GM PERFORMANCE PARTS

2009 CATALOG

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Supersedes All Previous Catalogs

PERFORMANCE PARTS

Welcome to the 2009 GM Performance Parts Catalog

In 2009, GM Performance Parts is celebrating the return of the Chevrolet Camaro. Portions of this catalog are dedicated to this American icon, including genuine GM Performance Parts and Accessories that will allow you to enhance the performance and personalization of your new Camaro. You will find everything from complete crate engines, high performance camshafts, ported heads, body kits, stripe packages, spoilers, Hurst® shifters, and more directly from General Motors—designed specifically for your new Camaro. This section starts on page 322.

You will find Camaro inf uences throughout this entire catalog. GM Performance Parts was founded in 1967 to support Camaro Trans Am racing, and we have been offering the largest portfolio of GM crate engines and GM-specific engine components ever since. So, whether you've got a brand new Camaro or one that you've owned since 1969, we've got the high-performance hardware that you want.

In addition to parts for the Camaro, there are several new and exciting projects and products headed your way. Here's a look at just some of what you will find in the 2009 GM Performance Parts Catalog:

- **eCommerce** - Now your favorite GM Performance Parts crate engines and engine components are available online—24 hours a day. All you need to do is head to www.gmperformanceparts.com, find the product that you want and buy it online.
- **Tech Tips** - You will find details on how we build our own project vehicles, tech tips on how to maximize your crate engine, updates on our sponsored racers, a schedule of where you can find our mobile rig tour, a dyno configurator that lets you try a combination before you buy, and much, much more. It's all at www.gmperformanceparts.com.
- **More LS products** - The LS is the hottest engine platform in the high performance industry because these GM engines offer unmatched fuel efficiency in a high performance crate engine. GM Performance Parts is the industry leader in LS engine technology—remember that we are the factory. Our LS crate engine portfolio ranges from the super affordable LS327/327 all the way up to the new 638-horse LS9—the most powerful engine ever offered in a Chevrolet production vehicle, the Corvette ZR1. Our LS section starts on page 58.
- **LS Components** - GM Performance Parts also offers the best way to get your LS engine running in your project vehicle with our LS Controller and Harness kits. These extremely affordable fuel injection kits will get your LS engine running in no time! See page 188 for more details.
- **LSX** - Even more extreme! We've harnessed the potential of the LSX Bowtie Block, stuffed it full of the best parts money can buy, topped it off with our killer new LSX 6-bolt cylinder heads, and now GM Performance Parts is proud to announce the launch of the LSX454 and the LSX376 crate engines. These engines offer uncompromised components, state-of-the-art engineering and testing, and a truly superior performance to anything else in the LSX market. The LSX454 and LSX376 continue to demonstrate how GM Performance Parts is reshaping the high-performance industry. Read more about the LSX portfolio of crate engines and engine components on page 82.
- **Circle Track family of crate engines grows** - In 2009, GM Performance Parts adds the CT525 to our wildly popular sealed Circle Track crate engine family. This LS-based crate engine offers 525 horsepower to allow your Circle Track dreams to come true. Find out more about GM Performance Parts Circle Track racing engines on page 116.
- **New Big-Block design** - Only GM could take the venerable Big-Block Chevy and make it better. Our engineers have redesigned the Chevy Big-Block so that all of your Mark IV and Gen VI components will work with one engine block. This block will become the standard block for several GM Performance Parts Big-Block crate engines, like the ZZ454/440 and ZZ502. Read all about it on page 228.
- **More Small-Block Chevy engines than anyone** - GM Performance Parts continues to offer the automotive enthusiast more choices in Small-Block Chevy crate engines than anyone else in the industry. Remember, we invented the Small-Block and have perfected it with the 350/290, Ram Jet 350, ZZ4 350, ZZ383, and dozens of other Small-Block combinations.

Now, more than ever, you have to be confident in the quality of the speed parts that you buy. It's not a time to take chances on a company with questionable manufacturing techniques or a "trick of the month" product line. For more than 40 years, GM Performance Parts has been your No. 1 choice for GM high-performance crate engines and engine components for several reasons.

First, we are the factory, and our engineers follow the same strict engineering, testing and validation procedures that GM developed for vehicle manufacturing. Second, all of our components are brand new, not remanufactured, recycled junk. Third, our network of over 6000 GM dealerships stands ready to serve all your high-performance needs. And, finally, all of our street crate engines are backed with our unbelievable 24-month/50,000 mile warranty—a first for the crate engine industry. Most of our components carry a 12-month/24,000 mile warranty—another first for the industry.

We want to thank all of our valued customers and racers who have helped make GM Performance Parts your No. 1 choice for high performance crate engines. We promise to continue offering you the highest value for your high-performance dollar. For those of you who are new to GM Performance Parts, we believe that you will quickly discover for yourself why we are more than just power!

Thank you for considering genuine GM Performance Parts for your next project.

What's New for 2009!

The LSX™ family expands with forged rotating parts and more

19171049
Page 84
LSX376 Crate Engine
LS3 production parts and the LSX Bowtie block combine for an economical powerhouse in base crate engine form. It makes 450 horsepower with a production-style intake system.

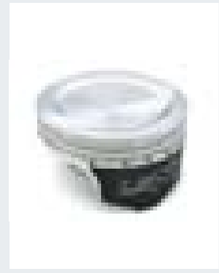
19211708
Page 74
LSA 6.2L Supercharged V-8 Crate Engine
It's the power behind the new Cadillac CTS-V. With 550 horsepower generated by a more efficient, sixth-generation supercharger, it's the most powerful engine ever offered in a Cadillac. Use it in resto-mod classic Caddy of a one-of-a-kind project.

19170391
Page 216
LSX Crankshaft, 4.125-inch stroke
Our new LSX crankshafts are all made from 4340 forged steel and have generous fillets. GM Performance Parts' new LSX forged crankshafts deliver exceptional strength and durability, whether you're building a formidable fourth-gen Camaro or late-model GTO for the street.

19170112
Page 86
LSX454 Crate Engine
All-new LSX forged rotating parts and a newly developed 0.635-inch-lift hydraulic roller cam make this a monster LS engine in a classic cubic-inch combo. Through its' four-barrel carburetor, it's rated at 620 horsepower.

19201990
Page 76
LS9 6.2L Supercharged V-8 Crate Engine
This is the one! The Corvette ZR1, that is! The LS9, in all its supercharged and intercooled glory, is available as a crate engine. A sixth-generation blower and low-mass components enable the LS9 to make nearly 640 horsepower. The project-car possibilities are endless—and enticing!

19166958
Page 217
LSX454 Piston, 4.185-inch bore
Developed for use in our new LSX454 crate engine, this tough, lightweight piston features a unique ring pack. NOTE: Not compatible with production-style LS connecting rods. Must be used only with new LSX connecting rods with 0.866-inch wrist pin bores.



12611022
Page 66
L99 6.2L V-8 Crate Engine
The 2010 Camaro's V-8 (when paired with an automatic transmission) offers GM's fuel-saving Active Fuel Management, for more economical cruising and approximately 400 horsepower.

19202613
Page 216
LSX Windage Tray
Our new LSX windage tray is designed to clear the rotation of engines with a long, 4.125" stroke. Includes installation hardware.

19171272
Page 211
Valve Cover Kit – LSX454, Orange
Orange powder coat with black LSX454 lettering. Comes with all mounting hardware and gaskets. Sold as a pair.

19166979
Page 209
LSX-DR Cylinder Head
Designed for 4.125" and larger cylinder bores. Machined for 2.25" intake valves and 1.60" exhaust valves; valve spacing is spread out to accommodate 2.28" intake valves when used with a minimum of 4.165" cylinder bores. Airflow can reach 430 cfm on the intake side and 280+ cfm on the exhaust ports.

19166952
Page 223
LSX-LS3 Dual-Plane Standard Deck Manifold
The best way to feed an LSX engine is with air channeled through one of GM Performance Parts' new LSX intake manifolds. The dual-plane is designed for use with LSX-LS3 cylinder heads or production LS3/L92 heads for superior torque.

19141270
Page 211
Valve Cover Kit – LSX376, Natural
Natural tumble finish with black LSX376 lettering. Comes with all mounting hardware and gaskets. Sold as a pair.

MORE NEW PRODUCTS FOR 2009

19170388	LSX Crankshaft, 3.622-inch stroke	Page 216
19170389	LSX Crankshaft, 3.750-inch stroke	Page 216
19170390	LSX Crankshaft, 4.000-inch stroke	Page 216
19166964	LSX Connecting Rod Kit, 6.000-inch	Page 215
19166965	LSX Connecting Rod Kit, 6.100-inch	Page 215
19166966	LSX Connecting Rod Kit, 6.125-inch	Page 215
19166967	LSX Connecting Rod Kit, 6.150-inch	Page 215
19166968	LSX Connecting Rod Kit, 6.200-inch	Page 215
19166957	LSX376 Piston & Ring Kit, 4.065-inch bore	Page 217
19156431	Valve Cover Kit – Chevrolet, Black	Page 211
19156432	Valve Cover Kit – Chevrolet, Orange	Page 211
19156433	Valve Cover Kit – Chevrolet, Chrome	Page 211
19156430	Valve Cover Kit – Camaro, Natural	Page 211
19156429	Valve Cover Kit – Corvette, Polished (red letters)	Page 211
19156428	Valve Cover Kit – Corvette, Polished (black letters)	Page 211
19171269	Valve Cover Kit – Pontiac, Natural	Page 211
19171273	Valve Cover Kit – LSX 427, Polished	Page 211
19171497	Valve Cover Kit – LSX454, Black	Page 211
19171500	Valve Cover Kit – GMPP/LSX, Polished	Page 211
19171501	Valve Cover Kit – GMPP/LSX, Natural	Page 211
19171502	Valve Cover Kit – Polished, without logo	Page 211
19166972	LSX454 Camshaft	Page 214
19166953	LSX-LS3 Intake Manifold, dual-plane tall deck	Page 223
19172322	LSX-LS3 Intake Manifold, standard deck	Page 223
19172323	LSX-LS3 Intake Manifold, tall deck	Page 223
19166948	LSX-LS7 Intake Manifold, standard deck	Page 224
19166949	LSX-LS7 Intake Manifold, tall deck	Page 224
19166950	LSX-CT Intake Manifold, standard deck	Page 224
19166951	LSX-CT Intake Manifold, tall deck	Page 224
19166954	LSX-DR Intake Manifold, standard deck	Page 224
19166955	LSX-DR Intake Manifold, tall deck	Page 224
1916681	LSX-CT Cylinder Head	Page 209
19201806	LSX-LS7 Cylinder Head	Page 208
19201805	LSX-LS3 Cylinder Head	Page 208
19201807	LSX-L92 Small-Bore Cylinder Head	Page 208
19203963	LSX-LS9 Cylinder Head	Page 208

The 2010 Chevrolet Camaro—an Old Friend Returns with a New Attitude

Muscle car fans rejoice! The Chevrolet Camaro returns to production in 2009 after a seven-year hiatus.

It hits the streets as a 2010 model and carries more than heritage-inspired design. The new Camaro is a true sports car of the 21st century, blending great performance and styling with advanced technology and surprising efficiency. In short, it delivers on the expectations of enthusiasts old and new, is competitive with the world's best and is wrapped in an instantly recognizable design.

The Camaro is offered in V-6-powered LS and LT models, along with the next-generation muscle car, the Camaro SS. It's powered by the LS3 6.2L, all-aluminum V-8 and rated at 422 horsepower (with the manual transmission). All models and powertrain combinations include six-speed transmissions—either manual or automatic—that better match power to rpm for a greater feeling of performance, as well as better fuel economy.

Engines paired with an automatic transmission, known by the L99 engine code, also feature GM's fuel-saving Active Fuel Management system, which deactivates half of the engine's cylinders in light-load driving conditions, such as highway cruising. And while the LS3 is unquestionably a powerhouse engine, the LS and LT models' advanced 3.6L engine is a potent performer in its own right. It uses gasoline direct injection and a high, 11.3:1 compression ratio to make 304 horsepower. Variable valve timing optimizes power and fuel economy across the rpm band, while the direct injection system significantly reduces cold-start emissions.

Chevrolet estimates V-6-powered Camaro models should cover the quarter-mile in the mid- to high-14-second range at approximately 100 mph—that's equivalent to the performance of LT1-powered Z28 models of the early 1990s. The LS3-powered Camaro SS is projected to launch down the drag strip in the low- to mid-13s at approximately 110 mph.

Heritage Design

At a glance, there's no mistaking the 2010 Camaro for any other car, but it also reflects a modern design ethic that uses heritage cues to accentuate a completely contemporary proportion. Elements such as a forward-V shape at the front of the car and "gills" in front of the rear fenders are distinctly Camaro features, as are the broad rear fender "shoulders."

LS and LT models are offered with 18- and 19-inch wheels, while the SS comes standard with 20-inch wheels. An available RS package adds further exterior distinction, including HID headlamps, a rear spoiler, specific taillights and more.

A well-executed balance of heritage, modern design and attention to detail also characterizes the Camaro's interior. A pair of deeply recessed instrument binnacles that feature round gauges in square housings is a nod to classic Camaros, while details such as large, chrome-trimmed controls; low-gloss surfaces; LED ambient and backlighting; and premium materials convey a richness that is unprecedented in previous Camaro models.

Help From Down Under

Development of the new Camaro was truly a global affair. With the idea and initial design concepts originating in the United States, the bulk of the vehicle's development was spearheaded by GM's engineering team in Australia—the same team that developed the new, rear-drive platform on which the Camaro is built. It was introduced in North America on the Pontiac G8, but is also used in markets around the world. Production takes place at GM's world-class facility in Oshawa, Ontario, Canada.

Designed for personalization

When it was introduced in 1967, the Camaro's success came not only in its distinctive design and performance, but the seemingly endless range of options that encouraged owners to personalize their cars. That spirit of personalization returns with the 2010 Camaro, as dozens of factory options, Chevrolet Accessories and GM Performance Parts components are offered. Each is designed to enhance the appearance, performance or comfort of the Camaro. (See the Camaro Performance and Accessories section on page 322 for the parts to bolt onto your new Camaro.)

Additional highlights of the new Camaro include:

- V-6 models offered with an Aisin Warner AY6 six-speed manual or Hydra-Matic 6L50 six-speed automatic
- SS model offered with a Tremec TR6060 six-speed manual or a Hydra-Matic 6L80 six-speed automatic
- Four-wheel independent suspension system, including a 4.5-link rear suspension
- Variable-rate power steering with the rack mounted forward of the front axle for greater driver feel
- Four-wheel disc brake systems standard on all models, including four-piston, fixed Brembo calipers on SS models
- StabiliTrak™ stability control system and traction control standard on all models
- Competitive/sport modes for the stability system offered on SS models, including launch control on SS models equipped with the six-speed manual transmission
- Detailed interior with heritage-inspired design, excellent attention to detail and available ambient lighting via LED light pipe technology
- Standard side curtain air bags and front-seat pelvis/thorax side air bags

More than the sum of its features, the new Camaro is remarkable for its superior build quality and attention to detail. Single-piece side body stampings, for example, help form a stronger body structure and enable a more precise assembly. Minimal gaps between panels and features such as automatic indexing of the frameless door windows are evidence the new Camaro is built to an unprecedented level of refinement.

There are wonderful details throughout, too, like an available interior center console that evokes the look of a similar option on 1969 models, including four rectangular gauges.

The new Camaro also has technologies that enhance performance, comfort and convenience, including:

- Bluetooth phone connectivity
- Premium Boston Acoustics audio system
- USB connectivity
- Head-up display
- Ultrasonic rear parking assist
- Remote vehicle starting system
- OnStar

2010 CAMARO SPECIFICATIONS

DIMENSIONS			
Wheelbase (in): 112.3		**Track, front** (in): 63.7	
Overall height (in): 53.8		**Track, rear** (in): 64.1 (LS/LT), 63.7 (SS)	
Overall length (in): 189.6		**Curb weight** (approx lbs): 3750 (LS)	
Overall width (in): 75.9		3775 (LT), 3900 (SS)	

CHASSIS / SUSPENSION
Front: Multi-link MacPherson strut with direct acting stabilizer bar; progressive-rate coil springs and fully adjustable camber, caster and toe
Rear: Multi-link independent; progressive-rate coil springs over shocks; fully adjustable camber and toe
Steering: Variable-ratio rack-and-pinion
Steering ratio: 16.1:1

TRANSMISSIONS/AXLES	LS/LT	SS
Six-speed manual	Aisin Warner AY6	Tremec TR6060
Six-speed automatic	Hydra-Matic 6L50	Hydra-Matic 6L80
Final drive ratio	3.27	3.45 (man); 3.27 (auto)

WHEELS / TIRES	LS/LT	SS
Wheel size (in)	18 x 7.5 (LS) or 19 x 8	20 x 8 (front); 20 x 9 (rear)
Tires	P245/55R18	P245/45R20 (front)
	P245/45R19	P245/40R20 (rear)

ENGINE	LS/LT	SS
Type	3.6L SIDI VVT (LLT)	6.2L V-8 (LS3/L99)
Cylinder block	Cast aluminum	Cast aluminum
Bore (in / mm)	3.70 / 94	4.06 / 103.25
Stroke (in / mm)	3.37 / 85.6	3.62 / 92
Displacement (cu in / cc)	217 / 3564	376 / 6162
Cylinder heads	Aluminum	Aluminum
Compression ratio	11.3:1	10.7:1
Valvetrain	DOHC, variable valve timing	OHV; Active Fuel Management (L99)
Ignition system	Distributorless, coil-near-plug	Distributorless, coil-near-plug
Fuel delivery	High-pressure direct injection	Returnless, multi-port injection
Horsepower (@ rpm)	304 @ 6400	422 @ 5000 (LS3)
Torque (lb-ft @ rpm)	270 @ 5200	408 @ 4500 (LS3)

BRAKES	LS/LT	SS
Type	4-wheel disc w/ABS	4-wheel disc w/ABS
Calipers, front	Single-piston, iron	4-piston, aluminum Brembo
Calipers, rear	Single-piston, aluminum	4-piston, aluminum Brembo
Rotor diameter, front (in)	12.64	14.00
Rotor diameter, rear (in)	12.40	14.40

LSX Shootout—The Fastest Guns of a New Generation

The GMPP-backed and NMCA-sanctioned LSX Shootout is quickly becoming a must-do event for racers running GM's LS engine family. Held each fall at Memphis Motorsport Park, it brings together the quickest and most powerful LS-powered street and strip vehicles—from stock-engine GTOs to door-slammer F-Body race cars packing LSX-based engines fitted with Texas-sized turbochargers.

Tom Kempf won the '08 event in his 2000 Camaro, with blistering ET of 7.601 at 191.1 mph. If you want to be part of action and see if Tommy can defend his title, get to Memphis in 2009. We'll see you there!

The Ultimate Crate Engine Test

Last summer, GM Performance Parts teamed up with *Hot Rod Magazine* for a performance test unlike anything ever attempted. During four days of furious wrench-turning and lots of VHT, at U.S. 131 Dragway, in Martin, Michigan, we swapped eight crate engines—Small-Block, Big-Block and LS Series—into a race-prepared 1969 Chevelle. We then made dozens of brutal quarter-mile passes in the ultimate validation session for our crate engines.

We leaned hard on the Chevelle and pushed our engines to their limit. The car wore 28 x 10.5-inch tires and was equipped with a DTS 9-inch rearend (for quick gear changes) and a TCI Automotive Pro-X Turbo 400. The gears and torque converters were changed as necessary to match the various engines.

You can check out the October 2008 issue of *Hot Rod* for a complete, 20-page diary of our demonic demonstration, but here are the quickest times for each engine family:

- 11.70 at 111.7 mph with a ZZ383 Small-Block and 4.30 gears
- 10.21 at 128.9 mph with a ZZ572/720R Big-Block and 4.11 gears
- 10.78 at 120.3 mph with a production LS7 crate engine and 4.44 gears

When the last timing light was tripped and the rubber dust settled, we learned much about the performance of our engines. It was information we took back to our engineers to improve existing products and guide the development of new ones.

By the way, we didn't break a thing during our drag strip thrash. The Chevelle's TCI-supplied transmission performed flawlessly and we didn't so much as leave a drop of oil on the track!

Order Your GM Performance Parts Crate Engines and Components Online!

GM Performance Parts has a new online superstore that simplifies shopping for high-performance engines, parts and components. Visit it at: www.gmperformanceparts.com.

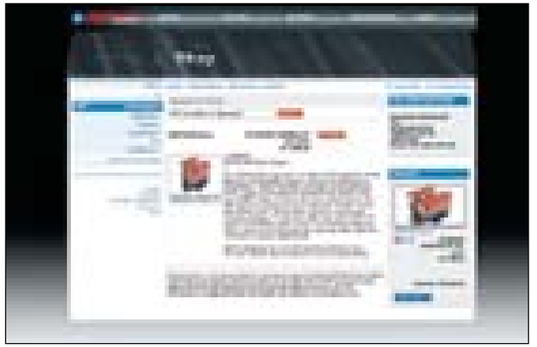
It is the first OE performance parts site that allows you to purchase parts, engines and accessories online—unlike many online shopping sites that refer consumers to a retailer for pricing. We make it simple to buy what you want, when you want it, and have it shipped to your door. The GMPP website also simplifies the purchasing process by providing ordering access on a secure site 24 hours a day, seven days a week.

A sample of the parts and services available includes:

- Nearly 40 genuine GM Small-Block, Big-Block and LS Series high-performance crate engines
- More than 300 different part numbers available for sale in one place: engines, blocks, heads, cams, intake manifolds, accessory drives and dress-up parts
- Product search capability by category, name and part number
- Complete product information descriptions of all GMPP products
- Technical product information, including dyno charts, tech specs and engine builds
- Pricing—GM's MSRP and access to dealer's retail pricing

Getting started shopping for GMPP engines and components is easy. Just type in your zip code and you will be presented with a list of our dealers that are located closest to you. Choose your favorite dealer, and their prices will populate the site – allowing you to see the cost of our products as you browse for parts. If you choose to not select a GMPP dealer first, you are still able to shop for GMPP engines and parts. After choosing a product, you can enter billing and shipping addresses and select method of payment – including all major credit cards and PayPal®. Products can be shipped directly to your door, or you can save freight charges by picking them up at the dealership.

Wherever you see this logo in the catalog, it means the part is available for online ordering at gmperformanceparts.com.



SEE MORE AT GMPP'S WEBSITE - *gmperformanceparts.com has all the latest high-performance news and new-product information, along with the descriptions, specs and ordering information you need. You'll also learn more about our project vehicles, our involvement in great events and our support of all types of racing! It's also your exclusive source for Internet-only deals and promotions, so check in often!*

Crate Engines

Ready-to-go power that's engineered by the factory

Vehicle projects rarely go as planned. From hidden rust in vintage sheet metal to new rules in your racing class, you can only be certain of the uncertainty when it comes to building cars and trucks.

Powering your muscle car, street rod, race car or off-roader isn't an exercise in the unknown when you select a GM Performance Parts crate engine. They're designed by General Motors engineers who live, breathe and dream about GM engines.

GM Performance Parts' engine families—Small-Block, Big-Block, CircleTrack, LS and LSX—offer an unmatched range of choices, performance levels and value. And our turn-key engines include the components required to get the engine started the day it is delivered. We also offer dozens of chrome and dress-up items that enable you to personalize an engine to make it uniquely yours.

Every GM Performance Parts crate engine is designed to deliver excellent, all-around performance. We don't sacrifice drivability to claim a bigger horsepower number. We also don't sacrifice time when it comes to testing. Each engine undergoes 50 hours of high-load durability testing, as well as real-world validation in GM Performance Parts' f eet of project vehicles. We use 'em how you'll use 'em—and then some!

There's another advantage to GM Performance Parts crate engines that competitors can't match: all-new parts—including the cylinder block. Other aftermarket crate engines use reconditioned or rebuilt cores, but GMPP crate engines use brand-new blocks, heads and internal components. We back up our all-new crate engine combinations with a 24-month warranty (street engines only).

Sure, your vehicle project is going to throw you some curves, but you can eliminate the guesswork under the hood by selecting a factory-engineered high-performance crate engine from GM Performance Parts.

Crate Engine Quick Reference Chart

CHEVY SMALL-BLOCK V-8

Part Number	Description	Engine Size	Weight	HP	Torque	Page	Warranty
12499529	350/290 HP—Economy Performance Engine	350 cu in	352	290	326	40	W
19201328	350 HO Turn-Key—with Iron Vortec Heads	350 cu in	575	330	380	42	W
19201329	350 HO Deluxe—with Iron Vortec Heads	350 cu in	481	330	380	43	W
12486041	350 HO Base—with Iron Vortec Heads	350 cu in	298	330	380	43	W
19201330	ZZ4 350 Turn-Key—with Aluminum Heads	350 cu in	511	355	405	44	W
24502609	ZZ4 350 Base—with Aluminum Heads	350 cu in	379	355	405	45	W
12561723	ZZ4 350 Partial Engine	350 cu in	223	N/A	N/A	45,49	W
12499120	Ram Jet 350—PFI with Iron Vortec Heads	350 cu in	517	350	400	46	W
19201331	Fast Burn 385 Turn-Key—with Aluminum Vortec Heads	350 cu in	511	385	385	48	W
12496769	Fast Burn 385 Base—with Aluminum Vortec Heads	350 cu in	466	385	385	49	W
12499101	HT383 Base—Performance Engine	383 cu in	405	340	435	50	W
12499106	383 Partial Engine	383 cu in	335	N/A	N/A	51,55	W
17800393	HT383E	383 cu in	450	340	435	52	W
12498772	ZZ383 with Aluminum Vortec Heads	383 cu in	397	425	449	54	W

LS FAMILY SMALL-BLOCK V-8

Part Number	Description	Engine Size	Weight	HP	Torque	Page	Warranty
19165628	LS327/327	5.3L	433	332	352	60	W
17801267	LS1 5.7L—Without ECU and Wire Harness	5.7L	409	350	365	62	W
17801268	LS6 5.7L—2004 Corvette Z06 Gen III V-8	5.7L	464	405	400	64	W
12611022	L99 6.2L AFM	6.2L		TBD	TBD	66	W
19201992	LS3 6.2L—2008 Corvette Gen IV V-8	6.2L	415	429	424	68	W
19213229	LS376/480—EFI LS3 Gen IV V-8	6.2L	415	480	475	70	W
19171225	LS376/515—Carbureted LS3 Gen IV V-8	6.2L	415	515	469	72	W
19211708	LSA 6.2L SC	6.2L		556	551	74	W
19201990	LS9 6.2L SC	6.2L		638	604	76	W
19211710	LS7 7.0L—2006 Corvette Z06	7.0L	440	505	470	78	W

LSX FAMILY SMALL-BLOCK V-8

Part Number	Description	Engine Size	Weight	HP	Torque	Page	Warranty
19171049	LSX376	6.2L		450	444	84	W
19170112	LSX454	7.4L		620	600	86	W

CHEVY BIG-BLOCK V-8

Part Number	Description	Engine Size	Weight	HP	Torque	Page	Warranty
19166393	ZZ427/480	427 cu in	520	480	490	92	W
19166392	Anniversary Edition 427	427 cu in	460	430	444	94	W
12568774	454 HO—with Iron Heads and Roller Cam	454 cu in	590	425	500	96	W
12498778	454 Partial Engine	454 cu in	361	N/A	N/A	97,99	W
12498777	ZZ454/440—440 Horsepower with Aluminum Heads	454 cu in	522	440	500	98	W
88890534	HT502—Truck Replacement Engine	502 cu in	557	338	512	100	W
12568782	ZZ502/502 Partial Engine	502 cu in	402	N/A	N/A	101,103,105,107	W
12568778	502 HO—with Iron Heads and Roller Cam	502 cu in	602	450	550	102	W
19201332	ZZ502 Deluxe—(Deluxe/Assembled) with Aluminum Heads	502 cu in	611	502	567	104	W
12371171	ZZ502 Deluxe Kit, with Aluminum Heads	502 cu in	602	502	567	105	W
12496963	ZZ502 Base Engine, with Aluminum Heads	502 cu in	504	502	567	106	W
12371204	ZZ502 Base Kit, with Aluminum Heads	502 cu in	532	502	567	107	W
12499121	Ram Jet 502—PFI with Aluminum Heads	502 cu in	608	502	565	108	W
19201333	ZZ572/620 Deluxe	572 cu in	580	620	650	110	W
12498792	ZZ572/620 Base	572 cu in	514	620	650	111	W
19201334	ZZ572/720R Deluxe	572 cu in		720	685	112	R
12498826	ZZ572/720R Base	572 cu in		720	685	113	R

CIRCLE TRACK RACING ENGINES

Part Number	Description	Engine Size	Weight	HP	Torque	Page	Warranty
88958602	CT350	350 cu in	451	350	390	120	R
88958603	CT355	350 cu in	402	355	405	122	R
88958604	CT400	350 cu in	466	400	400	124	R
19171821	CT525	364 cu in	415	525	471	126	R

NOTE: *Weights include crates and all packaging material. Approximate crate weight is 30 lbs.*

GM PARTS ENGINES

Part Number	Description	Engine Size	HP	Torque	Page	Warranty
12491851	4.8L LR4	292 cu in	275	285–290	128	W
12491854	5.3L LM7/L59	325 cu in	285	325–330	128	W
88894195	LT1	350 cu in	300	340	129	W
89017349	LS6	346 cu in	400	395	129	W
12491857	6.0L LQ4/LQ9	364 cu in	300–325	360–370	129	W
12607031	2.2L L61	134 cu in	135–143	142	129	W
12491869	4.3L LU3	262 cu in	180–200	245–260	130	W
89017618	8.1L L18	496 cu in	225–340	350–455	130	W
10067353	5.7L Gen 0	350 cu in	195	N/A	130	W
12568758	5.7L Gen I	350 cu in	N/A	N/A	130	W
88894186	LS1	346 cu in	350	365	131	W
12491355	7.4L L19/L29	454 cu in	230–270	N/A	131	W
12575091	4.2L LL8	256 cu in	275	275	131	W
12363230	HT 3.4L V-6	3.4L	160	194	131	W

WARRANTY INFORMATION

GM Performance Parts Crate Engines include a 24-month or 50,000-mile limited warranty.

GM Components include a 12-month or 12,000-mile limited warranty.

GM Performance Parts Racing Crate Engines are excluded from limited warranty.

GM Parts Engines offer a 36-month or 100,000 -mile limited warranty when the engine is installed in a recommended application.

Different Levels of Engine Assemblies

Recognizing that each customer has unique needs, GM Performance Parts offers four distinct levels of Crate Engines, covering the gamut from starter partial engines to complete turn-key engines that are ready to be dropped into your favorite vehicle. This variety gives builders the opportunity to customize an engine as much or as little as they need to, to meet their expectations.

Partial Engine

This is for the builder who wants to start essentially from the block up. These engines typically include the block and reciprocating assembly. It allows the builder to choose the heads, cam and intake combination he/she wants.

Base

The base engine assembly typically includes, block, crank, pistons, cam, heads and valve covers, but allows the builder to pick the carburetor/injection system and intake manifold they desire.

Deluxe

The deluxe crate engines are essentially ready to fire up, as they ship with the distributor installed, harmonic balancer bolted on and the carburetor in the crate. All you need to do is put the parts together and go!

Turn-Key

We told our engineers to have some fun and assemble engines the way they think it should be done … we then took their combinations, built them up and put them in a crate that ships right to your dealer. The turn-key engines represent an outstanding value, and they are perfect for enthusiasts who have built a chassis and need reliable power to get it down the road.

350/290 HP

An affordable classic

Designed and priced for just about any project budget, the powerful yet affordable 350/290 HP crate engine delivers the style, performance and dependability that made the Chevy Small-Block a legend. It slips into the engine compartment of your old Camaro or truck like pulling on your favorite T-shirt.

Image shown with the following GM Performance Parts:

350/290 HP Engine	12499529
670-cfm Holley Carburetor	19170092
Intake Manifold	10185063
HEI Distributor	93440806
Push-In Oil Filler Cap	12341993
Chrome Water Neck	12342024
Spark Plug Wires	12361057
Balancer	12551537
Black Crinkle Steel Air Cleaner with Bowtie Center Nut	141-752*
Black Crinkle Tall Valve Covers	141-751*
Black Crinkle Valve Cover Hold Down Clamps	141-757*
Black Crinkle Valve Cover Wing Nuts	141-756*
Spark Plug Wire Loom Kit	141-638*
Black Crinkle Bowtie Logo Breather Cap	141-754*
Black Crinkle Timing Chain Cover	141-753*
Bowtie Logo Freeze Plug Inserts	141-232*

To learn more about this engine, please turn to page 40.

** For more information on these and other Licensed Parts, turn to page 302.*

ZZ4 350

A legend in its own time

With more than 50 years of Small-Block technology on its side, it's no wonder the ZZ4 350 crate engine is a best seller. Lightweight aluminum heads and a roller camshaft help deliver 355 horsepower and more than 400 lb-ft of torque in an economical package that has powered everything from budget project vehicles to award-winning show cars.

Image shown with the following GM Performance Parts:

ZZ4 350 Turn-Key Engine	19201330
Deluxe Accessory Drive Kit	12497698
Chrome Air Cleaner and Bowtie Nut	12342080
Carburetor Spacer	88965830
Billet HEI Distributor	88961867
Black Crinkle Aluminum Valve Covers	12497979
Street Performance Fuel Pump	12355612
Chrome High-Torque Mini Starter	12363128
Push-In Oil Filler Cap	12341993
Chrome Water Neck	12342024
Chrome Breather Cap	141-616*

To learn more about this engine, please turn to page 44.

** For more information on these and other Licensed Parts, turn to page 302.*

Ram Jet 350

Modern performance and vintage style

It's got the look of vintage Chevy mechanical fuel injection from the 1950s, but with 21st-century electronically controlled port fuel injection technology. The Ram Jet 350 is the perfect crate engine for a resto-mod vintage car or truck, when you want high-tech looks, tune-free drivability and surprising efficiency.

Image shown with the following GM Performance Parts:

Ram Jet 350 Engine	12499120
Deluxe Accessory Drive Kit	12497698
Chrome Short Valve Covers	12341670
Push-In Oil Filler Cap	12341993
Chrome Water Neck	12342024
Spark Plug Wire Loom Kit	141-638*
Chrome Breather Cap	141-616*

To learn more about this engine, please turn to page 46.

** For more information on these and other Licensed Parts, turn to page 302.*

Fast Burn 385

A high-revving performer for street or strip

GM Performance Parts' unique Fast-Burn aluminum cylinder heads are the great-breathing lungs we bolt onto a classic Chevy 350, making the potent combination we call the Fast Burn 385. This high-revving Small-Block makes 385 horsepower at 5600 rpm and a maximum of 385 lb-ft of seat-tugging torque.

Image shown with the following GM Performance Parts:

Fast Burn 385 Turn-Key Engine	19201331
Chrome Water Neck	12342024
Roller Rocker Arm Set	12370838
Street Performance Fuel Pump	12355612
Black Crinkle Two-Piece Die-Cast Aluminum Valve Covers	141-911*
Black Crinkle Steel Air Cleaner with Bowtie Center Nut	141-752*
Black Crinkle Bowtie Logo Breather Cap	141-754*
Bowtie Logo Freeze Plug Inserts	141-232*
Black Crinkle Timing Chain Cover	141-753*

To learn more about this engine, please turn to page 48.

** For more information on these and other Licensed Parts, turn to page 302.*

HT383

Greater torque for your truck

Rarely has a non-production combination garnered as much attention as regular-production engines, but the great torque of the 383-inch Small-Block delivers Big-Block grunt in a compact package. Use the HT383 crate engine and its 435 lb-ft of mountain-f attening torque to give your workhorse truck a jolt of towing power.

Image shown with the following GM Performance Parts:

HT383 Engine	12499101
Holley 770-cfm Carburetor	19170093
Chrome Water Neck	12342024
Push-In Oil Filler Cap	12341993
Chrome High-Torque Mini Starter	12363128
Distributor	93440806
Spark Plug Wire Set	12361051
Wire Loom Kit	12496806
Fuel Pump Block-Off Plate	12341998
Clear Anodized Tall Valve Covers	141-801*
Composite Fiber, Bowtie Logo Air Cleaner	141-793*
Bowtie Air Cleaner Nut	141-322*
Die Cast Aluminum Timing Chain Cover	141-218*
Bowtie Logo Freeze Plug Inserts	141-233*

To learn more about this engine, please turn to page 50.

** For more information on these and other Licensed Parts, turn to page 302.*

ZZ383

Maximum Small-Block performance

Our biggest-displacement Small-Block crate engine uses the high-f ow Fast Burn aluminum cylinder heads to maximize airf ow and make huge power—425 horses and 449 lb-ft of asphalt-wrinkling torque. Use it to build a killer Camaro street car or bracket-winning competition machine.

Image shown with the following GM Performance Parts:

ZZ383 Engine	12498772
Distributor	93440806
Holley 670-cfm Carburetor	19170092
Vortec Intake Manifold	12496822
Chrome Breather Cap	12341989
Push-In Oil Filler Cap	12341993
Chrome Water Neck	12342024
Spark Plug Wire Set	12361051
Wire Loom Kit	12495502
Fuel Pump Block-Off Plate	12341998
Chrome High-Torque Mini Starter	12363128
Chrome, Black/Red Logo Air Cleaner	141-906*
Bowtie Air Cleaner Nut	141-322*
Polished Aluminum Valve Covers, Center Bolt Design	141-130*
Chrome, Black/Red Logo Timing Chain Cover	141-904*
Bowtie Logo Freeze Plug Inserts	141-232*

To learn more about this engine, please turn to page 54.

** For more information on these and other Licensed Parts, turn to page 302.*

LS7 7.0L

Uncompromising performance for the next generation!

LS means performance to a new generation of enthusiasts and GM Performance Parts supports them with a growing lineup of dyno-tested crate engine combinations. They include the new Corvette ZR1 LS9 Supercharged 6.2L engine and the custom LSX454, which uses our special LSX cylinder block.

Image shown with the following GM Performance Parts:

LS7 Crate Engine	19211710
Chrome Air Cleaner and Bowtie Nut	12342080
Holley 870-cfm Carburetor	19170094
Carburetor Spacer	88965839
Center Bolt Competition Valve Covers	25534398 & 25534399
Push-In Oil Filler Cap	12341993

To learn more about this engine, please turn to page 78.

ZZ427/480

The classic 427 is back

If the engine code L88 sends a tingle up your spine, the ZZ427/480 crate engine is for you. It marks the return of the classic 427-inch Chevy Big-Block to GM Performance Parts' line-up. Updated features make it a better performer than ever, too, with a roller cam for great drivability and a pump-gas-friendly compression ratio.

Image shown with the following GM Performance Parts:

ZZ427/480 Crate Engine	19166393
Chrome Air Cleaner and Bowtie Nut	12342080
Chrome Water Neck	12342024
High-Torque Mini Starter	12361146
Street Performance Fuel Pump	12355614

To learn more about this engine, please turn to page 92.

ZZ454/440

Aluminum heads deliver awesome power

By adding a set of high-f ow aluminum cylinder heads to our basic 454 engine, we're able to offer the 440-horsepower/500-lb-ft ZZ454/440 at a surprisingly affordable price. It's just the engine to give your vintage Chevelle or Camaro the power that made Chevy the king of the muscle cars in 1970. A hydraulic roller camshaft gives this modern rat great drivability, too.

Image shown with the following GM Performance Parts:

ZZ454/440 Engine	12498777
Chrome Air Cleaner and Bowtie Nut	12342080
Holley 770-cfm Carburetor	19170093
Custom Aluminum Valve Covers	12495488
Valve Cover Badge, 454 GM Performance Parts	12366995
Chrome Water Neck	12342024
Billet HEI Distributor	88961867
Spark Plug Wire Set	12361058
Wire Loom Kit	12495502
Fuel Pump Block-Off Plate	12341999
Aluminum Water Pump	14058915
High-Torque Mini Starter	12361146
Big-Block Balancer	88962814

To learn more about this engine, please turn to page 98.

502 HO

Big cubes and big power – but not a big price tag

Our value-driven 502 HO crate engine uses high-f ow, affordable rectangular-port iron heads atop the 502-cubic-inch short block to make 450 horses at an astonishing 5250 rpm—making it a Big-Block with the power curve of a high-revving Small-Block. Torque is all Big-Block, with nearly 500 lb-ft off idle and peaking at 550 lb-ft.

Image shown with the following GM Performance Parts:

502 HO Engine	12568778
Deluxe Accessory Drive Kit	12498733
Holley 770-cfm Carburetor	19170093
Chrome Water Neck	12342024
Billet HEI Distributor	88961867
Chrome High-Torque Mini Starter	12363128
Push-In Oil Filler Cap	12341993
Chrome Breather Cap	12341989
Spark Plug Wire Set	12361058
Wire Loom Kit	12495502
Chrome Breather Cap	141-616*
Chrome Die-Cast Valve Covers	141-140*
Chrome, Black/Red Logo Air Cleaner	141-906*
Bowtie Air Cleaner Nut	141-322*

To learn more about this engine, please turn to page100.

** For more information on these and other Licensed Parts, turn to page 302.*

Ram Jet 502

Underhood intimidation at its finest

Vintage tunnel ram styling and modern electronically controlled port fuel injection is what you get in the distinctive Ram Jet 502. We've taken the basic ZZ502—including aluminum heads and roller cam—and fitted it with an eye-catching injection setup that is sure to draw stares, questions and envy from other enthusiasts.

Image shown with the following GM Performance Parts:

Ram Jet 502 Engine	12498793
Chrome Water Neck	12342024
Push-In Oil Filler Cap	12341993
High-Torque Mini Starter	12361146
ZZ572 Breather	25534355
Black Crinkle Short Valve Covers	141-810*

To learn more about this engine, please turn to page 108.

** For more information on these and other Licensed Parts, turn to page 302.*

ZZ572/620

Go ahead and try it…just try it

It packs 620 horsepower and 650 lb-ft of torque. With 9.6:1 compression, it runs on pump gas, while a roller camshaft with 0.632-inch lift gives it great drivability on the street and an unmistakable idle quality. Fire up this baddest of our street Big-Blocks and the tread on your car's rear tires will voluntarily shed itself rather than endure the punishment that's sure to follow.

Image shown with the following GM Performance Parts:

ZZ572/620 Deluxe Engine	19201333
Deluxe Accessory Drive Kit	19172805
Chrome Air Cleaner and Bowtie Nut	12342080
Chrome Water Neck	12342024
Carburetor Spacer	88965830
Street Performance Fuel Pump	12355614
Chrome High-Torque Mini Starter	12363128

To learn more about this engine, please turn to page 110.

ZZ572/720R

It's got game…Do you?

With GMPP's ZZ572/720R thundering under your car's hood, you'll roll to the staging beams with an edge over the competitor in the next lane. This ultimate Big-Block is built for the track, with 12:1 compression, a mechanical roller camshaft and 720 hp. If your chassis can handle it—and you can keep up with the revs—the ZZ572/720R has the power to put you through the lights first.

Image shown with the following GM Performance Parts:

ZZ572/720R Deluxe Engine	19201334
Chrome Water Neck	12342024
Street Performance Fuel Pump	12355614

To learn more about this engine, please turn to page 112.

From Left: ZZ4 350, 350HO, Fast Burn 385

Small-Block

The classic V-8 for classic vehicles

When it debuted in the 1955 Chevrolet (in 265-cu.-in. form), few could have foreseen the staggering impact the Small-Block Chevy V-8 would have on the automotive industry. Its compact and efficient design—defined by 4.40-inch bore centers—delivered exceptional performance in lower-priced cars.

The Small-Block V-8 was an immediate hit and by the mid-1960s, it was at the forefront of the burgeoning muscle car movement. And when a compact performer named the Camaro hit the scene in 1967, the Small-Block found its spiritual home, be it the original 302-inch-powered Z28, the high-winding LT1 of the early 1970s or the Tuned-Port Injection models of the 1980s.

During its more than 50 years, the Small-Block has evolved with surprising agility, responding greatly to technology unheard of in 1955. Through it all, the Small-Block remained the people's V-8—whether a budget cruiser for a high-school enthusiast or the power plant for a championship street rod. It is the undisputed choice for countless builders.

The Small-Block Chevy is the classic V-8, and GM Performance Parts honors it with a range of Small-Block crate engines to suit every budget and horsepower desire. We've also got the chrome accessories to dress yours perfectly—be it a 1957 Chevy, '69 Camaro, street rod or truck.

350/290 HP

12499529

Our best crate engine value delivers all you expect in a powerful Small-Block!

The most affordable GM Performance Parts Small-Block crate engine is also our best seller—and it's easy to understand why. The 350/290 HP Small-Block features four-bolt mains for strength and makes a great economical alternative to rebuilding a tired, two-bolt main core. Use to re-power your daily driver or drop it in your budget Camaro project!

Inside the 350/290HP are quality parts, including a camshaft and durable aluminum pistons that squeeze an 8.5:1 compression ratio. We deliver the 350/290HP in base form, allowing you to add the induction and other accessories. That's great for builders swapping over the intake manifold, carburetor and other components when re-powering a vehicle.

GM Performance Parts has all the components to build up the 350/290 HP into a high-performance, great-looking street engine, too—from an aluminum intake and carburetor (we recommend the 670-cfm Holley four-barrel, P/N 19170092) to the distributor, water pump and more. Save the time and hassle of rebuilding your old engine by ordering the 350/290 HP and finishing it to your own specifications.

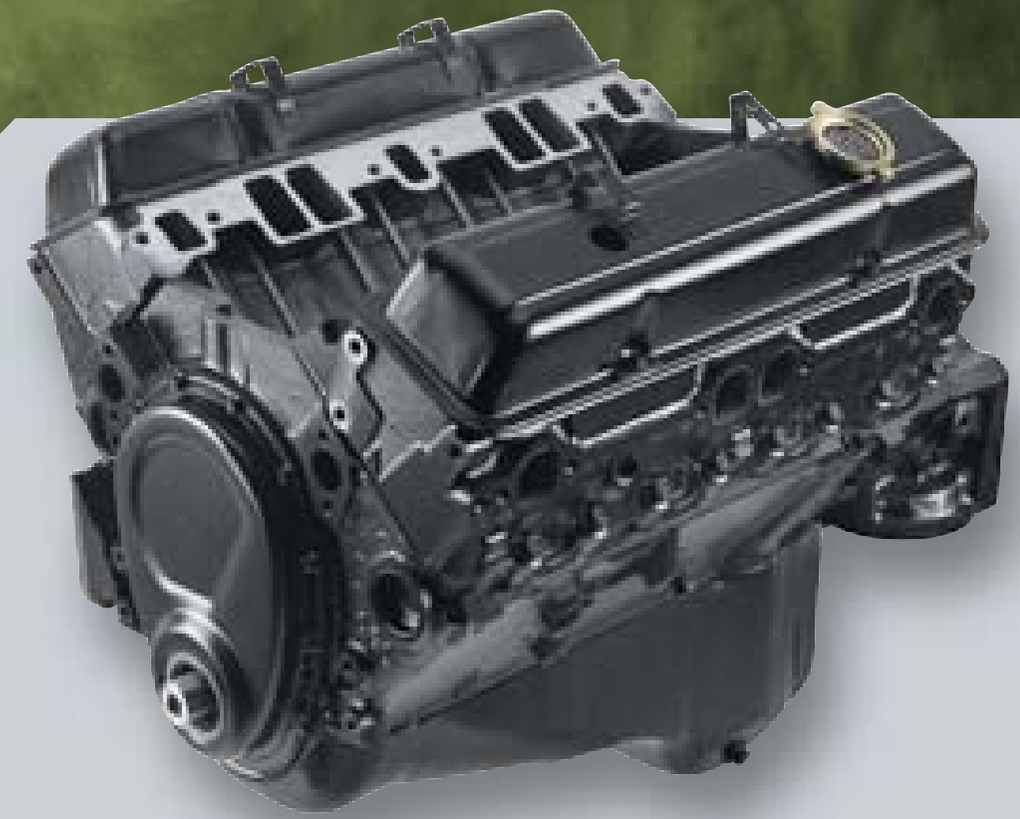
ALL-NEW ENGINE—NOT A REBUILD!

FOUR-BOLT MAINS FOR STRENGTH

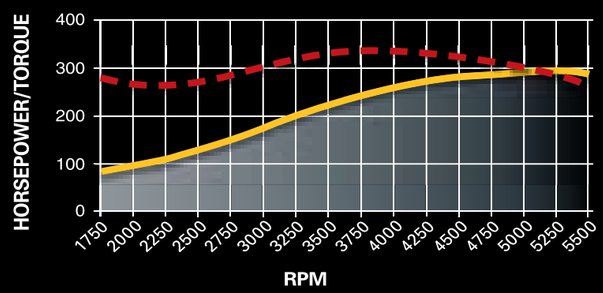
AFFORDABLE PERFORMANCE

INSTALLATION NOTES

- Use neutral balance harmonic damper P/N 12551537
- Use internally balanced flexplate P/N 471529 for automatic transmission or flywheel P/N 14085720 for manual transmission (not included)
- Power ratings based on tests with Holley 670-cfm carburetor P/N 19170092 (not included)
- Does not accept GM Performance Parts roller lifter assemblies
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications
- See the Valve Covers section on page 162 for selection of chrome, polished and aluminum valve covers
- Pre-1986 style 2-pc rear main seal block
- Recommended use in vehicles with 6000 GVW or less



350/290 HP DYNO CHART



Horsepower: 290 @ 5250 rpm

Torque (lb-ft): 332 @ 3750 rpm

POSSIBLE APPLICATIONS*

- **Replace that tired old Small-Block that has served you well for years**
- **Finish your first hot rod**
- **A temporary stand-in while you build your dream engine**
- **An engine for that father/son project**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

350/290 HP TECH SPECS

Part Number:	**12499529**
Engine Type:	**Chevy Small-Block V-8**
Displacement (cu in):	**350**
Bore x Stroke (in):	**4.00 x 3.48**
Block (P/N 10066034):	**Cast-iron with 4-bolt main caps**
Crankshaft (P/N 93426651):	**Nodular iron**
Connecting Rods (P/N 10108688):	**Powdered metal steel**
Pistons (P/N 93422884):	**Cast-aluminum**
Camshaft Type (P/N 3896962):	**Hydraulic flat tappet**
Camshaft Lift (in):	**.450 intake / .460 exhaust**

Camshaft Duration (@.050 in):	**222° intake / 222° exhaust**
Cylinder Heads (P/N 93438648):	**Iron; 76cc chambers**
Valve Size (in):	**1.94 intake / 1.50 exhaust**
Compression Ratio:	**8.5:1**
Rocker Arms (P/N 10089648):	**Stamped steel**
Rocker Arm Ratio:	**1.5:1**
Recommended Fuel:	**87 octane**
Ignition Timing:	**Base 10° BTDC, 32° Total**
Maximum Recommended rpm:	**5100**
Balanced:	**Internal**

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 56.

350 HO Turn-Key

19201328

The classic 350 combination—only with more power!

Crate engines don't come more complete than the classic 350 HO Turn-Key. Rated at a strong 330 horsepower and 380 lb-ft of torque, it is the perfect replacement for a tired engine in an otherwise stock vehicle, or a great power plant for a budget-conscious street machine, street rod or off-roader.

The 350 HO features a tough four-bolt main cylinder block, torque-building Vortec iron heads (with center-style valve cover hold-downs), and a responsive hydraulic flat tappet camshaft with 0.435/0.460 lift specs, which gives the 350 HO an aggressive idle that sounds wholly appropriate in a '67 Camaro with a set of Cragar S/S wheels.

Because the 350 HO is a Turn-Key crate engine, it comes with the intake manifold and distributor already installed. Additional accessories, including a front-accessory drive kit, carburetor, starter, fuel pump and even spark plug wires, are included in the package.

It's the perfect crate engine, whether you're building a 1972 Malibu, home-grown street rod or mid-1970s pickup.

Check out gmperformanceparts.com for a list of Power Packages to improve the performance of this engine!

- **CLASSIC SMALL-BLOCK STYLE**
- **FOUR-BOLT MAIN CYLINDER BLOCK**
- **INTAKE, CARB AND DISTRIBUTOR**

INSTALLATION NOTES

- Comes with externally balanced flexplate for automatic transmission; requires externally balanced flywheel for manual transmission. See chart on page 175
- Has right-side oil dipstick
- Requires fuel line from fuel pump to carburetor
- Fuel pump pressure is pre-set; fuel pressure regulator not required
- Some assembly and minor engine tuning required
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications

19201329

350 HO Deluxe

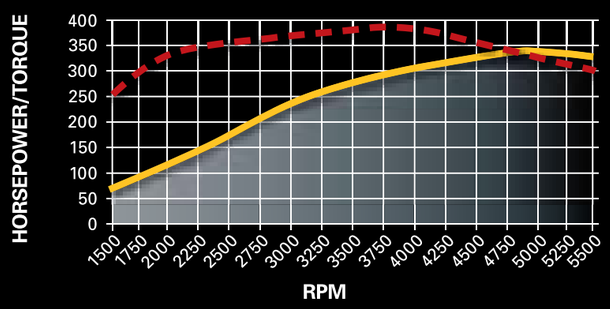
Like the 350 HO Turn-Key crate engine, the 350 HO Deluxe is rated at 330 horsepower and 380 lb-ft of torque. The intake manifold, carburetor and distributor are included, but not installed.

12486041

350 HO Base

All the same important, power-building elements as the Turn-Key and Deluxe versions, but it comes without an intake manifold, carburetor or distributor.

350 HO DYNO CHART



Horsepower: 330 @ 5000 rpm ***Torque (lb-ft): 380 @ 3800 rpm***

POSSIBLE APPLICATIONS*

- **Replace that V-6 with some all-American V-8 muscle**
- **Restore your muscle car with a little bit more than stock**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

350 HO TECH SPECS

Part Number:	19201329	**Cylinder Heads (P/N 12558060):**	Vortec iron; 64cc chambers
Engine Type:	Chevy Small-Block V-8	**Valve Size (in):**	1.94 intake / 1.50 exhaust
Displacement (cu in):	350	**Compression Ratio:**	9.1:1
Bore x Stroke (in):	4.00 x 3.48	**Rocker Arms (P/N 10089648):**	Stamped steel
Block (P/N 10105123):	Cast-iron with 4-bolt main caps	**Rocker Arm Ratio:**	1.5:1
Crankshaft (P/N 14088526):	Nodular iron	**Water Pump (P/N 88894341):**	Cast iron, long-style
Connecting Rods (P/N 10108688):	Powdered metal steel	**Flexplate (P/N 14088765):**	14"
Pistons (P/N 12514101):	Cast-aluminum	**Recommended Fuel:**	92 octane
Camshaft Type (P/N 24502476):	Hydraulic flat tappet	**Ignition Timing:**	Base 10° BTDC, 32° Total
Camshaft Lift (in):	.435 intake / .460 exhaust	**Maximum Recommended rpm:**	5500
Camshaft Duration (@.050 in):	212° intake / 222° exhaust	**Balanced:**	External

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine, except for the starter, alternator and power steering pump.

For a complete list of parts to complement and finish this engine, turn to page 56.

ZZ4 350 Turn-Key

19201330

Lightweight ZZ4 Heads Enable Great Power at an Affordable Price

The ZZ4 350 crate engine is a legend in its own time. It has been the crate engine choice for countless restored vintage cars, street rods, trucks and project vehicles of all makes and models. In Turn-Key form, it comes with nearly everything you need to get it running in your vehicle.

A tough four-bolt cylinder block is the foundation for this crate engine, to which we add the aluminum ZZ4 cylinder heads, an aluminum intake, a Holley four-barrel carburetor and HEI distributor. As a Turn-Key engine, it also includes a starter, water pump, fuel pump and front-end accessory drive kit—including an air conditioning compressor, alternator and more!

Originally developed for the C4 Corvette, the ZZ4 heads have 163cc intake runners, raised exhaust ports and tight, 58cc combustion chambers that enhance compression and power. The heads feature 1.94/1.50-inch valves for efficient performance. Of course, the rest of the ZZ4 350 is comprised of premium materials, including a forged steel crankshaft and high-silicon pistons. The camshaft delivers strong 0.474/0.510-inch lift specs, helping the engine rev to 5800 rpm.

The ZZ4 350 has powered thousands of vehicles, from Tri-Fives and classic Chevelles to trucks, SUVs and more. Put it to work in your project!

Check out gmperformanceparts.com for a list of Power Packages to improve the performance of this engine!

OUR MOST POPULAR CRATE ENGINE

PREMIUM COMPONENTS

ZZ4 HEADS DELIVER GREAT AIRFLOW

INSTALLATION NOTES

- Comes with 12.75-inch externally balanced 153-tooth automatic transmission flexplate. Change to externally balanced flywheel for manual transmission applications. See chart on page 175
- Requires fuel line from fuel pump to carburetor
- Fuel pump pressure is pre-set; fuel pressure regulator not required
- Some assembly and minor engine tuning required
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications

24502609

ZZ4 350 Base

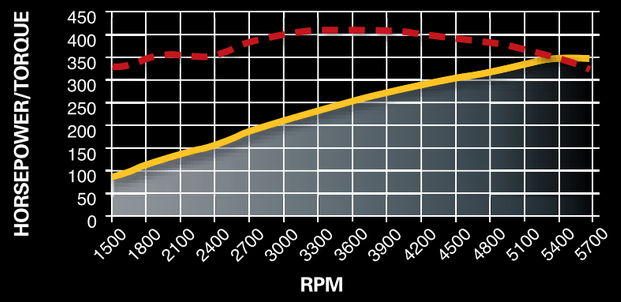
GM Performance Parts offers the ZZ4 350 Base crate engine for customers who want to finish it off with their own accessories. It includes the intake manifold, HEI distributor, cast-iron water pump, damper and flexplate.

12561723

ZZ4 Partial Engine

For customers in search of a replacement partial engine for their ZZ-series engine, this is it! It includes the ZZ4 350's bottom end, with forged steel crankshaft, LT1-style high-silicon aluminum pistons and connecting rods.

ZZ4 350 DYNO CHART



Horsepower: 355 @ 5400 rpm ***Torque (lb-ft): 405 @ 3600 rpm***

POSSIBLE APPLICATIONS*

- **Get that low 13-second bracket car going**
- **A new bullet for your Friday night cruiser**
- **A vintage Chevy that deserves a new heart**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

ZZ4 350 TECH SPECS

Part Number:	19201330	**Camshaft Duration (@.050 in):**	208° intake / 221° exhaust
Engine Type:	Chevy Small-Block V-8	**Cylinder Heads (P/N 12556463):**	Aluminum; 58cc chambers
Displacement (cu in):	350	**Valve Size (in):**	1.94 intake / 1.50 exhaust
Bore x Stroke (in):	4.00 x 3.48	**Compression Ratio:**	10:1
Block (P/N 10105123):	Cast-iron with 4-bolt main caps	**Rocker Arms (P/N 10089648):**	Stamped steel
Crankshaft (P/N 12556307):	Forged steel	**Rocker Arm Ratio:**	1.5:1
Connecting Rods (P/N 10108688):	Powdered metal steel	**Recommended Fuel:**	92 octane
Pistons (P/N 10159436):	High-silicon aluminum with offset pins	**Ignition Timing:**	Base 10° BTDC, 32° Total
		Maximum Recommended rpm:	5800
Camshaft Type (P/N 10185071):	Steel hydraulic roller	**Balanced:**	External
Camshaft Lift (in):	.474 intake / .510 exhaust		

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts <u>does not</u> utilize any used or remanufactured parts in this crate engine, except for the starter, alternator and power steering pump.

For a complete list of parts to complement and finish this engine, turn to page 56.

Ram Jet 350 with calibrated controller & wiring harness

12499120

Classic style with a modern twist

Fuel injection isn't a modern invention. Chevrolet introduced it on the Small-Block in 1957, when it was a technology leader in Bel Airs and Corvettes through the early 1960s. Fifty years later, GM Performance Parts offers the Ram Jet 350, which combines the classic look of the original mechanical-type injection system with the dependability and optimized performance of contemporary port fuel injection.

Similar in design to modern, port-injected engines on production vehicles, the Ram Jet 350 is electronically controlled and delivers crisp throttle response, tuning-free dependability and surprising efficiency. The Ram Jet 350's induction system was developed to the same standards as GM production engines and it uses the latest-generation MEFI 4 controller.

The rest of the engine combination includes Vortec iron heads, a hydraulic roller camshaft and a pump gas-friendly 9.4:1 compression ratio.

GM Performance Parts delivers the Ram Jet 350 with the controller, wiring harness and detailed installation instructions. It can be installed in any 1976-or-earlier vehicle that was originally equipped with a carburetor. And with a height of only 9.75-inches, from the base of the intake manifold to the top of the plenum, it'll fit in most vehicles without hood modifications.

VINTAGE MECHANICAL INJECTION LOOK

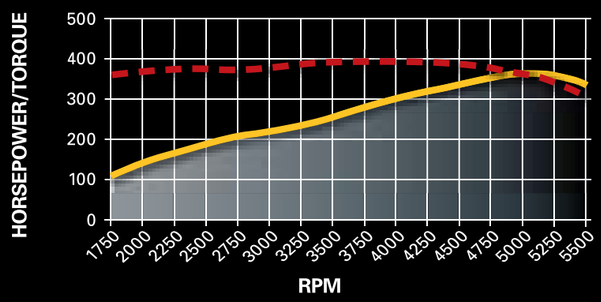
MODERN PERFORMANCE & RELIABILITY

FOR 1976-AND-EARLIER VEHICLES

INSTALLATION NOTES

- Comes with externally balanced, manual transmission flywheel; change to externally balanced flexplate for automatic transmission applications. See chart on page 175
- Installer to supply 12-volt power source and fuel
- See instructions for fuel pump recommendation
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications
- IMPORTANT! For a safe, proper and trouble-free engine break-in, the MEFI 4 computer has a "green" mode that controls rpm during the break-in period. From start-up to the end of the first hour is 4000 rpm, the second hour is 4500 rpm and the third hour is 5500 rpm

RAM JET 350 DYNO CHART



Horsepower: 350 @ 5200 rpm

Torque (lb-ft): 400 @ 3500 rpm

POSSIBLE APPLICATIONS*

- **Update your favorite Corvette**
- **Round out any hot rod that needs a little "something" under the hood**
- **Use it to start a conversation on Friday night**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

RAM JET 350 TECH SPECS

Part Number:	12499120	**Camshaft Duration (@.050 in):**	196° intake / 206° exhaust
Engine Type:	Chevy Small-Block V-8	**Cylinder Heads (P/N 12558060):**	Vortec iron; 64cc chambers
Displacement (cu in):	350	**Valve Size (in):**	1.94 intake / 1.50 exhaust
Bore x Stroke (in) :	4.00 x 3.48	**Compression Ratio:**	9.4:1
Block:	Cast iron with 2-bolt main caps	**Rocker Arms (P/N 12367346):**	Aluminum roller style
Crankshaft (P/N 10243068):	Cast-iron	**Rocker Arm Ratio:**	1.6:1
Connecting Rods (P/N 10108688):	Powdered metal steel	**Recommended Fuel:**	92 octane
Pistons (P/N 88894280):	Hypereutectic aluminum	**Ignition Timing:**	Base 10° BTDC, 32° Total
Camshaft Type (P/N 14097395):	Hydraulic roller	**Maximum Recommended rpm:**	5500
Camshaft Lift (in):	.431 intake / .451 exhaust	**Balanced:**	External

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 56.

Fast Burn 385 Turn-Key

19201331

High-flow heads pump up a popular combination for 385 horsepower!

We took the bottom end of the famed ZZ4 and topped it with our horsepower-building Fast Burn cylinder heads to create the Fast Burn 385. The result is 385 horsepower and a satisfying 385 lb-ft of torque—just the thing for a quick, yet budget-minded, second-gen F-body, a truck in need of additional pulling power or any other project you've got.

A more aggressive roller camshaft, with 0.474/0.510-inch lift, delivers the valve actuation to satisfy the airflow capability of the lightweight, Vortec-style aluminum heads. They've got large 210cc intake runners and 2.00/1.55-inch valves, along with later-style center hold-downs.

The foundation for the Fast Burn 385 is a sturdy iron block with four-bolt mains, a forged crankshaft and quiet hypereutectic pistons that deliver a 9.6:1 compression ratio. As a Turn-Key crate engine, it comes with the distributor, carburetor and balancer installed—along with a starter, fuel pump, air conditioning compressor, alternator, front-end accessory drive kit and more, in one convenient, all-inclusive package!

FAST BURN ALUMINUM HEADS

ZZ4 BOTTOM END, FOUR-BOLT MAINS

INCLUSIVE TURN-KEY PACKAGE

INSTALLATION NOTES

- Comes with 12.75-inch externally balanced 153-tooth automatic transmission flexplate. Change to externally balanced flywheel for manual transmission applications. See chart on page 175
- Requires fuel line from fuel pump to carburetor
- Fuel pump pressure is pre-set; fuel pressure regulator not required
- Some assembly and minor engine tuning required
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications

12496796

Fast Burn 385 Base

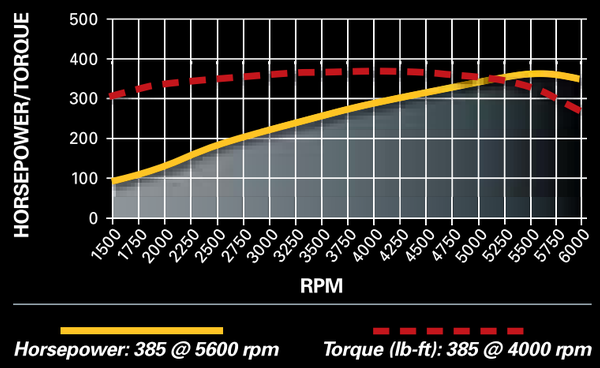
It has the same forged crankshaft, hydraulic roller cam and high-flow Fast Burn heads as the Turn-Key crate engine—but delivered without the carburetor, fuel pump, starter and other accessories.

12561723

ZZ4 Partial Engine

The Fast Burn 385 is based on the popular ZZ4 engine and this partial engine assembly includes the forged steel crankshaft, LT1-style high-silicon pistons and connecting rods.

FAST BURN 385 DYNO CHART



Horsepower: 385 @ 5600 rpm

Torque (lb-ft): 385 @ 4000 rpm

POSSIBLE APPLICATIONS*

- **Replace that iron-headed original**
- **Make that show car a little faster than you first planned**
- **Take it drag racing and see what happens**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

FAST BURN 385 TECH SPECS

Part Number:	19201331
Engine Type:	Chevy Small-Block V-8
Displacement (cu in):	350
Bore x Stroke (in):	4.00 x 3.48
Block (P/N 10105123):	Cast-iron with 4-bolt main caps
Crankshaft (P/N 12556307):	Forged steel
Connecting Rods (P/N 10108688):	Powdered metal steel
Pistons (P/N 10159436):	Hypereutectic aluminum
Camshaft Type (P/N 10185071):	Hydraulic roller
Camshaft Lift (in):	.474 intake / .510 exhaust
Camshaft Duration (@.050 in):	208° intake / 221° exhaust

Cylinder Heads (P/N 12464298):	Fast Burn aluminum; 62cc chambers
Valve Size (in):	2.00 intake / 1.55 exhaust
Compression Ratio:	9.6:1
Rocker Arms (P/N 10089648):	Stamped steel
Rocker Arm Ratio:	1.5:1
Recommended Fuel:	92 octane
Ignition Timing:	Base 10° BTDC, 32° Total
Maximum Recommended rpm:	5800
Balanced:	External

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine, except for the starter, alternator and power steering pump.

For a complete list of parts to complement and finish this engine, turn to page 56.

HT383

12499101

A classic combination engineered for big torque!

Truck owners, step right up! Replace that worn Small-Block in your pre-1976 truck with this big-torque combination. Using a 3.80-inch stroke crankshaft, unique camshaft and heads designed to build workaholic torque, the HT383 delivers 340 horsepower and a whopping 435 lb-ft of torque.

Better still, the HT383 produces a wide, flat torque curve that hits the 400-lb-ft mark by 2500 rpm and doesn't dip below it through the 4000-rpm peak torque level. It's just the thing to flatten grades when towing a trailer. Great in heavy street cars too!

Ensuring the HT383 is up to every chore, the bottom end features four-bolt mains (an upgrade for most production engines that came with two-bolt mains) a forged steel crankshaft and a smooth hydraulic roller camshaft. Its 9.1:1 compression ratio allows it to run on regular gasoline, too.

We deliver the HT383 with an aluminum intake manifold, ready for you to swap over the accessories from your tired engine. Don't forget, we back the HT383 with a 24-month/50,000-mile (80,000-km) limited warranty, giving you peace of mind—and your truck a new lease on life!

Check out gmperformanceparts.com for a list of Power Packages to improve the performance of this engine!

ECONOMICAL REPLACEMENT SOLUTION

400 LB-FT FROM 2500 TO 4000 RPM

STURDY BOTTOM END, FOUR-BOLT MAINS

INSTALLATION NOTES

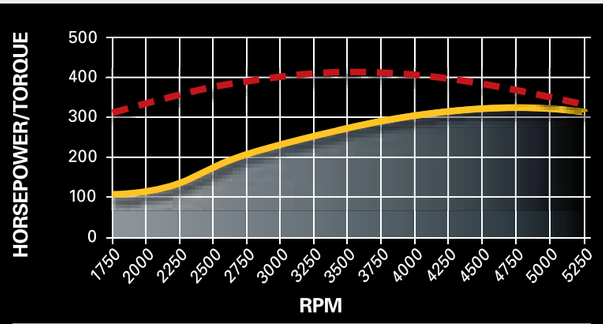
- Requires addition of carburetor, ignition and starter (not included)
- Rochester Quadrajet or Holley 770-cfm carburetor recommended
- Comes with 12.75-inch externally balanced 153-tooth automatic transmission flexplate. Requires externally balanced flywheel for manual transmission. See chart on page 175
- Has right-side oil dipstick
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications

12499106

383 Partial Engine

It comes with 4.00-inch-bore/3.80-inch-stroke reciprocating assembly already installed, including a forge steel crankshaft, heavy-duty connecting rods and durable aluminum-alloy pistons.

HT383 DYNO CHART



Horsepower: 340 @ 4500 rpm ***Torque (lb-ft): 435 @ 4000 rpm***

POSSIBLE APPLICATIONS*

- **Your hot rod truck**
- **Your hot rod station wagon**
- **Your heavy project car**
- **Anything that requires Big-Block torque in a Small-Block package**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

HT383 TECH SPECS

Part Number:	12499101
Engine Type:	Chevy Small-Block V-8
Displacement (cu in):	383
Bore x Stroke (in):	4.00 x 3.80
Block (P/N 88962516):	Cast-iron with 4-bolt main caps
Crankshaft (P/N 12489436):	4340 forged steel
Connecting Rods (P/N 12497624):	Heavy-duty PM steel
Pistons (P/N 12499103):	Hypereutectic aluminum
Camshaft Type (P/N 14097395):	Hydraulic roller
Camshaft Lift (in):	.431 intake / .451 exhaust
Camshaft Duration (@.050 in):	196° intake / 206° exhaust

Cylinder Heads (P/N 12558060):	Vortec iron; 64cc chambers
Valve Size (in):	1.94 intake / 1.50 exhaust
Compression Ratio:	9.1:1
Rocker Arms (P/N 10089648):	Stamped steel
Rocker Arm Ratio:	1.5:1
Water Pump (P/N 88894341):	Cast iron
Recommended Fuel:	87 octane
Ignition Timing:	Base 10° BTDC, 32° Total
Maximum Recommended rpm:	5000
Balanced:	External

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 56.

