.080/1.600		4.155	Bare
12472231	Alum	Dart 220	Raised	Spread	Full Port	62cc	248cc	2.080/1.600	1.550D	4.155	
12472050	Alum	Dart 220	Raised	Spread	Full Port	62cc	248cc	2.100/1.600		4.155	Bare
12472251	Alum	Dart 220	Raised	Spread	Full Port	62cc	248cc	2.100/1.600	1.550D	4.155	
12472070	Alum	Dart 220	Raised	Spread	Full Port	62cc	248cc	2.125/1.625		4.155	Bare
12472271	Alum	Dart 220	Raised	Spread	Full Port	62cc	248cc	2.125/1.625	1.550D	4.155	

Dart 15°, 16° and 18° aluminum small-block cylinder heads offer a dramatic performance improvement over conventional 23° designs.

15°, 16° & 18° Small Block Heads

By reducing the valve angle, reshaping the intake ports, and optimizing the combustion chambers, we produced a significant increase in both airflow and combustion efficiency - and that means more power! Dart 15°, 16° & 18° heads use the same readily available components as other 18° designs. The difference is that Dart delivers the features that put you ahead of the competition. We've refined the 18° design to give our customers more versatility, more performance, more reliability, and higher quality.



HEAD ASSEMBLIES

Assemblies Include:
Stainless steel valves, valve springs, retainers, locks, guide plates, studs and seals.

RACE

Part No.	Mt'l	Description	Int/Ex Valves	Chamber	Int. Port	Cyl Bore
14372010	Alum	15º Full Port Std.	2.15/1.60	51cc	265cc	4.155
14372030	Alum	15º Full Port Std.	2.18/1.60	51cc	265cc	4.155
14382030	Alum	15º Full Port Lg.	2.18/1.60	51cc	280cc	4.155
14200000	Alum	16º Bare Casting			237cc	
14272010	Alum	16º Full Port Std.	2.15/1.60	47cc	264cc	4.155
14272030	Alum	16º Full Port Std.	2.18/1.60	47cc	264cc	4.155
14100000	Alum	18º Bare Casting		67cc	237cc	
14132010	Alum	18º Super Mod Port	2.15/1.60	62cc	246cc	4.155
14162010	Alum	18º Full Port Sm.	2.15/1.60	62cc	252cc	4.155
14172010	Alum	18º Full Port Std.	2.15/1.60	62cc	263cc	4.155
14172030	Alum	18º Full Port Std.	2.18/1.60	62cc	263cc	4.155
14182030	Alum	18º Full Port Lg.	2.18/1.60	62cc	275cc	4.155

Chamber sizes shown are with Titanium valves, slightly larger volume with stainless steel valves.

Part numbers shown are for bare heads. Assemblies are available.
15º - 16º - 18º heads available with small, standard & large port versions up to 2.200" intake valve

- **Shallow combustion chamber** design improves combustion and allows use of larger valves for improved airflow
- **Interlocking ductile iron valve seats** are compatible with stainless steel and titanium valves
- **Valve seats will accommodate** up to 2.200" intake valves and 1.625" exhaust valves to maximize flow
- **Valve centerlines** with standard 1.935" spacing for optimum valve locations with different bore sizes
- **Spark plugs are shifted** toward bore centerline to enhance flame travel and reduce spark advance requirement
- **Refined intake port** design reduces turbulence and improves airflow
- **Tall short-side radius** and deep valve bowl enhance low-lift flow
- **Extra-thick decks** for 9:1 engines can be milled for high-compression engines
- **Dual exhaust bolt patterns** are drilled for standard 18° and spread-port header flanges
- **Water passages** between exhaust ports improve cooling and prevent "hot spots" that can cause head gasket failure
- **Gasketed 3/4" reach spark plugs** offer widest selection of heat ranges
- **Integral bosses** can be drilled for fuel injection down nozzles

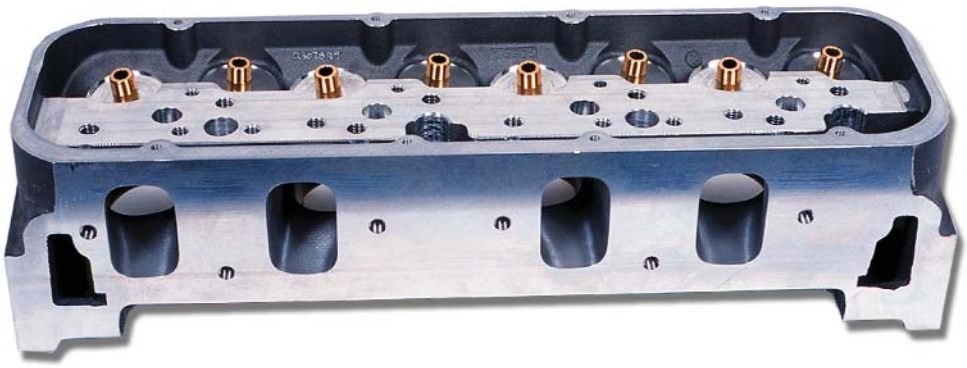
CNC Ported Heads

Intake and exhaust ports can be fully CNC-machined and seats prepared with competition valve job for maximum flow. Race-ready assemblies include stainless steel or optional titanium valves, 1.550" dual springs, 10° titanium retainers and locks, valve seals, and spring seats.
See page 33 for information on CNC porting options.

"Dart's Little Chief heads are at the forefront in big-cube power for the small block Chevy" Drag Review Magazine

Little Chief Cylinder Heads

Dart's 11° Little Chief is the ultimate small-block cylinder head. Designed with Pro-Stock style oval ports, big-block style canted valves and "semi-hemi" style combustion chambers, the Little Chief is a radical departure from traditional small-block heads. The huge flow resulting from the 11° valve angle and splayed valve layout combined with spread oval intake ports, raised runners and highly efficient combustion chambers deliver amazing power!



We have everything you need to build a complete Little Chief engine, including blocks, intake manifolds, valve covers, gaskets and valvetrain components.

- **Shallow combustion chamber design** improves combustion and allows use of smaller domes to produce high compression ratios
- **Canted valves,** 11° x 4° intake and 6° x 4° exhaust, minimize shrouding for improved flow
- **Copper-berylium valve seats** are compatible with stainless steel and titanium valves
- **Valve seats will accommodate** up to 2.230" intake valves and 1.550" exhaust valves to maximize flow
- **Spark plugs are shifted** toward bore centerline to enhance flame travel and reduce spark advance requirement
- **Refined intake port** design reduces turbulence and improves airflow
- **Tall short-side radius** and deep valve bowl enhance low-lift flow
- **Water passages** between exhaust ports improve cooling and prevent "hot spots" that can cause head gasket failure
- **Gasketed 3/4" reach spark plugs** offer widest selection of heat ranges
- **Integral bosses** can be ordered for fuel injection down nozzles
- **Little Chief heads require modified lifter locations** in the block. Dart can supply Little Chief ready blocks

CNC Ported Heads

Intake and exhaust ports can be fully CNC-machined and seats prepared with competition valve job for maximum flow. Race-ready assemblies include titanium valves, 1.625" dual springs, 10° titanium retainers and locks, valve seals, and spring seats.

See page 33 for information on CNC porting options.

RACE

Part No.	Mt'l	Intk Port	Cham Vol.	Valves	Springs	Cyl Bore	Notes
14600000	Alum						Bare
14672050	Alum	275cc	36cc	2.18/1.55	1.625D	4.155	Full Port
14772060	Alum	315cc	34cc	2.23/1.55	1.625D	4.155	Full Port
14773060	Alum	315cc	50cc	2.23/1.55	1.625D	4.155	Full Port
14872070	Alum	330cc	36cc	2.23/1.55	1.625D	4.155	Full Port
14873070	Alum	330cc	50cc	2.23/1.55	1.625D	4.155	Full Port

* Little Chief castings are available with or without down nozzle provisions - please specify when ordering

Small Block Intake Manifolds

An engine's cylinder heads and intake manifold must work together as an integrated system to produce maximum performance. The intake charge should make a seamless transition from the manifold runners to the cylinder head ports. Dart intake manifolds incorporate sophisticated wet-flow technology developed on successful oval track and drag racing engines. We don't make "universal" manifolds; every Dart intake is engineered for a specific cylinder head, block, and carburetor combination. This means that we've optimized the port shape, the plenum volumes, and the runner angle for each application. Dart manifolds are designed to make engine building easier. For example, our small-block manifolds have provisions for "four corner" and center cooling. Most Dart manifolds have bosses for nitrous injectors, too.

