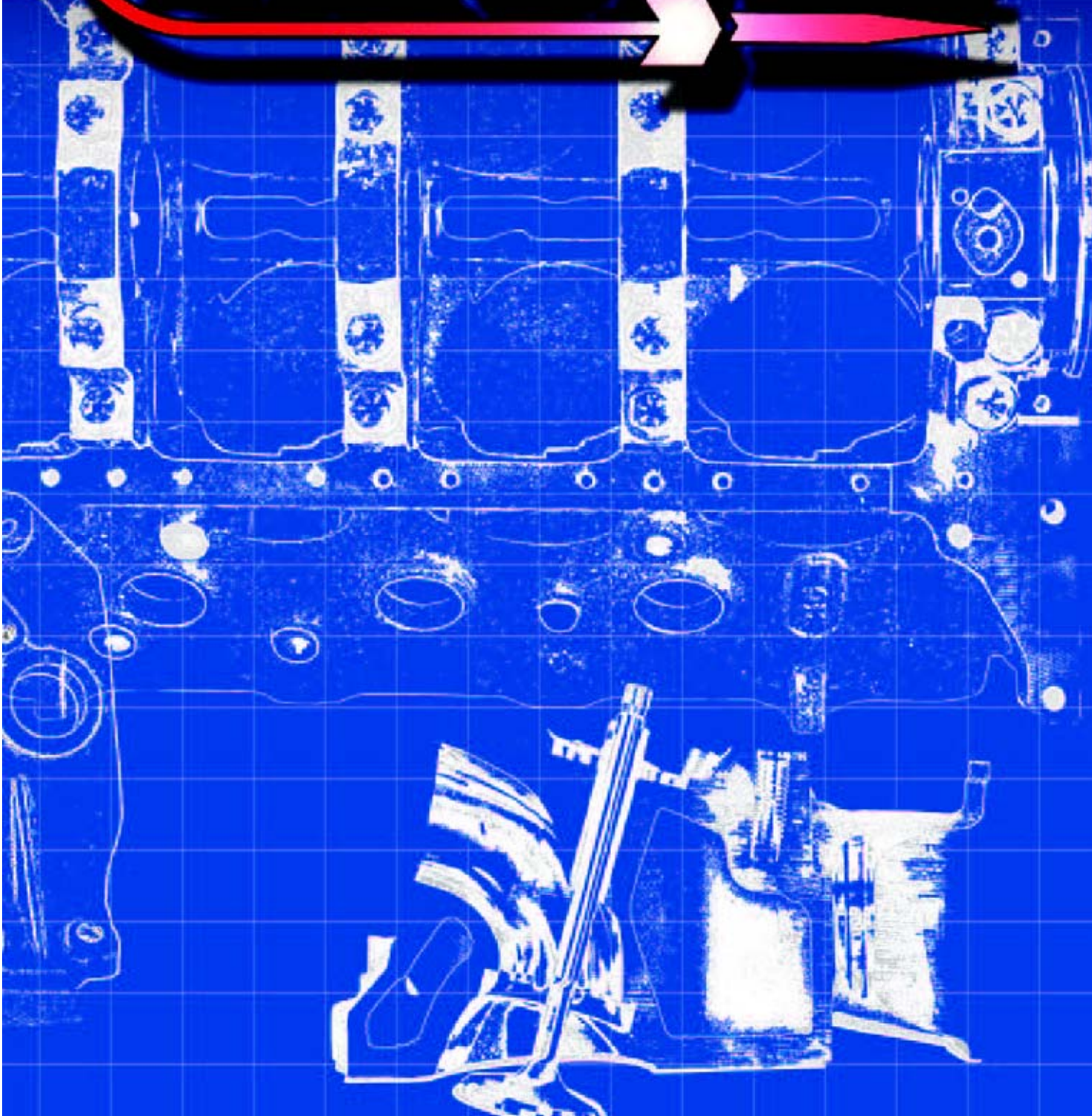


BLOCKS • HEADS • MANIFOLDS • ACCESSORIES

DAIJI



CHAMPIONSHIP ENGINE COMPONENTS

About Dart Machinery

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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, Mich. 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.



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

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 Contingency 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, Mich., 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.

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

**Designing
Aggressive
Racing
Technology**



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.



The DART Advantage

We're driven to win at Dart. We are racers ourselves, and we're committed to manufacturing the highest quality, best engineered components in the industry. Here are a few of the ways Dart beats the competition:

- **Speed Flow Technology:** Dart's matrix of technologies include R&D, CMM, CAD-CAM, advanced casting methods, extensive racing involvement and a dedicated team of employees (most of whom are racers). We utilize cutting edge equipment for development and production of all Dart products and are constantly pushing the envelope in order to bring our customers the best performing engine components at the best value.
- **Precision Manufacturing:** We use special silica sand cores to ensure consistent wall thickness. We cast many of our heads with form chills that promote even cooling and minimize core shift. Critical machining operations are done from the deck side of the head to eliminate "stack up" in machining tolerances.
- **Premium Alloy:** We use pure virgin C355-T6 aluminum alloy exclusively in Dart heads and blocks. Made to aerospace standards, this premium alloy contains no remelted material. C355-T6 is rated excellent in tensile elongation, resistance to hot cracking, pressure tightness and weldability. It is far superior to the A356-T6 alloy that is commonly used in aftermarket components, with greater strength and less elongation.
- **No Helicoils:** You'll never find heli-coils in Dart heads; our aluminum is tough enough to resist stripping without thread inserts.
- **Heat Treating:** Dart aluminum heads are heat-treated to the high end of the Brinnell hardness scale for T6 specifications for extra strength.
- **High-Flow Seats:** We machine the seats with precision designed cutters instead of grinding them with stones. Our multi-angle intake seats and radiused exhaust seats maximize airflow.

Discover the Dart advantage for yourself. See your Dart dealer or engine builder - and then get ready to **dominate with Dart!**

LEGAL NOTICES

Emissions Notice: Dart components are not legal for sale or use on pollution-controlled motor vehicles.

Specifications: We are committed to continuously improving our products. We reserve the right to change specifications and to discontinue products without notice. We have made every effort to ensure the accuracy of this catalog; however, Dart is not responsible for typographical errors or omissions.

Policies and Warranties: Please see current price schedule for important ordering, shipping, and warranty information.

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Dart's manufacturing equipment is the best in the industry, ensuring precision and quality in every part we ship.



Speed Flow Technology - Dart's commitment to producing the highest flowing, best performing cylinder heads available.

1



All unported Dart heads are bowl blended on 5-axis CNC machining centers for consistent flow characteristics.



Dart's investment in large scale machining equipment reduces the number of set-ups, eliminating tolerance stack up and increasing the quality of our products.

Honda Blocks

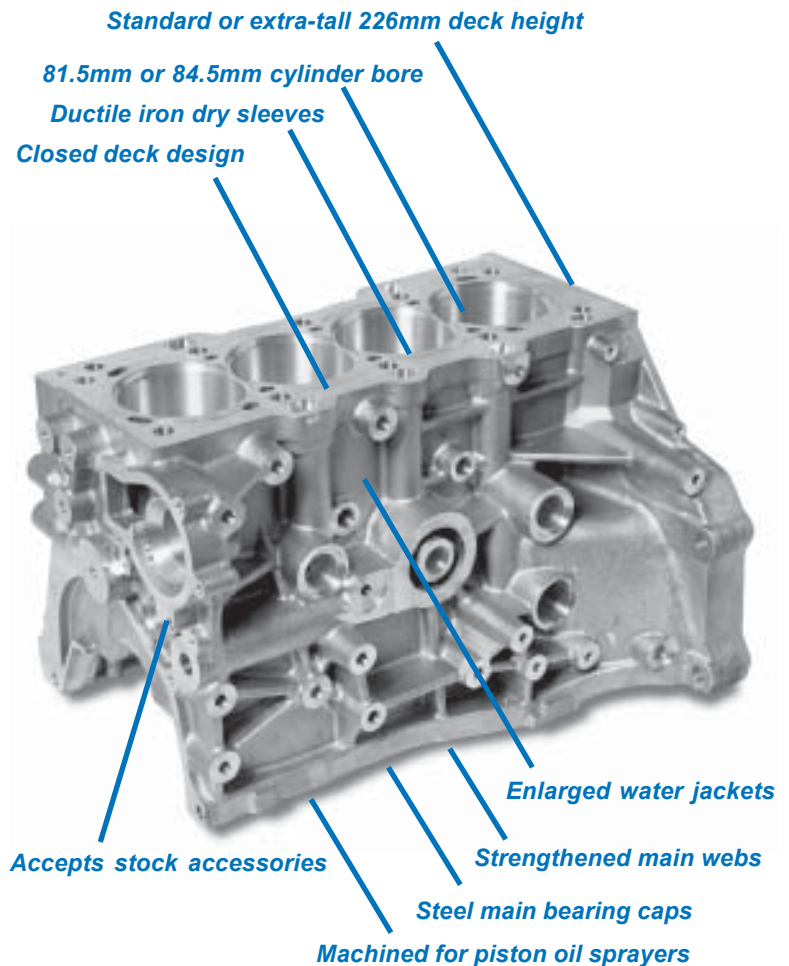
Now Honda owners can discover the Dart advantage! We applied our decades of racing experience to design and manufacture the first heavy-duty block for Hondas. Working in conjunction with leading industry professionals, we engineered the new Dart aluminum Honda block to solve the shortcomings of production blocks used in high-performance and competition applications.

We offer the Dart 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 thicknesses 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. We produce Dart blocks for Hondas on all-new tooling and machine them on state-of-the-art CNC equipment. We added the features that sport compact racers and performance enthusiasts need to build powerful and reliable engines. Take a close look and you'll see why Hondas dominate with Dart!

2

- **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 8.900 (226mm) deck height and 84.5mm bore for increased displacement.
- **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



"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

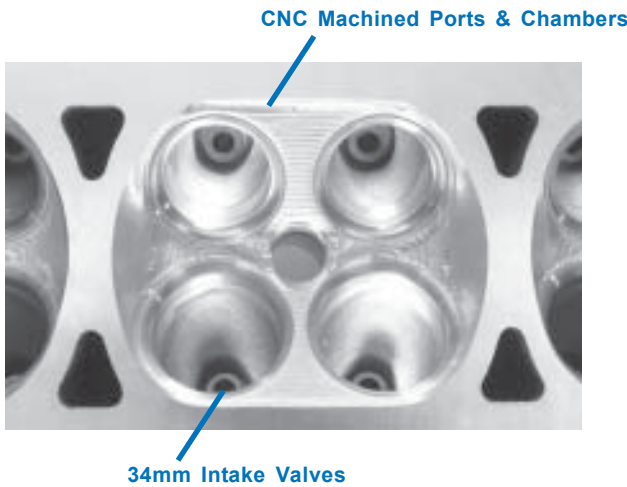
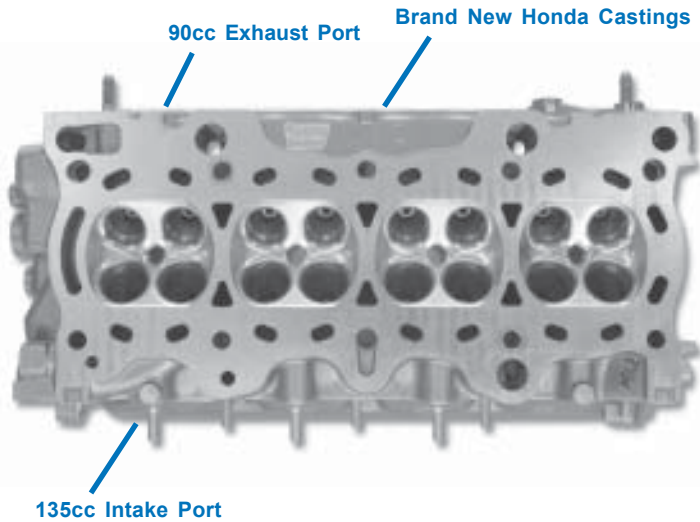
Part Number	Description	Matl.	Deck Height	Cyl. Bore	Main Caps	Main Bearing Dia.
31496702	B-20 Block	Alum	226mm	81.5mm	Steel	Std
31496802	B-20 Block	Alum	226mm	84.5mm	Steel	Std
31496701	B-18 Block	Alum	211.5mm	81.5mm	Steel	Std
31496801	B-18 Block	Alum	211.5mm	84.5mm	Steel	Std

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Honda CNC Cylinder Head

NDRA & NHRA Legal



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 air-flow and combustion characteristics.

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 turbocharged or nitrous oxide injected engines using Dart's B-18 , B-20+ or stock Honda blocks. Digital CNC porting and combustion chamber machining provides dimensionally accurate and consistent contours which translate into reliable power output.