HT383E

17800393

A high-torque direct replacement for 1996-99 GM full size trucks and SUVs

If the 350 engine in your 1996-1999 full size GM truck or SUV is getting tired, GM Performance Parts' HT383E crate engine is a great, emissions-legal direct replacement with loads of torque. Its larger displacement delivers more usable torque for effortless towing, which may just save you some gas, too!

The HT383E is uniquely designed to replace the L31 5.7-liter engine in half-ton models of the Silverado, Suburban, Tahoe, Sierra and Yukon. Simply swap the intake manifold, throttle body, exhaust manifolds and other accessories from your old 350 onto the HT383E and install it in your truck with no further modifications.

With a sturdy, four-bolt main block, a forged steel crankshaft, a smooth roller camshaft and durable iron Vortec heads, the HT383E delivers the dependable power you expect from the venerable Small-Block V-8. It even comes with a new distributor, water pump and other components that would be replaced during a rebuild.

Breathe new life into your trusted truck with the HT383E!

GREATER TORQUE—ENHANCED TOWING

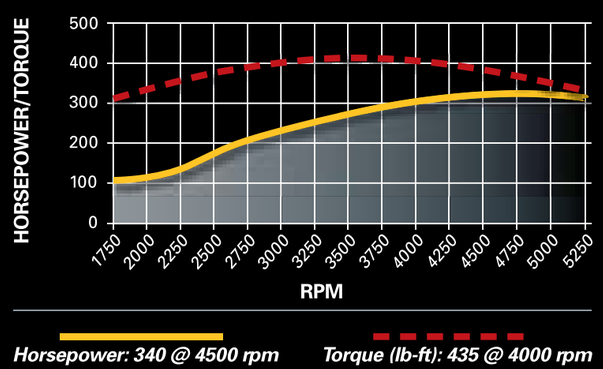
BETTER ALTERNATIVE TO A REBUILD

INCLUDES ALL NEW PARTS

INSTALLATION NOTES

- Requires the reuse of the stock intake manifold, wiring harness, and fuel injection system
- Due to calibration variances between half-, three-quarter- and one-ton vehicles, this engine is designed for half-ton trucks and SUVs only
- This engine is not emissions-legal in CA, CT, ME, MA, NJ, NY, RI or VT
- Comes with 12.75-inch externally balanced 153-tooth automatic transmission flexplate. Requires externally balanced flywheel for manual transmission. See chart on page 175
- Has right-side dipstick
- Not available as a partial
- Performance recalibration of ECU will significantly increase torque and horsepower

HT383E DYNO CHART



Horsepower: 340 @ 4500 rpm *Torque (lb-ft): 435 @ 4000 rpm*

POSSIBLE APPLICATIONS*

- **Give your '96-'99 Silverado a new lease on life**
- **The ideal crate engine for an SUV that sees a lot of towing**
- **It looks just like the stocker until you stomp it!**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

HT383E TECH SPECS

Part Number:	17800393	**Camshaft Duration (@.050 in):**	196° intake / 206° exhaust
Engine Type:	Chevy Small-Block V-8	**Cylinder Heads (P/N 12558060):**	Vortec iron; 64cc chambers
Displacement (cu in):	383	**Valve Size (in):**	1.94 intake / 1.50 exhaust
Bore x Stroke (in):	4.00 x 3.80	**Compression Ratio:**	9.1:1
Block (P/N 88962516):	Cast-iron with 4-bolt main caps	**Rocker Arms (P/N 10089648):**	Stamped steel
Crankshaft (P/N 12489436):	4340 forged steel	**Rocker Arm Ratio:**	1.5:1
Connecting Rods (P/N 12497624):	Heavy-duty PM steel	**Water Pump (P/N 88894341):**	Cast-iron
Pistons (P/N 12499103):	Hypereutectic aluminum	**Recommended Fuel:**	87 octane
Camshaft Type (P/N 14097395):	Hydraulic roller	**Maximum Recommended rpm:**	5000
Camshaft Lift (in):	.431 intake / .451 exhaust	**Balanced:**	External

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 56.

ZZ383

12498772

Big-Block performance in a Small-Block stroker package!

Whether you're building a vintage Camaro for cruise-night duty, a mid-1970s G-body for the strip or early full size car in need of some serious grunt, the ZZ383 delivers Big-Block-style performance. Using the sturdy 383 bottom end—including four-bolt mains, a forged crankshaft and heavy-duty rods—we topped it with Fast Burn cylinder heads to enable 425 horsepower and 449 lb-ft of torque (when finished with high-rise intake P/N 12496822 and a Holley 770-cfm four barrel, P/N 19170093).

The Fast Burn heads use high-flow intake runners, 2.00/1.55-inch valves and a unique combustion chamber design to process air quickly and efficiently. A roller camshaft with more than 0.500-inch lift on both the intake and exhaust sides helps this potent engine maximize airflow. It is complemented by friction-reducing aluminum roller-tip rocker arms.

The ZZ383 comes in base crate engine form, with the aluminum Fast Burn heads installed, as well as a cast-iron water pump and balancer. The induction system, ignition system and other accessories must be purchased separately. Your GM Performance Parts dealer has everything you need to build the complete engine.

With the ZZ383, you get the best of both worlds—Big-Block power with Small-Block efficiency.

- **CLASSIC SMALL-BLOCK 'STROKER'**
- **STURDY BOTTOM END, FOUR-BOLT MAINS**
- **HIGH-FLOW FAST BURN HEADS**

INSTALLATION NOTES

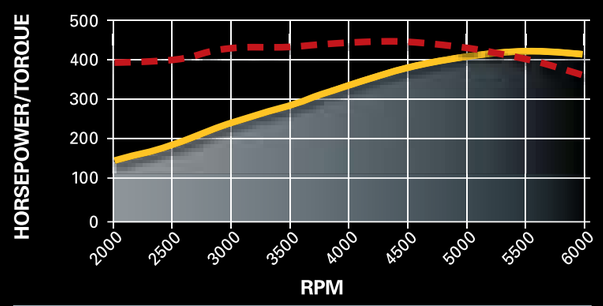
- Requires addition of carburetor, ignition, intake manifold, fuel pump, water pump and starter (not included)
- 425-horsepower rating achieved during GM testing with high-rise single-plane intake manifold (P/N 12496822) and a 770-cfm carburetor with vacuum secondaries
- GMPP dual-plane intake manifold (P/N 12366573) may be used to avoid hood clearance problems, but peak power may decrease by approximately 15-20 horsepower
- Comes with 12.75-inch automatic transmission flexplate. Requires 1986-1999 350-style externally balanced flywheel for manual transmission. See chart on page 175
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications

12499106

383 Partial Engine

It comes with 4.00-inch bore/3.80-inch stroke reciprocating assembly already installed, including a forged steel crankshaft, heavy-duty connecting rods and durable aluminum-alloy pistons.

ZZ383 DYNO CHART



Horsepower: 425 @ 5400 rpm

Torque (lb-ft): 449 @ 4500 rpm

POSSIBLE APPLICATIONS*

- **The perfect Small-Block for your '55-'57 shoebox**
- **An 11-second starting point for your street/strip car**
- **A street car deserving big power**
- **A weekend race car that sees a lot of action**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

ZZ383 TECH SPECS

Part Number:	12498772
Engine Type:	Chevy Small-Block V-8
Displacement (cu in):	383
Bore x Stroke (in):	4.00 x 3.80
Block (P/N 88962516):	Cast-iron with 4-bolt main caps
Crankshaft (P/N 12489436):	4340 forged steel
Connecting Rods (P/N 12497624):	Heavy-duty PM steel
Pistons (P/N 12499103):	Hypereutectic aluminum
Camshaft Type (P/N 12370846):	Hydraulic roller
Camshaft Lift (in):	.509 intake / .528 exhaust
Camshaft Duration (@.050 in):	222° intake / 230° exhaust
Cylinder Heads (P/N 12464298):	Fast Burn aluminum; 62cc chambers
Valve Size (in):	2.00 intake / 1.55 exhaust
Compression Ratio:	9.6:1
Rocker Arms (P/N 12367345):	Aluminum roller style
Rocker Arm Ratio:	1.5:1
Recommended Fuel:	92 octane
Ignition Timing:	Base 10° BTDC, 32° Total
Maximum Recommended rpm:	6000
Balanced:	External

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 56.

Complete Your Small-Block Crate Engine

Select the parts below to f nish off your crate engine and get running in less time!

10185063
Intake Manifold
Our low-profile, dual-plenum aluminum intake manifold helps make great power and fits under the hood of almost every vehicle. Accommodates both Holley 4160-Series and Quadrajet carburetors.

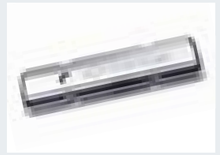
12342089
Small-Block Chrome Timing Cover
This attractive chrome cover fits 1969-1991 Small-Block V-8 and 90-degree V-6 engines. It is a direct replacement for covers that use a bolt-on timing pointer and it includes the oil seal.

12480127
Short Aluminum Valve Covers
This racing-inspired design has the Bowtie logo and Chevrolet lettering. The cast aluminum covers include PCV holes (grommets included) and oil baffles.

12496822
Intake Manifold, Vortec Eliminator
This aluminum, single-plane intake manifold is designed for use with Vortec cylinder heads P/N 12558060, 25534421, 25334446, Fast Burn heads P/N 12464298, or Vortec Bowtie heads P/N 25534421 and 25534426 to build maximum power and torque. Requires manifold bolts P/N 12550027.

12341998
Fuel Pump Block-Off Plate
This attractive chrome plate is embossed with the Chevrolet Bowtie logo. It is used in place of a mechanical fuel pump on the engine block. Includes a non-asbestos gasket.

12341670
Chrome Short Valve Covers
Add sparkle to your Small-Block with these classic chrome valve covers, designed for pre-1986 cylinder heads with perimeter-style hold-down bolts. The covers feature the Bowtie logo and Chevrolet name.



12366573
Intake Manifold, Vortec Design
Designed for Small-Block engines up to 400-cu-in and equipped with Vortec-type cylinder heads, this high-rise aluminum intake manifold has a dual-plane design that helps the engine deliver a strong balance of horsepower and torque.

12355612
Fuel Pump, Street Performance
Use this mechanical fuel pump on carbureted engines. It has 7-psi shutoff pressure and a free-flow rate of 110 gph. The lower housing can be rotated to reposition the inlet and outlet ports to suit different applications.

12497979
Aluminum Black Crinkle Valve Covers, Center Bolt Design
Valve covers with red Chevrolet Bowtie logo. They include PCV holes (grommets included) and are approximately ¼" taller than production. Kit includes bolts, washers and seals. NOTE: Use valve cover gasket P/N 10046089.

88894341
Water Pump, Long-Style
The later-style, cast-iron water pump has the long leg design, reinforced snout and a 3/4-inch snout (reduced to 5/8-inch at end of shaft). Use it with the 350 HO, 383 and ZZ4 engines.

88965829
CNC'd Carburetor Spacer, Dual-Plane 1-inch
Fully machined from billet aluminum, this lightweight 1-inch spacer carries the GM Performance Parts logo on the front and rear. It fits Quadrajet-type and Holley carburetors.

12497985
Chrome-Finish Aluminum Valve Covers, Center Bolt Design
Valve covers feature the Chevrolet Bowtie logo and include PCV holes (grommets included). Approximately ¼-inch taller than production. Kit includes bolts, washers and seals. NOTE: Use valve cover gasket P/N 10046089.

93440806
HEI Distributor
This high-energy electronic distributor is a must for steel roller cams. It offers ignition advance curve for high-performance applications.

12368084
Engine Oil Primer Tool
Use to prelube the engine bearings and prime the oiling system prior to starting a new crate engine. Requires electric drill or similar (not included).

12342071
Air Cleaner, Classic Design
A classic in chrome, this 14" round air cleaner has the Chevrolet name and a Bowtie wing nut. It fits most two- and four-barrel carburetors.

88961867
Distributor, Aluminum Billet HEI
Distributor features a CNC-machined aluminum housing, ball bearing guide, oversized shaft and long-sintered bushing for durability. It also has mechanical and vacuum advance. Brass terminal cap. Connector P/N 12167658 attaches tach and 12-volt power supply wire.

12361146
High-Torque Mini-Starter
Designed to deliver powerful starting capability in a compact size, this high-performance gear-reduction starter fits 153- or 168-tooth flywheels.

12342080
Air Cleaner, Chevrolet-Logo High-Performance Design
14" round high-performance-style air cleaner. Chrome lid with embossed Chevrolet name. Fits most four-barrel and two-barrel carburetors.

12342024
Chrome Water Neck
Add a bit of chrome to your engine with this detailed water neck. It includes a neoprene O-ring and chrome fasteners. It fits 1966-1975 Chevrolet, Camaro and Chevelle models with V-8 engines.

10465143
Lightweight Starter (remanufactured)
Originally designed for 1993-97 Camaros and Firebirds equipped with the LT1 engine, this lightweight, high-performance starter can be used on any Small-Block or Big-Block engine with a 12.75-inch, 153-tooth flywheel.

19170092
Carburetor, Holley 670-cfm
Holley's 4160-style 670-cfm four-barrel carburetor is perfect for many crate engines. It has show-quality polished details, center-hung fuel bowls, vacuum secondaries and power valve blowout protection.

ALSO AVAILABLE

350 Hot Cam Kit	12480002
Bolt (Motor Mount — 2 req.)	460308
Carburetor, Holley 770-cfm	19170093
Fan 19.5" (Serpentine Belt)	15563127
Fan 19.5" (V-belt)	15644302
Fan Bolts—4 req.	9440224
Fan Clutch (Serpentine Belt)	19150657
Fan Clutch (V-belt)	88961767
Fan Stud Nuts—4 req.	12338130
Fan Studs—4 req. (Serpentine Belt)	12338107
Fan Studs—4 req. (V-belt)	382919
Fuel Pump—High Capacity Small-Block	6415325
Harmonic Balancer	12551537
Magnetic Drain Plug	24241872
Motor Mount—2 req. (Car)	22188497
Motor Mount—2 req. (Truck)	15731260
Oil Filler Cap—Push-In	12341993
Oil Filter Adapter	3952301
Roller Rocker Arm Kit, 1.5:1 Ratio—Aluminum	12370838
Roller Rocker Arm Set, 1.6:1 Ratio—Aluminum	12370839
Serpentine Accessory Drive Belt System, Deluxe	12497698
Serpentine Accessory Drive Belt System, without A/C	12497697
Spark Plug Wires, Red GM Performance 135° Boot	12361056
Spark Plug Wires, Red GM Performance 90° Boot	12361057
Standard Starter (Offset Bolt Holes)	10496873
Standard Starter (Straight Bolt Holes)	10496871
Transmission Mount (4L60 & 4L80)	15767858
Transmission Mount (700R4)	2218814
Transmission Mount (700R4)	22188145
Transmission Mount (TH400)	17990778
Valve Covers—Polished Aluminum	12497978
Valve Cover Adapter—Centerbolt to Flange Mount	24502540
Valve Covers—Polished Aluminum, Die-Cast	12363970
Water Pump, Long-Style—Aluminum	12495826
Water Pump, Short-Style—Aluminum	14011012
Wire Loom Kit, Small-Block	12496806

Available for purchase online at gmperformanceparts.com

From Left: LS376/480, LS7 7.0L, LS9 6.2L Supercharged

Small Block

LS Series

The Next Generation of Power – Only from GM Performance Parts

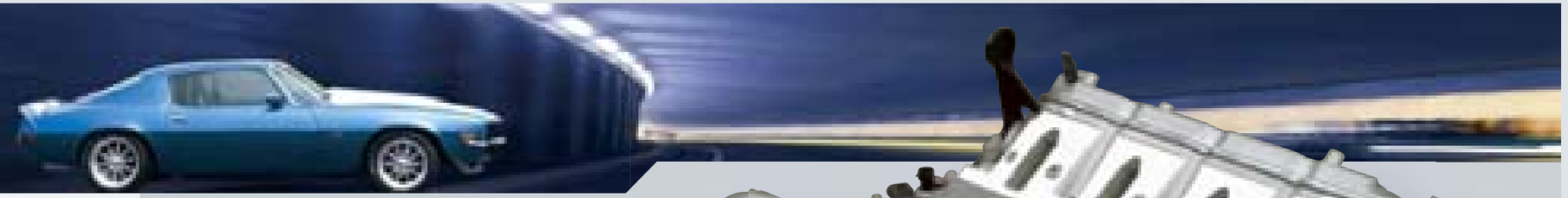
GM's world-class LS engine family has ushered in a new age of technologically advanced performance.

Sharing only a 4.40-inch bore center dimension with the original Chevy Small-Blocks, the LS series engines represent state-of-the-art design and manufacturing. And with features such as crank-triggered ignitions, "dry" assembly techniques and tremendous parts interchangeability, these production-based engines make smart choices for enthusiasts seeking a powerful solution to their project engine needs.

GM Performance Parts has a great selection of LS crate engines. They range from economical, production-based packages that make great swap material for late-model Camaros, Corvettes, GTOs and more (off-road use only, of course!) to purpose-built high-performance engine packages—with fuel injection or carburetion—that are designed to give your vintage car the easy-driving attributes and efficiency of a modern engine.

The good-old days were fun. But they were never as good – or promising – as the performance delivered by the LS series. It's a new generation of performance for a new generation of enthusiasts.

LS327/327



19165628

A classic combination built with modern LS technology

Reverence for GM's powertrain heritage has always been part of the LS engine family's legacy, from the same 4.40-inch bore centers found on the original Small-Block to acknowledgements of past engines, as seen in our LS327/327 crate engine. It's a 5.3L LS power plant with the same 327-cubic-inch displacement of the high-winding Small-Blocks from the 1960s.

Introduced in 1962, the 327 was found in everything from fuel-injected Corvettes to the very first Camaros. It was renowned for its high-rpm performance and surprising torque from a comparatively small-displacement V-8.

Our powerful and economical LS327/327 crate engine delivers a strong 327 horsepower and 347 lb-ft of torque. It is based on the 5.3L engine used in thousands of GM trucks and SUVs, but it is "breathed on" by GM Performance Parts engineers with a hotter cam, Grafal-coated high-silicon pistons and more. An iron block reinforces the engine's strength and keeps down the cost, making it the perfect combination for re-powering your truck (depending on the emissions regulations in your area) or dropping a budget LS engine into your classic vehicle or street rod.

The 327 is a classic GM engine and, with the LS327/327, that heritage is carried on to the next generation!

See page 300 for information on our reference guide P/N 88959384 for installing an LS engine in an older car.

MOST ECONOMICAL LS CRATE ENGINE

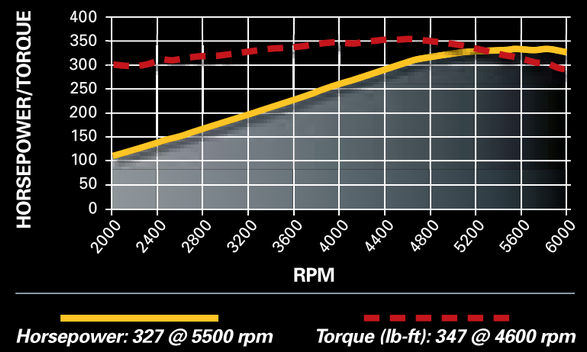
GRAFAL-COATED PISTONS

327 HP / 347 LB-FT TORQUE

INSTALLATION NOTES

- Not for Active Fuel Management applications
- Assembly does not include any electronics or intake manifold
- Includes oil pan
- Intended for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications
- For carbureted applications, use intake manifold P/N 88958675, and MSD Ignition Module P/N 6010

LS327/327 DYNO CHART



Horsepower: 327 @ 5500 rpm

Torque (lb-ft): 347 @ 4600 rpm

POSSIBLE APPLICATIONS*

- **Give your work truck a workout**
- **Get your late model SUV back up and running**
- **Install a juiced-up 5.3 into something special**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

LS327/327 TECH SPECS

Part Number:	19165628
Engine Type:	LS Series Small-Block V-8
Displacement (cu in):	327 (5.3L)
Bore x Stroke (in):	3.78 x 3.62 (96 x 92mm)
Block (P/N 12551360):	Cast-iron with 6-bolt, cross-bolted iron main caps
Crankshaft (P/N 12553480):	Nodular iron
Connecting Rods (P/N 12568734):	Powdered metal steel
Pistons (P/N 12571545):	Hypereutectic aluminum
Camshaft Type (P/N 12561721):	Hydraulic roller
Camshaft Lift (in):	.467 intake / .479 exhaust
Camshaft Duration (@.050 in):	196° intake / 201° exhaust
Cylinder Heads (P/N 12559865):	Aluminum; cathedral port
Valve Size (in):	1.89 intake / 1.55 exhaust
Compression Ratio:	9.5:1
Rocker Arms (P/N 10214664):	Investment cast, roller trunnion
Rocker Arm Ratio:	1.7:1
Recommended Fuel:	87 octane
Maximum Recommended rpm:	6000
Reluctor Wheel:	24X
Balanced:	Internal

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 80.

LS1 5.7L

17801267

The original LS engine that started a high-performance revolution!

Just like the 350 is the quintessential Small-Block, so is the storied LS1 to the LS engine family—it's the engine that started the LS revolution. It was introduced in the 1997 Corvette and quickly spread to the '98 Camaros and Firebirds. And while we at General Motors dubbed the new engine family "Gen III," it was the enthusiast community that seized on the first two letters of the LS1 name and gave the widely used "LS" family nickname.

At the core of the LS1 is an aluminum deep-skirt cylinder block with six-bolt main caps; an oil pan that is a structural component of the assembly; aluminum cylinder heads with cathedral-style ports and 2.00/1.55-inch valves; and a crank-triggered ignition system with eight individual ignition coils.

GM Performance Parts offers the LS1 crate engine in dressed, regular-production form. That includes a manifold assembly with the fuel injectors, fuel rails and an electronically controlled throttle body already installed; a Holden oil pan, complete ignition system; exhaust manifolds; balancer; water pump; and a 14-inch automatic-transmission flexplate.

The LS1 crate engine is an affordable performer to re-power your fourth-generation F-car, add a high-tech twist to your vintage Camaro or give a powerful advantage to your off-road crawler!

See page 300 for information on our reference guide P/N 88959384 for installing an LS engine in an older car.

AFFORDABLE HIGH-PERFORMANCE

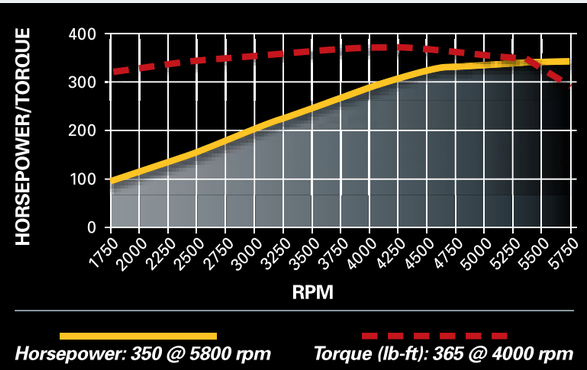
ALUMINUM CATHEDRAL-PORT HEADS

350 HP / 365 LB-FT TORQUE

INSTALLATION NOTES

- 14-inch automatic transmission flexplate included
- Assembly does not include any electronics
- Includes Holden oil pan
- Intended for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications
- Non-Corvette applications require flexplate P/N 12602448

LS1 5.7L DYNO CHART



Horsepower: 350 @ 5800 rpm

Torque (lb-ft): 365 @ 4000 rpm

POSSIBLE APPLICATIONS*

- **A great replacement engine for your Gen IV Z28**
- **Add a high-tech twist to an old friend**
- **Discover the potential of a fuel-injected Small-Block Chevy**
- **Add it to a Jeep and get crawlin'!**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

LS1 5.7L TECH SPECS

Part Number:	17801267	**Camshaft Duration (@.050 in):**	198° intake / 209° exhaust
Engine Type:	LS Series Small-Block V-8	**Cylinder Heads (P/N 12559855):**	Aluminum; cathedral port
Displacement (cu in):	346 (5.7L)	**Valve Size (in):**	2.00 intake / 1.55 exhaust
Bore x Stroke (in):	3.90 x 3.62 (99 x 92mm)	**Compression Ratio:**	10.25:1
Block (P/N 12561166):	Cast-aluminum with 6-bolt, cross-bolted iron main caps	**Rocker Arms (P/N 10214664):**	Investment-cast, roller trunnion
		Rocker Arm Ratio:	1.7:1
Crankshaft (P/N 89017522):	Nodular iron	**Recommended Fuel:**	92 octane
Connecting Rods (P/N 12568734):	Powdered metal steel	**Maximum Recommended rpm:**	6000
Pistons (P/N 88984245):	Hypereutectic aluminum	**Reluctor Wheel:**	24X
Camshaft Type (P/N 12560965):	Hydraulic roller	**Balanced:**	Internal
Camshaft Lift (in):	.500 intake / .500 exhaust		

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 80.

LS6 5.7L

17801268

The original Corvette Z06 engine with 405 hp!

Introduced on the 2001 Corvette Z06, the LS6 was the hottest, most powerful GM engine since the muscle car heyday. Based on the LS1 5.7L engine, the LS6 used a unique block casting with better cylinder bay-to-bay breathing; a higher-lift camshaft with correspondingly stronger valvetrain components; higher compression; an integral PCV system and more. In its original 385-hp form, it was powerful enough to shoot the Z06 from 0-60 in four seconds flat and through the quarter-mile in about 12.5 seconds.

GM Performance Parts' LS6 5.7L crate engine is based on the 405-hp version used in 2002-2004 Corvette Z06 models and the 2004-2007 Cadillac CTS-V, with a robust 395 lb-ft of torque. It comes with a CTS-style oil pan and production-type log exhaust manifolds. It also comes dressed, from the manifold assembly with injectors and throttle body, to the ignition system, water pump and balancer.

Add an F-car oil pan and pump up your 4th-gen Camaro or Firebird with LS6 power; or bolt on your Corvette oil pan and turn your LS1 Corvette into a sleeper with LS6 performance. Better still, treat your classic Camaro, Chevelle or '55 Chevy to one of the hottest GM engines since the 1960s!

See page 300 for information on our reference guide P/N 88959384 for installing an LS engine in an older car.

CORVETTE PERFORMANCE

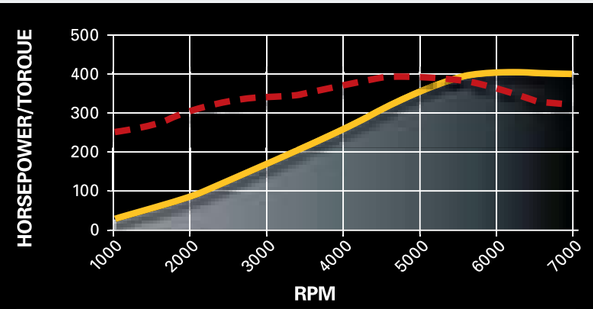
UNIQUE BLOCK CASTING

405 HP / 395 LB-FT TORQUE

INSTALLATION NOTES

- 14-inch manual flywheel included
- Assembly does not include any electronics
- Includes CTS-V style oil pan
- Intended for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications

LS6 5.7L DYNO



Horsepower: 405 @ 6000 rpm

Torque (lb-ft): 395 @ 4800 rpm

POSSIBLE APPLICATIONS*

- **The perfect replacement engine for your late-model Camaro or Firebird**
- **Add a Small-Block LS6 to your vintage Chevelle**
- **Add one of the most sophisticated 350 cubic inch engines to your project car**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

LS6 5.7L TECH SPECS

Part Number:	17801268	**Camshaft Duration (@.050 in):**	204° intake / 218° exhaust
Engine Type:	LS Series Small-Block V-8	**Cylinder Heads (P/N 12615363):**	Aluminum, cathedral port
Displacement (cu in):	346 (5.7L)	**Valve Size (in):**	2.00 intake / 1.55 exhaust
Bore x Stroke (in):	3.90 x 3.62 (99 x 92mm)	**Compression Ratio:**	10.5:1
Block (P/N 12561166):	Cast-aluminum with 6-bolt, cross-bolted main caps	**Rocker Arms:**	Investment-cast, roller trunnion
		Rocker Arm Ratio (P/N 10214664):	1.7:1
Crankshaft (P/N 12583565):	Nodular iron	**Recommended Fuel:**	92 octane
Connecting Rods (P/N 12577583):	Powered metal steel	**Maximum Recommended rpm:**	6500
Pistons (P/N 88984245):	Hypereutectic aluminum	**Reluctor Wheel:**	24X
Camshaft Type (P/N 12565308):	Hydraulic roller	**Balanced:**	Internal
Camshaft Lift (in):	.550 intake / .550 exhaust		

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 80.

L99 6.2L AFM

12611022

The new Camaro's V-8 engine straight from the factory!

The Camaro is back and better than ever! The 2010 Camaro hits the pavement in '09 with heritage styling, an aggressive stance and tire-smoking LS power under the hood—and you can put that new-generation performance to work in your project car with the new Camaro's L99 V-8 engine for use with automatic transmissions.

Nearly identical in performance and construction to the Camaro's manual-transmission LS3 engine, the L99 engine is equipped with GM's fuel-saving Active Fuel Management (AFM) technology. AFM enables the engine to cut off fuel to half of the cylinders in certain light-load driving conditions, such as highway cruising, to reduce fuel consumption. Special lifters are used on the deactivating cylinders, effectively turning the engine into a V-4 (the remaining cylinders pump only cooling air). The changeover between V-8 and V-4 performance is virtually imperceptible.

Our L99 6.2L Camaro crate engine comes dressed with the Camaro oil pan, manifold assembly (including injectors, fuel rails and electronically controlled throttle), ignition coils, exhaust manifolds, balancer, water pump and an automatic-transmission flexplate.

See page 300 for information on our reference guide P/N 88959384 for installing an LS engine in an older car.

GREAT AIRFLOW

GREATER FUEL ECONOMY

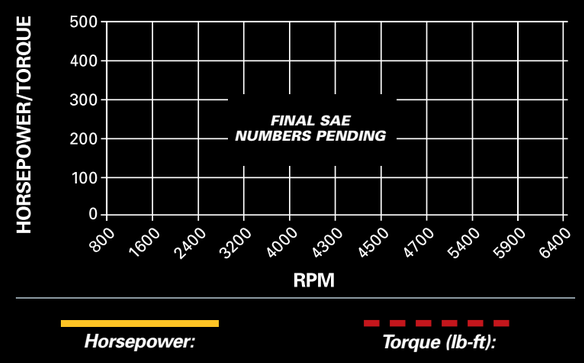
FULLY DRESSED

INSTALLATION NOTES

- 14-inch automatic flexplate included
- Includes 2010 Camaro oil pan
- Intended for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications

NOTE: *Final production version may differ slightly in content from photo shown.*

L99 6.2L DYNO CHART



POSSIBLE APPLICATIONS*

- **A 4th-Gen F-body in need of a new mill**
- **Test the latest Camaro V-8 on your dyno**
- **Upgrade your V-6 Camaro with V-8 power**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

L99 6.2L TECH SPECS

Part Number:	12611022
Engine Type:	LS Series Gen IV Small-Block V-8
Displacement (cu in):	376 cu in (6.2L)
Bore x Stroke (in):	4.06 x 3.62 (103.25 x 92mm)
Block :	Cast-aluminum with 6 bolt,
	cross-bolted main caps
Crankshaft (P/N 12588612):	Nodular iron
Connecting Rods (P/N 1207475):	Powdered metal
Pistons (P/N 12626327):	Hypereutectic aluminum
Camshaft Type (P/N 12623066):	Hydraulic roller
Valve Lift (in):	.500" intake / .492" exhaust
Camshaft Duration (@.050 in):	195° intake / 201° exhaust

Cylinder Heads (P/N 12629064):	Aluminum L92 style port;
	as cast with 68cc chambers
Valve Size (in):	2.16 intake / 1.59 exhaust
Compression Ratio:	10.7:1
Rocker Arms (P/N 12569167 int):	Investment-cast, roller trunnion
Rocker Arms (P/N 10214664 exh):	Investment-cast, roller trunnion
Rocker Arm Ratio:	1.7:1
Recommended Fuel:	92 octane
Maximum Recommended rpm:	6600
Reluctor Wheel:	58X
Balanced:	Internal

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 80.

LS3 6.2L

19201992

More than 400 hp and 400 lb-ft of torque from our Corvette-based crate engine!

As one of the newest members of the LS engine family, the LS3 6.2L engine has benefited from all of the forward-thinking technology that has kept this engine series at the forefront of modern performance. It was introduced on the 2007 Corvette and debuts in 2009 in the all-new Camaro. The GM Performance Parts LS3 6.2L crate engine is based on the Corvette application, including the oil pan. It comes complete with the ignition system, manifold assembly with injectors and throttle body, exhaust manifolds, water pump, balancer and 14-inch automatic-transmission flexplate.

Inside, the LS3 is filled with components designed for high performance and longevity. The aluminum block is filled with a sturdy reciprocating assembly that combines with L92-type rectangular-port heads to deliver a 10.7:1 compression ratio. A high-lift, hydraulic roller camshaft delivers a whopping 0.551-inch of lift on the 2.165-inch intake valves and 0.522-inch lift on the 1.59-inch exhaust valves. It holds those valves open for 204-degrees of rotation (intake) and 211-degrees (exhaust), respectively, enhancing the LS3's tremendous airflow and table-flat torque curve.

See page 300 for information on our reference guide P/N 88959384 for installing an LS engine in an older car.

Check out gmperformanceparts.com for a list of Power Packages to improve the performance of this engine!

BIG POWER AND TORQUE

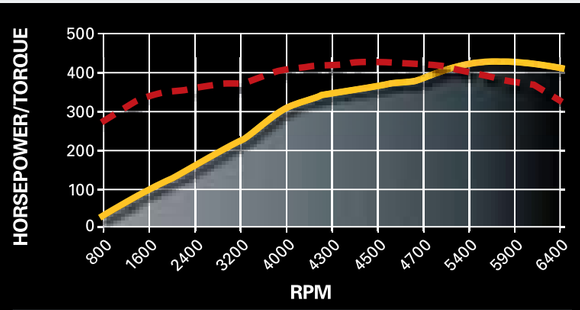
FULLY DRESSED ASSEMBLY

430 HP / 424 LB-FT TORQUE

INSTALLATION NOTES

- 14-inch automatic transmission flexplate included
- Assembly does not include any electronics
- LS3 Controller Kit, P/N 19201861, available for non-Corvette applications. Kit includes electronic throttle pedal, which is required for throttle input to the ECU (see page 288)
- 2009 throttle body is installed on engine. To use LS3 Controller Kit, P/N 19201861, 2008 throttle body (supplied) must be installed
- Includes Corvette wet sump oil pan
- Intended for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications
- Non-Corvette applications require flexplate P/N 12602448

LS3 6.2L DYNO CHART



Horsepower: 430 @ 5900 rpm *Torque (lb-ft): 424 @ 4600 rpm*

POSSIBLE APPLICATIONS*

- **Bring the latest GM Small-Block to an old friend**
- **Put it between the frame rails of your latest project car**
- **Build a buggy!**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

LS3 6.2L TECH SPECS

Part Number:	19201992
Engine Type:	LS Series Gen IV Small-Block V-8
Displacement (cu in):	376 cu in (6.2L)
Bore x Stroke (in):	4.06 x 3.62 (103.25 x 92mm)
Block (P/N 12584727):	Cast-aluminum with 6 bolt, cross-bolted main caps
Crankshaft (P/N 12597569):	Nodular iron
Connecting Rods (P/N 12617570):	Powdered metal
Pistons (P/N 19168089):	Hypereutectic aluminum
Camshaft Type (P/N 12603844):	Hydraulic roller
Valve Lift (in):	.551" intake / .522" exhaust
Camshaft Duration (@.050 in):	204° intake / 211° exhaust

Cylinder Heads (P/N 12615879):	Aluminum L92 style port; as cast with 68cc chambers
Valve Size (in):	2.165 intake / 1.59 exhaust
Compression Ratio:	10.7:1
Rocker Arms (P/N 12569167 int):	Investment-cast, roller trunnion
Rocker Arms (P/N 10214664 exh):	Investment-cast, roller trunnion
Rocker Arm Ratio:	1.7:1
Recommended Fuel:	92 octane
Maximum Recommended rpm:	6600
Reluctor Wheel:	58X
Balanced:	Internal

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 80.

LS376/480

19213229

The best of the LS3 mixed with a hotter cam!

Just like you, GM Performance Parts engineers spend much of their time wondering about the "what if" combinations when it comes to mixing and matching LS engine components—and they have the tools and facilities to act on those instincts. That's how we created the exciting LS376/480 crate engine!

Our power-mad engineers started with the production LS3 6.2L (376 cubic-in) engine—including its rectangular-port L92-style heads—and swapped the stock camshaft for the racing-inspired LS Hot Cam (P/N 88958733) and the result was nothing short of astonishing. With no other modifications, horsepower jumped from 430 to 480 and torque rose from 424 lb-ft to 475—that's about 12 percent more power and torque from a simple camshaft change!

The key to the power boost is the Hot Cam's 0.525-inch lift on both the intake and exhaust sides, along with 219-degree/228-degree duration specs. That's less lift on the intake side than the stock LS3 cam, but considerably more duration, allowing the valves to stay open a little longer to draw in more air. As a result, peak horsepower comes earlier than the stock LS3 and the torque curve remains flat higher on the rpm band.

See page 300 for information on our reference guide P/N 88959384 for installing an LS engine in an older car.

LS3 ENGINE FOUNDATION

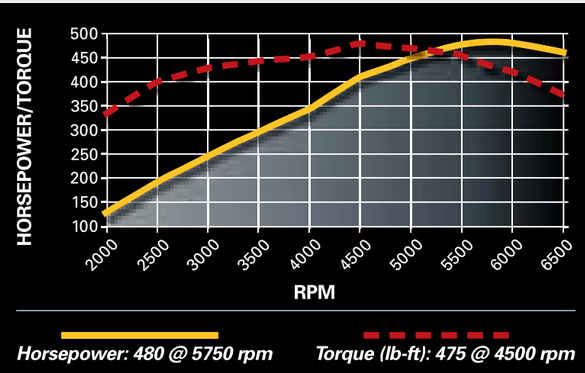
SUSTAINS TORQUE LONGER

480 HP / 475 LB-FT TORQUE

INSTALLATION NOTES

- 14-inch automatic transmission flexplate included
- Assembly does not include any electronics
- LS376/480 Controller Kit, P/N 19201327, available for non-Corvette applications. Kit includes electronic throttle pedal, which is required for throttle input to the ECU (see page 288)
- 2009 throttle body is installed on engine. To use LS376/480 Controller Kit, P/N 19201327, 2008 throttle body (supplied) must be installed
- Includes Corvette wet sump oil pan
- Intended for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications
- Non-Corvette applications require flexplate P/N 12602448

LS376/480 DYNO CHART



Horsepower: 480 @ 5750 rpm *Torque (lb-ft): 475 @ 4500 rpm*

POSSIBLE APPLICATIONS*

- **Give your late-model Corvette a new lease on life**
- **Update your 4th-Gen Trans Am with an LS1 replacement**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

LS376/480 TECH SPECS

Part Number:	19213229
Engine Type:	LS Series Gen IV Small-Block V-8
Displacement (cu in):	376 cu in (6.2L)
Bore x Stroke (in):	4.06 x 3.62 (103.25 x 92mm)
Block (P/N 12584727):	Cast-aluminum with 6-bolt, cross-bolted main caps
Crankshaft (P/N 12597569):	Nodular iron
Connecting Rods (P/N 12617570):	Powdered metal
Pistons (P/N 19168089):	Hypereutectic aluminum
Camshaft Type (P/N 88958733):	Hydraulic roller
Valve Lift (in):	.525" intake / .525" exhaust
Camshaft Duration (@.050 in):	219° intake / 228° exhaust

Cylinder Heads (P/N 12615879):	Aluminum L92 style port; as cast with 68cc chambers
Valve Size (in):	2.165 int / 1.59 exhaust
Compression Ratio:	10.7:1
Rocker Arms (P/N 12569167 int):	Investment-cast, roller trunnion
Rocker Arms (P/N 10214664 exh):	Investment-cast, roller trunnion
Rocker Arm Ratio:	1.7:1
Recommended Fuel:	92 octane
Maximum Recommended rpm:	6600
Reluctor Wheel:	58X
Balanced:	Internal

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 80.

LS376/515

19171225

A race-proven camshaft helps build huge power in this carbureted combo!

By combining traditional carbureted aspiration with the high-tech attributes of the LS platform, we've developed the ultimate modern engine for your vintage car or truck—or race car. It's the LS376/515!

With the LS3 engine as its foundation, the LS376/515 crate engine uses the regular-production bottom end, including an aluminum block with six-bolt cross-bolted main caps, a Corvette oil pan and LS3 cylinder heads with high-flow, rectangular-port intake passages. To that, we swap the fuel injection system for a high-rise intake manifold of our own design, a 770-cfm carburetor (sold separately) and our race-tested ASA Hot Cam, P/N 12480110.

The new combination is worth 515 horsepower at a stellar 6500 rpm and 469 lb-ft of grin-inducing torque at 5000 rpm. Compared to the regular-production LS3 and even our LS3-based LS376/480 crate engine, the ASA Hot Cam gives this combination much more camshaft duration to hold open the valves longer. It's a horsepower-building camshaft designed for the wide-open, high-rpm world of circle track racing and it means big power for this great crate engine—whether it's used on the street or track.

See page 300 for information on our reference guide P/N 88959384 for installing an LS engine in an older car.

LONG CAMSHAFT DURATION

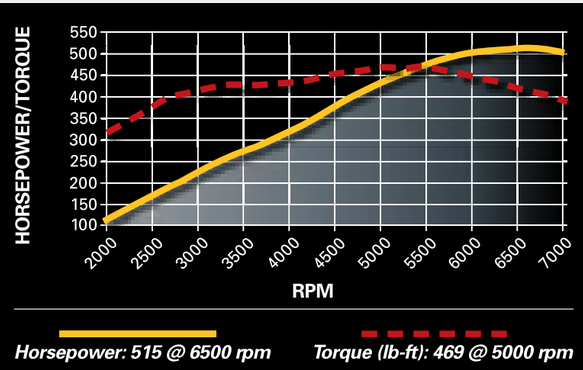
HIGH LIFT FOR TREMENDOUS POWER

515 HP / 469 LB-FT TORQUE

INSTALLATION NOTES

- 14-inch automatic transmission flexplate included
- Assembly does not include any electronics
- Use LSX ignition controller P/N 19171130 (page 288)
- Includes Corvette wet sump oil pan
- Intended for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications
- 770-cfm carb P/N 19170093 recommended for daily street use
- Non-Corvette applications require flexplate P/N 12602448

LS376/515 DYNO CHART



Horsepower: 515 @ 6500 rpm ***Torque (lb-ft): 469 @ 5000 rpm***

POSSIBLE APPLICATIONS*

- **Put an LS engine where that old Small-Block used to be**
- **Replace the Big-Block with the hot new engine from GM**
- **Make that show car perform as good as it looks**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

LS376/515 TECH SPECS

Part Number:	19171225	Cylinder Heads (P/N 12615879):	Aluminum L92 style port;
Engine Type:	LS Series Gen IV Small-Block V-8		as cast with 68cc chambers
Displacement (cu in):	376 cu in (6.2L)	Valve Size (in):	2.165 int / 1.59 exhaust
Bore x Stroke (in):	4.06 x 3.62 (103.25 x 92mm)	Compression Ratio:	10.7:1
Block (P/N 12584727):	Cast-aluminum with 6-bolt,	Rocker Arms (P/N 12569167 int):	Investment-cast, roller trunnion
	cross-bolted main caps	Rocker Arms (P/N 10214664 exh):	Investment-cast, roller trunnion
Crankshaft (P/N 12597569):	Nodular iron	Rocker Arm Ratio:	1.7:1
Connecting Rods (P/N 12617570):	Powdered metal	Recommended Fuel:	92 octane
Pistons (P/N 19168089):	Hypereutectic aluminum	Maximum Recommended rpm:	6600
Camshaft Type (P/N 12480110):	Hydraulic roller	Reluctor Wheel:	58X
Valve Lift (in):	.525" intake / .525" exhaust	Balanced:	Internal
Camshaft Duration (@.050 in):	226° intake / 236° exhaust		

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 80.

LSA 6.2L SC

19211708

The new CTS-V's engine offers 556 supercharged horsepower!

The 2009 Cadillac CTS-V ups its performance game with an all-new, 6.2L supercharged LSA engine that delivers 556 horsepower—making it second only to the Corvette ZR1's LS9 supercharged engine as the most powerful production LS crate engine offered by GM Performance Parts. It is based on the same foundation as the LS9, but with a slightly smaller supercharger and a few other unique components designed to deliver Cadillac's signature quietness and refinement.

But just because the LSA doesn't have the same peak power numbers of the LS9 engine doesn't mean it comes up short in any important measurement. The unique aluminum-cylinder block casting houses a forged steel crankshaft and super-tough reciprocating parts, integrated piston-cooling oil jets, high-flow cylinder heads and relatively mild camshaft with 0.492-inch lift on both the intake and exhaust sides.

The forced induction of the 1.9L, sixth-generation supercharger makes up for the comparative lack of valve lift by packing the combustion chambers full of air and fuel. This gives the LSA 556 horsepower and 551 lb-ft of torque, along with excellent idle quality and "right-now" throttle response. And unlike the LS9, the LSA comes with a conventional wet-sump lubrication system.

See page 300 for information on our reference guide P/N 88959384 for installing an LS engine in an older car.

UNIQUE 1.9L SUPERCHARGER

FREE FLOWING CYLINDER HEADS

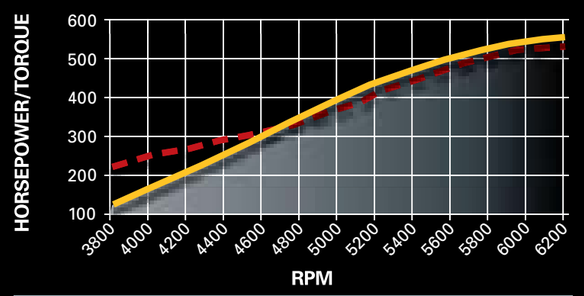
556 HP / 551 LB-FT TORQUE

INSTALLATION NOTES

- 14-inch automatic transmission flexplate included
- Assembly does not include any electronics or accessory drive components
- Includes Corvette wet sump oil pan
- Intended for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications
- Non-Corvette applications require flexplate P/N 12602448

NOTE: *Final production version may differ slightly in content from photo shown.*

LSA 6.2L DYNO CHART



Horsepower: 556 @ 6100 rpm

Torque (lb-ft): 551 @ 3800 rpm

POSSIBLE APPLICATIONS*

- **Build your own Z-28 Camaro!**
- **Pump up a C6 Vette**
- **It's finally where your LS1 now resides**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

LSA 6.2L TECH SPECS

Part Number:	19211708
Engine Type:	LS Series Gen IV Small-Block V-8
Displacement (cu in):	376 cu in (6.2L)
Bore x Stroke (in):	4.06 x 3.62 (103.25 x 92mm)
Block (P/N 12627939):	Cast-aluminum with 6 bolt, cross-bolted main caps
Crankshaft (P/N 12603616):	Forged Steel
Connecting Rods (P/N 12604857):	Powdered metal
Pistons (P/N 12625119:	Hypereutectic aluminum
Camshaft Type (P/N 12605220):	Hydraulic roller
Valve Lift (in):	.480" intake / .480" exhaust
Camshaft Duration (@.050 in):	198° intake / 216° exhaust
Cylinder Heads (P/N 12604860):	Aluminum L92 style port; as cast with 68cc chambers
Valve Size (in):	2.16 intake / 1.59 exhaust
Compression Ratio:	9.1:1
Rocker Arms (P/N 12569167 int):	Investment-cast, roller trunnion
Rocker Arms (P/N 10214664 exh):	Investment-cast, roller trunnion
Rocker Arm Ratio:	1.7:1
Recommended Fuel:	92 octane
Maximum Recommended rpm:	6600
Reluctor Wheel:	58X
Balanced:	Internal

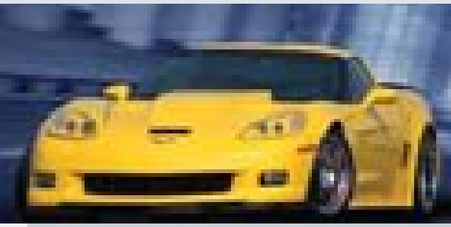
Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 80.

LS9 6.2L SC



19201990

The most powerful regular-production engine ever from GM!

The new LS9 6.2L supercharged—the standard engine in the 2009 Chevrolet Corvette ZR1—is a technology marvel that holds the distinction of being the most powerful regular-production engine ever offered in a GM car. It helps propel the 3,324-pound ZR1 from 0-60 in 3.4 seconds and through the quarter-mile in an astonishing 11.3 seconds at 131 mph—all the way to a top speed of 205 mph! Those stats make the ZR1 not only the most powerful car ever from GM, but the quickest and fastest, too!

GM Performance Parts is thrilled to offer the LS9 6.2L in a fully dressed crate engine package. And while it shares the 6.2L displacement of other LS engines, this one is unique, with stronger block casting, stronger cylinder-head castings and steel cylinder liners that are honed with a deck plate installed to maximize performance and cylinder sealing.

High-rpm-validated lightweight reciprocating parts, including titanium intake valves and connecting rods, are used along with high-flow cylinder heads that flow the charge forced on them by a sixth-generation supercharger. A revised, higher-helix design delivers greater power at the low end and sustains it longer through the rpm band for broad, on-demand power whether off-idle or at speed. A dual-brick charge cooler is integrated on a unique manifold system that mounts the "blower" in the engine's valley, with charge cooler on top.

See page 300 for information on our reference guide P/N 88959384 for installing an LS engine in an older car.

FULLY DRESSED CRATE ENGINE

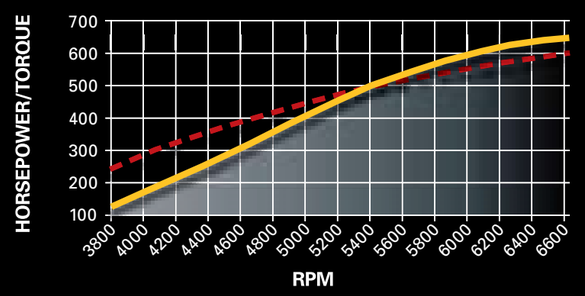
SIXTH-GENERATION SUPERCHARGER

638 HP / 604 LB-FT TORQUE

INSTALLATION NOTES

- 14-inch manual transmission flywheel included
- Assembly does not include any electronics
- Includes Corvette dry sump oil pan - requires production or aftermarket oil lines and oil tank (not included)
- Intended for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications
- Crankshaft has unique 9-bolt flywheel mounting pattern

LS9 DYNO CHART



Horsepower: 638 @ 6500 rpm ***Torque (lb-ft): 604 @ 3800 rpm***

POSSIBLE APPLICATIONS*

- **Build your own ZR1**
- **A '69 Camaro with the ultimate Vette engine**
- **Any 4th-Gen F-body that deserves 600+ horsepower**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

LS9 TECH SPECS

Part Number:	19201990
Engine Type:	LS Series Gen IV Small-Block V-8
Displacement (cu in):	376 cu in (6.2L)
Bore x Stroke (in):	4.06 x 3.62 (103.25 x 92mm)
Block:	Cast-aluminum with 6 bolt, cross-bolted main caps
Crankshaft (P/N 12598610):	Forged Steel
Connecting Rods (P/N 12624231):	Forged titanium
Pistons (P/N 12598634):	Forged aluminum
Camshaft Type (P/N 12605527):	Hydraulic roller
Valve Lift (in):	.562" intake / .558" exhaust
Camshaft Duration (@.050 in):	211° intake / 230° exhaust
Cylinder Heads (P/N 12621774):	Aluminum L92 style ports; as cast with 68cc chambers
Valve Size (in):	2.16 intake / 1.59 exhaust
Compression Ratio:	9.1:1
Rocker Arms (P/N 12569167 int):	Investment-cast, roller trunnion
Rocker Arms (P/N 10214664 exh):	Investment-cast, roller trunnion
Rocker Arm Ratio:	1.7:1
Recommended Fuel:	92 octane
Maximum Recommended rpm:	6600
Reluctor Wheel:	58X
Balanced:	Internal

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 80.

LS7 7.0L

19211710

Simply the baddest naturally aspirated production LS engine in our arsenal!

After only a few short years, the LS7 7.0L engine of the Corvette Z06 is a legend in its own time. Sure, it's got more than 500 naturally aspirated horsepower and 470 lb-ft of torque, but the exceptional high-rpm performance and low-end grunt gives this 427-cubic-in combination the great tractability for which LS engines are known and the pulling power expected of a Big-Block with its historic displacement.

The LS7 features a unique big-bore cylinder block that is anchored with a forged crankshaft, featherweight titanium connecting rods and durable, friction-coated pistons. But it's the airflow capability of the LS7's cavernous, CNC-ported heads that enables its tremendous power. Large-volume, straight-passage intake runners channel air directly through 2.20-inch titanium intake valves. The mixture is burned in large, 70cc combustion chambers and what's left exits through 1.61-inch sodium-filled exhaust valves. And did we forget to mention the dry sump oiling system? This is a serious engine for serious enthusiasts.

GM Performance Parts' LS7 7.0L crate engine package includes a production-style engine with the dry sump oil pan. You'll need to supply the external oil supply and oil lines to the engine, but the rest of the assembly is fully dressed, including the manifold assembly with injectors and electronically controlled throttle body, and log-style exhaust manifolds.

Don't forget your LS7 Controller Kit! See page 288 for more information.

DRY-SUMP OIL PAN

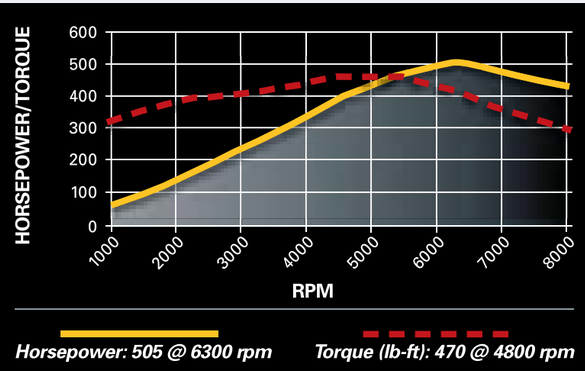
RACING-DERIVED VALVETRAIN

505 HP / 470 LB-FT TORQUE

INSTALLATION NOTES

- Assembly does not include any electronics
- Comes assembled with 14-inch Corvette Z06 168 tooth flywheel
- LS7 is the same size and mounts the same as previous LS series engines
- LS7 Controller Kit P/N 19243066 available for non-Corvette applications. Kit includes electronic throttle pedal, which is required for throttle input to the ECU (see page 288)
- Use oil hose adapters P/N 25534412 to adapt to AN -12 fittings
- Intended for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications
- Engine is NOT compatible with LS7 Controller Kit P/N 19166557 due to MAP sensor and throttle body changes

LS7 7.0L DYNO CHART



Horsepower: 505 @ 6300 rpm *Torque (lb-ft): 470 @ 4800 rpm*

POSSIBLE APPLICATIONS*

- **Anything that you want to have the baddest, Small-Block Chevy on the planet!**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

LS7 7.0L TECH SPECS

Part Number:	19211710
Engine Type:	LS Series Small-Block V-8
Displacement (cu in):	427 (7.0L)
Bore x Stroke (in):	4.125 x 4.00 (104.8 x 101.6mm)
Block (P/N 19165058):	Cast-aluminum with 6-bolt steel main bearing caps
Crankshaft (P/N 12568820):	Forged steel
Connecting Rods (P/N 12586258):	Forged titanium
Pistons:	Hypereutectic aluminum
Camshaft Type (P/N 12571251):	Hydraulic roller
Camshaft Lift (in):	.591 intake / .591 exhaust
Camshaft Duration (@.050 in):	211° intake / 230° exhaust
Cylinder Heads (P/N 12578450):	CNC ported LS7 style ports 70cc CNC combustion chambers
Valve size (in):	2.20" titanium intake, 1.61" sodium filled exhaust
Compression Ratio:	11.0:1
Rocker Arms:	Investment-cast, roller trunnion
Rocker Arm Ratio:	1.8:1 (offset, intake only)
Recommended Fuel:	91 octane
Maximum rpm:	7000
Reluctor Wheel:	58X
Balanced:	Internal

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

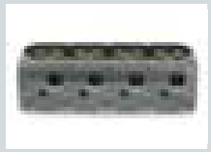
GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 80.

Complete Your LS Series Crate Engine

Select the parts below to finish off your crate engine and get running in less time!

88958665
LS6 CNC Ported Cylinder Head
High-performance version of the LS6 cathedral-port head, with CNC-ported intake runners, exhaust ports and combustion chambers. The 250cc intake ports are 24-percent larger than the stock LS6 head, while smaller 65cc chambers enhance combustion and compression.



19155067
Corvette Accessory Drive Kit
Finish off your engine with the correct accessory drive kit; it includes an air conditioning compressor, alternator, brackets, pulleys, drive belt and all the necessary mounting hardware—an inclusive kit that saves time and money!

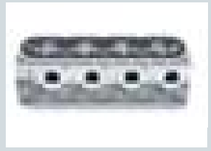
88958675
LS2/LS6 4-bbl Intake Manifold
This high-flow, high-rise aluminum single-plane intake manifold is designed for building power at high rpm, particularly on the drag strip or circle track. Use it with LS2/LS6-type cathedral-port cylinder heads and a 4150-series carburetor.

88958765
LS2 CNC Ported Cylinder Head
A lower-cost alternative to the CNC-ported LS6. Includes 250cc intake ports, 85cc D-shaped exhaust ports and 65cc combustion chambers. Assembly includes 2" solid-stem intake valves and 1.55" solid-stem exhaust valves.

25534398
LS Valve Cover with Breather Hole
25534399
LS Valve Cover without Breather Hole
Includes provisions for mounting ignition coils. Sold individually.

19172322
LSX-LS3 Standard Deck 4-bbl Manifold
A competition-ready, single-plane design for mid-range and top end power. Extra thick for professional porting.

12615355
L92 Cylinder Head
Offering greater flow, this high-performance cylinder head for larger-displacement engines (4"bores or larger) includes 2.165" intake valves and 1.59" exhaust valves.



19171130
LSX Ignition Controller
This is the controller for distributor-less LS engines using a 58X reluctor wheel. The kit includes the ignition controller and wiring harness. Software allows custom vacuum advance curves, timing curves, programmable rev limit and more. It is compatible with LS1/LS6 and LS2/LS7 ignition coils.

19166952
LSX-LS3 Dual-Plane Standard Deck Manifold
The best way to feed an LSX engine is with air channeled through one of GM Performance Parts' new LSX intake manifolds. The dual-plane is designed for use with LSX-LS3 cylinder heads or production LS3/L92 heads.

19166979
LSX-DR Cylinder Head
Designed for 4.125" and larger cylinder bores. Airflow can reach 430 cfm on the intake side and 280+ cfm on the exhaust ports. Capable of over 900 naturally aspirated hp!

19156260
Hydra-Matic 4L65-E Four-Speed Automatic Transmission
A durable, easy-cruising four-speed overdrive automatic transmission that is electronically controlled for more precise, fuel-saving performance. It is compatible with LS-series engines producing up to 380 lb-ft of torque.

88894339
LS6 Intake Manifold
The production version of the lightweight, high-flow LS6 port-injection intake manifold. The durable nylon-constructed intake is suitable for LS engines using cathedral-port heads.

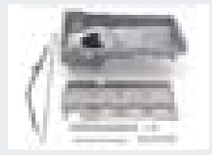
19201806
LSX-LS7 Head
LS7 style rectangle port design. Assembled with 2.20" titanium intake and 1.61" sodium filled exhaust valves, 270cc "as-cast" intake ports, 85cc "as-cast" exhaust ports, 70cc "as-cast" combustion chambers.

12558762
F-Car Oil Pan
The original-equipment oil pan on 1998-2002 LS1-powered Camaros and Firebirds, this low-profile oil pan fits all LS-series engines.

12610434
LS3 Production Car Intake Manifold Assembly
Production manifold assembly for the LS3 engine used in the Chevrolet Corvette. Use with L92 style cylinder heads. Delivered fully assembled with a 90mm electronic throttle, fuel injectors, fuel rails and gaskets.

88965830
Carburetor Spacer, Single Plane, 1-Inch
Fully machined from billet aluminum, this lightweight 1" spacer carries the GM Performance Parts logo on the front and rear.

19212593
Muscle Car Oil Pan Kit
All-inclusive kit to facilitate the installation of any wet sump LS engine into early model GM vehicles such as the early 70s muscle cars and more.



88958679
LS Front Distributor Drive Cover
Developed for extreme-performance engines and those with a carburetor that require a conventional distributor in place of the crank-trigger system. Kit includes front cover, bolt-on camshaft drive gear and hardware. Does not include distributor fuel pump, or harmonic balancer (required).

88965831
Carburetor Spacer, Single Plane, 2-Inch
Fully machined from billet aluminum, this lightweight 2" spacer carries the GM Performance Parts logo on the front and rear.

10465385
LS Series Starter
Works with all LS series and Gen IV V-8 engines, including the LS1, LS2, LS6, LQ9, LQ4 and LS7.

19170093
Carburetor, Holley 770-cfm
Holley's 4160-style 770-cfm four-barrel carburetor is perfect for many crate engines. It has show-quality polished details, center-hung fuel bowls, vacuum secondaries and power valve blowout protection.

ALSO AVAILABLE

High Performance Chevy LS1/LS6 V-8's Handbook	88958786
LS Series Spark Plug Wire Kit	12495519
Hot Cam Kit	12480033
Header Flange	12480130
ASA Camshaft	12480110
LS7 Controller Kit	19166567
Showroom Stock Camshaft	88958606
LS Stage-2 Camshaft	88958722
Racing Hydraulic Roller Lifter Kit	88958689
LS7 Intake Manifold Assembly	12610435
LS7 Lightweight 4-bbl Intake Manifold	25534394
L92 4-Barrel Intake Manifold	25534401
L92 CNC Ported Cylinder Head	88958698
LS2 Controller Kit	19166568
Cylinder Head Bolt Kit (1997-2003 long-style)	12498545
Cylinder Head Bolt Kit (2004, short-style)	17800568
Cylinder Head Installation Kit (F-Car)	12499217
Cylinder Head Installation Kit (Corvette LS1, LS6)	12499218
CTS-V Accessory Drive Kit	19155066
C6 Corvette LS7 Oil Tank	12603281
C6 Corvette LS7 Oil Hose (tank inlet)	15210122
C6 Corvette LS7 Oil Hose (tank outlet)	15210117
Fuel Filter	854619
Electric Fuel Pump, High-Output	25115899
Oil Filter Cap, Push-in	12341993
Air Cleaner, Classic Design (14")	12342071
Air Cleaner, Performance Design (14")	12342080

Available for purchase online at gmperformanceparts.com

Small Block

LSX Series

The Extreme-Performance Branch of the LS Family Tree

A couple of years ago, GM Performance Parts introduced the LSX Bowtie cylinder block. Based on the basic design of GM's modern LS family of V-8 engines, it was designed to give builders an economical yet exceptionally strong foundation on which to build extreme-performance engines.

But the LSX block was just the beginning. Our engineers have been busy developing high-performance engine combinations; and for 2009 GM Performance Parts is proud to introduce the first two LSX crate engines—the LSX376 and LSX454.

The LSX376 uses the LSX Bowtie block, new LSX forged pistons and combines them with the heads and other components of the LS3 engine for an affordable power house. The LSX454 is a modern interpretation of a classic combination that over-delivers on the promise of its Big-Block displacement.

These new crate engines offer great performance and value, but our engineers are just getting started with LSX performance.

LSX376

19171049

The affordable LSX crate engine has arrived!

GM Performance Parts takes the economical LSX Bowtie block and combines it with the LS3's high-flow L92-style heads and mostly internal components (we swap the pistons for forged parts), to create the affordable, high-revving LSX376 crate engine. It represents the essence of LS performance—exceptional airflow capability in straightforward packaging that delivers huge performance without a power-adder.

We deliver the LS376 without an intake manifold (and other accessories). So, whether you top the engine with a carburetor or production-style injection system, it's suitable for your street rod, '57 Chevy or '71 Camaro—be it on the street or strip.

Our horsepower and torque ratings are based on using the production-style injection system. More power can be realized by swapping that for one of our carburetor intakes and a well-tuned Holley four-barrel.

See page 300 for information on our reference guide P/N 88959384 for installing an LS engine in an older car.

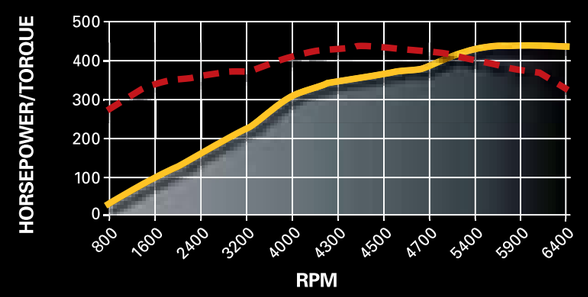
NOTE: *Due to the number of application variations, the LSX376 crate engine is supplied with a dust shield instead of an oil pan. See the LS Engine Components section for production-style oil pan choices. Also, the LSX376 valve covers do not include provisions for mounting the ignition coil brackets. Aftermarket or custom relocation brackets must be used.*

- **RACE-BRED LSX BOWTIE BLOCK**
- **HIGH-FLOW LS3 CYLINDER HEADS**
- **UNIQUE LSX376 VALVE COVERS**

INSTALLATION NOTES

- 14-inch automatic transmission flexplate included
- Assembly does not include any electronics
- Intended for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications
- Non-Corvette applications require flexplate, P/N 12602448
- Requires LSX Ignition Controller P/N 19171130 for carbureted applications

LSX376 DYNO CHART



Horsepower: 450 @ 5900 rpm ***Torque (lb-ft): 444 @ 4600 rpm***

Note: Actual power chart may vary depending on induction system used.

POSSIBLE APPLICATIONS*

- **An '87 Monte Carlo SS that is ready for LSX power**
- **A '98 Camaro that deserves the LSX touch**
- **Give your show car the race car edge with this LSX engine**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

LSX376 TECH SPECS

Part Number:	19171049
Engine Type:	LSX Series Gen IV Small-Block V-8
Displacement (cu in):	376 cu in (6.2L)
Bore x Stroke (in):	4.06 x 3.62 (103.25 x 92 mm)
Block (P/N 19243171):	LSX cast-iron with 6-bolt, cross-bolted main caps
Crankshaft (P/N 12597569):	Nodular iron
Connecting Rods (P/N 12607475):	Powdered metal
Pistons (P/N 12166957):	Forged aluminum
Camshaft Type (P/N 12603844):	Hydraulic roller
Valve Lift (in):	0.551" intake / 0.522" exhaust
Camshaft Duration (@0.050 in):	204° intake / 211° exhaust
Cylinder Heads (P/N 12615879):	Aluminum L92 style port; with "as cast" 68cc chambers
Valve Size (in):	2.16 intake / 1.59 exhaust
Compression ratio:	10.7:1
Rocker Arms (P/N 12569167 int):	Investment-cast, roll trunnion
Rocker Arms (P/N 10214664 exh):	Investment-cast, roll trunnion
Rocker Arm Ratio:	1.7:1
Recommended Fuel:	92 octane
Maximum Recommended RPM:	6600
Reluctor Wheel:	58X
Balanced:	Internal

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts <u>does not</u> utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 88.

LSX454

19170112

Vintage displacement. Thoroughly modern technology. Stunning performance.

An engine with 454 cubic inches of displacement will always be associated with higher-performance Chevys, and that tradition continues with the all-new LSX454 crate engine. We started with the LSX Bowtie block (see page 200 for more info), stuffed it with an all-forged, super-tough rotating assembly, bolted on a pair of our new deep-breathing LSX six-bolt cylinder heads and topped off the combination with a high-rise intake/four-barrel induction system.

The new LSX six-bolt cylinder heads are based on the racing-derived LS7 heads that help deliver more than 500 horsepower in the Corvette Z06. They enable tremendous low-end torque and great high-rpm power. The LSX454 is delivered in Deluxe form, so you get everything from the carburetor to the water pump. It also comes dressed with great-looking, all-new orange powder-coated valve covers with "LSX454" logos engraved and painted black.

We tested the LSX454 combination on none other than Reggie Jackson's custom 1969 Camaro, which showcased the possibilities of high 10s in the quarter-mile, 150-mph top speed and more.

See page 300 for information on our reference guide P/N 88959384 for installing an LS engine in an older car.

NOTE: *Due to the number of application variations, the LSX454 crate engine is supplied with a dust shield instead of an oil pan. See the LS Engine Components section for production-style oil pan choices. Also, the LSX454 valve covers do not include provisions for mounting the ignition coil brackets. Aftermarket or custom relocation brackets must be used.*

NEW LSX FORGED ROTATING PARTS

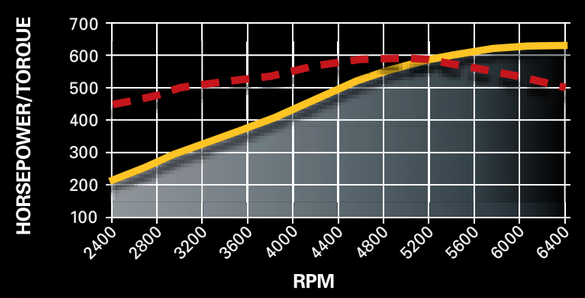
NEW 6-BOLT LSX CYLINDER HEADS

620 HP / 590 LB-FT TORQUE

INSTALLATION NOTES

- 14-inch automatic transmission flexplate included
- Assembly does not include any electronics
- Intended for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications
- Requires LSX Ignition Controller P/N 19171130
- Requires the purchase and installation of an oil pan (see page 221)

LSX454 DYNO CHART



Horsepower: 620 @ 6200 rpm

Torque (lb-ft): 590 @ 4800 rpm

POSSIBLE APPLICATIONS*

- **Build your own Reggie Jackson '69 Camaro**
- **A '70 Chevelle on a "454" budget**
- **The baddest 2001 T/A in town**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

LSX454 TECH SPECS

Part Number:	19170112
Engine Type:	LSX Series Gen IV Small-Block V-8
Displacement (cu in):	454 cu in (7.4L)
Bore x Stroke (in):	4.185 x 4.125 (106.3 x 104.8 mm)
Block (P/N 19243172):	LSX cast-iron with 6-bolt, cross-bolted main caps
Crankshaft (P/N 19170391):	4340 forged steel
Connecting Rods (P/N 19166964):	4340 forged steel
Pistons (P/N 19166958):	Forged aluminum
Camshaft Type (P/N 19166972):	Hydraulic roller
Valve Lift (in):	0.635" intake / 0.635" exhaust
Camshaft Duration (@0.050 in):	236° intake / 246° exhaust

Cylinder Heads (P/N 19201806):	Aluminum LSX-LS7 port; with "as cast" 70cc chambers
Valve Size (in):	2.20 titanium intake / 1.61 exhaust
Compression ratio:	11.0:1
Rocker Arms (P/N 12579615 int):	Investment-cast, roll trunnion
Rocker Arms (P/N 12579617 exh):	Investment-cast, roll trunnion
Rocker Arm Ratio:	1.8:1
Recommended Fuel:	92 octane
Maximum Recommended RPM:	6500
Reluctor Wheel:	58X
Balanced:	Internal

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 88.