- Angled runners turn the air-fuel mixture smoothly from carburetor to ports
- Dual distributor hold-downs simplify timing adjustments
- Bosses for rear coolant lines
- Raised water cross-over and air gap insulate intake charge
- Integral bosses for nitrous injectors
- Scalloped manifold flanges clear center water outlets

SPORTSMAN

Part No	Description	Port Location	Deck	Carb
42811000	SBC Dual Plane	Std.	Std.	4150

COMP

42411000	SBC Iron/Pro 1 Manifold	Std.	Std.	4150
42412000	SBC Iron/Pro 1 Manifold	Std.	9.325	4150
42421000	SBC Iron/Pro 1 Manifold	Std.	Std.	4500
42422000	SBC Iron/Pro 1 Manifold	Std.	9.325	4500

RACE

42611000	SBC Large Port Manifold	Std.	Std.	4150
42311000	SBC 220 Manifold	Std.	Std.	4150
42312000	SBC 220 Manifold	Std.	9.325	4150
42321000	SBC 220 Manifold	Std.	Std.	4500
42322000	SBC 220 Manifold	Std.	9.325	4500
42511000	SBC 220 RR Manifold	Raised Runner	Std.	4150
42512000	SBC 220 RR Manifold	Raised Runner	9.325	4150
42521000	SBC 220 RR Manifold	Raised Runner	Std.	4500
42522000	SBC 220 RR Manifold	Raised Runner	9.325	4500
42711000	SBC Manifold 18º/16º/15º	Raised Special	Std.	4150
42911000	Little Chief Manifold	Asymmetric	Std.	4150
42912000	Little Chief Manifold	Asymmetric	9.325	4150
42914000	Little Chief Manifold	Asymmetric	8.850	4150
42921000	Little Chief Manifold	Asymmetric	Std.	4500
42922000	Little Chief Manifold	Asymmetric	9.325	4500
42924000	Little Chief Manifold	Asymmetric	8.850	4500

Dart carburetor spacers are made from phenolic plastic, a material with exceptional insulating properties. Our "clover-leaf" design matches the shape of the manifold plenum - and positively prevents the throttle plate screws from falling out!

Part No.	Carb	Style
62100001	4150	½" open
62100002	4150	1" open
62100003	4500	¼" 4-hole
62100004	4500	½" 4-hole
62100005	4500	1" 4-hole
62100006	4500	1" open
62100007	2" aluminum adapter	4500 carb to 4150 manifold

Small-block manifold spacers let you use standard 18° and 23° intake manifolds with tall-deck blocks. Dart manifold spacers are precision machined from billet aluminum.

Part no.	Description
62210002	Small-block manifold spacers, tall-deck (9.325") block and std. heads
62210004	Small-block manifold spacers, tall-deck (9.325") block, 18° heads

Not intended for sale or use in connection with pollution controlled motor vehicles

Valve Covers

Our extra-tall valve covers are designed to clear racing valvetrains and stud girdles. Their rigid cast-aluminum construction and machined gasket surfaces prevent messy oil leaks. The raised Dart logo stands out with a contrasting machined finish.

Part No.	Description	Fits
68000010	Cast Aluminum Valve Cover Set	Dart SBC
68000050	Stamped Steel Valve Covers	Dart SBC
68000070	Cast Aluminum Valve Cover Set	Dart Little Chief
68000080	Magnesium Valve Cover Set	Dart Little Chief

Valvetrain Stabilizers

Also known as “stud girdles” valvetrain stabilizers improve the performance and reliability of engines equipped with stud-mounted rocker arms. Extra-long adjusting nuts are tightly clamped between rigid aluminum bars that prevent stud deflection under high loads. The valve motion more closely follows the cam profile, producing more power and reducing breakage.
Unlike “universal” girdles, these valvetrain stabilizers are designed to fit the specific valve locations, valve angles, and valve lengths in Dart cylinder heads. Kits include hardened poly-lock adjusting nuts.

Part No.	Description	Fits
64110002	Valve Train Stabilizer	Dart SBC

Head Parts Kits

Dart parts kits include everything you need to assemble a cylinder head: stainless steel valves, springs, locks, retainers, seals, studs, and guideplates.
These kits contain the same high quality components we use in our cylinder head assemblies.

Small-Block Parts Kits (includes steel retainers)

Part No.	Int.	Exh.	Spring
28111000	2.02”	1.60”	1.250” single
28112000	2.02”	1.60”	1.437” double
28211000	2.05”	1.60”	1.250” double
28212000	2.05”	1.60”	1.437” double
28223000	2.05”	1.60”	1.550” double
28323000	2.05”	1.62”	1.550” double
28423000	2.08”	1.60”	1.550” double
28523000	2.08”	1.62”	1.550” double

Magnesium Front Cover

- Lightweight design weighs just 3 pounds.
- Designed for KSE crank-driven water pump.
- Multiple bolt patterns accommodate popular dry sump oil pumps.
- Fits chain and gear camshaft drives.
- Standard and raised camshaft versions available.

Gear Drive

- Precision gear drive eliminates variations in valve and camshaft timing.
- Designed for raised camshaft in Dart blocks.
- Three-gear design uses standard rotation camshaft.

Stud Kits

- Premium heat-treated materials produce proper clamping force.
- Precision rolled threads and centerless ground shanks increase strength.
- Stud length and thread engagement is optimized for Dart blocks and heads.
- Parallel-ground washers and top quality nuts included with stud kits.

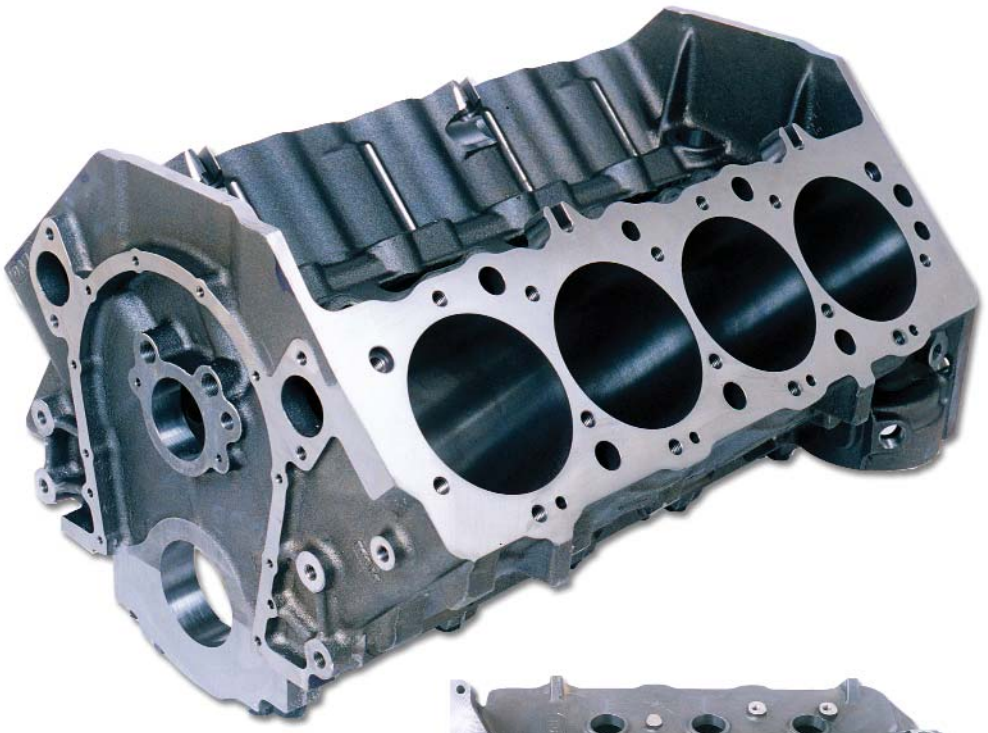
See page 35 for more parts and accessories

Dart has reinvented the Rat motor! Our cast-iron Big M big-block is a no-compromise design that solves the problems which have plagued big-block racers for years.

Big M Chevy Big Block

Working with top builders and Dart's own championship-winning Pro Stock engine department, we designed a user-friendly block with the features you need today. For example, we redesigned the lubrication system to create a true "priority main" system that oils all of the main bearings before the lifters for extra reliability.

We machine Big M blocks in-house on precision CNC equipment to ensure quality and to eliminate the need for expensive "blueprinting."



PRO

Lightening Options Available

SPORTSMAN

Sportsman blocks have nodular iron 4-bolt main caps. Cam bearings, freeze plugs and dowels are not included.