- 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
 - OE VTEC solenoid

3

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 VJ	.875D*	Assembled
17075020	Alum	135cc	48cc	84.5mm	34mm/28mm VJ		Bare Casting
17075123	Alum	135cc	48cc	84.5mm	34mm/28mm VJ	.875D*	Assembled

*D= Double

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Ford Iron Blocks

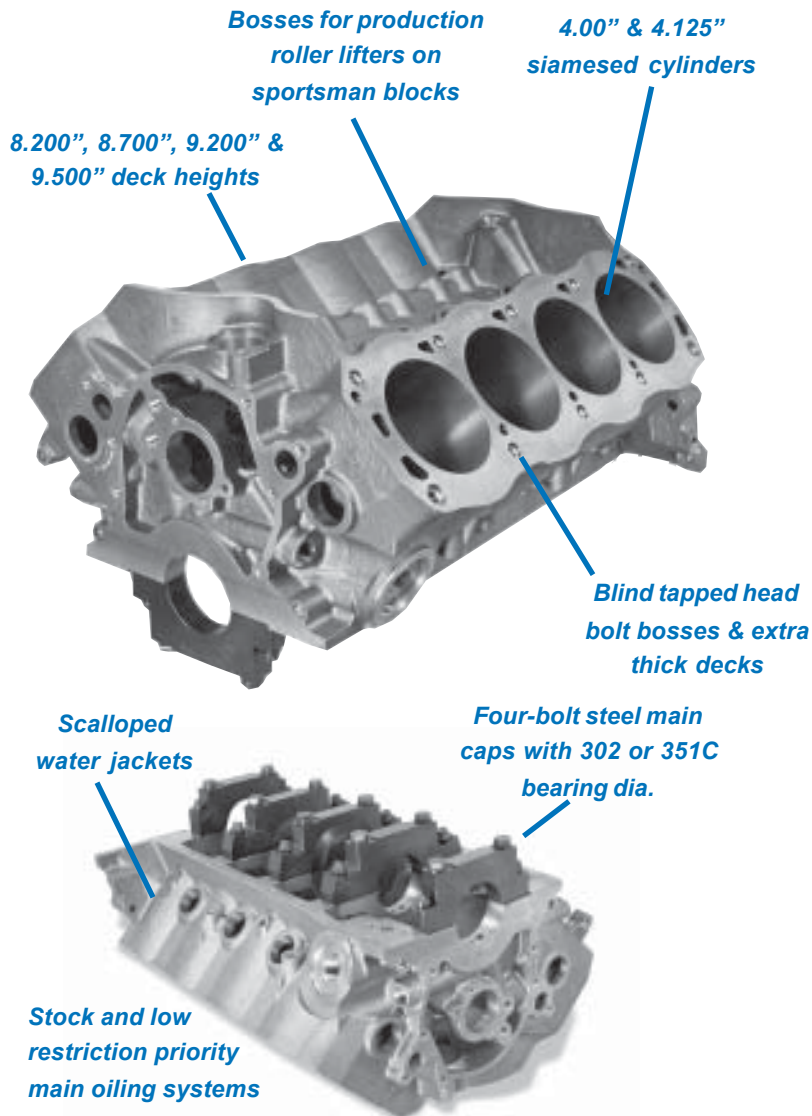


Dart puts Ford racers in front with our first iron blocks designed just for Fords. Working with leading Ford racers and engine builders, we designed the Iron Eagle Race Series and Sportsman small-blocks to solve the shortcomings of production-type blocks used in high-performance and competition applications.

Dart blocks for Fords are produced on dedicated tooling and machined on state-of-the-art CNC equipment. We added the features that Ford racers need to build powerful and reliable engines. Take a close look and you'll see why Fords fly with Dart!

- **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.
- **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 468ci. Short-deck versions fit under stock hoods while tall-deck versions are ideal for big-inch engines.
- **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 main caps.*
- **Two main bearing diameters:** 302 (2.249") or 351C (2.749") allow choice of small or large journal crankshaft.
- **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.
- **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. Lifter valley of sportsman block has bosses for production hydraulic roller lifters.
- **Precision CNC machining** ensures consistent high quality and eliminates expensive "blueprinting."

Dart Blocks include coated cam bearings, freeze plugs, and dowels.



Part Number	Mat'l.	Description	Main Caps	Main Bearing Dia.	Deck Height	Cyl. Bore
31384175	Iron	302	Steel	302	8.200	4.000
31384185	Iron	302 Stroker	Steel	302	8.700	4.000
31384195	Iron	351 Cleveland	Steel	302	9.200	4.000
31384275	Iron	302	Steel	302	8.200	4.125
31384285	Iron	302 Stroker	Steel	302	8.700	4.125
31384295	Iron	351 Cleveland	Steel	302	9.200	4.125
31385135	Iron	351 Windsor	Steel	Cleveland	9.500	4.000
31385195	Iron	351 Cleveland	Steel	Cleveland	9.200	4.000
31385235	Iron	351 Windsor	Steel	Cleveland	9.500	4.125
31385295	Iron	351 Cleveland	Steel	Cleveland	9.200	4.125
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

Note: Sportsman Blocks do not include freeze plugs, cam bearings, or dowels.

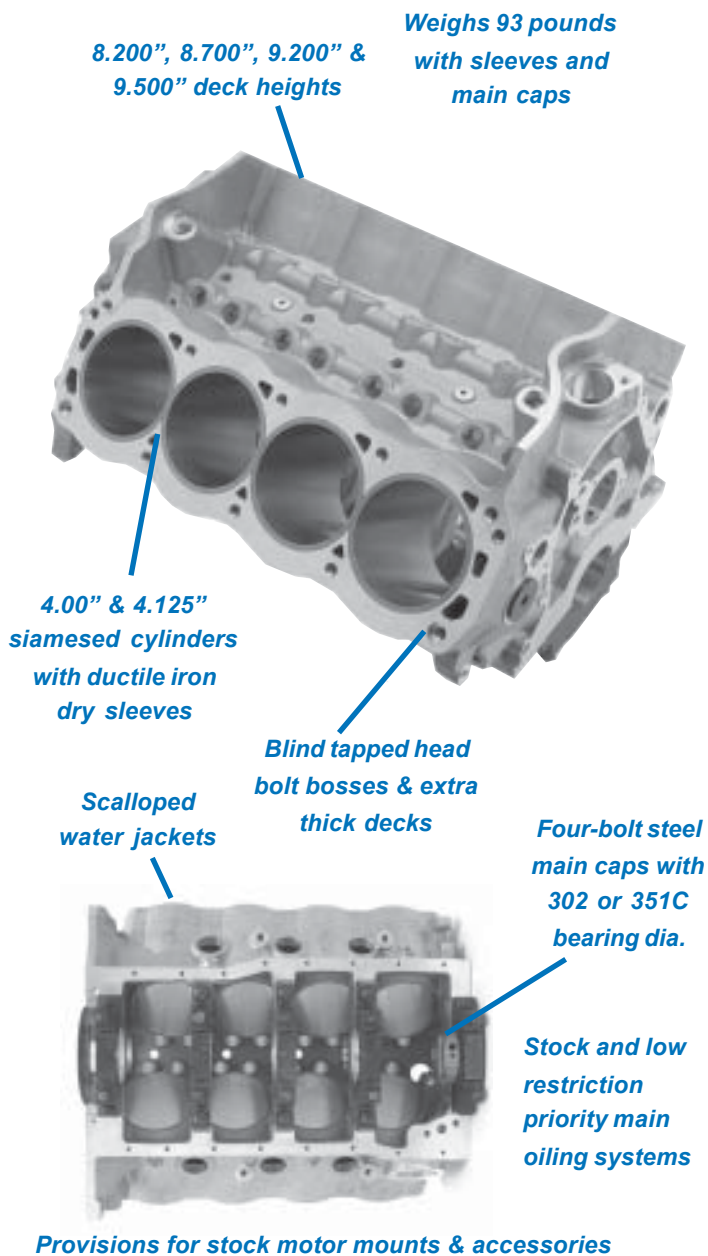
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Ford Aluminum Blocks

Dart Blocks include coated cam bearings, freeze plugs, and dowels.



Dart puts Ford racers in front with our first Aluminum blocks designed just for Fords. Working with leading Ford racers and engine builders, we designed the Race Series small-blocks to solve the shortcomings of production-type blocks used in high-performance and competition applications.

Dart blocks for Fords are produced on dedicated tooling and machined on state-of-the-art CNC equipment. We added the features that Ford racers need to build powerful and reliable engines. Take a close look and you'll see why Fords fly with Dart!

- **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. Short-deck versions fit under stock hoods while tall-deck versions are ideal for big-inch engines.
- **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.
- **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.
- **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."



Part Number	Mat'l.	Description	Main Caps	Main Bearing Dia.	Deck Height	Cyl. Bore
31344175	Alum	302	Steel	302	8.200	4.000
31344185	Alum	302 Stroker	Steel	302	8.700	4.000
31344195	Alum	351 Cleveland	Steel	302	9.200	4.000
31344275	Alum	302	Steel	302	8.200	4.125
31344285	Alum	302 Stroker	Steel	302	8.700	4.125
31344295	Alum	351 Cleveland	Steel	302	9.200	4.125
31345135	Alum	351 Windsor	Steel	Cleveland	9.500	4.000
31345195	Alum	351 Cleveland	Steel	Cleveland	9.200	4.000
31345235	Alum	351 Windsor	Steel	Cleveland	9.500	4.125
31345295	Alum	351 Cleveland	Steel	Cleveland	9.200	4.125

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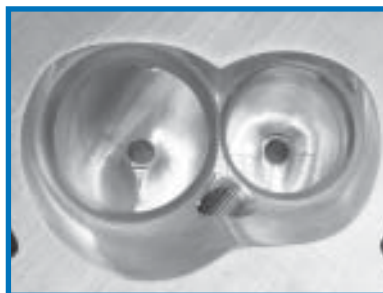
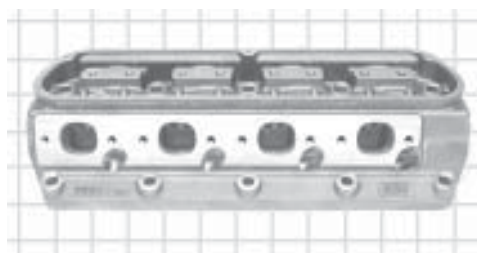
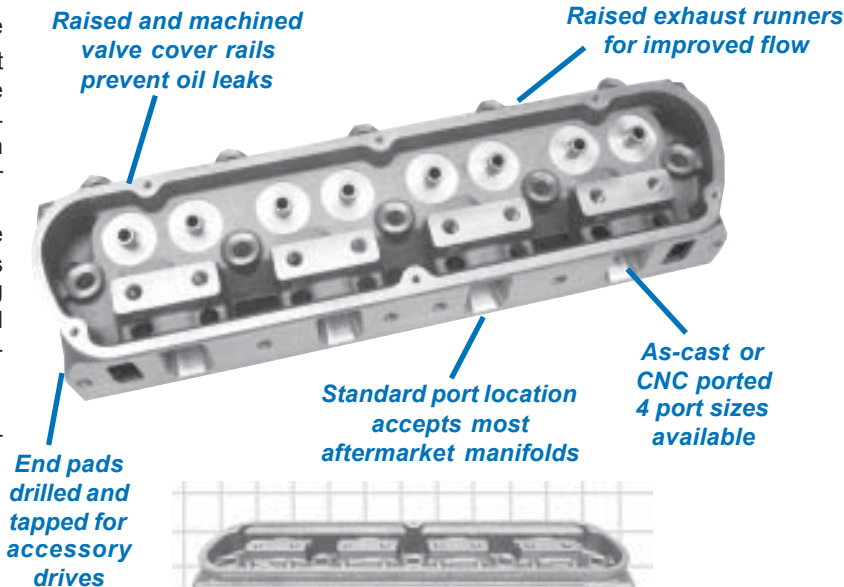


Ford Aluminum Heads



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 compatibility. Exhaust runners are raised 0.135" for improved flow. The exhaust flange uses the spread bolt pattern on CNC ported heads to accommodate headers, and standard pattern on as-cast heads. 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.

Whether you're building a mild street engine or a big inch fire breather, Dart heads will give you a performance advantage!



Redesigned heart shaped combustion chambers improve combustion efficiency

As-cast heads are bowl blended on 5-axis machining centers

- **Premium alloy:** Dart aluminum heads are cast from virgin 355-T6 aerospace alloy for superior strength and integrity.
- **Bolt on compatibility:** Standard valve angle and spacing are retained. Accommodates 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 to accommodate headers, and standard pattern on as-cast heads.

HEAD ASSEMBLIES

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

PRO 1 ALUMINUM SMALL-BLOCK FORD HEAD

Part Number	Matl.	Intk. Port Vol.	Cham. Vol.	Exh. Port Vol.	Int/Exh Valves	Spring Dia. S=Single D=Double	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	Bare Casting
13200010	Alum	195cc	62cc	75cc	2.02/1.60	VJ	
13211111	Alum	195cc	62cc	75cc	2.02/1.60	1.250S	Bare Casting
13211112	Alum	195cc	62cc	75cc	2.02/1.60	1.437D	
13211113	Alum	195cc	62cc	75cc	2.02/1.60	1.550D	

PRO 1 CNC PORTED ALUMINUM SMALL-BLOCK FORD CNC HEAD

Part Number	Matl.	Intk. Port Vol.	Cham. Vol.	Exh. Port Vol.	Int/Exh Valves	Spring Dia. S=Single D=Double	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	Bare Casting
13072040	Alum	225cc	62cc	87cc	2.08/1.60	VJ	
13072142	Alum	225cc	62cc	87cc	2.08/1.60	1.437D	
13072143	Alum	225cc	62cc	87cc	2.08/1.60	1.550D	

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The small-block Chevrolet V8 has been a favorite of racers and hot rodders for nearly 50 years. Dart has improved on this classic design by developing blocks and cylinder heads for specific applications, from street/strip performance to all-out competition. On the street, on the strip, and on oval tracks, the fast guys use Dart blocks and heads!

Blocks

Little M

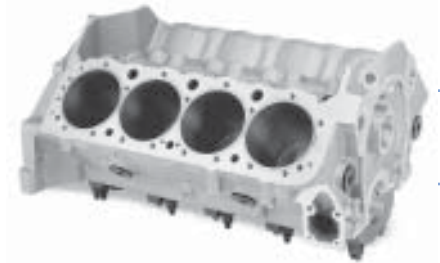
The Little M block is the perfect starting point for a powerful and reliable engine for the street or the race track. The Little M uses standard small-block components - and then adds features you can't get in any production casting. The Little M is the affordable alternative for serious small-block racers.

Iron Eagle

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! 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.

Race Series

We applied our years of experience in manufacturing aluminum cylinder heads to create the ultimate aluminum small-block. Working with leading engine builders, we incorporated features that make the Dart block the best choice for an all-out competition engine.