Complete Your LSX Series Crate Engine

Select the parts below to finish off your crate engine and get running in less time!

19171272
Valve Cover Kit – LSX454, Orange
Orange powder coat with black LSX454 lettering. Comes with all mounting hardware and gaskets. Sold as a pair.

19155067
Corvette Accessory Drive Kit
Finish off your engine with the correct accessory drive kit; it includes an air conditioning compressor, alternator, brackets, pulleys, drive belt and all the necessary mounting hardware—an inclusive kit that saves time and money!

19166948
LSX-LS7 Standard Deck 4-bbl Manifold
Single-plane design for mid-range and top-end power with LS7 style ports. Injector/nitrous bosses cast-in. Extra thick for professional porting. Uses OEM O-ring gaskets (included).

19141270
Valve Cover Kit – LSX376, Natural
Natural tumble finish with black LSX376 lettering. Comes with all mounting hardware and gaskets. Sold as a pair.

25534398
LS Valve Cover with Breather Hole
25534399
LS Valve Cover without Breather Hole
Includes provisions for mounting ignition coils. Sold individually.

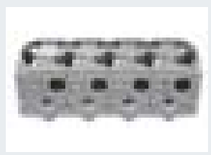
19172322
LSX-LS3 Standard Deck 4-bbl Manifold
A competition-ready, single-plane design for mid-range and top end power with L92 style heads. Extra thick for professional porting. Uses OEM O-ring gaskets (included).

88958698
CNC-Ported L92 Cylinder Head Assembly
This CNC-ported performance head fits any LS family engine (4" bores or larger) includes 2.165" intake valves and 1.59-inch exhaust valves.

19171130
LSX Ignition Controller
This is the controller for distributor-less LS engines using a 58X reluctor wheel. The kit includes the ignition controller and wiring harness. Software allows custom vacuum advance curves, timing curves, programmable rev limit and more. It is compatible with LS1/LS6 and LS2/LS7 ignition coils.

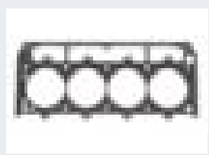
19166952
LSX-LS3 Dual-Plane Standard Deck Manifold
The best way to feed an LSX engine is with air channeled through one of GM Performance Parts' new LSX intake manifolds. The dual-plane is designed for use with LSX-LS3 cylinder heads or production LS3/L92 heads.

19166979
LSX-DR Cylinder Head
Designed for 4.125" and larger cylinder bores. Airflow can reach 430 cfm on the intake side and 280+ cfm on the exhaust ports. Capable of over 900 naturally aspirated hp!



19154550
SuperMatic 4L85-E Four-Speed Transmission
Newly designed for use on our ZZ572/720 crate engine with all new parts, including additional clutch plate. Improved valve body for firmer shifts. Includes torque converter.

19170418
LSX 4.100 Bore MLS Head Gasket Kit
Multi-layer steel gaskets for naturally aspirated and forced induction applications. For standard LS and LSX 6-bolt pattern blocks and heads. Includes 1 LH and 1 RH gasket.



19201806
LSX-LS7 Head
LS7 style rectangle port design. Assembled with 2.20" titanium intake and 1.61" sodium filled exhaust valves, 270cc "as-cast" intake ports, 85cc "as-cast" exhaust ports, and 70cc "as-cast" combustion chambers.

12558762
F-Car Oil Pan
The original-equipment oil pan on 1998-2002 LS1-powered Camaros and Firebirds, this low-profile oil pan fits all LS-series engines.

12610434
LS3 Production Car Intake Manifold Assembly
Production manifold assembly for the LS3 engine used in the Chevrolet Corvette. Use with L92 style cylinder heads. Delivered fully assembled with a 90mm electronic throttle, fuel injectors, fuel rails and gaskets.

88965830
Carburetor Spacer, Single Plane, 1-Inch
Fully machined from billet aluminum, this lightweight 1" spacer carries the GM Performance Parts logo on the front and rear.

19212593
Muscle Car Oil Pan Kit
All-inclusive kit to facilitate the installation of any wet sump LS engine into early model GM vehicles such as the early 70s muscle cars, and more.

19170094
Carburetor, Holley 870-cfm
Holley 4160-style 870-cfm four-barrel carburetor for 502 crate engines and suitable for Big-Block engines, including street, competition, towing and off-road vehicles. Features show-car-quality polished finish and a quick-change adjustable vacuum secondary.

88965831
Carburetor Spacer, Single Plane, 2-Inch
Fully machined from billet aluminum, this lightweight 2" spacer carries the GM Performance Parts logo on the front and rear.

10465385
LS Series Starter
Works with all LS series and Gen IV V-8 engines, including the LS1, LS2, LS6, LQ9, LQ4 and LS7

19170093
Carburetor, Holley 770-cfm
Holley's 4160-style 770-cfm four-barrel carburetor is perfect for many crate engines. It has show-quality polished details, center-hung fuel bowls, vacuum secondaries and power valve blowout protection.

ALSO AVAILABLE

High Performance Chevy LS1/LS6 V-8's Handbook	88958786
LS Series Spark Plug Wire Kit	12495519
Hot Cam Kit	12480033
Header Flange	12480130
ASA Camshaft	12480110
LS7 Controller Kit	19166567
Showroom Stock Camshaft	88958606
LS Stage-2 Camshaft	88958722
Racing Hydraulic Roller Lifter Kit	88958689
LS7 Intake Manifold Assembly	12610435
LS7 Lightweight 4-bbl Intake Manifold	25534394
L92 Lightweight 4-Barrel Intake Manifold	25534401
LSX-LS3 Cylinder Head	19201805
LSX-LS9 Cylinder Head	19203963
Cylinder Head Bolt Kit (2004, short-style)	17800568
LSX454 Black Valve Cover Kit	19171497
Camaro Valve Cover Kit, Orange	19156432
Corvette Valve Cover Kit, Red Letters	19156429
CTS-V Accessory Drive Kit	19155066
Fuel Filter	854619
Electric Fuel Pump, High-Output	25115899
Oil Filter Cap, Push-in	12341993
Air Cleaner, Classic Design (14")	12342071
Air Cleaner, Performance Design (14")	12342080

Available for purchase online at gmperformanceparts.com

Big-Block

From Left: ZZ427/480, Ram Jet 502, ZZ572/720R

A Heritage of Out-Muscling the Competition

A Big-Block car's arrival is an assault on the senses. You see it in the quivering four-inch-tall cowl scoop of the fiberglass hood. You hear it the muffler-straining note of the sewer-pipe exhaust. You feel it in your chest, as if all eight coffee can-sized pistons were thumping directly on it. You smell it in the sweetness of the high-octane exhaust. And you taste it as the bitterness of defeat if you're packing anything less than a Big-Block yourself.

The Big-Block isn't just an engine. It's a tactical weapon used by those who lurk on the edges of the night, rumbling around in cars with primered fenders and fuel pumps hanging below the rear bumpers. It's not flashy, but the Big-Block has never been about winning awards. It's about ensuring there's no way the other guy is going to get around you.

ZZ427/480

19166393

A modern interpretation of the legendary L88 427

Between 1967 and 1969, the alphanumeric designation that struck fear from Main Street to the drag strip was L88. It was the ultimate expression of Chevy's Big-Block power, combining a rigid iron cylinder block with lightweight aluminum cylinder heads and a single four-barrel carburetor.

GM Performance Parts has recreated that classic Big-Block combination in the ZZ427/480, rated at 480 horsepower. Like the original, it features an iron block, forged steel crankshaft and high-flow aluminum cylinder heads. We've upgraded the camshaft from the original's mechanical flat-tappet design to a more contemporary hydraulic roller, giving this 21st-century L88 modern drivability characteristics and a greater rev range. A lower 10.1:1 compression ratio makes it pump gas-friendly, too. The original L88, born in the time of leaded gasoline, had 12.5:1 compression.

The ZZ427/480 comes complete with high-flow oval-port heads, a high-lift camshaft (0.510-inch intake/0.540-inch exhaust), an aluminum intake manifold, 870-cfm Holley carburetor, an HEI distributor, aluminum water pump, balancer, spark plug wires and a 14-inch flexplate.

Whether you're building a '69 COPO Camaro resto-mod tribute, a modified mid-year Corvette or a street-tire class winner, the ZZ427/480 is the heritage-inspired crate engine that delivers the performance that built the Big-Block's legendary reputation.

UPDATED CLASSIC COMBINATION

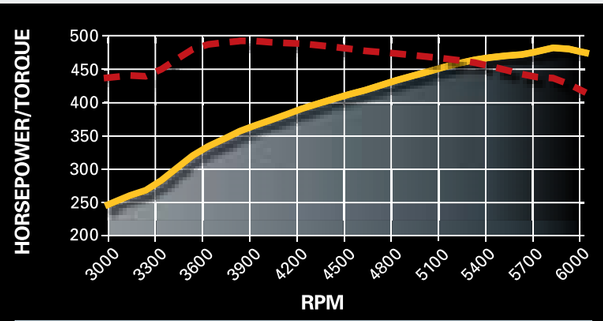
HIGH-FLOW OVAL-PORT HEADS

480 HP / 490 LB-FT TORQUE

INSTALLATION NOTES

- Due to crate fitment, the carburetor is shipped in a separate box and needs to be installed by an engine installer
- Requires addition of starter and fuel pump (not included)
- Clutch linkage bosses are drilled and tapped. When using cast-iron exhaust manifolds, lower head bolts may need to be replaced with bolts with shorter heads for clearance
- Comes with an internally balanced 14" automatic transmission flexplate; use flywheel P/N 12582964 and 11.5" clutch assembly for manual transmission applications
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications

ZZ427/480 DYNO CHART



Horsepower: 480 @ 5800 rpm *Torque (lb-ft): 490 @ 3800 rpm*

POSSIBLE APPLICATIONS*

- **A COPO clone Camaro**
- **Your favorite '61 Impala**
- **A Stingray with a big stinger**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

ZZ427/480 TECH SPECS

Part Number:	19166393
Engine Type:	Chevy Big-Block V-8
Displacement (cu in):	427
Bore x Stroke (in):	4.25 x 3.75
Block (P/N 19170538):	Cast-iron with 4-bolt main caps
Crankshaft (P/N 19171620):	Forged steel
Connecting Rods: (P/N 19211226):	Forged steel
Pistons (P/N 19171618):	Forged aluminum
Camshaft Type (P/N 12366543):	Hydraulic roller
Valve Lift (in):	224° intake / 234° exhaust
Camshaft Duration (@.050 in):	.527 intake / .544 exhaust
Cylinder Heads: (P/N 19211799):	Aluminum oval port, 110cc chambers
Valve Size (in):	2.19 intake / 1.88 exhaust

Compression Ratio:	10.1:1
Rocker Arms (P/N 12361323):	Aluminum roller style
Rocker Arm Ratio:	1.7:1
Distributor (P/N 19212081):	HEI type
Carburetor (P/N 19170093):	770-cfm
Water Pump (P/N 19168602):	Aluminum short-style
Spark Plugs and Wires:	Included
Flexplate (P/N 12561217):	14"
Recommended Fuel:	92 octane
Ignition Timing:	Base 10° BTDC, 36° Total
Maximum Recommended rpm:	6400
Balanced:	Internal

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

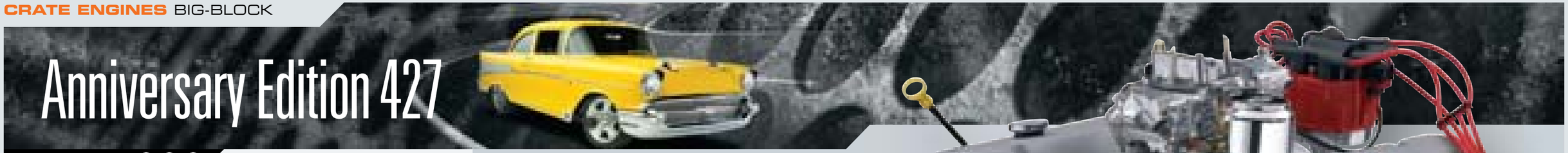
Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 114.

Anniversary Edition 427



19166392

The spirit of the ZL1 commemorated in our limited-edition crate engine

It's been 40 years since a few enterprising dealer-backed racers worked the loopholes of Chevrolet's COPO ordering system to create a handful of factory-built 427-powered supercars that weren't found in any brochure or order guide. And while their intent was to dominate the popular Super Stock drag racing classes, they touched off what would become one of the colorful chapters in the muscle car anthology.

The special cars—two Corvettes and 69 Camaros—were equipped with an all-aluminum 427 engine dubbed the "ZL1" that was largely similar in specification to the vaunted L88 427, but with an aluminum block that saved about 100 pounds off the cars' nose-heavy front-ends. The engine was officially rated at 430 horsepower, but the true output was closer to 500 horses.

GM Performance Parts commemorates the ZL1 with the Anniversary Edition 427—an aluminum-block crate engine that mimics the original in spirit, but with design upgrades that make it a street-friendly option for COPO Camaro tribute projects, pro-touring street machines and ultimate-performance "Shark" Corvettes.

Our modern aluminum cylinder block has strength-enhancing design features, screw-in galley plugs and more. We've also elected to use a hydraulic roller camshaft, making for smoother street operation and greatly reduced maintenance. A 10.1:1 compression ratio allows the Anniversary Edition 427 to drink from today's gas pumps, too.

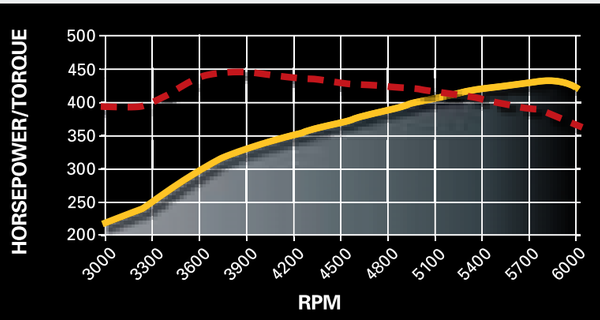
An owner's kit included with each engine comes with a serialized number that matches the block and valve cover numbers.

- **UPDATED ALUMINUM BLOCK**
- **SILVER POWDER-COATED VALVE COVERS**
- **AUTHENTICATING OWNER'S KIT**
- **430 HP / 444 LB-FT TORQUE**

INSTALLATION NOTES

- Due to crate fitment, the carburetor is shipped in a separate box and needs to be installed by an engine installer
- Requires addition of starter and fuel pump (not included)
- Clutch linkage bosses are drilled and tapped. When using cast-iron exhaust manifolds, lower head bolts may need to be replaced with bolts with shorter heads for clearance
- Comes with an internally balanced 14" automatic transmission flexplate; use flywheel P/N 12582964 and 11.5" clutch assembly for manual transmission applications
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications

ANNIVERSARY 427 DYNO CHART



Horsepower: 430 @ 5800 rpm *Torque (lb-ft): 444 @ 3800 rpm*

POSSIBLE APPLICATIONS*

- **The perfect ZL1 Camaro clone**
- **A '69 Corvette like only two others**
- **Make your hot rod one of only 427 with this crate engine**
- **Put it on an engine stand and just enjoy!**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

ANNIVERSARY EDITION 427 TECH SPECS

Part Number:	19166392
Engine Type:	Aluminum Chevy Big-Block V-8
Displacement (cu in):	427
Bore x Stroke (in):	4.25 x 3.75
Block (P/N 88958696):	Cast-aluminum with 4-bolt main caps
Crankshaft (P/N 19171620):	Forged steel
Connecting Rods: (P/N 19211226):	Forged steel
Pistons (P/N 19171618):	Forged aluminum
Camshaft Type (P/N 12366543):	Hydraulic roller
Valve Lift (in):	224° intake / 234° exhaust
Camshaft Duration (@.050 in):	.527" intake / .544" exhaust
Cylinder Heads: (P/N 19211799):	Aluminum oval port, 110cc chambers
Valve Size (in):	2.19 intake / 1.88 exhaust

Compression Ratio:	10.1:1
Rocker Arms (P/N 12361323):	Aluminum roller style
Rocker Arm Ratio:	1.7:1
Distributor (P/N 19212081):	HEI type
Carburetor (P/N 19170093):	770-cfm
Water Pump (P/N 19168602):	Aluminum short-style
Spark Plugs and Wires:	Included
Flexplate (P/N 12561217):	14"
Recommended Fuel:	92 octane
Ignition Timing:	Base 10° BTDC, 36° Total
Maximum Recommended rpm:	6400
Balanced:	Internal

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 114.

454 HO

12568774

Our most economical Big-Block crate engine delivers muscle car-era performance

GM Performance Parts' 454 HO crate engine is a classic in its own time. It offers enthusiasts an affordable Big-Block combination with performance specs that will make you think it's 1970 all over again—with 425 horsepower and 500 asphalt-wrinkling pound-feet of torque.

The foundation of the 454 HO is the new casting of the venerable cylinder block, which incorporates strength and performance design enhancements. (See page 230 for more details.) To that, we add an all-forged reciprocating assembly for maximum durability, a roller camshaft and a set of tried-and-true rectangular-port iron cylinder heads.

Your 454 HO crate engine package is delivered with a water pump, balancer, 14-inch flexplate and aluminum intake manifold. Add a carburetor, ignition system and starter, and your budget Big-Block will be ready to roar. They're all available from your nearest GM Performance Parts dealer.

Everybody needs to experience Big-Block power at least once in their car-enthusiast lifetime and the 454 HO is the practical way to do it!

IMPROVED CYLINDER BLOCK CASTING

AFFORDABLE BIG-BLOCK PERFORMANCE

425 HP / 500 LB-FT TORQUE

INSTALLATION NOTES

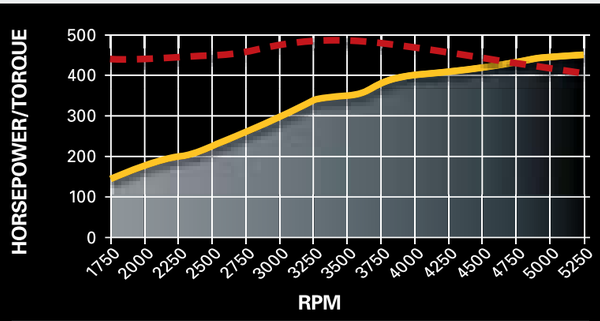
- Requires addition of carburetor, starter, fuel pump, distributor and ignition system (not included)
- Clutch linkage bosses are now drilled and tapped. When using cast-iron exhaust manifolds, lower head bolts may need to be replaced with bolts with shorter heads for clearance
- Comes with an externally balanced 14"auto-matic transmission flexplate; use flywheel P/N 14096987 and 11" clutch assembly for manual transmission applications
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications

12498778

454 Partial Engine

The sturdy foundation of the 454 HO is the starting point of a custom engine build. Use externally balanced flywheel for manual transmission applications.

454 HO DYNO CHART



Horsepower: 425 @ 5250 rpm

Torque (lb-ft): 500 @ 3250 rpm

POSSIBLE APPLICATIONS*

- **Turn that project car into a Big-Block legend**
- **The perfect replacement for a Big-Block car that needs a new mill**
- **Your first Big-Block**
- **A bright red 1970 Chevelle**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

454 HO TECH SPECS

Part Number:	12568774
Engine Type:	Chevy Big-Block V-8
Displacement (cu in):	454
Bore x Stroke (in):	4.25 x 4.00
Block (P/N 19170538):	Cast-iron with 4-bolt main caps
Crankshaft (P/N 14096983):	Forged steel
Connecting Rods (P/N 19170198):	Forged steel
Pistons (P/N 10215228):	Forged aluminum
Camshaft Type (P/N 24502611):	Hydraulic roller
Camshaft Lift (in):	.510 intake / .540 exhaust
Camshaft Duration (@.050 in):	211° intake / 230° exhaust
Cylinder Heads (P/N 12562920):	Iron rectangular port; 118cc chambers
Valve Size (in):	2.19 intake / 1.88 exhaust
Compression Ratio:	8.75:1
Rocker Arms (P/N 12523976):	Stamped steel
Rocker Arm Ratio:	1.7:1
Water Pump (P/N 19168606):	Cast-iron, long-style
Flexplate (P/N 10185034):	14"
Recommended Fuel:	92 octane
Ignition Timing:	Base 4° BTDC, 26° Total
Maximum Recommended rpm:	5500
Balanced:	External

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 114.

ZZ454/440

12498777

A classic 454 Big-Block with high-flow aluminum heads that delivers 500 lb-ft

We took the tough 454 HO partial engine—with its super-tough, all-forged reciprocating assembly—and matched it with a set of higher-flow, oval-port aluminum cylinder heads to create the ZZ454/440. We picked up an additional 15 horsepower while maintaining an incredible 500 lb-ft of torque. The lightweight aluminum heads also help save weight on the nose of a Camaro, Nova or other street/strip machine.

The ZZ454/440 uses our new cylinder block casting that offers greater strength and performance (see page 230 for details), while the aluminum heads use smaller, 110cc combustion chambers to boost compression to 9.6:1 (up from 8.5:1 on the 454 HO). We then match the airflow capability with a high-lift, hydraulic roller camshaft that delivers great idle quality and requires no periodic lash adjustments.

Our crate engine package delivers the ZZ454/440 assembled with a water pump, balancer, aluminum intake manifold and a 14-inch flexplate. Your GM Performance Parts dealer can hook you up with the carburetor, starter, ignition system and other accessories required to get this big-power Big-Block started.

POWERFUL BIG-BLOCK FOR THE STREET

GREAT COMBO FOR EARLY CAMARO

440 HP / 500 LB-FT TORQUE

INSTALLATION NOTES

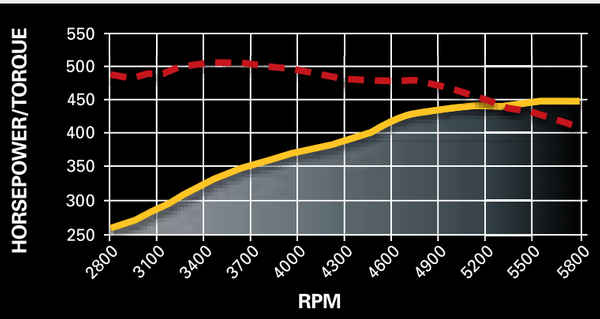
- Requires addition of carburetor, starter, distributor and ignition system (not included)
- Clutch linkage bosses are now drilled and tapped. When using cast-iron exhaust manifolds, lower head bolts may need to be replaced with bolts with shorter heads, for clearance
- Comes with an externally balanced 14" automatic transmission flexplate; use flywheel P/N 14096987 and 11" clutch assembly for manual transmission applications
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications

12498778

454 Partial Engine

The sturdy foundation of the ZZ454/440 is the starting point of a custom engine build. Use externally balanced flywheel for manual transmission applications.

ZZ454/440 DYNO CHART



Horsepower: 440 @ 5250 rpm

Torque (lb-ft): 500 @ 3250 rpm

POSSIBLE APPLICATIONS*

- **A hot rod that deserves a Big-Block with aluminum heads**
- **The starting point for a new race car**
- **A bright red 1969 Camaro**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

ZZ454/440 TECH SPECS

Part Number:	12498777	Cylinder Heads (P/N 12363392):	Aluminum oval port; 110cc chambers
Engine Type:	Chevy Big-Block V-8	Valve Size (in):	2.19 intake / 1.88 exhaust
Displacement (cu in):	454	Compression Ratio:	9.6:1
Bore x Stroke (in):	4.25 x 4.00	Rocker Arms (P/N 12368082):	Stamped steel
Block (P/N 19170538):	Cast-iron with 4-bolt main caps	Rocker Arm Ratio:	1.7:1
Crankshaft (P/N 14096983):	Forged steel	Water Pump (P/N 19168606):	Cast-iron, long-style
Connecting Rods (P/N 19170198):	Forged steel	Flexplate (P/N 10185034):	14"
Pistons (P/N 10215228):	Forged aluminum	Recommended Fuel:	92 octane
Camshaft Type (P/N 24502611):	Hydraulic roller	Ignition Timing:	Base 4° BTDC, 26° Total
Camshaft Lift (in):	.510 intake / .540 exhaust	Maximum Recommended rpm:	5500
Camshaft Duration (@.050 in):	211° intake / 230° exhaust	Balanced:	External

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 114.

HT502

88890534

All the towing power your truck needs and then some!

Our big-torque HT502 crate engine has more pull than a tugboat with a stroker motor. Its robust 512-lb-ft rating (at 3300 rpm) means it has the towing power for almost any trailer. In other words, it'll turn the Rocky Mountains into mole hills.

GM never offered a regular-production 502-cubic-inch Big-Block, but the GM Performance Parts HT502 is a popular, economical choice for truck owners seeking to re-power their old, 454-powered truck with greater power and capability. It is uniquely suited to pre-1976 trucks, but is adaptable to a variety of applications.

We build the HT502 with large 4.47-inch bores and a 4.00-inch stroke. The crankshaft, rods and pistons are all forged for maximum strength; and they're installed in a new version of the Big-Block cylinder block. It is updated for greater strength and performance capability. (See page 230 for details.) Deep breathing chores on the highway are the job of iron, oval-port heads, while a conservative 8.75:1 compression ratio ensures pump-gas performance at all altitudes and engine loads.

All necessary components are available from GM Performance Parts. So, go ahead. Load up your race car, parts and a weekend's worth of support equipment. The HT502 will deliver you and your equipment without breaking a sweat.

Check out gmperformanceparts.com for a list of Power Packages to improve the performance of this engine!

DELIVERS BIG TORQUE

NEW BIG-BLOCK CASTING

377 HP / 512 LB-FT TORQUE

INSTALLATION NOTES

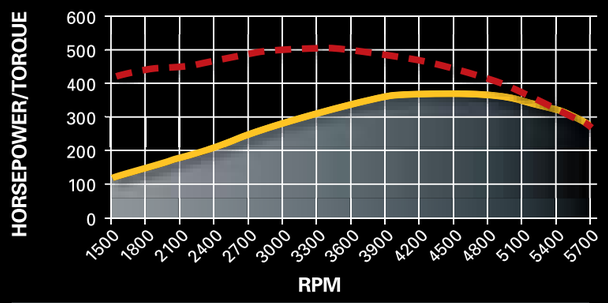
- Requires the addition of carburetor, intake manifold, water pump, starter, distributor and ignition system
- Clutch linkage bosses are now drilled and tapped. When using cast-iron exhaust manifolds, lower head bolts may need to be replaced with bolts with shorter heads for clearance
- New for 2009, 502 engines now have a mechanical pump boss!
- Comes with an externally balanced 14" automatic transmission flexplate. Use externally balanced flywheel P/N 14096987 and 11" clutch assembly for manual transmission applications
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications

12568782

502 Partial Engine

This brand-new partial engine includes forged reciprocating components, as well as the balancer, oil pan and timing chain set.

HT502 DYNO CHART



Horsepower: 377 @ 4500 rpm ***Torque (lb-ft): 512 @ 3300 rpm***

POSSIBLE APPLICATIONS*

- **Your Big-Block mud-bogger**
- **A tow rig that needs an attitude adjustment**
- **A pickup truck that can pound most sports cars**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

HT502 TECH SPECS

Engine Type (P/N 88890534):	Chevy Big-Block V-8
Displacement (cu in):	502
Bore x Stroke (in):	4.47 x 4.00
Block (P/N 19170540):	Cast-iron with 4-bolt main caps
Crankshaft (P/N 10183723):	Forged steel
Connecting Rods (P/N 19170198):	Forged steel, shot peened
Pistons (P/N 12533507):	Forged aluminum
Camshaft Type (P/N 12552296):	Hydraulic roller
Camshaft Lift (in):	.480 intake / .483 exhaust
Camshaft Duration (@.050 in):	204° intake / 209° exhaust
Cylinder Heads (P/N 12562917):	Iron oval port; 118cc chambers
Valve Size (in):	2.07 intake / 1.73 exhaust
Compression Ratio:	8.75:1
Rocker Arms (P/N 12523976):	Stamped steel
Rocker Arm Ratio:	1.7:1
Flexplate (P/N 10185034):	14"
Recommended Fuel:	92 octane
Ignition Timing:	Base 4° BTDC, 26° Total
Maximum Recommended rpm:	5500
Balanced:	External

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 114.

502 HO

12568778

An affordable tire killer with premium performance specs

If you're looking for huge power and time-warping torque on a budget, the 502 HO is just the thing for your Chevelle street car, second-gen Camaro sportsman drag racer or trailer-towing classic Suburban. With 450 horsepower and 550 lb-ft of torque, this Big-Block lacks for nothing.

More important than how much power the 502 HO makes is where it makes it. Torque hovers just below the 500 lb-ft mark at only 1500 rpm. The torque curve arcs gently above the 500 lb-ft level by 2800 rpm and stays there through 4200 rpm.

All that axle-twisting torque is rooted in a stronger, updated four-bolt cylinder block (see page 230 for details) that houses a forged steel crankshaft, forged and shot-peened rods and forged aluminum pistons. In other words, it's a super-stout assembly that is as durable as it is powerful. The 502 HO comes complete with an aluminum, dual-plane intake, water pump, 14-inch flexplate, balancer and more. You add the carburetor, starter and ignition system.

Iron heads keep the 502 HO affordable—and the wide, flat torque curve makes it a winner for your classic Chevy truck, Camaro or Chevelle.

BIG-DISPLACEMENT POWERHOUSE

STRONGER CYLINDER BLOCK CASTING

450 HP / 550 LB-FT TORQUE

INSTALLATION NOTES

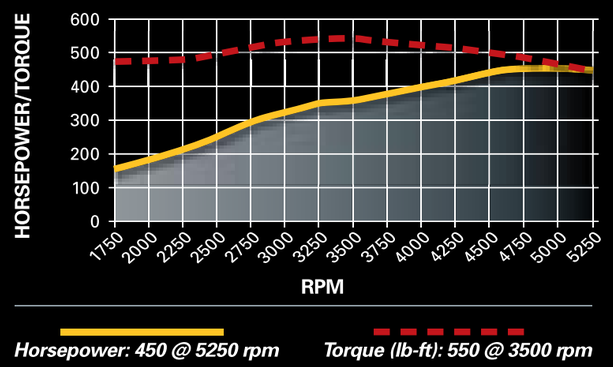
- Requires addition of carburetor, fuel pump, starter, distributor and ignition system
- Clutch linkage bosses are now drilled and tapped. When using cast-iron exhaust manifolds, lower head bolts may need to be replaced with bolts with shorter heads, for clearance
- New for 2009, 502 engines now have a mechanical pump boss!
- Comes with an externally balanced 14" automatic transmission flexplate. Use flywheel P/N 14096987 and 11" clutch assembly for manual transmission applications
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications

12568782

502 Partial Engine

This brand-new partial engine includes the forged reciprocating components, as well as the balancer, oil pan and timing chain set.

502 HO DYNO CHART



Horsepower: 450 @ 5250 rpm ***Torque (lb-ft): 550 @ 3500 rpm***

POSSIBLE APPLICATIONS*

- **A hot Chevy that deserves a "big-inch" Rat**
- **Low 11-second bracket car**
- **Heavy metal hot rod that needs heavy metal power**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

502 HO TECH SPECS

Part Number:	12568778	Cylinder Heads (P/N 12562920):	Iron rectangular port; 118cc chambers
Engine Type:	Chevy Big-Block V-8	Valve Size (in):	2.19 intake / 1.88 exhaust
Displacement (cu in):	502	Compression Ratio:	8.75:1
Bore x Stroke (in):	4.47 x 4.00	Rocker Arms (P/N 12523976):	Stamped steel
Block (P/N 19170540):	Cast-iron with 4-bolt main caps	Rocker Arm Ratio:	1.7:1
Crankshaft (P/N 10183723):	Forged steel	Water Pump (P/N 19168606):	Cast-iron, long-style
Connecting Rods (P/N 19170198):	Forged steel, shot peened	Flexplate (P/N 10185034):	14"
Pistons (P/N 12533507):	Forged aluminum	Recommended Fuel:	92 octane
Camshaft Type (P/N 24502611):	Hydraulic roller	Ignition Timing:	Base 8° BTDC, 30° Total
Camshaft Lift (in):	.510 intake / .540 exhaust	Maximum Recommended rpm:	5500
Camshaft Duration (@.050 in):	211° intake / 230° exhaust	Balanced:	External

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts <u>does not</u> utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 114.

ZZ502/502 Deluxe

19201332

Stellar Big-Block performance—if your car can handle it

If you've never experienced the ZZ502/502, you simply don't know what Big-Block power is all about. With more than 500 horsepower and 567 lb-ft of torque, it demands your full attention and a chassis that is strong enough to harness its gut-tugging twisting power.

GM Performance Parts' ZZ502/502 is one of the industry's benchmark crate engines, offering excellent value with a proven combination of performance that is suitable for the street or strip. And now, all ZZ502 crate engines are manufactured with GM's updated cylinder block casting that is stronger and better supports high-performance applications. (See page 230 for details.)

A forged crankshaft, along with forged rods and pistons, anchor the bottom end, while our popular oval-port aluminum heads offer excellent airflow characteristics. Torque tops the 500 lb-ft mark by approximately 2500 rpm and doesn't dip below it until about 5000 rpm.

Our ZZ505/502 Deluxe package comes complete from the oil pan to the carburetor; and includes an HEI distributor, plug wires, starter, water pump, balancer and an aluminum intake topped with a Holley 870-cfm four barrel.

When you're looking for uncompromising power for your Camaro, Chevy II or street rod, the ZZ505/502 is the Big-Block that delivers—big time!

MOST POPULAR BIG-BLOCK

OVAL-PORT ALUMINUM HEADS

502 HP / 567 LB-FT

INSTALLATION NOTES

- Due to crate fitment, the carburetor is shipped in a separate box and needs to be installed by an engine installer
- Clutch linkage bosses are now drilled and tapped. When using cast-iron exhaust manifolds, lower head bolts may need to be replaced with bolts with shorter heads for clearance
- New for 2009, 502 engines now have a mechanical pump boss!
- Comes with an externally balanced 14" automatic transmission flexplate. Use flywheel P/N 14096987 and 11" clutch assembly for manual transmission applications
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications

12371171

ZZ502 Deluxe Kit

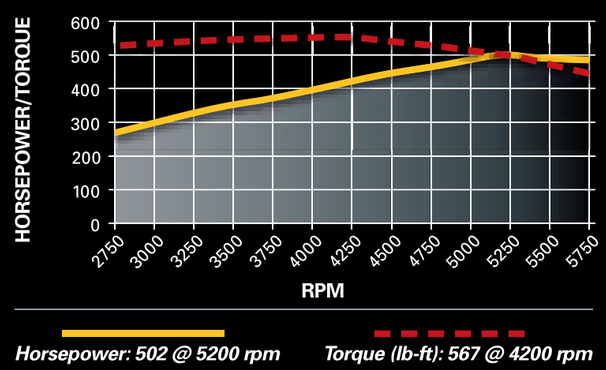
GM Performance Parts offers the ZZ502 Deluxe kit for those who want to build their own deluxe engine.

12568782

502 Partial Engine

This brand-new partial engine includes forged reciprocating components, as well as the balancer, oil pan and timing chain set.

ZZ502/502 DELUXE DYNO CHART



Horsepower: 502 @ 5200 rpm ***Torque (lb-ft): 567 @ 4200 rpm***

POSSIBLE APPLICATIONS*

- **Anything that you want to have over 500 horsepower**
- **The perfect drag racing foundation**
- **A hot rod that you want to get noticed for more than the paint quality**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

ZZ502/502 DELUXE TECH SPECS

Part Number:	19201332	Compression Ratio:	9.6:1
Displacement (cu in):	502	Rocker Arms (P/N 12368082):	Stamped steel
Bore x Stroke (in):	4.47 x 4.00	Rocker Arm Ratio:	1.7:1
Block (P/N 19170540):	Cast-iron with 4-bolt main caps	Distributor (P/N 93440806):	HEI type
Crankshaft (P/N 10183723):	Forged steel	Carburetor (P/N 19170095):	850-cfm
Connecting Rods (P/N 19170198):	Forged steel, shot peened	Water Pump (P/N 19168602):	Aluminum, short-style
Pistons (P/N 12533507):	Forged aluminum	Spark Plugs and Wires:	Included
Camshaft Type (P/N 12366543):	Hydraulic roller	Starter (P/N 12606096):	Included
Camshaft Lift (in):	.527 intake / .544 exhaust	Flexplate (P/N 10185034):	14"
Camshaft Duration (@.050 in):	224° intake / 234° exhaust	Recommended Fuel:	92 octane
Cylinder Heads (P/N 12363390):	Aluminum oval port; 110cc chambers	Ignition Timing:	Base 8° BTDC, 30° Total
Valve Size (in):	2.25 intake / 1.88 exhaust; stainless steel	Maximum Recommended rpm:	5800
		Balanced:	External

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 114.

ZZ502/502 Base

12496963

The DIY foundation for more than 500 horses and tons of torque!

It's simple: We offer the ZZ502/502 Base Engine for the builder who wants the super-strong bottom end and high-flow aluminum oval-port cylinder heads, but also wants to finish the engine his way. That could include a single four-barrel, custom EFI induction system or even a 6-71 supercharger to push through the hood of a '78 Camaro.*

The ZZ502/502 Base Engine uses our new cylinder block casting that is stronger and better-suited to high-performance combinations. (See page 230 for details.) A forged steel crankshaft, forged rods and forged pistons form the reciprocating assembly, while a smooth-operating hydraulic roller camshaft delivers big 0.527/0.544-inch lift. The lightweight aluminum heads boast 110cc combustion chambers and big 2.25-inch intake and 1.88-inch exhaust valves.

With an aluminum intake manifold and a Holley 870-cfm four-barrel carburetor (both available from GM Performance Parts), we rate the ZZ502/502 at 502 horsepower and 567 lb-ft of torque.

What can you get out of it?

- **NEW ENHANCED IRON BLOCK**
- **THE PERFECT FOUNDATION**
- **502 HP / 567 LB-FT TORQUE**

INSTALLATION NOTES

- Clutch linkage bosses are now drilled and tapped. When using cast-iron exhaust manifolds, lower head bolts may need to be replaced with bolts with shorter heads for clearance
- New for 2009, 502 engines now have a mechanical pump boss!
- Comes with an externally balanced 14" automatic transmission flexplate. Use flywheel P/N 14096987 and 11" clutch assembly for manual transmission applications
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications

12371204

ZZ502 Base Kit

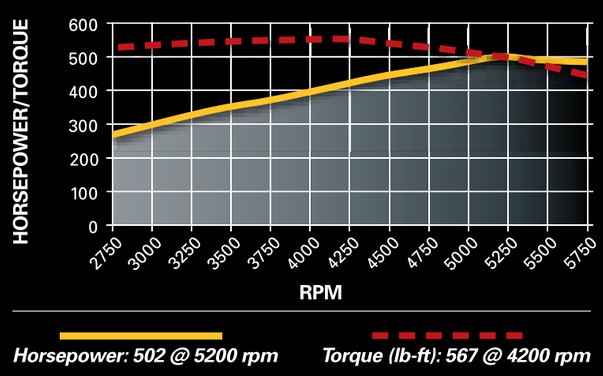
Nothing is quite as satisfying as building your own high-performance Big-Block. With the ZZ502 Base Kit, every part is engineered to work together to deliver 502 horses!

12568782

502 Partial Engine

This brand new partial engine includes the forged reciprocating components, as well as the balancer, oil pan and timing chain set.

ZZ502/502 DYNO CHART



Horsepower: 502 @ 5200 rpm *Torque (lb-ft): 567 @ 4200 rpm*

POSSIBLE APPLICATIONS*

- **Any vehicle that needs big-time power**
- **Big-Block bracket racing**
- **Powerplant for a big-displacement street rod**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

ZZ502/502 BASE TECH SPECS

Part Number:	12496963
Engine Type:	Chevy Big-Block V-8
Displacement (cu in):	502
Bore x Stroke (in):	4.47 x 4.00
Block (P/N 19170540):	Cast-iron with 4-bolt main caps
Crankshaft (P/N 10183723):	Forged steel
Connecting Rods (P/N 19170198):	Forged steel, shot peened
Pistons (P/N 12533507):	Forged aluminum
Camshaft Type (P/N 12366543):	Hydraulic roller
Camshaft Lift (in):	.527 intake / .544 exhaust
Camshaft Duration (@.050 in):	224° intake / 234° exhaust
Cylinder Heads (P/N 12363390):	Aluminum oval port; 110cc chambers
Valve Size (in):	2.25 intake / 1.88 exhaust; stainless steel
Compression Ratio:	9.6:1
Rocker Arms (P/N 12368082):	Stamped steel
Rocker Arm Ratio:	1.7:1
Recommended Fuel:	92 octane
Ignition Timing:	Base 8° BTDC, 30° total
Maximum Recommended rpm:	5800
Balanced:	External

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 114.

Ram Jet 502 with calibrated controller and wiring harness

12499121

Modern performance and unique aesthetics—with classic Big-Block performance

If you're looking to make the ultimate underhood statement, look no further than the incomparable Ram Jet 502. It blends the legendary torque and performance of the Big-Block with a modern port fuel injection system and tunnel ram-style high-rise intake manifold. In short, it's the best of both worlds in a visually stunning presentation.

The bottom end of the Ram Jet 502 is the same sturdy assembly used on other 502-inch crate engines. That includes a stronger cylinder block and all-forged reciprocating assembly. A hydraulic roller camshaft delivers 0.527/0.544-inch lift specs, and aluminum oval-port heads with 2.25-inch/1.88-inch valves serve as the engine's lungs.

The unique Ram Jet fuel injection system stands 11 inches tall at its highest point and consists of a two-piece manifold/plenum assembly, eight injectors, a throttle body, and an updated MEFI 4 controller. Setup instructions are included, making it a simple "plug-and-play" installation.

You'll need to check your ride for clearance before closing the hood over the Ram Jet 502. Then again, it looks so impressive, you may just want to cruise around with the hood off!

DETAILED INSTALLATION INSTRUCTION

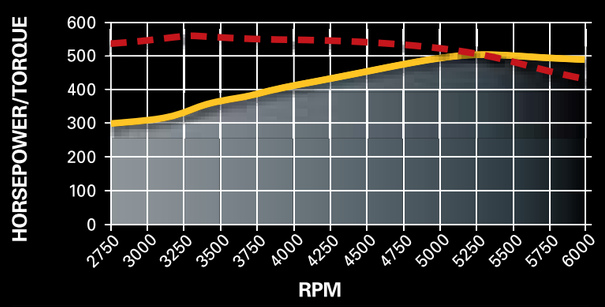
UNIQUE ALUMINUM INTAKE MANIFOLD

502 HP / 565 LB-FT TORQUE

INSTALLATION NOTES

- The Ram Jet 502 requires a 12-volt power source (and ground), coolant, exhaust system, fuel feed and fuel return line (to the fuel tank). An in-tank fuel pump is recommended
- Clutch linkage bosses are now drilled and tapped. When using cast-iron exhaust manifolds, lower head bolts may need to be replaced with bolts with shorter heads, for clearance
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications
- IMPORTANT! For a safe, proper and trouble-free engine break-in, the MEFI 4 computer has a "green" mode that controls rpm during the break-in period. From start-up to the end of the first hour is 4000 rpm, the second hour is 4500 rpm and the third hour is 5500 rpm

RAM JET 502 DYNO CHART



Horsepower: 502 @ 5100 rpm ***Torque (lb-ft): 565 @ 3200 rpm***

POSSIBLE APPLICATIONS*

- **Build a fuel-injected '55-'57 shoebox**
- **Go high-tech with your '32 hot rod**
- **Restification for a show car**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

RAM JET 502 TECH SPECS

Part Number:	12499121
Engine Type:	Chevy Big-Block V-8
Displacement (cu in):	502
Bore x Stroke (in):	4.47 x 4.00
Block (P/N 19170540):	Cast-iron with 4-bolt main caps
Crankshaft (P/N 10183723):	Forged steel
Connecting Rods (P/N 19170198):	Forged steel, shot peened
Pistons (P/N 12533507):	Forged aluminum
Camshaft Type (P/N 12366543):	Hydraulic roller
Camshaft Lift (in):	.527 intake / .544 exhaust
Camshaft Duration (@.050 in):	224° intake / 234° exhaust
Cylinder Heads (P/N 12363390):	Aluminum oval port; 110cc chambers
Valve Size (in):	2.25 intake / 1.88 exhaust; stainless steel
Compression Ratio:	9.6:1
Rocker Arms (P/N 12368082):	Stamped steel
Rocker Arm Ratio:	1.7:1
Distributor (P/N 1104060):	HEI type
Throttle Body (P/N 17113524):	Included
Water Pump (P/N 19168602):	Aluminum, short-style
Flexplate (P/N 10185034):	14"
Recommended Fuel:	92 octane
Ignition Timing:	Base 8° BTDC, 30° Total
Maximum Recommended rpm:	5800
Balanced:	External

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 114.

ZZ572/620 Deluxe

19201333

The biggest, baddest and most powerful Big-Block street engine in our arsenal!

To call the ZZ572/620 a powerful crate engine is like saying Warren Johnson has won a few races. Like "The Professor," the ZZ572/620 is more than the sum of its numbers. It is the ultimate expression of GM Performance Parts' engineering capability, wrapped up in a soul-stirring combination of performance and attitude.

It is not for the faint of heart or the weak of chassis.

We build the ZZ572 by carving out the cylinder bores to 4.560 inches and adding a forged 4.375-inch stroke crankshaft. Aluminum rectangular-port heads with cavernous intake passages complement the airflow capability offered by the humongous piston. And to make sure those cylinders are packed with every cubic centimeter's worth of atmosphere, we use a camshaft with an incredible 0.632/0.632-inch lift and 254/264 duration specifications. A 9.6:1 compression ratio makes the engine totally pump-gas friendly.

GM Performance Parts delivers the ZZ572/620 Deluxe with an 850-cfm carburetor, HEI distributor, aluminum water pump and distinctive orange powder-coated valve covers that proudly proclaim the 572 legend.

The bottom line is 620 horsepower and 650 lb-ft of torque, but like we said, the ZZ572/620 Deluxe crate engine is more than its peak dyno numbers. You feel its power every time one of those big cylinders fires.

DELIVERED FULLY ASSEMBLED

UNIQUE ORANGE-PAINTED ENGINE BLOCK

620 HP / 650 LB-FT TORQUE

INSTALLATION NOTES

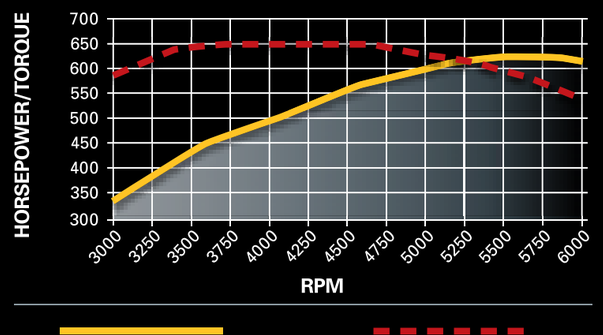
- Due to crate fitment, the carburetor is shipped in a separate box and needs to be installed by an engine installer
- Clutch linkage boss is now drilled and tapped. When using cast-iron exhaust manifolds, lower head bolts may need to be replaced with bolts with shorter heads for clearance
- Requires addition of starter and fuel pump (not included)
- Gen VI tall-deck block has machined mechanical fuel pump boss
- Comes with a 14"automatic transmission flex-plate. Requires internally balanced flywheel for manual transmission applications
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications
- You do have a strong transmission and rear axle, don't you?

12498792

ZZ572/620 Base Engine

The 620 features rectangular port aluminum cylinder heads that deliver 9.6:1 compression ratio in a pump-gas friendly package.

ZZ572/620 DYNO CHART



Horsepower: 620 @ 5500 rpm *Torque (lb-ft): 650 @ 4500 rpm*

POSSIBLE APPLICATIONS*

- **The ultimate hot rod starting point**
- **Pump gas drag racing—just add spray**
- **Wake up the neighborhood—anytime!**
- **Only install if you want to be the biggest dog on the porch**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

ZZ572/620 DELUXE TECH SPECS

Part Number:	19201333
Engine Type:	Chevy Tall Deck Big-Block V-8
Displacement (cu in):	572
Bore x Stroke (in):	4.560 x 4.375
Block (P/N 19212195):	Cast-iron with 4-bolt main caps
Crankshaft (P/N 88961554):	Forged steel
Connecting Rods (P/N 88962926):	Forged steel, shot peened
Pistons (P/N 88962925):	Forged aluminum
Camshaft Type (P/N 88961557):	Hydraulic roller
Camshaft Lift (in):	.632 intake / .632 exhaust
Camshaft Duration (@.050 in):	254° intake / 264° exhaust
Cylinder Heads (P/N 12499255):	Aluminum rectangular port, 118cc chambers
Valve Size (in):	2.25 intake / 1.88 exhaust; stainless steel
Compression Ratio:	9.6:1
Rocker Arms (P/N 12361323):	Aluminum roller style
Rocker Arm Ratio:	1.7:1
Distributor (P/N 88961867):	HEI
Carburetor (P/N 19170095):	850-cfm
Water Pump (P/N 19168602):	Aluminum, short-style
Spark Plugs and Wires:	Included
Flexplate (P/N 12561217):	14"
Recommended Fuel:	92 octane
Ignition Timing:	Base 8° BTDC, 36° Total
Maximum Recommended rpm:	6000
Balanced:	Internal

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Crate Engines include a 24-month or 50,000-mile/80,000-kilometer limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 114.

ZZ572/720R Deluxe

19201334

The nuclear option for bracket racers and street/strip contenders.

A 10-second car is quick, no doubt about it—but the ZZ572/720R could achieve that with a couple of its spark plugs left in the pits. On full boil, this 720-horsepower monster is the king of all Rat engines and is capable of pulling your bracket racer or heads-up challenger down the 1320 in the 9-second range.

While it supports parachute-deploying ETs, the ZZ572/720R's true value lies in its ready-to-rock status when delivered. Rather than waiting weeks for a racing engine shop to build a custom combination, we deliver the ZZ572/720R fully assembled. Just bolt on the included Dominator-style 1090-cfm carburetor, along with a starter and fuel pump (not included), and you're ready to go.

The ZZ572/720R is built with the best parts in the industry, including a 4340 forged steel crankshaft, shot-peened forged rods, forged aluminum pistons with full-floating wrist pins, a louvered windage tray and more. It also uses high-flow, rectangular-port aluminum cylinder heads with 2.25/1.88-inch valves.

A lofty 12:1 compression ratio, along with a solid roller camshaft with 0.714/0.714-inch lift and 266/274-degree duration specs makes this competition-ready crate engine uniquely suited for the strip, as it turns into a monster above 4000 rpm. If you are building the ultimate dual-purpose car, it is suitable for limited forays on the street—as long as you've got an adequate exhaust system and access to a 110-octane fuel pump!

MOST POWERFUL GMPP BIG-BLOCK

MAXIMUM POWER AT HIGHER RPM

720 HP / 685 LB-FT TORQUE

INSTALLATION NOTES

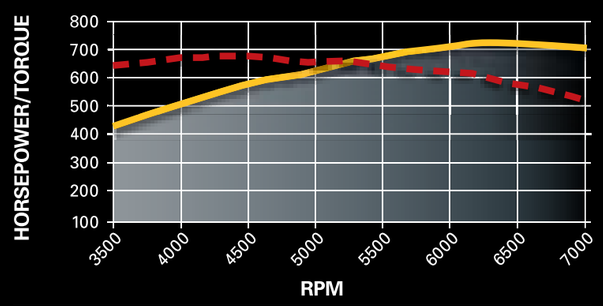
- Due to crate fitment, the carburetor is shipped in a separate box and needs to be installed by an engine installer
- Clutch linkage boss is now drilled and tapped. When using cast-iron exhaust manifolds, lower head bolts may need to be replaced with bolts with shorter heads for clearance
- Requires addition of starter, ignition coil, and fuel pump (not included)
- Gen VI tall-deck block has machined mechanical fuel pump boss
- Comes with a 14"automatic transmission flex-plate. Requires internally balanced flywheel for manual transmission applications
- Designed for pre-1976 street vehicles or any off-road vehicle
- Not intended for marine applications
- Big sticky slicks will help hook up this monster!

12498826

ZZ572/720R Base Engine

GM Performance Parts offers the racing-oriented ZZ572/720R in Base Engine form, allowing the builder to order the long-block assembly and add the induction system, ignition system and other accessories separately.

ZZ572/720R DYNO CHART



Horsepower: 720 @ 6250 rpm

Torque (lb-ft): 685 @ 4500 rpm

POSSIBLE APPLICATIONS*

- **Build a solid 9-second bracket car**
- **A street car with no equal**
- **A show car that shakes the trophies out of the judge's pocket**

**Applications have not been validated. They are merely suggestions of how you might enjoy your GM Performance Parts crate engine. Some applications may affect engine warranty. See page 352 for specific warranty information. Some applications may not be emission-legal; check state and local ordinances.*

ZZ572/720R DELUXE TECH SPECS

Part Number:	19201334	Valve Size (in):	2.25 intake / 1.88 exhaust
Engine Type:	Chevy Tall Deck Big-Block V-8		stainless steel
Displacement (cu in):	572	Compression Ratio:	12:1
Bore x Stroke (in):	4.560 x 4.375	Rocker Arms (P/N 12361323):	Aluminum roller style
Block (P/N 19212195):	Cast-iron with 4-bolt main caps	Rocker Arm Ratio:	1.7:1
Crankshaft (P/N 88961554):	Forged steel	Distributor (P/N 10093387):	Electronic ignition
Connecting Rods (P/N 88962926):	Forged steel, shot peened	Carburetor (P/N 19170096):	1090-cfm Dominator
Pistons (P/N 88963227):	Forged aluminum	Water Pump (P/N 19168602):	Aluminum, short-style
Camshaft Type (P/N 88962216):	Mechanical roller	Spark Plugs and Wires:	Included
Camshaft Lift (in):	.714 intake / .714 exhaust	Recommended Fuel:	110 octane race gas
Camshaft Duration (@.050 in):	266° intake / 274° exhaust	Ignition Timing:	Base 8° BTDC, 36° Total
Cylinder Heads (P/N 88961160):	Aluminum rectangular port, 118cc chambers	Maximum Recommended rpm:	6750
		Balanced:	Internal

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Racing Crate Engines are excluded from limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

For a complete list of parts to complement and finish this engine, turn to page 114.

Complete Your Big-Block Series Crate Engine

Select the parts below to f nish off your crate engine and get running in less time!

12342093
Short Chrome Bowtie Valve Cover
Classic-design, show-quality chrome valve covers with the Chevrolet name and Bowtie logo are manufactured to the standard height and fit most Big-Block engines. May not clear the brake booster on some Corvette models

12363128
Chrome High Torque Mini Starter
Similar to our standard mini starter, but with a show-ready chrome finish, it is designed to deliver powerful starting capability in a compact size; fits 153- or 168-tooth flywheels.

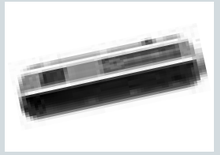
25534355
Breathers
Unique chrome-finish, 1-3/8-inch breathers for the ZZ572 valve covers, with hose clamp-style attachment and raised Bowtie logo. Kit includes 2 breathers. Use with oil baffle tube P/N 88962074 (two required).

25534374
Orange Powder-Coated Valve Covers
Racing-inspired, tall aluminum valve covers in orange, with raised Chevrolet name and Bowtie logo.

12361146
High Torque Mini Starter
Designed to deliver powerful starting capability in a compact size, this high-performance gear-reduction starter fits 153- or 168-tooth flywheels.

88961867
Distributor, Aluminum Billet HEI
High-performance distributor with a CNC-machined aluminum housing, ball bearing guide, oversized shaft and long-sintered bushing for durability. It also has mechanical and vacuum advance. Brass terminal cap. Connector P/N 12167658 attaches tach and 12-volt power supply wire.

12495488
Custom Aluminum Valve Covers
Great-looking die-cast aluminum valve covers are black, with brushed-aluminum accents and the Chevrolet/Bowtie logos. The covers can be custom-finished with engine designation badges (see page 252).



12606096
Lightweight Starter
This lightweight gear-reduction starter is compatible with 14", 168-tooth flywheels.

93440806
HEI Distributor
A must for engines with a steel roller cam, this high-quality distributor has adjustable advance curve for high-performance combinations.

19202588
Valve Covers, "427 CHEVROLET," Natural Appearance
One of our newest designs and the perfect complement for a 427-inch Big-Block, these aluminum covers have a natural finish and feature a raised 427 Chevrolet logo.

12355614
Fuel Pump, Street Performance (Chevy Big-Block)
For use on carbureted Big-Block engines built from 1965 through 1990. Pump has 7 psi shutoff pressure and a free-flow rating of 100 gph. Lower housing can be rotated to reposition inlet and outlet ports.

12342071
Air Cleaner
A classic in chrome, this 14-inch round air cleaner has the CHEVROLET name and a Bowtie wing nut. It fits most two- and four-barrel carburetors.

25534323
Black Powder-Coated Valve Covers
Racing-inspired tall aluminum valve covers are powder-coated black and feature raised Chevrolet and Bowtie logo identification in brushed aluminum.

12341999
Fuel Pump Block-Off Plate
Plate has stamped Bowtie logo, and a special non-asbestos gasket is included.

19170093
Carburetor, Holley 770-cfm
Holley's 4160-style 770-cfm four-barrel carburetor is perfect for many crate engines. It has show-quality polished details, center-hung fuel bowls, vacuum secondaries and power valve blowout protection.

12371244
Natural Finish Valve Covers
Racing-inspired, tall aluminum valve covers with raised Chevrolet name and Bowtie logo.

12342024
Chrome Water Neck
Add a bit of chrome to your engine with this detailed water neck. It includes a neoprene O-ring and chrome fasteners. It fits 1966-1975 Camaro and Chevelle models with V-8 engines.

19170096
Carburetor, Holley 1090-cfm
Use this carburetor with intake manifold P/N 88962218 to maximize the horsepower on the ZZ572/620 engine. Tuning required.

12341993
Push-In Oil Filler Cap
Simple, yet attractive, this chrome cap features the Chevy Bowtie logo.

19168602
Aluminum Water Pump, Short-Style
Short-leg, standard-rotation water pump for Big-Block engines features a reinforced snout and large-diameter hub with dual bolt patterns. For use with early-design V-belt drive systems.

88965829
Carburetor Spacer, Dual Plane, One-Inch
Fully machined from billet aluminum, this lightweight, one-inch spacer carries the GM Performance Parts logo on the front and rear. It fits Quadrajet-type and Holley carburetors.

ALSO AVAILABLE

Bowtie Air Cleaner Nut	12341985
Electric Fuel Pump	6472657
Electric Fuel Pump, High Output	25115899
Engine Oil Primer	12368084
Fan Blade—5 Blade (Serpentine)	15563127
Fan Blade—5 Blade (V-belt)	15989194
Fan Clutch (Serpentine)	19150657
Fan Clutch (V-belt)	88961767
Fan Studs—(Serpentine, 4 req.)	382919
Fuel Filter	854619
Fuel Filter	859619
Fuel Pressure Regulator	10185094
Fuel Pressure Regulator Kit	171135361
Motor Mount (2 req.)	15529452
Motor Mount Bolt (2 req.)	460308
Motor Mount Bracket (2 req.)	14067103
Roller Rocker Arm Set, 1.7:1 Ratio	12361323
Serpentine Accessory Belt Drive System - Deluxe	19172805
Serpentine Accessory Drive Belt System, without A/C	19172806
Spark Plug Wires and Loom Kit	12495078
SuperMatic 4L85E Transmission	19154550
Transmission Controller	12497316
Transmission Mount (4L60 and 4L80)	15767858
Transmission Mount (700R4)	22188145
Transmission Mount (TH400)	17990778
Valve Cover - Chrome Tall Bowtie	12342099
Wire Loom Kit - Chrome	12342049

Available for purchase online at gmperformanceparts.com

From Left: CT400, CT350, CT525

Circle Track

GM Performance Parts Circle Track Crate Engines Deliver Winning Power and Great Durability

GM Performance Parts grew out of factory-backed racing programs, so if there's one thing we know, it's giving racers the tools they need to win. In the highly competitive and budget-conscious world of circle track racing that's proven, dependable performance you can count on—lap after lap, and race after race.

From the entry-level, 350-hp CT350 Small-Block to the 525-hp CT525 LS-Series V-8, our Circle Track crate engines are designed to match your performance needs with series requirements. In fact, many series specify the use of GM Performance Parts sealed crate engines.

More than a ready-built racing engine, our Circle Track crate engines deliver dependable performance, meaning you'll spend less time under hood. That saves time and money during the racing season, allowing you to focus on more important aspects of your racing program. All of our engines are manufactured with new parts—including the cylinder block, heads and reciprocating assembly—and include a race-ready intake manifold and oil pan.

Whether you've got a budget weekend modified or a dedicated late-model racing program, GM Performance Parts has the crate engine to keep you in front of the competition!

Short Track Racing Overview

Since our first circle track racing engine was introduced in 2003, GM Performance Parts has played an increasingly integral part in a growing number of racing series throughout North America. We offer value-driven, dependable, certified-horsepower combinations with tamper-resistant components that help ensure a level playing field for closer, more exciting competition.

CORR Off Road Racing

The Championship Off Road Racing Series (www.corracing.com) is one of the most demanding forms of motorsports for both the driver and racing vehicle. GM Performance Parts supports CORR through a partnership in the Pro Manufacturer class, which features the LS7 crate engine as the spec power plant. Pro Manufacturer vehicles use a spec chassis, along with the LS7 spec engine, to enable an entry-level professional racing class that encourages new, lower-budget competitors to participate. Entry-level, however, doesn't mean easy—the competition is fierce and very close. It is one of the most exciting racing series on dirt or asphalt.

The advantage of the LS7 crate engine in the Pro Manufacturer class is its relative low cost—much less expensive than the custom-built racing engines used in CORR's Pro-2 and Pro-4 classes. The LS7, of course, is the racing-derived engine that's standard in the Corvette Z06. It's filled with lightweight, high-rpm components such as titanium connecting rods. It also packs 505 horsepower and 470 lb-ft of torque!

Catch CORR racing when it comes to an off-road venue near you. The high-flying racing action is unlike anything this side of Baja!

ASA Late Model Series

A professional racing series with stock car excitement, the ASA Late Model Series (www.asalatemodels.com) delivers racing thrills with up-and-coming drivers who might just be on the grid at the Daytona 500 in a few years. In fact, many ASA Late Model drivers earned their stripes in the series and moved on to NASCAR careers.

The popularity of stock car racing has helped make the ASA Late Model series the fastest-growing late-model racing series in the United States. The series is expanding its Heartland and upper-Midwest coverage to now include the Southeast.

General Motors is a long-time supporter of ASA racing, along with other partner companies such as Choice Hotels and Hoosier tires. GM's support is manifested in the development of a crate engine program that has helped maintain costs for racing teams and encourage more even racing action.

The future looks bright for ASA Late Model racing, with more tracks around the country booking events. They're also working with GM on spec crate engines, body packages and other initiatives that promise to attract new racers and foster more exciting racing—the two elements that put fans in the stands!

FASTRAK Racing Series

With a philosophy of giving the fans a great show and competitors an affordable venue for racing, FASTRAK is a touring dirt-track series that uses GM Performance Parts Circle Track crate engines (the CT350 and CT400) to deliver on their promise.

FASTRAK brings its unique form of racing to dirt tracks in six regions around the country, including 23 states. Its growing popularity has attracted more racers, more fans and bigger prize purses. Go to www.fastrakracing.com to find a race near you.

IMCA Racing

Organized in 1915, the International Motor Contest Association (IMCA) is the oldest active auto racing sanctioning body in the United States. Today, IMCA racing is done in the dirt with late-model-type race cars and the famous modified cars. As with other proactive racing series that seek a balance between cost and competition, IMCA delivers with affordable short-track racing with consistent rules and tightly controlled specs, including GM Performance Parts crate engines.

IMCA's SportMod class features CT350 engines, while the CT400 was recently introduced in the appropriately named Crate Model class, which features full-bodied race cars and opposite-locking racing action. Go to www.imca.com for more information.

NeSmith Chevrolet Dirt Late Model Series and Weekly Racing Series

It may be a mouthful to pronounce, but this racing series is the simple answer to the question of crate engines enabling a new breed of racers. GM Performance Parts crate engines have empowered a new generation of dirt-track racers with affordable, reliable and certified performance.

The NeSmith Dirt Late Model Series slides around tracks throughout the South, from Florida to Mississippi, bringing grassroots racing to enthusiastic fans. Check out action at www.stormpayracing.com.

CT350

88958602

Competition-proven performance at an affordable price!

GM Performance Parts' most economical Circle Track crate engine, the CT350 delivers 350 horsepower from a classic 350-cubic-inch combination. It just the thing budget-conscious racers can depend on for competitive performance and low-maintenance durability.

The CT350 is based on the popular 350 HO high-performance street crate engine, including a stout four-bolt main block and Vortec-style iron cylinder heads. The Vortec heads and unique dual-pattern camshaft help deliver more than 300 lb-ft of torque at 2000 rpm and hold it above that mark through 5500 rpm. It peaks at 390 lb-ft at 3800 rpm. With that much pulling power, you can hold a gear longer, keeping the engine in its sweet spot for quicker laps.

We complete the CT350 with an 8-quart circle track racing oil pan, balancer, HEI distributor and an aluminum high-rise, dual-intake manifold. Add your carburetor, starter, spark plugs, wires and water pump—and you're ready to take the green flag.

Your GM Performance Parts dealer has all the parts you need to complete the engine, so you can spend less time worrying about chasing parts and more time concentrating on winning.

ECONOMICAL CIRCLE TRACK ENGINE

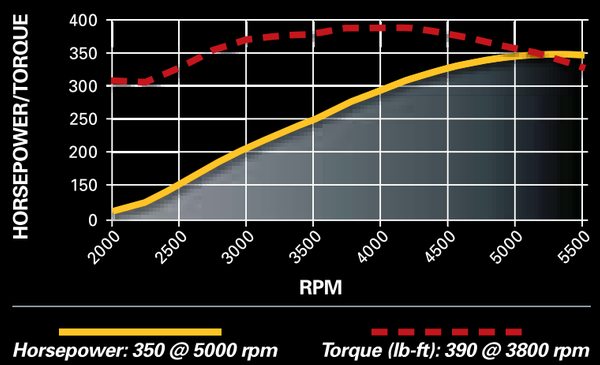
VORTEC HEADS DELIVER BIG TORQUE

350 HP / 390 LB-FT TORQUE

INSTALLATION NOTES

- Requires addition of carburetor, starter, water pump, plug wires and exhaust system (not included)
- Requires an externally balanced flywheel (not included). See page 175 for flywheel selection
- The 8-quart circle track oil pan is 8 inches deep at the sump. It will clear most GM rear-steer chassis with stock engine location

CT350 DYNO CHART



Horsepower: 350 @ 5000 rpm

Torque (lb-ft): 390 @ 3800 rpm

FEATURES/BENEFITS

- **Track-tested durability!**
- **Great mid-range power!**
- **Best horsepower value around!**
- **Factory-sealed for equal competition**
- **Not for street or marine use**

CT350 TECH SPECS

Part Number:	88958602
Engine Type:	Chevy Small-Block V-8
Displacement (cu in):	350
Bore x Stroke (in):	4.00 x 3.48
Block (P/N 10105123):	Cast-iron with 4-bolt main caps
Crankshaft (P/N 14088526):	Nodular iron
Connecting Rods (P/N 10108688):	Powdered metal steel
Pistons (P/N 12514101):	Hypereutectic aluminum
Camshaft Type (P/N 24502476):	Hydraulic flat tappet
Camshaft Lift (in):	.435 intake / .460 exhaust

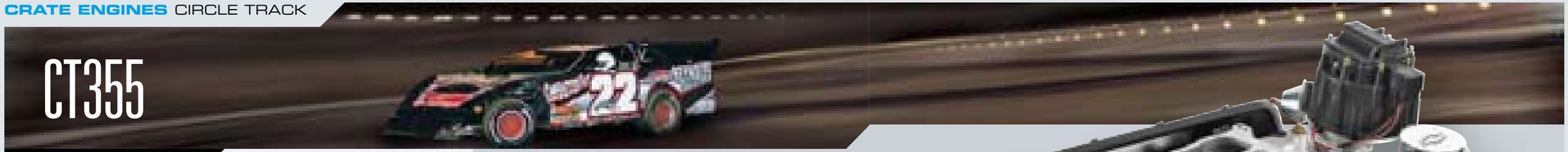
Camshaft Duration (@.050 in):	212° intake / 222° exhaust
Cylinder Heads (P/N 12558060):	Vortec iron; 64cc chambers
Valve Size (in):	1.94 intake / 1.50 exhaust
Compression Ratio:	9.1:1
Rocker Arms (P/N 10089648):	Stamped steel
Rocker Arm Ratio:	1.5:1
Recommended Fuel:	92 octane
Ignition Timing:	Base 10° BTDC, 32° Total
Maximum Recommended rpm:	5500

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Racing Crate Engines are excluded from limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.



CT355

88958603

We adapted the ZZ4 350 to the racetrack with winning results!

Renowned for its deep reserve of torque, responsive power and great dependability, the ZZ4 350 crate engine is one of GM Performance Parts' most popular crate engines—and our engineers have adapted that combination as a winning, affordable racing engine in the CT355!

The CT 355's strength lies in its ZZ4 bottom end, which includes an iron block with four-bolt mains, a forged-steel crankshaft and high-silicon pistons. A steel hydraulic roller camshaft actuates valves in the high-flow aluminum ZZ4 heads, which boast 163cc intake ports and 1.94/1.50-inch valves. This combination makes good power and great torque: 355 hp and 405 lb-ft.