Part No.	Mtl.	Description	Caps	Mains	Cam	Deck Ht.	Cyl. Bore
31273344	Iron	Sportsman	Ductile	Std.	Std.	9.800	4.250
31273354	Iron	Sportsman	Ductile	Std.	Std.	10.200	4.250
31273444	Iron	Sportsman	Ductile	Std.	Std.	9.800	4.500
31273454	Iron	Sportsman	Ductile	Std.	Std.	10.200	4.500
31273644	Iron	Sportsman	Ductile	Std.	Std.	9.800	4.600
31273654	Iron	Sportsman	Ductile	Std.	Std	10.200	4.600

COMP

Comp blocks have billet steel 4-bolt main caps. Includes coated cam bearings, freeze plugs and dowels.

Part No.	Mtl.	Description	Caps	Mains	Cam	Deck Ht.	Cyl. Bore
31263344	Iron	Big M	Steel	Std.	Std.	9.800	4.250
31263354	Iron	Big M	Steel	Std.	Std.	10.200	4.250
31263444	Iron	Big M	Steel	Std.	Std.	9.800	4.500
31263454	Iron	Big M	Steel	Std.	Std.	10.200	4.500
31263644	Iron	Big M	Steel	Std.	Std.	9.800	4.600
31263654	Iron	Big M	Steel	Std.	Std.	10.200	4.600

- **Siamesed extra-thick cylinder walls** resist cracking and improve ring seal (minimum .300" thick with 4.625" bore)
- **Scalloped outer water jacket walls** improve coolant flow around the cylinder barrels to equalize temperatures
- **Standard 9.800" and extra-tall 10.200" deck heights** available for stroker engines
- **Four-bolt main bearing caps** in steel or ductile iron have splayed outer bolts for extra strength
- **Crankshaft tunnel** has clearance for a 4.500" stroke crank with steel rods without grinding
- **True "priority main" oil system** lubricates the main bearings before the lifters
- **Oil filter pad is drilled and tapped** for an external oil pump
- **Rear four-bolt cap** uses standard oil pump and two-piece seal - no adapter required!
- **Lifter valley head stud bosses** prevent blown head gaskets between head bolts
- **External block machining** reduces weight without sacrificing strength
- **Mechanical fuel pump boss**, clutch linkage mounts, and side and front motor mounts simplify installation in any chassis
- **Dual oil pan bolt patterns** fit standard and notched oil pans
- **Bellhousing flange** and rear main bearing are reinforced with ribs to resist cracks

With massive strength and unprecedented versatility, Dart's Race Series tall-deck cast-iron big-block takes the venerable big-block design to new heights.

Tall-Deck Iron Big-Block

The Dart Race Series block offers crank-to-deck dimensions of 10.600 and 11.100 inches - nearly one inch taller than the factory truck block - and can accommodate displacements of up to 763 cubic inches.

The camshaft is raised .600-inch above the stock location and the main oil gallery is located alongside the camshaft tunnel to eliminate interference with the crank assembly. The oil pan rails are spread to increase clearance for the connecting rods and crankshaft counterweights.

Machining Options

Dart's sophisticated manufacturing techniques allow blocks to be custom machined in a production environment. For example, an engine builder can specify 2.125 (standard), 55mm or 60mm roller cam bearings. The lifter bosses can be machined to accommodate a variety of valve layouts with a choice of .842-inch, .904-inch, .937-inch or 1.063-inch diameter lifters, with bushings for either standard tie-bar or keyed lifters.

- **10.600" or 11.100" deck height** allows use of long rods with stroker combinations
- **Raised cam location** +.600" clears stroker crankshafts
- **Accepts crankshaft strokes** up to 5.500-inch for large displacement applications
- **Optional 4.900-inch cylinder bore spacing** accommodates up to 4.700-inch cylinder bore diameter
- **Four valley head stud bosses** prevent head gasket failures with high compression ratios and/or nitrous oxide. Slotted bosses allow the use of studs instead of difficult-to-install bolts
- **True priority main oiling** directs to the main bearings before the lifters for extra reliability at high rpm. Stepped main oil gallery (9/16-inch to 1/2-inch to 7/16-inch) ensures uniform oil supply for all five main bearings
- **Oil crossover** located at the front of the block delivers maximum oil volume to the main bearings and ensures reliable lubrication for the lifters and pushrods on both cylinder banks
- **Steel four-bolt main bearing caps** are manufactured in-house by Dart to ensure quality and compatibility with the block. Three center caps have splayed outer bolts that anchor the caps to the strongest part of the casting, front and rear caps have vertical bolts for oil pan clearance
- **Rear main bearing cap** uses a standard two-piece crankshaft seal without adapters or crank modifications
- **Uses stock components**, with provisions for block-mounted oil filter, mechanical fuel pump, and stock water pump

RACE

Part No.	Mtl.	Description	Main Caps	Mains Dia.	Deck Ht.	Cam Bore	Lifter Bore	Cyl. Bore	Bore Spacing
31283654	Iron	Race Series	Steel	Std.	10.200	55mm	.904	4.625	4.840
31283465	Iron	Race Series	Steel	Std.	10.600	2.125	.904	4.500	4.840
31283654	Iron	Race Series	Steel	Std.	10.600	2.125	.904	4.600	4.840
31293665	Iron	Race Series	Steel	Std.	10.600	2.125	.904	4.600	4.900
31293865	Iron	Race Series	Steel	Std.	10.600	2.125	.904	4.700	4.900
31283475	Iron	Race Series	Steel	Std.	11.100	2.125	.904	4.500	4.840
31283675	Iron	Race Series	Steel	Std.	11.100	2.125	.904	4.600	4.840
31283875	Iron	Race Series	Steel	Std.	11.100	2.125	.904	4.700	4.900

Designed to be the strongest, most reliable and easiest to build aluminum big block available, Dart blocks are the ultimate choice for all-out competition engines.

Aluminum Big Blocks

Dart aluminum big-block V-8s deliver big power in a lightweight package. Based on the Chevrolet big-block V8 design, these new aluminum blocks feature extra strengthening in critical areas, increased displacement capacity, true priority main oiling and precision CNC machining. Conventional configuration that retains all production dimensions for compatability with standard components. Advanced engineering makes Dart aluminum big-blocks the choice for serious competition.

COMP

Part No.	Mtl.	Description	Main Caps	Mains Dia.	Deck Ht.	Cam Bore	Lifter Bore	Cyl. Bore	Bore Spacing
31264344	Alum	Comp Series	Steel	Std.	9.800	Std.	.842	4.250	Std.
31264444	Alum	Comp Series	Steel	Std.	9.800	Std.	.842	4.500	Std.
31264644	Alum	Comp Series	Steel	Std.	9.800	Std.	.842	4.600	Std.
31264354	Alum	Comp Series	Steel	Std.	10.200	Std.	.842	4.250	Std
31264454	Alum	Comp Series	Steel	Std.	10.200	Std.	.842	4.500	Std.
31264654	Alum	Comp Series	Steel	Std.	10.200	Std.	.842	4.600	Std.
31274344	Alum	Comp Series	Ductile	Std.	9.800	Std.	.842	4.250	Std.
31274444	Alum	Comp Series	Ductile	Std.	9.800	Std.	.842	4.500	Std.
31274644	Alum	Comp Series	Ductile	Std.	9.800	Std.	.842	4.600	Std.
31274354	Alum	Comp Series	Ductile	Std.	10.200	Std.	.842	4.250	Std
31274454	Alum	Comp Series	Ductile	Std.	10.200	Std.	.842	4.500	Std.
31274654	Alum	Comp Series	Ductile	Std.	10.200	Std.	.842	4.600	Std.

- **Premium alloy:** Dart aluminum blocks are cast from virgin 355-T6 aerospace alloy for superior strength and integrity
- **Ductile iron sleeves** with extra-thick walls promote excellent ring seal
- **Reinforcing ribs** strengthen the lifter valley and bellhousing flange
- **Inboard valley head stud bosses** improve head gasket sealing
- **Priority main oiling system** delivers oil directly to the crankshaft bearings to enhance reliability at high engine speeds
- **9.800" or 10.200" Deck Heights**
- **4.250", 4.500" or 4.600" Bore Size**
- **Standard Cam Bore** / Other Options Available
- **Std. BBC Lifter Bores** / Other Options Available
- **Steel 4-Bolt Main Caps**, Ductile Iron and Aluminum Caps Optional
- **Dual Oil Pan Bolt Patterns**
- **Average weight 140 lbs.**

Added feature and unprecedented versatility make Dart's Race Series aluminum big-block the weapon of choice for all-out competition.

Race Series Aluminum Blocks

Dart's Race Series aluminum big-block is based on the Chevrolet big-block V8 design, with added features like increased deck height and a raised cam location.

These new aluminum blocks feature extra strengthening in critical areas, increased displacement capacity, true priority main oiling and precision CNC machining. Advanced engineering makes Dart aluminum big-blocks the choice for serious competition.