Heads

Iron Eagle

Our Iron Eagle line proves that cast-iron heads can produce exceptional performance. They're the logical choice for performance enthusiasts who want an economical price and solid reliability. They're also an "unfair advantage" for racers who compete in classes that require iron heads.

PRO-1

Dart PRO 1® small-block heads set the standard in ready-to-run aluminum cylinder heads. You could pay thousands of dollars for hand-ported heads this good - or you can use out-of-the-box PRO 1 heads.

Race Series

Our Race Series small-block heads are engineered for serious racers. Extra-thick wall sections provide plenty of material for custom porting and extra-thick decks permit radical modifications. We offer 23°, 18°, 16° & 15° versions to fit a wide variety of engines.

Little Chief

Dart Little Chief cylinder heads are the most powerful small-block heads you can buy! These heads put Pro Stock technology within the reach of every racer and engine builder.



7

Intake Manifolds

4150 Single Plane

4500 Single Plane

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. That's why we apply the same thoughtful engineering to Dart intake manifolds that we put into our championship-winning cylinder heads.

Valve Covers

Small Block Chromed Steel

Small Block Aluminum

Little Chief Aluminum

Little Chief Magnesium

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.





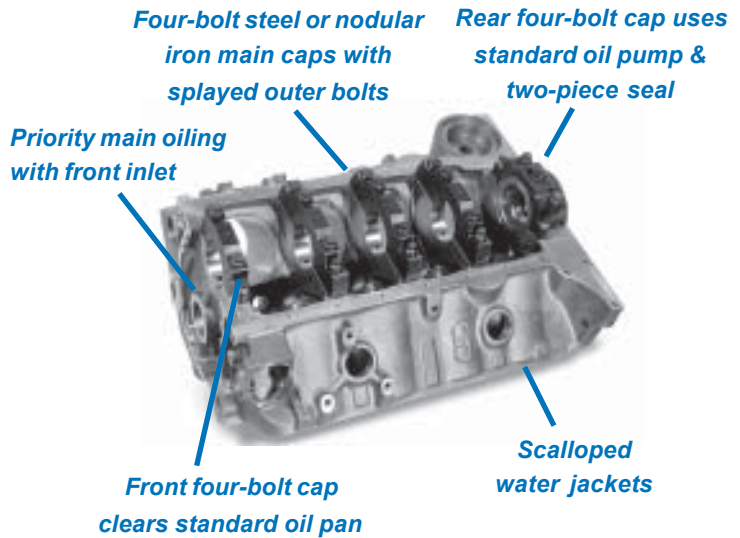
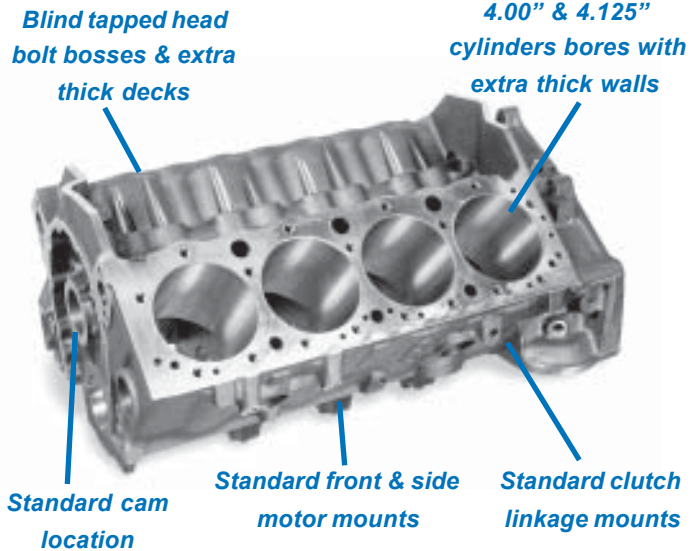
Dart's cast-iron Little M block is a small-block breakthrough! The Little M uses standard small-block components - and then adds features you can't get in any production casting.

The Little M block is the affordable alternative for serious small-block racers. Our precision machining eliminates the time and expense of 'blueprinting' a stock block. With extra-thick cylinder walls, four-bolt main bearing caps, 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.

The Little M gives you the choices you want in a production-type block. You can select nodular iron or steel four-bolt main bearing caps, 4.00" or 4.125" cylinder bores, and 350 or 400 main bearings. Build it your way with Dart!

Don't waste time on a questionable junkyard block or waste money on machining a "semi-finished" factory casting. The Little M is brand-new, fully machined, and virtually ready to assemble with off-the-shelf small-block components. You'll make more power and save money in the long run with a strong, reliable Dart Little M block!

Dart Blocks include coated cam bearings, freeze plugs, and dowels.



- **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** simplify 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.

Part Number	Mat'l.	Description	Main Caps	Main Bearing Dia.	Deck Height	Cyl. 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
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

Note: Dart Sportsman Blocks have 2 bolt front and rear main caps and 4-bolt centers, and do not include freeze plugs, coated cam bearings, or dowels.

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SBC Iron Eagle Block

Dart Blocks include coated cam bearings, freeze plugs, and dowels.

Minimum .625" deck thickness ensures reliable head gasket seal

Blind tapped head bolt holes prevent water leaks

Sealed lifter valley has provisions for rear oil scavenge pickup

Freestanding head bolt bosses minimize bore distortion

Extra-thick siamesed cylinders provide a minimum .275" wall thickness at 4.185" bore

Cam location raised .391"

Priority main oiling system directs oil to main bearings first

Spread oil pan rails .400" per side

We've incorporated all of the advantages of our Dart aluminum small-block in a new cast-iron version. 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.

The Dart Iron Eagle eliminates the compromises found in production 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 also offer a choice of 350 or 400 main bearings to fit factory and aftermarket cranks. 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!

We machine the Iron Eagle block to precise tolerances, eliminating the cost of expensive "blueprinting" a production block. Compare the cost of a race-ready Iron Eagle block to what you would have to spend on main caps, align honing, and machining a production block. Our Iron Eagle block is built right - and it has features that aren't available in any stock small-block!

- **Steel 4-bolt main bearing caps** resist bearing bore distortion.
- **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.
- **Rear main cap** has provisions for a wet sump oil pump.
- **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).
- **Two-piece rear main seal** fits standard racing crankshafts without adapters.
- **Raised camshaft** (4.912" camshaft-to-crankshaft centerlines) provides more connecting rod clearance with long-stroke cranks.
- **Optional big-block camshaft bearings** allow the use of cams with larger base circle diameter to improve strength and reliability.
- **Chain, belt, and gear camshaft drives** are available for Iron Eagle blocks.

Part Number	Mat'l.	Cam Bearings	Main Caps	Main Bearing Dia.	Deck Height	Cyl. Bore
31121111	Iron	Std. Cam	Steel	350	9.025	4.000
31121112	Iron	BBC Cam	Steel	350	9.025	4.000
31121211	Iron	Std. Cam	Steel	350	9.025	4.125
31121212	Iron	BBC Cam	Steel	350	9.025	4.125
31121221	Iron	Std. Cam	Steel	350	9.325	4.125
31121222	Iron	BBC Cam	Steel	350	9.325	4.125
31122111	Iron	Std. Cam	Steel	400	9.025	4.000
31122112	Iron	BBC Cam	Steel	400	9.025	4.000
31122211	Iron	Std. Cam	Steel	400	9.025	4.125
31122212	Iron	BBC Cam	Steel	400	9.025	4.125
31122221	Iron	Std. Cam	Steel	400	9.325	4.125
31122222	Iron	BBC Cam	Steel	400	9.325	4.125

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SBC Aluminum Block



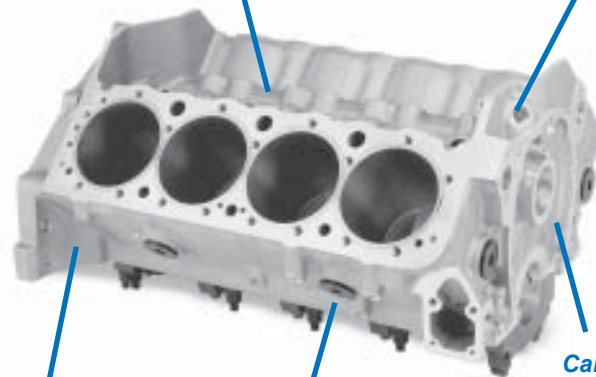
We applied our years of experience in manufacturing aluminum cylinder heads to create the ultimate aluminum small-block. Working with leading engine builders, we incorporated features that make the Dart block the best choice for an all-out competition engine.

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.

- **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" 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.
- **Oil pan rails are spread .400"** per side (.800" total) and bolt holes are relocated to increase crankshaft/rod clearance.
- **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 crankshafts without adapters.
- **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).
- **Big-block cam bearings** increase camshaft strength and reduce twisting with cam-driven pumps
- **Raised camshaft** (4.912" camshaft-to-crankshaft centerlines) provides more clearance for stroker cranks and eliminates need for fragile small base circle cams.

Sealed lifter valley has rear oil scavenge pickup to reduce windage losses

Dry sump oil inlets at the front and rear of the block simplify plumbing



95 pounds total weight with steel caps and sleeves

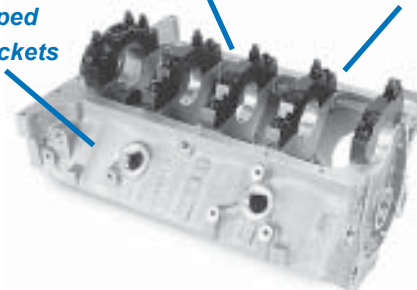
Threaded o-ring plugs prevent water leaks

Cam location raised .391" to clear stroker cranks

Spread oil pan rails .400" per side

Priority main oiling system directs oil to main bearings first

Scalloped water jackets



Part Number	Mat'l.	Cam Bearings	Main Caps	Main Bearing Dia.	Deck Height	Cyl. Bore
31111112	Alum	BBC Cam	Steel	350	9.025	4.000
31111122	Alum	BBC Cam	Steel	350	9.325	4.000
31111132	Alum	BBC Cam	Steel	350	9.500	4.000
31111212	Alum	BBC Cam	Steel	350	9.025	4.125
31111222	Alum	BBC Cam	Steel	350	9.325	4.125
31111232	Alum	BBC Cam	Steel	350	9.500	4.125
31112112	Alum	BBC Cam	Steel	400	9.025	4.000
31112122	Alum	BBC Cam	Steel	400	9.325	4.000
31112132	Alum	BBC Cam	Steel	400	9.500	4.000
31112212	Alum	BBC Cam	Steel	400	9.025	4.125
31112222	Alum	BBC Cam	Steel	400	9.325	4.125
31112232	Alum	BBC Cam	Steel	400	9.500	4.125

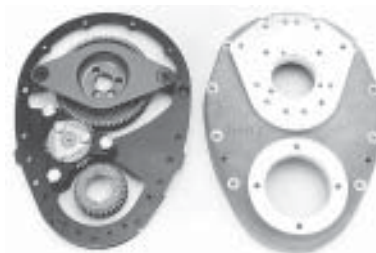
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RACE SERIES SMALL BLOCK ACCESSORIES

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 Kit

- **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.



Sleeves

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



SBC Cylinder Head Quick Reference Guide

Small Block Heads	Mt'l.	Port Vol.	Chamber	Int/Exh Valves	Recommendation
Iron Eagle S/S	Iron	165cc	72c	1.94/1.50"	Street & Strip Performance, Towing, with stock or mildly modified engines.
Iron Eagle 180	Iron	180cc	64/72cc	2.02/1.60"	Street Performance, maximum torque and throttle response; 327/350ci
Iron Eagle 200	Iron	200cc	64/72cc	2.02/1.60"	Street Performance & Restricted Oval Track; 6000 RPM, 327/350ci
Iron Eagle 215	Iron	215cc	64/72cc	2.05/1.60"	Serious Street Performance, Oval Track, Bracket Racing, 7000 RPM, 383/400ci
Iron Eagle 230	Iron	230cc	64/72cc	2.08/1.625"	Maximum Performance, Full Competition, Unlimited Oval & Super Classes; over 7000 RPM, 400+ci
PRO-1 180	Alum	180cc	64/72cc	2.02/1.60"	Street Performance, maximum torque and throttle response; 327/350ci
PRO-1 200	Alum	200cc	64/72cc	2.02/1.60"	Street Performance, Excellent replacement for stock heads; 6000 RPM, 327/350ci
PRO-1 215	Alum	215cc	64/72cc	2.05/1.60"	Serious Street Performance, Bracket Racing, Restricted Oval Track; 7000 RPM, 350/400ci
PRO-1 230	Alum	230cc	64/72cc	2.08/1.625"	Maximum Performance & Full Competition, Heads-Up & Super Classes; 7000 RPM, 400+ci
PRO-1 CNC	Alum	227cc	64cc	2.08/1.60"	Maximum Performance & Full Competition, Heads-Up & Super Classes; 7000 RPM, 400+ci
Dart 15, 16, 18 Degree	Alum	252/263/275cc	67/69.4cc	2.15-2.18-2.20/1.60-1.62"	Maximum Competition, Comp/Modified Drag Racing, Sprint Cars; over 7000 RPM
Little Chief Small Port	Alum	275cc	36/48cc	2.180/1.550"	Maximum Competition, Comp/Modified Drag Racing, Sprint Cars; over 7000 RPM
Little Chief Large Port	Alum	315cc	34/50cc	2.230/1.550"	Maximum Competition, Comp/Modified Drag Racing, Sprint Cars; over 7000 RPM

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SBC Iron Eagle Heads



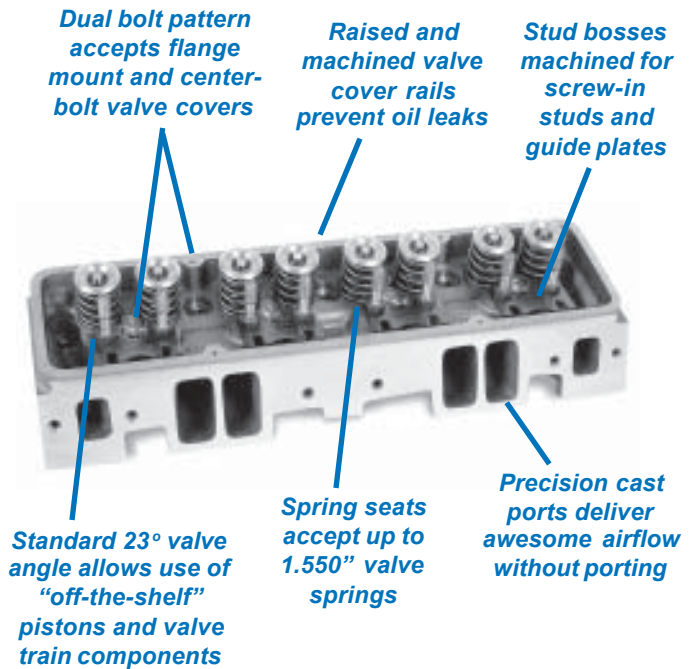
Our Iron Eagles are the first true high-performance cast-iron cylinder heads! The result of three decades of cylinder head development, Iron Eagle heads incorporate features that were previously available only in expensive aluminum cylinder heads. Iron Eagles are the affordable alternative!