The CT355 includes a racing oil pan with a dual kick-out design. It also includes a valve cover breather kit, a special "kool nut" rocker arm nut design, a dual-plane aluminum high-rise intake manifold, cast-iron water pump, HEI distributor and balancer. You add the carburetor, starter, spark plugs and wires—all available from GM Performance Parts.

Invest in the CT355 and you'll see a return in the winner's circle!

RACING VERSION OF THE ZZ4

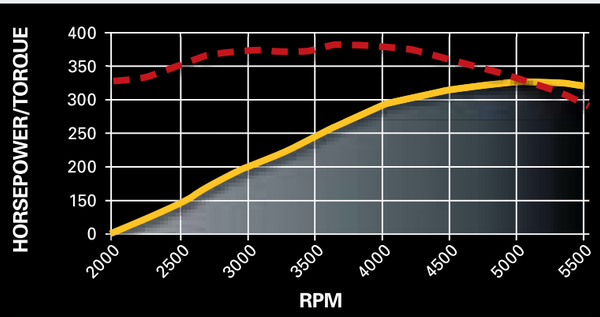
HIGH-FLOW ALUMINUM HEADS

BUILT FOR COMPETITION

INSTALLATION NOTES

- Requires addition of carburetor, starter, plug wires and exhaust system (not included)
- Requires an externally balanced flywheel (not included). See page 175 for flywheel selection.
- The 8-quart circle track oil pan is 7 inches deep at the sump. It will clear most GM rear-steer chassis with stock engine location.

CT355 DYNO CHART



Horsepower: 355 @ 5250 rpm

Torque (lb-ft): 405 @ 3500 rpm

FEATURES/BENEFITS

- **Upgraded components for the long run!**
- **Great horsepower value!**
- **Factory-sealed for equal competition**
- **Not for street or marine use**

CT355 TECH SPECS

Part Number:	88958603
Engine Type:	Chevy Small-Block V-8
Displacement (cu in):	350
Bore x Stroke (in):	4.00 x 3.48
Block (P/N 10105123):	Cast-iron with 4-bolt main caps
Crankshaft (P/N 12556307):	Forged steel
Connecting Rods (P/N 10108688):	Powdered metal steel
Pistons (P/N 10159436):	Hypereutectic aluminum
Camshaft Type (P/N 10185071):	Steel hydraulic roller
Camshaft Lift (in):	.474 intake / .510 exhaust

Camshaft Duration (@.050 in):	208° intake / 221° exhaust
Cylinder Heads (P/N 12556463):	Aluminum; 58cc chambers
Valve Size (in):	1.94 intake / 1.50 exhaust
Compression Ratio:	10:1
Rocker Arms (P/N 10089648):	Stamped steel
Rocker Arm Ratio:	1.5:1
Recommended Fuel:	92 octane
Ignition Timing:	Base 10° BTDC, 32° Total
Maximum Recommended rpm:	5800

NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Racing Crate Engines are excluded from limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

CT400

88958604

Fast Burn heads help this powerhouse give you a fast race car!

GM Performance Parts' 23-degree Fast Burn heads have large, 210cc intake runners and 2.00/1.55-inch valves, along with specially shaped combustion chambers that make quick, efficient work of the air/fuel charge. When partnered with an aggressive high-lift camshaft, you've got a great balance of horsepower and torque—and that's exactly what you get with the CT400 racing engine.

The foundation for the CT400 is our Fast Burn 385 crate engine, including a sturdy iron block with four-bolt mains, a forged crankshaft and high-strength pistons. We've tuned the CT400 for more power, and it's rated at an even 400 horses and 400 lb-ft of torque.

Rounding out the package is a racing oil pan with a dual kick-out design, as well as a valve cover breather kit, a special aluminum roller rocker arm design, a single-plane aluminum high-rise intake manifold and balancer. You add the water pump, carburetor, distributor, starter, spark plugs and wires. They're all available from your GM Performance Parts dealer.

With Fast Burn heads on your side, you'll make quick work of the competition.

FAST BURN ALUMINUM HEADS

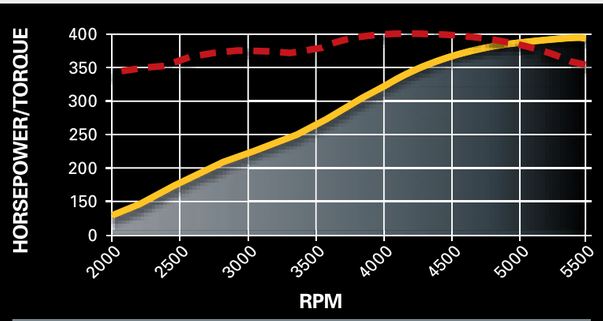
4-BOLT MAINS, FORGED CRANKSHAFT

400 HP / 400 LB-FT TORQUE

INSTALLATION NOTES

- Requires addition of carburetor, starter, ignition, plug wires, water pump and exhaust system (not included)
- Requires an externally balanced flywheel (not included). See page 175 for flywheel selection
- The 8-quart circle track oil pan is 7 inches deep at the sump. It will clear most GM rear-steer chassis with stock engine location

CT400 DYNO CHART



Horsepower: 400 @ 5500 rpm *Torque (lb-ft): 400 @ 4500 rpm*

FEATURES/BENEFITS

- **High-revving matched components!**
- **A fraction of the price of a custom engine!**
- **Factory-sealed for equal competition**
- **Not for street or marine use**

CT400 TECH SPECS

Part Number:	88958604
Engine Type:	Chevy Small-Block V-8
Displacement (cu in):	350
Bore x Stroke (in):	4.00 x 3.48
Block (P/N 10105123):	Cast-iron with 4-bolt main caps
Crankshaft (P/N 12556307):	Forged steel
Connecting Rods (P/N 10108688):	Powdered metal steel
Pistons (P/N 10159436):	Hypereutectic aluminum
Camshaft Type (P/N 10185071):	Steel hydraulic roller
Camshaft Lift (in):	.474 intake / .510 exhaust
Camshaft Duration (@.050 in):	208° intake / 221° exhaust
Cylinder Heads (P/N 12464298):	Fast Burn aluminum; 62cc chambers
Valve Size (in):	2.00 intake / 1.55 exhaust
Compression Ratio:	9.6:1
Rocker Arms (P/N 12367345):	Aluminum; roller style
Rocker Arm Ratio:	1.5:1
Recommended Fuel:	92 octane
Ignition Timing:	Base 10° BTDC, 32° Total
Maximum Recommended rpm:	5800

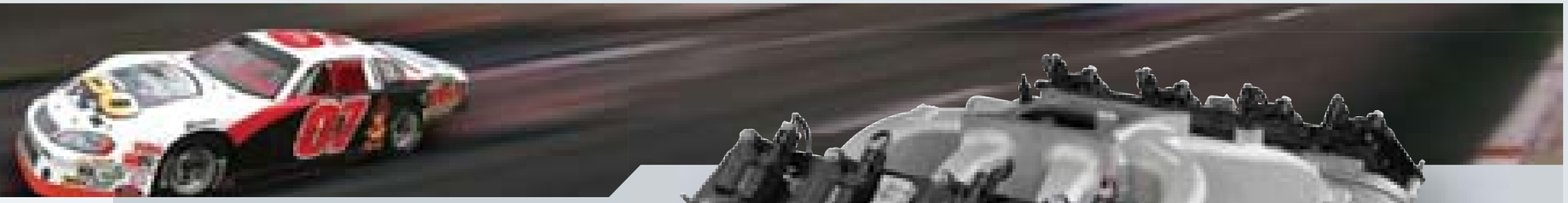
NOTE: *Distributor with melonized steel gear MUST be used with long blocks and partial engines with steel camshafts, or engine damage will occur.*

Available for purchase online at gmperformanceparts.com

GM Performance Parts Racing Crate Engines are excluded from limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

CT525



19171821

Corvette's powerful LS3 engine adapted to racing!

Introduced last year, our CT525 Circle Track crate engine is based on the latest-generation "LS" engine family and delivers serious power for serious racing series, including Super Late Model and similar. It is rated at 525 hp and 471 lb-ft of torque!

This 6.2L engine is similar to the LS3 V-8 that is standard in the Chevrolet Corvette, but we've adapted it to circle track racing with a carburetor intake manifold, 6-quart racing oil pan and more. The engine is lightweight and strong, using an aluminum block with cross-bolted six-bolt main caps and high-flow LS3 rectangular-port cylinder heads.

The CT525 comes with coil-near-plug ignition, a water pump, exhaust manifolds and SFI Certified balancer. All that's needed to complete the assembly is a carburetor, starter and our LSX ignition controller, P/N 19171130. All the necessary parts are available from GM Performance Parts.

GM Performance Parts' LS engines are revolutionizing circle track racing with unprecedented power for the money. Choose the CT525 for your race car and join the LS revolution!

BASED ON THE LS3 6.2L ENGINE

ALUMINUM DEEP-SKIRT BLOCK

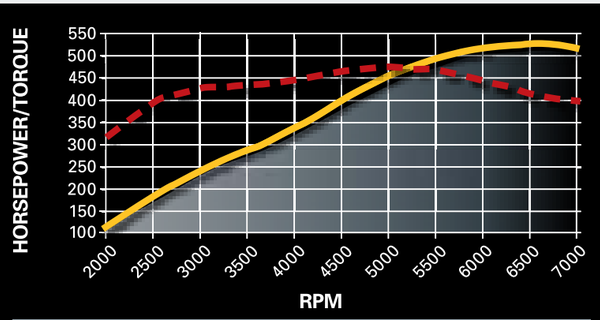
525 HP / 471 LB-FT TORQUE

INSTALLATION NOTES

- Use LSX ignition controller P/N 19171130 (page 288, not included).
- Requires addition of carburetor, starter, exhaust system, and front accessory drive system.
- Includes 14-inch 168-tooth automatic transmission flexplate.
- The 6 quart circle track oil pan is designed to clear most GM rear-steer chassis with stock engine location. Requires external oil filter and cooler (will increase capacity to approximately 8 quarts).

NOTE: Final production version may differ slightly in content from photo shown.

CT525 DYNO CHART



Horsepower: 525 @ 6700 rpm

Torque (lb-ft): 471 @ 5000 rpm

FEATURES/BENEFITS

- **The "Next Big Thing" in short track racing engines**
- **Best racing power-per-dollar value yet!**
- **New technology with a familiar 4-barrel carb**
- **Not for street or marine use**

CT525 TECH SPECS

Part Number:	19171821
Engine Type:	LS Series Gen IV Small-Block V-8
Displacement (cu in):	376 cu in (6.2L)
Bore x Stroke (in):	4.065 x 3.62 (103.25 x 92mm)
Block (P/N 12584727):	Cast-aluminum with 6-bolt, cross-bolted main caps
Crankshaft (P/N 12597569):	Nodular iron
Connecting Rods (P/N 12617570):	Powdered metal
Pistons (P/N 19168089):	Hypereutectic aluminum
Camshaft Type (P/N 12480110):	Hydraulic roller
Valve Lift (in):	.525" intake / .525" exhaust
Camshaft Duration (@.050 in):	226° intake / 236° exhaust

Cylinder Heads (P/N 12615879):	LS3 rectangle port; aluminum as-cast with 68cc chambers
Valve Size (in):	2.165 intake / 1.59 exhaust
Compression Ratio:	10.7:1
Rocker Arms (P/N 12569167 int):	Investment-cast, roller trunnion
Rocker Arms (P/N 10214664 exh):	Investment-cast, roller trunnion
Rocker Arm Ratio:	1.7:1
Recommended Fuel:	92 octane
Maximum Recommended rpm:	6700
Reluctor Wheel:	58X
Balanced:	Internal

Available for purchase online at gmperformanceparts.com

GM Performance Parts Racing Crate Engines are excluded from limited warranty.

GM Performance Parts does not utilize any used or remanufactured parts in this crate engine.

GM | Parts

As part of General Motors, GM Performance Parts is able to offer a wide and diverse range of crate engines and partial engines beyond our high-performance Small-Block, Big-Block and LS engines. They are based on regular-production engines and make great swap choices for replacing a tired engine, while also enabling creative engine builders to start with an economical production engine and add their power-building accessories.

The engines are generally delivered fully assembled (minus the induction, ignition and starting systems) and each is backed by a strong warranty. (Coverage depends on the engine and application.)

See your GM Performance Parts dealer for more details and ordering information.

NOTE: *Engines depicted in photographs are representative of several part numbers and may not show all items included.*

LS1

88894086

It's the engine that started the LS revolution and GM Performance Parts offers it in a convenient, production-based package. It is delivered as replacement long block, including the oil pan and valve covers. Swap on your intake system and accessories to complete the engine. With production accessories, the LS1 is good for 350 economical horsepower.

LS6

89017349

The ultimate version of the Gen III LS series was the LS6 that was offered the C5 Corvette Z06. This brand-new, production-based engine assembly is rated at 405 horsepower and comes with a Corvette oil pan. It also includes the valve covers, water pump and more. Swap on your high-flow intake system and the LS6 is ready power your project vehicle.

4.8L LR4

12491851

This economical 4.8L LS-series engine serves as the entry-level V-8 in many GM full-size trucks, where it also known as the Vortec 4800. It delivers all of the strength, durability and performance attributes of its larger-displacement cousins. It uses the same iron cylinder block as the 5.3L LS, but has a smaller stroke. It is rated at 275 horsepower. Available in new and remanufactured options for 1999-2004 applications.

6.0L LQ4/LQ9

12491857

Used in a variety of 2001-05 GM trucks and SUVs, our iron-block 6.0L LS-series engine offers big power and exceptional torque (up to 325 horsepower and 370 lb-ft of torque, depending on the application). Our affordable 6.0L engine assembly is delivered without induction or ignition systems, and is offered in brand-new or remanufactured packages.

5.3L LM7/L59

12491854

Used on thousands of GM trucks, SUVs and vans since 1999, the 5.3L V-8 that's also known as the Vortec 5300, is respected for its great performance and efficiency. Horsepower is rated at 285, with torque at approximately 330 lb-ft. GM Performance Parts offers the 5.3L in new and economical remanufactured packages for 1999-2004 applications

2.2L L61

12607031

The 2.2L L61 engine is the same production engine used in thousands of GM small cars, such as the Cavalier, Cobalt, HHR, Sunfire, G5 and more. It comes fully assembled and ready to install—or build it up to higher performance standards and turn your compact commuter car into a compact performer!

Available for purchase online at gmperformanceparts.com

GM Parts Crate Engines include a 36-month or 100,000-mile/160,000-kilometer limited warranty when installed in a recommended application.

4.3L LU3

12491869

Based on the architecture of the original Small-Block V-8, but minus two cylinders, the 4.3L V-6—also known as the Vortec 4300—is a popular and powerful motivator in thousands of GM trucks. Engine assemblies are available in new or economical remanufactured options (reman engines exclude oil pan and valve covers), but all are built to the exacting standards of regular-production engines.

8.1L L18

89017618

The largest regular-production Big-Block engine is the 8.1L L18 engine used in a variety of heavy-duty GM trucks. This workhorse uses durable cast-iron cylinder block and cylinder heads castings and features later-style front camshaft sensing. Depending on the application, the L18 engine produces 225-340 horsepower and up to 455 lb-ft of tow-anything torque. Our 8.1L engine assemblies are all-new.

5.7L Gen 0

10067353

The classic 350 is offered here in our most economical Small-Block engine assembly. Designed to replace production engines used from 1970-1985, it features a durable, yet value-driven, short-block assembly and iron cylinder heads with early-style perimeter hold-downs. Better still, it includes a stronger four-bolt main block and smooth roller camshaft.

5.7L Gen 1

12568758

This basic 5.7L/350-cubic-inch is designed for 1987-and-later truck applications, as it uses the later-style one-piece rear main seal and cylinder heads with center-style valve cover hold-downs. But it is adaptable to almost unlimited Small-Block applications. The bottom end is durable, with four-bolt mains. Additional details include a gear-driven oil pump assembly and a machined fuel pump pad, but no hole for the fuel pump pushrod.

LT1

88894195 *(While supplies last)*

The LT1 formed a unique chapter in the Small-Block's history. Its high-flow aluminum heads gave Corvettes, F-cars and the 1994-96 Impala SS a serious dose of muscle car excitement. Our LT1 replacement engine is all-new and makes a great replacement for your tired original. Swap over your intake system and accessories to complete the engine.

7.4L L19/L29

12491355

Our 7.4L engine assembly delivers the big torque you need for pulling a trailer and other heavy loads. A four-bolt main block enhances strength, and a later-style one-piece rear main seal reduces the chance for an oil leak. Designed for trucks, SUVs and vans built from 1980-2000; offered in new and remanufactured packages.

4.2L I-6 LL8

12575091

Introduced in GM's midsize SUVs, including the Chevy TrailBlazer and GMC Envoy, the unique 4.2L inline-six engine delivers exceptional torque (276 lb-ft) and responsive horsepower (285). The engine assembly requires induction, ignition and starting systems, along with other accessories and production-style controller when not used as a direct replacement to re-power a vehicle

HT 3.4L V-6

12363230 *(While supplies last)*

Our 3.4L V-6 is a replacement for the tired 2.8L V-6 in your 1982-85 S-series truck or SUV. Its larger displacement and higher-performance combination delivers 160 horsepower and 194 lb-ft of torque—a full 50 horses and 46 lb-ft more than stock! It comes assembled with the heads, valve covers, balancer, front cover and flexplate.

Available for purchase online at gmperformanceparts.com

GM Parts Crate Engines include a 36-month or 100,000-mile/160,000-kilometer limited warranty when installed in a recommended application.

Small Block Components

It's America's favorite V-8 engine and when you're building one for your early Camaro, '57 Bel Air or Monte Carlo SS, you want nothing but the best for your Chevy Small-Block. That's what you get from GM Performance Parts—Small-Block components designed, tested and dyno-proven by factory engineers, all backed by a comprehensive warranty.

With more than 50 years of Small-Block building experience, we know the best methods for building dependable power—whether you're looking to win races at the track or accolades on cruise night. It all starts with basics: genuine, brand-new GM cylinder blocks, rotating parts, cylinder heads, intake manifolds and more. Don't settle for used or reconditioned parts when GM Performance Parts are all-new and competitively priced.

GMPP delivers factory-engineered performance from the company that introduced the legendary Small-Block. With more than half a century of production development and racing behind us, no one has more experience building Small-Block power.

Whether you're building a budget street machine or a competitive race car for the drag strip or circle track, GMPP has everything you need to build a classic American performance car or truck. You supply the baseball, hot dogs and apple pie.

Bowtie Sportsman Block

Chevy Small-Block Quick Reference Chart

CAST-IRON SMALL-BLOCKS

Part Number	Cast Number	Deck Height	Lifter Pattern	Cyl Wall	Bore Range	Main Bolt	Main Bolt Degree	Cap Material	Crank Jnl Size	Oiling	Seal Type	Max Stroke	Weight (lbs)	Max HP	Usage	Page Number
10105123	14093638	9.025"	Std	Open	4.000"–4.030"	4	Straight	Grey iron	350	Wet	1 pc	3.75"	181	350	Street	135
88962516	—	9.025"	Std	Open	4.005"–4.030"	4	Straight	Grey iron	350	Wet	1 pc	3.80"	181	450	Street	135
10066034	—	9.025"	Std	Open	4.000"–4.030"	4	Straight	Grey iron	350	Wet	2 pc	3.75"	181	350	Street	135
10185047	10051184	9.025"	Std	Siamese	3.980"–4.090"	4	Straight	Grey iron	350	Wet	1 pc	3.75"	182	450	Amateur	136
12480174	10051184	9.025"	Std	Siamese	3.980"–4.155"	4	20°	Nodular	350	Wet	1 pc	3.75"	196	500	Amateur	136
12480047	10051184	9.025"	Std	Siamese	3.980"–4.155"	4	20°	Nodular	350	Wet	2 pc	3.75"	208	500	Amateur	137
12480175	10051184	9.025"	Std	Siamese	4.117"–4.155"	4	20°	Nodular	350	Wet	1 pc	3.75"	196	500	Amateur	137
12480157	10051184	9.025"	Std	Siamese	4.117"–4.155"	4	20°	Nodular	350	Wet	2 pc	3.75"	196	500	Amateur	137
12480049	10051184	9.025"	Std	Siamese	3.980"–4.155"	4	20°	Nodular	400	Wet	2 pc	3.75"	208	500	Amateur	137
12480159	10051184	9.025"	Std	Siamese	4.117"–4.155"	4	20°	Nodular	400	Wet	2 pc	3.75"	196	500	Amateur	137
24502503	10051184	9.025"	Std	Siamese	3.980"–4.155"	4	20°	8620 steel	350	Wet	2 pc	3.75"	208	700	Pro	139
12480046	10051184A	9.025"	Std	Siamese	4.116"–4.185"	4	17°	4140 steel	350	Dry	2 pc	3.75"	192	800	Pro	140

SHORT DECK CAST-IRON BLOCK

Part Number	Cast Number	Deck Height	Lifter Pattern	Cyl Wall	Bore Range	Main Bolt	Main Bolt Degree	Cap Material	Crank Jnl Size	Oiling	Seal Type	Max Stroke	Weight (lbs)	Max HP	Usage	Page Number
12480050	12480050	8.700"	Std	Siamese	3.980"–4.190"	4	20°	8620 steel	283	Dry	2 pc	3.48"	216	800	Pro	139
24502650	24502650C	8.325"	Std	Siamese	3.980"–4.185"	4	20°	8620 steel	283	Dry	2 pc	3.25"	167	800	Pro	139

SB2.2 BLOCKS

Part Number	Cast Number	Deck Height	Lifter Pattern	Cyl Wall	Bore Range	Main Bolt	Main Bolt Degree	Cap Material	Crank Jnl Size	Oiling	Seal Type	Max Stroke	Weight (lbs)	Max HP	Usage	Page Number
12480097	10051184A	9.025"	SB2.2	Siamese	4.116"–4.185"	4	17°	4140 steel	283	Dry	2 pc	3.75"	192	800	Pro	140
12480098	10051184A	9.025"	SB2.2	Siamese	4.116"–4.185"	4	17°	4140 steel	350	Dry	2 pc	3.75"	192	800	Pro	140

ROCKET BLOCK

Part Number	Cast Number	Deck Height	Lifter Pattern	Cyl Wall	Bore Range	Main Bolt	Main Bolt Degree	Cap Material	Crank Jnl Size	Oiling	Seal Type	Max Stroke	Weight (lbs)	Max HP	Usage	Page Number
22551788	22551656	9.025"	None	Siamese	4.166"–4.185"	4	17°	4140 steel	283	Dry	2 pc	4.125"	196	800	Pro	N/S

ALUMINUM SMALL-BLOCKS

Part Number	Cast Number	Deck Height	Lifter Pattern	Cyl Wall	Bore Range	Main Bolt	Main Bolt Degree	Cap Material	Crank Jnl Size	Oiling	Seal Type	Max Stroke	Weight (lbs)	Max HP	Usage	Page Number
10185075	10134398	9.025"	Std	Siamese	3.986"–4.135"	4	20°	8620 steel	350	Wet	2 pc	3.75"	90	800	Pro	142
10134400	10134398	9.025"	Std	Siamese	4.117"–4.135"	4	20°	8620 steel	400	Dry	2 pc	3.75"	89	800	Pro	142
24502495	24502495	9.525"	Std	Siamese	4.117"–4.135"	4	20°	8620 steel	400	Dry	2 pc	4.125"	101	850	Pro	142

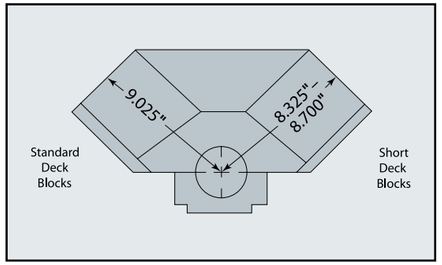
Production-Based Block (front) **A**

Production-Based Block (rear) **A**

Straight 4-Bolt Mains **A**

Production-Based Block (front, top) **A**

DECK HEIGHT DIAGRAM



PRODUCTION-BASED BLOCKS

When building a mild Small-Block performance engine or a replacement for a stock engine, GM Performance Parts' brand-new, production-based blocks give you strength, accuracy and peace of mind that can't be assured in a rebuilt core. And unlike so many of the used cores, ours all feature four-bolt main caps for extra strength—there's no reason to settle for a two-bolt block. Each new cylinder block is machined to production-spec tolerances and is manufactured to the exact specifications of pre-1986 or 1986-later engines.

Production-Based Block Technical Notes:

- Standard 350 main journal sizes
- Non-siamese bores
- Production-spec cylinder wall thickness
- Lifter valleys machined for hydraulic-roller and flat-tappet valvetrains
- Use seal adapter P/N 10051118 to use 2-piece rear main seal

See the chart on page 134 for complete specifications

A. 10105123
350 Bare Block (1986–Later Style), 1-Piece Rear Main Seal
- Cast-iron 4-bolt block
- **4.00"** bore
- Machined for hydraulic roller or flat tappets

88962516
383 Bare Block (1986–Later Style), 1-Piece Rear Main Seal
- Cast-iron 4-bolt block
- **4.005"** bore
- Torque plate honed
- Clearanced for 3.80" stroker crankshaft
- Machined for hydraulic roller or flat tappets

10066034
350 Bare Block (Pre-1986 Style), 2-Piece Rear Main Seal
- Cast-iron 4-bolt block
- **4.00" bore**
- Can be used for 302, 327, or 350 engines
- Machined for flat tappets only
- Used in 1973-1985 GM Goodwrench 350 engines

GM PERFORMANCE PARTS BOWTIE SPORTSMAN BLOCK

Step up to serious street/strip performance when you choose a GM Performance Parts Sportsman Block. These iron blocks provide a rock-solid foundation for any application in the 350-500-horsepower range, be it drag strip, circle track or high-performance street machine. These highly versatile blocks are available in a variety of finish options that enable maximum flexibility for building a wide variety of engine combos. Most of the blocks have siamesed cylinder walls[1] and 4-bolt main caps[2] that are secured with Grade 8 bolts. GM Performance Parts Bowtie Sportsman Blocks have 9.025-inch deck heights.

NOTE: *Bowtie blocks are called out by main journal sizes (i.e., 283, 350 or 400) and then by bore size (i.e., 283, 305, 350 or 400) if the bore is not standard to the main size. Example: P/N 24502650—"283 Main-350 Bore size"—has standard 283 main journal sizes; however the bore is standard 350 size.*

Bowtie Sportsman Block Technical Notes:

- Standard 9.025-inch deck height
- Nominal cylinder wall thickness is 0.340-inch
- Minimum cylinder wall bore thickness on 4.155-inch bore is 0.225 inches (excluding P/N 10051181, 10051183, and 10185047)
- Extra thick deck surfaces have blind-tapped bolt holes for improved head gasket sealing
- Priority main oiling system
- Main bearing bulkheads are 0.900-inch thick and use Grade 8 bolts
- All five cam bearing locations require 2.00-inch O.D. (1.867-inch I.D.) bearings P/N 12370843 (except block P/N 10051183)
- Tall lifter bore blocks may require clearancing the top of the lifter bores for some roller lifters
- Lifter valley oil scavenging boss below bell housing flange is present, but not drilled and tapped
- Oil dipstick holes are not drilled
- Timing system clearance must be checked
- Seal adapter P/N 10051118 required to use two-piece rear main crankshafts in one-piece rear main blocks

See the chart on page 134 for complete specifications.

4-Bolt 350 Main Blocks

A. 10185047

350 Bowtie Sportsman Block, 1-Piece Rear Main Seal

- Cast-iron maximum effort block
- 4-bolt "straight" nodular mains
- 3.980" rough bore
- **4.090"** max bore (siamese cylinder bores)
- Replaces older 4-bolt, 2-piece rear main seal block P/N 366287
- Rear main seal adapter required!

12480174

350 Bowtie Sportsman Block, 1-Piece Rear Main Seal

- CNC-machined cast-iron competition block
- +/-0.001" machining tolerances
- 4-bolt nodular mains, splayed caps on center 3 mains
- 3.980" finished bore
- **4.155"** max bore (siamese cylinder bores)
- Extra smooth gasket surfaces for better seal
- Tall lifter bores
- Comes with rear seal adapter

[1]Siamesed cylinder walls have thicker cylinder wall material with no water between the bores. This allows for a bigger bore; a bigger bore allows for more cubic inches and more power!

[2]4-bolt mains have more material and more fasteners holding the crank in the block (4-bolts per main instead of just 2). 4-bolt mains help maintain the integrity of the block when you drop the hammer!

A Sportsman Block (front)

350 Bowtie Sportsman Block, 2-Piece Rear Main Seal **B**

A Sportsman Block (rear, for use with 1-piece seal adapter)

350 Bowtie Sportsman Block, 2-Piece Rear Main Seal **B**

2-Piece Rear Main Seal

4-Bolt Splayed Main Caps

B. 12480047

350 Bowtie Sportsman Block, 2-Piece Rear Main Seal

- CNC-machined cast-iron competition block
- +/-0.001" machining tolerances
- 4-bolt nodular mains, splayed caps on center three mains
- 3.980" finished bore
- **4.155"** max bore (siamese cylinder bores)
- Extra smooth gasket surfaces for better seal
- Tall lifter bores

12480175

350 Main, 400 Bore Size Bowtie Sportsman Block, 1-Piece Rear Main Seal

- CNC-machined cast-iron competition block
- +/-0.001" machining tolerances
- 4-bolt nodular mains, splayed caps on center three mains
- 4.117" finished bore
- **4.155"** max bore (siamese cylinder bores)
- Extra smooth gasket surfaces for better seal
- Tall lifter bores
- Comes with rear seal adapter

12480157

350 Main, 400 Bore Size Bowtie Sportsman Block, 2-Piece Rear Main Seal

- CNC-machined cast-iron competition block
- +/-0.001" machining tolerances
- 4-bolt nodular mains, splayed caps on center three mains
- 4.117" finished bore
- **4.155"** max bore (siamese cylinder bores)
- Extra smooth gasket surfaces for better seal
- Tall lifter bores

4-Bolt 400 Main Blocks

12480049

400 Main, 350 Bore Size Bowtie Sportsman Block, 2-Piece Rear Main Seal

- CNC-machined cast-iron competition block
- +/-0.001" machining tolerances
- 4-bolt nodular mains, splayed caps on center three mains
- 3.980" finished bore
- **4.155"** max bore (siamese cylinder bores)
- Extra smooth gasket surfaces for better seal
- Tall lifter bores

12480159

400 Bowtie Sportsman Block, 2-Piece Rear Main Seal

- CNC-machined cast-iron competition block
- +/-0.001" machining tolerances
- 4-bolt nodular mains, splayed caps on center three mains
- 4.117" finished bore
- **4.155"** max bore (siamese cylinder bores)
- Extra smooth gasket surfaces for better seal
- Tall lifter bores

BUILDER'S TIP

Cylinder Honing with a Torque Plate

Most GM Performance Parts cylinder blocks require final honing prior to building the engine. So when you take your new block to your local machine shop for honing, you should consider having this procedure performed with torque plates installed on the deck surfaces. These tools approximate the load and minute distortion on the block that occurs when the cylinder heads are installed. By having the cylinders honed with a torque plate, you'll ensure better cylinder pressure and reduce the likelihood of leaks. And, if you plan to supercharge, turbocharge or nitrous-feed your Small-Block, torque-plate honing is a must!

GM PERFORMANCE PARTS RACE BLOCKS

GM Performance Parts Race Blocks are all about serious horsepower. Precision is the operative word for them, from start to finish, so you can depend on them to get you to the finish line first. GM Performance Parts Race Blocks use only the highest-grade materials and machining techniques. The blocks are CNC-machined[1] with closer tolerances than Bowtie blocks. Race blocks feature full race-prep machining and 4-bolt splayed[2] main caps. GM Performance Parts Race Blocks have proven themselves repeatedly in NASCAR and NHRA-sanctioned races. GM Performance Parts race blocks have the power and reliability to put your car in the winner's circle.

See the chart on page 134 for complete specifications.

GM Performance Parts Race Block Technical Notes:

- Precision CNC-machining means +/- 0.001-inch tolerances.
- Cylinder bore wall thickness is 0.225" minimum at 4.155" bore. A sonic bore check data sheet is provided with block
- Nominal wall thickness of cylinder bores is 0.340"
- Cylinder decks, front and rear of case, oil pan rail surfaces and head dowel pins are blueprinted
- Extra thick deck surfaces have blind-tapped head bolt holes for superior head gasket sealing
- Enlarged cam bosses allow custom machining for larger bearings
- Non-standard cam bearings are required (see each block for details)
- Extra-thick main bearing bulkhead is machined at 5°
- Bearing cap inner bolts are spread 0.210" to allow machining for 400 journal crankshafts
- Premium quality main studs and SAE 8620 steel main bearing caps
- Priority main oiling system
- Billet wet sump rear main cap can be adapted to dry sump with plugs
- Two-piece rear main crankshafts and pre-1986 oil pans are required
- Use of some aftermarket mechanical roller lifters may require clearancing top of lifter bores
- Timing system clearance should be checked before engine assembly
- Lifter valley oil scavenging boss below bell housing flange is not drilled or tapped
- Oil dipstick holes are not drilled

[1]CNC (computer numerical controlled) machining guarantees exact tolerances. GM Performance Parts offers more CNC-machined blocks than anyone.

[2] Splayed main caps have additional material for added strength in securing the crankshaft. This reduces the chance of "throwing" a crankshaft.

A Short Deck Race Block (front)

Short Deck Race Block (front) A

A Short Deck Race Block (rear)

Short Deck Race Block (rear) A

A Short Deck Race Block (bellhousing)

2-Piece Rear Main Seal A

4-Bolt Main Caps A

24502503

350 Cast-Iron Bowtie Race Block (not shown)

- Cast-iron competition block right out of the box
- 4-bolt SAE 8620 steel mains, 20° splayed caps on center three mains
- 2.00" O.D. cam bearings (1.867" I.D.) required at all five locations
- 3.980" finished bore
- **4.155"** max bore (siamese cylinder bores)
- 9.025" deck height
- Oil galleries for dry sump system are oversized and tapped for pipe plugs
- Supplied with sonic data sheet
- Tested to over 700 horsepower!

A. 24502650

283 Main, 350 Bore Size Short-Deck Bowtie Race Block

- CNC cast-iron competition block designed for drag racing, road racing or restricted oval track racing!
- 4-bolt SAE 8620 steel mains, 20° splayed caps on center three mains
- **8.325"** deck (Standard deck blocks are 9.025 inches), can be machined to 8.200" deck height
- Camshaft is raised 0.433" to 4.955"
- Cam bearing bores machined for 2.250" O.D. x 1.875 roller bearings
- 3.980" rough bore
- **4.185"** max bore (minimum of .250" cylinder bore wall thickness)
- Integral oil restrictors
- Must use Big-Block water pump, must raise water pump with adapters for balancers larger than 6"
- Olds Aurora V-8 bell housing bolt pattern (12.25" max flywheel diameter)
- Lifter holes and cylinder head bolt holes are not drilled
- Will accept standard, SB2.2 and splayed valve lifter patterns
- Can be machined to accept any Small-Block Chevy cylinder head
- Machined as 4.400" bore and main centers, can be machined to 4.500" bore centers
- Shorter than production pushrods required
- Tested to over 800 horsepower!

12480050

283 Main, 350 Bore Size Medium-Deck Bowtie Race Block (not shown)

- CNC cast-iron competition block designed for drag racing, road racing or restricted oval track racing!
- 4-bolt SAE 8620 steel mains, 20° splayed caps on center three mains
- **8.700"** deck (standard deck blocks are 9.025"), can be machined to 8.500" deck height
- Camshaft is raised 0.433" to 4.955"
- Cam bearing bores machined for 2.250" O.D. x 1.875 roller bearings
- 3.980" rough bore
- **4.190"** max bore (minimum of .250" cylinder bore wall thickness)
- Integral oil restrictors
- Must use Big-Block water pump, must raise water pump with adapters for balancers larger than 6"
- Standard Chevy V-8 bell housing bolt pattern
- Lifter holes and cylinder head bolt holes are not drilled
- Will accept standard, SB2.2 and splayed valve lifter patterns
- Can be machined to accept any Small-Block Chevy cylinder head
- Machined as 4.400" bore and main centers, can be machined to 4.500" bore centers
- Shorter than production pushrods required
- Tested to over 800 horsepower!

Race Blocks Continued

12480046
350 Main Size NASCAR Busch Series Block
- CNC-machined, cast-iron NASCAR competition block
- 9.025" deck height
- 4-bolt NASCAR-block specific steel mains, 17° splayed caps on center three mains
- 4.116" rough bore
- **4.185"** max bore
- Machined for 2.280" cam bearings
- **.875" lifter bores**
- -06 AN water drains
- 45° -10 AN front oil feed and valley scavenge
- AN O-ring pipe plugs
- (4) Center lifter valley drains (drilled and tapped)
- Steam holes drilled between cylinders .750" below deck surface
- 1/2" NPT water hole on each side of block
- Dry sump only (no oil filter boss)
- Tested to over 800 horsepower!

12480097
283 Main Size NASCAR SB2.2 Series Block
- CNC-machined, cast-iron NASCAR competition block
- 9.025" deck height
- 4-bolt NASCAR-block specific steel mains, 17° splayed caps on center three mains
- 4.116" rough bore
- **4.185"** max bore (siamese bores)
- Machined for 58mm roller cam bearings
- **.875" lifter bores**
- -06 AN water drains
- 45° -10 AN front oil feed and valley scavenge
- AN O-ring pipe plugs
- (4) Center lifter valley drains (drilled and tapped)
- Steam holes drilled between cylinders .750" below deck surface
- 1/2" NPT water hole on each side of block
- Dry sump only (no oil filter boss)
- **SB2.2 Lifter pattern and lobe sprayers**
- Tested to over 800 horsepower!

12480098
350 Main Size NASCAR Busch Series Block, SB2 Lifter Pattern
- CNC-machined, cast-iron NASCAR competition block
- 9.025" deck height
- 4-bolt NASCAR-block specific steel mains, 17° splayed caps on center three mains
- 4.116" rough bore
- **4.185"** max bore
- Machined for 58mm roller cam bearings
- **.875" lifter bores**
- -06 AN water drains
- 45° -10 AN front oil feed and valley scavenge
- AN O-ring pipe plugs
- (4) Center lifter valley drains (drilled and tapped)
- Steam holes drilled between cylinders .750" below deck surface
- 1/2" NPT water hole on each side of block
- Dry sump only (no oil filter boss)
- **SB2.2 Lifter pattern and lobe sprayers**
- Tested to over 800 horsepower!

NASCAR Series Block (front)

NASCAR Series Block (rear)

NASCAR Specific Main Caps

2-Piece Rear Main Seal

R0X Race Block (front)

R0X Race Block (rear)

R0X Race Block (bottom)

GM PERFORMANCE PARTS R0X RACE BLOCKS

Chevrolet engineers are continually improving the legendary Small-Block V-8. The newest design evolution in racing Small-Blocks is the R0X V-8 engine package. This race-proven block features wider 4.500-inch bore centers for improved engine architecture. Dedicated components such as cylinder heads and intake manifolds were designed specifically to take advantage of the R0X spread bores. Special aftermarket parts were also designed for maximum compatibility. These parts can be purchased at GM Performance Parts dealers and select aftermarket suppliers.

See chart on page 134 for complete specifications.

GM Performance Parts R0X Block Technical Notes:
- Cast-iron competition block with siamese bores
- Tested to 800-plus horsepower
- CNC-machined
- 9.025" deck height
- 4.166" rough bore
- **4.250"** maximum bore (minimum 0.225" wall thickness)
- 4.500" bore and main spacing
- R0X-block specific 4-bolt (SAE 4140) doweled steel mains
- Center main thrust
- 7/16" priority main oiling system
- 17° splayed caps on center three mains
- Special cylinder head bolt pattern (3/8-24 UNF threads)
- Closed cam tunnel (no oil drain to rotating assembly)
- Cam tunnel is raised 1.572" to 6.093"
- 68mm (2.677") cam bearing bores for 60mm roller bearings
- **0.835-inch lifter bores** (1.06" max) 42-degree intake, 52-degree exhaust, can be relocated
- Center lifter valley drains (4) drilled and tapped
- Provisions for cam lobe squirter
- Piston squirter provisions (not machined)
- Oil pan rails spread to 10.61"
- Dry sump only (no oil filter boss)
- AN O-ring pipe plugs
- AN -06 water drains
- Steam holes drilled between cylinders 0.750" below deck surface
- Dual starter mounts
- Front motor mounts only

25534453
283 Main, R0X Series Block SB2.2 Lifter Pattern
- CNC-machined
- SB2.2 lifter pattern for P/N 88958667 cylinder head

ALUMINUM RACE BLOCKS

Less weight and the same great horsepower are the benefits of a GM Performance Parts Aluminum Race Block. GM Performance Parts Aluminum Race Blocks provide the same competition-level strength and reliability of our cast-iron Race Blocks, but their lighter weight improves chassis dynamics. The super-tough A-356 aluminum competition blocks are CNC-machined to +/- 0.001-inch tolerances. GM Performance Parts Aluminum Race Blocks are ideal for road racing applications or high horsepower turbocharged engines.*

See chart on page 134 for complete specifications.

GM Performance Parts Aluminum Race Block Technical Notes:

- Extra-thick deck surfaces with blind-tapped head bolt holes for improved head gasket sealing
- Centrifugally spun cast-iron cylinder sleeves
- Blueprinted cylinder decks, front and rear of case, oil pan rail surfaces and head dowel pins
- Two-piece rear-main crankshafts and pre-1986 oil pans required
- Enlarged cam bosses allow machining for larger cam bearings
- 2.00" O.D. (1.867" I.D.) cam bearings P/N 12370843 required
- Blocks may require clearancing at top of lifter bores (0.842") for some roller lifters
- Timing system clearance should be checked before engine assembly
- Extra thick main bearing bulkhead machined at 5°
- Premium main studs and SAE 8620 steel main bearing caps
- Priority main oiling system
- Billet wet sump rear main cap can be converted to dry sump with plugs
- Oil dipstick holes not drilled

10185075
350 Aluminum Bare Block
- A-356 aluminum competition block
- CNC-machined
- Siamesed bores with increased wall thickness
- 3.986" rough finished bore
- **4.135"** maximum bore
- 350 main size
- Tested to more than 800 horsepower!

10134400
400 Aluminum Bare Block
- A-356 aluminum competition block
- CNC-machined
- Siamesed bores with increased wall thickness
- 4.117" rough-finished bore
- **4.135"** maximum bore
- 3.75" maximum stroke
- Splayed 4-bolt steel mains
- 400 main size
- Dry sump use only
- Tested to more than 800 horsepower!

24502495
400 Aluminum Tall Deck Bare Block (not shown)
- A-356 aluminum competition block
- CNC-machined
- Siamesed bores with increased wall thickness
- 4.117" rough-finished bore
- **4.135"** maximum bore
- 4.125" maximum stroke
- Splayed 4-bolt steel mains
- 400 main size
- Dry sump use only
- Tested to more than 800 horsepower!

**Proposed applications have not been specifically tested or validated by GM Performance Parts.*

Aluminum Race Block (front)

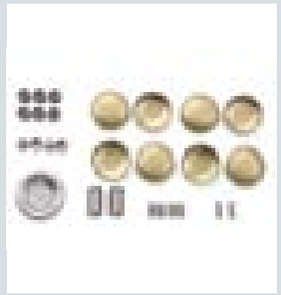
Aluminum Race Block (rear)

Aluminum Race Block (bottom)

Universal Engine Lift Brackets **A**

Freeze Plug, 1-5/8" brass **B**

Cylinder Sleeve (standard) **C**



Freeze Plug and Dowel Pin Kit **D**

Billet Steel 4-Bolt Main Cap **E**

Main Bearing Kit, 383 Engine (standard) **F**

CYLINDER BLOCK COMPONENTS

A. 12363238
Universal Engine Lift Brackets
- Designed to bolt to the end of cylinder heads for removal and installation of the engine
- Made from 0.200" steel and have .88" x 1.00" hook slots
- Use with 3/8" or 7/16" bolts
- Includes two brackets and two 7/16" bolts

B. 88891749
Freeze Plug, 1-5/8" Brass
- Corrosion-resistant brass freeze plug is recommended for marine applications

10121044
Rear Oil Seal, Two-Piece Design (not shown)
- Rear oil seal for V-8 and V-6 engines with pre-1985 style two-piece oil seal design
- Used by many NASCAR teams for superior leak protection

C. 12480004
Cylinder Sleeve (standard)
- Standard-bore steel cylinder sleeve for new-design aluminum Small-Block V-8 and 90° V-6 aluminum blocks, including P/N 10134400, P/N 10134351, P/N 10185075, and P/N 10134371

NOTE: *Sleeve has 3.980" bore; can be overbored to 4.135".*

12480018
Oil Galley Plugs, Aluminum Blocks (not shown)
- Replacement oil galley plugs for all GM aluminum engine blocks, size AN -06

D. 12495500
Freeze Plug and Dowel Pin Kit
- For all Chevy Gen I-, and Gen II-style Small-Block V-8 and 90° V-6 engines
- Includes 8 brass freeze plugs, 1 cam plug, 6 oil hole plugs, 4 head dowel pins and 1 camshaft dowel pin

E. 14011072
Billet Steel 4-Bolt Main Cap
- Outer holes are angled toward the oil pan rails, tying it to the strongest part of the block for greater strength and reliability in competition engines
- Reduces distortion of the main bearing bores
- Cap is machined from 1010 cold drawn steel, with the Chevy Bowtie logo laser-etched on top of the cap
- Designed for blocks with 2.45" main bearings

NOTE: *Consult Chevy Power manual P/N 24502488 for machining instructions when installing splayed caps on blocks originally equipped with 2-bolt or production-style 4-bolt caps.*

NOTE: *Block must be align-bored after installation of replacement bearing cap.*

94666814
Nodular 4-Bolt Main Cap (not shown)
- Upgraded cap used for 383 engines
- Straight bolt design cannot be used on blocks originally equipped with splayed bolt pattern

F. 12499102
Main Bearing Kit, 383 Engine (standard)
- Complete main bearing kit for 383-cubic-inch Small-Block V-8 with standard-size mains

12499138
Main Bearing Kit, 383 Engine, +0.010 (not shown)
- Complete main bearing kit for 383-cubic-inch Small-Block V-8 with +0.010-undersize mains

G. 12480108
Main Bearing Bolt Kit, Sportsman Blocks
- Sturdy main bearing cap bolts designed specifically for the following GMPP Sportsman Racing Blocks: P/N 12480047, P/N 12480049, P/N 12480157, P/N 12480159, P/N 12480174 and P/N 12480175
- Bolts are Grade 8 with 12-point heads and black oxide-coated

Front Covers, Timing Pointers, Fuel Pump Block-Offs

H. 3991435
Timing Pointer, 6.75" and 7" Balancer
- Steel timing pointer bolts on to engines with 6.75" or 7" balancers
- Pointer is not chromed

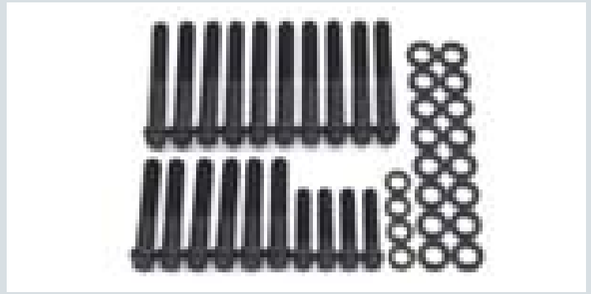
3991436
Timing Pointer, 8" Balancer (not shown)
- Steel timing pointer bolts on to Small-Block with an 8" balancer
- Pointer is not chromed

I. 12342089
Small-Block Chrome Timing Cover
- Attractive chrome cover for 1969–1991 Small-Block V-8 and all 90° V-6 engines
- Direct replacement for covers that use bolt-on timing pointer
- Supplied with GM oil seal (replacement oil seal P/N 10111769)

J. 12562818
Front Cover
- With crank trigger plug
- Includes bolts, seal and gasket

Chrome Fuel Pump Block-Off Plates

K. 12341998
Small-Block Fuel Pump Block-Off Plate
- Plate has stamped Bowtie logo
- Special non-asbestos gasket included



G Main Bearing Bolt Kit, Sportsman Blocks

H Timing Pointer, 6.75" and 7" Balancer

I Small-Block Chrome Timing Cover

J Front Cover With Bolts, Seal and Gasket

K Small-Block Fuel Pump Block-Off Plate

TIMING COVERS: ADDITIONAL REQUIRED COMPONENTS

Part Number	Bolts (Quantity)	Seals (Quantity)	Gasket (Quantity)	Bolt Grommets (Quantity)	Engine Application
12342089	11561767 (10)	12577710 (1)	10108435 (1)	N/A	88958602, 12499711, 12486041, 12496968, 12486041
12562818	10213293 (6) 12551135 (2)	10228655 (1)	N/A	10213294 (8)	12499101, 12499106, 12497317, 88958604, 12499710, 12498772 12496769, 24502609, 88958603, 12499712, 19201330

SMALL-BLOCK CYLINDER HEADS

Part Number	Description	Casting Number	Material	Port Size	Port Type	Valve Angle	Chbr CC's	Int Vlv	Exh Vlv	Exh Port	Plug Type	Heat Riser	Rocker Stud	Notes	Page Number
12363287	LT4	12555690	Alum	195	—	23	54.4	2.00	1.55	LT4	Angled	No	Screw-in	For LT1 or LT4	149
12480034	Bowtie Phase III	12480034	Iron	184	—	23	64	2.02	1.60	—	Angled	No	Screw-in	Phase 3 Bowtie	147
12497186	Fast Burn	12367712	Alum	210	Vortec	23	62	2.00	1.55	LT4	Angled	No	Screw-in	Bare 12464298	150
12464298	Fast Burn	12367712	Alum	210	Vortec	23	62	2.00	1.55	LT4	Angled	No	Screw-in	Assembly	150
12556463	ZZ4	10088113	Alum	163	—	23	58	1.94	1.50	LT4	Angled	No	Screw-in	ZZ4 Assembly	149
12529093	Vortec	10239906 or 12558062	Iron	170	Vortec	23	64	1.94	1.50	LT4	Straight	No	Press	Bare 12558060	146
12558060	Vortec	10239906 or 12558062	Iron	170	Vortec	23	64	1.94	1.50	LT4	Straight	No	Press	Assembly	146
25534351	Small Port Vortec Bowtie	25534351c	Iron	185	Vortec	23	66	2.00	1.55	LT4	Straight	No	Screw-in	Bare 25534421	148
25534445	Large Port Vortec Bowtie	25534371c	Iron	225	Vortec	23	66	2.00	1.55	LT4	Straight	No	Screw-in	Bare 25534446	148
25534421	Small Port Vortec Bowtie	25534351c	Iron	185	Vortec	23	66	2.00	1.55	LT4	Straight	No	Screw-in	Assembly	148
25534446	Large Port Vortec Bowtie	25534371c	Iron	225	Vortec	23	66	2.00	1.55	LT4	Straight	No	Screw-in	Assembly	148
24502580	18° Semi	10134363	Alum	215	18°	18	60	—	—	18°	Angled	No	Shaft	No seats/guides	151
24502615	15°	10134363	Alum	210	18°	15	35-37	—	—	18°	Angled	No	Shaft	No seats/guides	151
12480129	SB2.2	12480011	Alum	—	SB2.2	SB2.2	48	2.15	1.625	SB2.2	Angled	No	Shaft	No seats/guides	154
12480011	SB2.2 Bare	12480011	Alum	—	SB2.2	SB2.2	48	2.15	1.625	SB2.2	Angled	No	Shaft	No seats/guides	153
88958667	ROX SB2.2	88958667	Alum	—	SB2.2	SB2.2	28	2.15	1.625	SB2.2	—	—	Shaft	No seats/guides	154
12480146	Rough Bare Splay	10185040	Alum	—	Splayed	Splay	45	2.20	1.65	Splayed	Angled	No	Shaft	Rough mach 24502517	152
12480147	Semi Machined Splay	10185040	Alum	—	Splayed	Splay	45	2.20	1.65	Splayed	Angled	No	Shaft	Semi mach 12480146	152
24502517	Splayed valve	10185040	Alum	—	Splayed	Splay	45	2.20	1.65	Splayed	Angled	No	Shaft	No seats/guides	152
12480153	ROX splayed	12480153	Alum	—	Splayed	Splay	—	—	—	Splayed	—	—	Shaft	No seats/guides	153

1967 CAMARO INDY PACE CAR

Making an instant impact on the performance-car scene, it was only natural Camaro got the nod to pace the Memorial Day tradition at the Brickyard—the Indy 500. Pacing the prestigious race is a job for the hare, not the tortoise, so only the Camaro crown jewel—the SS 396 convertible—was deemed worthy.

Not just any SS 396 would do, however, as the actual pace car featured a hopped-up version of the 375-hp L78 Big-Block for good measure. Along with the actual pace car and its backup, more than 100 pace car replicas were built, with 81 of them used at the race and 21 built later for Canadian export. While some of these cars were indeed built with the L78 Big-Block, many of the replicas featured the 295-hp 350 Small-Block, and some of the Canadian clones even featured the 325-hp L48 Big-Block. All featured the familiar blue SS striping, color-keyed blue interior and pace car logos.

Additional components required for installation. See page 155.

Available for purchase online at gmperformanceparts.com

SERVICE REPLACEMENT HEADS

These cylinder heads are direct replacements for OEM heads on 1987-and-newer GM Small-Block V-8 engines. Save time and worry by replacing tired or damaged cylinder heads with new ones from GM Performance Parts.

Service Replacement Head Technical Notes:

- Cast-iron
- Use 1.94"/1.50" valves
- Straight spark plug design
- No heat risers provided

93438649

Cylinder Head Assembly With Valves For 290 HP (not shown)

This cast-iron cylinder head is for use on 350/290 HP crate engines and Goodwrench base 350 V-8 (P/N 10067353).

- Bare head P/N 93438648
- Standard 6-bolt intake manifold pattern
- 76cc combustion chamber

This head is assembled with the following components:

12550909	Exhaust Valves	**10241744**	Intake Spring Retainer
10241743	Intake Valves	**14042575**	Exhaust Spring Retainer
94666580	Valve Springs	**10212810**	Intake Seals
24503856	Valve Locks	**12564852**	Exhaust Seals

VORTEC CYLINDER HEADS

An easy way to gain 20-40 horsepower on any 1955-and-newer Small-Block Chevrolet V-8 (except later-style LT1/LT4 engines with reverse-flow cooling) is by installing a set of Vortec cylinder heads. These value-priced cast-iron cylinder heads use modified combustion chambers and high velocity port technology to provide improved performance. Vortec cylinder heads significantly outflow non-Vortec service replacement cylinder heads and earlier OEM cast-iron heads. These cylinder heads are ideal for applications up to 350 horsepower, but they require Vortec-specific intake manifolds.

A. 12558060

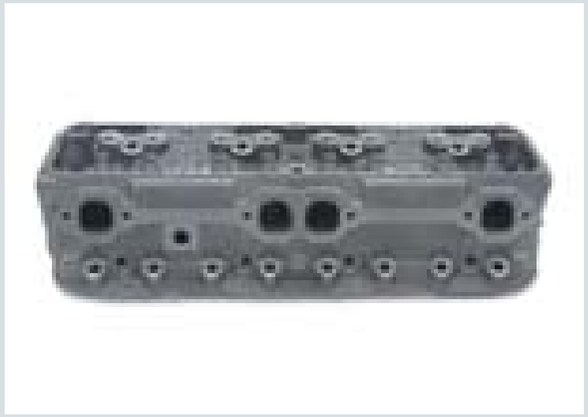
Cast-iron Vortec Cylinder Head Assembly

- Completely assembled with 1.94"/1.50" valves
- Uses bare head 12529093
- 64cc combustion chamber
- Straight spark plugs
- No heat risers
- Requires Vortec-specific intake manifold
- Camshafts with more than 0.475" lift require machining valve guide bosses and checking valve seal to valve spring retainer clearance
- Can be machined for 2.02"/1.60" valves
- Rocker arm studs can be pinned or drilled and tapped to 3/8"
- Valve spring seat diameter is 1.28"
- Casting number 10239906 or 12558062

This head is assembled with the following components:

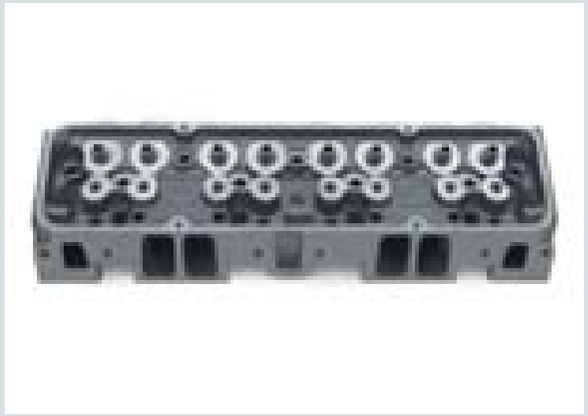
10241743	Intake Valves	**10241744**	Valve Spring Retainer
12550909	Exhaust Valves	**10212810**	Intake Seals
10212811	Valve Springs	**12564852**	Exhaust Seals
24503856	Valve Locks		

A Cast-iron Vortec Cylinder Head (exhaust)



Phase 3 Cast-iron Bowtie Head (exhaust) **B**

A Cast-iron Vortec Cylinder Head (intake)



Phase 3 Cast-iron Bowtie Head (intake) **B**

A Cast-iron Vortec Cylinder Head (combustion chamber)

Phase 3 Cast-iron Bowtie Head (combustion chamber) **B**

THE PHASE 3 CAST-IRON BOWTIE HEAD

The Phase 3 Bowtie cylinder head is a true cast-iron performance head that's designed for off-highway, competition use only. Racers who are required to run a production-style cast-iron cylinder head can obtain optimum performance with this head because it outflows all production cast-iron heads. The Phase 3 casting is extra thick, which allows ample room for port modifications.

B. 12480034

Phase 3 Cast-iron Bowtie Head

- Extra-thick walls for porting
- Machined for 2.02"/1.60" valves
- Exhaust seats are induction hardened
- Valve spring seat is machined for 1.50" competition springs
- 184cc intake runner
- 64cc combustion chamber
- No heat riser
- Angled spark plugs (5/8" hex, 3/8" reach, tapered plugs)
- Requires early model intake manifolds
- Valve spring seat is machined for 1.50" competition springs
- Use P/N 12495497 screw-in studs for 3/8" rocker arms
- Use P/N 3921912 screw-in studs for 7/16" rocker arms
- Use P/N 3973418 guideplates for hardened pushrods

1967 CAMARO SS 350

"Smile When You Call It Detroit Iron," smirked the ads featuring the first Camaro Super Sport. Right out of the gate, the '67 Camaro lineup burst onto the pony-car scene with a host of performance options that brought smiles to the faces of performance-car fans across America. At the heart of those options was the '67 Camaro SS motivated by the immortal 350-cubic-inch Small-Block engine—an engine displacement created just for the new Camaro.

There were more than 80 different factory options for the '67 Camaro, but the 350 SS was the classic combination. Supported by heavy-duty springs and shocks, and fed by a Rochester four-barrel carburetor, the SS 350's 295-horsepower Small-Block propelled this classic to 15.4-second quarter-mile ETs, as tested by *Motor Trend*. Test drivers had a hard time putting down all 380 lb-ft of torque from beneath the SS hood. It wouldn't be the last time tires had trouble handling the output of a Camaro SS.

Additional components required for installation. See page 155.

Available for purchase online at gmperformanceparts.com

VORTEC BOWTIE CYLINDER HEADS

Vortec Bowtie cylinder heads are the most powerful cast-iron heads offered by GM Performance Parts. These upgraded production cylinder heads are ideal for 400-450 horsepower street and racing (great for circle track applications) engines. Vortec Bowtie cylinder heads come with bigger valves, a thicker deck surface and 66cc combustion chambers. The heads provide outstanding low-lift flow numbers (the more air you flow, the more potential power) and Fast Burn performance all in an affordable, cast-iron head.

Vortec Bowtie Cylinder Head Technical Notes:

- Cast-iron small runner or large runner cylinder heads[1]
- 66cc combustion chambers
- 0.450" deck thickness
- Hardened exhaust valve seats
- Machined for 2.00"/1.55" valves
- Maximum 0.530" valve lift (without modifications)
- Straight spark plug design
- No heat risers
- Drilled and tapped for 7/16-14 screw-in studs
- Dual bolt patterns for Vortec and early style intake manifolds (early model P/N 10051103; Vortec intakes P/N 12366573, 12496820, 12496821, 12496822 or 12499371)
- Use intake gasket P/N 12529094 for Vortec intakes or dual pattern intake gasket P/N 12497760 for early model intakes or Vortec design intake manifolds
- Dual bolt patterns for perimeter style and center-bolt valve covers
- Vortec intake manifold three-step torque specs: 2 lb-ft; 9 lb-ft; 11 lb-ft

A. 25534421

Small Port Vortec Bowtie Cylinder Head Assembly

- Completely assembled, ready to bolt on
- 185cc intake ports
- 65cc exhaust ports
- Use Fel-Pro® P/N 1470 exhaust gasket
- Bare head P/N 25534351, available separately

25534446

Large Port Vortec Bowtie Head Assembly (not shown)

- Completely assembled, ready to bolt-on
- Improved air flow (281 cfm @ 0.600")
- 225cc intake ports
- 77cc exhaust ports
- 65cc combustion chambers
- Use Fel-Pro® P/N 1470 exhaust gasket (minor trimming may be necessary)
- Bare head P/N 25534445, available separately

These heads are assembled with the following components:

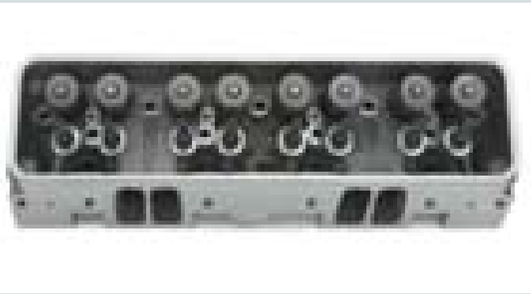
12363757	Intake Valves	**10212808**	Valve Spring Retainers
12363758	Exhaust Valves	**10212810**	Valve Stem Seals
12551483	Valve Springs	**24503856**	Valve Locks
12552126	3/8" Rocker Studs		

[1]*Larger intake and exhaust ports allow for more volume of air to pass through the engine. The more air you flow, the more power you can make.*

A Small and Large Port Vortec Bowtie Heads (intake). Bare head shown.

A Small Port Vortec Bowtie Head (exhaust). Bare head shown.

A Small Port Vortec Bowtie Head (chamber).

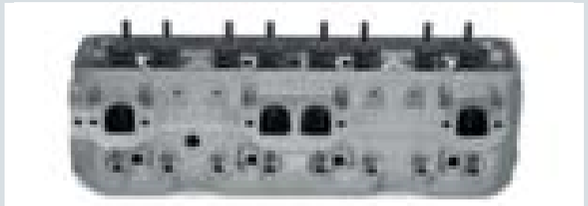


B ZZ4 Aluminum Cylinder Head Assembly (intake)

ZZ4 Aluminum Cylinder Head Assembly (exhaust) **B**

ZZ4 Aluminum Cylinder Head Assembly (combustion chamber) **B**

LT4 Aluminum Cylinder Head Assembly (intake) **C**



LT4 Aluminum Cylinder Head Assembly (exhaust) **C**

LT4 Aluminum Cylinder Head Assembly (combustion chamber) **C**

THE ZZ4 ALUMINUM HEAD

The revolutionary lightweight ZZ4 aluminum cylinder head was a key component of the highly successful Corvette L98 Small-Block V-8 engine (1985-1990). GM Performance Parts offers that same cylinder head as a complete assembly, with D-shaped exhaust ports[1] (they increase post-combustion scavenging for increased power), high-velocity exhaust runners and centrally located spark plugs[2] that improve air/fuel mixture burn efficiency for increased power potential. The ZZ4 aluminum cylinder head is ideal for a great variety of engine applications.

B. 12556463

ZZ4 Aluminum Cylinder Head Assembly

- Aluminum performance head—used on ZZ4 engines
- Completely assembled with 1.94"/1.50" valves
- 163cc intake port
- 58cc combustion chamber
- No heat riser
- Angled spark plugs (5/8" hex, 3/4" reach, tapered plugs)
- 1.48" Valve spring seat diameter
- Screw-in studs (3/8" top, 7/16" bottom)
- Use head gaskets with stainless steel fire rings
- Raised, machined rocker rails
- Raised exhaust ports .100", requires Fel-Pro® gasket P/N 1470
- Use rail type rockers P/N 10089648, or kit P/N 12370838 (roller rockers!)
- Casting P/N 10088113

This head is assembled with the following components:

12550909	Exhaust Valves	**10212808**	Valve Spring Retainers
10241743	Intake Valves	**10212810**	Intake Valve Stem Seals
12551483	Valve Springs	**10212870**	Exhaust Valve Stem Seals
10212809	Valve Spring Shims	**24503856**	Valve Locks
12552126	3/8" Rocker Studs		

THE LT4 ALUMINUM HEAD

The LT4 aluminum cylinder head represents another benchmark in Chevrolet high performance engine technology. This premium quality aluminum cylinder head is designed for use on 1992-and-newer LT1 and LT4 Small-Block engines with reverse-flow cooling systems. LT4 aluminum cylinder heads are key components of any contemporary high horsepower GM Small-Block engine buildup.

C. 12363287

LT4 Aluminum Cylinder Head Assembly

- Aluminum performance head
- **Can only be used on 1992–newer LT1 and LT4 engines**
- Completely assembled with 2.00"/1.55" valves
- 195cc intake port
- 54.4cc combustion chamber
- No heat riser
- Angled spark plugs (5/8" hex, 3/8" reach, tapered plugs)
- 1.48" Valve spring seat diameter
- Screw-in studs (3/8" top, 7/16" bottom)
- Use head gaskets with stainless steel fire rings
- Raised, machined rocker rails
- Raised exhaust ports .100", requires Fel-Pro® gasket P/N 1470
- Use rail type rockers P/N 10089648, or kit P/N 12370838 (roller rockers!)

This head is assembled with the following components:

12555331	Intake Valves	**10212808**	Valve Spring Retainers
12551313	Exhaust Valves	**10212810**	Valve Stem Seals
12551483	Valve Springs	**10212809**	Valve Spring Shims
12552126	3/8" Rocker Studs	**24503856**	Valve Locks

[1]*D-shaped exhaust ports increase the scavenging of the exhaust after combustion. The quicker you can get the exhaust out, the quicker you can get the air/fuel mixture into the combustion chamber. And, that equals big power!*

[2]*Centrally-located spark plugs allow for a more efficient flame front and air/fuel mixture burn during combustion, greatly increasing the power potential of the cylinder head.*

Additional components required for installation. See page 155.

Available for purchase online at gmperformanceparts.com

ALUMINUM FAST BURN HEADS

Maximum bolt-on performance for serious street engines is as close as your local GM Performance Parts dealer when you order a set of Aluminum Fast Burn Cylinder Heads. Fast Burn technology delivers more horsepower by increasing cylinder pressures, which maximizes air/fuel mixture combustion. The 62cc combustion chamber is designed for use with flat-top pistons. The Fast Burn heads require no additional porting for optimum performance, so all you need to do is bolt them on and go. These ultimate 23-degree Small-Block cylinder heads are the same ones used on GM Performance Parts 425-horsepower ZZ383 crate engines. The heads can be used on any 4.00-inch bore Small-Block with the standard-flow coolant system.

A. 12464298

Aluminum Fast Burn Cylinder Head Assembly

- CNC-machined aluminum performance head
- Completely assembled with 2.00"/1.55" valves
- 210cc intake port, roof raised .240"
- 78cc D-shaped exhaust ports, raised .200", requires Fel-Pro® gasket P/N 1470 (may require minor trimming)
- 62cc combustion chamber, .400" thick deck (can be milled safely .060")
- No heat riser
- Angled spark plugs (5/8" hex, 3/4" reach, tapered plugs)
- 1.48" Valve spring seat diameter
- Use head gaskets with stainless steel fire rings
- Raised, machined rocker rails
- 0.530" max valve lift (without modifications)
- Screw-in studs, (3/8" top, 7/16" bottom)
- Dual bolt patterns for perimeter bolt and center-bolt valve covers
- Dual bolt patterns for both Vortec and early model intake manifolds
- Uses bare head P/N 12497186
- Use production intake gasket P/N 12529094 for Vortec intakes dual bolt pattern intake gasket P/N 12497760 for early model or Vortec design manifolds (Fel-Pro® P/N 1289 and P/N 1207 may be used)

This head is assembled with the following components:

12555331	Intake Valves	**10212808**	Valve Spring Retainers
12551313	Exhaust Valves	**10212810**	Valve Stem Seals
12551483	Valve Springs	**10212809**	Valve Spring Shims
12552126	3/8" Rocker Studs	**24503856**	Valve Locks

A Fast Burn Cylinder Head (intake)

15°/18° Cylinder Head (exhaust)

A Fast Burn Cylinder Head (exhaust)

15°/18° Cylinder Head (intake)

A Fast Burn Cylinder Head (combustion chamber)

15°/18° Cylinder Head (combustion chamber)

ALUMINUM RACING CYLINDER HEADS

The same superior GM Performance Parts technology that professional NASCAR and NHRA racers have used to win races for decades is available for you to use in your race car. The GM Performance Parts Aluminum Racing Cylinder Heads are part of an extensive family of high-performance inline-valve heads, designed specifically for race-winning engines.

GM Performance Parts Aluminum Racing Cylinder Heads start with castings designed with thicker decks and manifold flange areas. The combustion chambers are designed for competition and air passages are maximized for high-velocity airflow. These cylinder heads thrive on high compression and high rpm. Used in conjunction with optimized short-block, intake and valvetrain combos, these heads are part of an "instant-on" power plant—the kind of engine that will put you in the winner's circle.

GM Performance Parts engineers dramatically altered the valve architecture to improve airflow and maximize efficiency. These aluminum racing cylinder heads are only available unported, so you must have them custom-ported to your specific requirements.