- **Premium alloy:** Dart aluminum blocks are cast from virgin 355-T6 aerospace alloy for superior strength and integrity
- **Ductile iron sleeves** with extra-thick walls promote excellent ring seal
- **Reinforcing ribs** strengthen the lifter valley and bellhousing flange
- **Inboard valley head stud bosses** improve head gasket sealing
- **Priority main oiling system** delivers oil directly to the crankshaft bearings to enhance reliability at high engine speeds
- **9.800" or 10.200" deck heights** / Options from 9.625" to 10.400"
- **Cylinder bore spacing** standard 4.840" or optional 4.900"
- **Raised camshaft location** +.400"
- **Standard Cam journals** / Options to 60mm w/ raised cam option
- **.842" Lifter bores** / Other sizes & locations optional
- **3 Optional head bolt patterns**
- **With or without distributor provision**
- **Steel 4-Bolt Main Caps**, Ductile Iron and Aluminum Caps Optional
- **Dual Oil Pan Bolt Patterns**
- **Average weight 140 lbs.**

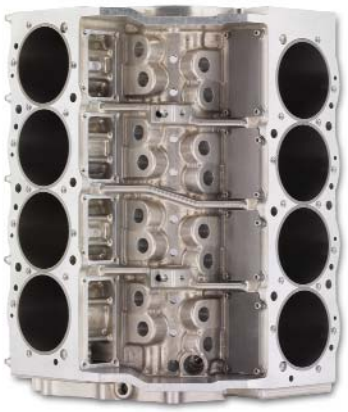
RACE

Part No.	Mtl.	Description	Main Caps	Mains Dia.	Deck Ht.	Cam Bore	Lifter Bore	Cyl. Bore	Bore Spacing
31264345	Alum	Race Series	Steel	Std.	9.800	Std.	.842	4.250	4.840
31264445	Alum	Race Series	Steel	Std.	9.800	Std.	.842	4.500	4.840
31264645	Alum	Race Series	Steel	Std.	9.800	Std.	.842	4.600	4.840
31264385	Alum	Race Series	Steel	Std.	10.000	Std.	.842	4.250	4.840
31264485	Alum	Race Series	Steel	Std.	10.000	Std.	.842	4.500	4.840
31264685	Alum	Race Series	Steel	Std.	10.000	Std.	.842	4.600	4.840
31264355	Alum	Race Series	Steel	Std.	10.200	Std.	.842	4.250	4.840
31264455	Alum	Race Series	Steel	Std.	10.200	Std.	.842	4.500	4.840
31264655	Alum	Race Series	Steel	Std.	10.200	Std.	.842	4.600	4.840
31264395	Alum	Race Series	Steel	Std.	10.400	Std.	.842	4.250	4.840
31264495	Alum	Race Series	Steel	Std.	10.400	Std.	.842	4.500	4.840
31264695	Alum	Race Series	Steel	Std.	10.400	Std.	.842	4.600	4.840

This is the ultimate big-block for all-out competition! Unparalleled strength and total custom machining options.

Dart Forged Billet Aluminum Big-Block

Dart aluminum billet blocks are completely CNC machined from a solid billet of 6061-T6 aluminum for strength and versatility. Our custom machining programs provide virtually unlimited choices in deck height, bore diameter, and lifter/camshaft configuration. With .750-inch thick decks and optional water jackets around the cylinders, Dart billet aluminum big blocks can be used in the most demanding applications.



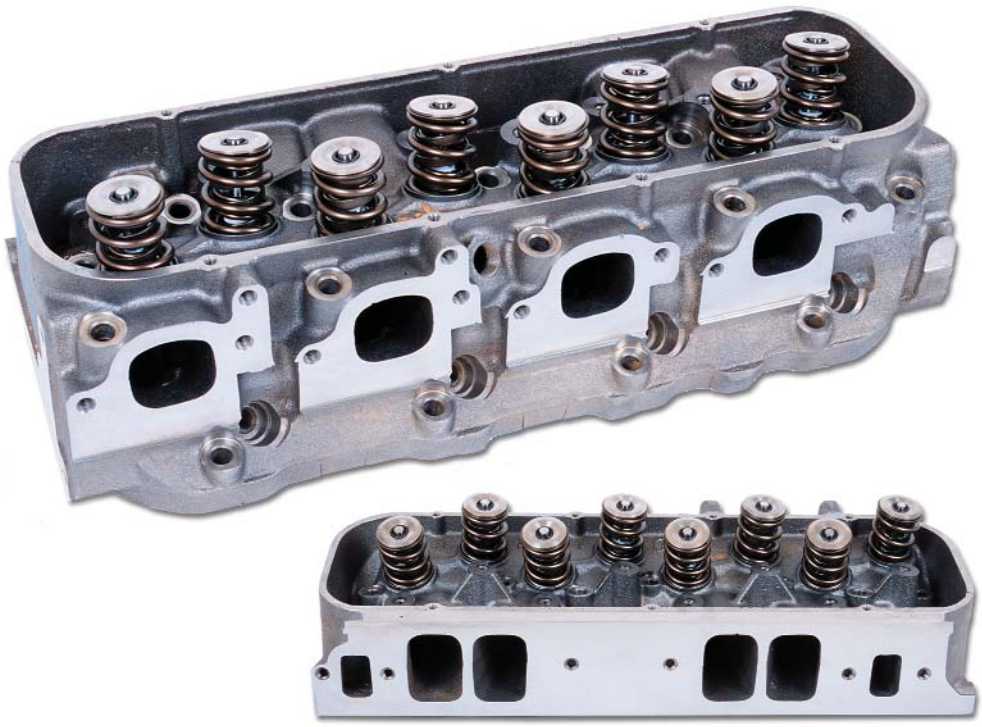
RACE

- **Forged 6061-T6 billet provides ultimate strength**
- **Custom deck height options**
- **Cylinder bore spacing: 4.840”, 5.000” or 5.200”**
- **Raised camshaft location**
- **Custom lifter diameters and locations**
- **Choice of head bolt patterns**
- **Steel or optional aluminum main caps**
- **Available with or without water jackets**

Tel 248-362-1188 Fax 248-362-2027 www.DartHeads.com

"Dart Iron Eagles are a good value and avoid a ton of hassles trying to recondition stock castings which frankly, are not even in the same ball park when it comes to quality" Popular Hot Rodding

Iron Eagle BBC Heads



We designed Iron Eagle big-block heads for street performance, bracket racing, oval track competition, tractor pulling, and high-performance marine applications. We developed two rectangular ports: a high-velocity 308cc intake runner that produces incredible torque and a 345cc version that's perfect for big-inch, high-rpm Rat motors. The Iron Eagle's raised exhaust port outperforms its cast-iron competition but still fits most standard headers.

- **Valve angles rolled two degrees from stock** to reduce chamber volume and improve flow
- **Bolt on compatability:** 2^{o} rolled valve angle and standard spacing. Accomodates all stock accessories
- **Heart-shaped 121cc chambers** improve combustion efficiency
- **Multi-angle intake seats**, radiused exhaust seats, and precision-cast valve bowls produce excellent airflow without hand porting or expensive CNC machining
- **Hardened exhaust seats** are compatible with unleaded gasoline
- **Exhaust ports raised** .300" to improve flow (requires 1" longer head bolts next to exhaust ports)
- **Manganese bronze** intake valve guides extend cylinder head life
- **Phosphorous bronze exhaust** valve guides resist heat produced by low-compression engines
- **As-cast heads are bowl blended** on 5-axis CNC machining centers

SPORTSMAN

Part No.	Mt'l	Intk Port	Cham Vol.	Int/Ex Valves	Springs	Notes
15100010	Iron	308cc	121cc	2.25/1.88 VJ		Bare
15100111	Iron	308cc	121cc	2.25/1.88	1.550S	
15100112	Iron	308cc	121cc	2.25/1.88	1.550D	
15100116	Iron	308cc	121cc	2.25/1.88	1.625D	
15200030	Iron	345cc	121cc	2.30/1.88 VJ		Bare
15200132	Iron	345cc	121cc	2.30/1.88	1.550D	
15200136	Iron	345cc	121cc	2.30/1.88	1.625D	

HEAD ASSEMBLIES

Assemblies Include:

Stainless steel valves, valve springs, retainers, locks, guide plates, studs and seals.

Not intended for sale or use in connection with pollution controlled motor vehicles

"Combining excellent intake flow numbers with a great exhaust port, the PRO 1 head produces an amazing 79% exhaust/intake flow ratio ... this head would be a great choice" - Chevy High Performance

PRO 1 Aluminum BBC Heads

PRO 1 aluminum big-block cylinder heads deliver "out-of-the-box" airflow that beats the competition - at an unbeatable price! Inspired by our championship-winning Pro Stock designs, the PRO 1's race-proven features include rolled valve angles, improved spark plug location, extra-long intake valves, raised exhaust ports, and fast-burn chambers - yet the PRO 1 can be used with off-the-shelf pistons, valvetrain components, and intake manifolds.