We designed Iron Eagle heads for street performance, bracket racing, oval track competition, and high-performance marine use. We offer five different intake ports - 165cc, 180cc, 200cc, 215cc, and 230cc that cover virtually every engine application. For example, our high-velocity 165cc intake runner delivers instant throttle response on the highway and our monster 230cc intake runner meets the needs of large displacement and high-rpm racing engines with the biggest ports you can buy in a cast-iron small-block head! Dart Iron Eagle heads have standard features you don't get in other factory and aftermarket cast-iron cylinder heads. Long-wearing bronze valve guides (except S/S), multi-angle intake valve seats, and hardened and radiused exhaust seats are standard. Best of all, our precision-cast ports produce outstanding airflow *without* time-consuming porting.

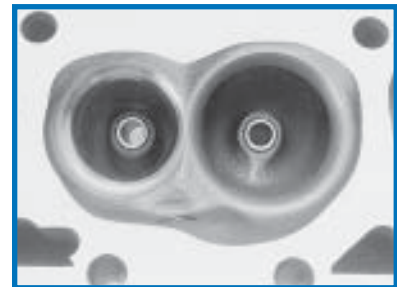
NEW Iron Eagle Platinum Series

Dart revolutionized the small block cast iron cylinder heads market with the release of the original Iron Eagle. Now we are introducing the next generation Iron Eagle - the Platinum Series. Using proprietary Speed Flow™ technology, Dart has developed more efficient port designs with improved velocity and flow capabilities. Computerized modeling and physical testing have been employed to produce the premier cast iron cylinder head on the market today. The combustion chamber has been redesigned for greater breathing characteristics and more controllable combustion. Our casting techniques have been enhanced to reduce potential core shift, and to improve dimensional accuracy. This has allowed us to design profiled valve guide bosses for higher flow rates. Casting walls are cleaner and more consistent, resulting in greater control over flow, heat and combustion.

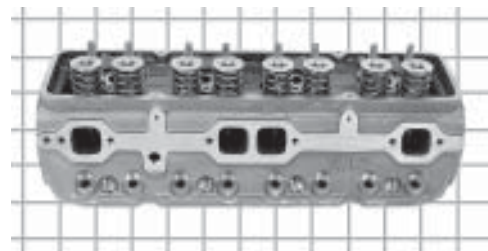
- **Five intake port sizes** - 165cc, 180cc, 200cc, 215cc, and 230cc - cover applications from street to all-out racing.
- **Standard port location** and intake bolt pattern fit most manifolds.
- **Pushrod holes** are enlarged for clearance with high-ratio rocker arms.
- **Combustion chambers** available with choice of 72cc, 64cc or 49cc volume to tailor compression ratio to individual requirements.
- **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. (Note: S/S has integral guides)
- **Spark plug holes** are machined for tapered seat 5/8" hex "peanut" plugs.



Redesigned heart shaped combustion chambers improve combustion efficiency



As-cast heads are bowl blended on 5-axis machining centers



HEAD ASSEMBLIES

Assemblies Include:

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

"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

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SBC Iron Eagle Heads

Part Number	Matl.	Intk. Port Vol.	Cham. Vol.	Plug	Int/Exh Valves	Spring Dia. S=Single D=Double	Notes
Iron Eagle SS Heads (also available in Late Model intake bolt pattern & Vortec configuration)							
10021070	Iron	165	72	ST	1.94/1.50		Bare
10021171	Iron	165	72	ST	1.94/1.50	1.250S	
Iron Eagle Heads							
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	
10310010	Iron	200	64	AP	2.02/1.60 VJ		Bare
10310010F	Iron	200	49	AP	2.02/1.60 VJ		Bare
10310020	Iron	200	64	AP	2.05/1.60 VJ		Bare
10310030	Iron	200	64	AP	2.05/1.625 VJ		Bare
10311111	Iron	200	64	AP	2.02/1.60	1.250S	
10311112	Iron	200	64	AP	2.02/1.60	1.437D	
10311122	Iron	200	64	AP	2.05/1.60	1.437D	
10311123	Iron	200	64	AP	2.05/1.60	1.550D	
10311133	Iron	200	64	AP	2.05/1.625	1.550D	
10320010	Iron	200	64	ST	2.02/1.60 VJ		Bare
10320020	Iron	200	64	ST	2.05/1.60 VJ		Bare
10320030	Iron	200	64	ST	2.05/1.625 VJ		Bare
10321111	Iron	200	64	ST	2.02/1.60	1.250S	
10321112	Iron	200	64	ST	2.02/1.60	1.437D	
10321122	Iron	200	64	ST	2.05/1.60	1.437D	
10321123	Iron	200	64	ST	2.05/1.60	1.550D	
10321133	Iron	200	64	ST	2.05/1.625	1.550D	
10410010	Iron	200	72	AP	2.02/1.60 VJ		Bare
10410020	Iron	200	72	AP	2.05/1.60 VJ		Bare
10410030	Iron	200	72	AP	2.05/1.625 VJ		Bare
10411111	Iron	200	72	AP	2.02/1.60	1.250S	
10411112	Iron	200	72	AP	2.02/1.60	1.437D	
10411122	Iron	200	72	AP	2.05/1.60	1.437D	
10411123	Iron	200	72	AP	2.05/1.60	1.550D	
10411133	Iron	200	72	AP	2.05/1.625	1.550D	
10420010	Iron	200	72	ST	2.02/1.60 VJ		Bare
10420020	Iron	200	72	ST	2.05/1.60 VJ		Bare
10420030	Iron	200	72	ST	2.05/1.625 VJ		Bare
10421111	Iron	200	72	ST	2.02/1.60	1.250S	
10421112	Iron	200	72	ST	2.02/1.60	1.437D	
10421123	Iron	200	72	ST	2.05/1.60	1.550D	
10421133	Iron	200	72	ST	2.05/1.625	1.550D	
10510020	Iron	215	64	AP	2.05/1.60 VJ		Bare
10510020F	Iron	215	49	AP	2.05/1.60 VJ		Bare
10510030	Iron	215	64	AP	2.05/1.625 VJ		Bare
10510040	Iron	215	64	AP	2.08/1.60 VJ		Bare
10510050	Iron	215	64	AP	2.08/1.625 VJ		Bare
10511122	Iron	215	64	AP	2.05/1.60	1.437D	
10511123	Iron	215	64	AP	2.05/1.60	1.550D	
10511133	Iron	215	64	AP	2.05/1.625	1.550D	
10511143	Iron	215	64	AP	2.08/1.60	1.550D	
10511153	Iron	215	64	AP	2.08/1.625	1.550D	
10520020	Iron	215	64	ST	2.05/1.60 VJ		Bare
10520030	Iron	215	64	ST	2.05/1.625 VJ		Bare
10520040	Iron	215	64	ST	2.08/1.60 VJ		Bare
10520050	Iron	215	64	ST	2.08/1.625 VJ		Bare
10521122	Iron	215	64	ST	2.05/1.60	1.437D	
10521123	Iron	215	64	ST	2.05/1.60	1.550D	
10521133	Iron	215	64	ST	2.05/1.625	1.550D	
10521143	Iron	215	64	ST	2.08/1.60	1.550D	
10521153	Iron	215	64	ST	2.08/1.625	1.550D	
10610020	Iron	215	72	AP	2.05/1.60 VJ		Bare
10610030	Iron	215	72	AP	2.05/1.625 VJ		Bare

Part Number	Matl.	Intk. Port Vol.	Cham. Vol.	Plug	Int/Exh Valves	Spring Dia. S=Single D=Double	Notes
10610040	Iron	215	72	AP	2.08/1.60 VJ		Bare
10610050	Iron	215	72	AP	2.08/1.625 VJ		Bare
10611122	Iron	215	72	AP	2.05/1.60	1.437D	
10611123	Iron	215	72	AP	2.05/1.60	1.550D	
10611133	Iron	215	72	AP	2.05/1.625	1.550D	
10611143	Iron	215	72	AP	2.08/1.60	1.550D	
10611153	Iron	215	72	AP	2.08/1.625	1.550D	
10620020	Iron	215	72	ST	2.05/1.60 VJ		Bare
10620030	Iron	215	72	ST	2.05/1.625 VJ		Bare
10620040	Iron	215	72	ST	2.08/1.60 VJ		Bare
10620050	Iron	215	72	ST	2.08/1.625 VJ		Bare
10621122	Iron	215	72	ST	2.05/1.60	1.437D	
10621123	Iron	215	72	ST	2.05/1.60	1.550D	
10621133	Iron	215	72	ST	2.05/1.625	1.550D	
10621143	Iron	215	72	ST	2.08/1.60	1.550D	
10621153	Iron	215	72	ST	2.08/1.625	1.550D	
10710020	Iron	230	64	AP	2.05/1.60 VJ		Bare
10710040	Iron	230	64	AP	2.08/1.60 VJ		Bare
10710040F	Iron	230	49	AP	2.08/1.60 VJ		Bare
10710050	Iron	230	64	AP	2.08/1.625 VJ		Bare
10711143	Iron	230	64	AP	2.08/1.60	1.550D	
10711153	Iron	230	64	AP	2.08/1.625	1.550D	
10720040	Iron	230	64	ST	2.08/1.60 VJ		Bare
10720050	Iron	230	64	ST	2.08/1.625 VJ		Bare
10721143	Iron	230	64	ST	2.08/1.60	1.550D	
10721153	Iron	230	64	ST	2.08/1.625	1.550D	
10810040	Iron	230	72	AP	2.08/1.60 VJ		Bare
10810050	Iron	230	72	AP	2.08/1.625 VJ		Bare
10811143	Iron	230	72	AP	2.08/1.60	1.550D	
10811153	Iron	230	72	AP	2.08/1.625	1.550D	
10820040	Iron	230	72	ST	2.08/1.60 VJ		Bare
10820050	Iron	230	72	ST	2.08/1.625 VJ		Bare
10820153	Iron	230	72	ST	2.08/1.60	1.550D	
10821143	Iron	230	72	ST	2.08/1.625	1.550D	
Iron Eagle Platinum Series Heads							
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	
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	
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	

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PRO 1 aluminum cylinder heads for small-block V8's deliver advanced airflow technology at an unbeatable price! Using sophisticated tooling and state-of-the-art casting techniques, we've achieved outstanding airflow *without* time-consuming and expensive hand porting.

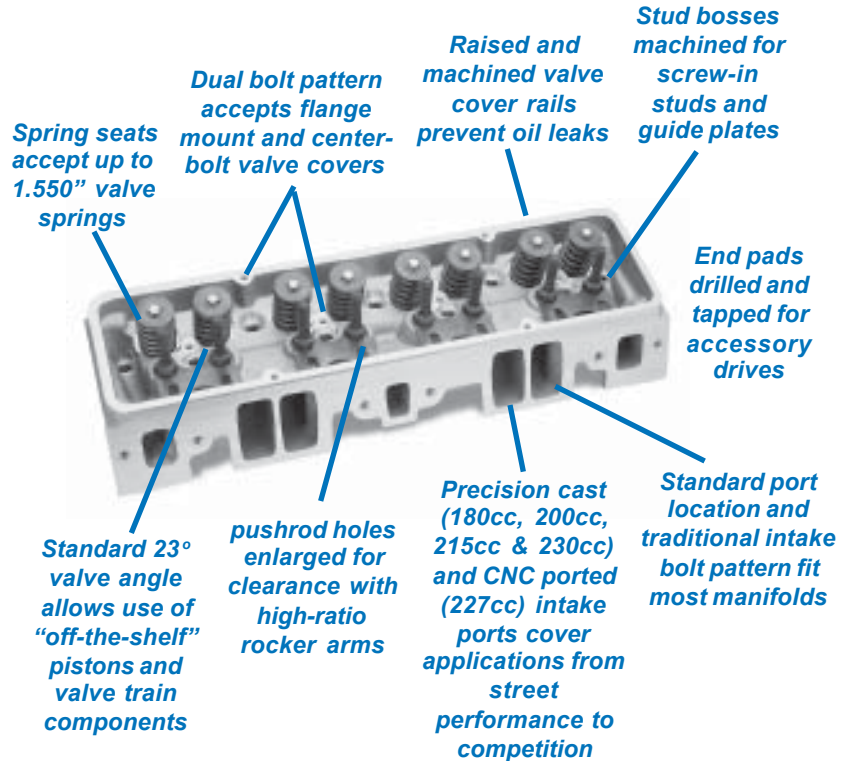
The result: *More flow for less dough!*

There's a PRO 1 head for virtually every small-block engine. We offer a choice of four intake runner sizes (180cc, 200cc, 215cc, and 230cc), two chamber volumes (64cc and 72cc), five valve diameters, and straight or angled spark plugs.