Aluminum Racing Head Technical Notes:

- Made of 355-T7 aluminum
- Extra-thick decks for angle milling or heavy flat milling
- Extra port material for professional porting
- Recommended for use with 4.000" to 4.155" cylinder bores
- Revised location angled spark plugs (14mm, 5/8" hex, 3/4" reach, gasketed plugs)
- Raised and revised location intake and exhaust ports for superior airflow above 0.600" valve lift
- Modified valve angles (not production 23°)
- Longer-than-stock valves required
- Designed for aftermarket shaft-mount rocker systems
- Perimeter bolt pattern-type valve covers required
- Specific 18°/15° intake manifold bolt patterns
- Recommended intake manifolds: P/N 24502481, 24502579 or 24502653 (with valley plate P/N 24502654)
- Intake manifold gasket P/N 10185007

24502580

Semi-Finished 18° Cylinder Head

- Fully machined, semi-finished, **no seats or guides**
- Non-CNC ports and combustion chamber are "as-cast"
- 60cc "as-cast" combustion chambers
- Designed for up to 2.20"/1.625" valves
- 215cc "as-cast" intake ports
- .080" extra material on deck face, and .055" on intake face

24502615

Semi-Finished 15° Cylinder Head

- Fully machined, semi-finished, **no seats or guides**
- Non-CNC ported, ports and combustion chamber are "as-cast"
- Great head for NHRA Comp-Eliminator, both V-8 and 4-cylinder applications!
- Casting has been "rolled" 2°, Valve-guides are also tipped 1°
- 210cc "as-cast" intake ports
- 35-37cc "as-cast" combustion chamber
- Capable of over 900 horsepower
- Multi-NHRA world records

Additional components required for installation. See page 155.

Available for purchase online at gmperformanceparts.com

SPLAYED-VALVE ALUMINUM RACE CYLINDER HEAD

GM Performance Parts Splayed-Valve Aluminum Race Cylinder Heads are extremely aggressive, all-out competition heads and not intended for street use. Splayed valves point both intake and exhaust valves at the center of the cylinder bore. As the valves open, they move away from the edges of the bore. That allows maximum-size valves to be installed without increasing bore size. The result is dramatically increased airflow, compared to inline-valve-design cylinder heads.

The castings have a 0.240-inch minimum port wall thickness, which leaves ample room for extensive custom porting. Intake valves are angled 16-degrees to the deck surface and splayed 4-degrees. Exhaust valve angles are 11-degrees with a 4-degree splay. Making more than 1000 naturally aspirated horsepower with these cylinder heads is easily achievable.

Aluminum Splayed Valve Race Head Technical Notes:

- Made of 355-T7 aluminum
- **No valve seats or guides provided**
- Extra-thick decks for angle milling or heavy flat milling
- Extra port material (0.240") for professional porting
- Completely revised intake and exhaust ports provide ultimate airflow potential
- 45cc “as cast” combustion chambers
- Modified valve angles (16° x 4° intake, and 11° by 4° exhaust)
- Designed for longer-than-stock 2.20" and 1.65" valves
- Valve spring pads accommodate 1.625" diameter springs
- Revised location angled spark plugs (14mm, 5/8" hex, 3/4" reach, gasketed plugs)
- All pistons have the same orientation
- Designed for aftermarket shaft-mount rocker systems
- Custom-fabricated intake manifold required
- P/N 10185042 intake manifold gasket required
- Valve cover P/N 10185045 and valve cover gaskets P/N 10185043 required

12480146

Rough-Machined Splayed-Valve Aluminum Cylinder Head (not shown)

- Main surfaces are machined, exhaust bolt pattern is machined
- Head bolt and dowel holes, intake bolt holes, spark plug holes and pushrod holes **are not machined**
- Valve guides valve seats, valve spring seats and rocker stands **are not machined**
- Valve locations and angles may be relocated
- 240cc “as-cast” intake ports
- 78cc “as-cast” exhaust ports
- 45cc “as-cast” combustion chambers

12480147

Semi-Machined Splayed-Valve Aluminum Cylinder Head (not shown)

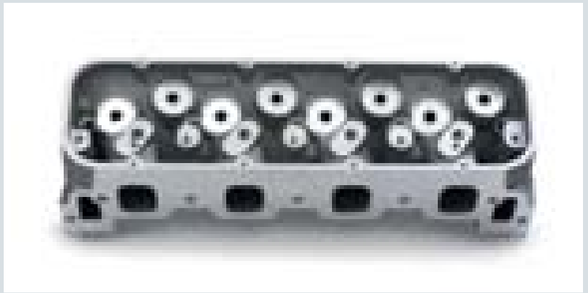
- Main surfaces are machined; exhaust bolt pattern, valve guides and spark plug holes **are machined**
- Head bolt holes, dowel holes, intake bolt holes, pushrod holes **are not machined**
- Valve seats, spring seats and rocker stands are not machined
- 240cc “as-cast” intake ports
- 78cc “as-cast” exhaust ports
- 45cc “as-cast” combustion chambers
- Same casting as P/N 12480146

A. 24502517

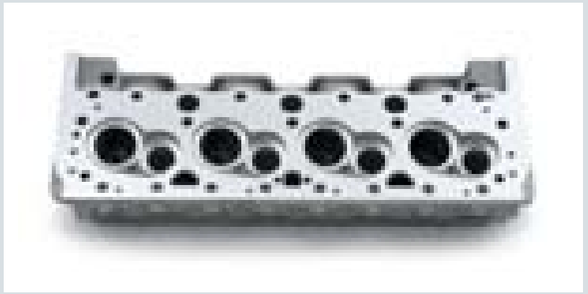
Splayed-Valve Aluminum Cylinder Head

- Semi-machined aluminum race head
- 240cc “as-cast” intake ports
- 78cc “as-cast” exhaust ports
- 45cc “as-cast” combustion chambers
- Same casting as P/N 12480146

A Splayed-Valve Head (exhaust)



A Splayed-Valve Head (intake)



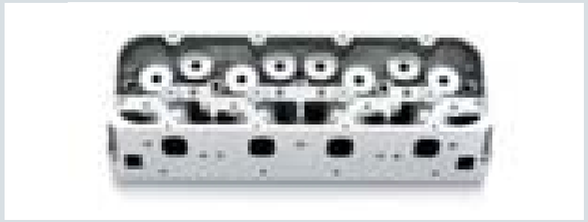
A Splayed-Valve Head (combustion chamber)

B Splayed-Valve R0X Cylinder Head (exhaust)

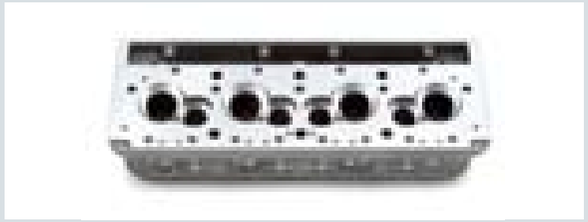
Splayed-Valve R0X Cylinder Head (intake) B

Splayed-Valve R0X Cylinder Head (combustion chamber) B

SB2.2 Cylinder Head (exhaust) C



SB2.2 Cylinder Head (intake) C



SB2.2 Cylinder Head (combustion chamber) C

B. 12480153

Splayed-Valve R0X Aluminum Cylinder Head

- Semi-machined aluminum race head
- Great for NHRA competition with dual carburetors
- As cast ports and combustion chambers for professional finishing
- Use mid-deck block P/N 25534429 with 4.500" main bore machining
- Special larger head-bolt pattern, 3/8" fasteners, 19 holes
- 240cc “as-cast peanut” intake ports
- 78cc “as-cast peanut” exhaust ports
- 40cc “as-cast” combustion chambers

88958684

Splayed-Valve R0X Aluminum Cylinder Head Cubed

- Great for NHRA competition with dual carburetors
- 240cc “as-cast peanut” intake ports
- 78cc “as-cast peanut” exhaust ports
- "Cubed" aluminum race head
- Bare head, no seats or guides

SB2.2 NASCAR RACE CYLINDER HEADS

The GM Performance Parts SB2 NASCAR racing head was designed to improve durability, simplify preparation procedures, and reduce the overall cost of building and maintaining a Small-Block Chevrolet racing engine. It is ideal for single-four-barrel carburetor applications due to having “mirror” design intake ports and all eight ports being angled toward the center of the engine. Spark plug holes were moved toward the bore center for improved combustion efficiency. 48cc combustion chambers permit 12.1:1-compression-ratio flat-top pistons.

Aluminum SB2.2 NASCAR Race Head Technical Notes:

- 355-T7 X-rayed and “hipped”* aluminum competition cylinder heads
- Extra-thick decks for heavy flat milling
- Extra material around ports for professional porting
- Combustion chambers are very small, shallow and wedge shaped
- Precision T-washers installed in all four center head bolt bosses
- Designed for longer-than-stock 2.15" and 1.625" valves
- Valve spring pads accommodate 1.625" diameter springs
- Modified valve angles, 11° x 4° intake and 8° x 0° exhaust
- Designed for aftermarket shaft-mount rocker systems
- Revised location angled spark plugs (14mm, 5/8" hex, 3/4" reach, gasketed plugs)
- Requires specific left- and right-hand pistons
- Valve cover P/N 12480006 or P/N 12480012 required
- Replacement AN -08 intake port plugs available as P/N 12480171

C. 12480011

Semi-Finished SB2.2 Aluminum Cylinder Head

- Aluminum NASCAR-accepted head
- Bare head, **no seats or guides** installed
- Standard .500" guide holes
- As cast “peanut” ports
- 48cc “as-cast” combustion chamber

**HIP is the acronym for Hot Isostatic Pressure. This process puts the heads in a sealed vessel where a vacuum is first used to remove room air and any possible contaminants. The vessel is filled with high pressure nitrogen (up to 30,000-psi) and then heated to the required temperature and sustained for a determined amount of time. The cooling process is also a controlled procedure to insure maximum strength and proper heat treat. This extreme high pressure and heat removes almost 100% of the internal porosities that are generated during the casting process. The material integrity, strength and fatigue life increases significantly.*

SB2.2 NASCAR Race Heads Continued

12480129

Semi-Finished SB2.2 Aluminum Cylinder Head

- Aluminum NASCAR accepted head
- Bare head, **no seats or guides**
- Reduced size .375" diameter guide holes
- "As-cast peanut" ports
- 48cc "as-cast" combustion chamber

A. 88958667

Semi-Finished SB2.2 Design R0X Aluminum Cylinder Head

- Fully CNC-machined aluminum race head
- Has cast ports and combustion chambers for professional finishing
- Machined for 4.500" bore center R0X cylinder block P/N 25534453
- Special spread head-bolt pattern, 3/8" fasteners, 19 holes
- Machined with additional .070" material on deck face.
- Valve centerlines moved apart .100" for additional valve clearance and larger valves
- Valve angles are 11° x 4° intake, and 7° x 2° exhaust
- Exhaust port positions are slightly reoriented, but same bolt pattern as standard SB2.2
- "As-cast peanut" intake ports
- "As-cast peanut" exhaust ports
- 28cc "as-cast" combustion chambers

1968 CAMARO Z/28

Mere months after the Camaro bowed in '67, the Z/28 package joined the lineup, bringing a high-revving 302-inch engine and corner-carving suspension. However, it wasn't until '68 that the Z/28 came into its own as a full-fledged model with its own exterior badging.

Originally created to sneak in under the Sports Car Club of America's displacement limits of 305 cubic inches for Trans Am racing, the fusion of a 283 crank and a 327 block resulted in the 302-cube combination. The engine featured large-port heads, with 1.94 intake valves and 1.60 exhaust valves actuated by a solid-roller camshaft, but was only rated at 290 horsepower.

In reality, it made as much as 350 horsepower. With that kind of power and an F41 Heavy Duty suspension to match, Mark Donahue led team Penske to an SCCA manufacturer's championship in '68. Despite its road-racing bent, the Z/28 also cleaned up on the quarter-mile, with Stock Eliminator driver Dave Strickler bringing home the championship in his 11-second Grumpy Jenkins-prepped '68.

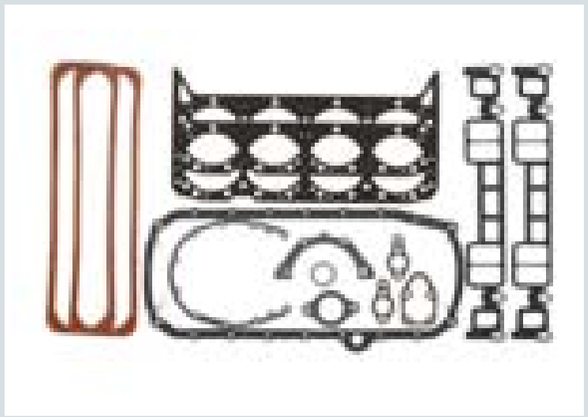
A Semi-Finished SB2.2 Design R0X Cylinder Head (exhaust)

A R0X SB2.2 Head (intake)

A R0X SB2.2 Head (combustion chamber)

CYLINDER HEADS: ADDITIONAL REQUIRED COMPONENTS

Part Number	Head Gaskets (Quantity)	Bolts (Quantity)	Spark Plug	Engine Application
93438649	10105117 (2)	10168525 (14), 10168526 (4), 10168527 (16)	N/A	12587265, 12499529, 19157995
93438648	10105117 (2)	10168525 (14), 10168526 (4), 10168527 (16)	N/A	12587265, 12499529
12558060	10105117 (2) **OR** 12557236 (2)	10168525 (14), 10168526 (4), 10168527 (16)	19157986	88958602, 12499711, 12499101, 12497317, 12486041, 12496968
12529093	10105117 (2) **OR** 12557236 (2)	10168525 (14), 10168526 (4), 10168527 (16)	19157986	88958602, 12499711, 12499101, 12497317, 12486041, 12496968
12464298	10105117 (2) **OR** 12557236 (2)	10168525 (14), 10168526 (4), 10168527 (16)	5614210	88958604, 12499710, 1249772, 12496769
12556463	12557236 (2)	10168525 (14), 10168526 (4), 10168527 (16)	5614210	24502609, 88958603, 12499712, 19201330
25534446	10105117 (2), 10185054 (2) **OR** 12363763 (2)	10168525 (14), 10168526 (4), 10168527 (16)	—	12366573, 12496820, 12496822, 12496820



Rebuild Gasket Kit **A**

Rebuild Gasket Kit **B**

OVERHAUL GASKET KITS

A. 19201171

Rebuild Gasket Kit

- Fits 350 HO and Circle Track engine P/N 88958602

This kit includes the following items:

10105117	2	Head Gaskets
10108676	1	Oil Pan Gasket Set
12555771	1	Rear Main Seal Housing Gasket
89017465	1	Intake Manifold Gasket Set
10105135	1	Water Outlet Gasket
10108435	1	Front Cover Gasket
12560223	1	Fuel Pump Adapter Gasket
3754587	2	Water Pump Gaskets
10108445	1	Distributor Gasket
10046089	2	Valve Cover Gaskets
12554314	1	Crankshaft Rear Main Seal

B. 19201172

Rebuild Gasket Kit

- Fits ZZ4, Fast Burn 385, HT383 and Circle Track engines P/N 88958603 and P/N 88958604

This kit includes the following items:

12557236	2	Head Gaskets
10108676	1	Oil Pan Gasket Set
12555771	1	Rear Main Seal Housing Gasket
89017465	1	Intake Manifold Gasket Set
10147994	1	Intake Manifold Gasket Set
10105135	1	Water Outlet Gasket
12560223	1	Fuel Pump Adapter Gasket
3754587	2	Water Pump Gaskets
10108445	1	Distributor Gasket
10046089	2	Valve Cover Gaskets
12554314	1	Crankshaft Rear Main Seal

CYLINDER HEAD GASKETS AND HEAD BOLTS

GM Performance Parts cylinder head gaskets, cylinder head bolts and cylinder head studs are the finest-quality parts available. Their superior construction ensures optimum sealing between cylinder heads and the engine block.

Gasket packages contain one gasket unless otherwise specified. Head gaskets are available in a variety of materials and thicknesses. Use the proper gasket to maintain compression ratios and minimum piston-to-cylinder head clearances.

A. 10105117
Composition Head Gasket
- Composition head gasket with stainless steel fire ring
- For stock or mildly modified engines with **4.00"** cylinder bores
- Fits cast-iron or aluminum heads
- Used on Ram Jet 350
- **0.028"** compressed thickness

3830711
Steel Shim Head Gasket (not shown)
- For stock and mildly modified engines with **4.00"** cylinder bores
- **0.026"** compressed thickness

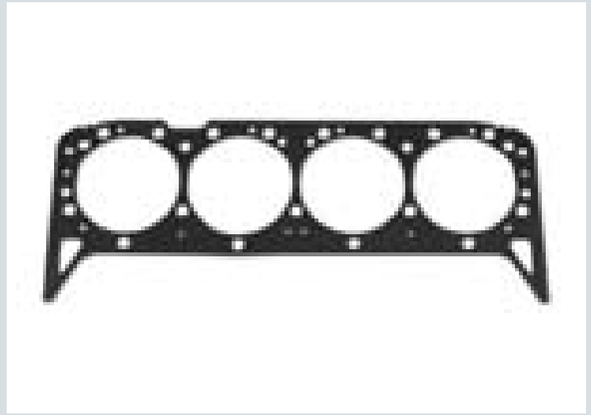
12557236
Composition Head Gasket (not shown)
- Stainless steel fire rings
- Fits aluminum or cast-iron heads
- Used on ZZ4 and 350 HO engines
- **0.051"** compressed thickness

B. 10185054
Heavy-Duty Composition Head Gasket
- Teflon-coated
- Pre-flattened wire O-rings around each cylinder
- For competition engines with cylinder bores of **4.00" to 4.125"**
- **0.041"** compressed thickness

NOTE: *Drill steam holes when used on 400-ci Small-Blocks. Gasket does not require re-torquing.*

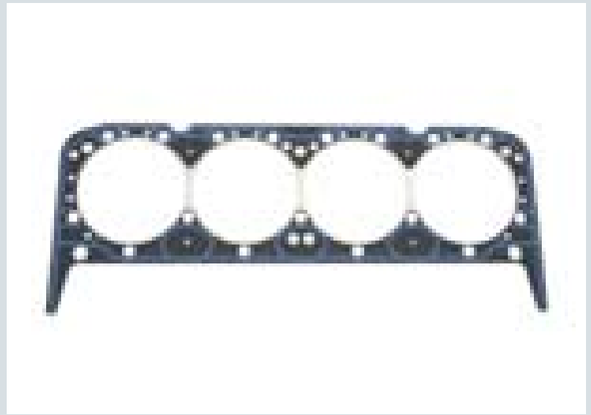
C. 12363763
Special Competition Head Gasket
- Teflon-coated, heavy-duty composition gasket
- Pre-flattened steel fire rings and **4.200"** bore
- For Bowtie, 400 Small-Blocks, and aluminum blocks with cast-iron or aluminum heads
- Revised coolant hole pattern
- No steam holes for production 400 engines
- **0.038"** compressed thickness

NOTE: *Gasket does not require re-torquing.*

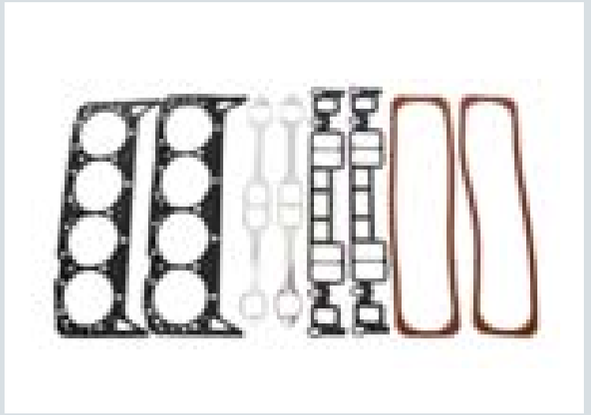


A Composition Head Gasket

B Heavy-Duty Composition Head Gasket



C Special Competition Head Gasket



Cylinder Head Installation Kit **D**

Cylinder Head Dowel Pin **E**

Cylinder Head Bolt Kit **F**

12553160
LT1 Head Gasket (not shown)
- Composition gasket for 1994-2001 iron head LT1 engines
- 0.028" compressed thickness

10168457
LT1 Head Gasket (Aluminum Head, not shown)
- Composition gasket for 1992-2001 aluminum head LT1 engines
- 0.050" compressed thickness

12551488
LT4 Head Gasket (not shown)
- Composition gasket for 1996 aluminum head LT4 engines
- 0.043" compressed thickness

D. 12499223
Cylinder Head Installation Kit (5.7L L31 Engine)
- Comprehensive kit
- Includes 2 cylinder head gaskets, 2 valve cover gaskets, 2 intake manifold gasket sets and 2 exhaust manifold gaskets
- .028" compressed thickness

PART	DESCRIPTION	QTY
10105117	Cylinder Head Gaskets	2
10046089	Valve Cover Gaskets	2
12529094	Intake Manifold Gaskets	2
12550033	Exhaust Manifold Gaskets	2

HEAD BOLTS AND STUDS

E. 585927
Cylinder Head Dowel Pin
- Dowel pin 5/16" diameter by 9/16" long
- For all Small-Block V-8 and 90° V-6 engines

F. 12495499
Cylinder Head Bolt Kit
- For iron or aluminum heads
- Includes 14 of P/N 10168525, 4 of P/N 10168526, 16 of P/N 10168527, and thread sealant

Head Bolts And Studs Continued

A. 14011040
Hardened Washer
- 0.45" I.D. x 0.778" O.D.
- Sold individually

B. 10051155
Hardened Washer
- 0.45" I.D. x 0.750" O.D.
- For Phase 6 and raised runner aluminum heads
- Sold individually

C. 12366568
Cylinder Head Nut Kit
- Set of 16 magnafluxed 1038 steel 7/16-20 hex head P/N 3942410 nuts for aftermarket head studs
- Complete for 1 cylinder head; order 2 per engine

12366569
Cylinder Head Nut Kit (not shown)
- Set of 16 magnafluxed 4037 steel 7/16-20 12-point P/N 14044866 nuts for aftermarket head studs
- Complete for 1 cylinder head; order 2 per engine

3942410
Cylinder Head Stud Nut (not shown)
- Magnafluxed hex head 1038 steel 7/16-20 nut
- Sold individually

D. 14044866
Cylinder Head Stud Nut
- Magnafluxed 12-point 4037 steel 7/16-20 nut
- Sold individually

1968 CAMARO SS 396

If the high-rpm histrionics delivered by the 302-cubic-inch Z/28 left you hungering for torque, the answer came in the form of the SS 396. Demonstrating the flexibility of the option sheet, the 396 package turned what could be a sports car into a no-holds-barred muscle car. That stoplight bully could eventually be had with 350, 375, or aluminum-headed, 375-hp 396-cubic-inch Big-Blocks, with the latter L89 engine option being the rarest, with only 272 examples built.

Instantly identifiable by its unique, faux-vented hood and massive SS grille emblem, the SS 396 was actually more affordable than the high-revving Z/28, and thus more popular. It didn't hurt that the 375-horse monsters were capable of low 14-second ETs. Sales materials of the day extolled the '68 Camaros as "husky performers" for the "fun crowd," and the SS 396 certainly packed as much fun as a Camaro could without intervention from COPO-meddling dealers!

A Hardened Washer

B Hardened Washer

C Cylinder Head Nut Kit

D 12-Point Nut

2.02" Intake Valve

1.55" Exhaust Valve

SMALL-BLOCK VALVES

Part Number	Valve Size	Stem Size	Description
Intake Valves			
10241743	1.94"	11/32"	Stock replacement valve used in all of our crate engines except CT350/400, Fast Burn 385 and ZZ383/425
12363755	1.94"	11/32"	Stainless-steel valve with undercut stems to improve air flow, single groove design, chrome plated stems to reduce wear, hardened tips to withstand high loads
12555331	2.00"	11/32"	Stock replacement valve used in the 1996 LT4 engine, and in our CT350/400, Fast Burn 385 and ZZ383/425 also in LT4 and Fast Burn heads
12363757	2.00"	11/32"	Stainless-steel valve with undercut stems to improve air flow, single groove design, chrome plated stems to reduce wear, hardened tips to withstand high loads
12363753	2.02"	11/32"	Stainless-steel valve with undercut stems to improve air flow, single groove design, chrome plated stems to reduce wear, hardened tips to withstand high loads
Exhaust Valves			
12550909	1.50"	11/32"	Stock replacement valve used in all of our crate engines except CT350/400, Fast Burn 385 and ZZ383/425
12551313	1.55"	11/32"	Stock replacement valve used in the 1996 LT4 engine, and in our CT350/400, Fast Burn 385 and ZZ383/425; also in LT4 and Fast Burn heads
12363756	1.50"	11/32"	Stainless-steel valve with undercut stems to improve air flow, single groove design, chrome plated stems to reduce wear, hardened tips to withstand high loads
12363758	1.55"	11/32"	Stainless-steel valve with undercut stems to improve air flow, single groove design, chrome plated stems to reduce wear, hardened tips to withstand high loads
12363754	1.60"	11/32"	Stainless-steel valve with undercut stems to improve air flow, single groove design, chrome plated stems to reduce wear, hardened tips to withstand high loads

SMALL-BLOCK VALVE SPRINGS AND SPRING KITS

Part Number	Spring Type	Outside Diameter	Pressure at Installed Height	Solid Height	Average Rate (lbs @ in)	Retainer Part Number	Valve Seal Kit	Technical Notes
3911068	Single w/dampener	1.241"	80# @ 1.70"	1.15"	267	14003715	10132715	Production spring for 350/290 HP engines
10134358	Single w/dampener	1.273"	110# @ 1.70"	1.16"	356	14003974	10132715	Chrome silicone steel; use with aluminum heads P/N 10185086; orange color code
330585	Dual	1.379"	140# @ 1.75"	1.15"	325	330586	10132715	Use with cams P/N 3927140, P/N 3965754, and all moderate lift racing cams
12495495	Dual kit	1.379"	140# @ 1.75"	1.15"	325	330586	10132715	Kit of 16 springs P/N 330585 (see above)
366282	Dual w/dampener	1.525"	128# @ 1.70"	1.26"	406	366254	Aftermarket	Use with high-lift mushroom or roller lifter racing cams (0.625" lift)
10206040	Single spring	1.30"	85# @ 1.78"	1.26"	373	10168424	N/A	1992–1993 LT1 production Corvette engine
12551483	Single spring	1.32"	101# @ 1.78"	1.22"	332	10212808	N/A	1996 LT4 Corvette, Z24, CT350/400 and ZZ383 engines;
12495494	Spring kit	1.32"	101# @ 1.78"	1.22"	332	10212808	N/A	Kit of 16 springs P/N 12551483 (see above)
10212811	Single spring	1.25"	80# @ 1.70"	1.20"	256	10241744	N/A	CT350/350, 350HO engines
19154761	Spring kit	1.25"	80# @ 1.70"	1.20"	256	10241744	N/A	Kit of 16 Springs P/N 10212811 (see above)

VALVE SPRINGS AND SHIMS

Aluminum Valve Spring Retainer

Titanium Valve Spring Retainer

10212809
LT4 Valve Spring Shim (not shown)
- Lightweight shims as used on 1996 LT4 Corvette special LT service heads P/N 12363287, and Fast Burn heads
- Use with spring P/N 12551483

10185066
Spring Shim (not shown)
- Used on ZZ3 series 350 HO engines
- Spacer is 1.35" O.D. x 0.561" I.D. x .050" thick

3731058
Spring Shim (not shown)
- 55/64" I.D. x 1-15/16" O.D. x 0.030" thick

3875916
Spring Shim (not shown)
- 55/64" I.D. x 1-31/64" O.D. x 0.015" thick

3891521
Spring Shim (not shown)
- 55/64" I.D. x 1-31/64" O.D. x 0.065" thick

460483
Valve Stem Seal (not shown)
- Used on all ZZ series 350 HO engines
- Sold individually; 16 required per engine

10212810
LT4 Valve Stem Seal (not shown)
- Used on LT4 heads and GM Performance Parts head assemblies P/N 25534421, 25534431, 12363287 and 12464298.

12511890
Valve Stem Seal Kit (not shown)
- Late-model V-8 seal kit for 11/32" diameter valve stems
- Includes eight intake seals, eight exhaust seals and 16 oil stem seals

NOTE: *Check for seal-to-guide interference with high-lift cams.*

10241744
Valve Spring Retainer (not shown)
- Used on 350 HO, 350 Ram Jet and HT383

12495493
Valve Spring Retainer Kit (not shown)
- Kit of 16 P/N 14003974 caps as used on ZZZ, ZZ1, ZZ2, 350/300 HP, and 350/290 HP engines
- Base caps for most V-8 and V-6 engines
- 1-13/32" diameter retainer for springs P/N 3911068

10045007
Valve Spring Retainer (not shown)
- For all ZZ3 series engines

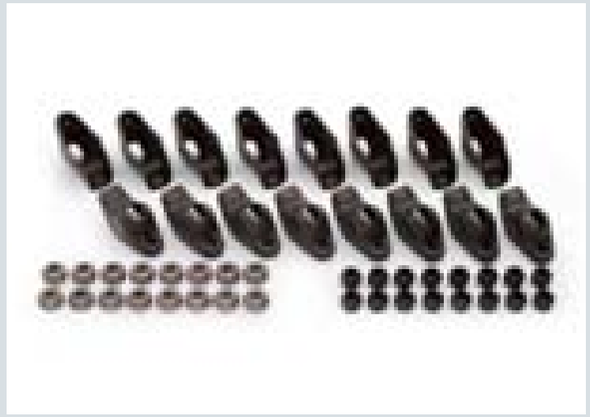
NOTE: *When converting ZZZ, ZZ1 or ZZ2 engines to ZZ3 series cap, valve spring shield must be removed and add cap P/N 10045007, seal P/N 460483, and spacer P/N 10185066.*

12495492
LT4 Valve Spring Cap Kit (not shown)
- Kit for 5.7L LT4 engines
- Includes 16 P/N 10212808 lightweight retainers
- Use with spring kit P/N 12495494 and key kit P/N 12495503
- Used on ZZ4, Fast Burn, LT4 and iron Vortec Bowtie heads

19169661
Heavy Duty Vortec Valve Spring Retainer (not shown)
- Fits Fast Burn and Vortec Bowtie cylinder heads
- Designed for circle track racing

366254
Titanium Valve Spring Retainer
- For valve spring P/N 366282

12495503
Valve Spring Key Kit (not shown)
- Kit includes 32 keys of P/N 24503856 for 11/32" valve stems
- Use on all Small-Block V-8 engines



Rocker Arm Kit, 1.5 Ratio **A**

Roller Rocker Arm Set **B**

Roller Rocker Arm (top) **B**

Roller Rocker Arm (bottom) **B**

ROCKER ARMS

A. 12495490
Rocker Arm Kit, 1.5 Ratio (set of 16)
- Self-aligning, high-quality rockers have a nominal 1.5:1 ratio
- Includes 16 stamped steel rockers with pivot balls and nuts
- Use P/N 10089648 for single service part; for 3/8" studs

NOTE: *Not recommended for mechanical lifter camshafts.*

Aluminum Roller Rocker Arm 3/8" Studs

These GM Performance Parts aluminum roller rocker arms resemble the ones used in the 1996 Corvette LT4 engine, except the trunnions have been machined to fit early-model 3/8-inch rocker studs. The arms are self-aligning with improved stiffness. They will accommodate up to 0.575" valve lift. They are available in 1.5:1 and 1.6:1 ratios.

12370838
Roller Rocker Arm Set, 1.5:1 Ratio (not shown)
- Set of 16, 3/8" stud 1.5:1 ratio roller rockers
- Use P/N 12367345 for single service part

12370839
Roller Rocker Arm Set, 1.6:1 Ratio (not shown)
- Set of 16, 3/8" stud 1.6:1 ratio roller rockers
- Use P/N 12367346 for single service part

NOTE: *When using a high lift camshaft, check valve spring coil bind, retainer-to-seal clearance and piston-to-valve clearance. Check for adequate pushrod clearance when using on cast-iron heads. It may be necessary to remove valve cover drippers for proper rocker arm clearance.*

NOTE: *P/N 12370839 cannot be used on ZZ3 engines with orange valve springs.*

12367347
Adjuster Nut for Roller Rocker Arm (not shown)
- 3/8" adjustment nut
- Used on both aluminum rocker arm kits P/N 12370838 and P/N 12370839

88961233
"Kool Nut" Rocker Arm Kit (not shown)
- Special rocker arm nuts are used on GM Circle Track engines
- Contains 16 pieces

Aluminum Roller Rocker Arm 7/16" Studs

These GM Performance Parts CNC-machined aluminum alloy roller rocker arms are for 7/16" studs. Extra-wide bearings and fulcrums improve load distribution and are lubricated with pressurized oil. The roller tip axle is made from 4130 steel. The roller tip is machined and ground from 8620 steel. They are available in 1.5:1 and 1.6:1 ratios.

B. 12361321
Roller Rocker Arm Set, 1.5:1 Ratio
- Set of 16, 7/16" stud 1.5:1 roller rocker arms
- Use P/N 12361328 for single service part

12361322
Roller Rocker Arm Set, 1.6:1 Ratio (not shown)
- Set of 16, 7/16" stud 1.6:1 roller rocker arms
- Use P/N 12361329 for single service part

NOTE: *These aluminum rockers will not work with standard-height valve covers. When using a high lift camshaft, check valve spring coil bind, retainer-to-seal clearance, and piston-to-valve clearance. Check for adequate pushrod clearance when using on cast-iron heads. It may be necessary to remove valve cover drippers for proper rocker arm clearance.*

VALVE COVERS

People can't see the beautiful porting artistry inside your GM Performance Parts aluminum cylinder heads, but they can, and do, see the valve covers. To make sure your GM engine looks as great as it runs, GM Performance Parts offers a wide selection of precision-engineered, branded valve covers. The valve covers are either aluminum or stamped steel. They're designed to seal tightly and minimize the chance of oil leakage. Taller competition valve covers are made to easily clear high performance valvetrain components. All valve covers are sold in pairs.

NOTE: *Valve covers are sold in pairs unless otherwise specified.*

Valve covers cannot be used with 15° or 18° heads unless otherwise stated.

A. 10185064
Tall Aluminum Valve Covers
- Competition racing valve cover displays the Chevrolet name and Bowtie logo
- Natural cast finish
- No holes for PCV or oil fill, but has bosses for drilling them
- Designed for pre-1986 engines with perimeter hold downs
- Can be used with 15° and 18° heads
- Use P/N 10185052 for single service part

B. 12480127
Short Aluminum Valve Covers
- Cast-aluminum Chevy Bowtie-design valve cover is similar to P/N 10185064 except it is a short style with a PVC hole in both covers (grommets included)
- Natural cast finish
- Designed for pre-1986 engines with perimeter hold downs
- Covers have oil baffle

NOTE: *For use with 1.5 ratio stamped rocker arms only.*

C. 24502466
Tall Valve Covers, No Logo
- Create your own custom valve covers!
- Cast-aluminum valve cover is similar to P/N 10185064, but has no logo
- Cast with material to permit milling a custom logo

NOTE: *Sold as single piece. Order 2 per engine.*

A Tall Aluminum Valve Covers

Chrome Short Valve Covers **D**

B Short Aluminum Valve Covers

Polished Aluminum Valve Covers, Center Bolt Design **E**

C Tall Valve Covers, No Logo

Aluminum Black Crinkle Valve Covers, Center Bolt Design **F**

D. 12341670
Chrome Short Valve Covers
- Short chrome valve covers, with baffle
- For use on pre-1986 engines with perimeter hold downs
- Chevrolet and the Bowtie logo are embossed on top

NOTE: *For use with 1.5 ratio stamped rocker arms only.*

E. 12497978
Polished Aluminum Valve Covers, Center Bolt Design
- Die-cast aluminum valve covers
- Polished to a bright shine
- Approximately 1/4" taller than production covers
- For use on 1986-and-newer engines with center hold-downs
- Kit includes bolts, washers and seals

NOTE: *Use valve cover gasket P/N 10046089 and replacement bolt and seal kit P/N 12497980.*

F. 12497979
Aluminum Black Crinkle Valve Covers, Center Bolt Design
- Die-cast with black crinkle finish
- Approximately 1/4" taller than production covers
- For use on 1986-and-newer engines with center hold-downs
- Kit includes bolts, washers and seals

NOTE: *Use valve cover gasket P/N 10046089 and replacement bolt and seal kit P/N 12497980.*

1969 CAMARO RS

By '69 the Camaro was on a roll, and the factory kept the excitement pumping with aggressive new styling that cemented its legacy as the quintessential Camaro look—a look that unquestionably influenced the new, 2010 Camaro. The long-standing Rally Sport option came with an aggressive grille, squared body panels and multi-section taillights found on all '69 models, but stood out with its flat-black grille package and slotted, see-through headlight covers that could be opened by more durable vacuum actuation. (The covers were see-through just in case they wouldn't open.)

As it was from its inception, the Rally Sport appearance package was open to just about anything, as it could be combined with more performance-oriented packages like the Z/28 or Super Sport, so it wasn't uncommon for RS/SS Camaros to prowl the streets with the best of both worlds. Similarly, the 2010 Camaro offers an RS package with unique grille and headlamp treatment—but instead of hidden lamps, they're high-tech, high-intensity discharge lamps.

Additional components required for installation. See page 165.

Available for purchase online at gmperformanceparts.com

Valve Covers Continued

A. 12497985
Chrome-Finish Aluminum Valve Covers, Center Bolt Design
- Die-cast with chrome finish
- Approximately 1/4" taller than production covers
- For use on 1986-and-newer engines with center hold-downs
- Kit includes bolts, washers and seals

NOTE: *Use valve cover gasket P/N 10046089 and replacement bolt and seal kit P/N 12497980.*

B. 25534359
Circle Track Valve Covers, Center Bolt Design
- Sheet metal valve cover kit designed for Gen I design circle track engines equipped with center hold-down cylinder heads
- Covers equipped with 2 breather pipes on 1 cover and no pipes on the other

NOTE: *Use breather kit P/N 25534355 (2 come in kit).*

C. 10185045
Cast Aluminum Valve Cover, Splayed-Valve V-8
- For use only with splayed-valve V-8 cylinder heads P/N 24502517, P/N 12480147 and P/N 12480146
- Cover has Chevrolet name and Bowtie logo

NOTE: *Sold as a single piece. Order 2 per engine.*

1969 CAMARO ZL-1

A legend in its own time and one of the most valuable muscle cars on the market today, the infamous ZL-1 Camaros of 1969 were the Frankenstein monsters of Detroit's golden age. Chevy dealer Fred Gibb Chevrolet utilized the legendary Central Office Production Order system, worked the system and signed up for 50 Camaros with the ZL-1 427 racing engine—a combination not officially offered by Chevrolet.

Created with drag racing in mind, it could be ordered with few or many options, including a heavy-duty Rock Crusher four-speed transmission or even the Rally Sport appearance package. The heart of the car was the all-aluminum, 103-octane-swilling 427-inch ZL-1 Big-Block. It was rated at 430 horsepower and 450 lb-ft of torque, but engine dyno testing revealed the truth was somewhere in the 500-horsepower range.

The spirit of the ZL-1 lives on in our all-aluminum Anniversary 427 limited-production crate engine. Its aluminum block is made with original ZL-1 tooling, too!

A Chrome-Finish Aluminum Valve Covers, Center Bolt Design

B Circle Track Valve Covers, Center Bolt Design

C Cast Aluminum Valve Cover, Splayed-Valve V-8

Aluminum Valve Cover, SB2.2 "Pontiac Logo" **E**

Adapter Kit, Center Bolt Design to Flange Mount **F**

Chrome Bolt Kit, Center Bolt Design **G**

E. 12480012
Aluminum Valve Cover, SB2.2 "Pontiac Logo"
- Attractive cast aluminum valve cover with Pontiac name
- Use only on SB2.2 cylinder heads P/N 12480011 and P/N 12480129

NOTE: *Sold as a single piece. Cover does not fit first-design SB2 head. GM no longer offers a first-design SB2 cover.*

ADAPTERS, HARDWARE AND BREATHERS

F. 24502540
Adapter Kit, Center Bolt Design to Flange Mount
- Allows use of old-style flange mount (perimeter hold-down) valve covers on 1986-and-newer center hold down-style heads
- CNC-machined from billet aluminum stock
- Kit includes two 3/8" thick adapters, O-rings and fasteners

NOTE: *Use replacement O-ring gasket P/N 12480023.*

G. 12497980
Chrome Bolt Kit, Center Bolt Design
- Service replacement parts for 1986-and-newer center hold-down design, die-cast aluminum valve covers in chrome, crinkle, and polished finishes
- Will not fit production valve covers

12356818
Chrome Hold-Down Bolt (not shown)
- Chrome valve cover hold-down bolt
- Used on all 1986-and-newer engines with center hold-down design stamped valve covers

NOTE: *Package contains 1 bolt. Order 4 per valve cover.*

12338092
Black Hold-Down Bolt (not shown)
- Black valve cover hold-down bolt
- Used on all 1986-and-newer engines with center hold-down design stamped valve covers

NOTE: *Package contains 1 bolt. Order 4 per valve cover.*

VALVE COVERS: ADDITIONAL REQUIRED COMPONENTS

Part Number	Gaskets (Qty)	Bolts (Qty)	Grommets (Qty)	Oil Fillers (Qty)	Engine Application
25534359	10046089 (2)	N/A	3989350 (1)	93439687 (1)	88958602, 88958603, 88958604
12497979	10046089 (2)	12497980	12341988	—	Small-Block
12497985	10046089 (2)	12497980	12341988	—	Small-Block
12497978	10046089 (2)	12497980	12341988	—	Small-Block

Additional components required for installation. See page 165.

Available for purchase online at gmperformanceparts.com

Adapters, Hardware and Breathers Continued

A. 88962074
Oil Baffle Tube
- Pushes easily into most valve covers that have an oil baffle
- Requires breather P/N 25534355; used on ZZ572 engines

B. 25534355
Circle Track Breather
- Special breathers are for circle track
- Valve covers used on circle track and ZZ572 engines
- Chrome breathers are 1-3/8", hose-clamp-style with the Bowtie logo on top
- Installs on the left-side of each valve cover
- Kit includes two breathers

C. 12341993
Push-In Oil Filler Cap
- For valve covers with 1.22" hole

19131218
Chrome Push-In Breather (not shown)
- 2-3/4" O.D. x 1-1/2" tall with 3/4" nipple
- Used on our FB385, ZZ4 and 350 engines
- Embossed Bowtie logo; use with rubber grommet (P/N 3894337)

3894337
Rubber Grommet, Bowtie Valve Covers (not shown)
- Has 15/16" I.D. x 17/32" O.D.
- Can be used to plug the oil filler hole in Bowtie valve covers, or to mount a push-in breather

D. 12341986
Hold-Down Clamps
- Clamps to minimize distortion of valve cover flanges on 1955-1986 Chevrolet Small-Block V-8 and 90° V-6 engines
- 4 clamps per package; order 2 per engine

E. 14082321
Spring Bar Retainer
- Special steel retainers prevent oil leaks
- Use under the valve cover bolts
- Distribute clamping force over a large area and prevent deformation of the flanges
- Narrow retainers are engineered to fit pre-1986 engines with perimeter-style hold downs

NOTE: *Package contains 1 retainer. Order 4 per valve cover.*

F. 14044820
Spring Bar Retainer, Chrome-Plated
- Similar to retainer P/N 14082321 described above
- Chrome-plated to match chrome valve covers

NOTE: *Package contains 1 retainer. Order 4 per valve cover.*

3933964
Valve Cover Gasket (not shown)
- Cork-type gasket
- Fits all valve covers with perimeter hold-down bolts
- 1 gasket per package

10046089
Valve Cover Gasket (not shown)
- For '86 and newer center hold down design valve covers

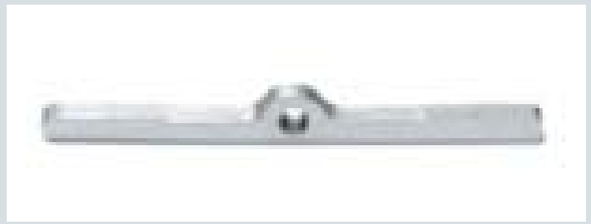
10185043
Valve Cover Gasket, Splayed Valve Head (not shown)
- Used with on splayed-valve V-8 cylinder head P/N 24502517
- Kit includes 2 gaskets

A Oil Baffle Tube

B Circle Track Breather

C Push-In Oil Filler Cap

D Hold-Down Clamps



E Spring Bar Retainer

F Spring Bar Retainer, Chrome-Plated

Heavy-Duty Pushrod Kit (0.100" longer than stock)

PUSHRODS

Pushrods are that critical connection between the camshaft and the rocker arms. These seemingly innocuous parts play a very important role in the combustion process. That's why GM Performance Parts pushrods are designed for heavy-duty street and competition applications. Two materials are used: 1010 mild steel for high-performance street cars, power boats, and limited competition applications, and 4130 chrome moly steel for maximum-performance racing engines. GM Performance Parts pushrods are case-hardened for use with pushrod guideplates.

Pushrods are available in standard and 0.100-inch extended lengths. The longer pushrods can be used to restore correct valvetrain geometry when using a high-lift camshaft with a small base circle. They are also recommended when longer-than-stock valves are installed.

SMALL-BLOCK PUSHRODS

Part Number	Material	Diameter	Length	Usage	Description
12495491	1010 steel	5/16"	7.724"	Flat tappet	(16) Heavy-duty heat-treated .075" wall, hardened tip inserts; standard length. Use 14044874 for single piece
14044874	1010 steel	5/16"	7.724"	Flat tappet	(1) Heavy-duty heat-treated .075" wall, hardened tip inserts; standard length.
12371057	1010 steel	5/16"	7.824"	Flat tappet	(16) Heavy-duty heat-treated .075" wall, hardened tip inserts. +.100 long; use 366277 for single piece
366277	1010 steel	5/16"	7.824"	Flat tappet	(1) Heavy-duty heat-treated .075" wall, hardened tip inserts. +.100 long
10046173	1010 steel	5/16"	7.122"	Hyd. roller	(1) Heavy-duty heat-treated .060" wall, standard length; for use in early ZZ-series engines with guideplates
12371041	1010 steel	5/16"	7.122"	Hyd. roller	(16) Heavy-duty .060" wall, standard length; for use in 2nd design ZZ-series engines without guideplates Use P/N 10241740 for single piece
10241740	1010 steel	5/16"	7.122"	Hyd. roller	(1) Heavy-duty .060" wall, standard length; for use in 2nd design ZZ-series engines without guideplates
10134309	4130 steel	5/16"	7.896"	Special	(1) Chromemoly one-piece design racing pushrod

SMALL-BLOCK GUIDEPLATES

Part Number	Description	Technical Notes
3973418	Pushrod guideplate (cast-iron head)	For use with production and Bowtie cast-iron cylinder heads with screw-in studs. Can also be used with aluminum Bowtie V-6 head. Should not be used with self-aligning rockers. Pushrod slots are 0.325". For 90° V-6, use on cylinders 1, 2, 5 and 6; guideplate must be ground to clear valve cover hold-down bolts. Four required per head.
14011051	Pushrod guideplate (aluminum Bowtie head)	Hardened steel guideplate has the correct pushrod spacing for aluminum Bowtie heads. Should not be used with self-aligning rockers. Pushrod slots are 0.365". Four required per head.
10111771	Pushrod guideplate (Corvette aluminum head)	Non-hardened guideplate for use with Corvette aluminum cylinder head assembly P/N 12556463 and 350 HO engine assembly P/N 10185072. Four required per head.

Screw-In Rocker Stud Kit (LT1, LT4 style) **G**

ROCKER ARM STUDS

12495497
Screw-In Rocker Stud Kit (3/8", not shown)
- 3/8" studs fit all high-performance Small-Block V-8 and 90° V-6 Chevrolet cylinder heads machined for screw-in studs and using guideplates
- Won't pull out of their bosses under high load
- Kit includes 16 pieces, for single stud usage, use P/N 10168410
- Lower thread section is 7/16-14

NOTE: *Screw-in studs can be installed on heads originally equipped with pressed studs by machining and tapping the stud bosses.*

G. 12371058
Screw-In Rocker Stud Kit (LT1, LT4 style)
- 3/8" studs are used on all late-model LT1, LT4, and any head not using a pushrod guideplate
- Kit includes 16 pieces; for single stud usage, use P/N 12552126
- Lower thread section is 7/16-14

3921912
Screw-In Rocker Stud (7/16", Big-Block style) (not shown)
- Beefy 7/16" Big-Block V-8 rocker studs
- Improve valvetrain stability of any Small-Block V-8 or 90° V-6 racing engine by minimizing rocker stud flex
- Fits any Small-Block V-8 or 90° V-6 cylinder head machined for screw-in studs
- Requires rocker arm for 7/16" stud

VALVE LIFTERS

A. 88958652
Valve Lifter Guide, "Quick Cam"

- Composite lifter guide is the same as used on LS series GM Small-Blocks, but with mounting holes for use on Gen I GM Small-Blocks (block must be drilled and tapped)
- For use with hydraulic roller lifters only
- Makes it possible to remove the camshaft without removing the intake and lifters
- Enough friction in the guide to hold the lifters in place if the rocker arms are backed off and the camshaft is rotated two full revolutions to push up the lifters

NOTE: *Package services one lifter bank.*

B. 12371042
Hydraulic Roller Lifter Kit

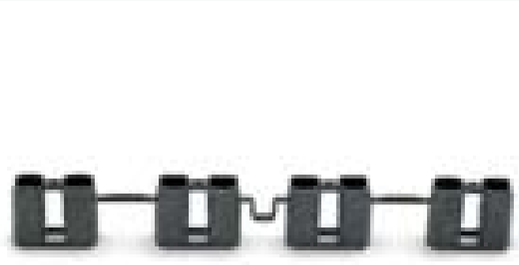
- Designed for 1986-and-later engines
- Second-design lifters are used in late-model 350 HO engines and use a higher checkball spring preload
- Includes 16 lifters of P/N 17120735, 8 valve lifter guides, 1 valve lifter guide retainer, 4 retainer bolts, and 4 retainer washers
- This lifter kit plus pushrod kit P/N 12371041 and a roller-tappet design camshaft converts your engine to a roller-lifter engine
- For single lifter usage, use P/N 17120735

This kit includes the following items:

17120735	16 Roller Lifters
12550002	8 Lifter Guides
14101116	1 Guide Retainer

C. 12371044
Hydraulic Lifter Kit (set of 16)

- Used on 1986-and-older Gen I-and Gen II-style engines
- Kit includes 16 hydraulic flat tappet lifters of P/N 5232720, and is designed for use with standard-length pushrod kit P/N 12495491 or 0.100" longer kit P/N 12371057
- Use P/N 5232720 for single lifter pieces



A Valve Lifter Guide, "Quick Cam"

B Hydraulic Roller Lifter Kit

B Hydraulic Roller Lifter

C Flat Tappet Lifter

SMALL-BLOCK CAMSHAFTS

Part Number	Description	Duration @ .050" Lift (deg)	Maximum Lift (in) w/1.5 rocker	Lobe Centerline (deg)	Technical Notes
3896962	Hydraulic flat tappet	I: 222 E: 222	I: .450 E: .460	114	Used in 290 hp 350 crate engine
24502476	Hydraulic flat tappet	I: 212 E: 222	I: .435 E: .460	112.5	Used in 350/300 hp and 350/330 hp special performance engines
14097395	Hydraulic roller design	I: 196 E: 206	I: .431 E: .451	109	For the HT383 truck engine with 1.5 rockers
10185071	Hydraulic roller tappet	I: 208 E: 221	I: .474 E: .510	112	For ZZ3 350 HO, ZZ4, FB385 engine; use with spring P/N 10134358 or 12551483
12551705	Hydraulic roller tappet	I: 201 E: 208	I: .447 E: .459	N/A	Used in 1995–97 Corvette and Camaro LT1 engines, discontinued
12551142 (1.6 rocker)	Hydraulic LT4 production cam	I: 203 E: 210	1.6 rocker I: .476 E: .480	115	1996 LT4 production
24502586 (1.5 rocker)	Hydraulic roller (LT4 hot cam)	I: 218 E: 228	1.5 rocker I: .492 E: .492	112	Service only; for all V-8 engines with roller cams. (See note below chart)
24502586 (1.6 rocker)	Hydraulic roller (LT4 hot cam)	I: 218 E: 228	1.6 rocker I: .525 E: .525	112	Service only; for all V-8 engines with roller cams. (See note below chart)
12480002 (1.6 rocker)	Hydraulic roller (LT4 hot cam kit)	I: 218 E: 228	1.6 rocker I: .525 E: .525	112	Same as P/N 24502586 except this is a kit that includes aluminum rockers, valve springs, and retainers
12370845	Hydraulic roller design	I: 214 E: 224	I: .488 E: .509	112	Off-highway use only; contains eccentric for mechanical fuel pump
12370846	Hydraulic roller design	I: 222 E: 230	I: .509 E: .528	112	Off-highway use only; contains eccentric for mechanical fuel pump
12370847	Hydraulic roller design	I: 234 E: 242	I: .539 E: .558	112	Off-highway use only; contains eccentric for mechanical fuel pump

ABOUT THE LT4 CAMSHAFT: *The LT4 camshaft P/N 24502586 was designed to be used in many different engines. The following change may be necessary for correct engine assembly: For LT1 and L98 engines (pre-1996) the dowel pin in the end of the camshaft must be pushed in so extension from end of cam is .30"+/- .01". For 1996 LT1 and LT4 engines, the dowel pin is in the correct position extending .620" from the end of the camshaft. This cam has a fuel pump lobe.*

SMALL-BLOCK CAMSHAFT AND LIFTER KITS, INCLUDE CAMSHAFT AND 16 LIFTERS

Part Number	Description	Duration @ .050" Lift (deg)	Maximum Lift (in)	Lobe Centerline (deg)	Technical Notes
12353915	Hydraulic flat tappet	I: 194 E: 204	I: .401 E: .423	104	Use with 1981-'87 engines with computers, flat tappet and non-roller cam, except 305 HO; good mid-range torque
12353917	Hydraulic flat tappet	I: 204 E: 214	I: .420 E: .442	112	For 8.0-9.5 C.R. low rpm Small-Blocks including 1955-'66 CA emissions, 1955-'68 Federal emissions, 1966-'92 off-highway, and all non-emissions trucks
12353918	Hydraulic flat tappet	I: 214 E: 224	I: .442 E: .465	112	For 8.75-10.5 C.R. low-medium rpm off-road and marine Small-Blocks
12353923	Hydraulic flat tappet	I: 224 E: 234	I: .465 E: .448	114	For 9.5-10.75 C.R. medium rpm Small-Blocks including 1955-'66 CA emissions, 1955-'68 Federal emissions,1966-'92 off-highway, and all non-emissions trucks
12364050	Hydraulic flat tappet	I: 222 E: 222	I: .447 E: .447	114	For 9.5-10.75 C.R. medium rpm Small-Blocks. Single pattern, blueprinted replacement for factory P/N 3863151 w/350 hp and 327-ci camshaft
12364051	Hydraulic flat tappet	I: 195 E: 202	I: .390 E: .410	112	For 7.75-8.75 C.R. low rpm Small-Blocks. Dual pattern, blueprinted replacement for factory P/N 3896929 w/300 hp and 327-ci camshaft
12364052	Mechanical flat tappet	I: 254 E: 254	I: .485 E: .485	114	For 11.0-12.5 C.R. medium/high rpm Small-Blocks. Blueprinted replacement for factory P/N 3849346 w/290 hp and 302-ci camshaft. Auto needs 4000 converter
12364053	Mechanical flat tappet	I: 257 E: 269	I: .493 E: .512	112	For 11.0-12.5 C.R. high rpm off-road Small-Blocks. Blueprinted replacement for factory P/N 3927140. Auto needs 4000 rpm stall converter
12364054	Mechanical flat tappet	I: 242 E: 254	I: .459 E: .485	116	For 10.0-12.0 C.R. medium/high rpm Small-Blocks. Blueprinted replacement for factory P/N 3972182 w/330 HP and 350 camshaft. Auto needs 3000 rpm stall converter

CAMSHAFTS

A great deal of exacting engineering, extensive development/testing, and precision manufacturing practices go into every GM Performance Parts camshaft. In many ways, the camshaft can be considered the heart of a high-performance engine. This vital function is why GM Performance Parts puts so much effort into making sure its camshafts deliver maximum power and driv-ability through a wide variety of camshafts.

NOTE: IMPORTANT! *Distributor with melonized steel gear MUST be used with steel camshafts or engine damage will occur.*

A. 12480002
350 Hot Cam Kit
- Off-highway kit converts production LT1 engine for showroom stock racing
- Improves Small-Block originally equipped with roller tappet camshaft
- Significant horsepower gains
- For roller blocks only
- Lifters are not included

This kit includes the following items:

24502586	1 Camshaft	**12370839**	16 Roller Rocker Arms Kit
12551483	16 Valve Springs	**10212808**	16 Valve Caps
24503856	16 Valve Keys	**10212809**	16 Valve Spring Shims

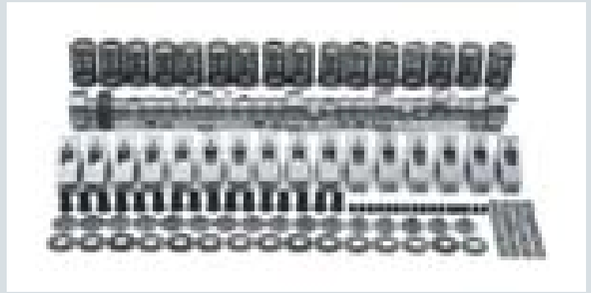
12499229
5.7L Vortec Camshaft Install Kit (not shown)
- Convenient, inclusive kit
- Includes 2 water pump gaskets, intake manifold gasket set, 2 valve cover gaskets, a distributor gasket and a front crankshaft seal assembly

B. 10088128
Camshaft Retainer
- First design with 3.62" bolt center as used on ZZZ, ZZ1 and ZZ2 engines

10168501
Camshaft Retainer (not shown)
- Second design with 3.294" bolt center as used on ZZ3 and ZZ4 engines

C. 24502459
Camshaft Rear Cover Kit
- Cover and O-ring gasket for sealing rear camshaft hole on all "CNC" aluminum and iron blocks
- Includes bolts

D. 12364085
Cam Button Spacer
- Solid aluminum button limits lateral movement of roller lifter camshafts
- Designed for 1955-1986 283-400 vehicles containing Small-Blocks without a cam thrust plate



A 350 Hot Cam Kit

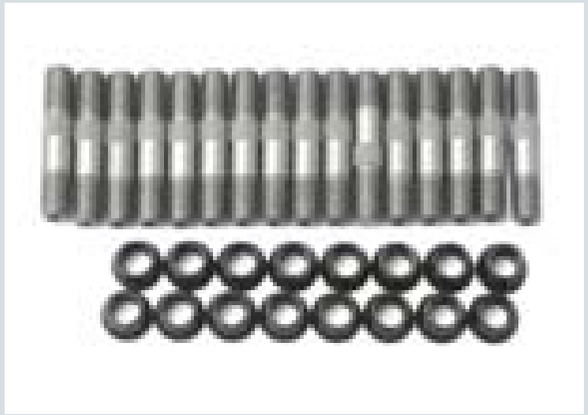
B Camshaft Retainer

C Camshaft Rear Cover Kit

D Cam Button Spacer

Connecting Rod Kit **E**

Connecting Rod Bearing Kit, 383 Engine **F**



Connecting Rod Stud and Nut Kit, 383 Engine **G**

CONNECTING RODS AND COMPONENTS

E. 12495071
Connecting Rod Kit
- High-quality, 5.70" powdered metal (PM) connecting rods
- For competition or street applications below 500 horsepower
- Replaces the old "pink rods" and are the same rods used in LT1 and LT4 Corvette engines
- Includes 8 P/N 10108688 rods, available individually

12497870
383 Connecting Rod Kit, 1st Design (not shown)
- Set of 8 steel 5.70" PM connecting rods used in 383-cubic" engines
- Notched to clear camshaft in most stroked Small-Block applications
- **First design, without chamfer**
- Standard .927" pin and 2.100" rod journal
- Cap held on by stud and nut, not standard-type bolt
- Good to 550 horsepower
- Use P/N 12497624 for single-service part

19169670
383 Connecting Rod Kit, 2nd Design (not shown)
- Set of 8 steel 5.70" PM connecting rods used in 383-cubic-inch engines
- Notched to clear camshaft in most stroked Small-Block applications
- **Second design, with chamfer**
- Standard .927" pin and 2.100" rod journal
- Cap held on by stud and nut, not standard type bolt
- Good to 550 horsepower
- Use P/N 17803091 for single service part

F. 12499108
Connecting Rod Bearing Kit, 383 Engine (standard)
- 8 heavy-duty bearings
- First design, with chamfer
- For all 383-cubic-inch engines

17800761
Connecting Rod Bearing Kit, 383 Engine (standard, not shown)
- 8 heavy-duty bearings
- Second design, without chamfer
- For all 383-cubic-inch engines

12499137
Connecting Rod Bearing Kit, 383 Engine (+0.010) (not shown)
- 8 bearings
- For +0.010-undersize 383-cubic-inch engines

G. 12491166
Connecting Rod Stud and Nut Kit, 383 Engine
- Studs and 12-point nuts (16 each) for all 383-cubic-inch engines
- Use with connecting rod P/N 12497624

PISTONS AND PISTON RINGS

Compressing the air/fuel mixture and dealing with the explosive forces inside an engine's cylinders isn't a job for weak parts. That's why GM Performance Parts pistons are premium quality and factory-tested to withstand the rigors of high-performance street and competition engines. GM Performance Parts pistons are available in a variety of compression ratios and bore sizes. They're sold individually, unless otherwise specified, and wrist pins are included.

SMALL-BLOCK PISTONS

Part Number	Engine Size	Compression Ratio	Head Chamber Volume	Size	Pin Type	Technical Notes
93422884	350	8.5:1	76cc	Standard	Pressed	290 HP 350
10159436	350	10:1	58cc	Standard	Pressed	5.7L HO, ZZ4 and LT1; high silicon aluminum
12514101	350	9.1:1	64cc	Standard	Pressed	350-cid 300 HP and 330 HP service engine with "SP" ID
12514102	350	9.1:1	64cc	+0.001	Pressed	350-cid 300 HP and 330 HP service engine with "SP" ID
12514103	350	9.1:1	64cc	+0.030	Pressed	350-cid 300 HP and 330 HP service engine with "SP" ID
12489437	383	9.1:1	64cc	Standard	Pressed	383 crate engine, first design
12497879	383	9.1:1	64cc	+0.030	Pressed	383 crate engine, first design
88962542	383	9.1:1 9.7:1	64cc* 62cc*	Standard	Pressed	383 engine, second design
88962748	383	9.1:1 9.7:1	64cc* 62cc*	+0.005	Pressed	383 engine, second design
88962749	383	9.1:1 9.7:1	64cc* 62cc*	+0.030	Pressed	383 engine, second design
12499103	383	9.1:1 9.7:1	64cc* 62cc*	+0.005	Pressed	Kit containing 8 of P/N 88962748 (383 engine, second design)
12499104	383	9.1:1 9.7:1	64cc* 62cc*	+0.030	Pressed	Kit containing 8 of P/N 88962749 (383 engine, second design)

**Compression ratio based on .028" thick head gasket.*

SMALL-BLOCK PISTON RINGS

Part Number	Bore Size	Oversize	Ring Thicknesses	Description
14089026	4.000"	+.030"	5/64, 5/64, 3/16"	Standard size , production style rings for 350HO and ZZ-series (except ZZ4) engines
12528817	4.000"	Standard	—	Low tension rings for ZZ4, LT1, and LT4 engines
12528818	4.000"	+.005"	—	Low tension rings for ZZ4, LT1, and LT4 engines
12528819	4.000"	+.030"	—	Low tension rings for ZZ4, LT1, and LT4 engines
12499135	4.000"	Standard	—	Premium quality standard-size rings for 1st design 383 engines
12499136	4.000"	+.030"	—	Premium quality rings for 383 engines
12499107	4.000"	+.005"	—	Set of 8 ring packs of P/N 12499135
12499231	4.000"	Standard	—	Set of 8 ring packs of P/N 12528817

Crankshaft, 383-cubic-inch Forged Steel **A**

Crankshaft Raw Forging, 350-Cubic-Inch Style **B**

Crankshaft Forging **C**

CRANKSHAFTS

A crankshaft is that massive piece of convoluted steel that holds the whole engine together. An engine is essentially a pump, and without a strong crankshaft, the pump won't work. GM Performance Parts puts the same top-quality engineering and manufacturing processes into its crankshafts as it does with all its parts. These crankshafts are the same ones used in GM Performance Parts crate engines. The crankshafts are available in cast-iron and forged steel. Forged crankshafts should be used for higher-horsepower applications.

14088526
Crankshaft, Cast-iron (not shown)
- Nodular cast-iron with 3.48" stroke and 2.10" diameter rod journals
- One-piece rear main seal crankshaft for 300- and 330-horsepower engines

NOTE: *This crank does not have a pilot bearing.*

12556307
Crankshaft, Forged Steel
(used in late-style ZZ4 engine; not shown)
- Forged 1053 steel crankshaft used in post-November 1998 ZZ4 engines
- Replaces all cast or steel ZZ4 crankshafts

NOTE: *Must be used with connecting rod P/N 10108688 and piston P/N 10159436.*

A. 12489436
Crankshaft, 383-Cubic-Inch Forged Steel
- Forged 4340 steel crankshaft used to create 383-cubic-inch engines with 3.800" stroke
- Rod journals are 2.10"
- Mains are standard 350 size

NOTE: *Should be used with connecting rods P/N 19169670, bearing kit P/N 17800761, standard pistons P/N 88962748 or 0.030" oversize pistons P/N 88962749, balancer P/N 12498008, and 1986-and-later one-piece crank seal design flywheel or flexplate.*

B. 10185100
Crankshaft Raw Forging, 350-Cubic-Inch Style
- Raw forging from S38 micro alloy steel
- Can be machined for a 3.46" to 3.50" stroke
- Two-piece rear seal design

C. 24502460
Crankshaft Forging
- Exceptionally strong and durable 4340 steel raw forging
- Ideal for machining to custom stroke dimensions from 3.20" to 4.00"
- 2.900" diameter main bearing journals can be ground to fit 400-cubic-inch Small-Block main bearings
- Large front section can be machined for Big-Block or Small-Block balancer
- Uses early style two-piece rear seal

14061685
Roller Pilot Bearing (not shown)
- Used in high-performance manual transmission applications

BALANCERS AND PULLEYS

Balancers are relatively small parts that play a big role in how smooth an engine runs. Balancers are also known as torsional dampeners or harmonic balancers, which is indicative of how they help control unwanted crankshaft vibrations. By controlling vibrations, GM Performance Parts balancers help engines run smoothly, which also extends engine life.

3858533
Crankshaft Pulley, 6-5/8" (not shown)
- Two-groove, high-rpm, 6-5/8" pulley
- For engines with short water pump

NOTE: *Can be used with a water pump pulley and belt P/N 9433722 without an idler pulley or alternator.*

3815933
Crankshaft Bolt (not shown)
- Positive retention 7/16-20 x 2-1/4" bolt for engines with tapped crank snouts
- Use with washer P/N 14001829

14001829
Washer (not shown)
- 1-3/4" x 1/2" x 5/16" thick washer for crankshaft bolt

383 Crate Engine Balancer with 1-Piece Crank Seal (P/N 12498008)

Racing Balancer (P/N 24502534 and 24502535)

Pre-1986 Flywheel

1986-up Flywheel

14" Flexplate

12-3/4" Flexplate

FLYWHEELS AND FLEXPLATES

At the opposite end of the crankshaft from the balancer are flywheels and flexplates, which connect the engine to either manual (flywheels) or automatic (flexplates) transmissions. GM Performance Parts offers both internally and externally balanced flywheels and flexplates. It is critical you use the correct design for your engine application.

NOTE: IMPORTANT! *All Chevy Small-Block and Big-Block engines with one-piece crankshaft seal require an externally balanced flywheel or flexplate.*

BOLTS

12337973
Flywheel Bolt (not shown)
- Fits all Chevy Small-Block V-8, Big-Block V-8 and 90° V-6 engines
- Sold individually; 6 required per engine

3727207
Flexplate Bolt (not shown)
- Fits all Chevy Small-Block V-8, Big-Block V-8 and 90° V-6 engines
- Sold individually; 6 required per engine

SMALL-BLOCK BALANCERS

Part Number	Engine Application	Outside Diameter	Technical Notes
12551537	1969-up 305 and 350; 90° V-6 competition	6.75"	Smaller size for limited clearance. Timing mark is 10 degrees before keyway centerline. Use with timing pointer P/N 3991435
3817173	1962-68 302 and 327	8"	Cast-iron. Inertia ring is 1-11/16" wide; timing mark is 2 degrees before keyway centerline. Do not use pointer P/N 3991436 unless TDC mark is adjusted
88960604	1970-74 350; ZZ4 crate engine	8"	Cast-iron. Inertia ring is 1-11/16" wide. Use with timing pointer P/N 3991436. For external balanced engines.
12498008	383 crate engine with 1-piece crank seal	8"	Use with 383 engine components and crankshaft P/N 12489436. For external balanced engines. Counter weight can be removed for neutral balance
6272225	400 cu in	8"	Counterweighted dampener for externally balanced crankshaft. Requires flexplate P/N 471578. Timing mark is 10 degrees before keyway centerline. Use with timing pointer P/N 3991436
24502534	All racing Accepts standard pulleys	7.074"	NASCAR-approved and specially tuned up to 9000 rpm. Uses standard crank hub diameter
24502535	All racing	7.074"	NASCAR-approved and specially tuned. Use with large-diameter 1.598" crankshaft hub

SMALL-BLOCK FLYWHEELS

Part Number	Year of Engine	Outside Diameter	Crank Flange Bolt Pattern	Clutch Diameter	Starter Ring Gear Teeth	Technical Notes
14085720	1955–1985	12.75"	3.58"	10.4"	153	For two-piece crank seal. Lightweight nodular iron; weighs approximately 15 pounds
3991469	1955–1985	14"	3.58"	10.4"; 11"	168	For two-piece crank seal
14088646	1986–up	12.75"	3.00"	10"	153	For one-piece crank seal. Lightweight nodular iron; weighs approximately 17 pounds
14088650	1986–up	12.75"	3.00"	10.4"	153	Standard-weight flywheel for one-piece crank seal
10105832	1986–up	14"	3.00"	11"; 11.85"	168	For one-piece crank seal

SMALL-BLOCK FLEXPLATES

Part Number	Year of Engine	Outside Diameter	Crank Flange Bolt Pattern	Converter Bolt Pattern	Starter Ring Gear Teeth	Technical Notes
471598	1970–1985	14"	3.58"	10.75"; 11.50"	168	For internally balanced engine with two-piece crank seal
471578	1970–1980	14"	3.58"	10.75"; 11.50"	168	For externally balanced 400-cu-in engine only. Use with balancer P/N 6272225.
471529	1969–1985	12.75"	3.58"	9.75"; 10.75"	153	For internally balanced engine with two-piece crank seal
14088765	1986–up	12.75"	3.00"	10.75"	153	For externally balanced one-piece crank seal
12554824	1986–up	14"	3.00"	11.50"	168	Heavy-duty flexplate with increased thickness for one-piece crank seal, externally balanced
14088761	1986–up	14"	3.00"	10.75"; 11.50"	168	For one-piece crank seal, externally balanced

TIMING CHAIN AND SPROCKETS

The timing chain connects the crankshaft to the camshaft and ensures those two key components work in a synchronized manner. GM Performance Parts' strong, accurate timing chains and sprockets provide top performance and dependable service.