COMP

Part No.	Mt'l	Intk Port	Cham Vol.	Int/Ex Valves	Springs	Notes
19100010	Alum	310cc	121cc	2.25/1.88 VJ		Bare
19100030	Alum	310cc	121cc	2.30/1.88 VJ		Bare
19100111	Alum	310cc	121cc	2.25/1.88	1.550S	
19100112	Alum	310cc	121cc	2.25/1.88	1.550D	
19100116	Alum	310cc	121cc	2.25/1.88	1.625D	
19100132	Alum	310cc	121cc	2.30/1.88	1.550D	
19100136	Alum	310cc	121cc	2.30/1.88	1.625D	
19200010	Alum	325cc	121cc	2.25/1.88 VJ		Bare
19200030	Alum	325cc	121cc	2.30/1.88 VJ		Bare
19200111	Alum	325cc	121cc	2.25/1.88	1.550S	
19200112	Alum	325cc	121cc	2.25/1.88	1.550D	
19200116	Alum	325cc	121cc	2.25/1.88	1.625D	
19200132	Alum	325cc	121cc	2.30/1.88	1.550D	
19200136	Alum	325cc	121cc	2.30/1.88	1.625D	
19300030	Alum	345cc	121cc	2.30/1.88 VJ		Bare
19300132	Alum	345cc	121cc	2.30/1.88	1.550D	
19300136	Alum	345cc	121cc	2.30/1.88	1.625D	

HEAD ASSEMBLIES

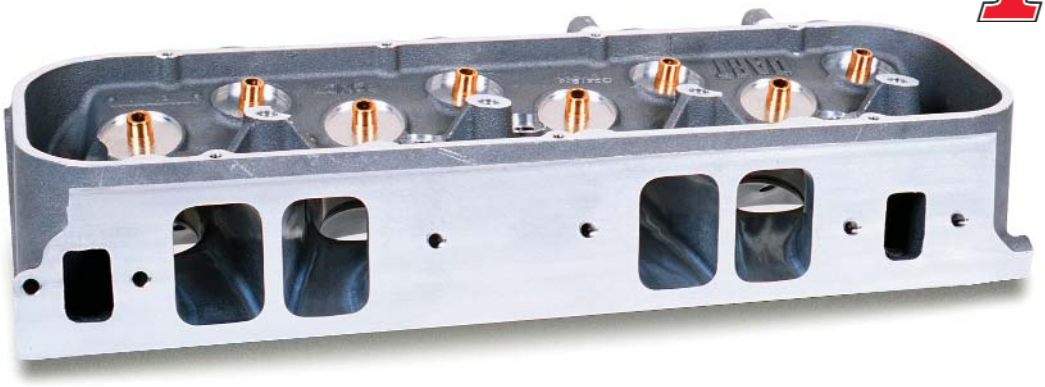
Assemblies Include:

Stainless steel valves, valve springs, retainers, locks, guide plates, studs and seals.

- **Premium alloy:** Dart aluminum heads are cast from virgin 355-T6 aerospace alloy for superior strength and integrity
- **Bolt on compatability:** 2° rolled valve angle and standard spacing. Accomodates all stock accessories
- **Three intake port sizes** (310cc, 325cc & 345cc) cover applications from street to competition
- **Heart-shaped 121cc chambers** improve combustion efficiency
- **Raised spark plug location** improves flame travel for a quicker, more complete burn - producing more power
- **Multi-angle intake seats** and radiused exhaust seats dramatically increase airflow
- **Hardened exhaust seats** are compatible with unleaded gasoline
- **Exhaust ports raised** .300" to improve flow (requires 1" longer head bolts next to exhaust ports)
- **Spark plug holes** are machined for gasketed 3/4" reach plugs
- **Manganese bronze** valve guides extend cylinder head life and reduce stem wear
- **As-cast heads are bowl-blended** on 5-axis CNC machining centers

Our new CNC PRO 1 aluminum big-block heads give every racer the advantages of precision-machined ports and combustion chambers - at an affordable price.

PRO 1 CNC BBC Heads



Dart PRO 1 CNC heads are professional quality competition cylinder heads. We applied the airflow technology developed in our championship-winning Pro Stock engine program to produce these state-of-the-art heads. Every intake port, every exhaust runner, every valve bowl, and every combustion chamber is 100% CNC machined on special dedicated PRO 1 castings. Our five-axis computer-controlled machining centers produce compound curves and complex shapes that no human could duplicate with a hand grinder.

- **Premium alloy:** Dart aluminum heads are cast from virgin 355-T6 aerospace alloy for superior strength and integrity
- **335cc and 355cc intake ports** so you can match the runner volume to your engine's displacement and rpm range
- **Heart-shaped 121cc chambers** improve combustion efficiency
- **CNC machining** ensures that every chamber has the same volume so every cylinder has equal compression
- **Raised spark plug location** improves flame travel for a quicker, more complete burn producing more power
- **Multi-angle intake seats** and radiused exhaust seats dramatically increase airflow
- **Hardened exhaust seats** are compatible with unleaded gasoline
- **Exhaust ports raised** .300" to improve flow (requires 1" longer head bolts next to exhaust ports)
- **Spark plug holes** are machined for gasketed 3/4" reach plugs
- **Manganese bronze valve guides** extend cylinder head life and reduce stem wear

PRO

Part No.	Mt'l	Intk Port	Cham Vol.	Int/Ex Valves	Springs	Notes
19474030	Alum	335cc	121cc	2.30/1.88 VJ		Bare
19474136	Alum	335cc	121cc	2.30/1.88	1.625D	
19574030	Alum	355cc	121cc	2.30/1.88 VJ		Bare
19574136	Alum	355cc	121cc	2.30/1.88	1.625D	

HEAD ASSEMBLIES

Assemblies Include:

Stainless steel valves, valve springs, retainers, locks, guide plates, studs and seals.

"Whether equipped with oval or rectangular ports, Dart aluminum big-block heads deliver superior performance" Car Craft Magazine

Race Series BBC Heads

Dart developed the first successful aftermarket aluminum heads for big-blocks, and we've continued to improve and refine our revolutionary design. Dart big-block heads deliver superior performance without the hassles of welding and modifying stock castings. We applied proven Pro Stock technology to produce big-block heads that out perform the competition - yet Dart heads can be used with most off-the-shelf pistons, manifolds, headers, and valvetrain components.

RACE

Part No.	Mt'l	Intk Port Stlye	Intk Port Vol.	Cham Vol.	CNC Program	Int/Ex Valves	Cyl. Bore	Notes
16300000	Alum	Rect.	320cc	119cc				Bare
16400000	Alum	Rect.	320cc	139cc				Bare
16500000	Alum	Rect.	360cc	119cc				Bare
16600000	Alum	Rect.	360cc	139cc				Bare
16500000S	Alum	Rect.	360cc	119cc				Bare Solid
16600000S	Alum	Rect.	360cc	139cc				Bare Solid
16900000	Alum	Rect.	410cc	119cc		2.35/1.88		Bare **Big M**
16776010	Alum	Oval	340cc	119cc	Full Port	2.25/1.88	4.500	Bare
16777010	Alum	Oval	340cc	119cc	Full Port	2.25/1.88	4.600	Bare
16774030	Alum	Oval	370cc	119cc	Full Port	2.30/1.88	4.500	Bare
16775030	Alum	Oval	370cc	119cc	Full Port	2.30/1.88	4.600	Bare

HEAD ASSEMBLIES

Assemblies Include:

Stainless steel valves, valve springs, retainers, locks, guide plates, studs and seals.