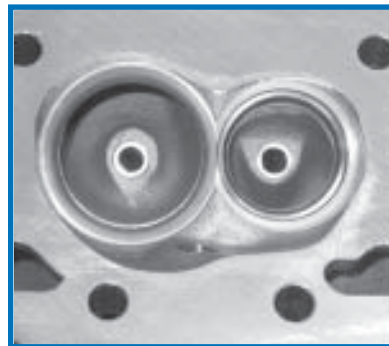
We've improved the original small-block design with extra-thick decks and high-capacity water jackets that increase reliability in high-performance applications. Hardened exhaust seats and long-lasting mag-bronze valve guides significantly extend cylinder head life.

PRO 1 heads are engineered for easy installation. They use standard small-block pistons, headers, and valvetrain components, and are bolt-on replacements for most conventional 23° heads.

Dart PRO 1 heads set the standard for aluminum street/strip cylinder heads!



- **Premium alloy:** Dart aluminum heads are cast from virgin 355-T6 aerospace alloy for superior strength and integrity.
- **Bolt on compatibility:** Standard valve angle and spacing are retained. Accommodates 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.



Redesigned heart shaped combustion chambers improve combustion efficiency

As-cast heads are bowl blended on 5-axis machining centers



HEAD ASSEMBLIES

Assemblies Include:

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



SBC PRO 1 Heads

Part Number	Matl.	Intk. Port Vol.	Cham. Vol.	Plug	Int/Exh Valves	Spring Dia. S=Single D=Double	Notes
11110010	Alum	180	64	AP	2.02/1.60 VJ		Bare
11111111	Alum	180	64	AP	2.02/1.60	1.250S	
11111112	Alum	180	64	AP	2.02/1.60	1.437D	
11120010	Alum	180	64	ST	2.02/1.60 VJ		Bare
11121111	Alum	180	64	ST	2.02/1.60	1.250S	
11121112	Alum	180	64	ST	2.02/1.60	1.437D	
11210010	Alum	180	72	AP	2.02/1.60 VJ		Bare
11211111	Alum	180	72	AP	2.02/1.60	1.250S	
11211112	Alum	180	72	AP	2.02/1.60	1.437D	
11220010	Alum	180	72	ST	2.02/1.60 VJ		Bare
11221111	Alum	180	72	ST	2.02/1.60	1.250S	
11221112	Alum	180	72	ST	2.02/1.60	1.437D	
11310010	Alum	200	64	AP	2.02/1.60 VJ		Bare
11310020	Alum	200	64	AP	2.05/1.60 VJ		Bare
11310030	Alum	200	64	AP	2.05/1.625 VJ		Bare
11311111	Alum	200	64	AP	2.02/1.60	1.250S	
11311112	Alum	200	64	AP	2.02/1.60	1.437D	
11311122	Alum	200	64	AP	2.05/1.60	1.437D	
11311123	Alum	200	64	AP	2.05/1.60	1.550D	
11311133	Alum	200	64	AP	2.05/1.625	1.550D	
11320010	Alum	200	64	ST	2.02/1.60 VJ		Bare
11320020	Alum	200	64	ST	2.05/1.60 VJ		Bare
11320030	Alum	200	64	ST	2.05/1.625 VJ		Bare
11321111	Alum	200	64	ST	2.02/1.60	1.250S	
11321112	Alum	200	64	ST	2.05/1.60	1.437D	
11321123	Alum	200	64	ST	2.05/1.60	1.550D	
11321133	Alum	200	64	ST	2.05/1.625	1.550D	
11410010	Alum	200	72	AP	2.02/1.60 VJ		Bare
11410020	Alum	200	72	AP	2.05/1.60 VJ		Bare
11410030	Alum	200	72	AP	2.05/1.625 VJ		Bare
11411111	Alum	200	72	AP	2.02/1.60	1.250S	
11411112	Alum	200	72	AP	2.02/1.60	1.437D	
11411122	Alum	200	72	AP	2.05/1.60	1.437D	
11411123	Alum	200	72	AP	2.05/1.60	1.550D	
11411133	Alum	200	72	AP	2.05/1.625	1.550D	
11420010	Alum	200	72	ST	2.02/1.60 VJ		Bare
11420020	Alum	200	72	ST	2.05/1.60 VJ		Bare
11420030	Alum	200	72	ST	2.05/1.625 VJ		Bare
11421111	Alum	200	72	ST	2.02/1.60	1.250S	
11421112	Alum	200	72	ST	2.02/1.60	1.437D	
11421122	Alum	200	72	ST	2.05/1.60	1.437D	
11421123	Alum	200	72	ST	2.05/1.60	1.550D	
11421133	Alum	200	72	ST	2.05/1.625	1.550D	
11510020	Alum	215	64	AP	2.05/1.60 VJ		Bare
11510030	Alum	215	64	AP	2.05/1.625 VJ		Bare
11510040	Alum	215	64	AP	2.08/1.60 VJ		Bare
11510050	Alum	215	64	AP	2.08/1.625 VJ		Bare
11511122	Alum	215	64	AP	2.05/1.60	1.437D	
11511123	Alum	215	64	AP	2.05/1.60	1.550D	
11511133	Alum	215	64	AP	2.05/1.625	1.550D	
11511143	Alum	215	64	AP	2.08/1.60	1.550D	
11511153	Alum	215	64	AP	2.08/1.625	1.550D	
11520020	Alum	215	64	ST	2.05/1.60 VJ		Bare
11520030	Alum	215	64	ST	2.05/1.60 VJ		Bare
11520040	Alum	215	64	ST	2.08/1.60 VJ		Bare
11520050	Alum	215	64	ST	2.08/1.625 VJ		Bare
11521122	Alum	215	64	ST	2.05/1.60	1.437D	
11521123	Alum	215	64	ST	2.05/1.60	1.550D	
11521133	Alum	215	64	ST	2.05/1.625	1.550D	
11521143	Alum	215	64	ST	2.08/1.60	1.550D	
11521153	Alum	215	64	ST	2.08/1.625	1.550D	
11610020	Alum	215	72	AP	2.05/1.60 VJ		Bare
11610030	Alum	215	72	AP	2.05/1.625 VJ		Bare
11610040	Alum	215	72	AP	2.08/1.60 VJ		Bare
11610050	Alum	215	72	AP	2.08/1.625 VJ		Bare
11611122	Alum	215	72	AP	2.05/1.60	1.437D	
11611123	Alum	215	72	AP	2.05/1.60	1.550D	
11611133	Alum	215	72	AP	2.05/1.625	1.550D	
11611143	Alum	215	72	AP	2.08/1.60	1.550D	
11611153	Alum	215	72	AP	2.08/1.625	1.550D	

Part Number	Matl.	Intk. Port Vol.	Cham. Vol.	Plug	Int/Exh Valves	Spring Dia. S=Single D=Double	Notes
11620020	Alum	215	72	ST	2.05/1.60 VJ		Bare
11620030	Alum	215	72	ST	2.05/1.625 VJ		Bare
11620040	Alum	215	72	ST	2.08/1.60 VJ		Bare
11620050	Alum	215	72	ST	2.08/1.625 VJ		Bare
11621122	Alum	215	72	ST	2.05/1.60	1.437D	
11621123	Alum	215	72	ST	2.05/1.60	1.550D	
11621133	Alum	215	72	ST	2.05/1.625	1.550D	
11621143	Alum	215	72	ST	2.08/1.60	1.550D	
11621153	Alum	215	72	ST	2.08/1.625	1.550D	
11710040	Alum	230	64	AP	2.08/1.60 VJ		Bare
11710050	Alum	230	64	AP	2.08/1.625 VJ		Bare
11711143	Alum	230	64	AP	2.08/1.60	1.550D	
11711153	Alum	230	64	AP	2.08/1.625	1.550D	
11720040	Alum	230	64	ST	2.08/1.60 VJ		Bare
11720050	Alum	230	64	ST	2.08/1.625 VJ		Bare
11721143	Alum	230	64	ST	2.08/1.60	1.550D	
11721153	Alum	230	64	ST	2.08/1.625	1.550D	
11810040	Alum	230	72	AP	2.08/1.60 VJ		Bare
11810050	Alum	230	72	AP	2.08/1.625 VJ		Bare
11811143	Alum	230	72	AP	2.08/1.60	1.550D	
11811153	Alum	230	72	AP	2.08/1.625	1.550D	
11820040	Alum	230	72	ST	2.08/1.60 VJ		Bare
11820050	Alum	230	72	ST	2.08/1.625 VJ		Bare
11821143	Alum	230	72	ST	2.08/1.60	1.550D	
11821153	Alum	230	72	ST	2.08/1.625	1.550D	

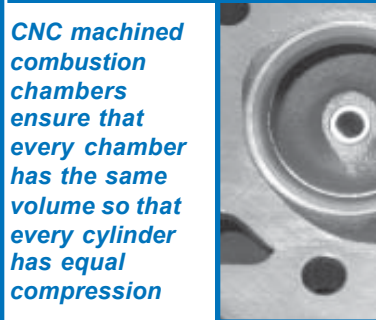
PRO 1 CNC Ported Heads

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

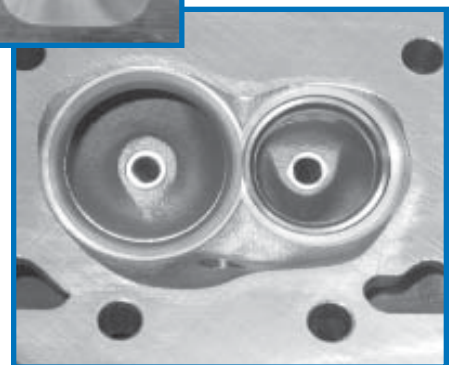
PRO 1 CNC Heads



CNC machined 227cc intake ports give you optimized flow characteristics out of the box



Our 5-axis machining centers precisely duplicate the port profiles so that every head delivers awesome performance



CNC machined combustion chambers ensure that every chamber has the same volume so that every cylinder has equal compression

The valve seats are machined, not ground, to produce precise angles and radiuses for maximum airflow

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248-362-1188 • Fax 248-362-2027 • www.darthheads.com



SBC 15°-16°-18° Heads



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

- **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.

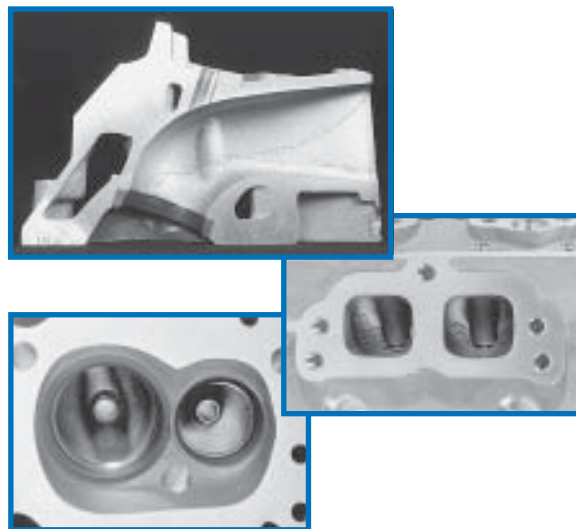
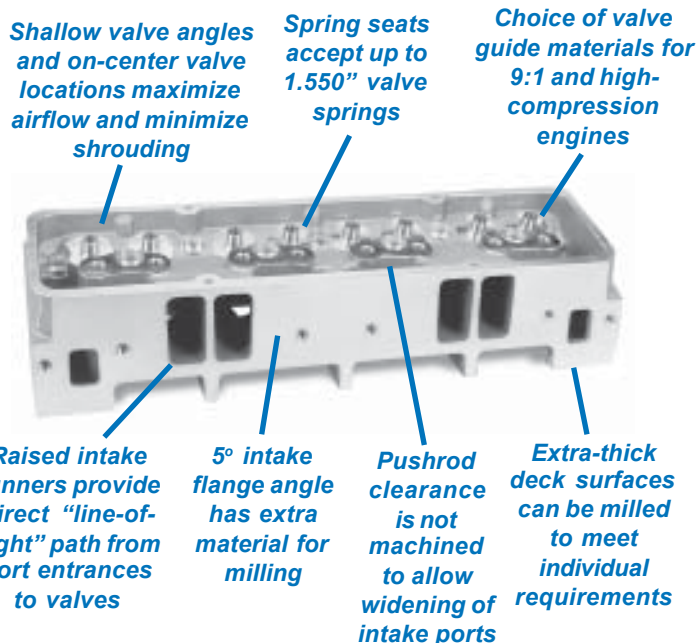
CNC Ported Heads

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 25 for information on CNC porting options.