A. 12371043
Single Roller Timing Chain Kit
- Performance kit for all 1987-and-newer engines with roller lifter camshaft, except LT1, LT4 and LS series
- Includes chain P/N 14088783, crank sprocket P/N 14088784, cam sprocket P/N 12552129, retainers and bolts

NOTE: *Will not work with flat tappet camshafts or LT1 and LT4 engines.*

B. 12370835
Extreme-Duty Timing Chain Kit, LT1 and LT4 Engines
- Performance upgrade, extreme-duty timing chain kit for 1995-and-newer LT1 and LT4 engines
- Includes roller timing chain P/N 14088783, crankshaft sprocket P/N 14088784, camshaft sprocket P/N 10214880 and water pump gear P/N 12551728
- Use with pin drive camshaft only

NOTE: *To convert 1993 and 1994 engines, use camshaft P/N 12551705, distributor P/N 1104032, timing cover P/N 12552426, vacuum harness P/N 12555323, and vacuum fitting P/N 14082470.*

14088783
Roller Timing Chain (not shown)
- Heavy-duty, single-roller chain for ZZ-design 350 HO engine
- Use with crank sprocket P/N 14088784 and cam sprocket P/N 12552129

14088784
Crankshaft Sprocket (not shown)
- Single-roller-type for ZZ-design 350 HO engine

12552129
Camshaft Sprocket (not shown)
- Single-roller-type for ZZ-design 350 HO engine

C. 9424877
Camshaft Bolt
- 5/16-18 x 0.75" bolt

12555886
LT4 Crankshaft Sprocket (not shown)
- For all LT4 engines

12555885
LT4 Camshaft Sprocket (not shown)
- For all LT4 engines

12554553
Camshaft Dowel Pin (not shown)

12555887
LT4 Timing Chain (not shown)
- Quiet roller design for all LT4 engines
- Use with crank sprocket P/N 12555886 and cam sprocket P/N 12555885

D. 12367600
LT1/LT4 Front Cover Plug
- Covers the hole on the front cover of engine when original distributor is removed and replaced with rear-mounted distributor

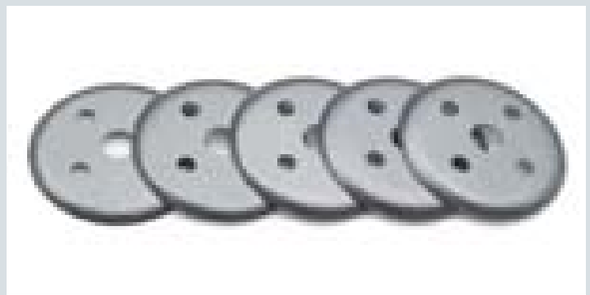
A Single Roller Timing Chain Kit

B Extreme Duty Timing Chain Kit, LT1 and LT4 Engines

C Camshaft Bolt

D LT4 Front Cover Plug

Water Pump Pulley **E**



Water Pump Pulley Reinforcement **F**

Water Pump, Long-Style **G**

Aluminum Water Pump, Short-Style **H**

Aluminum Water Pump, Long-Style **I**

Aluminum Water Pump, Long-Style Serpentine **J**

WATER PUMPS, PULLEYS AND COMPONENTS

Water Pump Pulleys

E. 3942992
Water Pump Pulley
- Fits 1971-and-newer and short-leg water pumps with large hubs

NOTE: *Must be modified to fit water pump with 3/4" shaft.*

F. 3720616
Water Pump Pulley Reinforcement
- Increases stiffness of water pump pulley
- Use with pulley

Water Pumps and Components

G. 88894341
Water Pump, Long-Style
- Late-style cast-iron pump with long mounting legs, reinforced snout and 3/4" diameter shaft
- End of shaft is reduced to 5/8" diameter
- Use with 350 HO, 383 and ZZ4 engines

H. 1968604
Aluminum Water Pump, Short-Style
- Saves weight over comparable iron pump
- Casting has short-style mounting legs used on pre-1982 Corvettes
- Pump has reinforced 3/4" diameter snout and a large hub with dual bolt patterns

NOTE: *Pump housing has a boss which can be drilled and tapped for a cam stop. Can be used with the ZZ4 engine with composite front timing cover by exchanging the bolts that hold the rear sheet metal plate to the pump with pan-head bolts P/N 14010976 or equivalent aftermarket bolts.*

NOTE: *Cam stop boss may interfere on engines with 8" dampener. Some clearancing may be required.*

I. 12495826
Aluminum Water Pump, Long-Style
- Lightweight pump similar to the one used on the ZZ430 crate engine
- Standard rotation
- Can be used on late-style engines

NOTE: *Will not fit LT1 or LT4 engines.*

J. 12497986
Aluminum Water Pump, Long-Style Serpentine
- Reverse-rotation pump
- Use with late-style engines with a serpentine belt system, including 90° V-6

NOTE: *Will not fit LT1 or LT4 engines.*

25534390
R0X Water Pump Housing with Cassette (not shown)
- Housing bolts directly to the block
- Block openings are spread to 9.40"
- Standard front inlet and outlet openings
- Includes Water Pump Cassette P/N 25534391

25534391
R0X Water Pump Cassette (not shown)
- Designed for efficient operation
- Easy serviceability
- Refined impeller design and tolerances to improve flow

ACCESSORY DRIVE KITS

A. 12497698

Serpentine Accessory Drive System (with Air Conditioning)

- Fits Gen I-style engines
- Deluxe kit includes all the components and hardware necessary to install on an engine with air conditioning, including water pump, alternator, power steering pump and idler bracket; belt included

The system includes:

10055800	Secondary Air Injector Pump Bracket
1134344	Air Compressor Assembly (CR4)
10129569	Idler Belt Pulley Bracket
88894005	Water Pump Kit
10055880	Water Pump Pulley
10055879	Crankshaft Pulley
10463172	Alternator Assembly (reman)
12117361	Alternator Connector (with lead)
10055798	Drive Belt Tensioner Assembly
10085752	Belt (fan, water pump, A/C pump, and alternator)
10105212	Alternator and Power Steering Bracket
88985115	Power Steering Pump (reman)
14102096	Power Steering Pulley

12497697

Serpentine Accessory Drive System (without Air Conditioning, not shown)

- Fits Gen I-style engines
- Deluxe kit includes all the components and hardware necessary to install on an engine without air conditioning, including water pump, alternator, power steering pump and idler bracket; belt included

The system includes:

10055800	Secondary Air Injector Pump Bracket
10129569	Idler Belt Pulley Bracket
88894005	Water Pump Kit
10055880	Water Pump Pulley
10055879	Crankshaft Pulley
10463172	Alternator Assembly (reman)
12117361	Alternator Connector (with lead)
10055798	Drive Belt Tensioner Assembly
10085752	Belt (fan, water pump, A/C pump, and alternator)
10105212	Alternator and Power Steering Bracket
88985115	Power Steering Pump (reman)
14102096	Power Steering Pump Pulley

12497869

Serpentine Accessory Drive Belt System, Base System with Brackets and Bolts (not shown)

- Kit includes brackets, pulleys and hardware to install on engine
- Does not include water pump, alternator, power steering pump or belt

9433722

Fan Belt (not shown)

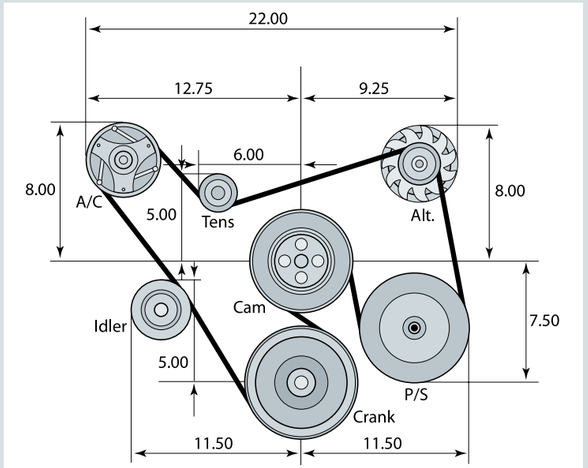
- Special "captured" belt eliminates need for idler pulley or alternator to maintain proper tension
- Use with crankshaft pulley P/N 3858533 and water pump pulley
- Belt runs around crankshaft and water pump only

OIL PANS, GASKETS AND ACCESSORIES

Oil is your engine's lifeblood and a high-quality GM Performance Parts oil pan keeps it where it belongs. Our properly designed and manufactured oil pans fit right and, along with matching gaskets, prevent leaks for years of trouble-free service. GM Performance Parts has oil pans for street and competition applications.

(Oil pans are sold without dipsticks or other hardware unless otherwise specified.)

A Serpentine Accessory Drive System (with air conditioning)



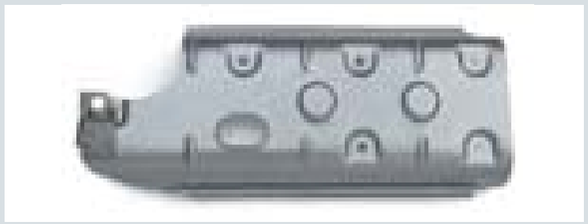
A Serpentine Accessory Drive System (with air conditioning): Diagram

B Oil Pan, 1986–1992 F-car and ZZ4

Oil Pan, Z28-Style **C**

Oil Pan, 1986–1996 Corvette-Style **D**

Circle Track "Late Model" Oil Pan **E**



Windage Tray **F**

Windage Tray **G**

Oil Pans, Gaskets and Accessories Continued

It's important to note that Chevrolet V-8 and V-6 engines were redesigned in 1986 to include a one-piece rear main seal. That required a correspondingly new oil pan design. For pre-1986 engines, there is a newer one-piece pan gasket available. Oil pans and gaskets are not interchangeable between early and late design engines. Blocks that have been machined for a one-piece real main seal require seal adapter P/N 10051118 and must use the newer-style oil pan and gasket.

B. 12557558

Oil Pan, 1986-1992 F-Car and ZZ4

- Four-quart pan used on ZZ4 crate engines and 1986-92 Camaro and Firebird
- Internal baffling and right-hand dipstick
- Designed for 1-piece rear main and 1-piece oil pan gasket
- Fits with crankshaft seal adapter P/N 10051118

NOTE: *Use with oil pan rail reinforcement P/N 12553058 (LH) and 12553059 (RH).*

C. 360450

Oil Pan, Z28-Style (2-Piece Rear Main Seal)

- Four-quart oil pan fits 1970-79 Camaro and 1979 Corvette
- Internal baffling and a left-hand dipstick
- Use with 2-piece rear main seal on 1955–1979 blocks
- Requires gasket P/N 14079399

D. 10055765

Oil Pan, 1986–1996 Corvette-Style (1-Piece Rear Main Seal)

- Five-quart oil pan fits 1986–1996 Corvette models
- Has right-hand dipstick and fits crankshaft seal adapter P/N 10051118

NOTE: *Use with oil pan rail reinforcements P/N 14088501 (LH) and 14088502 (RH).*

25534353

Circle Track "Factory Stock" Oil Pan (not shown)

- Special black-powder-coated 8-quart circle track pan is used in the Circle Track engine P/N 88958602
- 8" sump has a single 3.5" kickout on the right-hand side
- Includes a fully louvered windage tray, oil scraper, three trap doors, oil level plug, and 3/4" oil pick-up tube
- 8" deep

E. 25534354

Circle Track "Late-Model" Oil Pan

- Special black-powder-coated, 8-quart circle track pan is used in the factory stock engines P/N 88958603 and P/N 88958604
- 7" sump has a 3.5" kickout on both sides
- Includes a fully louvered windage tray, three crankshaft scrapers, six trap doors, two runners, an oil temperature fitting provision, oil level plug, and 5/8" oil pick-up tube
- 7" deep
- Oil pickup tube available separately P/N 19171997

10108676

Oil Pan Gasket, 1-Piece Rear Main Seal (not shown)

- Neoprene 1-piece gasket for 1986-and-newer engines

F. 3927136

Windage Tray

- Separates the oil in the pan sump from the rotating crank assembly to reduce aeration of the oil
- Aids in oil control and minimizes oil slosh under hard braking
- Use with oil pan P/N 360450

NOTE: *Requires five mounting studs P/N 14087508 for 1968-and-later blocks. Use mounting studs P/N 3872718 with pre-1968 blocks. On 400-cubic-inch Small-Blocks the baffle requires modifying by elongating mounting holes. Check tray clearance with long-stroke crankshafts and/or non-stock connecting rods.*

G. 12554816

Windage Tray

- Flat oil pan baffle used with 1986-1996 Corvette pan P/N 10055765
- For 1968-and-newer blocks, use five mounting studs P/N 14087508
- For pre-1968 blocks, use studs P/N 3872718

Oil Pans, Gaskets and Accessories Continued

12555884
Oil Pump, High-Pressure LT1/LT4-Style (not shown)
- Production-style high-pressure 1993-1997 LT1/LT4 oil pump with 1.20" gears
- Produces 60-70-psi oil pressure; screen not included

A. 14044872
Oil Pump, High Volume
- High-volume pump has 1.50" gears for increased volume
- Approximately 25 percent more capacity than a production pump at standard pressure; pick-up not included

Order These Parts To Complement Your New Oil Pump:

3892678
Oil Pump Bolt (not shown)
- Fits all models, 7/16-14" x 2"

3998287
Oil Pump Shaft (not shown)
- Fits all 1959-and-newer engines

3764554
Oil Pump Shaft Retainer (not shown)
- Fits all 1959-and-newer engines
- Use with oil pump shaft P/N 3998287

3848911
Oil Pump Spring (not shown)
- Regulates oil pressure at approximately 70 psi
- Use with high-volume pump, P/N 12555884

NOTE: *Minimum recommended oil pressure for off-highway use is 65 psi at engine operating speed.*

B. 3952301
Oil Filter Adapter
- Mounts a spin-on cartridge for Gen I and II Small-Block V-8s
- Contains a filter bypass valve and requires two attaching bolts, P/N 3951644

24241872
Magnetic Drain Plug (not shown)
- Catches and holds small pieces of metal before they can cause engine damage

C. 12368084
Engine Oil Primer
- Use to lube engine bearings prior to starting a new or rebuilt engine
- Fits Small-Block and Big-Block

D. 93440806
HEI Distributor
- A must for steel roller cams
- Has ignition advance curve for high-performance applications
- Comes with melonized steel gear P/N 10456413

E. 88961867
Distributor, Billet HEI
- Most powerful and durable distributor for Small- or Big-Block Chevrolet engines
- Oversized shaft is guided by a sealed ball bearing and long sintered bushing
- Treated coating on the shaft provides low friction
- Advance assembly features chromemoly weights that slide on nylon pads for smooth timing advancement through the entire rpm range
- Also included are vacuum advance canister and billet aluminum housing that is CNC-machined for greater accuracy
- High quality cap with brass terminals

10456413
Distributor Gear (not shown)
- Melonized steel gear is required for all crate engines and steel roller camshafts

NOTE: *This gear is part of distributor assembly P/N 93440806.*

A Oil Pump, High Volume

B Oil Filter Adapter

C Engine Oil Primer

D HEI Distributor

E Billet HEI Distributor

Intake Manifold, ZZ Series **F**

Intake Manifold, Vortec Head Design **G**

Intake Manifold, Vortec Head Design (dual pattern carb mount) **H**

Intake Manifold, Vortec Head Design for TBI **I**

INTAKE MANIFOLDS, GASKETS AND COMPONENTS

Intake manifolds distribute the air/fuel mixture to the appropriate cylinders. Intake manifold design is geared toward the end usage, whether that is a street performance engine or an all-out competition application. The wide range of GM Performance Parts intake manifolds means there is an ideal manifold for your every need. There are cast-iron and aluminum intake manifolds for carbureted and fuel injected applications. GM Performance Parts intake manifolds were designed specifically for GM engines, so you know they will deliver O.E. performance.

F. 10185063
Intake Manifold, ZZ Series
- Aluminum manifold used on all ZZ series 350 HO engines
- Can be used on all Small-Blocks through 1986
- Dual-pattern carburetor flange is approximately 1/2" lower than the 1970 LT1 intake, yet produces the same horsepower
- Provisions for all late-model accessory brackets, EGR, and an integral hot-air choke
- A heat shield can be mounted underneath for improved performance

G. 12366573
Intake Manifold, Vortec Head Design
- Designed for 283-400-cubic-inch engines using Vortec cylinder heads P/N 12529093, P/N 12558060, P/N 12497186, P/N 12464298, P/N 25534421, or P/N 25534446
- Has 4-bolts per side to attach it to these cylinder heads
- Aluminum high-rise design maximizes horsepower and delivers a broad torque curve
- Accepts a square-bore 4150-style carburetor and includes externally plumbed hot water crossover passage
- Use manifold gasket P/N 89017465 and eight attachment bolts, P/N 12550027

NOTE: *Vortec heads were originally released on 1996-1999 truck engines. Check for hood clearance, especially with Corvette.*

H. 12496820
Intake Manifold, Vortec Head Design (Dual Pattern Carb Mount)
- This dual bolt pattern aluminum manifold will work with all Vortec cylinder heads P/N 12529093, P/N 12558060, P/N 12497186, P/N 12464298, P/N 25534421, or P/N 25534446
- Will accept Holley or Quadrajet-style carburetors
- Will accept an EGR valve, P/N 17052693
- To block EGR port, use P/N 12556596
- Requires intake manifold gasket P/N 89017465 and 8 special manifold bolts, P/N 12550027

I. 12496821
Intake Manifold, Vortec Head Design for TBI
- Designed for throttle-body fuel injection
- Aluminum intake will work with all Vortec cylinder heads, including P/N 12529093, P/N 12558060, P/N 12497186, P/N 12464298, P/N 25534421, or P/N 25534446
- Also accepts EGR

NOTE: *The exhaust manifold from 1996-and-newer pickup trucks with RPO L31 350 engine, P/N 12557828, is drilled and tapped to accept an EGR tube. EGR pipe P/N 10220275 can be used with EGR Valve P/N 17113457 and gasket P/N 12337972. This manifold is primarily intended for use with Vortec heads on pre-1996 engine blocks. 1995 and earlier blocks have thermostat bypass passage from the block directly to the water pump. If manifold is used on 1996 and later engines (which do not have the bypass in the block), you must run a coolant bypass line from the manifold to the 5/8" hose nipple on the water pump (passenger's side). Suggested routing is from the 3/8 NPSF boss on manifold to the water pump.*

Additional components required for installation. See page 185.

Available for purchase online at gmperformanceparts.com

Intake Manifolds, Gaskets and Components Continued

A. 12496822

Intake Manifold, Eliminator Vortec Head Design

- Designed to deliver the most power and torque with Vortec cylinder head P/N 12529093, P/N 12558060, P/N 12497186, P/N 12464298, P/N 25534421 or P/N 25534446
- Use intake manifold gasket P/N 89017465 and 8 special manifold bolts P/N 12550027

B. 24502592

LT1 Intake Manifold

- Fits 1992-1996 Gen II LT1 engines and permits the use of a carburetor
- Long runners increase engine torque up to 30 lb-ft without sacrificing top-end horsepower
- There are no water coolant holes on this manifold

C. 14097494

Cast-iron Intake Manifold (1987-newer)

- High-rise manifold fits all 1987-and-newer 305 and 350 engines with cast-iron Gen I-style cylinder heads
- Same height as the aluminum Z28 manifold P/N 14096011 and has no EGR provision
- The center two bolt holes are at 72° angles instead of the normal 90° angle

14096011

Cast-iron, High-Rise Intake Manifold (not shown)

- Cast-iron version of the aluminum high rise Z28 intake manifold
- Designed for budget builds, racing classes that mandate a cast-iron intake and marine applications
- Accepts both standard and spread bore four-barrel carburetors
- Manifold is identified by orange Bowtie logo

D. 10051103

Bowtie Intake Manifold, Raised Runner

- Runners of this single-plane aluminum intake manifold are raised .200" to match the ports of Bowtie cylinder head P/N 10051101
- Air gap beneath the runners isolates the intake charge from hot engine oil
- A 2° carburetor spacer is recommended
- Accepts standard-flange four-barrel carb
- For competition use only, as there are no heat riser passages

BUILDER'S TIP

Cleaning Gasket Surfaces

When you're preparing to transfer parts from an old engine to a new one, such as the intake manifold or other components that are sealed with a gasket, avoid cleaning the gasket surfaces with abrasive discs. Although they're fast and easy, they can release particles that are too small for the oil filter to trap. They can also scratch or gouge the gasket mating surface—especially on aluminum parts—which can cause an oil leak. The best cleaning method is using a gasket scraper or razor blade, with a little help from a parts cleaner brush.

A Intake Manifold, Eliminator Vortec Head Design

B LT1 Intake Manifold

C Cast-iron Intake Manifold (1987–newer)

D Bowtie Intake Manifold, Raised Runner

Bowtie Intake Manifold, Standard Runner **E**

Carburetor Spacer, Dual Plane, One-Inch **F**

Carburetor Spacer, Dual Plane, Two-Inch **G**

Carburetor Spacer, Single Plane, One-Inch **H**

Carburetor Spacer, Single Plane, Two-Inch **I**

Ram Jet Fuel Injection Manifold Kit (less electronics) **J**

Intake Manifolds, Gaskets and Components Continued

E. 10051102

Bowtie Intake Manifold, Standard Runner

- This standard-runner manifold is based on the raised-runner intake P/N 10051103 (see page 182)
- Designed for use on Small-Blocks using heavy-duty Bowtie cylinder heads P/N 10134392 and P/N 14011049

F. 88965829

Carburetor Spacer, Dual Plane, One-Inch

- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back
- Spacer accepts Quadrajet-style carburetors

G. 19155949

Carburetor Spacer, Dual Plane, Two-Inch

- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back
- Spacer accepts Quadrajet-style carburetors

H. 88965830

Carburetor Spacer, Single Plane, One-Inch

- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back

I. 88965831

Carburetor Spacer, Single Plane, Two-Inch

- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back

J. 12498032

Ram Jet Fuel Injection Manifold Kit (less electronics)

- Retro-fit fuel injection kit will fit V-8 engines using Vortec cylinder heads P/N 12529093, P/N 12558060, P/N 12497186, P/N 12464298, P/N 25534421, or P/N 25534446
- Must be used with an aftermarket ECU and wiring harness with the proper calibration
- The same as used on Ram Jet 350 engine P/N 12499120. (MEFI with ECU and Wire Harness Kit P/N 12499116 is not calibrated for anything other than Ram Jet 350.)

Kit includes the following (as well as brackets, sensors, bolts, nuts, gaskets, and other small parts):

88959339	Instruction Manual	**12489371**	Intake Manifold
17096144	Throttle Body	**1115498**	Coil
12097982	Ignition Wire	**1104060**	Distributor
12498951	Air Cleaner	**12553918**	Injector Rail
17124248	8 Fuel Injectors	**16249939**	MAP Sensor
10456126	Knock Sensor	**15326386**	Engine Temp Sensor
17123897	Fuel Pressure Regulator		

NOTE: *It does not include ECU or wiring harness, which must be sourced separately.*

12489371

Ram Jet 350 Intake Manifold (not shown)

- Used on the Ram Jet 350 engine assembly P/N 12499120
- Bare manifold only—no throttle body, injector rails, injectors, bracket or other components
- See P/N 12498032 for complete manifold kit

Additional components required for installation. See page 185.

Available for purchase online at gmperformanceparts.com

Bowtie Competition Manifolds

A. 24502481
Intake Manifold, 18° Competition
- Developed for NASCAR's shorter tracks and works well on Trans-Am-series engines
- Features smaller runners and less plenum volume, which enhances mid-range torque
- Aluminum intake fits 18° heads casting P/N 10134363 and P/N 24502569
- Manifold is ideal for 310-cubic-inch road racing and 358-cubic-inch short track engines
- Manifold flanges are 0.59" thick to promote a good gasket seal
- An auxiliary water line boss at the rear of the casting improves water flow
- Weight 22.5 lbs
- Volume 2700cc

B. 24502653
Intake Manifold, Spider Design
- A two-piece 'dry' aluminum manifold "spider" consisting of the runners and plenum only
- The runners, called the spider assembly by racers, along with valley plate assembly—the common term for the bottom section of the intake (see P/N 24502654 below)—are designed for use with the 18° cylinder heads with a date code of June 1996 or newer

C. 24502654
Valley Plate Assembly
- Universal aluminum valley plate is designed for use with 18° cylinder heads
- Can be used with dedicated two-piece manifold spiders, existing one-piece intake manifolds which have been properly machined for use as a dry manifold, or fabricated manifold designs
- Valley plate assembly consists of the valley plate P/N 24502652, the inspection cover P/N 24502651, O-ring material and eight retaining bolts
- Valley plate has cast-in integral passages to equalize coolant flow from the front and the rear of the cylinder heads
- Fits heads dated June 1996 and later

NOTE: Important information about gasket matching:
Gasket flanges are machined to provide the proper port alignment with standard runner locations. Runners in heads and manifold must be matched by engine builder. Often, the gasket will line up with the top of the port so removal is required at the bottom of the port. Gaskets that can be used with this manifold are: Fel-Pro® P/N 1205 and P/N 1206, and Mr. Gasket® P/N 102. Always match the gasket to the cylinder head you plan to use to ensure a correct fit.

A Intake Manifold, 18° Competition

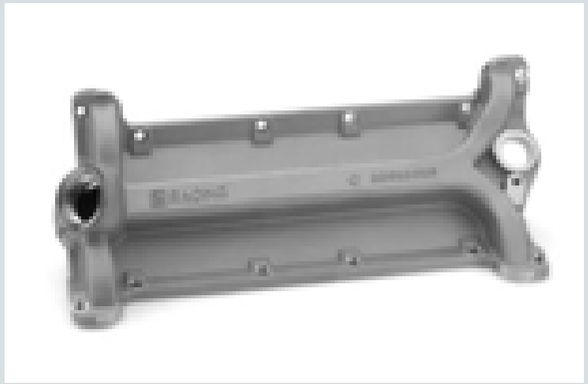
B Intake Manifold, Spider Design

C Valley Plate Assembly

D Intake Manifold, Spider Restrictor Design—SB2.2

Intake Manifold, **E** Spider Design—SB2.2

Intake Manifold, **F** Spider Design—SB2.2



Valley Plate Assembly, SB2.2 **G**

NASCAR Intake Manifolds

D. 12480096
Intake Manifold, Spider Restrictor Design—SB2.2
- Aluminum manifold has more material in the runners and plenum to accept more flexibility in porting
- Designed for NASCAR restrictor-plate racing and is used with valley plate assembly P/N 12370840 (see below)

E. 88958617
Intake Manifold, Spider Design—SB2.2
- Designed for NASCAR-style racing and high-rpm engines
- Additional aluminum in the runners and plenum allows more flexibility in porting
- Must be used with valley plate assembly P/N 12370840 or P/N 88958659

F. 88958699
Intake Manifold, Spider Design—SB2.2
- Closer to net shape for 390-cfm carburetor applications
- The plenum area is larger and the runners are stood up more (closer to line of sight) than the intake manifold P/N 88958617
- Has same carb height and plenum floor as P/N 88958617
- Must be used with valley plate assembly P/N 12370840 or P/N 88958659

12370840
Valley Plate Assembly, SB2.2 (not shown)
- Aluminum valley cover is used with manifold runners P/N 12480096 and P/N 88958617 on SB2.2 cylinder heads for NASCAR racing

G. 88958659
Valley Plate Assembly, SB2.2
- Aluminum valley cover is used with manifold runners P/N 12480096, P/N 88958617 and P/N 88958691
- Does not incorporate an inspection cover, but has revised integral water passage for improved coolant flow from the front and rear of the cylinder heads
- Uses AN -24 fitting for water outlet; can use reducer for -20 fitting

88958670
Valley Plate Assembly, R0X (not shown)
- Fits R0X manifold and R0X head P/N 88958667

INTAKE MANIFOLDS: ADDITIONAL REQUIRED COMPONENTS

Part Number	Gaskets (Quantity)	Bolts (Quantity)	Engine Application
12366573	89017465 (1)	12550027 (8)	88958602, 12499710, 12496769
12496820	89017465 (1)	12550027 (8)	12499711, 12499101, 12497317, 12496968
12496822	89017465 (1)	12550027 (8)	88958604, Vortec Heads
10185063	12525810 (1)	14091544 (8), 88891769 (2)	24502906, 88958603, 12499712, 19201330
12489371	89017465 (1)	12550027	12499120, 12495515
12496821	89017465 (1)	12550027 (8)	Vortec Head for TBI
24502481	10185007	N/A	18° high-port racing heads
24502653	10185007	N/A	18° high-port racing heads
24502654	10185007	N/A	18° high-port racing heads

Covers and Plugs

A. 14094792
Choke Hole Cover
- Covers the choke hole on the 350 HO manifold P/N 10185063
- Use gasket P/N 14096848 and screw P/N 9442184 with washer P/N 9439511

B. 6269414
Cover, EGR Valve
- Covers the EGR valve port on the 350 HO manifold P/N 10185063
- Use gasket P/N 12554530 and screw P/N 9442184 with washer P/N 9439511

C. 12556596
Plug, EGR Pipe Hole
- 7/8-15 plug is used to seal off EGR pipe holes on intake manifold P/N 12496820 and P/N 12496821

Chrome Water Necks

D. 12342024
Water Neck
- Chrome water neck with neoprene O-ring and chrome bolts
- For 1966-1975 Chevrolet, Camaro, and Chevelle V-8 engines

Intake Manifold Gaskets

E. 10147994
Gasket Kit, 1971-1986 and ZZ350
- For 302-350 high-performance Small-Blocks built from 1971-1986, and all ZZ350 high-performance engines
- Gaskets fit standard intake port location
- Do not use with raised runner cylinder heads
- Includes 2 gaskets

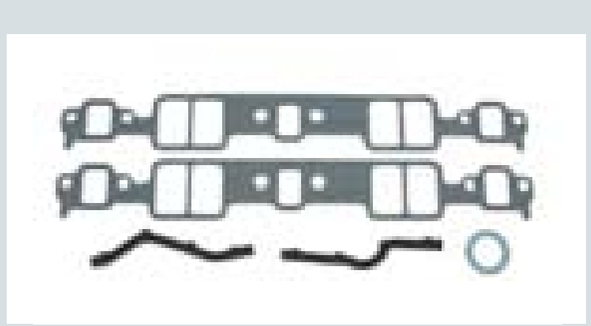
F. 12497760
Gasket Kit, Vortec Design
- Designed for Vortec heads P/N 12529093, P/N 12558060, P/N 12464298 and P/N 12497186 only
- Gasket thickness is 0.120" (1/8"), post size is 1.08" x 2.16" with tapered wall
- Has both early style 6-bolt pattern and Vortec 4-bolt pattern
- Includes 2 gaskets

A Choke Hole Cover

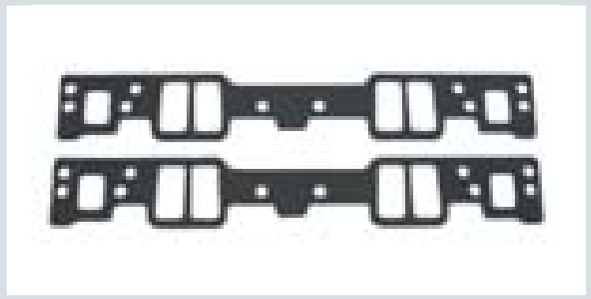
B Cover, EGR Valve

C Plug, EGR Pipe Hole

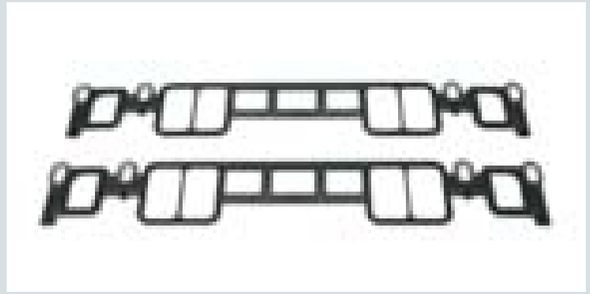
D Water Neck



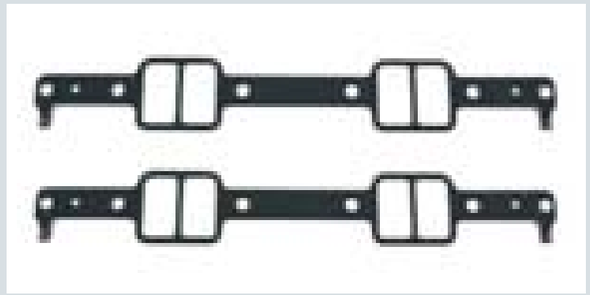
E Gasket Kit, 1971-1986 and ZZ350



F Gasket Kit, Vortec Design



Gasket Kit, Production Vortec Design G



Gasket Kit, LT4 H

Air Cleaner, Chevrolet-Logo High-Performance Design I

Air Cleaner, Chevrolet-Logo Classic Design J

Air Cleaner, Ram Jet 350 K

G. 89017465
Gasket Kit, Production Vortec Design
- Production gasket for all Vortec-design cylinder heads (4-bolt attachment to cylinder heads P/N 12529093 and P/N 12558060)
- Requires the use of GM attachment bolt P/N 12550027, because the bolt has a ball design on the end that seats in the head so it will not crush the intake manifold gasket
- Includes 2 gaskets

H. 12528884
Gasket Kit, LT4
- Used on the LT4 engine P/N 12371172
- Can be used with all LT4 heads and is designed not to cover part of the cylinder head opening—as production gaskets do
- Includes 2 gaskets

10185042
Gasket Kit, Splayed-Valve (not shown)
- Used only on the splayed-valve V-8 cylinder heads P/N 24502517
- Includes 2 gaskets

10185007
Gasket Kit, 18-Degree High Port Heads (not shown)
- Used only with V-8 18° high port cylinder heads P/N 10134363 and P/N 10134364
- Includes 2 gaskets

12524653
Gasket Kit, LT1 Four-Barrel Conversion (not shown)
- Required when installing a four-barrel manifold on any LT1 engine
- Includes 2 gaskets

AIR CLEANERS

I. 12342080
Air Cleaner, Chevrolet-Logo High-Performance Design
- 14" round high-performance-style air cleaner
- Chrome lid with embossed Chevrolet name
- Fits most four-barrel and two-barrel carburetors
- Will not fit Dominator-style carburetors

NOTE: *Check clearance between hood and top of air cleaner. Minimum clearance is 3.75" from top of carburetor gasket area to underside of hood.*

J. 12342071
Air Cleaner, Chevrolet-Logo Classic Design
- 14" round classic-style air cleaner
- Chromed lid with embossed Chevrolet name and Bowtie attaching nut
- Fits most four-barrel and two-barrel carburetors
- Will not fit Dominator-style carburetors

K. 12498951
Air Cleaner, Ram Jet 350
- Designed for use with throttle body on Ram Jet 350 crate engine, but can be used on other applications

LS Series Components

If you've never considered an LS engine as a viable option for your street car or race car, you probably prefer First-Gen Camaros to Fourth-Gen cars. And that's just fine—but for a new generation of enthusiasts, LS is the new Small-Block and an '02 Z28 is their '69 SS 350.

The decade that has passed since the LS engine family was introduced has been nothing short of revolutionary. GM engineers applied the inherent advantages of a cam-in-block engine design—low-end torque, compact dimensions and minimal complexity—to state-of-the-art design and manufacturing techniques, creating a clean-sheet engine family. LS engines are capable of exceptional performance per displacement and greater efficiency than the vintage Small-Block it effectively replaced in production vehicles.

From an enthusiast standpoint, the LS series is a godsend. In addition to excellent durability, the platform offers great interchangeability, with literally dozens of combinations enabled by a proliferation of regular-production and high-performance cylinder blocks, cylinder heads, induction systems and all the related components.

Forward-thinking enthusiasts and racers who joined the LS family early saw great results; and their experience is driving a new wave of high-performance engine-building. LS engines are adaptable to older vehicles as well as late-models, allowing enthusiasts to retro-fit vintage cars and trucks with thoroughly modern performance.

GM Performance Parts recognizes the LS series as the next great chapter in GM's performance legacy and we're backing that up with an expanded line of high-performance engines, components and support hardware. From production-based systems to our racing-proven LSX high-performance line, we're constantly pushing to find the outer edge of LS-engine potential—and we're not even getting close!

LSX Bowtie Block

The LS Engine Family Tree

Everything you wanted to know about GM's 21st-century Small-Block, but were afraid to ask!

LS HERITAGE

The engine family commonly called the LS Series debuted in 1997. General Motors called it the Gen III Small-Block, with the iron-block versions in trucks and the all-aluminum LS1 version introduced in the then-new C5 Corvette. A year later, the LS1 replaced the LT1 Small-Block in Camaros and Firebirds. The LS1 displaced 5.7 liters, similar to the previous-generation Small-Block, but the cubic-inch measurement differed slightly: 346 for the LS1 versus the traditional 350 cubes.

In 1999, the Gen III platform spawned the higher-performance LS6 that was standard in the Corvette Z06. In 2005, the Gen IV branch of the LS family was born, differing from the Gen III with cast-in provisions for fuel-saving cylinder deactivation, larger displacements and revised camshaft sensing. The performance versions of the Gen IV include the LS2, LS3, LS7 and LS9 supercharged.

GM has continued to refer to its modern V-8 engine family as Gen III and Gen IV, but to the enthusiasts who quickly grasped the tremendous performance potential of the engines, every engine based on the platform is nicknamed "LS." The range of production engines from the LS platform is wide. On the truck side, iron-block engines have included 4.8L and 5.3L versions, as well as all-aluminum 6.0L and 6.2L premium engines. Car engines include 5.3L, 5.7L, 6.0L, 6.2L and 7.0L displacements–including some configured for front-wheel-drive.

GEN III VERSUS GEN IV

Despite some significant differences between Gen III and Gen IV cylinder blocks, all LS engines share common traits that include:

- 4.40" bore centers (like the original Small-Block)
- Six-bolt, cross-bolted main bearing caps
- Center main thrust bearing
- 9.24" deck height
- Four-bolt-per-cylinder head bolt pattern
- 0.842" lifter bores
- Distributorless, coil-near-plug ignition system

The most distinguishing differences between Gen II and Gen IV cylinder blocks are larger bores (on some engines), different camshaft position sensor locations—front timing cover area on Gen IV blocks and top-rear position on Gen III blocks—and, on most Gen IV blocks, cast-in provisions for GM's Active Fuel Management cylinder deactivation system.

There is great interchangeability between all LS engines (including between Gen III and Gen IV versions). Cylinder heads, crankshafts, intake manifolds and more can be mixed and matched—but the devil is in the details. Not every head matches every intake manifold and not every crankshaft works with every engine combination. Will Handzel's "How to Build High-Performance Chevy LS1/LS6 V-8s" P/N 88958786 is a great reference source that outlines the more specific differences and interchangeability among Gen III-based engines.

LS4

Perhaps the most unique application of the LS engine in a car, the LS4 is a 5.3L version used in the front-wheel-drive Chevrolet Impala SS and Pontiac Grand Prix GXP. The LS4 has an aluminum block and unique low-profile front-end accessory system, including a "flattened" water pump to accommodate the transverse mounting position within the Impala and Grand Prix. It is rated at 303 horsepower and 323 lb-ft of torque.

LS1/LS6

LS1 5.7L (346-cu-in) engines were produced between the 1997 and 2004 model years in the United States (Corvette, Camaro, Firebird and GTO) and stretching into 2005 in other markets (primarily Australia). The LS6 was introduced in 2001 in the Corvette Z06 and was manufactured through 2005, when it also was found in the Cadillac CTS-V. The LS1 and LS6 share a 5.7L displacement, but the LS6 production engine uses a unique block casting with enhanced strength, greater bay-to-bay breathing capability and other minor differences. The heads, intake manifolds and camshaft also are unique LS6 parts.

LS2

In 2005, the LS2 6.0L (364 cubic inches) engine and the Gen IV design changes debuted. In GM performance vehicles, it was offered in the Corvette, GTO and even the heritage-styled SSR roadster. Its larger displacement brought greater power. The LS2 is one of the most adaptable engines, as LS1, LS6, LS3 and L92 cylinder heads work well on it.

LS3/L99

Introduced on the 2008 Corvette, the LS3 brought LS base performance to an unprecedented level: 430 horsepower from 6.2L (376 cubic-inches)—making it the most powerful base Corvette engine in history. The LS3 block not only has larger bores than the LS2, but a strengthened casting to support more powerful 6.2L engines. The LS3 is offered in the Pontiac G8 GXP and is also the standard V-8 engine in the new, 2010 Camaro SS. The L99 version is equipped with GM's fuel-saving Active Fuel Management cylinder deactivation system and is standard on 2010 Camaro SS models equipped with an automatic transmission.

LSA

The baby brother to the LS9, this supercharged 6.2L engine is standard in the 2009 Cadillac CTS-V. It is built with several differences when compared to the LS9, including hypereutectic pistons versus the LS9's forged pistons and a smaller, 1.9L supercharger. The LSA also has a different charge-cooler design on top of the supercharger. Horsepower is rated at 556 in the super-quick Caddy.

LS9

The most powerful production engine ever from GM, the LS9 is the 6.2L supercharged and charge-cooled engine of the Corvette ZR1. It is rated at an astonishing 638 horsepower. The LS9 uses the strengthened 6.2L block with stronger, roto-cast cylinder heads and a sixth-generation 2.3L Roots-type supercharger. Like the LS7, it uses a dry-sump oiling system. It is the ultimate production LS engine. It is built by hand at the GM Performance Build Center in Wixom, Mich.

LS7

A legend in its own time. The LS7 is the standard engine in the Corvette Z06 and its 7.0L displacement (427 cubic inches) makes it the largest small block engine offered in a production car. Unlike LS1/LS6, LS2 and LS3 engines, the LS7 uses a siamese-bore cylinder block design—required for its big, 4.125-inch bores. Competition-proven heads and lightweight components, such as titanium rods and intake valves, make the LS7 a street-tuned racing engine, with 505 horsepower. LS7 engines are built by hand at the GM Performance Build Center in Wixom, Mich.

GEN III AND GEN IV VORTEC TRUCK ENGINES

Although performance car engines have typically carried "LS" designations, truck engines built on this platform have been dubbed Vortec. They are generally distinguished by iron cylinder blocks and smaller displacements than car engines. Interestingly, a 5.7L Vortec "LS" engine has never been offered. Here's a quick rundown of the previous and current-production LS truck engines:

- 4.8L—The smallest-displacement LS engine (293 cubic-inches); it uses an iron block with 3.78-inch bores and aluminum heads.
- 5.3L—The most common LS truck engine, it uses the same iron block with 3.78-inch bores as the 4.8L, but with a larger, 3.62-inch stroke crankshaft (327 cubic inches). Later versions are equipped for Active Fuel Management. Manufactured with iron and aluminum cylinder blocks.
- 6.0L—Used primarily in ¾-ton and one-ton trucks, the 6.0L (364 cubic-inches) uses an iron block (LY6) or aluminum block (L76) and aluminum heads, with provisions for Active Fuel Management; some equipped with variable valve timing.
- 6.2L—Commonly referred to by its L92 engine code, the 6.2L (376 cubic-inches) engine uses an aluminum block and heads, and incorporates advanced technology including variable valve timing. The L92 is used primarily as a high-performance engine for the Cadillac Escalade and GMC Yukon Denali.

GEN III/IV SMALL-BLOCK CRATE ENGINES

Part Number	Description	Liters	CID	HP	Torque	Bore	Stroke
19165628	LS327/327	5.3	327	327	347	3.780	3.622
17801267	LS1	5.7	346	350	365	3.898	3.622
17801268	LS6	5.7	346	405	395	3.898	3.622
19165484 (discontinued)	LS2	6.0	364	400	400	4.000	3.622
17802134 (discontinued)	LS364/440	6.0	364	440	404	4.000	3.622
12611022	L99	6.2	376	430	424	4.065	3.622
19171224	LS376/480	6.2	376	485	475	4.065	3.622
19171225	LS376/515	6.2	376	515	469	4.065	3.622
19201992	LS3	6.2	376	430	424	4.065	3.622
19211978	LSA	6.2	376	556	551	4.065	3.622
19201990	LS9	6.2	376	638	604	4.065	3.622
19171821	CT525	6.2	376	525	471	4.065	3.622
19165058	LS7	7.0	427	505	470	4.125	4.000

NON-PRODUCTION CYLINDER BLOCKS

C5R: Developed for the factory-backed Corvette racing program, the C5R cylinder block has been manufactured in comparatively small quantities since 2000. They are manufactured with a unique aluminum alloy for greater strength and undergo a variety of specialized machining and inspection processes, including "hipping" to increase strength and X-raying that ensures against unacceptable porosity. A siamese bore design with 4.117-inch finished bores enables 7.0L (427 cubic-inch) displacements. The C5R uses billet steel main caps with premium, 4340 fasteners. Racing-quality head studs are also included. All LS series heads will work with the C5R block, but maximum performance depends on maximum airflow.

LSX Bowtie Block (standard and tall-deck): Introduced in 2007, the LSX Bowtie Block is a durable and affordable cast-iron casting that was designed to support extreme high-performance combinations, including provisions for six-bolts-per-cylinder head fastening. It has a siamese bore design with 3.99" bores that must be finished to 4.00 inches or larger—with a 4.25-inch maximum bore. Maximum stroke can reach 4.25 inches, but rotating assembly interference on the cylinder must be taken into account for strokes greater than 4.125 inches; heavy metal is required for crankshaft balancing of larger-stroke combinations. Standard versions feature decks 0.020-inch taller than LS production blocks, with the tall-deck version manufactured with a 9.70-inch semi-finished deck height. The oiling system is a true priority-main system and all LS Small-Block heads work with the engine.

CONNECTING RODS

LS connecting rods are very similar and mostly interchangeable. Most are made of powdered metal, while the LS7 and LS9 rods are forged titanium. Rods lengths are similar, too, at 6.098-inch for 5.3L, 5.7L, 6.0L and 6.2L engines. The 4.8L engine uses 6.275-inch rods and the LS7 uses 6.067-inch rods. Since 2006, LS rods use bushed small ends. Also, LS6 rods bolts (P/N 11600158) offer a strength-enhancing upgrade to pre-2000 engines. Finally, the LS7 and LS9 rods have a slightly different size than other LS rods, requiring a unique bearing (P/N 89017811).

PISTONS

The LS9 is the only production LS engine with forged aluminum pistons; all the other engines use hypereutectic (cast) aluminum alloy pistons—varied mostly by diameter to accommodate various bore sizes. LS cast pistons shouldn't be used on applications greater than approximately 550 horsepower. The LS7 piston's inner bracing and larger pin diameter require the use of the matching LS7 connecting rod. The same is true for LS9 pistons; they require the use of LS9 connecting rods.

CRANKSHAFTS

Generally, LS crankshafts are similar in design, with identical 2.10-inch rod and 2.65-inch main journal sizes and a common rear main seal. All production LS engines use iron crankshafts except the LS7, LS9 and LSA; they use forged steel cranks (4.00-inch stroke on the LS7; 3.62-inch stroke on the LS9 and LSA).

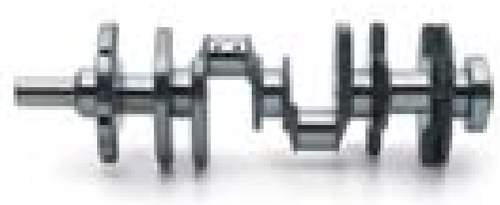
The crankshaft sensing function of the distributorless ignition system depends on reading the toothed reluctor wheel on the crankshaft. Early LS engines mostly used 24-tooth wheels and upgraded a few years ago to 58-tooth (also known as 58X) wheels. When building an LS engine, it is imperative that the correct reluctor wheel is used with the compatible crankshaft position sensor and ignition controller.

The crankshafts are mostly interchangeable, but the snouts on LS7 and LS9 crankshafts are approximately one-inch longer to accommodate their two-stage oil pumps that work with the engines' dry-sump oiling systems. These forged crankshafts can be used on wet-sump engines by using a few specific components and/or modifications (see page 218).

The easiest way to put a forged stroker crankshaft in your LS engine is using GM Performance Parts' new LSX crankshafts, which are available in four stroke sizes up to 4.125 inches. They feature the standard-length snout and can be used without modification on most engines. LS7 and LS9 crankshafts can be used, but require special components and/or modifications to their snouts to accommodate standard, wet-sump oiling systems.

SPECIAL NOTE ABOUT CRANKSHAFT BOLT PATTERNS

All Pre-2009 crankshafts utilize a 6-bolt flywheel/flexplate bolt pattern. Starting in 2009, the LSA utilizes an 8-bolt pattern, and the LS9 utilizes a unique 9-bolt pattern. All LSX high performance crankshafts utilize the 8-bolt pattern common to the LSA.



CYLINDER HEADS—INTAKE PORT DESIGN

Cylinder head interchangeability enables great parts mixing to build custom LS engine combinations, but the heads must be matched with intake manifolds that have compatible intake port configurations. The port sizes and shapes include:

Cathedral-port

Introduced on the LS1 engine and used also on the LS6 and LS2, cathedral-port heads are named for the unique shape of the top of the intake port **(photo A)**. Intake manifolds for LS1, LS2, LS6 and LS Vortec engines with cathedral-port heads are mostly interchangeable.

Rectangular port—L92 style

Similar to the LS7 design, but the ports are a little taller and a little narrower **(photo B)**. They flow more than cathedral-port heads, but not as much as LS7 heads. In addition to the L92 6.2L engines, this port shape is also used on LS3 engines and some 6.0L truck engines, as well as the Corvette ZR1's LS9 and Cadillac CTS-V's LSA supercharged engines. Intake manifold bolt patterns are unique to this port design.

Rectangular port—LS7 style

The third LS intake runner design debuted on the Corvette Z06's LS7 engine **(photo C)**. This rectangular design supports the straight-through airflow design of the heads. The LS7 head is the highest flowing production head GM has ever made, to date. They feature 270cc intake ports and the ports and combustion chambers are CNC-ported from the factory. Use only with LS7-style intake manifolds.

C5R heads

These heads pioneered the rectangular-port design, but because they are designed for professional finishing, their final shape and size depends on whoever is performing the porting. The port shape and bolt pattern are unique.

LSX-CT and LSX-DR ports

CT and DR ports are derived from the C5R rectangular shape, but raised 10mm over standard C5R design, and the bolt pattern is spread for more varied port configurations **(photo D)**. The CT port is suitable for sprint car applications both with and without alcohol down nozzles, while the DR targets larger displacements and/or higher rpm in drag racing applications.

A Cathedral Intake Port and Bolt Pattern

B L92 Intake Port and Bolt Pattern

LS7 Intake Port and Bolt Pattern **C**

LSX-CT and LSX-DR Ports **D**

CYLINDER HEADS—VALVES AND RECOMMENDED APPLICATIONS

Each LS cylinder head has specific valve sizes, locations and valve angles. Here's an overview of them:

Cathedral-port heads

Designed for smaller-displacement engines, these heads have the smallest valves; 2.00-inch intake and 1.50-inch exhaust, and they're held at a 15-degree angle. They also have the closest valve spacing, which limits the maximum valve size. LS6 valves include lightweight hollow-stem intake and sodium-filled exhaust parts; all others in this family feature solid-stem construction.

L92 heads

Similar in design to the LS7 head, the L92 heads don't flow quite as much and the valves are correspondingly smaller: 2.165-inch on the intake side and 1.59 inch on the exhaust side. They are held at a 15-degree angle and also require offset rocker arms. These heads/valves require at least a 4.00-inch bore, but work best on an engine with a 4.06-inch bore. Valve-to-piston clearance much be checked when using them on an engine originally equipped with cathedral-port heads.

LS7 heads

Using LS series' largest production valves—2.20-inch on the intake side and 1.61-inch on the exhaust—the LS7 heads offer tremendous airflow, but they require an engine with no less than 4.10-inch bores. The intake valves are made of titanium and the exhaust valves are sodium-filled; they are held at a 12-degree angle. That and their large size require offset rocker arms on the intake side. Valve-to-piston clearance must be checked when using these heads with pistons not designed for the LS7 engine.

C5R

Designed for engines with at least 4.125-inch bores, these heads can accommodate 2.20-inch intake and 1.65-inch exhaust valves; they are held at an 11-degree angle and their spacing is unique. When using on an engine not originally designed for C5R pistons, valve-to-piston clearance must be checked.

LSX-CT and LSX-DR

CT and DR are in-line heads, with a valve angle of 11 degrees. The CT head was designed specifically for 410 CID sprint car applications, with 2.20-inch intake and 1.61-inch exhaust valve sizes, with valve placement modified and optimized for 4.125-inch bores. DR heads were designed for 410-plus CID, high rpm drag racing applications. Valve placement was spread from the CT to allow up to 2.28-inch and 1.62-inch valves. Larger valve sizes require a 4.165-inch minimum bore.

LS COMPATIBILITY—HEADS VS. INTAKES

INTAKES				HEADS							
Engine	P/N	Manifold Type	Port Type	12559855 Std LS1	12564824 Std LS6/LS2	12562319 Std LQ9	88958665 CNC LS6	88958622 CNC LS6	12562713 Std L76/L92	12615879 Std LS3	88958698 CNC L92
LS1/LS6	**88894339**	EFI	Cathedral	Yes	Yes	Yes	Yes	Yes	No	No	No
LS2/LQ4	**88958675**	4-bbl	Cathedral	Yes	Yes	Yes	Yes	Yes	No	No	No
L76	**12590123**	EFI	L92	No	No	No	No	No	Yes	Yes	Yes
LS3	**12610434**	EFI	L92	No	No	No	No	No	Yes	Yes	Yes
L92/LS3	**25534416**	4-bbl w/inj	L92	No	No	No	No	No	Yes	Yes	Yes
L92/LS3	**25534401**	4-bbl	L92	No	No	No	No	No	Yes	Yes	Yes
L92/LS3	**19166952**	LSX 4-bbl	L92	No	No	No	No	No	Yes	Yes	Yes
L92/LS3	**19172322**	LSX 4-bbl	L92	No	No	No	No	No	Yes	Yes	Yes
LS7 '05-'08	**12568976**	EFI	LS7	No	No	No	No	No	No	No	No
LS7 '09	**12610435**	EFI	LS7	No	No	No	No	No	No	No	No
LS7	**25534413**	4-bbl w/inj	LS7	No	No	No	No	No	No	No	No
LS7	**25534394**	4-bbl	LS7	No	No	No	No	No	No	No	No
LSX454	**19166948**	LSX 4-bbl	LS7	No	No	No	No	No	No	No	No
—	**19166950**	LSX 4-bbl	LSX-CT	No	No	No	No	No	No	No	No
—	**19166954**	LSX 4-bbl	LSX-DR	No	No	No	No	No	No	No	No

No = not compatible Yes = direct compatibility

LS COMPATIBILITY—HEADS VS. INTAKES CONTINUED

INTAKES				HEADS							
Engine	P/N	Manifold Type	Port Type	19201807 LSX-L92 Small Bore	19201805 LSX-LS3	19213963 LSX-LS9	12578450 Std CNC LS7	19201806 LSX-LS7	19166981 LSX-CT	19166979 LSX-DR	12480090 C5R head
LS1/LS6	**88894339**	EFI	Cathedral	No	No	No	No	No	No	No	No
LS2/LQ4	**88958675**	4-bbl	Cathedral	No	No	No	No	No	No	No	No
L76	**12590123**	EFI	L92	Yes	Yes	Yes	No	No	No	No	No
LS3	**12610434**	EFI	L92	Yes	Yes	Yes	No	No	No	No	No
L92/LS3	**25534416**	4-bbl w/inj	L92	Yes	Yes	Yes	No	No	No	No	No
L92/LS3	**25534401**	4-bbl	L92	Yes	Yes	Yes	No	No	No	No	No
L92/LS3	**19166952**	LSX 4-bbl	L92	Yes	Yes	Yes	No	No	No	No	No
L92/LS3	**19172322**	LSX 4-bbl	L92	Yes	Yes	Yes	No	No	No	No	No
LS7 '05-'08	**12568976**	EFI	LS7	No	No	No	Yes	Yes	No	No	No
LS7 '09	**12610435**	EFI	LS7	No	No	No	Yes	Yes	No	No	No
LS7	**25534413**	4-bbl w/inj	LS7	No	No	No	Yes	Yes	No	No	No
LS7	**25534394**	4-bbl	LS7	No	No	No	Yes	Yes	No	No	No
LSX454	**19166948**	LSX 4-bbl	LS7	No	No	No	Yes	Yes	No	No	No
—	**19166950**	LSX 4-bbl	LSX-CT	No	No	No	No	No	Yes	Yes	No
—	**19166954**	LSX 4-bbl	LSX-DR	No	No	No	No	No	Yes	Yes	No

No = not compatible Yes = direct compatibility

VALVETRAIN

LS Series valvetrain systems are very universal. All production engines use investment-cast rockers with roller trunnions. They attach to a bolt-down mounting bracket (except for LS7 and LS9 applications that have machined pedestals) that makes installation fast and easy. All production engines feature 1.7-ratio rockers, except the LS7, which uses 1.8-ratio rockers. Rockers are specific to their cylinder head families. Here's a look at the various applications:

Cathedral-port heads

Use interchangeable rockers on the intake and exhaust sides P/N 10214664. **(Photo A)**

L92 heads

Use specific, offset intake rockers P/N 12569167 and non-offset exhaust rockers P/N 10214664. **(Photo B)**

LS7 heads

Use specific, offset intake rockers P/N 12579615 and non-offset exhaust rockers (P/N 12579617). **(Photo C)**

LSX-CT and LSX-DR heads

LSX-CT and LSX-DR heads require racing-style shaft mount rocker systems. GMPP offers a 1.85:1-ratio rocker arm kit (P/N 19201808). Includes all necessary hardware. **(Photo D)**

A LS6 Rockers

LS7 Rockers **C**

B L92 Rockers

LSX-CT and LSX-DR Rocker Stand Pads **D**

HEAD-TO-BLOCK COMPATIBILITY

Because of their comparatively small bores—3.89 inches—LS1 and LS6 engines can only use LS1, LS6 and LS2 heads. Using heads designed for larger engines will cause valve-to-block interference. The larger, 4.00-inch bore of the LS2 enables it to use LS1/LS6 heads, as well as L92-style heads (including LS3, LS9 and LSA). The 6.2L engines (LS3, L92, etc.) can use all production heads except for the LS7, while the 7.0L LS7 and C5R blocks can use any LS Series head. LS7 blocks should be matched with heads designed for at least 4.10" bores; 4.125-inch bores are preferred.

Most LS production cylinder blocks share the came cylinder head bolt pattern and the same size head bolts—four 11mm bolts per cylinder (10 in total) and five upper, 8mm bolts. Early LS1 and LS6 engines used different-length 11mm bolts, but engines from 2004 and later use same-length bolts. LS9 engines use stronger, 12mm head bolts.

Non-production blocks, such as GM Performance Parts' LSX block and the C5R, offer the same head-bolt pattern as production blocks. All LS heads will bolt up to them, but care must be taken to select the most compatible heads based on the appropriate bore size. Because of their large bores, heads designed for at least 4.10-inch bores should be used and 4.125-inch bores are preferred, such as the L92/LS3 or LS7 heads otherwise, valve-to-block interference is an issue, as is sufficient cylinder sealing.

GM Performance Parts' new LSX cylinder heads use (10) 11mm and (13) 8mm head bolts, or eight more than a regular-production LS head. That's more than 50-percent more head bolts than production heads, offering a 21-percent increase in total clamping capability and 100-percent more clamping in the 12 o'clock and 6 o'clock positions, right where gaskets leak and blow out in power-adder applications.

LS COMPATIBILITY — HEADS VS. BLOCKS

BLOCKS			HEADS							
Engine	P/N	Bore Size	12559855 Std LS1	12564824 Std LS6/LS2	12562319 Std LQ9	88958665 CNC LS6	88958622 CNC LS6	12562713 Std L76/L92	12598594 Std LS3	88958698 CNC L92
LS1/LS6	**12561166**	3.89"	Yes	Yes	Yes	Yes	Yes	No	No	No
LQ4/LQ9	**12572808**	4.00"	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LS2/L76	**12568950**	4.00"	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
L92/LS3	**12584727**	4.06"	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LSA/LS9	-	4.06"	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LS7	**19213580**	4.125"	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LS7*	**25534427**	4.125"	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
C5R	**12480030**	4.12" - 4.16"	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LSX S/B	**19213964**	3.89"	Yes	Yes	Yes	Yes	Yes	*	*	*
LSX (454)	**19166454**	3.99" - 4.25"	*	*	*	*	*	*	*	*
LSX T/D	**19166097**	3.99" - 4.25"	*	*	*	*	*	*	*	*

*No = not compatible Yes = direct compatibility * = 4.00" minimum bore ** = 4.125" minimum bore*

LS COMPATIBILITY — HEADS VS. BLOCKS CONTINUED

BLOCKS			HEADS							
Engine	P/N	Bore Size	19201807 LSX-L92	19201805 LSX-LS3	19213963 LSX-LS9	12578450 Std CNC LS7	19201806 LSX-LS7	19166981 LSX-CT	19166979 LSX-DR	12480090 C5R head
LS1/LS6	**12561166**	3.89"	Yes	Yes	Yes	Yes	No	No	No	No
LQ4/LQ9	**12572808**	4.00"	Yes	Yes	Yes	Yes	No	No	No	No
LS2/L76	**12568950**	4.00"	Yes	Yes	Yes	Yes	No	No	No	No
L92/LS3	**12584727**	4.06"	Yes	Yes	Yes	Yes	No	No	No	No
LSA/LS9	-	4.06"	Yes	Yes	Yes	Yes	No	No	No	No
LS7	**19213580**	4.125"	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LS7*	**25534427**	4.125"	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
C5R	**12480030**	4.12" - 4.16"	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LSX S/B	**19213964**	3.89"	**	**	**	**	**	**	**	**
LSX (454)	**19166454**	3.99" - 4.25"	**	**	**	**	**	**	**	**
LSX T/D	**19166097**	3.99" - 4.25"	**	**	**	**	**	**	**	**

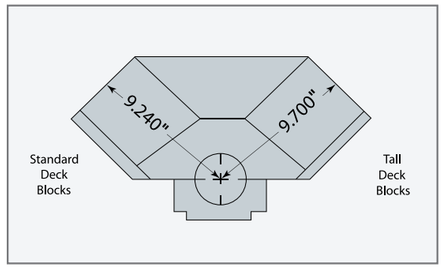
*No = not compatible Yes = direct compatibility * = 4.00" minimum bore ** = 4.125" minimum bore*

Chevy LS Series Quick Reference Chart

LS SERIES BLOCKS

Origin	Part Number	Material	Deck Height	Bore	Main Bolt	Cap Material	Crankshaft Jnl Dia.	Oiling	Rear Main Seal	Max Stroke	Max Hp	Usage	Page Number
LS1/LS6	**12561166**	Alum	9.240	3.89"	6	Iron	Std. LS (2.56)	Wet/Dry	1 pc	4.00"	450	Street	196
LS2	**12568950**	Alum	9.240	4.00"	6	Iron	Std. LS (2.56)	Wet/Dry	1 pc	4.00"	450	Street	197
L92/LS3	**12584727**	Alum	9.240	4.065"	6	Iron	Std. LS (2.56)	Wet/Dry	1 pc	4.00"	525	Street	197
LS7	**19213580**	Alum	9.240	4.125"	6	PM	Std. LS (2.56)	Wet/Dry	1 pc	4.10"	550	Street	198
C5R	**12480030**	Alum	9.240	4.117–4.160"	6	8620 Steel	Std. LS (2.56)	Wet/Dry	1 pc	4.10"	900	Pro	199
LQ9	**12572808**	Iron	9.240	4.00"	6	Iron	Std. LS (2.56)	Wet/Dry	1 pc	4.00"	500	Street	197
LSX	**19166454**	Iron	9.260	3.99–4.250"	6	1045 Steel	Std. LS (2.56)	Wet/Dry	1 pc	4.25"	1500+	Street/Pro	201
LSX	**19166097**	Iron	9.700	3.99–4.250"	6	1045 Steel	Std. LS (2.56)	Wet/Dry	1 pc	4.50"	1500+	Street/Pro	201

DECK HEIGHT DIAGRAM



PRODUCTION CYLINDER BLOCKS

The LS Series cylinder block is the foundation for the serious performance achievements that are driving a new generation of street and racing enthusiasts. Features include a deep-skirt casting (the block side extends below the crankshaft centerline); 6-bolt cross-bolted main caps, strong and lightweight aluminum alloy casting (most production blocks) and provisions for the latest in engine control management. The cam-in-block configuration brings inherent torque to every LS engine, with production-based blocks capable of supporting combinations of 500 horsepower or more. The Corvette ZR1's unique 6.2L block, for example, supports the engine's 638-horsepower rating. GM Performance Parts' high-performance iron LSX cylinder block supports more than 2000 forced-induction horses!

Whether you're building a mild street engine or an Outlaw racing engine, starting with a strong LS cylinder block brings the assurance that you'll make the power you need with a durable foundation.

A. 12561166
LS1/LS6 5.7L Bare Block
- Direct replacement for 2001-2004 LS1 and LS6 Corvette 5.7L
- Production 319-T5 aluminum block with iron sleeves
- Production oiling system
- 6-bolt iron main bearing caps
- 9.240" deck height
- Use LS1/LS6 cylinder heads only
- **3.89"** finished bore (99.0mm)
- No provision for Active Fuel Management
- Tested to over 400 horsepower!

A LS1/LS6 5.7L Bare Block (rear)

A LS1/LS6 5.7L Bare Block (top)

A LS1/LS6 5.7L Bare Block (bottom)

L92 Aluminum 6.2L **B** Bare Block (top)

L92 Aluminum 6.2L **B** Bare Block (bottom)

L92 Aluminum 6.2L Bare Block (rear) **B**

L92 Aluminum 6.2L Bare Block (front) **B**

L92 Aluminum 6.2L Bare Block (bottom) **B**

12572808
LQ9 Cast-Iron 6.0L Bare Block (not shown)
- Direct replacement for 1998-2004 LQ4 and LQ9 Truck and SUV 6.0L
- Production cast-iron block
- Production oiling system
- 6-bolt iron main bearing caps
- 9.240" deck height
- Use only LS1, LS6, LS2 or L92/LS3-style cylinder heads
- **4.00"** finished bore (101.6mm)
- No provision for Active Fuel Management
- Great for stroker cranks for even more cubes
- Tested to over 500 horsepower!

12568950
LS2 Aluminum 6.0L Bare Block (not shown)
- Direct replacement for 2005-2008 LS2 Corvette, SSR, GTO 6.0L and TrailBlazer SS
- Production 319-T5 aluminum block with iron sleeves
- Production oiling system
- 6-bolt iron main bearing caps
- 9.240" deck height
- Use only LS1, LS6, LS2, L92/LS3-style cylinder heads
- **4.00"** finished bore (101.6mm)
- Provisions for Active Fuel Management
- Great for stroker cranks for even more cubes
- Tested to over 450 horsepower!

B. 12584727
L92/LS3 Aluminum 6.2L Bare Block
- Direct replacement for '07-'09 L92, and '08-'09 LS3 6.2L
- Production aluminum block with iron sleeves
- Production oiling system
- 6-bolt iron main bearing caps
- 9.240" deck height
- Use only LS1, LS6, LS2, L92/LS3-style cylinder heads
- **4.065"** finished bore (103.25mm)
- Provisions for Active Fuel Management
- Great for stroker cranks for even more cubes
- Tested to over 500 horsepower!

The LS Series Blocks Continued

A. 19213580
LS7 7.0L Corvette Bare Block

- Direct replacement for 2006-2009 7.0L LS7 engine
- Production 319-T5 aluminum block with pressed-in iron sleeves
- Production oiling system
- 6-bolt dowel located steel main bearing caps
- 9.240" deck height
- For use with any LS or LSX series head
- **4.125"** finished bore (104.78mm), deck plate honed
- Siamese cylinder bores for large bore size
- No provision for Active Fuel Management
- Based on C5R block development
- Tested to over 500 horsepower!

Parts required to complete your LS7 Block

PART NUMBER	QTY	DESCRIPTION
12570471	1	Valley Cover
12598292	1	Front Cover Assembly
21007339	4	Plug
12556437	1	Camshaft Retainer
11609289	1	Plug
11610259	1	Plug, Cylinder Head
12551177	5	M8 x 1.25 Flanged Hex Head Bolt
12570326	4	Dowel, Cylinder Head Locating
12572013	1	Rear Cover Assembly
12573460	1	Oil Plug
12596334	1	Windage Tray
11588426	2	Plug
09427693	4	Plug
01453658	2	Dowel, Bell Housing Locating
12561663	1	Plug
12573107	1	Oil Pressure Sensor
12585546	1	Crankshaft Position Sensor

1970½ CAMARO Z/28

Ushering in fresh styling, the late-introduced "1970½" Camaro brought along some familiar packages and the Z/28 led the way. A European influence shone through in a longer, heavier, rounder Camaro and the Z/28 was no exception.

The latest Z/28 birthed a new engine, too—the LT-1. Gone was the small, rev-happy 302 and in its place was a 350-cube, 360-horse power plant that propelled the Z/28 to a 14.2-second quarter-mile ET, at more than 100 mph, in *Car and Driver's* published test. The engine meant business with 4-bolt mains, 11:1 compression, a high-rise intake, two cam options, and for the first time a Turbo-Hydramatic automatic transmission. In deference to the car's mission in SCCA racing, it received a standard F-41 heavy-duty suspension—and air conditioning was still unavailable.

The modern successor to the LT-1 is the ZZ4 350 crate engine, which pumps out 355 horsepower—only 5 hp shy of the classic engine.

A LS7 7.0L Corvette Bare Block (rear)

Aluminum C5R Racing Block (rear) **B**

A LS7 7.0L Corvette Bare Block (front)

Aluminum C5R Racing Block (front) **B**

A LS7 7.0L Corvette Bare Block (rear)

Aluminum C5R Racing Block (front) **B**

25534412
Oil Hose Adapters (not shown)

- Kit adapts the production LS7 Oil Pan to aftermarket AN style hoses for aftermarket dry sump oil tanks
- Bolts directly to LS7 Oil Pan, and has AN male outlet for AN -12 fittings
- Includes 1 adapter, 2 fittings, 2 bolts, and 2 sealing gaskets
- Photo on page 202

B. 12480030
Aluminum C5R Racing Block

The ultimate GM aluminum LS block, the C5R was originally designed for Chevrolet's factory-backed Corvette racing program. It was developed to support more than 440 cubic inches and up to 900 horsepower—and it proved itself by powering the Corvette team to wins at LeMans, Daytona and nearly every track they encountered. This is a non-production, purpose-built cylinder block manufactured with proprietary materials and machined to the highest tolerances—and using premium, racing-spec hardware. If you're looking for the ultimate aluminum cylinder block to support your horsepower desires, the race-proven C5R is it!