- **Premium alloy:** Dart aluminum heads are cast from virgin 355-T6 aerospace alloy for superior strength and integrity
- **24° (rolled two degrees from stock) valve angles** to reduce chamber volume and improve flow
- **Heart-shaped 119cc or 139cc combustion chambers** improve efficiency and increases power
- **Interlocking ductile iron valve seats** are compatible with stainless steel and titanium valves
- **Exhaust ports raised** .300" to improve airflow over short-side radius; raised ports fit most standard headers
- **Raised head bolt bosses** eliminate exhaust flow restriction found in stock heads (require 1" longer head bolts included with Dart head bolt and head stud kits)
- **Spark plug holes** are machined for gasketed 3/4" reach, 5/8" hex plugs
- **Available without water jackets** for alcohol applications
- **Rocker studs are relocated** for revised valve angles; use standard big-block rocker arms, studs and guideplates

CNC Ported Heads

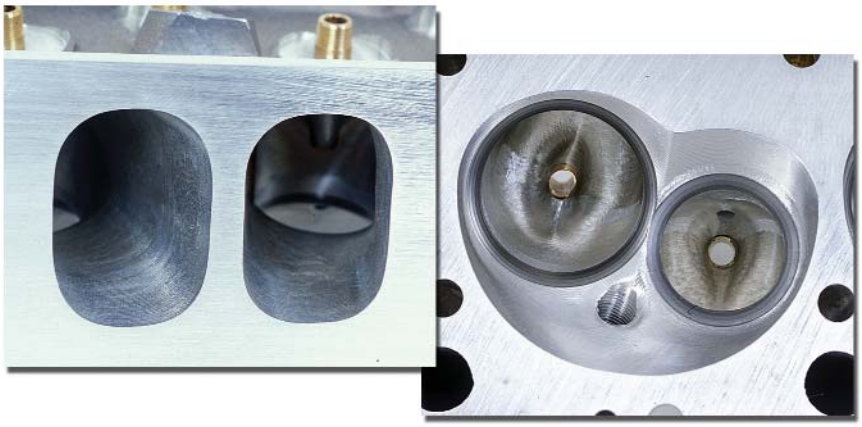
Intake and exhaust ports can be fully CNC-machined and seats prepared with competition valve job for maximum flow.

See page 33 for information on CNC porting options.

"The new 18-degree Dart big-block heads offer a significant increase in power over conventional siamesed-port heads without the expense of converting to a spread-port casting " Drag Racing Action

18° Oval-Port BBC Heads

NEW 18° oval-port heads bridge the gap between conventional heads and Big Chief heads.
Utilizing Pro-Stock style oval intake ports with 330cc or 383cc runners in a conventional style siamesed-port design, and featuring an 18° rolled valve angle with redesigned shallow combustion chambers, this design is ideal for drag racing, marine applications and dirt modified classes permitting big blocks.



- **Premium alloy:** Dart aluminum heads are cast from virgin 355-T6 aerospace alloy for superior strength and integrity
- **Oval intake ports** and high flowing 383cc intake runners in a conventional siamesed-port design.
- **The 18° rolled valve angle** and redesigned shallow chambers increase flow and optimize combustion
- **Raised spark plug location** improves flame travel for a quicker, more complete burn, resulting in more power.
- **Intake port floor raised** for improved flow characteristics
- **Exhaust ports raised** .300" to improve airflow over the short-side radius
- **Extended exhaust face** flange with improved angle for increased flow
- **5-axis CNC machined** intake & exhaust ports and combustion chambers
- **Huge 2.350" intake x 1.840" exhaust valves**
- **Interlocking ductile iron valve seats** are compatible with stainless steel and titanium valves
- **Spark plug holes** are machined for gasketed 3/4" reach, 5/8" hex plugs

CNC Ported Heads

Intake and exhaust ports can be fully CNC-machined and seats prepared with competition valve job for maximum flow.
See page 33 for information on CNC porting options.

RACE

Part No.	Mt'l	Intk Port Stlye	Intk Port Vol.	Cham Vol.	CNC Program	Int/Ex Valves	Cyl. Bore	Notes
16876040	Alum	Oval	330cc	102cc	Full Port	2.25/1.88	4.500	Bare 18º
16877040	Alum	Oval	330cc	102cc	Full Port	2.25/1.88	4.600	Bare 18º
16874050	Alum	Oval	383cc	102cc	Full Port	2.35/1.84	4.500	Bare 18º
16875050	Alum	Oval	383cc	102cc	Full Port	2.35/1.84	4.600	Bare 18º

HEAD ASSEMBLIES
Assemblies Include:
Stainless steel valves, valve springs, retainers, locks and seals.

You can spend hundreds of hours and thousands of dollars modifying other castings to get the features that Big Chief heads give you in an out-of-the-box package.

Big Chief BBC Heads

Dart Big Chief cylinder heads are the most powerful big-block heads you can buy! These heads put Pro Stock technology within the reach of every racer and engine builder. They have what it takes to win today: spread intake ports, shallow valve angles, efficient combustion chambers, raised exhaust runners, and a valvetrain that's reliable at high-rpm.

NEW 11º and 14º oval port designs raise the performance bar even further, with flow rates as high as 545 cfm.

With our sophisticated CNC machining programs, we can tailor a pair of Big Chief heads to fit your exact engine combination.

We have everything you need to build a complete Big Chief engine, including intake manifolds, valve covers, gaskets, and valvetrain components.

If you're serious about winning, run with the Big Chiefs - or stay on the trailer!

RACE

Part No.	Mtl.	Description	Port Style	Int/Exh Valves	Springs	Cyl. Bore	Notes
18000000	Alum	18º Program 381	Rect.				Bare
18000000S	Alum	18º Program 381	Rect.				Solid Bare
18034136	Alum	18º Super Mod	Rect.	2.40/1.90	1.625D	4.500	Assm.
18035136	Alum	18º BC Super Mod	Rect.	2.40/1.90	1.625D	4.600	Assm.
18074136	Alum	18º BC Full Port	Rect.	2.40/1.90	1.625D	4.500	Assm.
18075136	Alum	18º BC Full Port	Rect.	2.40/1.90	1.625D	4.600	Assm.
18100000	Alum	14º Program 3815	Rect.				Bare
18100000S	Alum	14º Program 3815	Rect.				Solid Bare
18200000	Alum	14º Program 384	Rect.				Bare
18275070	Alum	14º BC Full Port	Oval	2.47/1.80		4.600	Bare
18275179	Alum	14º BC Full Port	Oval	2.47/1.80	1.650T	4.600	Assm.
18300000	Alum	14º Program 385	Rect.				Bare
18474030	Alum	18º BC Pro1	Rect.			4.500	Bare
18474136	Alum	18º BC Pro1	Rect.	2.40/1.90	1.625D	4.500	Assm.
18475030	Alum	18º BC Pro1	Rect.	2.40/1.90		4.600	Bare
18475136	Alum	18º BC Pro1	Rect.	2.40/1.90	1.625D	4.600	Assm.
18575070	Alum	11º BCII Full Port	Oval	2.47/1.80		4.600	Bare
18575179	Alum	11º BCII Full Port	Oval	2.47/1.80	1.650T	4.600	Assm.

18º BIG CHIEF RECT. PORT - CNC SUPERMOD PORTED
Port Vol: 402cc
Valves: 2.400/1.900
Cyl. Bore: 4.130 - 4.600

18º BIG CHIEF RECT. PORT -CNC FULL PORTED
Port Vol: 421cc
Valves: 2.400/1.900
Cyl. Bore: 4.500 - 4.600
Stainless or Titanium Valves - Optional Pacaloy Springs

PRO-1 BIG CHIEF 18º RECT. PORT
As Cast Runners w/ CNC'd Chambers and CNC Blended Bowls
Port Vol: 421cc
Valves: 2.400/1.900
Cyl. Bore: 4.500 - 4.600
Stainless or Titanium Valves

14º BIG CHIEF RECT. PORT -CNC FULL PORTED
Port Vol: 440cc
Valves: 2.400/1.900
Cyl. Bore: 4.500 - 4.600
Stainless or Titanium Valves

14º BIG CHIEF OVAL PORT -CNC FULL PORTED
Port Vol: 433cc
Valves: 2.470/1.800
Cyl. Bore: 4.500 - 4.600
Titanium Valves & Copper-Berylium Seats Standard

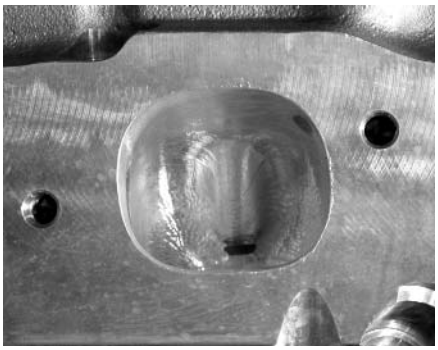
11º BIG CHIEF II OVAL PORT -CNC FULL PORTED
Port Vol: 512cc
Valves: 2.470/1.800
Cyl. Bore: 4.600
Titanium Valves & Copper-Berylium Seats Standard

"Preferred by many professional engine builders, Dart's CNC assemblies deliver consistent and reliable out-of-the-box performance" - Car Craft Magazine

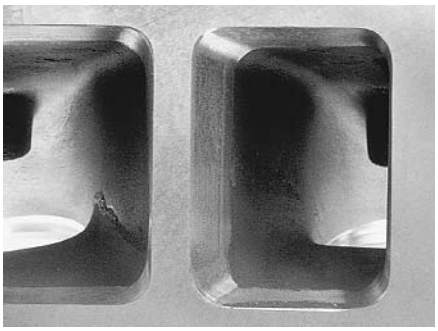
CNC OPTIONS

RACE

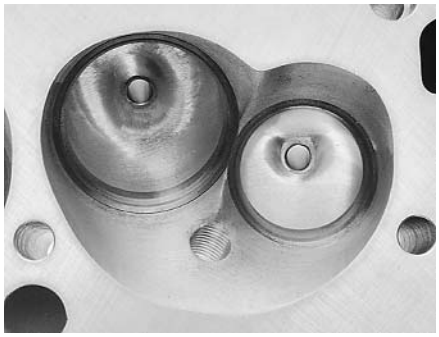
Now you can get Dart Race Series small-block and big-block cylinder heads prepared to your exact requirements! We've expanded our range of CNC porting options to fit more applications and budgets.
The consistency and accuracy of CNC (Computer Numerical Control) machining makes every CNC-ported Dart head virtually identical. Our automated five-axis machining centers port heads with incredible accuracy - and you get the performance benefits at a very affordable price!