HEAD ASSEMBLIES

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



Part Number	Matl.	Description	Int/Exh Valves	Chamber Vol.	Intake Port Vol.	Cyl. Bore Size
14372010	Alum	15° Full Port Std.	2.15/1.60	51cc	265cc	4.155
14372030	Alum	15° Full Port Std.	2.18/1.60	51cc	265cc	4.155
14382030	Alum	15° Full Port Lg.	2.18/1.60	51cc	280cc	4.155
14200000	Alum	16° Bare Casting			237cc	
14272010	Alum	16° Full Port Std.	2.15/1.60	47cc	264cc	4.155
14272030	Alum	16° Full Port Std.	2.18/1.60	47cc	264cc	4.155
14100000	Alum	18° Bare Casting			67cc	237cc
14132010	Alum	18° Super Mod Port	2.15/1.60	62cc	246cc	4.155
14162010	Alum	18° Full Port Sm.	2.15/1.60	62cc	252cc	4.155
14172010	Alum	18° Full Port Std.	2.15/1.60	62cc	263cc	4.155
14172030	Alum	18° Full Port Std.	2.18/1.60	62cc	263cc	4.155
14182030	Alum	18° 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. 15° - 16° - 18° heads available with small, standard & large port versions up to 2.200" intake valve

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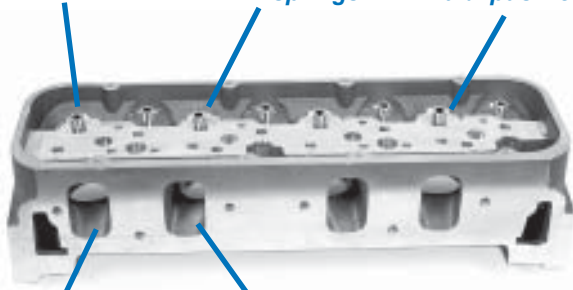


Little Chief Heads

11° valve angle and splayed valve layout maximize airflow and minimize shrouding

Spring seats accept up to 1.625" valve springs

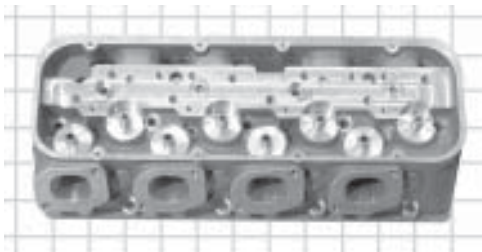
Cleared for 3/8" dia. pushrods



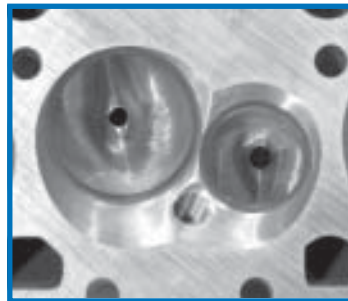
Intake runners are raised 2.000" from deck to provide direct "line-of-sight" path from port entrances to valves

Pro Stock style oval ports (275cc or 315cc) with spread port design

Exhaust ports raised 2.900" from deck



34cc, 36cc or 50cc chambers are designed for enhanced combustion



Dart's 11° Little Chief is the ultimate aluminum small-block cylinder head. Designed with Pro-Stock style oval ports and big-block style canted valves with "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!*

If you want the ultimate bad-nasty small block race motor, you want the Little Chief.

We have everything you need to build a complete Little Chief engine, including 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.
- **11° intake and 6° exhaust x 4° canted valves** minimize shrouding for improved flow.
- **Copper-beryllium 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 25 for information on CNC porting options.

Part Number	Matl.	Intk. Port Vol.	Cham. Vol.	Int/Exh Valves	Spring Dia. S=Single D=Double	Cyl. Bore Dia.	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

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

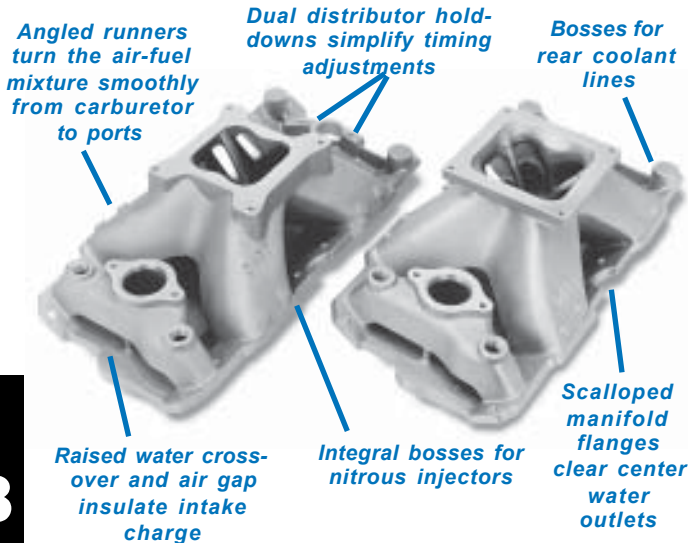
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SBC Manifolds & Valve Covers

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.



Part Number	Description	Port Location	Deck Height	Carb.
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
42411000	SBC Iron/Pro 1 Head Manifold	Std.	9.025	4150
42412000	SBC Iron/Pro 1 Head Manifold	Std.	9.325	4150
42421000	SBC Iron/Pro 1 Head Manifold	Std.	Std.	4500
42422000	SBC Iron/Pro 1 Head 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 18°/16°/15°	Raised Special	Std.	4150
42911000	Little Chief Manifold	Asymmetric	9.025	4150
42912000	Little Chief Manifold	Asymmetric	9.325	4150
42914000	Little Chief Manifold	Asymmetric	8.850	4150
42921000	Little Chief Manifold	Asymmetric	9.025	4500
42922000	Little Chief Manifold	Asymmetric	9.325	4500
42924000	Little Chief Manifold	Asymmetric	8.850	4500

18

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	



New 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

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 Number	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



See pages 28-29 for more accessories

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The big-block Chevrolet V8 has been a favorite of racers and hot rodders for nearly 40 years. Dart has improved on this classic design by developing blocks and cylinder heads for specific applications, from street/strip performance to all-out competition. On the street, on the strip, and on oval tracks, the fast guys use Dart blocks and heads!

Blocks

Big M

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

Heads

Iron Eagle

Our Iron Eagle line proves that cast-iron heads can produce exceptional performance. They're the logical choice for performance enthusiasts who want an economical price and solid reliability. They're also an "unfair advantage" for racers who compete in classes that require iron heads.

PRO-1

Dart PRO 1® big-block heads set the standard in ready-to-run aluminum cylinder heads. You could pay thousands of dollars for hand-ported heads this good - or you can use out-of-the-box PRO 1 heads.

Race Series

Our Race Series sbig-block heads are engineered for serious racers. Extra-thick wall sections provide plenty of material for custom porting and extra-thick decks permit radical modifications. We offer 24° and 18° versions to fit a wide variety of engines.

Big Chief

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.

Intake Manifolds

4150 Single Plane

4500 Single Plane

Dart Ram

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. That's why we apply the same thoughtful engineering to Dart intake manifolds that we put into our championship-winning cylinder heads

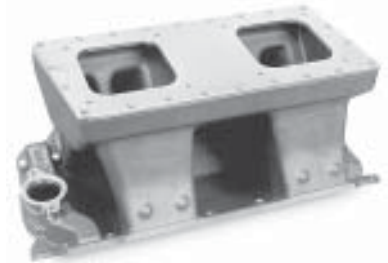
Valve Covers

Big Block Chromed Steel

Bigl Block Aluminum

Big Chief Aluminum

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.



BBC Cylinder Head Quick Reference Guide

Big Block Heads	Mt'l.	Port Vol.	Chamber	Int/Exh Valves	Recommendation
Iron Eagle 308	Iron	308cc	119cc	2.25"/1.88"	Street Performance, Mild Bracket Racing, Marine; under 7000 RPM, under 500ci
Iron Eagle 345	Iron	345cc	119cc	2.30"/1.88"	Maximum Street Performance, Bracket Racing, Heads-Up & Super Classes; over 7000 RPM, 500+ci
PRO-1 310	Alum	310cc	119cc	2.25"/1.88"	Street Performance, Mild Bracket Racing, Marine; under 7000 RPM, under 500ci
PRO-1 325	Alum	325cc	119cc	2.25"/1.88"	Serious Street Performance & Bracket Racing; over 7000 RPM, 468-525ci
PRO-1 345	Alum	345cc	119cc	2.30"/1.88"	Maximum Performance, Bracket Racing, Heads-Up & Super Classes; over 7000 RPM, 500+ ci
PRO-1 CNC 335	Alum	335cc	119cc	2.30"/1.88"	Maximum Performance, Bracket Racing, Heads-Up & Super Classes; over 7500 RPM, 500+ ci
PRO-1 CNC 355	Alum	355cc	119cc	2.30"/1.88"	Maximum Performance, Bracket Racing, Heads-Up & Super Classes; over 7500 RPM, 540+ ci
Race Series 320	Alum	320cc	119cc	2.25"/1.88"	Serious Bracket Racing, Heads-Up & Super Classes; 2500-3000lbs. With loose converter, up to 8000 RPM, 468-525ci
Race Series 360	Alum	360cc	119cc	2.30"/1.88"	Maximum Competition, good with alcohol, nitrous or supercharged engine and light car, manual or standard trans; over 8000 RPM (titanium valves recommended), over 525ci
Oval Port 370	Alum	370cc	119cc	2.30"/1.88"	Maximum Competition, high torque, 8,000+RPM, 565ci+.
18° Oval Port 383	Alum	383cc	102cc	2.35"/1.88"	Max. Competition, high torque, high compression / low dome, 8,000+RPM, 580ci+.
Race Series Big M	Alum	410cc	119cc	2.35"/1.88"	Maximum Competition, large displacement alcohol and nitrous motors; over 8000 RPM (titanium valves recommended), 600+ci
Big Chief	Alum	402cc	74cc/85cc	2.40"/1.90"	Maximum Pro-Stock, Pro-Mod, & Pro-Street competition, excellent with alcohol & nitrous; over 8000 RPM (titanium valves recommended), over 500ci

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

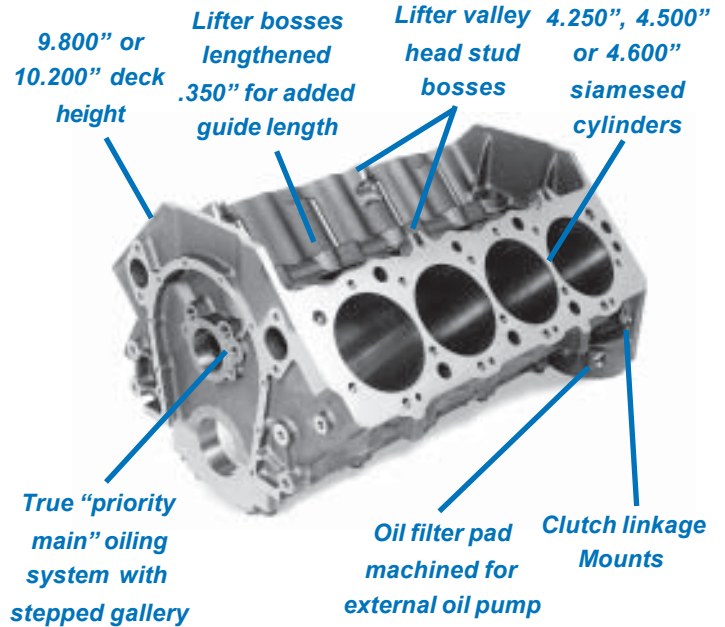
Working with top builders and Dart's own championship-winning Pro Stock engine department, we designed a user-friendly block with the features you need today.

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. Our stepped main oil gallery (9/16" to 1/2" to 7/16") increases the flow of oil to the crank at high rpm, and our front oil crossover eliminates internal oil leaks around the distributor shaft. The result: more oil at the bearings and pushrods where it's needed, and less power-robbing crankcase windage.

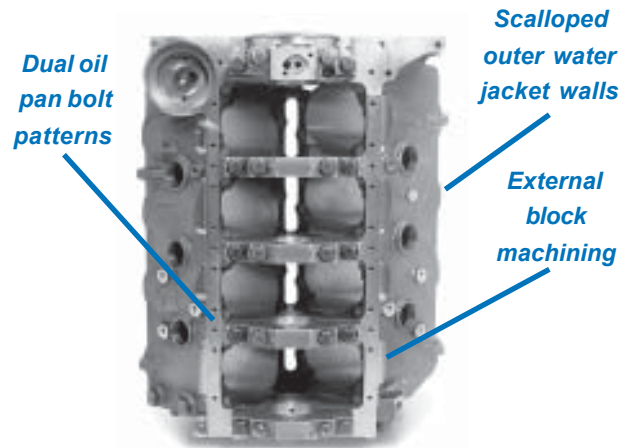
Big-blocks are prone to head gasket failure in the long spans between head bolts. We added two head stud bosses on both sides of the lifter valley to take the place of the "missing" head bolts. The bosses are slotted so you can use studs instead of hard-to-install bolts.

We machine Big M blocks in-house on precision CNC equipment to ensure quality and to eliminate the need for expensive "blueprinting." We engineered the Big M to be the strongest, most reliable, and easiest to build big-block on the market. Ask your engine builder or speed equipment dealer about Dart - and then step up to the Big M!