- Premium "hipped"* and X-rayed 356-T6M aluminum-alloy block casting
- 9.240" deck height
- Production-style oiling system
- 6-bolt SAE 8620 dowel-located steel main bearing caps
- 4340 premium map cap fasteners
- For use with any LS or LSX series head
- Unique cylinder liner material for maximum durability
- Siamesed cylinders to support larger bores
- **4.117"** finished bore
- 4.160" maximum bore
- Fully blueprinted and squared
- Production camshaft location and cam bores
- Includes 4340 premium head studs
- Anodized aluminum O-ring core plugs
- No Active Fuel Management provisions
- Supports more than 900 horsepower

** HIP is the acronym for Hot Isostatic Pressure. This process puts the blocks in a sealed vessel where a vacuum is first used to remove room air and any possible contaminants. The vessel is filled with high pressure nitrogen (up to 30,000-psi) and then heated to the required temperature and sustained for a determined amount of time. The cooling process is also a controlled procedure to insure maximum strength and proper heat treat. This extreme high pressure and heat removes almost 100% of the internal porosities that are generated during the casting process. The material integrity, strength and fatigue life increases significantly.*

LSX™

LSX BOWTIE BLOCK

Delivering the seemingly impossible combination of professional racing-level strength and entry-level affordability, the LSX Bowtie Block is the next revolution in high-performance engine-building. This durable iron-block casting is based primarily on GM's production LS7 block, but designed with more material in key areas—including a thicker deck and bores—to support displacements of 454 cubic inches or more, and unique six-bolts-per-cylinder head-clamping capability that enables forced-induction and nitrous combinations of greater than 2000 horsepower.

Because the LSX Bowtie block is based on production LS blocks, all of the LS Series cylinder heads, crankshafts, oil pans, camshafts, and accessories bolt right up to it. There is also a tall-deck version for building even larger engines. GM Performance Parts delivers the LSX Bowtie Block semi-finished, allowing you to finish it to your needs. Whether you're building a "tame" 500-horse street engine for your hot rod or a 1700 horsepower turbo engine for an Outlaw drag racer, the LSX Bowtie Block is the foundation for an unbeatable combination—at an unbeatable price!

LSX Bowtie Block specs and features include:

- Fully CNC-machined cast iron block
- True priority main oiling
- 6-head bolts per cylinder
- Standard 4.40" bore spacing
- Extra-thick siamese cylinder bores, ready for final honing
- Semi-finished, machined thicker decks
- LS7-style, 6-bolt dowel-located billet main bearing caps
- Wet-sump and dry-sump oiling capability
- Production-style deep-skirt head bolt holes
- Production bolt hole and thread sizes
- Maintains production exterior accessory mounting provisions
- Front motor plate mounting holes added
- Additional material cast around cam bearings for greater strength
- 8mm exterior/interior fifth- and sixth-head bolt holes
- All five cam bores machined for bearing P/N 12453169 (supplied)
- Standard 0.842" lifter bores
- Accommodates all LS oil pumps and oil pans
- External oil pump feed (rear of block)
- Main web bay-to-bay breathing holes to support greater horsepower
- Includes unique cam retainer, rear cover, lifter retainers and production-style replacement cam bearings

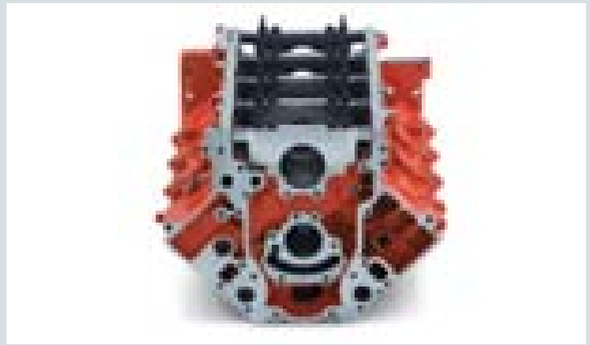
For the advanced LSX competition engine builder, you will fully enjoy reading the following features of the new LSX Bowtie Block:

- Front oil feed holes can be plugged/restricted for mechanical flat tappet or mechanical roller lifter applications
- Can be machined safely to 9.20" deck height
- Maximum 4.250" bore at .200" minimum wall thickness (naturally aspirated applications)
- Head bolt holes can be machined for 1/2" studs
- Cam bores can be machined to accept 60mm roller bearings
- Can be machined for larger diameter lifters and/or 1.060" bronze bushings
- Front oil feed lines can be plugged and external oil pump and/or aftermarket dry sump systems can be used via oil pump feed at rear of block—may be required with certain large stroke/aluminum rod combinations
- Belt cam drive systems can be accommodated—some machining will be required
- Front motor plate can be used for racing chassis applications (sprint car, drag racing, truck pulling, etc.)
- Threaded water plugs can be used for external heaters or coolers

A LSX Bowtie Block (front)

A LSX Bowtie Block (rear)

A LSX Bowtie Block (front)



LSX Bowtie Block (front) **A**

Lifter Boss Detail **A**

Bay-to-Bay Breathing Pocket Detail **A**

LSX Tall Deck Block **B**

A. 19166454

LSX Bowtie Block (Standard Deck)

- **3.990"** finished siamese cylinder bores (ready to be finish-honed)
- 9.26" semi-finished standard deck height (ready to be decked)
- 4.250" maximum stroke (professional engine builders only!)
- Capable of 364- to 482-cubic-inch displacements
- Orange powder-coated finish
- Accepts all LS and LSX Series heads, cranks, cams, etc.
- Approximate finished weight is 225 pounds

B. 19166097

LSX Tall Deck Block

- **3.990"** finished siamese cylinder bores (ready to be finish-honed)
- 9.70" semi-finished standard deck height (ready to be decked)
- 4.50" maximum stroke (small base circle camshafts required)
- Capable of 364- to 500-cubic-inch displacements or more!
- Orange powder-coated finish
- Accepts all LS and LSX Series heads, cranks, cams, etc.
- Approximate finished weight is 250 pounds

19213964

LSX Small Bore Block

- **3.880"** finished Siamese bores (ready to be finish-honed)
- 9.26" semi-finished standard deck height (ready to be decked)
- 4.250" maximum stroke (professional engine builders only!)
- Capable of 364- to 482-cubic-inch displacements
- Orange powder-coated finish
- Accepts all LS and LSX Series heads, cranks, cams, etc.
- Approximate finished weight is 225 pounds
- For NHRA Stock/Super Stock use

LSX Blocks include the following:

19166177	Cam Thrust Plate
19166179	Rear Cover
19166182	Tappet Guides

Other service parts for your LSX Block:

19166179	Cam Thrust Plate, O-Ring
19166180	Rear Cover, O-Ring
19166181	Rear Cover, O-Ring Seal
19167382	0.5mm Cam Oversize Bearing
19167383	1mm Oversize Cam Bearing
19211434	Main Cap Dowel (10-piece kit)

CYLINDER BLOCK COMPONENTS

A. 19153789
Bare Block Completion Kit, Gen III
- Includes all parts to complete a Gen III bare block

The kit includes:

PART NUMBER	QTY	DESCRIPTION
12577927	1	Valley Cover
12561211	1	Cam Sensor
12561243	1	Front Cover (with seal)
1453658	2	Transmission Alignment Dowel
12589016	1	Cam Retainer Plate
11561455	4	Cam Retainer Bolts
12588670	1	Timing Chain Damper
12560228	1	Crankshaft Sensor
12570326	4	Head Locating Dowels
12551162	4	Lifter Guide
12615666	1	Rear Cover (with seal)
varies	-	Required Water and Oil Plugs
varies	-	Required Mounting Bolts

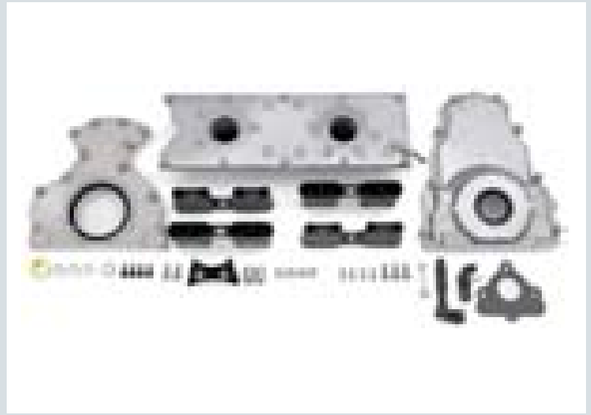
B. 25534412
Oil Hose Adapters
- Kit adapts the production LS7 Oil Pan to aftermarket AN style hoses for aftermarket dry sump oil tanks
- Bolts directly to LS7 Oil Pan, and has AN male outlet for AN -12 fittings
- Includes 1 adapter, 2 fittings, 2 bolts, and 2 sealing gaskets

89017877
Main Bearing (not shown)
- Positions 1,2,4,5
- Requires 4 per engine
- For LS7 and LS9 engines

C. 89017808
Main Bearing
- Thrust bearing, position 3
- For LS7 and LS9 engines

88894271
Main Bearing (not shown)
- Positions 1,2,4,5
- Requires 4 per engine
- For non-LS7 engines

89017572
Main Bearing (not shown)
- Thrust bearing, position 3
- For non-LS7 engines



A Bare Block Completion Kit, Gen III

B Oil Hose Adapters

C Main Bearing

Front Timing Cover D

LS Front Distributor Drive Cover E

Rear Block Cover F

FRONT COVERS

12561243
LS1, LS6 Front Timing Cover (not shown)
- For LS1 and LS6 engines
- No cam sensor

D. 12600325
LS2, LS3 Front Timing Cover
- Includes seals and bolts
- For LS2 and LS3 engines
- Gen IV cam sensor included

12616491
L92 Front Timing Cover (not shown)
- Includes seals and bolts
- For engines with VVT such as L92
- Gen IV cam sensor included

12598292
LS7 Front Timing Cover (not shown)
- Includes seals and bolts
- Also fits LS9 engines
- Required for 2-stage oil pump clearance
- Gen IV cam sensor included

E. 88958679
LS Front Distributor Drive Cover
- Assembly is manufactured for applications where a 4-barrel carburetor and distributor are required
- For all LS series engines except LS7 and LS9

NOTE: *Distributor and mechanical fuel pump not included. Uses Small-Block Ford style distributor and mechanical fuel pump. Special water pump, accessory drive and damper required.*

12574294
Front Cover Gasket (not shown)
- For all LS Series engines

12585673
Front Crank Seal (not shown)
- For all LS Series engines

11515758
Front Cover Bolt (not shown)
- Requires 8 per engine
- For all LS Series engines

REAR COVERS

F. 12614813
Rear Block Cover
- Includes seals and bolts
- For all production LS engine blocks (will not work on LSX blocks)

19166179
LSX Rear Block Cover
- Does not include bolts or seals
- For use on LSX blocks only

89060436
Rear Crank Seal (not shown)
- For all LS Series engines

LS SERIES CYLINDER HEADS

Part Number	Description	Material	Port Size	Valve Angle	Chamber CC's	Int Vlv	Exh Vlv	Int Port Type	Ex Port Type	Rocker Type	Notes	Page Number
12564825	Bare LS2 & LS6	Aluminum	210	15 deg	64.5	2.000	1.55	Cathedral	Std LS	Bolt-down	Bare LS2/LS6	N/S
12564824	Stock LS6	Aluminum	210	15 deg	64.5	2.000	1.55	Cathedral	Std LS	Bolt-down	Hollow/sodium-filled valves	204
12576063	Stock LS2	Aluminum	210	15 deg	64.5	2.000	1.55	Cathedral	Std LS	Bolt-down	Solid stem valves	205
88958622	CNC LS6	Aluminum	250	15 deg	61.9	2.000	1.55	Cathedral	Std LS	Bolt-down	11.2 compression	205
88958665	CNC LS6	Aluminum	250	15 deg	65	2.000	1.55	Cathedral	Std LS	Bolt-down	10.5 compression	205
88958765	CNC LS2	Aluminum	250	15 deg	64.5	2.000	1.55	Cathedral	Std LS	Bolt-down	Solid stem valves	205
12615361	Bare L92	Aluminum	260	15 deg	70	2.165	1.59	L92	Std LS	Bolt-down	Solid stem valves	N/S
12615355	Stock L92	Aluminum	260	15 deg	70	2.165	1.59	L92	Std LS	Bolt-down	Solid stem valves	206
88958698	CNC L92	Aluminum	279	15 deg	68	2.165	1.59	L92	Std LS	Bolt-down	Solid stem valves	206
12615879	Stock LS3	Aluminum	260	15 deg	70	2.165	1.59	L92	Std LS	Bolt-down	Hollow/sodium-filled valves	206
12615361	Bare LS3	Aluminum	260	15 deg	70	2.165	1.59	L92	Std LS	Bolt-down	Bare LS3	206
12578450	Bare LS7	Aluminum	270	12 deg	70	2.200	1.61	LS7	Std LS	Bolt-down	Bare LS7	206
12578449	Stock LS7	Aluminum	270	12 deg	70	2.200	1.61	LS7	Std LS	Bolt-down	Titanium/sodium-filled valves	206
25534428	As-cast LS7	Aluminum	-	12 deg	66	2.200	1.61	LS7	Std LS	Bolt-down	Discontinued	N/S
12480005	C5R 1st design	Aluminum	210	11 deg	38	2.180	1.63	C5R	Std LS	Shaft	As-cast, no seats/guides	N/S
12480090	C5R 2nd design	Aluminum	210	11 deg	30	2.180	1.63	C5R	Std LS	Shaft	As-cast, no seats/guides	207
19201807	LSX-L92 Small Bore	Aluminum	260	15 deg	70	2.000	1.55	L92	Std LS	Bolt-down	Hollow/sodium-filled valves	208
19201805	LSX-LS3	Aluminum	260	15 deg	70	2.160	1.59	L92	Std LS	Bolt-down	Hollow/sodium-filled valves	208
19201806	LSX-LS7	Aluminum	270	12 deg	70	2.200	1.61	LS7	Std LS	Bolt-down	Titanium/sodium-filled valves	208
19166981	LSX-CT	Aluminum	302	11 deg	45	2.200	1.61	LSX-CT	LSX-CT/DR	Shaft	CNC machined bare head	209
19166979	LSX-DR	Aluminum	313	11 deg	50	2.25-2.28	1.6-1.65	LSX-DR	LSX-CT/DR	Shaft	CNC machined bare head	209

THE LS FAMILY PRODUCTION AND C5R ALUMINUM HEADS

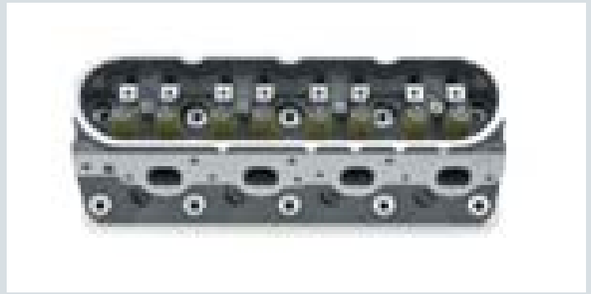
Great cylinder-head airflow has been a key enabler of the LS Series' exceptional performance. GM Performance Parts delivers those power-building attributes to you with a range of production-style aluminum heads—from the LS6 heads for smaller-displacement engines to LS7 style heads for 427-inch-and-larger combinations, our aluminum heads benefit from General Motors' extensive research and development program, ensuring maximum airflow without compromises. In fact, many professional builders use our heads as straight bolt-ons, with no further machining. Many of our assembled heads use premium machining and materials, including CNC finishing and porting, along with lightweight, hollow-stem valves, sodium-filled exhaust valves and—on some heads—light-weight titanium intake valves.

Aluminum LS Family Head Technical Notes:

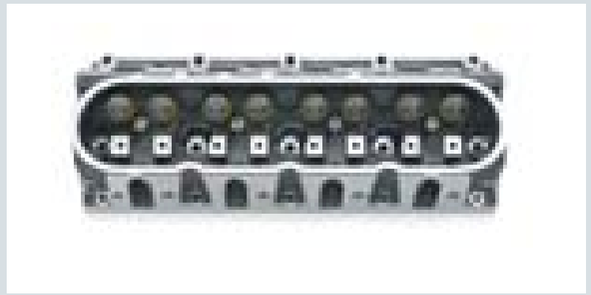
- Manufactured from 319-T5 aluminum alloy
- High-efficiency combustion chambers
- Symmetrical intake and exhaust ports
- Angled spark plugs (14mm; 5/8" hex; 3/4" reach; taper-seat plugs)
- 15° valve angle (except C5R and LS7)
- Bolt-down-type rocker arms (except C5R)
- Center-bolt valve cover hold-downs
- Fits Gen III and Gen IV Small-Blocks only*

A. 12564824
LS6 Cylinder Head Assembly
- 2.00" hollow stem intake, and 1.55" sodium-filled exhaust valves
- .570" max valve lift
- 210cc cathedral port intake ports
- 70cc D-shaped exhaust ports
- 65cc combustion chambers
- Bare head P/N 12615363 available separately

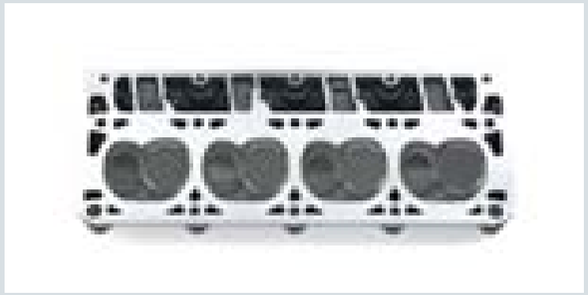
** GM Performance Parts heads will not fit 4.8L and 5.3L engines due to their smaller bore sizes.*



A LS6 Cylinder Head Assembly (exhaust)



A LS6 Cylinder Head Assembly (intake)



LS6 Cylinder Head Assembly (combustion chamber) A

CNC-Ported LS2 Cylinder Head Assembly (exhaust) B

CNC-Ported LS2 Cylinder Head Assembly (intake) B

CNC-Ported LS2 Cylinder Head Assembly (combustion chamber) B

88958665
CNC-Ported LS6 Cylinder Head Assembly (not shown)
- CNC-ported aluminum performance head
- 2.00" hollow stem intake, and 1.55" sodium-filled exhaust valves
- .570" max valve lift
- 250cc CNC'd cathedral-port intake ports
- 85cc CNC'd D-shaped exhaust ports
- 65cc CNC'd combustion chambers

88958622
CNC-Ported LS6 Cylinder Head Assembly (not shown)
- CNC-ported aluminum performance head
- 2.00" hollow stem intake, and 1.55" sodium-filled exhaust valves
- .570" max valve lift
- 250cc CNC'd cathedral-port intake ports
- 85cc CNC'd D-shaped exhaust ports
- 65cc CNC'd combustion chambers

Heads P/N 12564824, P/N 88958665 and P/N 88958622 are assembled with the following components:

12565311	Intake Valves	**10166344**	Valve Spring Retainers
12565312	Exhaust Valves	**12482063**	Intake Valve Stem Seals
12586484	Valve Springs	**12482062**	Exhaust Valve Stem Seals
10166345	Valve Locks		

12576063
LS2 Cylinder Head Assembly (not shown)
- Lower cost alternative to the LS6 head
- 2.00" solid stem intake, and 1.55" solid stem exhaust valves
- .570" max valve lift
- 210cc cathedral-port intake ports
- 70cc D-shaped exhaust ports
- 65cc combustion chambers
- Bare head P/N 12615363 available separately
- Upgrade the valves to LS6 hollow stem valves with P/N 17801930

B. 88958765
CNC-Ported LS2 Cylinder Head Assembly
- CNC-ported aluminum performance head
- Lower cost alternative to the CNC LS6 head
- 2.00" solid stem intake, and 1.55" solid stem exhaust valves
- .570" max valve lift
- 250cc CNC'd cathedral-port intake ports
- 85cc CNC'd D-shaped exhaust ports
- 65cc CNC'd combustion chambers
- Upgrade the valves to LS6 hollow stem valves with P/N 17801930

Heads P/N 12576063 and P/N 88958765 are assembled with the following components:

12563063	Intake Valves	**10166344**	Valve Spring Retainers
12563064	Exhaust Valves	**12482063**	Intake Valve Stem Seals
12586484	Valve Springs	**12482062**	Exhaust Valve Stem Seals
10166345	Valve Locks		

LS2 and LS6 Head Flow Data:

Lift	0.200"	0.300"	0.400"	0.500"	0.600"
Stock intake	136	195	237	260	260
Stock exhaust	104	135	157	169	180
CNC intake	147	215	262	290	307
CNC exhaust	111	155	198	210	218

** GM Performance Parts heads will not fit 4.8L and 5.3L engines due to their smaller bore sizes.*

Additional components required for installation. See page 207.

Available for purchase online at gmperformanceparts.com

LS Family Aluminum Heads Continued

A. 12615355

L92 Cylinder Head Assembly

- Aluminum performance head
- Fits any LS family engine with 4.00" bore or larger
- 2.165" solid stem intake, and 1.59" solid stem exhaust valves
- .510" max valve lift
- As-cast L92 style intake ports
- D-shaped exhaust ports
- As-cast combustion chambers

Head 12615355 is assembled with the following components:

12590771	Intake Valves	**10166344**	Valve Spring Retainers
12582719	Exhaust Valves	**12482063**	Intake Valve Stem Seals
12589774	Valve Springs	**12482062**	Exhaust Valve Stem Seals
10166345	Valve Locks		

L92 Head Flow Data (4.00" Bore):

Lift	0.200"	0.300"	0.400"	0.500"	0.600"
Intake	151	208	256	294	316
Exhaust	111	152	174	183	189

88958698

CNC-Ported L92 Cylinder Head Assembly (not shown)

- CNC-ported performance head
- Fits any LS family engine with a bore of 4.00" or larger
- Uses stock 2.165" and 1.59" valves, springs and hardware
- .510" max lift with stock springs
- 280cc intake port, 100cc D-shaped exhaust port, 68cc combustion chamber

CNC L92 Head Flow Data (4.065" bore):

Lift	0.200"	0.300"	0.400"	0.500"	0.600"
Intake	150	222	260	298	332
Exhaust	105	140	168	190	201

12615879

LS3 Cylinder Head Assembly (not shown)

- Aluminum performance head
- Fits any LS family engine with 4.00" bore or larger
- 2.165" hollow stem intake, and 1.59" solid stem exhaust valves
- .570" max valve lift
- As-cast L92 style intake ports
- D-shaped exhaust ports
- As-cast combustion chambers
- Uses bare head P/N 12615361

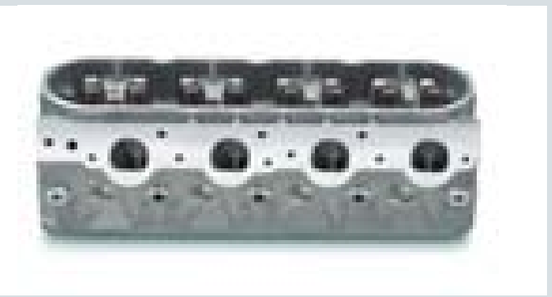
Head 12615879 is assembled with the following components:

12569427	Intake Valves	**10166344**	Valve Spring Retainers
12586484	Exhaust Valves	**12482063**	Intake Valve Stem Seals
12589774	Valve Springs	**12482062**	Exhaust Valve Stem Seals
10166345	Valve Locks		

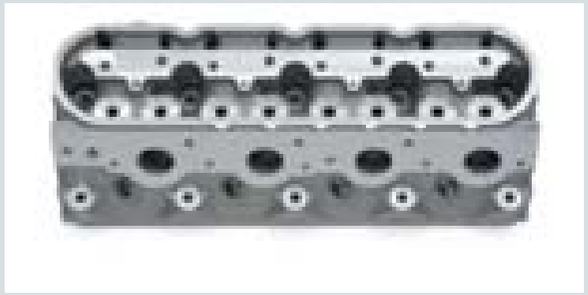
A L92 Cylinder Head Assembly (exhaust)

A L92 Cylinder Head Assembly (intake)

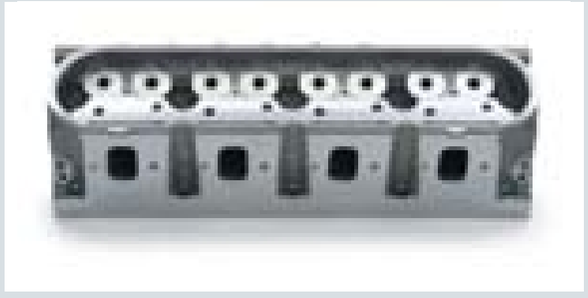
A L92 Cylinder Head Assembly (combustion chamber)



B LS7 Cylinder Head Assembly (exhaust)



Bare C5R Racing Cylinder Head (exhaust) **C**



Bare C5R Racing Cylinder Head (intake) **C**

Bare C5R Racing Cylinder Head (combustion chamber) **C**

B. 12578449

LS7 Cylinder Head Assembly

- 356-T6 aluminum head
- Fully CNC'd ports and chambers
- LS7 rectangle port design
- Assembled with 2.20" titanium intake and 1.61" sodium-filled exhaust valves
- 12° valve angle
- Minimum 4.100" bore
- 270cc CNC'd intake ports, 85cc CNC'd exhaust ports
- 70cc CNC'd combustion chambers
- Capable of over 600 horsepower
- Bare head P/N 12578450 available separately

Head 12578449 is assembled with the following components:

12591644	Intake Valves	**12596508**	Valve Spring Retainers
12578455	Exhaust Valves	**12482063**	Intake Valve Stem Seals
12578457	Valve Springs	**12482062**	Exhaust Valve Stem Seals
10166345	Valve Locks	**12596509**	Intake Valve Lash Cap

LS7 Head Flow Data:

Lift	0.100"	0.200"	0.300"	0.400"	0.500"	0.550"	0.600"	0.700"
Intake	71	145	222	271	315	332	348	352
Exhaust	60	120	159	192	207	214	219	221

C. 12480090

Bare C5R Racing Cylinder Head

- 355-T7 "as-cast" Aluminum racing head
- Professional porting and machining of combustion chambers required
- No seats or guides
- C5R rectangle-port design—requires aftermarket rectangle-port intake manifolds
- Designed for 2.180"/1.625" valves
- 11° valve angle
- Machined for 1.625" diameter valve springs and .500" guides
- Designed for big bore (4.100" min) LS7/C5R/LSX blocks
- 210cc "as-cast" intake ports
- 70cc "as-cast" exhaust ports, same as production LS6
- 30cc "as-cast" combustion chambers
- All fasteners are metric
- Valve cover rails have O-ring groove for .125" O-ring
- Capable of over 800 horsepower!
- Standard LS exhaust port design

CYLINDER HEADS: ADDITIONAL REQUIRED COMPONENTS

Part Number	Gaskets (Quantity)	Bolts (Quantity)	Spark Plug	Engine Application
12576063	12589227 (2) **OR** 19170418	11562524 (20), 12558840 (10)	12571164	MY05/06/07 LS2 and Carb LS2
12615363	12589226 (2) **OR** 19170418	11562524 (20), 12558840 (10)	12571164	MY07 LS4
12564824, 12615363	12589226 (2) **OR** 19170418	11588291 (16), 12560745 (4), 12558840 (10)	12571164	MY04/05 LS6
12578449	12582179 (2) **OR** 19170419	11562524 (20), 12558840 (10)	12571165	MY06/07 LS7
12582713	12610046 (2) **OR** 19170419	11562524 (20), 12558840 (10)	12571164	MY07 L92
12582714	12610046 (2) **OR** 19170419	11562524 (20), 12558840 (10)	12571164	MY07 L92
88958622	12589226 (2) **OR** 19170418	11562524 (20), 12558840 (10)	12571164	CNC LS6
88958665	12589226 (2) **OR** 19170418	11562524 (20), 12558840 (10)	12571164	CNC LS6
88958765	12589227 (2) **OR** 19170418	11562524 (20), 12558840 (10)	12571164	CNC LS2
88958698	12610046 (2) **OR** 19170418	11562524 (20), 12558840 (10)	12571164	CNC L92
12480090	12582179 (2) **OR** 19170419	11562524 (20), 12558840 (10)	12571164	C5R

Additional components required for installation. See page 207.

Available for purchase online at gmperformanceparts.com

LSX CYLINDER HEADS

Extending the performance range of the LSX platform are GM Performance Parts' new, six-bolt LSX cylinder heads. Many are c apable of flowing more than 400 cfm and their six-bolts-per-cylinder clamping design gives them bomb-proof strength. Your horsepower-building potential is nearly unlimited with LSX ends.

These aluminum masterpieces of performance feature port and chamber designs based on popular and performance-proven production-style heads, such as the L92 and LS7 heads. They are easily identified by the engraved LSX logo on the ends.

All LSX heads are made of 356-T6 aluminum and feature a thick, 5/8" thick deck that allows plenty of room for builder-specified combinations. Additional features include:

- Uses 11mm (10) and 8mm (13) head bolts (not included, see drawing on page 209)
- Accommodates production valvetrain components (except for Drag Race and Circle Track heads)
- Includes premium beehive-type valve springs (except for Drag Race and Circle Track heads)
- Extra material cast in the port areas to accommodate professional porting
- Valve guides for 8mm valve stems

Racing-specific LSX-DR (Drag Racing) and LSX-CT (Circle Track) heads feature raised runner designs and other unique features designed to maximize performance at the track.

LSX Street Heads

Four LSX street head configurations are offered: The LSX-LS7 head, the LSX-LS3 head, the LSX-LS9 head and the LSX-L92 Small Bore head. The LSX-L92 head features smaller combustion chambers that are compatible with smaller-bore LS1 and LS6 engines. The street heads accommodate valve springs with up to 1.55" diameter bases, but can be machined for larger springs.

19201807 NEW
LSX-L92 Small Bore Cylinder Head (not shown)
- L92 style rectangle port design
- Assembled with 2.00" intake and 1.55" exhaust valves
- 15° valve angle
- **Minimum 3.89"** bore
- 250cc "as-cast" intake ports, 80cc "as-cast" exhaust ports
- 65cc "as-cast" combustion chambers
- Responds well to larger valves

19201805 NEW
LSX-LS3 Cylinder Head (not shown)
- L92 style rectangle port design
- Assembled with 2.165" hollow stem intake and 1.59" solid stem exhaust valves
- 15° valve angle
- **Minimum 4.00"** bore
- 260cc "as-cast" intake ports, 80cc "as-cast" exhaust ports
- 70cc "as-cast" combustion chambers

19203963 NEW
LSX-LS9 Cylinder Head (not shown)
- L92 style rectangle port design
- Assembled with 2.165" titanium intake and 1.59" sodium-filled exhaust valves
- 15° valve angle
- **Minimum 4.00"** bore
- 260cc "as-cast" intake ports, 80cc "as-cast" exhaust ports
- 70cc "as-cast" combustion chambers

A. 19201806 NEW
LSX-LS7 Cylinder Head
- 6-bolt per cylinder bolt pattern
- LS7 style rectangle port design
- Assembled with 2.20" titanium intake and 1.61" sodium-filled exhaust valves
- 12° valve angle
- **Minimum 4.100"** bore
- 270cc "as-cast" intake ports, 85cc "as-cast" exhaust ports
- 70cc "as-cast" combustion chambers

NEW!

A LSX-LS7 Cylinder Head (exhaust)

NEW!

A LSX-LS7 Cylinder Head (intake)

NEW!

A LSX-LS7 Cylinder Head (combustion chamber)

NEW!

LSX-CT/DR exhaust port layout **B**

NEW!

LSX-DR Cylinder Head (intake) **B**

NEW!

LSX-DR Cylinder Head (Combustion Chamber) **B**

LSX-CT and LSX-DR Heads

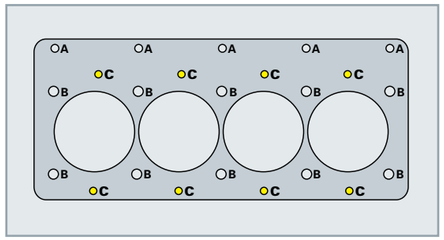
The LSX-CT (Circle Track) and LSX-DR (Drag Racing) cylinder heads feature raised-runner designs for improved airflow that supports sustained high-rpm performance. Intake port configuration is similar to the competition-derived C5R head, but the ports are raised an amazing 10mm and the intake manifold bolt pattern is spread to accommodate additional port configurations. Additional features include:

- 11-degree valve angle (same as C5R head)
- Accomodates up to 1.66" diameter valve springs
- Raised rocker rails
- Requires shaft-mount rockers (see P/N 19201808)
- May require special valve covers to clear shaft-mount rockers
- Provisions for down-nozzle machining
- 9° intake manifold angle—requires new LSX DR or LSX CT intake manifolds
- Unique LSX-CT/DR exhaust bolt pattern

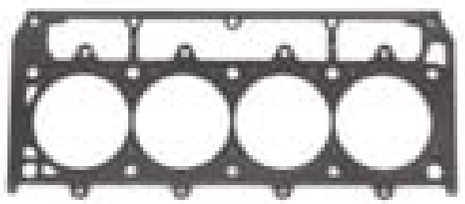
B. 19166981 NEW
LSX-CT Cylinder Head
- 356-T6 aluminum racing head
- 5/8" thick deck
- LSX-CT rectangle-intake port design—requires LSX-CT or LSX-DR intake manifold
- LSX-CT/DR spread-port exhaust port pattern
- Cast-in down-nozzle bosses (not machined)
- Designed for 2.20" intake and 1.61" exhaust valves
- Fully CNC-ported
- Machined for 1.625" valve springs
- 11° valve angle
- **Minimum 4.125"** bore
- 302cc CNC'd intake ports
- 109cc CNC'd exhaust ports
- 45cc CNC'd combustion chambers
- Capable of over 850 naturally aspirated hp!

19166979 NEW
LSX-DR Cylinder Head (not shown)
- 356-T6 aluminum racing head
- 5/8" thick deck
- LSX-DR rectangle intake port design—requires LSX-CT or LSX-DR intake manifold
- LSX-CT/DR spread port exhaust port pattern
- Cast-in down-nozzle bosses (not machined)
- Designed for up to 2.28" intake and 1.62" exhaust valves (4.165" minimum bore)
- Fully CNC ported
- Machined for 1.66" valve springs
- 11° valve angle
- **Minimum 4.125"** bore
- 313cc CNC'd intake ports
- 116cc CNC'd exhaust ports
- 50cc CNC'd combustion chambers
- Capable of over 900 naturally aspirated hp!

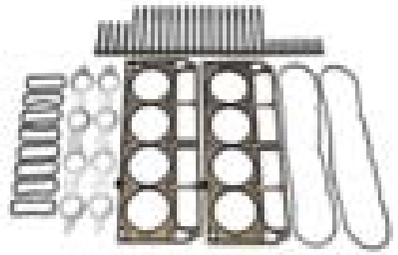
LS/LSX Head Bolt Patterns



A	Standard LS	8mm	Bolt/Stud
B	Standard LS	11mm	Bolt/Stud
C	LSX	8mm	Bolt/Stud



A LSX 4.100 Bore MLS Head Gasket Kit



B LS1 Cylinder Head Installation Kit (F-Car)

CYLINDER HEAD GASKETS AND BOLT KITS

12498543
Cylinder Head Gasket Kit (not shown)
- 2 head gaskets for 1997-2001 LS1 Camaro/Firebird and Corvette engines
- Also fits 2001 LS6 Corvette engine

12498544
Cylinder Head Gasket Kit (not shown)
- 2 head gaskets for 2002-2004 LS1Camaro/Firebird and Corvette engines

A. 19170418
LSX 4.100 Bore MLS Head Gasket Kit
- Multi-layer steel gaskets for naturally aspirated and forced induction applications
- 0.051" thick
- Includes 1 LH and 1 RH gasket
- For standard LS and LSX 6-bolt pattern blocks and heads
- For bores up to 4.100"

19170419
LSX 4.200 Bore MLS Head Gasket Kit (not shown)
- Multi-layer steel gaskets for naturally aspirated and forced induction applications
- 0.051" thick
- Includes 1 LH and 1 RH gasket
- For standard LS and LSX 6-bolt pattern blocks and heads
- For bores up to 4.200"

19170420
LSX 4.250 Bore MLS Head Gasket Kit (not shown)
- Multi-layer steel gaskets for naturally aspirated applications
- 0.051" thick
- Includes 1 LH and 1 RH gasket
- For standard LS and LSX 6-bolt pattern blocks and heads
- For bores up to 4.250"

12498545
Cylinder Head Bolt Kit (1997-2003, not shown)
- Kit of 15 head bolts for 1998-2003 LS1 Camaro/Firebird and 1997-2003 Corvette; and 2001-2003 LS6 Corvette
- 1 kit per cylinder head; order 2 per engine
- Head bolts cannot be reused on these engines

NOTE: *IMPORTANT!! LS Series engines produced from January 2004 forward have a new "short-style" head bolt design. Earlier head bolts will not fit. Order P/N 17800568 for engines produced from January 2004 and later.*

17800568
Cylinder Head Bolt Kit, Gen III and Gen IV (not shown)
- Kit of 15 bolts for LS series engines produced from January 2004 and later
- Bolts are 5mm shorter than previous design
- Services engine head only

B. 12499217
LS1 Cylinder Head Installation Kit (F-Car)
- Comprehensive cylinder head installation kit for 2002 Camaro and Firebird models equipped with the LS1 engine
- Kit includes 2 head gaskets, 2 valve cover gaskets, 8 intake manifold gaskets, 2 exhaust manifold gaskets, 2 intake manifold-to-block seals, 20 long-head bolts and 10 short-head bolts

12499218
Corvette LS1/LS6 Cylinder Head Installation Kit (not shown)
- Comprehensive cylinder head installation kit for 2002-2005 Corvette models equipped with the LS1 engine, or 2002-2004 Corvette models equipped with the LS6 engine
- Kit includes 2 head gaskets, 2 valve cover gaskets, 8 intake manifold gaskets, 2 exhaust manifold gaskets, 2 intake manifold-to-block seals, 20 long head bolts and 10 short head bolts

12589226
LS1/LS6 Head Gasket (not shown)
- Single gasket, 2 required
- For naturally aspirated LS1 and LS6 5.7L engines
- .051" thick
- 3.92" max bore
- Standard LS bolt pattern

12589227
LS2, L76 Head Gasket (not shown)
- Single gasket, 2 required
- For naturally aspirated LS2 and L76 6.0L engines
- .051" thick
- 4.02" max bore
- Standard LS bolt pattern

12610046
LS3, L92 Head Gasket (not shown)
- Single gasket, 2 required
- For naturally aspirated LS3/L92 6.2L engines
- .051" thick
- 4.080" max bore
- Standard LS bolt pattern

12582179
LS7 Head Gasket (not shown)
- Single gasket, 2 required
- For naturally aspirated LS7 7.0L engines
- .051" thick
- 4.140" max bore
- Standard LS bolt pattern

LS Center-Bolt Competition Valve Cover (with breather hole) **A**

LS Center-Bolt Competition Valve Cover **B**

Valve Cover Kit—LSX 454, Orange **C**

Valve Cover Kit—LSX 376, Natural Tumble Finish **D**

LS VALVE COVERS

Nothing finishes off your engine like a great-looking set of valve covers straight from GM. Our new collection of LS valve covers allows you to personalize your LS-powered project with a custom look. Choose from 15 great styles, available in natural, powder-coated, polished and chrome finishes, with callouts for your favorite nameplate, vehicle and more. These valve covers are designed and built to production specs and include a production-type O-ring gasket for a leak-free fit. No matter if you're driving a new Corvette or a Pro-Touring-style, LS3-powered '61 Chevy, we've got the perfect set of valve covers for it.

NOTE: *The valve covers feature the standard bolt pattern, but DO NOT have provisions for production-style coil mounts. Aftermarket or custom coil relocation brackets must be used. Additional features include:*

- PVC system (except 25534398 and 25534399)
- Integrated oil fill
- Accomodates tall-style rockers
- Sold in pairs (except 25534398 and 25534399)
- Includes hardware and O-ring gasket

A. 25534398
LS Center-Bolt Competition Valve Cover (with breather hole)
- Aluminum valve cover designed for production center-bolt LS Series cylinder heads
- Includes bolts and seal
- Sold individually

B. 25534399
LS Center-Bolt Competition Valve Cover
- Aluminum valve cover designed for production center-bolt LS Series cylinder heads
- Includes bolts and seal
- Sold individually

C. 19171272
Valve Cover Kit—LSX 454, Orange
- Orange powder coat with **Black** LSX 454 lettering

D. 19171270
Valve Cover Kit—LSX 376, Natural
- Natural tumble finish with **Black** LSX 376 lettering

VALVE COVER KITS (SOLD IN PAIRS)

19156431
Valve Cover Kit—CHEVROLET, Black
- Black powder coat with **Red** CHEVROLET lettering

19156432
Valve Cover Kit—CHEVROLET, Orange
- Orange powder coat with **Black** CHEVROLET lettering

19156433
Valve Cover Kit—CHEVROLET, Chrome
- Chrome finish with **Black** CHEVROLET lettering

19156430
Valve Cover Kit—CAMARO, Natural
- Natural tumble finish with **Black** CAMARO lettering

19156429
Valve Cover Kit—CORVETTE, Polished
- Polished finish with **Red** CORVETTE lettering

19156428
Valve Cover Kit—CORVETTE, Polished
- Polished finish with **Black** CORVETTE lettering

19171269
Valve Cover Kit—PONTIAC, Natural
- Natural tumble finish with **Black** PONTIAC logo

19171497
Valve Cover Kit—LSX 454, Black
- Black powder coat with **Red** LSX 454 lettering

19171273
Valve Cover Kit—LSX 427, Polished
- Polished finish with **Black** LSX 427 lettering

19171500
Valve Cover Kit—GM Performance Parts/LSX, Polished
- Polished finished with **Black** GM Performance Parts and LSX logos

19171501
Valve Cover Kit—GM Performance Parts/LSX, Natural
- Natural tumble finish with **Black** GM Performance Parts and LSX logos

19171502
Valve Cover Kit—Polished
- Polished finish with no logos

HARDWARE AND BREATHERS

12341993
Push-In Oil Filler Cap (not shown)
- Round oil filler cap with Bowtie logo for valve covers with 1.22" diameter hole

12573338
Oil Fill Cap (not shown)
- Production
- For LS1 engines

12573337
Oil Fill Cap (not shown)
- Production
- For L92 engines

A. 12577268
Oil Fill Cap
- Production
- For LS2 and LS6 engines

12577215
Valve Cover Bolt (not shown)
- Requires 4 per valve cover
- For L92 engines

12560961
Valve Cover Bolt (not shown)
- Requires 4 per valve cover
- For LS1, LS2 and LS6 engines

11588791
Valve Cover Bolt (not shown)
- Requires 4 per valve cover
- For LS7 engines

12560696
Valve Cover Gasket (not shown)
- Requires 1 per valve cover
- For LS1, LS2, LS6, LS7 and L92 engines

VALVE LIFTERS AND COMPONENTS

12499225
LS Series Camshaft Lifter Kit (not shown)
- Set of 16 lifters for LS series engines
- Same lifter used in LS2 and LS7

12595365
Lifter Guide (not shown)
- Works in Gen III and IV applications (except with AFM)

B. 88958689
Racing Hydraulic Roller Lifter Kit
- As developed by GM Racing and GM Powertrain
- For use in Gen III and Gen IV engines where sustained high rpms are typical
- Special reduced-mass internal components allow for higher limiting speeds with aggressive camshaft designs
- Improved valvetrain dynamics and stability will improve horsepower, and high rpms
- Tested to 8000 rpm in GM Racing applications
- Set of 16

17801930
LS6 Hollow Stem Valve Kit (not shown)
- Kit of 4 intake and 4 exhaust valves originally for LS6 engines
- One kit services 1 head to drop right into your LS2 head

A Oil Fill Cap

B Racing Hydraulic Roller Lifter Kit

LS SERIES VALVES

Part Number	Valve Size	Stem Size	Description
Intake Valves			
12565311	2.00"	8mm	Stock replacement hollow stem valve used in LS6 engines
12563063	2.00"	8mm	Stock replacement solid stem valve used in LS2 engines
12590773	2.165"	8mm	Stock replacement valve used in L92 engines
12605223	2.165"	8mm	Stock replacement solid stem valve used in LSA engines
12569427	2.165"	8mm	Stock replacement hollow stem valve used in LS3 engines
12605524	2.165"	8mm	Stock replacement titanium valve used in LS9 engines
12591644	2.20"	8mm	Stock replacement titanium valve used in LS7 engines
Exhaust Valves			
12565312	1.50"	8mm	Stock replacement sodium-filled stem valve used in LS6 engines
12563064	1.50"	8mm	Stock replacement solid stem valve used in LS2 engines
12582719	1.59"	8mm	Stock replacement solid stem valve used in L92 and LS3 engines
12605525	1.59"	8mm	Stock replacement sodium-filled stem valve used in LS9 engines
12578455	1.61"	8mm	Stock replacement sodium-filled stem valve used in LS7 engines

VALVE SPRING COMPONENTS

12499224
LS Valve Spring Kit (not shown)
- Beehive style springs
- 1.800" installed height @ 90 lbs. pressure
- Includes 16 of P/N 12586484
- Used on LS2/LS6 cylinder heads
- Max lift .570"
- 1.250" @ 295 lbs. pressure

12586484
Valve Springs (not shown)
- Beehive style springs
- Use cap P/N 10166344
- 1.800" installed height @ 90 lbs. pressure
- Standard LS6/LS3 springs
- 1.250" @ 295 lbs. pressure
- Max lift .570"

12589774
Valve Springs (not shown)
- Beehive style springs
- 1.800" installed height @ 90 lbs. pressure
- Standard L76/L92 springs
- Max lift .520"
- 1.300" @ 264 lbs. pressure

12578457
Valve Springs (not shown)
- Beehive style springs
- 1.960" installed height @ 101 lbs. pressure
- Used on LS7 cylinder heads
- 1.368" @ 310 lbs. pressure
- Max lift .600"

LS SERIES PUSHRODS

Part Number	Material	Diameter	Length	Useage	Description
12593344	1010 steel	3/8"	7.750	LS7	Production pushrod, individually packed
10238852	1010 steel	5/16"	7.325	LS1, LS2, LS3, LS6, L92	Production pushrod, individually packed

ROCKER ARMS AND ROCKER ARM BOLTS

Rocker Arms

10214664
Rocker Arm (not shown)
- For LS1, LS2 and LS6 intake and exhaust valves
- Straight design, no offset
- For L92, LS9 and LS3 exhaust valves
- 1.7:1 ratio

12569167
Rocker Arm (not shown)
- Intake rockers for L92, LS9 and LS3 style heads only
- Offset design
- 1.7:1 ratio

12579615
Rocker Arm (not shown)
- Intake rockers for LS7 style heads only
- Offset design
- 1.8:1 ratio

12579617
Rocker Arm (not shown)
- Exhaust rockers for LS7 style heads only
- Straight design, no offset
- 1.8:1 ratio

19201808 NEW
LSX Rocker Kit 1.85:1 (not shown)
- Shaft mount rocker kit for LSX-CT and LSX-DR heads
- Includes all mounting hardware
- Aluminum full roller rockers and hardened shafts

Rocker Arm Bolts

12560961
Rocker Arm Bolts (not shown)
- For cathedral port and L92 style heads
- 16 required per engine

11588791
Rocker Arm Bolts (not shown)
- For LS7 style heads
- 16 required per engine

12552203
Rocker Arm Stand (not shown)
- For LS1, LS2 and LS6 style heads only
- Sold individually
- Requires 1 per cylinder head

12600936
Rocker Arm Stand (not shown)
- For L92, LS9 and LS3 style heads only
- Sold individually
- Requires 1 per cylinder head

LSX CAMSHAFT

The range of high-performance camshafts for LS engines expands in 2009 with our new LSX454 cam. It was developed by GM Performance Parts' LSX performance engineers, who designed it to deliver great high-rpm performance with excellent street manners.

The LSX454 cam is a high-lift, hydraulic roller that was originally developed for our LSX454 crate engine. It maximizes the potential of big-displacement engines at high rpm. Maximum lift is 0.600/0.600" with 1.7-ratio rockers and 0.635/0.635" with 1.8-ratio rockers. Duration is 236 degrees on the intake side and 246 degrees on the exhaust side, with a 110-degree separation angle.

NOTE: *Not compatible with production-style variable-valve timing configurations or production valve springs.*

A. 19166972 NEW
LSX454 Camshaft
- .635" lift intake/exhaust (1.8 rockers)
- 236° intake/246° exhaust
- Good mid-range and top end
- 3-bolt design

NEW!

A LSX454 Camshaft

LS SERIES CAMSHAFTS

Part Number	Description	Duration @ .050" Lift (deg)	Maximum Lift (in) (1.7 rocker)	Lobe Separation (deg)	Technical Notes
12565308	2002-2004 LS6 Cam	I: 204 E: 218	I: .550 E: .550	117.5	Cam requires valve spring P/N 12586484
12560950	2001 LS6 Cam	I: 207 E: 217	I: .525 E: .525	116	Cam requires valve spring P/N 12586484
12480110	ASA Cam	I: 226 E: 236	I: .525 E: .525	110	Cam requires valve spring P/N 12586484; "ASA" cam for off-highway use
12480033	Hot Cam Kit	I: 219 E: 228	I: .525 E: .525	112	Kit includes 16 LS6 valve springs P/N 12565117 and retainers
88958733	LS Hot Cam	I: 219 E: 228	I: .525 E: .525	112	Same cam as in kit P/N 12480033
19166972	LSX454 Cam	I: 236 E: 246	I: .600 E: .600	110	Max lift with 1.8 rockers .635/.635
88958606	Showroom Stock Cam	I: 239 E: 251	I: .570 E: .570	106.5	Showroom Stock racing design; requires hollow stem intake valves P/N 12565311, hollow stem exhaust valves P/N 12565312, valve springs P/N 12586484, and aftermarket notched pistons OR machine stock pistons
12571251	LS7	I: 211 E: 230	I: .558 E: .558	121	Stock LS7 camshaft, will not work on Gen III engines Max lift with 1.8 rockers .591/.591
12561721	LQ9: 2002-2006 LS1: 2001-2004	I: 196 E: 201	I: .467 E: .479	116	Stock cam for 2002-2006 LQ9 and 2001-2004 LS1 engines
88958722	LS Stage 2 Cam	I: 227 E: 239	I: .551 E: .551	108	Max lift with 1.8 rockers .583/.583
88958723	LS Stage 3 Cam	I: 233 E: 276	I: .595 E: .595	107	Max lift with 1.8 rockers .630/.630

CAMSHAFT COMPONENTS

All LS camshafts are compatible with production-style LSX and C5R blocks, as well as all of our cylinder heads—although piston-to-valve clearance must be checked on some applications. We offer a broad range of production and racing-style camshafts that are factory-engineered to deliver maximum performance when paired with our high-flow cylinder heads. Save yourself the time and expense of going to an aftermarket camshaft supplier and build your LS engine with a genuine GM cam. We've also got the valvetrain components you need to finish the engine, including lightweight components designed for high-rpm performance.

Check out the accompanying chart for all of the camshafts from GM Performance Parts, including part numbers, recommended applications, duration, lift and lobe separation specifications.

12499228
Cam Installation Kit, LS Engine (not shown)
- Complete gasket kit to make cam swaps easier
- Includes all necessary gaskets and balancer bolt
- For LS1, LS2 and LS6 engines

Cam Installation Kit, LS Engine includes:

PART NUMBER	QTY	DESCRIPTION
12574294	1	Gasket–Engine Front Cover
12588372	2	Gasket–With Pump
89017589	1	Gasket Kit, Intake Manifold
12612045	2	Gasket–Valve Rocker Arm Cover
12557840	1	Bolt/Screw–CR/SHF Balance
12585673	1	Seal ASM–CR/SHF Front Oil

NEW!

LSX Connecting Rod Kit B

1997-2004 Connecting Rod C

LS7 Connecting Rod D

LSX CONNECTING RODS

Like our new crankshafts, GM Performance Parts' new LSX connecting rods are made of high-strength, 4340 forged steel to deliver worry-free performance for your high-horsepower, high-revving LS engine. Additional strength comes in the rod's I-beam design and its chamfered big end fits great with filleted cranks, like our LSX crankshafts. They're available in five lengths, ranging from 6.000" to 6.200". Other details include:

- 2.100" journals (big end)
- 0.866" bushed small ends
- MUST be used with LSX forged pistons—not compatible with production pistons
- Includes 7/16" 12-point, SAE 8740 rod bolts
- Caps are dowel located
- Weight-matched, sold in sets of 8

B. 19166964 NEW
LSX Connecting Rod Kit, 6.000"

19166965 NEW
LSX Connecting Rod Kit, 6.100"

19166966 NEW
LSX Connecting Rod Kit, 6.125"

19166967 NEW
LSX Connecting Rod Kit, 6.150"

19166968 NEW
LSX Connecting Rod Kit, 6.200"

CONNECTING RODS AND COMPONENTS

C. 12568734
1997-2004 Connecting Rod
- Connecting rod for use on all 1997-2004 production Corvettes and 1998-2002 Camaro/Firebird with LS1/LS6
- Press fit design
- 6.098" C-C length
- Sold individually

12617570
Connecting Rod (not shown)
- Connecting rod used in 2005-2007 LS2 and 2008-2009 LS3 engines has bronze bushing
- 6.098" C-C length
- Sold individually

11610158
LS6 Rod Bolts (not shown)
- Recommended for use in performance Gen III engines
- Bolts have greater strength than pre-2000 rod bolts
- 1 bolt per package; order 2 per connecting rod

D. 12586258
LS7 Connecting Rod
- Titanium connecting rod used in 2006-2009 LS7 crate engines
- 6.067" C-C length
- Sold individually

11609825
LS7 Connecting Rod Bolt Kit (not shown)
- Required for LS7 engine builds
- Sold individually

89017573
Rod Bearing (not shown)
- 1 required per connecting rod
- For all LS series engines, except LS7 and LS9

89017811
LS7 Rod Bearing (not shown)
- 1 required per connecting rod
- For LS7 and LS9 engines only

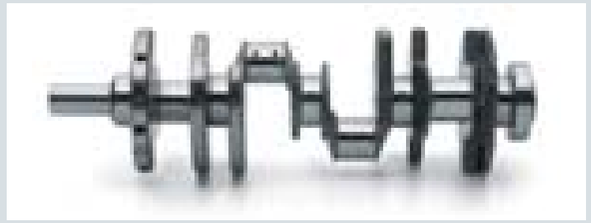
CRANKSHAFTS

Our LS crankshafts are strong, precision-machined components that will support your high-horsepower aspirations. Choose from our nodular cranks up to 3.622-inch-stroke and our premium, forged-steel 4.00-inch-stroke crankshafts for larger-displacement combinations—and don't forget the proper reluctor wheel!

LSX CRANKSHAFTS

Our new LSX crankshafts are all made from 4340 forged steel (most production LS cranks are cast) and have generous fillets. GM Performance Parts' new LSX forged crankshafts deliver exceptional strength and durability, whether you're building a formidable Fourth-Gen Camaro or late-model GTO for the street. Additional features include:

- 2.100" rod journals
- 8-bolt flexplate/flywheel pattern
- Comes with 58X reluctor wheel
- Reluctor wheel can be swapped for use with LS1/LS2/LS6 controller
- Designed for internal balancing (must be balanced prior to use in engine)
- Requires the use of chamfered rods (see our LSX connecting rod selection)



A Crankshaft Assembly 1997–2004

B Reluctor Wheel, 24X

C LSX Windage Tray Kit

LS SERIES PISTONS AND RINGS

Premium-quality hypereutectic aluminum alloy pistons are used on most production LS engines (the LS9 supercharged uses forged aluminum). They are lightweight, durable and promote quieter operation. GM Performance Parts offers production and oversized pistons for many applications. They're sold individually, unless otherwise specified. Check the accompanying chart for part numbers, specs, sizes and applications.

LS SERIES PISTONS

Part Number	Engine Size	Bore Size	Oversize	Rod Length	Pin Type	Comp Ratio	With Chamber	Description
88984245	5.7L	3.898"	—	Standard	Pressed	—	65	Hypereutectic LS1 and LS6 replacement
88984246	5.7L	3.898"	+.010"	Standard	Pressed	—	65	Hypereutectic LS1 and LS6 replacement
89017478	6.0L	4.000"	—	Standard	Floated	10.9	65	Hypereutectic LS2 and LQ9 replacement
89017479	6.0L	4.000"	+.020"	6.098"	Floated	10.9	65	Hypereutectic LS2 and LQ9 replacement
12602624	7.0L	4.125"	—	6.067"	Floated	11.0	70	Hypereutectic LS7 replacement, includes titanium rod
89018171	7.0L	4.125"	+.020"	6.067"	Floated	11.0	70	Hypereutectic LS7 replacement

LS SERIES RINGS

Part Number	Bore Size	Oversize	Ring Thicknesses	Description
89017484	4.000"	—	1.2, 1.5, 2.5mm	Production ring pack for '05-'06 LS2, '06 L76
88894243	4.000"	—	1.5, 1.5, 2.5mm	Production ring pack for '05-'06 LQ9
89017776	4.125"	—	1.2, 1.2, 2.0mm	Production ring pack for '06 LS7
89017777	4.125"	+.020"	1.2, 1.2, 2.0mm	Oversize LS7 ring pack

CRANKSHAFTS AND ACCESSORIES

LS Crankshafts

A. 89017522
Crankshaft Assembly 1997-2004
- Nodular cast 3.622" stroke crankshaft assembly has 24X reluctor wheel installed
- Used on 1998-2002 F-cars and 1997-2005 Corvettes
- Balanced for 3.898" bore engines

12588612
LS2 Crankshaft Assembly (not shown)
- Nodular cast 3.622" stroke crankshaft assembly has 58X reluctor wheel installed
- Used on 2006-2007 Corvettes
- Balanced for 4.00" bore engines

89060436
Rear Crank Seal (not shown)
- Requires 1 per engine
- For all LS Series engines

12557583
Roller Pilot Bearing (not shown)
- Used in high-performance manual transmission applications

12611649
LS7 Forged Steel Crankshaft (not shown)
- Forged 4" stroke crankshaft for LS7 engine
- Includes 58X reluctor wheel
- Rebalancing required if LS7 rods and pistons are not used
- Machine .886" from snout for use in wet samp applications

B. 12559353
Reluctor Wheel, 24X
- 24-tooth crankshaft position sensor timing wheel for 1997-2005 engines

12586768
Reluctor Wheel, 58X (not shown)
- 58-tooth crankshaft position sensor timing wheel for 2006 and newer engines

LSX Crankshafts

19170388 NEW
LSX Crankshaft, 3.622" stroke
- 4340 premium steel
- 3.622" stroke
- Requires balancing
- Includes 58X reluctor wheel
- 8-bolt flexplate/flywheel required

19170389 NEW
LSX Crankshaft, 3.750" stroke
- 4340 premium steel
- 3.750" stroke
- Requires balancing
- Includes 58X reluctor wheel
- 8-bolt flexplate/flywheel required

19170390 NEW
LSX Crankshaft, 4.000" stroke
- 4340 premium steel
- 4.000" stroke
- Requires balancing
- Includes 58X reluctor wheel
- 8-bolt flexplate/flywheel required

19170391 NEW
LSX Crankshaft, 4.125" stroke
- 4340 premium steel
- 4.125" stroke
- Requires balancing
- Includes 58X reluctor wheel
- 8-bolt flexplate/flywheel required

C. 19202613 NEW
LSX Windage Tray Kit
- For 4.000-4.125" strokes
- Includes all matching hardware
- Some notching may be required depending on application and oil pan configuration

NEW!

LSX376 Piston, 4.065" bore **D**

NEW!

LSX454 Piston, 4.185" bore **E**

LSX PISTONS

Complete your all-LSX rotating assembly with GM Performance Parts' new LSX forged aluminum pistons. They're lightweight and tough, enabling higher revs and dependable performance, even with high-boost and nitrous-assisted applications. They're made of 4032 forged aluminum and available in 4.065" and 4.185" bores. Additional details include:

- Flat-top or dished designs with valve relief cut-outs
- High-tech skirt coating
- Forced pin oiling
- Pistons come with wrist pins and rings

D. 19166957 NEW
LSX376 Piston, 4.065" bore
- Forged flat-top, no valve notches
- Works with stock connecting rods only
- Weight matched to stock LS3 piston weight

E. 19166958 NEW
LSX454 Piston, 4.185" bore
- Forged dished piston with valve reliefs
- Lightweight, includes rings and wrist pins
- Must be used with LSX rods
- 4.185" bore, .866 wrist pin size
- 1.2mm compression ring lands and a 2.0mm oil control ring land

NOTE: *Not compatible with production-style LS connecting rods. Must be used only with new LSX connecting rods with 0.866" wrist pin bores.*

TIMING CHAINS AND SPROCKETS

12588670
LS2 Timing Chain Dampener (not shown)
- Production LS2 dampener
- Will not fit LS1 and LS6 blocks fitted with P/N 88958607 (P/N 88958607 is no longer serviced)
- For use with standard oil pumps

12581276
Timing Chain Dampener (not shown)
- Production LS7 dampener
- 1.1mm thinner than P/N 12588670
- For use with LS7 2-stage oil pump

12576407
1X Camshaft Sprocket (not shown)
- Fits all LS cams with 3-bolt design
- 1X camshaft gear
- 3-bolt design; uses 3 bolts P/N 12556127

12586481
Camshaft Sprocket (not shown)
- Fits all LS cams with 3-bolt design
- 4X camshaft gear
- 3-bolt design; uses 3 bolts P/N 12556127

12585994
VVT Camshaft Sprocket (not shown)
- Combination camshaft sprocket and VVT activator
- Production on 2007-2008 Cadillac Escalade L92 engines
- Single-bolt design; use bolt P/N 12588151
- 4X camshaft gear

12556582
Crankshaft Sprocket (not shown)
- Fits non-LS7/LS9 applications
- For standard single-stage oil pumps
- Works with both cam sprockets P/N 12576407 and P/N 12586481

12581278
Crankshaft Sprocket (not shown)
- For use with 2-stage LS7 or LS9 oil pump only
- Works with cam sprockets P/N 12576407 and P/N 12586481

12586482
Timing Chain (not shown)
- Fits 1997-2009 LS based engines

12585997
Timing Chain Tensioner (not shown)
- Requires 1 per engine
- Includes retainer and bolts
- For L92 and LS3 engines

12556127
Camshaft Sprocket Bolt (not shown)
- For use with 3-bolt (non VVT) cams
- For LS1, LS2, LS6, LS9 and early LS7 engines

12561283
Camshaft Sprocket Bolt (not shown)
- For use with single-bolt cams and non-VVT timing covers
- For 2008-2009 LS3 and LS7 engines

12588151
Camshaft Sprocket Bolt (not shown)
- Combination bolt and valve for Variable Valve Timing (VVT) engines
- For L92 engines
- Use with VVT camshaft sprocket P/N 12585994

BUILDER'S TIP

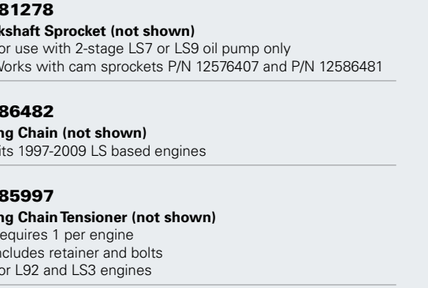
Adapt the LS7 Forged Crankshaft to Your LS Engine

If you're building a 427-cubic-inch LSX engine—or any other LS engine with a 4.00" stroke—and want the strength afforded with a forged-steel crankshaft, GM Performance Parts has two choices: the new LSX 4.00"-stroke crankshaft, P/N 19170390, or the LS7 dry-sump crankshaft, P/N 12568820.

The LSX crankshaft is the easy way to go because the LS7 crankshaft has an approximately 1" longer snout that is designed to work with the production engine's larger, dry-sump oil pump. However, the LS7 crank it can be adapted to conventional wet-sump oiling systems with the following components and modifications:

- Use the standard LS-engine crankshaft gear, P/N 12556582
- Use the standard LS-engine oil pump, P/N 17801830
- Use the standard LS2 timing cover, P/N 12600325

With those parts, a 1" spacer can be used in front of the LS7 balancer to make up the difference between the two crankshaft gears (using the LS7 balancer bolt), OR the crankshaft snout can be machined to reduced its length by approximately 1" (using the LS2-type balancer bolt).



Harmonic Balancer - LS1 and LS2 **A**

Harmonic Balancer - LS7 **B**

Water Pump for L92 Engines **C**

Water Pump for LS2 and LS7 Engines **D**

BALANCERS

A smooth-running engine depends on an effective balancer or torsional damper. GM Performance Parts' dampers not only help LS engines run smoothly, they can extend engine life. Pick the right damper for your project from the list below.

12576652
Harmonic Balancer (not shown)
- Originally used on L92 engines
- For use in truck applications
- WILL NOT work with GMPP Serpentine Accessory Drive Systems

A. 12553118
Harmonic Balancer
- Originally used on LS1 and LS2 engines
- For use in F-Car and GTO applications

B. 12599862
Harmonic Balancer
- Originally used on LS7 engines
- For use in Corvette applications
- Works with GMPP Serpentine Accessory Drive System P/N 19155067

12601402
Harmonic Balancer
- For LS3 engines
- Works with GMPP Serpentine Accessory Drive System P/N 19155067

Balancer Bolts and Washers

12557840
Balancer Bolt (not shown)
- For LS1, LS2, LS6 and L92 engines

11570163
Balancer Bolt (not shown)
- For LS7 engines

12600525
Balancer Washer (not shown)
- For LS2, LS3, L99, LS7 and L92 engines

WATER PUMPS AND ACCESSORIES

C. 12600767
Water Pump
- For L92 engines

D. 89018052
Water Pump
- For LS2, LS3 and LS7 Corvette engines only

89018053
Water Pump (not shown)
- For LS1, LS2 and LS6 engines

12610311
Water Pump Gasket (not shown)
- Requires 2 per engine
- For LS1, LS2, LS3, LS6, LS7 and L92 engines

12551926
Water Pump Bolt (not shown)
- Requires quantity of 6
- For LS1, LS2, LS3, LS6, LS7 and L92

FLYWHEELS AND FLEXPLATES

Select flywheels for manual transmission vehicles and flexplates for automatic transmission vehicles.

Bolts and Dowels

11569956
Flywheel Bolt (not shown)
- Requires 6 per engine
- For LS1, LS2, LS3, LS6, LS7 and L92 engines
- For manual transmission flywheels only

11505820
Flywheel Dowel (not shown)
- For all LS Series engines

12553332
Flexplate Bolt (not shown)
- Requires 6 per engine
- For LS1, LS2 and LS6 engines
- For automatic transmission flexplates only

LS SERIES FLYWHEELS AND CLUTCH KITS

Part Number	Description
12571611	Flywheel for LS2, LS3 and LS7 Corvette engines
24238412	Clutch disc and pressure plate for LS2, LS3 and LS7 Corvette engines
12581650	Flywheel with pressure plate and disc for LS1 Camaro engines
12570806	Flywheel, clutch and press-plate kit for LS2 GTO engines
24237568	Dual-mass clutch and press plate for LS9 Corvette ZR1
12598613	Flywheel for Corvette ZR1
12622564	8-bolt flexplate for LSA, LSX454 and LSX crankshafts

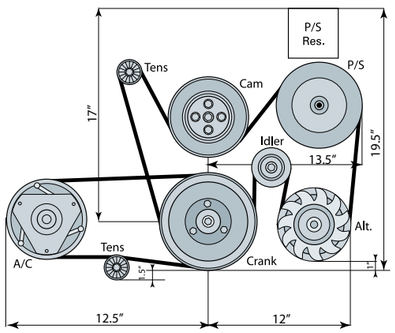
ACCESSORY DRIVE KITS

The easiest and most convenient way to finish your LS engine and get it ready to run in your vehicle is with one of our serpentine accessory drive systems. They include the accessories, brackets, drive belts and hardware your engine needs, saving you the time of sourcing them individually. Our kits include an alternator, power steering pump, pulleys, idlers and even an air conditioning compressor. They're all-inclusive systems that bolt right on to the engine for a factory fit and appearance.

19155066
CTS-V Accessory Drive System, with A/C (not shown)
- Does not work on LS9 and LSA supercharged engines
- Most harmonic balancers do not line up correctly with the accessory drive system; damper P/N 12620556 is strongly recommended
- Air conditioning has separate belt; to delete air conditioning, do not install the belt, compressor or tensioner
- Fits all LS type engines except for production iron block applications
- Direct bolt-on for LS3 and LS7 engines

The system includes:

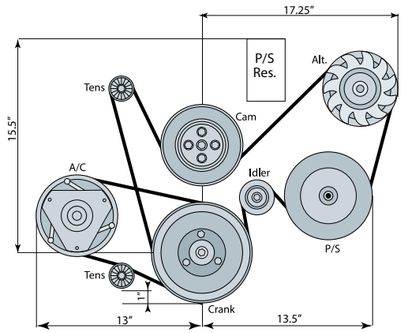
12578548	Bracket-Air Conditioning
89023451	Compressor-Air Conditioning
12595289	Tensioner-Air Conditioning Belt
12578549	Belt-Air Conditioning Compressor
12578551	Bracket-Power Steering Pump
21997867	Pump-Power Steering
12578552	Pulley-Power Steering Pump
21997866	Reservoir-Power Steering Fluid
21997868	Hose-Power Steering Fluid Reservoir With Clamps
12578550	Bracket-Generator
25766345	Generator
12568996	Pulley-Belt Idler
12569301	Tensioner-Drive Belt
12578553	Belt-Water Pump/Generator/ Power Steering



19155067
Corvette Accessory Drive System, with A/C (not shown)
- Fits all Non LSA and LS9 LS type engines
- Most harmonic balancers do not line up correctly with the accessory drive system; damper P/N 12620556 is strongly recommended
- Air conditioning has separate belt; to delete air conditioning, do not install the belt, compressor or tensioner
- Direct bolt-on for LS3 & LS7 engines

The system includes:

12569286	Bracket-Air Conditioning Compressor
88958093	Compressor-Air Conditioning
12595289	Tensioner-Air Conditioning Compressor Belt
12579228	Belt-Air Conditioning Compressor (1040mm-Long)
12555222	Bracket-Power Steering Fluid Reservoir
12578067	Bracket-Generator and Power Steering Pump
15841234	Generator
15261472	Pump-Power Steering
12568997	Pulley-Power Steering Pump
12555693	Brace-Power Steering Pump Front
15907878	Hose-Power Steering Fluid Reservoir With Clamps
26046502	Reservoir-Power Steering Fluid
12569301	Tensioner-Drive Belt
12568996	Pulley-Belt Idler
12579229	Belt-Water Pump/Generator/Power Steering Pump



Corvette Oil Pan (2002-2004 LS6) **A**

F-Car Oil Pan **B**

Circle Track Oil Pan **C**

NEW!