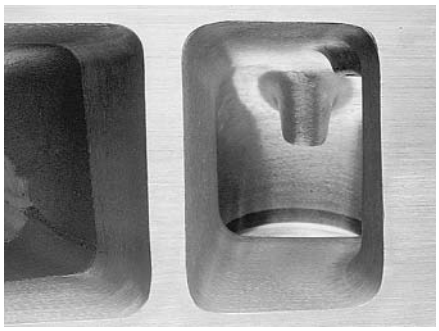


- **Full Port Exhaust:** Enlarged exhaust throat for alcohol and nitrous engines.



- **Super Mod:** CNC-machined valve bowls, combustion chambers, and port entrances
- **Super Mod Complete:** Adds precision valve job, valve guide sizing, and hand blending.





- **Full Port:** Full CNC machining of intake ports, exhaust ports, and combustion chambers
- **Full Port Complete:** Adds precision valve job, valve guide sizing, and hand blending.

BIG-BLOCK INTAKE MANIFOLDS

An engine's cylinder heads and intake manifold must work together as an integrated system to produce maximum performance. The intake charge should make a seamless transition from the manifold runners to the cylinder head ports.

Dart intake manifolds incorporate sophisticated wet-flow technology developed on successful oval track and drag racing engines. We don't make "universal" manifolds; every Dart intake is engineered for a specific cylinder head, block, and carburetor combination. This means that we've optimized the port shape, the plenum volumes, and the runner angle for each application. Dart manifolds are designed to make engine building easier. For example, our tall-deck big-block manifolds use standard length distributors. Most Dart manifolds have bosses for nitrous injectors, too. It makes sense to use an intake manifold from the induction system experts!

Dart BBC manifolds must be milled .060" when used with GM brand cylinder heads.

- Angled runners turn the air-fuel mixture smoothly from carburetor to ports
- Dual distributor hold-downs simplify timing adjustments
- Bosses for rear coolant lines
- Raised water cross-over and air gap insulate intake charge
- Integral bosses for nitrous injectors
- Scalloped manifold flanges clear center water outlets

Part No	Description	Port Style	Deck	Carb
41114000	BBC Manifold	Rect.	9.800	4150
41115000	BBC Manifold	Rect.	10.200	4150
41124000	BBC Manifold	Rect.	9.800	4500
41125000	BBC Manifold	Rect.	10.200	4500
41214000	BBC Manifold	Oval	9.800	4150
41215000	BBC Manifold	Oval	10.200	4150
41224000	BBC Manifold	Oval	9.800	4500
41225000	BBC Manifold	Oval	10.200	4500
43124000	Big Chief Manifold	Rect.	9.800	4500
43125000	Big Chief Manifold	Rect.	10.200	4500
43224000	Big Chief Manifold	Oval	9.800	4500
43225000	Big Chief Manifold	Oval	10.200	4500
41134000	BBC Manifold Tunnel Ram*	Rect.	9.800	
41135000	BBC Manifold Tunnel Ram*	Rect.	10.200	
	*Includes top plate of choice			
62420010	Tunnel Ram Top Plate Blank			
62420020	Tunnel Ram Top Plate 2x4150 Inline			
62420030	Tunnel Ram Top Plate 2x4150 Side			
62420040	Tunnel Ram Top Plate 2x4500			
62420050	Tunnel Ram Top Plate Enderle			

Dart Ram Manifolds

- The performance of a custom-built sheet metal intake for the price of a cast manifold!
- Curved runners meet the cylinder head ports at the correct angle to reduce turbulence in the transition.
- Tapered "funnel ram" runners maximize intake charge velocity for more complete cylinder filling.
- Interchangeable tops are available for inline carburetors, sideways carburetors, and fuel injection.
- Tall-deck manifolds are designed to use standard length distributor (small cap required).
- Overall height is 9.75".
- Short-deck and tall-deck versions available.

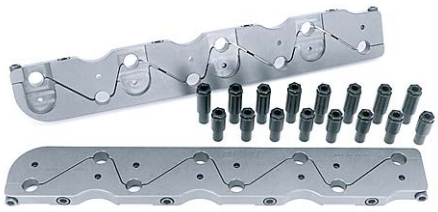
Big-block deck spacer plates adapt an intake manifold designed for a short-deck (9.800") Chevy big-block on a tall-deck (10.200") block. Dart manifold spacers are precision machined from billet aluminum.

Part No.	Description
62210001	Big-block manifold spacers, tall-deck (10.200") block - std. heads
62210006	Big-block manifold spacers, tall-deck (10.200") block - 18º rect. port heads
62210007	Big-block manifold spacers, tall-deck (10.200") block - 18º oval port heads

Dart carburetor spacers are made from phenolic plastic, a material with exceptional insulating properties. Our "clover-leaf" design matches the shape of the manifold plenum - and positively prevents the throttle plate screws from falling out!

Part No.	Carb	Style
62100001	4150	½" open
62100002	4150	1" open
62100003	4500	¼" 4-hole
62100004	4500	½" 4-hole
62100005	4500	1" 4-hole
62100006	4500	1" open
62100007	2" aluminum adapter	4500 carb to 4150 manifold

Valvetrain stabilizers, also known as "stud girdles" improve the performance and reliability of engines equipped with stud-mounted rocker arms. Extra-long adjusting nuts are tightly clamped between rigid aluminum bars that prevent stud deflection under high loads. The valve motion more closely follows the cam profile, producing more power and reducing breakage. Unlike "universal" girdles, these valvetrain stabilizers are designed to fit the specific valve locations, valve angles, and valve lengths in Dart cylinder heads. Kits include hardened poly-lock adjusting nuts.



Part No.	Description	Fits
64110001	Valve Train Stabilizer	Dart BBC

Not intended for sale or use in connection with pollution controlled motor vehicles

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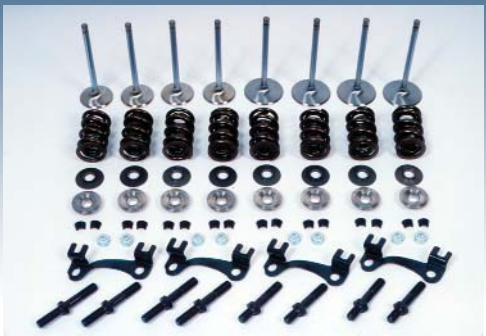
Valve Covers

Our extra-tall valve covers are designed to clear racing valvetrains and stud girdles. Their rigid cast-aluminum construction and machined gasket surfaces prevent messy oil leaks. The raised Dart logo stands out with a contrasting machined finish.

Part No.	Description	Fits
68000060	Stamped Steel Valve Covers	Dart BBC
68000020	Cast Aluminum Valve Cover Set	Dart BBC
68000040	Cast Aluminum Valve Cover Set	Dart BBC 18º (inverted flange)
68000030	Cast Aluminum Valve Cover Set	Dart Big Chief



Big-Block Parts Kits
(includes titanium retainers with 1.625" double springs, steel retainers with single springs and 1.550" double springs)

Part No.	Int.	Exh.	Spring
28000011	2.25"	1.88"	1.550" single
28000012	2.25"	1.88"	1.550" double
28000013	2.25"	1.88"	1.625" double
28000022	2.25"	1.90"	1.550" double
28000023	2.25"	1.90"	1.625" double
28000033	2.30"	1.88"	1.625" double
28000042	2.30"	1.90"	1.550" double
28000043	2.30"	1.90"	1.625" double

Head Parts Kits

Dart parts kits include everything you need to assemble a cylinder head: stainless steel valves, springs, locks, retainers, seals, studs, and guideplates.
These kits contain the same high quality components we use in our cylinder head assemblies.

Adjustable Guide Plates US Patent No. 7,032,562

Dart's new adjustable pushrod guide plates are designed to fit without requiring cutting, welding, bending & tweaking. Just position as needed and tighten the self-locking fasteners. This design eliminates one of the long-standing headaches of big block assembly.