*Dart Blocks include coated cam bearings, freeze plugs, and dowels.**



- **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



Part Number	Mat'l.	Description	Main Caps	Main Bearing Dia.	Deck Height	Cyl. Bore
31263344	Iron	Big M	Steel	Std.	9.800	4.250
31263354	Iron	Big M	Steel	Std.	10.200	4.250
31263444	Iron	Big M	Steel	Std.	9.800	4.500
31263454	Iron	Big M	Steel	Std.	10.200	4.500
31263644	Iron	Big M	Steel	Std.	9.800	4.600
31263654	Iron	Big M	Steel	Std.	10.200	4.600
31273344	Iron	Sportsman	Ductile	Std.	9.800	4.250
31273354	Iron	Sportsman	Ductile	Std.	10.200	4.250
31273444	Iron	Sportsman	Ductile	Std.	9.800	4.500
31273454	Iron	Sportsman	Ductile	Std.	10.200	4.500
31273644	Iron	Sportsman	Ductile	Std.	9.800	4.600
31273654	Iron	Sportsman	Ductile	Std.	10.200	4.600

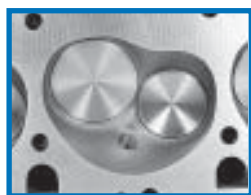
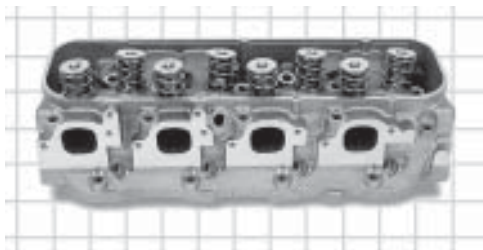
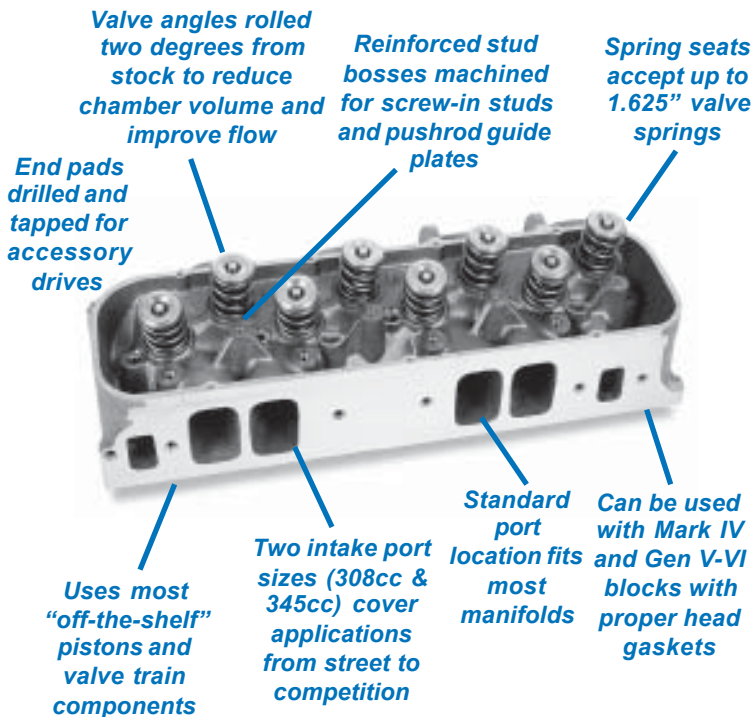
**Note: Dart Sportsman Blocks do not include freeze plugs, coated cam bearings, or dowels.*

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BBC Iron Eagle Heads



Redesigned heart shaped combustion chambers improve combustion efficiency

As-cast heads are bowl blended on 5-axis machining centers

Imagine that you could get the advanced features of Dart's championship-winning aluminum big-block heads in a cast-iron version. Now you can - our Iron Eagle big-block head delivers the performance you expect from Dart at a price that fits every budget!

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.

Our dedicated tooling allows us to cast the ports with incredible precision so you get maximum flow without spending big bucks on porting. We rotated the valve angles two degrees and duplicated the efficient heart-shaped combustion chambers originally developed for our championship-winning Race Series aluminum heads. Iron Eagle big-block heads have standard features you won't find in factory castings and aftermarket replacement heads. Premium bronze valve guides, multi-angle intake valve seats, and hardened and radiused exhaust seats are included with every Iron Eagle head.

When you want premium performance at an economical price, demand Dart Iron Eagle heads!

- **Bolt on compatibility:** 2° rolled valve angle and standard spacing. Accommodates all stock accessories.
- **Heart-shaped 119cc 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

Part Number	Matl.	Intk. Port Vol.	Cham. Vol.	Int/Exh Valves	Spring Dia.	Notes
15100010	Iron	308cc	119cc	2.25/1.88 VJ		Bare
15100111	Iron	308cc	119cc	2.25/1.88	1.550S	
15100112	Iron	308cc	119cc	2.25/1.88	1.550D	
15100116	Iron	308cc	119cc	2.25/1.88	1.625D	
15200030	Iron	345cc	119cc	2.30/1.88 VJ		Bare
15200132	Iron	345cc	119cc	2.30/1.88	1.550D	
15200136	Iron	345cc	119cc	2.30/1.88	1.625D	

HEAD ASSEMBLIES

Assemblies Include:

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

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BBC PRO 1 Heads



PRO 1 aluminum big-block cylinder heads deliver "out-of-the-box" airflow that beats the competition - at an unbeatable price! Specifically designed for street performance, bracket racing, and Super eliminator engines, PRO 1 heads make Pro Stock airflow technology affordable for every big-block owner.

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. You get more power for your money with PRO 1!

Using advanced manufacturing techniques, we cast the PRO 1's ports with incredible accuracy. This precision casting technology duplicates the contours that were previously available only in hand-ported cylinder heads.

PRO 1 big-block heads are available with a choice of three different intake port sizes - 310cc, 325cc, and 345cc so you can match the runners to your engine's displacement and rpm range perfectly.

Dart's new PRO 1 is your best buy in aluminum cylinder heads!

Valve angles rolled two degrees from stock to reduce chamber volume and improve flow

Stud bosses machined for screw-in studs and pushrod guide plates

Spring seats accept up to 1.625" valve springs

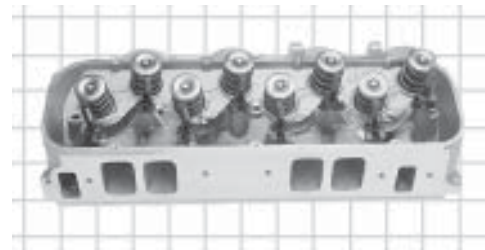
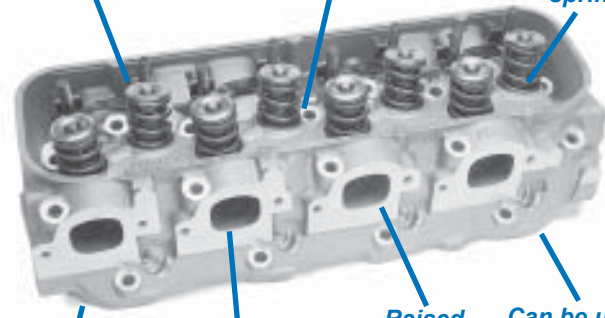
End pads drilled and tapped for accessory drives

Uses most "off-the-shelf" pistons and valve train components

Three intake port sizes (310cc, 325cc & 345cc) cover applications from street to competition

Raised exhaust port improves airflow

Can be used with Mark IV and Gen V-VI blocks with proper head gaskets



- **Premium alloy:** Dart aluminum heads are cast from virgin 355-T6 aerospace alloy for superior strength and integrity.
- **Bolt on compatibility:** 2° rolled valve angle and standard spacing. Accommodates all stock accessories.
- **Heart-shaped 119cc 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.

HEAD ASSEMBLIES

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

"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

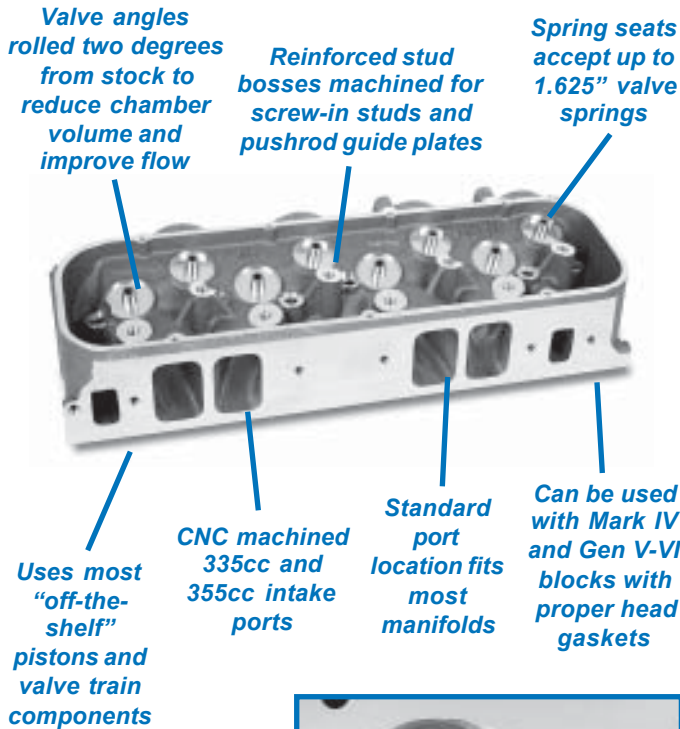
Part Number	Matl.	Intk. Port Vol.	Cham. Vol.	Int/Exh Valves	Spring Dia. S=Single D=Double	Notes
19100010	Alum	310cc	119cc	2.25/1.88 VJ		Bare
19100030	Alum	310cc	119cc	2.30/1.88 VJ		Bare
19100111	Alum	310cc	119cc	2.25/1.88	1.550S	
19100112	Alum	310cc	119cc	2.25/1.88	1.550D	
19100116	Alum	310cc	119cc	2.25/1.88	1.625D	
19100132	Alum	310cc	119cc	2.30/1.88	1.550D	
19100136	Alum	310cc	119cc	2.30/1.88	1.625D	
19200010	Alum	325cc	119cc	2.25/1.88 VJ		Bare
19200030	Alum	325cc	119cc	2.30/1.88 VJ		Bare
19200111	Alum	325cc	119cc	2.25/1.88	1.550S	
19200112	Alum	325cc	119cc	2.25/1.88	1.550D	
19200116	Alum	325cc	119cc	2.25/1.88	1.625D	
19200132	Alum	325cc	119cc	2.30/1.88	1.550D	
19200136	Alum	325cc	119cc	2.30/1.88	1.625D	
19300030	Alum	345cc	119cc	2.30/1.88 VJ		Bare
19300132	Alum	345cc	119cc	2.30/1.88	1.550D	
19300136	Alum	345cc	119cc	2.30/1.88	1.625D	

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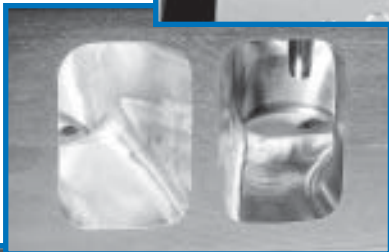




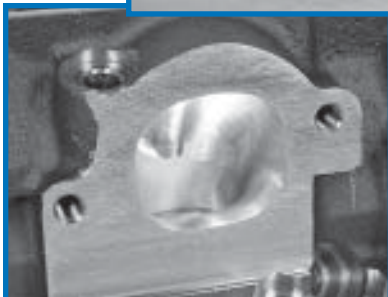
BBC PRO 1 CNC Heads



CNC machined 119cc combustion chambers ensure that every chamber has equal volume



Exhaust ports are raised .300" to improve flow



CNC-ported cylinder heads aren't just for the pros anymore! 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.

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 - every one as perfect as the original.

Dart PRO 1 CNC heads are professional quality competition cylinder heads. We sleeve the head bolt columns between the intake ports to maximize the cross-sectional area at a critical point in the flow path. We offer a choice of 335cc and 355cc intake ports so you can match the runner volume to your engine's displacement and rpm range.

The high-velocity raised exhaust ports are modeled on our own Pro Stock heads using airflow concepts that dramatically improve cylinder scavenging and the engine's ability to accelerate quickly.

CNC machining ensures that every chamber has the same volume so every cylinder has equal compression. The valve seats are machined, not ground, to produce precise angles and radiuses for maximum airflow.

Multi-angle intake valve seats direct the air-fuel mixture into the chamber like an airfoil, reducing turbulence and preventing fuel separation. Fully radiused exhaust seats provide the smoothest possible transition into the ports for hot exhaust gases. Improved cylinder scavenging allows more fuel and air to be burned on the next power stroke.

- **Premium alloy:** Dart aluminum heads are cast from virgin 355-T6 aerospace alloy for superior strength and integrity.
- **Heart-shaped 119cc 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.

HEAD ASSEMBLIES

Assemblies Include:

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

Part Number	Matl.	Intk. Port Vol.	Cham. Vol.	Int/Exh Valves	Spring Dia.	Notes
19474030	Alum	335cc	119cc	2.30/1.88 VJ		Bare
19474136	Alum	335cc	119cc	2.30/1.88	1.625D	
19574030	Alum	355cc	119cc	2.30/1.88 VJ		Bare
19574136	Alum	355cc	119cc	2.30/1.88	1.625D	

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BBC Race Series 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 outperform the competition - yet Dart heads can be used with most off-the-shelf pistons, manifolds, headers, and valvetrain components.

Dart 24° big-block heads give you the performance advantages of a "rolled over" design. We rotated the intake and exhaust valves two degrees from the stock angles - enough to make a dramatic difference in performance while still allowing the use of standard components. Intake runners are available in 320cc and 360cc rectangular ports.

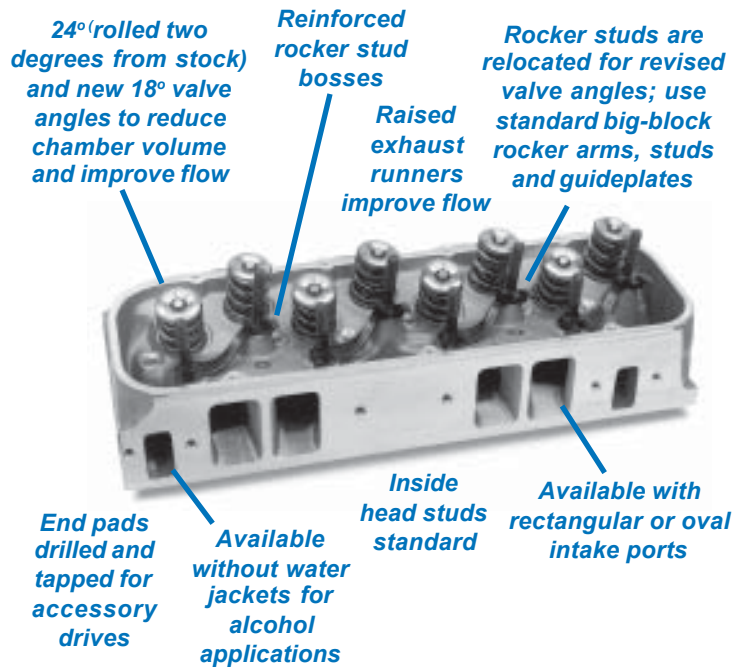
Dart oval-port aluminum cylinder heads have high-velocity 370cc intake runners that produce incredible midrange torque and throttle response. Oval-port heads will really "wake up" a big-block in marine applications, or in a heavy car with an automatic transmission. They also work great in a lightweight car with a tight torque converter.

NEW 18° oval-port heads bridge the gap between conventional heads and Big Chief heads. Utilizing Pro-Stock style oval intake ports with 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.

The Big M is our biggest big-block head. With huge 410cc as-cast intake runners that flow 430 cfm, the Big M meets the airflow requirements of large displacement motors. Big M heads are ideal for alcohol-burning and nitrous-injected engines, too.

Our airflow experts enlarged and reshaped the Big M's intake runners to increase port volume without sacrificing velocity. These 2.700" tall ports require a modified intake manifold to match the port entrances. We can supply a new Dart manifold to fit the Big M's huge intake runners. Whether you're building a high-torque street engine or a 600ci nitrous motor, Dart has the right head for your big-block!

- **Heart-shaped 119cc 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.



CNC Ported Heads

Intake and exhaust ports can be fully CNC-machined and seats prepared with competition valve job for maximum flow. **See page 25 for information on CNC porting options.**

HEAD ASSEMBLIES

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

NEW 18° OVAL PORT AVAILABLE!



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

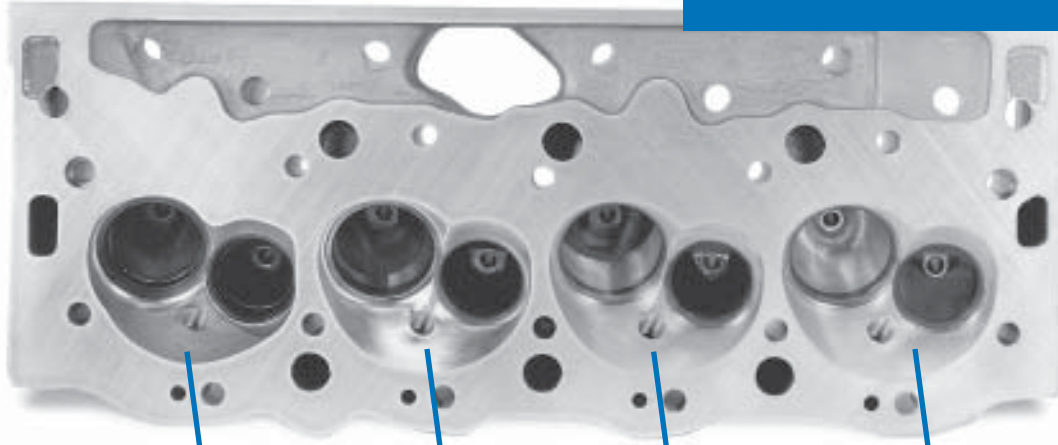
Part Number	Matl.	Intk. Port Style	Intk. Port Vol.	Cham. Vol.	CNC	Int/Exh Valves	Cyl. Bore	Notes
16300000	Alum	Rect.	320cc	119cc				Bare
16400000	Alum	Rect.	320cc	139cc				Bare
16500000	Alum	Rect.	360cc	119cc				Bare
16600000	Alum	Rect.	360cc	139cc				Bare
16500000S	Alum	Rect.	360cc	119cc				Bare Solid
16600000S	Alum	Rect.	360cc	139cc				Bare Solid
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
16874050	Alum	Oval	383cc	102cc	Full Port	2.35/1.84	4.500	Bare 18°
16875050	Alum	Oval	383cc	102cc	Full Port	2.35/1.84	4.600	Bare 18°
16900000	Alum	Rect.	410cc	119cc		2.35/1.88		Bare

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



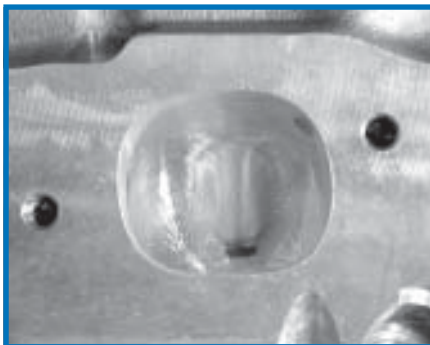
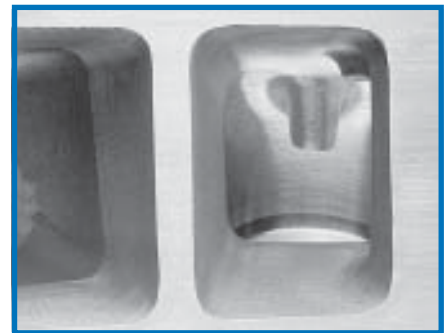
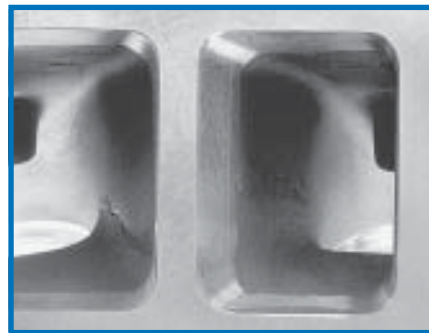
As-cast

super Mod

Super Mod complete

Full port complete

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

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

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

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

- **Raised exhaust ports** produce outstanding airflow.
- **Raised and machined valve cover** gasket surface prevents oil leaks.
- **Shallow combustion chambers** require smaller dome volume to produce high compression ratios.
- **Interlocking ductile iron valve seats** are compatible with stainless and titanium valves.
- **Gasketed 3/4" reach spark plugs** are centrally located in chambers to speed up flame travel.

18° BIG CHIEF RECT. PORT - CNC SUPERMOD PORTED

Port Vol: 402cc
Valves: 2.400/1.900
Cyl. Bore: 4.130 - 4.600

18° 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

NEW PRO-1 BIG CHIEF 18° 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

14° BIG CHIEF RECT. PORT -CNC FULL PORTED

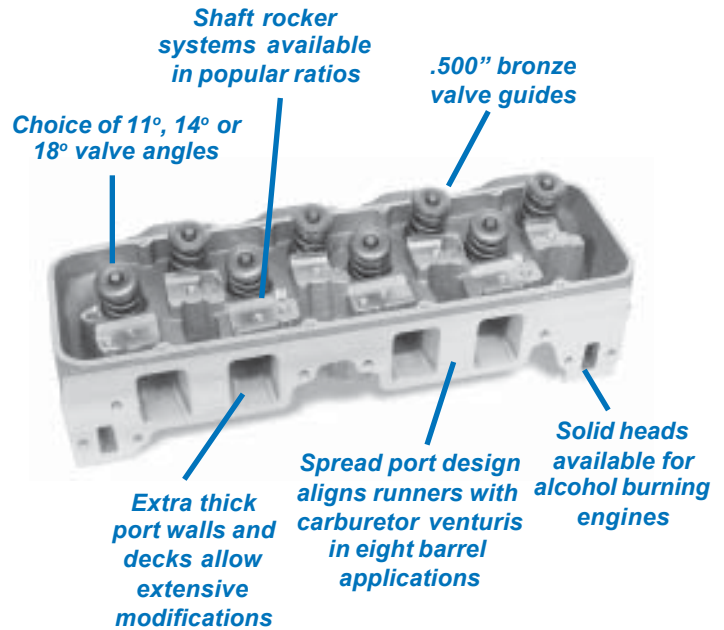
Port Vol: 440cc
Valves: 2.400/1.900
Cyl. Bore: 4.500 - 4.600
Stainless or Titanium Valves

14° BIG CHIEF OVAL PORT - CNC FULL PORTED

Port Vol: 433cc
Valves: 2.470/1.800
Cyl. Bore: 4.500 - 4.600
Titanium Valves & Copper-Beryllium Seats Standard

11° BIG CHIEF II OVAL PORT -CNC FULL PORTED

Port Vol: 512cc
Valves: 2.470/1.800
Cyl. Bore: 4.600
Titanium Valves & Copper-Beryllium Seats Standard



NEW Big Chief II Oval Port



Part Number	Matl.	Description	Int/Exh Valves	Spring Dia. S=Single D=Double	Cyl. Bore Dia.
18000000	Alum	18° Program 381	Rect. Bare		
18000000S	Alum	18° Program 381	Rect. Solid Bare		
18034136	Alum	18° Super Mod	Rect. Assm.	2.40/1.90	1.625D 4.500
18035136	Alum	18° BC Super Mod	Rect. Assm.	2.40/1.90	1.625D 4.600
18074136	Alum	18° BC Full Port	Rect. Assm.	2.40/1.90	1.625D 4.500
18075136	Alum	18° BC Full Port	Rect. Assm.	2.40/1.90	1.625D 4.600
18100000	Alum	14° Program 3815	Rect. Bare		
18100000S	Alum	14° Program 3815	Rect. Solid Bare		
18200000	Alum	14° Program 384	Rect. Bare		
18275070	Alum	14° BC Full Port	Oval Bare	2.47/1.80	4.600
18275179	Alum	14° BC Full Port	Oval Assm.	2.47/1.80	1.650T 4.600
18300000	Alum	14° Program 385	Rect. Bare		
18474030	Alum	18° BC Pro1	Rect. Bare		4.500
18474136	Alum	18° BC Pro1	Rect. Assm.	2.40/1.90	1.625D 4.500
18475030	Alum	18° BC Pro1	Rect. Bare	2.40/1.90	4.600
18475136	Alum	18° BC Pro1	Rect. Assm.	2.40/1.90	1.625D 4.600
18575070	Alum	11° BCII Full Port	Oval Bare	2.47/1.80	4.600
18575179	Alum	11° BCII Full Port	Oval Assm.	2.47/1.80	1.650T 4.600

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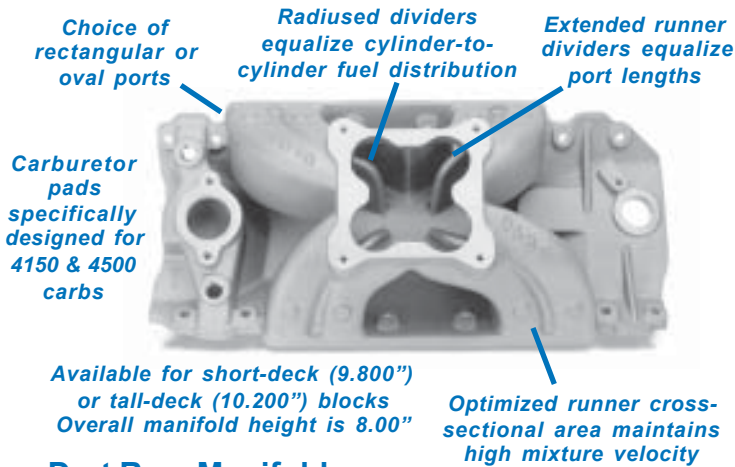


BBC Manifolds & Valve Covers

INTAKE MANIFOLDS

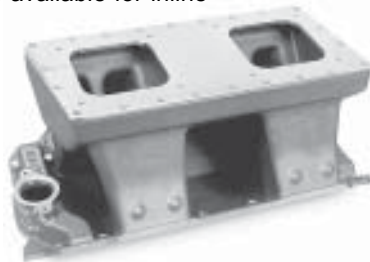
An engine's cylinder heads and intake manifold must work together as an integrated system to produce maximum performance. The intake charge should make a seamless transition from the manifold runners to the cylinder head ports.

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 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.



Part No.	Description	Port	Deck Ht.	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 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	



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



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
68000020	Cast Aluminum Valve Cover Set	Dart BBC
68000060	Stamped Steel Valve Covers	Dart BBC
68000030	Cast Aluminum Valve Cover Set	Dart Big Chief

See pages 28-29 for more accessories



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Get your heads together with Dart! We carry an extensive inventory of valvetrain components, gaskets, specialized tools, and essential accessories. When you need hard-core engine parts, call Dart!

Valve Train Components

We're cylinder head specialists, so we know what it takes to put it all together. That's why we stock all of the essential components - steel and titanium retainers, hardened spring cups, machined valve locks, and lash caps. Call us for a single piece or a complete assembly!

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.



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.



Seats and Guides

We have what you need to keep your Dart heads in top condition. 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.



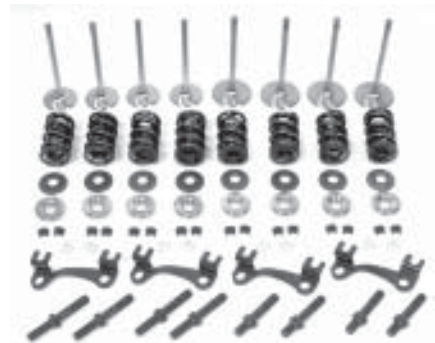
Valve Springs

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!



All Dart valve seats are based on "families" with similar diameters and thickness. This makes it easy to rebuild a damaged head. Replacement valve guides and guide liners are available for all Dart heads.

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Small-Block Parts Kits

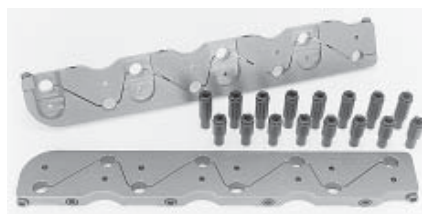
(includes steel retainers)

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

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"	1.550" single
28000042	2.30"	1.90"	1.550" double
28000043	2.30"	1.90"	1.625" double



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.



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.

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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.

Protect & Enhance your components with Dart Coatings

Dart Coatings

We use these high-tech coatings in our own Pro Stock engines and supply coating services for top NASCAR Winston Cup teams - they really work! We offer specialized coatings to improve lubrication, insulate and reflect heat, and resist corrosion. Contact Omar Guerrero at Dart Coatings (248-362-1188) for details.



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 and off 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 Pigments

Lubricating coating 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-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.

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