Big-Block Adjustable Guide Plates

Part No.	Description
27001230	Each
27001230-4	Set of 4 (does one head)

Stud Kits

- Premium heat-treated materials produce proper clamping force.
- Precision rolled threads and centerless ground shanks increase strength.
- Stud length and thread engagement is optimized for Dart blocks and heads.
- Parallel-ground washers and top quality nuts included with stud kits.

Valves
We stock a huge inventory of stainless steel and titanium valves in a wide range of diameters and lengths. Please call with your specific requirements.

Valve Springs
Our in-house engine R&D program and our daily contact with top engine builders have taught us which springs will perform under the stress of competition. We offer valve springs for all types of engines, including street performance, oval track, and drag racing. Call us for the right spring for your combination!

Seats and Guides
Our ductile iron valve seats are machined from continuous cast solid bars. We heat treat our intake and exhaust seats to different specifications because of the different environments in which they operate. Replacement valve guides and guide liners are available for all Dart heads.

Gaskets
We have gaskets to fit every cylinder head we sell - including hard-to-find valve cover and exhaust gaskets. Most intake manifold gaskets are available in several thicknesses to maintain port alignment with milled blocks and heads. We carry composition and other head gaskets in a variety of bore sizes and thicknesses.

Sleeves
Premium quality sleeves are manufactured from high-strength ductile iron. Oversize sleeves available for restoring aluminum blocks to like-new condition.

Araldite Rapid Epoxy
We import this amazing epoxy from England because it's the best in the world. We use it in our own engine shop daily. This two-part epoxy cures in minutes, so you can keep working instead of waiting for it to harden.

Repairs
When an engine disaster strikes, you can count on Dart to make it right. We offer repair services for all Dart cylinder heads. Our cylinder head specialists can bring dead heads back to life. They can weld chambers, repair ports and water jackets, and install new seats and guides. Prices are based on condition of head and extent of damage.

Dart Coatings provides quality services to leading engine builders and component suppliers as well as Pro Stock, Top Fuel and NEXTEL Cup teams.
Our coatings have been proven to improve the performance and appearance of components, prolonging lifespan and increasing horsepower. Whether you're building 8,000 HP fuel motors or a daily driver street rod, Dart coatings will protect and enhance your components.

Dry Film Lubricants • Oil-Shedding Lubricants • Ceramic Thermal Barriers • Anti-Corrosion Coatings

DCI MOS2 Teflon Skirt Coating
Reduce Friction
Prevent piston skirt scuffing and galling, extending piston ring seal life with Dart's exclusive DCI MOS2/Teflon skirt coating.
*Used pieces can be processed and build up can be accommodated when requested.

DC2 High Temperature Reflective Heat Barrier
Protect and Enhance
Protect piston tops with DC2, Dart's high temperature highly reflective heat barrier. Enhances flame propagation, reflects more heat into the combustion chamber, protecting piston tops, piston rings and lands.
Ideal for any high temperature heat reflective/insulative application. (Combustion chambers. valve faces, exhaust port, intake manifold, brake caliper/pad/piston)

DCB-3 Engine Bearing Coating
Dart's engine bearing coating is a molybdenum disulfide/Teflon based material with high-load/non-stick properties providing protection to bearings and crankshaft in case of lack of lubricant or detonation.

DC-4 Lubricating Coating
High pressure lubricant contains a combination of lubricating pigments, including MOS2, creating exceptional wear life and load capacity in applications such as valve springs, oil pump gears, ring and pinion, transmission gear and bushing, valve stems, timing gears, bearing races, camshafts and any friction related area.

DC-5 Oil Shedding Coating
Oil shedding coating for applications in which oil and other petroleum liquids should be shed off rather than retained on a particular piece such as crankshaft counterweights, inside oil pan, windage trays, inside valve covers and connecting rods.

DC-6 Anti-Friction Coating
Special coating for alchohol / methanol engines. Primary uses are piston skirts, bearings and valve springs. Fluorinated polymers have a low coefficient of friction and are chemically inert. Lubricates without shedding.

DC-7 Anti-Corrosive Protectant
Anti-corrosive protectant coating for application in an environment of exposure to weather elements, gasoline, alcohol, nitro methane, brake fluid and antifreeze on varied types of materials including magnesium and aluminum.

Tel 248-362-1188 Fax 248-362-2027 www.DartHeads.com

DART SPORTSWEAR

Dart Cap
100% Cotton
$7.95

Dart T-Shirt
6.1 oz. 100% Pre Shrunk Cotton
$7.95 Sizes M-XL / $9.95 XXL

Sweat Shirt - Embroidered
12 oz. 90/10 Cotton/Poly
$16.95 Sizes M-XL / $18.95 XXL

Golf Shirt Embroidered
6.8 oz. 100% Combed Cotton
$16.95 Sizes M-XL / $18.95 XXL

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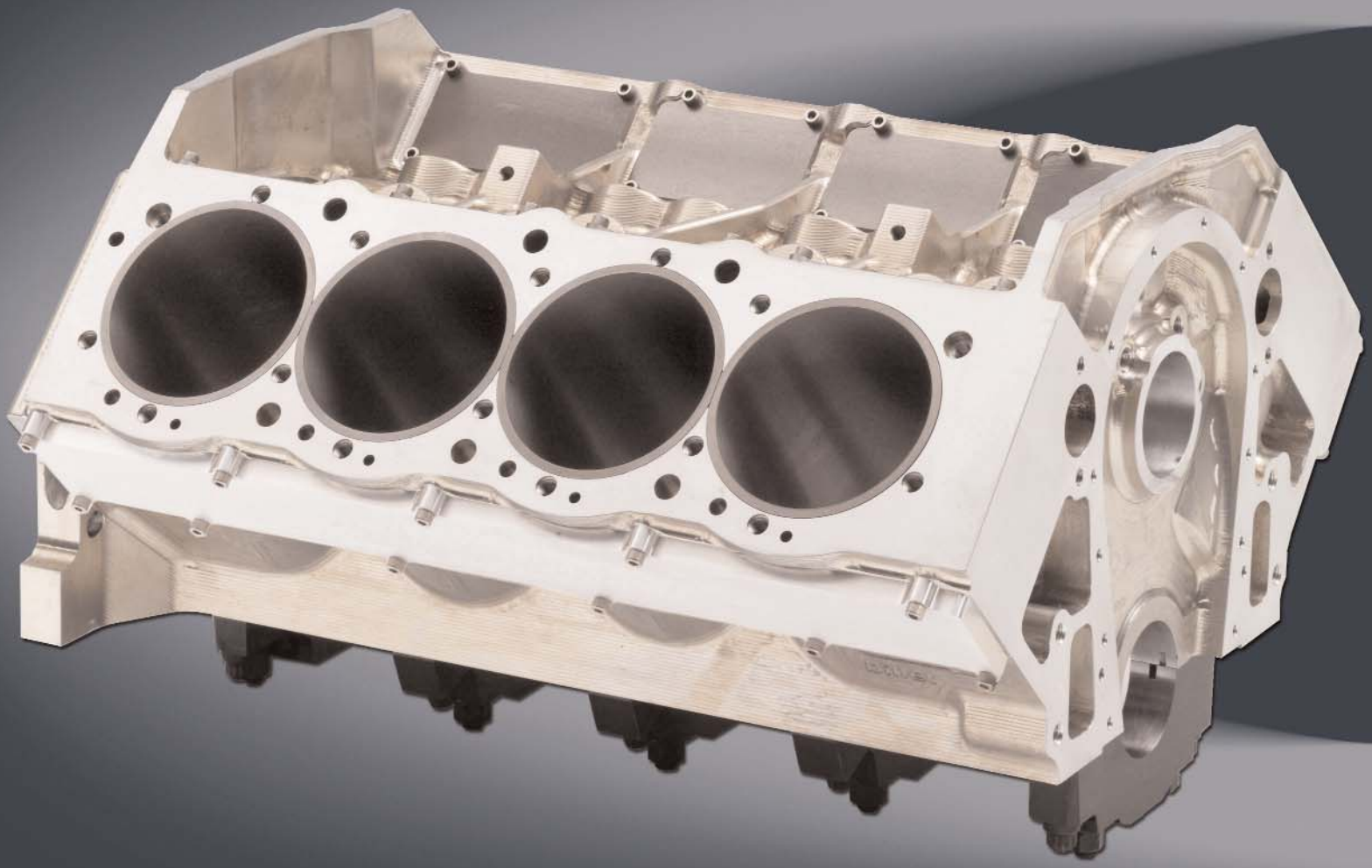
WWW.DARTHEADS.COM

Shipping Charges Apply
To All Items.



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