Muscle Car Oil Pan Kit **D**

OIL PANS AND ACCESSORIES

A. 12561828
Corvette Oil Pan (2002-2004 LS6)
- Used on 2002-2004 Corvettes with LS6

B. 12558762
F-Car Oil Pan
- Used on 1998-2002 Camaro and Firebird LS1
- Uses PF48 oil filter

C. 19243065
Circle Track Oil Pan
- Used on CT525 P/N 19171821
- 6-quart capacity (8-quart with remote filter and adapter)
- Requires remote oil filter and adaptor
- Uses oil pan gasket P/N 12558760 (not included)

D. 19212593 NEW
Muscle Car Oil Pan Kit
- Fits virtually all 1955-1995 GM front engine, RWD, V-8 cars
- 5 qt capacity
- Includes oil pan, dipstick and tube, gaskets, pickup tube, windage tray, and all mounting hardware
- Wet sump design

24241872
Magnetic Drain Plug (not shown)
- Catches and holds small pieces of metal before they can cause damage

12558760
Oil Pan Gasket (not shown)
- Requires 1 per engine
- Fits all LS series engines except LS7 and LS9

12596691
Oil Pan Gasket (not shown)
- Requires 1 per engine
- For LS7 and LS9 engines

11515758
Oil Pan Bolt (not shown)
- M8 x 30mm long
- Requires 12 per engine (use 13 with LS7 and LS9 engines)
- For LS1, LS2, LS6, LS7 and L92 engines

12554990
Oil Pan Bolt (not shown)
- M6 x 136mm long
- Requires 2 per engine
- For all LS series engines

12612289
Oil Pump (not shown)
- For L92 engines

17801830
High Volume LS Oil Pump Kit (not shown)
- High volume pump assembly for LS Series engines (except LS7 and LS9 applications)
- Pump pick-up seal included

12598212
Oil Pump (not shown)
- 2-stage pump for LS7 engines
- Will not work on standard LS crankshafts
- Must use crank sprocket (P/N 12581278), timing damper (P/N 12581276), LS7 pickup tube (P/N 12580855), LS7 oil pan (P/N 12596689), and LS7 timing cover (P/N 12598292)

11519133
Oil Pump Bolt (not shown)
- Requires 4 per engine
- For all LS Series engines

INTAKE MANIFOLDS

126104345
LS7 Production Intake Manifold Assembly (not shown)
- Gen IV fuel injection nylon manifold used on the **2009** Corvette Z06 LS7 engine
- Fully assembled with injectors, fuel rail, 90mm ETC throttle body and gaskets
- For use only with LS7 style cylinder heads

NOTE: *Must use Controller Kit P/N 19243066.*

12610434
LS3 Intake Manifold
- Gen IV fuel-injection nylon manifold used on the 2009 Corvette LS3
- Fully assembled with injectors, fuel rail, 90mm ETC throttle body and gaskets
- For use with L92 style cylinder heads
- Compatible with GMPP controllers only if throttle body is replaced with P/N 12570790

A. 88894339
LS6 Intake Manifold
- Gen III fuel-injected nylon manifold used on the 2001-2004 LS6 Corvette engine
- Supplied with the intake manifold seal (P/N 12560251), gasket (P/N 12533587), throttle body seal (P/N 12552542), MAP sensor (P/N 16212460), and MAP sensor seal (P/N 16194007)

B. 88958675
LS2 4-Barrel Intake Manifold
- Allows you to install a four-barrel carburetor on a LS Series engine with cathedral ports (LS1, LS2, LS6)
- Cast aluminum open-plenum intake manifold accepts a 4150-style square-bore carburetor
- Bosses for EFI injectors for custom applications
- Bolts and instructions supplied

NOTE: *LSX Ignition Controller P/N 19171130 is required for carbureted applications.*

C. 25534394
LS7 4-Barrel Intake Manifold
- Lightweight GM Racing design for use on LS7-style heads
- Reduced mass design, porting not recommended
- Includes mounting bolts and instructions
- Uses LS7 carb intake gasket set P/N 19172113
- Machined for 4150-style carburetors and has 3/8" NPT vacuum boss
- **Also available with injector bosses, P/N 25534413**

NOTE: *LSX Ignition Controller P/N 19171130 is required for carbureted applications.*

D. 25534401
L92 Style 4-bbl Intake Manifold
- Lightweight GM Racing design for use on LS9 style cylinder heads
- Reduced mass design, porting not recommended
- Includes mounting bolts and instructions
- Uses L92 carb intake gasket set, P/N 19172114
- Machined for 4150-style carburetors and has 3/8" NPT vacuum boss
- **Also available with injector bosses P/N 25534416**

NOTE: *LSX Ignition Controller P/N 19171130 is required for carbureted applications.*

A LS6 Intake Manifold

B LS2 4-Barrel Intake Manifold

C LS7 4-Barrel Intake Manifold

L92 Style 4-bbl Intake Manifold **D**

NEW!

LSX-LS3 Dual-Plane Standard Deck Manifold **E**

NEW!

LSX-LS3 Dual-Plane Standard Deck 4-bbl Manifold **F**

LSX INTAKE MANIFOLDS

The best way to feed an LSX engine is with air channeled through one of GM Performance Parts' new LSX intake manifolds. They're designed to match the performance capability of our LSX heads and big-displacement rotating assemblies. LSX intake manifolds have a high-flow, spider-type design and are made of lightweight aluminum. They're cast with plenty of material for builder-specified port work; and the flanges are a minimum of 0.5"-thick to accommodate machining. Additional features include:

- Standard-deck and tall-deck versions
- Natural finish with LSX and GM logos
- Injector/nitrous bosses cast in place
- Comes with installation hardware

E. 19166952 NEW
LSX-LS3 Dual-Plane Standard Deck 4-bbl Manifold
- Dual plane for low and mid-range torque
- L92 style ports
- Injector/nitrous bosses cast-in
- Extra thick for professional porting
- 4150 style carb. mounting provision
- Uses OEM O-ring gaskets (included)
- **Tall-deck version available as P/N 19166953**

F. 19172322 NEW
LSX-LS3 Standard Deck 4-bbl Manifold
- Single-plane design for mid-range and top-end power
- L92 style ports
- Injector/nitrous bosses cast-in
- Extra thick for professional porting
- 4150 style carb. mounting provision
- Uses OEM O-ring gaskets (included)
- **Tall-deck version available as P/N 19172323**

1972 CAMARO Z/28

Just on the eve of the 1970s gas crunch, the V-8 option dominated Camaro production. 1972 was the final year a Big-Block was offered in a Camaro. A scant 970 Big-Block-equipped Camaro SS models were sold that year, as Big-Blocks meant big insurance surcharges after years of unbridled muscle car mayhem.

While such unfair charges brought an end to big-displacement engines, in '72 the Z/28 ascended as the performance option of choice, and its sales set a new high watermark of 11,574. Its 350-cube Small-Block lost compression due to tighter emissions regulations, and subsequently only produced 255 horsepower, but still out-muscled its Big-Block brethren. *Road & Track* tested an automatic-equipped version and managed a 15.5-second quarter-mile at 90 mph.

Interestingly, GM Performance Parts' lowest-rated, most inexpensive 350" crate engine, the 350/290 is rated at 290 hp—35 more than the '72 engine.

Additional components required for installation. See page 225.

Available for purchase online at gmperformanceparts.com

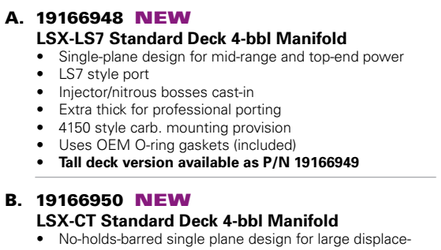
LS Intake Manifolds Continued

A. 19166948 NEW
LSX-LS7 Standard Deck 4-bbl Manifold
- Single-plane design for mid-range and top-end power
- LS7 style port
- Injector/nitrous bosses cast-in
- Extra thick for professional porting
- 4150 style carb. mounting provision
- Uses OEM O-ring gaskets (included)
- **Tall deck version available as P/N 19166949**

B. 19166950 NEW
LSX-CT Standard Deck 4-bbl Manifold
- No-holds-barred single plane design for large displacement or high-rpm applications
- LSX-CT/DR style port; minor port matching required for optimal port match
- Two-sets of injector/nitrous bosses are cast-in for extreme power capability
- Extra thick for professional porting and/or boosted applications
- 1/2" raised 4150 style carb. mounting pad
- **Tall deck version available as P/N 19166951**

C. 19166954 NEW
LSX-DR Standard Deck 4-bbl Manifold
- The ultimate drag racing single plane for large displacement or high-rpm applications
- LSX-CT/DR style port; minor port matching required for optimal port match
- Two-sets of injector/nitrous bosses are cast-in for extreme power capability
- Extra thick for professional porting and/or boosted applications
- 1" raised 4500 style carb. mounting pad
- **Tall-deck version available as P/N 19166955**

1977 CAMARO Z28



A great idea never goes out of style, and the Z28 was a perfect example. After a two-model-year hiatus, the Z28 returned—without a slash—but gone was the emphasis on high-compression, high-rpm engines. The new Z28 was all about handling. It was no surprise the Z apexed again in '77, as part of the popular Camaro lineup that outsold its pony car rival by a landslide.

That legend grew as the top race drivers of the day competed in the International Race of Champions in Z28s, with AJ Foyt winning the championship. The street version's 350-cubic-inch Small-Block picked up 15 horsepower over the standard LM-1 Small-Block, due in large part to a free-flowing exhaust system, resulting in185 horsepower and 280 lb-ft of torque. *Car and Driver* extracted a 16.3-second quarter mile at 83.1 mph from a 49-state-spec car, as California regulations dinged the Z with a 10-horse penalty and an automatic as the only transmission choice.

NEW!

A LSX-LS7 Standard Deck 4-bbl Manifold

NEW!

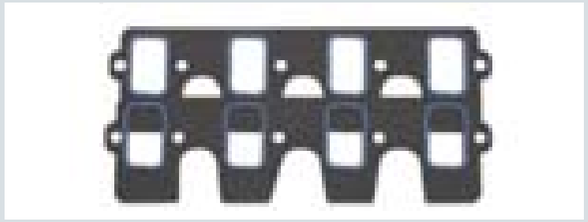
B LSX-CT Standard Deck 4-bbl Manifold

NEW!

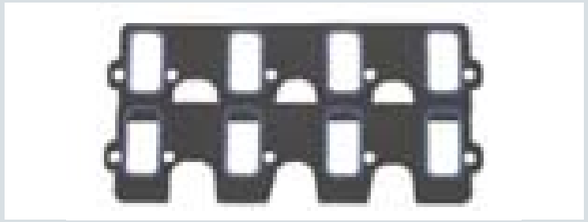
C LSX-DR Standard Deck 4-bbl Manifold

Carburetor Spacer, Single Plane, One" **D**

LS Front Distributor Drive Cover **E**



LS7 Carb Intake Gasket **F**



L92/LS3 Carb Intake Gasket **G**

Header Flange **H**

D. 88965830
Carburetor Spacer, Single Plane, One-Inch
- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back

88965832
Carburetor Spacer, Single Plane, One-Inch, Dominator (not shown)
- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back

E. 88958679
LS Front Distributor Drive Cover
- Assembly is manufactured for applications where a four-barrel carburetor and distributor are required
- Can be combined with GM's Bowtie valve covers, P/N 25534398 and P/N 25534399, for a complete traditional-looking engine package
- For all LS Series engines except LS7 and LS9

NOTE: *Distributor and mechanical fuel pump not included. Uses Small-Block Ford style distributor and mechanical fuel pump. Special water pump, accessory drive and damper required.*

F. 19172113
LS7 Carb Intake Gasket
- For use with intake manifold P/N 25534394 or P/N 25534413

G. 19172114
L92 Carb Intake Gasket
- For use with intake manifold P/N 88958675

19156564
LS2 Carb Intake Gasket (not shown)
- For use with intake manifold P/N 88958675

EXHAUST MANIFOLD/HEADER

H. 12480130
Header Flange
- These 3/8" thick steel header flanges are a great way to start a fabricated set of LS Series headers for a race car or street rod
- For stock LS1, LS2, LS3, LS6, LS7 and L92 (may require clearancing) exhaust ports
- Sold individually

INTAKE MANIFOLDS: ADDITIONAL REQUIRED COMPONENTS

Part Number	Gaskets (Quantity)	Bolts (Quantity)	Engine Application
88894339	12533587 (2)	12552344 (10)	MY04/05 LS1 and LS6
12568976	89017840, Kit (1), 89017852 (1)	12579938 (10)	MY06/07 LS7
25534394/25534913	19172113	Included with manifold	LS7 Carb Applications
25534401/25534416	19172114	Included with manifold	L76/L92 and LS3 Carb Applications
88958675	19156564	Included with manifold	LS2 Carb Applications

OIL FILTERS AND ADAPTERS

E. 25534412
LS7 Oil Hose Adapters
- Kit adapts the production LS7 oil pan to aftermarket AN style hoses for aftermarket dry sump oil tanks
- Bolts directly to LS7 oil pan, and has AN male outlet for AN -12 fittings
- Includes 1 adapter, 2 fittings, 2 bolts, and 2 sealing gaskets

12603281
Oil Tank (not shown)
- Fits Z06 Corvette

15210122
Oil Inlet Hose (not shown)
- Fits Z06 Corvette

15210117
Oil Outlet Hose (not shown)
- Fits Z06 Corvette

IGNITION SYSTEMS

F. 19171130
LSX Ignition Controller
- Distributorless plug-in ignition system for carbureted LS engines with 58X reluctor wheel
- Several pre-programmed timing curves provided
- Supplied software allows you to create custom vacuum advance curves, timing curves, program low and high rpm rev limiter and step retard
- Plugs into stock sensors (not provided)
- MAP sensor provided
- Compatible only with LS1/LS6 and LS2/LS7 ignition coils

STARTERS

G. 10465385
LS Series Starter
- Works with all LS Series and Gen IV V-8 engines, including the LS1, LS2, LS6, LQ9, LQ4 and LS7

89017844
Starter (reman, not shown)
- Requires 1 per engine
- For L92 engines

10465547
Starter (reman, not shown)
- Requires 1 per engine
- For F-car applications

89017664
Starter (reman, not shown)
- Requires 1 per engine
- For 2005 Corvette applications
- For LS2 engines

89017847
Starter (reman, not shown)
- Requires 1 per engine
- For 2006-2007 Corvette applications
- For LS2, LS3 and LS7 engines

NOTE: *All LS starters require one bolt P/N 11588456, and one bolt P/N 12561848.*

LS7 Oil Hose Adapters **E**

LSX Ignition Controller **F**

LS Series Starter **G**

Air Cleaner, Chevrolet-Logo High-Performance Design **D**

Air Cleaner, Chevrolet-Logo Classic Design **E**

SPARK PLUGS

12571165
Spark Plug (not shown)
- Requires 8 per engine
- AC 41-101
- For LS7 engines

12571164
Spark Plug (not shown)
- Requires 8 per engine
- AC 41-985
- For LS1, LS2, LS6 and L92 engines

15336959
Spark Plug Wire Shield (not shown)
- Requires 8 per engine
- For all LS Series engines

AIR CLEANERS

D. 12342080
Air Cleaner, Chevrolet-Logo High-Performance Design
- 14" round high-performance-style air cleaner
- Chrome lid with embossed Chevrolet name
- Fits most four-barrel and two-barrel carburetors

NOTE: *Check clearance between hood and top of air cleaner. Minimum clearance is 3.75" from top of carburetor gasket area to underside of hood.*

E. 12342071
Air Cleaner, Chevrolet-Logo Classic Design
- 14" round classic-style air cleaner
- Chrome lid with embossed Chevrolet name and Bowtie attaching nut
- Fits most four-barrel and two-barrel carburetors

ENGINE MOUNTS

15254700
Engine Mount (not shown)
- Requires 2 per engine
- For 2005-2008 Corvette engines
- For LS2 and LS7 engines

22179268
Engine Mount (not shown)
- Requires 2 per engine
- For 1998-2002 F-Car engines
- For LS1 engines

10284134
Engine Mount (not shown)
- Requires 2 per engine
- For 1997-2004 Corvette engines
- For LS1, LS2 and LS6 engines

15854941
Engine Mount (not shown)
- Requires 2 per engine
- For L92 engines

BUILDER'S TIP

LS Torque-to-Yield Fasteners

Unlike traditional Small-Block and Big-Block engines, the state-of-the-art LS family uses primarily stretch-fit fasteners, commonly called torque-to-yield. These are bolts and fasteners that require a multi-stage tightening sequence to achieve the factory torque specification, with the final sequence involving turning the fastener a number of degrees from the last torque stage. This requires not only a conventional torque wrench, but a torque angle wrench or an electronic, dual-readout torque wrench.

Using torque-to-yield fasteners provides more accurate sealing and more even pressure on the various engine components. However, because of their stretch-fit design, many LS fasteners are designed for one-time use; that means they must be replaced when are removed.

Big-Block Components

You don't enter a race unless you intend to win—and when you have a Big-Block under the hood, you're halfway to the finish line. It's the legendary, incomparable high-performance platform for street, strip and more.

Building a Big-Block for maximum performance is easier when you're using GM-engineered, matched components that have been tested on the dyno and on the drag strip. That's what you get from GM Performance Parts' comprehensive range of Big-Block parts. We've been designing, building and tuning Big-Blocks longer than anyone, so you can trust that our parts will deliver dependable, race-winning performance.

Our lineup of Big-Block parts starts with strong, durable cylinder blocks. GMPP recently updated the block design, incorporating strength-enhancing features and the best attributes of both the Mark IV and Gen V designs. We also offer an updated version of the legendary aluminum ZL-1 block casting.

Match your new GMPP cylinder block with our premium, forged rotating parts, competition-ready cylinder heads and matched intakes. We offer the fasteners, accessories and other parts you need to finish the engine and get it running in less time.

When you're building the baddest Big-Block, rely on GM Performance Parts for the best parts.

Bowtie Sportsman Block

The New Big Block

The classic Chevy Big-Block production engine was introduced in 1965. In the late 1980s, a new version arrived, designed for marine and fuel-injected applications. The early-style engines are known as Mark IV Big-Blocks, while the later style is referred to as the Gen V (and Gen VI) Big-Block. You can tell them at a glance by checking for a mechanical fuel pump mounting pad. If it has one, it's a Mark IV. If there's no fuel pump pad, it's a Gen V block.

Despite the fuel pump mounting pad difference in their castings, the cylinder blocks of the Mark IV and Gen V are based on the same design architecture. There are several other differences—particularly in the water jackets near the deck surfaces—that make some Mark IV and Gen V parts incompatible, including crucial components such as the cylinder head gaskets.

GM recently revised the basic Big-Block architecture to commonize the Mark IV and Gen V, creating an all-new cylinder block casting that commonizes the features of both generations. It also incorporates significant updates and strength-enhancing features that make the Big-Block a stronger engine foundation with provisions to support 21st-century performance.

Although the basic Big-Block architecture is revised, GM Performance Parts continues to offer two versions, each differentiated by performance and displacement capability. The Bowtie block continues to be the block of maximum performance. GM Performance Parts crate engines use the revised Big-Block design.

Here's how we updated the biggest and baddest performance engine platform of the past 45 years:

- **Water jackets were revised near the deck surfaces so that Mark IV or Gen V head gaskets can be used interchangeably**
- **Oil pressure feed holes were added to the oil filter boss and front bulkhead to support oil feeds for superchargers, turbochargers, etc.**
- **The oil hole next to the camshaft bore at the front of the block was repositioned, enabling safe machining of the cam bore to accept a 50mm roller camshaft bearing**
- **A mechanical fuel pump mounting pad became standard, similar to the Mark IV**
- **A boss was added next to the distributor hole in the valley to support hardware for digital ignition equipment**
- **Revised front bulkhead was made thicker and stronger, with marked provisions for 10-bolt timing cover (non-Bowtie blocks are delivered with drilled and tapped holes for six-bolt covers; remaining holes must be drilled and tapped at the prescribed positions)**
- **Non-Bowtie blocks were machined for four-bolt parallel main caps; Bowtie blocks are machined for four-bolt splayed caps**
- **Revised rear-of-block allowed for the machining of one- or two-piece main seals (similar to Gen V design)**
- **The front clutch boss was added for older muscle car applications**
- **454 blocks created a slightly beefier main web than previous blocks**
- **All blocks were made with the standard production roller camshaft and lifter machining**
- **502 and Bowtie blocks shared the same main web, which is strengthened considerably from the Mark IV and the first-generation Gen V Bowtie block**
- **Bowtie blocks were given a distinctive water jacket design to allow up to 4.600" bores. These blocks can be identified by a "B" suffix behind the casting number**

Additionally, two new core plugs were added to the rear bulkhead. They enhance the manufacturing process at the foundry and help improve overall quality. Also, new "Bowtie" logo and other identifying marks are added to the Bowtie block, distinguishing it from previous generations.

Chevy Big-Block Quick Reference Chart

PRODUCTION-BASED CAST-IRON BLOCKS

Part Number	Casting Number	Deck Height	F Pump Boss	Cyl Wall	Bore Range	Main Bolt	Main Blt Degree	Cap Material	Crank Jnl Dia.	Oiling	Seal Type	Max Stroke	Weight (lbs)	Max HP	Usage	Page Number
19170538	—	9.800"	Yes	Open	4.250"–4.310"	4	Straight	Cast-iron	2.75"	Wet	1 pc	4.25"	247	700	Street	232
19170540	—	9.800"	Yes	Siamese	4.470"–4.500"	4	Straight	Cast-iron	2.75"	Wet	1 pc	4.25"	269	700	Mod	232

BOWTIE CAST-IRON BIG-BLOCKS

Part Number	Cast Number	Deck Height	F Pump Boss	Cyl Wall	Bore Range	Main Bolt	Main Bolt Degree	Cap Material	Crank Jnl Size	Oiling	Seal Type	Max Stroke	Weight (lbs)	Max HP	Usage	Page Number
19212191	24502504B	9.800"	Yes	Siamese	4.494"–4.600"	4	16°	Nodular	2.75"	Wet	2 pc	4.50"	258	800	Sport	233
19212192	24502504B	9.800"	Yes	Siamese	4.494"–4.600"	4	16°	Nodular	2.75"	Wet	1 pc	4.50"	258	800	Sport	233
19212193	24502506B	10.200"	Yes	Siamese	4.494"–4.600"	4	16°	Nodular	2.75"	Wet	1 pc	4.50"	263	800	Sport	234
19212194	24502506B	10.200"	Yes	Siamese	4.494"–4.600"	4	16°	Nodular	2.75"	Wet	2 pc	4.50"	263	800	Sport	234
19212195	24502506B	10.200"	Yes	Siamese	4.560"–4.600"	4	16°	Nodular	2.75"	Wet	1 pc	4.50"	263	800	Sport	234
19212196	24502504B	9.800"	Yes	Siamese	4.240"–4.600"	4	16°	8620 steel	2.75"	Wet	2 pc	4.50"	281	1200	Pro	236
19212197	24502506B	10.200"	Yes	Siamese	4.240"–4.600"	4	16°	8620 steel	2.75"	Wet	2 pc	4.50"	296	1200	Pro	236

ALUMINUM ZL1 BLOCK

Part Number	Cast Number	Deck Height	F Pump Boss	Cyl Wall	Bore Range	Main Bolt	Main Bolt Degree	Cap Material	Crank Jnl Size	Oiling	Seal Type	Max Stroke	Weight (lbs)	Max HP	Usage	Page Number
12370850	3946053	9.800"	Yes	Siamese	4.240"–4.300"	4	16°	8620 steel	2.75"	Wet	2 pc	4.38"	110	650	Pro	235
88958696	88958695	9.800"	Yes	Siamese	4.250"–4.300"	4	16°	8620 steel	2.75"	Wet	1 pc	4.38"	110	650	Pro	235

DRCE BLOCKS

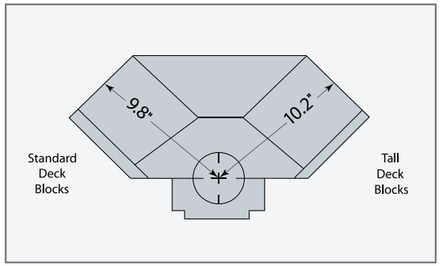
Part Number	Cast Number	Deck Height	F Pump Boss	Cyl Wall	Bore Range	Main Bolt	Main Bolt Degree	Cap Material	Crank Jnl Size	Oiling	Seal Type	Max Stroke	Weight (lbs)	Max HP	Usage	Page Number
24502572	1A626	9.525"	No	Siamese	4.500"–4.700"	4	16°	8620 steel	2.75"	Dry	2 pc	4.60"	255	1400+	Pro	237
25534406	CG	9.25"–9.0"	No	Siamese	4.590"–4.700"	4	22°	4140 steel	2.50"	Dry	2 pc	4.60"	N/A	1400+	Pro	237

BUILDERS TIP

Valve-to-Piston Clearance Considerations

A custom engine combination should always raise the concern of valve-to-piston clearance. And while camshaft lift is commonly thought of as the primary culprit of valve/piston interference, the overlap period – when the piston nears top-dead center and the intake valve is starting to open and the exhaust valve is closing – brings the valves and piston closest together. So, don't assume the gross lift specs are all you have to worry about; duration and lobe separation are equally important, making a careful clearance inspection all the more important.

DECK HEIGHT DIAGRAM



ENGINE BLOCKS

19170538 NEW

427/454 Bare Block (not shown)

- New casting incorporating the best designs of Mark IV and Gen VI
- Production type cast-iron 4-bolt block
- **4.25"** finished bore
- **4.31"** max bore (non-siamese bore)
- Machined fuel pump pad
- New water jackets for use with Mark IV or Gen VI heads
- Revised oiling to allow for bigger cam bearings/cam lift
- Bolt boss (not machined) added near distributor hole like 8.1L
- Can be drilled for use with 10-bolt front timing cover
- Additional clearance added for roller timing chains
- Auxiliary oil pressure line added to front of block
- Racing style oil filter cast feature with added oil pressure port
- Additional boss for manual transmission clutch pivot (machined)
- Additional material added around lifter bosses

A. 19170540 NEW

502 Mark IV/Gen VI Bare Block

- New casting incorporating the best designs of Mark IV and Gen VI
- Production type cast-iron 4-bolt block
- Improved main bearing bulkheads—Bowtie block style bulkhead
- Clearanced for bigger strokes
- **4.466"** finished bore
- **4.500"** max bore (siamese)
- Fuel pump pad has been added/machined
- New water jackets for use with Mark IV or Gen VI heads
- Revised oiling to allow for bigger cam bearings/cam lift
- Bolt boss (machined) added near distributor hole like 8.1L
- Can be drilled for use with 10-bolt front timing cover
- Additional clearance added for roller timing chains
- Auxiliary oil pressure line added to front of block
- Racing-style oil filter cast feature with added oil pressure port
- Two bosses added for manual transmission clutch pivot (machined)
- Additional material added around lifter bosses

NEW!

A 502 Mark IV/Gen VI Bare Block (front)

NEW!

A 502 Mark IV/Gen VI Bare Block (bottom)

NEW!

A 502 Mark IV/Gen VI Bare Block (rear)

Bowtie Sportsman Block (front) **B**

Bowtie Sportsman Block (rear) **B**

Top—Splayed Main Cap Bottom Machined Bottom (close-up) **C**

2-Piece Rear Main **C**

BOWTIE SPORTSMAN BLOCKS

Big-Blocks with big power are what you get when you select a GM Performance Parts Bowtie Sportsman Block for your drag racing or extreme street-performance application. These blocks comprise a full line of high-quality, precision-machined components based on performance-proven GM designs. The extensive lineup of blocks makes choosing the perfect block easy—and our quality and precision machining is second to none.

The blocks are CNC-machined, an automated process that guarantees precise tolerances. There are no approximations on these blocks—they're exactly right, which is critical to obtaining maximum performance. GM Performance Parts offers more CNC-machined blocks than anyone.

The highest-quality materials are used to cast GM Performance Parts Sportsman Bowtie Blocks. They are also available as tall decks, allowing you to make more cubic inches with larger-stroke crankshafts. These blocks can easily be bored and stroked to 500-or-more cubic inches. They can be fitted with one-piece or two-piece crankshaft seals for less chance of oil leaks (one-piece seals) or more aftermarket components attachments (two-piece seals).

The Bowtie Sportsman Blocks are available with splayed main caps, which have additional material holding the crankshaft in place. The caps are splayed at 16 degrees. GM Performance Parts uses splayed main caps throughout the entire line of performance-built Big-Blocks.

GM Performance Parts Bowtie Sportsman Blocks are ideal for drag racers or street machines where the goal is 800 horsepower and long-lasting reliability.

Bowtie Sportsman Block Technical Notes:

- Available in short deck (9.800") or tall deck (10.200") configurations
- Blocks have clearance for 4.500" stroke crankshafts
- CNC-machined to +/- .001" tolerance
- Siamese cylinder bores
- Bore finishes are ready to hone to size
- Machined for mechanical fuel pump
- Machined for hydraulic roller and flat tappets
- Nodular iron 4-bolt main caps splayed 16° on the three center mains
- Priority main oiling system
- Blocks with a 1-Piece Rear Main Seal use the 6-bolt, Gen VI-style front cover (P/N 10230954) and Gen VI-style oil pan
- Blocks with a 2-Piece Rear Main Seal use the 10-bolt, Mark IV-style front cover and Mark IV-style oil pan

See chart on page 231 for complete specifications.

Standard Deck Sportsman Blocks

B. 19212192

Standard Deck Bowtie Sportsman Block

- **1-Piece Rear Main Seal**
- CNC-machined cast-iron 4-bolt block
- 4.494" finished bore
- **4.600"** max bore
- Tested to 800 horsepower!

C. 19212191

Standard Deck Bowtie Sportsman Block

- **2-Piece Rear Main Seal**
- CNC-machined cast-iron 4-bolt block
- 4.494" finished bore
- **4.600"** max bore
- Tested to 800 horsepower!

Tall Deck Sportsman Blocks

A. 19212193
Tall Deck Bowtie Sportsman Bare Block
- **1-Piece Rear Main Seal**
- CNC-machined cast-iron 4-bolt block
- 4.494" finished bore
- **4.600"** max bore
- Tested to 800 horsepower!

19212194
Tall Deck Bowtie Sportsman Bare Block (not shown)
- **2-Piece Rear Main Seal**
- CNC-machined cast-iron 4-bolt block
- 4.494" finished bore
- **4.600"** max bore
- Tested to 800 horsepower!

19212195
Tall Deck 572 Bowtie Sportsman Bare Block (not shown)
- **1-Piece Rear Main Seal**
- Uses Mark V style front cover and oil pan mounting
- CNC-machined cast-iron 4-bolt block
- 4.560" fully honed bore
- **4.600"** max bore
- Powdercoated Chevy orange
- 5 windage tray bolts installed
- Tested to 800 horsepower!
- This is the block used for our 572 engines

A Tall Deck Bowtie Sportsman Bare Block (front)

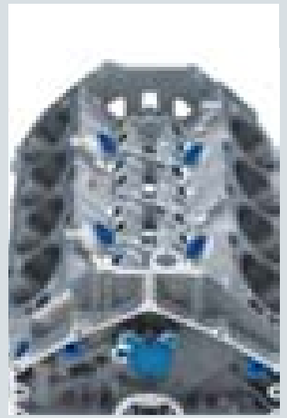
A Tall Deck Bowtie Sportsman Bare Block (rear)

A Machined Lifter Valley Detail

One-Piece Rear Main

ZL1 Aluminum Big-Block (front) **B**

ZL1 Aluminum Big-Block (rear) **B**



ZL1 Aluminum Big-Block, 4-Bolt Mains **B**

ZL1 ALUMINUM BIG-BLOCK

ZL1 was the legendary regular production option (RPO) code that struck fear into all competitors who came up against 1969 Camaros—and a couple of Corvettes—that were equipped with this fearsome 427-cubic-inch Big-Block from the factory. The price to own an original ZL1 has exceeded the value of many homes, but you can build your own ZL1-powered supercar thanks to GM Performance Parts. By reintroducing this fabled aluminum Big-Block GM Performance Parts has made it possible for mere mortals to experience the raw horsepower and tremendous torque of the ZL1. The GM Performance Parts ZL1 aluminum block is made from premium materials and is precision machined to blueprinted specifications.

See chart on page 231 for complete specifications.

ZL1 Aluminum Block Technical Notes:
- 356 T6M Aluminum block
- Standard deck height (**9.800**")
- **4.300**" maximum bore
- 4.240" finished bore
- **4.375**" maximum stroke
- Siamesed cylinder walls
- Centrifugally spun cast-iron cylinder sleeves
- Steel 4-bolt main caps splayed 16° on the three center mains (dowel located)
- Provision for hydraulic roller camshafts
- AN O-ring oil and water plugs
- Tested to 650 horsepower

B. 12370850
ZL1 Aluminum Big-Block
- 4.240" finished bore
- **4.300"** max bore
- **4.375"** max stroke
- Use sleeve P/N 12480035 (see page 306)
- 2-Piece Rear Main Seal
- Uses Mark IV front timing cover

88958696
427 Cylinder Block (not shown)
- 4.250" finished bore
- **4.300"** max bore
- Deck plate honed
- **4.375"** max stroke
- Used in the Anniversary 427 crate engine
- 1-Piece Rear Main Seal
- Uses Gen V/VI oil pan and front timing cover

1979 CAMARO BERLINETTA

Hugging the road had long been the calling card of the Z28, but as the rough road of the '70s came to a close, Camaro emphasized its balance of handling and power to great effect. In fact, 1979 saw its production exploded to the highest levels ever. More than 280,000 Camaros were sold, and a whopping 84,877 of those were taut, 175-hp Z28s. However, while Z28 revved on, the LT package faded into the rear-view mirror.

Replacing the LT was an all-new, upscale Camaro dubbed the Berlinetta. It was a package that put style and comfort ahead of all-out performance. Featuring more brightwork, a custom interior, two wheel options and more, the Berlinetta was a hit—selling more than 67,000 units. More than looks, the Berlinetta be optioned with a 170-hp LM-1 350 Small-Block that was just 5 horses shy of the top-dog Z28.

CAST-IRON BOWTIE RACE BLOCKS

If you're looking to build a drag racing engine capable of producing 1200 horses or more, a GM Performance Parts' cast-iron Bowtie Race Block is your starting point. It is designed for engine builders who want to custom-machine their blocks for specific racing applications. Toward that end, these premium castings have thick deck surfaces, improved oiling, improved coolant flow and splayed 4-bolt steel bearing caps. Everything is secured with premium fasteners. The combination of a GM Performance Parts cast-iron Bowtie Race Block and your unique engine building skills will put you down the track ahead of the competition.

See chart on page 231 for complete specifications.

Cast-iron Bowtie Race Block Technical Notes:

- Precision CNC-machining means +/- 0.001" tolerances
- Blocks are available in short deck (9.800") or tall deck (10.200")
- A sonic bore check data sheet is provided with each block
- Siamese cylinder bores
- Improved cooling around number one cylinder
- Accepts Mark IV or Gen V-VI cylinder heads
- Use Gen V head gaskets with Mark IV and Gen V cylinder heads
- Use Gen VI head gaskets with Gen VI cylinder heads
- Requires Mark IV design two-piece rear main seal oil pans
- Requires Mark IV design crankshafts
- Can use Mark IV and Gen V-VI camshafts, timing sets, lifters and timing cover (aftermarket belt drive timing covers may require clearancing)
- Blind-tapped head bolt holes; extra inner head bolt bosses provided
- 4-bolt SAE 8620 main caps splayed 16° on the three center mains
- Priority main oiling wet-sump system
- Provisions for dry-sump oil line provided
- Honed camshaft and crankshaft bores
- 0.842" lifter bores (maximum 1.06") may be relocated
- Distributor gear clearance at bottom of number 8 cylinder bore should be checked
- Machined mechanical fuel pump pad

19212196
Standard Deck Bowtie Race Block (not shown)
- CNC-machined cast-iron 4-bolt block
- 4.240" finished bore
- **4.600"** max bore (.250" min wall thickness)
- Standard deck height **(9.800")**
- Tested to 1200 horsepower!

A. 19212197
Tall Deck Bowtie Race Block
- CNC-machined cast-iron 4-bolt block
- 4.240" finished bore
- **4.600"** max bore (.250 min wall thickness)
- Tall deck height **(10.200")**
- Tested to 1200 horsepower!

A Tall Deck Bowtie Race Bare Block (front)

A Tall Deck Bowtie Race Bare Block (rear)

A Bowtie Sportsman Bare Block, Nodular 4-Bolt Splayed Caps

DRCE 2 Bare Block (front) **B**

DRCE 2 Bare Block (rear) **B**

DRCE 2 Lifter Valley **B**

DRCE 2 Main Caps **B**

BIG-BLOCK DRCE BLOCKS

GM Performance Parts Big-Block DRCE (Drag Racing Competition Engine) blocks are the foundation of many of the most powerful Pro Stock drag racing engines. The DRCE family of engine blocks was specifically designed with 500-cubic-inch Pro Stock engines in mind. They are the latest evolution of Pro Stock engine design. In order to build optimum performance, the DRCE blocks have bore spacing that allows for the preferable big bore/short-stroke crankshaft combination. The camshaft has been raised and the distributor moved.

The big-bore design unshrouds the heads, which means bigger valves can be used. The result is maximized air/fuel mixtures. All DRCE blocks are sold solid, without lifter holes or head bolt holes, so any GM Big-Block cylinder heads may be used. The DRCE blocks are available in either gray iron or compacted graphite (an extremely high-strength material that helps the block combat bore distortion and crank deflection under stress).

See chart on page 231 for complete specifications.

DRCE Block Technical Notes:

- CNC-machined to +/- 0.001" tolerance
- Siamese cylinder bores with 4.900" spacing
- No lifter bosses, solid bar can be drilled as required
- No head bolt holes
- Numbers two and four main bearing bulkheads moved 0.060"
- Bell housing bolt pattern accommodates Chevy and Pontiac/Olds transmissions
- Uses Big-Block Chevrolet crank, camshaft, balancer, flywheel and water pump
- Requires camshaft with distributor gear behind rear bearing
- Priority main oiling dry-sump system
- Dual starter mounting locations
- Front-engine mounts only
- Each block is supplied with sonic test data sheet

B. 24502572
DRCE 2 Bare Block, Gray Iron
- CNC-machined iron 4-bolt block
- 9.525" deck height, may be machined to 9.000"
- Camshaft raised to 5.750"
- Cam tunnel accommodates 55mm cam bearings
- 4.500" semi-finished bore
- **4.700"** max bore
- 4-bolt SAE 8620 main caps, 16° splayed-on center three mains
- Oil pan rails spread .400" per side for additional stroke clearance
- Tested to 1400-plus horsepower!

25534406
DRCE 3 Bare Block, Compacted Graphite[1] (not shown)
- CNC-machined compacted graphite material 4-bolt block
- 9.250" deck height, can be machined to 9.000"
- Camshaft raised to 7.067"
- Cam tunnel accommodates (9) 60mm cam bearings
- Cam tunnel is closed (no oil drain to rotating assembly)
- 4.590" semi-finished bore
- **4.700"** max bore
- 2.500" crankshaft main journal
- 4-bolt SAE 4140 'doweled after assembly' main caps, 22° splayed-on center three mains
- Highest-available quality main studs
- Oil pan rails spread to 12"
- Oil and water plugs are AN O-ring-style
- Tested to 1400-plus horsepower!

[1]Compacted graphite is an extremely high strength material that helps the block combat bore distortion and crank deflection under heavy loads—like making 1400-plus horsepower at 10,000 rpm!

CYLINDER BLOCK COMPONENTS

A. 14015334
4-Bolt Main Bearing Cap
- Heavy-duty iron 4-bolt main cap is used on bearings #1, #2, #3 and #4
- Semi-finished cap must be machined to register the cap in the block
- Main bearing housings must be align-bored after installing new caps

B. 6264902
O-Ring Seal (sold individually)
- Use under the rear main bearing cap on all 1991-and-newer Gen V and Gen VI 454 and 502 engines

C. 10106460
Outer Main Cap Bolt, Gen V and Gen VI
- Used with Gen V and Gen VI (1991-and-newer) Big-Blocks with 4-bolt mains
- Sold individually; order 10 per engine

3859927
Outer Main Cap Bolt, Mark IV (not shown)
- Used with Mark IV (1965-1990) cast-iron Big-Blocks with 4-bolt mains
- Sold individually; order 10 per engine

D. 10106461
Inner Main Cap Bolt, Gen V and Gen VI
- Used with Gen V and Gen VI (1991-and-newer) Big-Blocks with 4-bolt mains
- Sold individually; order 10 per engine

3909834
Inner Main Cap Bolt, Mark IV (not shown)
- Used with Mark IV (1965–1990) cast-iron Big-Blocks with 4-bolt mains
- Sold individually; order 10 per engine

E. 88962212
Main Bearings, 572 Engine
- Complete main bearing kit for 572 block with standard-size mains

Freeze Plugs and Oil Plugs

PART NUMBER	DESCRIPTION	QUANTITY
03826963	Plug, Expansion	8
03999200	Plug, Camshaft Bearing Hole	1
00444777	Plug	8
14090911	Plug, Water Outlet	1
00444613	Plug, Automotive Hex Head Pipe	1
12558081	Pin, Cylinder Head Locationing	4
1453658	Pin, Transmission	2
14090911	Plug, Water Outlet	1

3743389
Freeze Plug, Steel (Mark IV, not shown)
- Steel freeze plug for Mark IV (1965-1990) engines

3826963
Freeze Plug, Brass (Mark IV, not shown)
- Brass freeze plug for Mark IV (1965-1990) engines
- Suitable for marine applications

A 4-Bolt Main Bearing Cap

B O-Ring Seal

C Outer Main Cap Bolt (Gen V and Gen VI)

D Inner Main Cap Bolt (Gen V and Gen VI)

E Main Bearings, 572 Engine

Freeze Plug, Brass (Gen V and Gen VI) F

Windage Tray Bolt, 572 G

Timing Chain Cover Gen V and Gen VI H

Big-Block Fuel Pump Block-Off Plate I

Cylinder Block Components Continued

F. 88891749
Freeze Plug, Brass (Gen V and Gen VI)
- Brass freeze plug for Gen V and Gen VI (1991-and-newer) engines
- Suitable for marine applications

12480035
Cylinder Sleeve (standard, not shown)
- Steel cylinder sleeve for aluminum block P/N 12370850 and P/N 88958696
- Sleeve has 4.240" bore and finish-bores to 4.250"

3902885
Windage Tray Stud (not shown)
- Used for mounting splash shield P/N 3967854

10224104
Windage Tray Stud, Gen V 454 and 502 (not shown)
- Used with Gen V 454 and 502 engines

G. 88958656
Windage Tray Bolt, 572
- Used with 572 engines

FRONT COVERS AND TIMING POINTERS

H. 10230954 (!)
Timing Chain Cover, Gen V and VI
- Aluminum cover with timing indicator fits all 1996-and-newer Gen V and Gen VI engines
- Used on all GMPP Big-Block crate engines

11609914
Front Oil Galley Plug (not shown)
- Fits front oil galley (cam tunnel) holes
- .030" oil squirter hole for cooling and lubricating the timing chain

I. 12341999
Big-Block Fuel Pump Block-Off Plate
- Plate has stamped Bowtie logo
- Special non-asbestos gasket included

(!) TIMING COVERS: ADDITIONAL REQUIRED COMPONENTS

Part Number	Bolts (Quantity)	Seals (Quantity)	Gasket (Quantity)	Engine Application
10230954	10243771 (6)	10191640 (1)	10198910 (1)	12498793, 12498777, 12498778, 12371054, 12498827, 12498792, 12498826, 24502620, 12568779, 12568778, 12499121, 12496962, 12371054, 88890534, 24502618, 12568774, 12371204, 12568782, 12497323, 12496963, 12371171, 19166392, 19166393

(!) *Additional components required for installation. See page 239.*

Available for purchase online at gmperformanceparts.com

BIG-BLOCK CYLINDER HEADS

Part Number	Description	Casting Number	Material	Port Size	Port Type	Valve Angle	Chbr CC's	Int Vlv	Exh Vlv	Exh Port	Plug Type	Heat Riser	Rocker Stud	Notes	Page Number
12562920	Gen 5,6 BBC	12562934	Iron	325	Rect	BBC	118	2.18	1.88	Square	Std	yes	Screw-in	Ass'd 2925's	308
12562925	Gen 5,6 BBC	12562934	Iron	325	Rect	BBC	118	2.18	1.88	Square	Std	yes	Screw-in	7/16 accy holes	308
12562926	Gen 5,6 BBC	12562934	Iron	325	Rect	BBC	118	2.18	1.88	Square	Std	yes	Screw-in	3/8 accy holes	308
12562917	Gen 5,6 BBC	10114156	Iron	—	Round	BBC	118	2.07	1.72	Square	Std	yes	Screw-in	HT 502 head	N/S
12363390	Oval alum	12363391	Alum	290	Oval	BBC	110	2.25	1.88	Square	Std	no	Screw-in	Semi-open, oval port	309
12363392	Oval alum	12363391	Alum	290	Oval	BBC	110	2.19	1.88	Square	Std	no	Screw-in	Semi-open, oval port	309
12363399	Oval alum	12363391	Alum	290	Oval	BBC	110	2.19	1.88	Square	Std	no	Screw-in	Bare 3392	309
12363408	NHRA L88	12363401	Alum	315	Rect	BBC	118	2.19	1.88	Square	Std	no	Screw-in	Bare, NHRA legal	310
12363400	Rect alum	12363401	Alum	300	Rect	BBC	118	2.25	1.88	Square	Std	no	Screw-in	Assembled	310
12363410	Rect alum	12363401	Alum	300	Rect	BBC	118	2.25	1.88	Square	Std	no	Screw-in	Bare 3400	310
12363425	BBC Bowtie	14044861	Alum	380	Rect	BBC	115	2.19	1.88	Square	Std	no	Screw-in	Bare, raised int/exh	311
12499255	572/620	—	Alum	310	Rect	BBC	118	2.25	1.88	Square	Std	no	Screw-in	ZZ572/620	310
88961160	572/720	—	Alum	310	Rect	BBC	118	2.25	1.88	Square	Std	no	Screw-in	ZZ572/720R	311
10051129	Pro Stock BBC	—	Alum	400	—	Special	72	—	—	Square	—	no	Shaft	Unmachined 10051128	N/S
24502585	DRCE 2	—	Alum	—	Peanut	DRCE 2	—	—	—	DRCE	—	no	Shaft	Pro Stock–raw	312
25534404	DRCE 3	—	Alum	—	Peanut	DRCE 3	—	—	—	DRCE	—	no	Shaft	Pro Stock–raw	313

SERVICE REPLACEMENT HEADS

GM Performance Parts service replacement cylinder heads are direct replacements on most 1990-and-later GM Big-Block 454-cubic-inch and 502-cubic-inch engines. These brand-new cylinder heads meet GM's stringent quality standards and provide excellent service and durability not found in used cylinder heads. The cylinder heads have rectangular intake ports[1], which are larger in volume and designed to enhance high-rpm horsepower. These service replacement heads are ideal for Big-Block street machines that also see drag strip action.

Service Replacement Head Technical Notes:

- Cast-iron
- Rectangular intake ports
- Machined for 2.18"/1.88" (3/8" stems) valves
- Non-adjustable rocker arm design
- Heads have heat risers
- Will not work on production Mark IV cylinder blocks

A. 12562925

Bare Cast-iron Gen V and Gen VI Cylinder Head

- Bare cast-iron head
- 118cc combustion chambers
- 7/16" accessory bolt holes

12562926

Bare Cast-iron Gen V and Gen VI Cylinder Head

- Bare cast-iron head
- Machined for 2.18"/1.88" 3/8" stem valves
- 118cc combustion chambers
- 3/8" accessory bolt holes (otherwise identical to P/N 12562920)

12562920

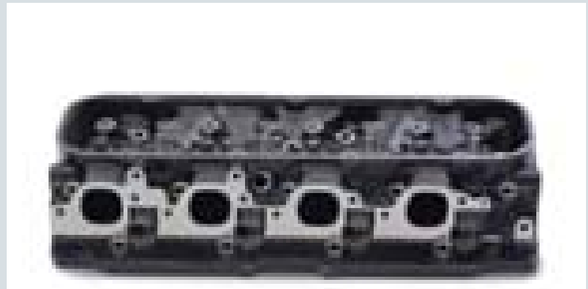
Cast-iron Gen V and Gen VI Cylinder Head Assembly

- Cast-iron head
- Completely assembled with 2.18"/1.88" valves
- 118cc combustion chambers
- Uses P/N 12562925 bare casting

This head is assembled with the following components:

14097045	Intake Valves	**12360874**	Valve Spring Retainer & Seal Kit
14097049	Exhaust Valves	**3947880**	Valve Locks
14097002	Valve Springs	**3875916**	Valve Spring Shims

[1]Rectangular intake ports are larger in volume and designed to enhance high rpm horsepower. They are an ideal street head for those Big-Block enthusiasts who want more power from a street car that sees a lot of drag strip action.



A Bare Cast-iron Gen V and Gen VI Cylinder Head (exhaust)

A Bare Cast-iron Gen V and Gen VI Cylinder Head (intake)

Bare Cast-iron Gen V and Gen VI Cylinder Head (combustion chamber) **A**

Bowtie Oval Port Aluminum Cylinder Head (intake) **B**

Bowtie Oval Port Aluminum Cylinder Head (exhaust) **B**

Bowtie Oval Port Aluminum Cylinder Head (combustion chamber) **B**

ALUMINUM BOWTIE STREET CYLINDER HEADS

GM Performance Parts Bowtie high-performance street cylinder heads are an ideal combination of street drivability and drag-strip performance. They provide a broad power range with ample low-end torque, excellent throttle response, good mid-range torque and enough top-end power to beat your competitors to the finish line. GM Performance Parts Bowtie street cylinder heads are designed for high-performance applications, with thick deck surfaces and high-velocity airflow passages. The heads are manufactured to precise machining tolerances.

GM Performance Parts Bowtie street cylinder heads are available in either rectangular or oval intake port configurations. Rectangular intake ports are larger in volume and are designed to enhance high-rpm horsepower. These heads are best for vehicles that see frequent drag strip action. Cylinder heads with oval intake ports are smaller in volume and are designed for greater low-rpm torque. Oval port heads are best for street applications where lots of bottom end, off-the-line power is desired.

Bowtie Street Cylinder Head Technical Notes:

- Made from 356-T6 aluminum
- Available in rectangular- or oval-port designs
- Will work on Mark IV and Gen V/VI blocks
- 9/16"-thick decks
- As-cast intake and exhaust ports
- No heat risers
- 1.55" valve spring seat diameter
- Heli-coiled 7/16" screw-in rocker stud holes
- Designed for use with 3/8" pushrods
- Use intake gasket P/N 12366985 and bolt kit P/N 12367959
- Use head gasket P/N 12363414 for bores to 4.370" and P/N 12363413 for bores 4.470" to 4.540" (Mark IV)
- Use head gasket P/N 12363412 for bores to 4.370" and P/N 12363411 for bores 4.470" to 4.540" (Gen V/VI)
- Use head bolt kit P/N 12367779

Oval Port Heads

12363399

Bowtie Oval Port Aluminum Cylinder Head, Bare (not shown)

- Fully machined
- Semi-finished for 2.19"/1.88" valves
- Bronze guides can be finished to 11/32" or 3/8"
- 290cc high-velocity oval intake ports
- 110cc exhaust ports
- 110cc semi-open combustion chambers

B. 12363392

Bowtie Oval Port Aluminum Cylinder Head Assembly

- Completely assembled with 2.19"/1.88" 11/32" stem valves
- 290cc oval intake ports
- 110cc exhaust ports
- 110cc combustion chambers

This head is assembled with the following components:

12366986	2.19 Intake Valves	**12366990**	Valve Spring Retainers
12366988	Exhaust Valves	**12366992**	Valve Locks
12462970	Valve Springs	**12495690**	Valve Seals
3875916	Valve Spring Shims	**3921912**	Rocker Arm Studs
3860038	Pushrod Guideplates		

12363390

Bowtie Oval Port Aluminum Cylinder Head Assembly

- Completely assembled with 2.25"/1.88" 11/32" stem valves
- 290cc oval intake ports
- 110cc exhaust ports
- 110cc combustion chambers

This head is assembled with the following components:

12366987	2.25" Intake Valves	**12366990**	Valve Spring Retainers
12366988	Exhaust Valves	**12366992**	Valve Locks
12462970	Valve Springs	**12495690**	Valve Seals
3875916	Valve Spring Shims	**3921912**	Rocker Arm Studs
3860038	Pushrod Guideplates		

Additional components required for installation. See page 245.

Available for purchase online at gmperformanceparts.com

Rectangle Port Heads

12363408

Bowtie Rectangular Port Aluminum Bare Cylinder Head

This NHRA-legal aluminum cylinder head is a replacement for the L88 Big-Block cylinder heads used on 1968-1971 Corvettes and 1969 Camaros.

- Aluminum performance cylinder head
- 315cc rectangular intake ports
- Replacement head for P/N 14011076
- Machined for 2.19"/1.88" 11/32" valve stems
- 110cc exhaust ports
- 118cc combustion chambers

12363410

Bowtie Rectangular Port Aluminum Bare Cylinder Head

- Bare aluminum performance head
- Machined for 2.19"/1.88" valves
- 300cc rectangular intake port
- 110cc exhaust port
- 118cc combustion chamber

A. 12363400

Bowtie Rectangular Port Aluminum Cylinder Head Assembly

- Aluminum performance head
- Completely assembled with 2.25"/1.88" 11/32" stem valves
- 300cc rectangular intake port
- 110cc exhaust port
- 118cc combustion chamber
- Uses bare head P/N 12363410

This head is assembled with the following components:

12366987	2.25" Intake Valves	**12366990**	Valve Spring Retainers
12366988	Exhaust Valves	**12366992**	Valve Locks
12462970	Valve Springs	**12495690**	Valve Seals
3875916	Valve Spring Shims	**3921912**	Rocker Arm Studs
3860038	Pushrod Guideplates		

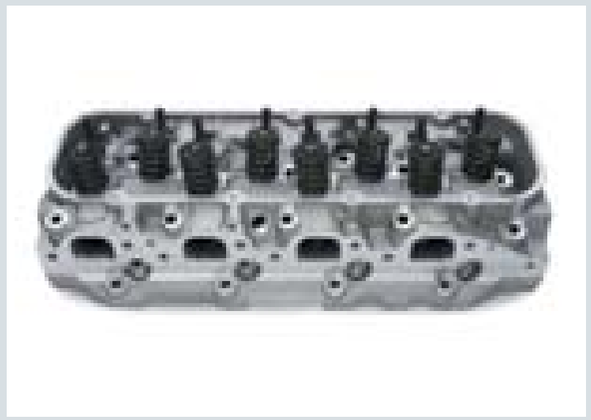
1982 CAMARO Z28

All-new in '82, the third-generation Camaro reflected its era. It relied heavily on computers for its slippery new design and its first use of factory fuel injection, dubbed Cross-Fire Injection. Featuring an all-new hatchback design with an expansive, compound-curve hatch glass, the '82 Camaro was modern inside and out, with a space-age interior design and a modern McPherson strut suspension.

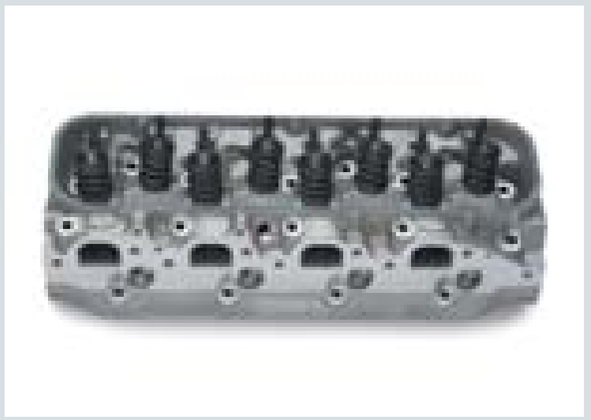
Not only was the 5.0-liter-Small-Block-powered Z28 the crown jewel of the Camaro lineup, but it reigned supreme over both the automotive world and the Indianapolis 500, as it was selected as both Motor Trend's Car Of The Year, and the Indianapolis 500's pace car. Though *Motor Trend* only managed a 17.13-second quarter-mile at 80.70 mph, the magazine gushed over the Z's positive attributes, "Besides being good looking, it just may be the best-handling car built in America." And following the great replica tradition, 6,360 silver and blue Pace Car Z28 copies hit the streets to celebrate.

A Bowtie Rectangular Port Aluminum Cylinder Head Assembly (intake)

Bowtie 572/620 Cylinder Head Assembly (intake) B



A Bowtie Rectangular Port Aluminum Cylinder Head Assembly (exhaust)



Bowtie 572/620 Cylinder Head Assembly (exhaust) B

A Bowtie Rectangular Port Aluminum Cylinder Head Assembly (combustion chamber)

Bowtie 572/620 Cylinder Head Assembly (combustion chamber) B

Bowtie Street Heads Continued

B. 12499255

Bowtie 572/620 Cylinder Head Assembly

- Aluminum head assembly
- Used in the 572/620 GMPP crate engine
- Completely assembled with 2.25"/1.88" 11/32" stem valves
- Valve springs for hydraulic roller cams for up to .632" lift
- 310cc rectangular intake port
- 118cc exhaust port—raised 5/8"
- 118cc combustion chamber
- Not recommended for engines smaller than 572 cid

This head is assembled with the following components:

12366987	2.25" Intake Valves	**12366990**	Valve Spring Retainers
88963128	Exhaust Valves	**12366992**	Valve Locks
88963934	Valve Springs	**88963936**	Valve Seals
88963937	Valve Spring Shims	**3921912**	Rocker Arm Studs
88963935	Valve Spring Locators	**3860038**	Pushrod Guideplates

88961160

Bowtie 572/720R Cylinder Head Assembly (not shown)

- Aluminum racing head assembly
- Used in the 572/720R GM Performance Parts
- Completely assembled with 2.25"/1.88" 11/32" stem valves
- Mechanical roller valve springs—not for use with hydraulic roller cams
- Good to .720" valve lift
- 310cc rectangular intake port
- 118cc exhaust port—raised 5/8"
- 118cc combustion chamber
- Not recommended for engines smaller than 572 cid

This head is assembled with the following components:

12366987	2.25" Intake Valves	**12366990**	Valve Spring Retainers
88963128	Exhaust Valves	**12366992**	Valve Locks
88963933	Valve Springs	**88963936**	Valve Seals
88963937	Valve Spring Shims	**3921912**	Rocker Arm Studs
88963935	Valve Spring Locators	**3860038**	Pushrod Guideplates

BOWTIE RACE CYLINDER HEADS

Monster-cubic" stroker Big-Blocks need lots of air to maximize their performance potential and GM Performance Parts Bowtie race cylinder heads are designed for that task. They are made of 356-T6 aluminum with huge, raised intake ports, larger valves, smaller combustion chambers and two additional head bolts for increased clamping force. The runners are purposely left smaller, so there is ample room for custom porting by the engine builder.

Bowtie Race Head Technical Notes:

- 356-T6 Aluminum
- 9/16" thick decks
- No heat risers
- Will work on Mark IV cylinder block
- Heli-coiled 7/16" screw-in rocker stud holes
- As-cast intake and exhaust ports

12363425

Bowtie Racing Cylinder Head (not shown)

- Aluminum racing head
- Machined for 2.19"/1.88" valves (+.400" long required)
- 380cc rectangular intake ports—raised .100"
- 110cc exhaust port—raised .750", vanes in port floor ("W" port)
- 115cc "open chamber" combustion chamber
- Rocker cover rails raised .250"
- Two additional head bolt holes in valley
- Pushrod guide plates P/N 3860038 must be ground for clearance

DRCE PRO STOCK CYLINDER HEADS

GM Performance Parts DRCE (Drag Racing Competition Engine) Pro Stock cylinder heads are the choice of NHRA Pro Stock champions, so you know these are the best heads available. When races are won by thousandths of a second there's no room for second-best parts. The GM Performance Parts DRCE aluminum cylinder heads were specifically designed for the DRCE 2 engine block P/N 24502572 and intended for NHRA Drag Racing Pro Stock competition applications.

Special features of these heads include high-capacity water jackets, symmetrical-port layout, ample wall material for custom porting, thick deck surfaces (7/8") to facilitate angle milling and reduced weight casting to minimize CNC-machining time. A typical CNC-prepped cylinder head without valves or valve train weighs approximately 40 pounds.

DRCE Pro Stock Race Cylinder Head Technical Notes:

- T355-T7M aluminum construction
- Complies with NHRA Pro Stock 500-cid, 4.900" bore spacing rules
- Symmetrical intake port layout
- Intake and exhaust ports are extremely small "peanut ports"
- 7/8" thick decks allow for angle milling or heavy flat milling
- Requires professional porting and machining
- High-capacity self-purging water jackets
- Custom aftermarket rocker arm assemblies required

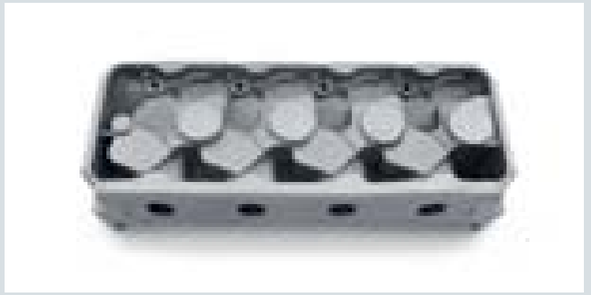
A. 24502585
DRCE 2 Raw Aluminum Cylinder Head
- Raw aluminum casting, not machined
- Accommodates 10°–14° x 5° intake and 5°–9° x 2.5° exhaust valve angles
- Made to work on DRCE 2 block P/N 24502572

A DRCE 2 Raw Aluminum Cylinder Head (exhaust)

A DRCE 2 Raw Aluminum Cylinder Head (intake)

A DRCE 2 Raw Aluminum Cylinder Head (combustion chamber)

DRCE 3 Aluminum Cylinder Head Casting (exhaust) **B**



DRCE 3 Aluminum Cylinder Head Casting (intake) **B**

DRCE 3 Aluminum Cylinder Head Casting (combustion chamber) **B**

DRCE Pro Stock Heads Continued

B. 25534404
DRCE 3 Aluminum Cylinder Head Casting
- Raw aluminum casting, not machined
- Newest design DRCE—rocker arm mounting pads and valve spring seat pads allow greater flexibility with valve angles and locations than DRCE 2
- Made to work on DRCE 3 block and DRCE 2 P/N 24502572

25534387
DRCE 3 Water Jacket Plug (not shown)
- For ends of DRCE 3 cylinder head casting P/N 25534404
- Aluminum AN -16 with internal hex for Allen wrench
- Includes O-ring
- Sold individually; use 2 per head

25534388
DRCE 3 Water Jacket Plug (not shown)
- For water jacket access holes of DRCE 3 cylinder head casting P/N 25534404
- Aluminum AN -08 with internal hex for Allen wrench
- Includes O-ring
- Sold individually; use 8 per head

1988 CAMARO 1LE

When Camaro engineers learned that the Camaro was in need of more braking to run competitively in the Sports Car Club of America's emerging Showroom Stock class, they began by looking into larger brakes and finished by homologating a complete package. Thus was born the infamous 1LE option.

A best-kept secret when introduced, a 1LE wasn't a simple order. You had to begin by ordering the G92 Performance Axle, which featured a limited-slip diff. By ordering G92 and no air, you headed full speed into turn one with two-piston PBR brakes, an aluminum driveshaft, a baffled fuel tank and few creature comforts. Only four racers in the know snatched up 1LE Camaros that first year, but the package would continue on for 11 years. It didn't take long for racers packing the 1LE to dominate the SCCA Escort Endurance Championship in 1989.

1985 CAMARO IROC-Z

Born to celebrate the Camaro Z28's selection as the race car of choice for the International Race of Champions, this race car tribute took the handling of the previous Z28 deeper into the corner. With a lower center of gravity, specially valved springs and shocks, and 16" aluminum wheels with Goodyear Gatorbacks, the IROC Z was good for 0.92g on the skidpad.

IROCs weren't all about the handling though, as the top-dog 305-cube Small-Block pumped out 215 horsepower and 275 lb-ft of torque through a four-speed automatic transmission. If you wanted a manual transmission, you had to step back to a 190-hp carbureted 305. Choosing the fuel-injected automatic combo netted the then-new Tuned Port Injection (TPI), which featured a dual-bore throttle body and long, torque-producing runners.

From the LT1 engines that followed to the LS7 crate engine found in this catalog, the induction concept pioneered on the TPI lives today.

CYLINDER HEADS: ADDITIONAL REQUIRED COMPONENTS

Part Number	Gaskets (Quantity)	Bolts (Quantity)	Spark Plug	Engine Application
12562920	14097001 (2) **OR** 12555728 (2)	10141204 (24), 10141205 (8)	5613438	24502620, 12568778, 24502618, 12568774
12562926	14097001 (2) **OR** 12555728 (2)	10141204 (24), 10141205 (8)	5613438	24502620, 12568778, 24502618, 12568774
12562925	14097001 (2) **OR** 12555728 (2)	10141204 (24), 10141205 (8)	5613438	24502620, 12568778, 24502618, 12568774
12363390	12363411 (2)	12367779 (1 Kit)	19145286	12499121, 12496962, 12371204, 12497323, 12496963, 12371171
12363392	12555728 (2)	12555728 (16), 88960334 (8)	19145286	12498777
12363399	12555728 (2)	88960333 (16), 88960334 (8)	19145286	12498777
88961160	88961561 (2)	88960333 (16), 88960334 (8)	5613100	12498827, 12498826
12499255	88961561 (2)	88960333 (16), 88960334 (8)	5613878	12498792

CYLINDER HEAD GASKETS AND HEAD BOLTS

Secure sealing between the cylinder heads and the block is a critical component of making reliable horsepower, so GM Performance Parts puts the same engineering excellence and manufacturing precision into their gaskets, head bolts, and cylinder head studs as the blocks and heads they secure. Big-Block cylinder head gaskets are available in a variety of materials and thicknesses. Piston-to-head clearances should be considered when selecting gaskets. Use Gen V for 1991-1992 applications. Gasket packages contain one gasket unless otherwise specified.

A. 12363414
Composition Head Gasket (1965-1990)
- With pre-flattened copper wire ring and permatorque/blue stripe coating for engines with aluminum heads
- Bore sizes between **4.250" and 4.370"**
- Use with **Mark IV** (1965-1990) engines only
- Compressed thickness is **0.039"**

10159507
Composition Head Gasket (1965-1990, not shown)
- For **Mark IV** 1965-1990 Big-Blocks with **4.440"** cylinder bores
- No sealer required
- Re-torque after engine is first run
- Use with **Mark IV** (1965-1990) engines only
- Compressed thickness is **0.039"**

12363413
Composition Head Gasket (1965-1990, not shown)
- With pre-flattened copper wire ring and permatorque/blue stripe coating for engines with aluminum heads and bore sizes **4.375" to 4.540"**
- Use with **Mark IV** (1965-1990) engines only
- Compressed thickness is **0.041"**

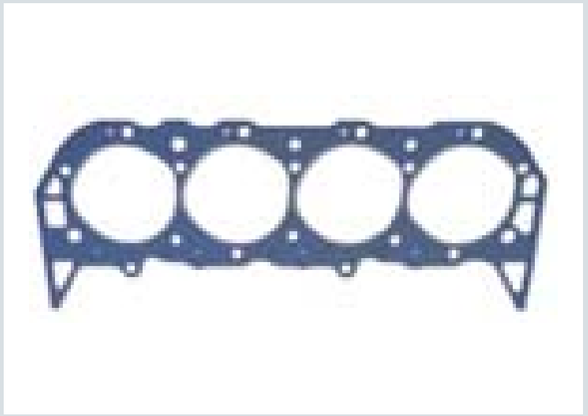
12363412
Composition Head Gasket (1991-newer, not shown)
- For 1991-and-newer **Gen V and Gen VI** Big-Blocks with aluminum heads and **4.250" to 4.370"** bore size
- Has pre-flattened wire ring and stainless core which makes it ideal for saltwater marine use
- Compressed thickness is **0.039"**

12555728
Head Gasket, 454 Engine (not shown)
- Head gasket for 1991–2000 **Gen V** 454 Big-Blocks

B. 12366984
Head Gasket Kit, 502 Engine
- For all **Gen V and Gen VI** 502 Big-Blocks with cast-iron heads
- Has additional water hole for improved cooling of siamesed cylinder walls
- Includes 2 gaskets (right and left) per package
- Compressed thickness is **0.041"**

12363411
Composition Head Gasket (1991-newer, not shown)
- For **Gen V and Gen VI** Big-Blocks with aluminum heads and **4.375" to 4.540"** bore size
- Has pre-flattened wire ring and stainless core which makes it ideal for saltwater marine use
- Compressed thickness is **0.039"**

C. 88961561
Head Gasket, 572 Engine
- With pre-flattened wire ring for all **572** Big-Blocks with either cast-iron or aluminum heads
- Compressed thickness is **0.030"**



A Composition Head Gasket (1965–1990)

B Head Gasket Kit, 502 Engine

C Head Gasket, 572 Engine

Hex Nut **D**

12-Point Nut **E**

Valve Spring Retainer **F**

Valve Spring Key **G**

VALVES AND VALVE SPRINGS

12367779
Cylinder Head Bolt Kit (not shown)
- Universal kit for cast-iron and aluminum Big-Block heads
- Includes (8) 7/16-14 x 2.08" bolts P/N 88960334, (24) 7/16-14 x 4.06" bolts P/N 88960333, (8) 7/16-14 x 5.06" bolts P/N 12367329, and (40) hardened washers P/N 14011040
- Use part numbers above for replacement parts
- Use thread sealant on all Big-Blocks except 502 due to blind bolt holes

3899696
Hardened Washer (not shown)
- 0.45" I.D. x 0.86" O.D.; sold individually

D. 3942410
Head Stud Nut
- Magnafluxed 1038 steel 7/16-20 hex head nut; sold individually

E. 14044866
Head Stud Nut
- Magnafluxed 4037 steel 7/16-20 12-point nut; sold individually

3989353
Valve Spring Retainer (not shown)
- Steel retainer for valve spring P/N 3989354

F. 12550421
Valve Spring Retainer
- For 1991-and-newer Gen V and Gen VI engines

G. 3947880
Valve Spring Key
- Hardened steel split locks for production and racing engines
- Color-coded purple
- Sold individually, order 32 per engine

12366992
Valve Spring Cap Lock (not shown)
- For 502 and 572 engines with aluminum heads

12550422
Valve Stem Seal (not shown)
- Seal for 1991-and-newer Gen V and Gen VI engines
- Use with valve spring P/N 12550421
- The valve guide boss must be machined slightly for seal to retain clearance when using high-lift cams

12495690
Valve Spring Stem Seal Kit (not shown)
- Kit of 16 special high-performance seals for the 502 engine kit
- Use with spring kit P/N 12495691

88963936
Valve Spring Seal (not shown)
- Use with all 572 engines

BIG-BLOCK VALVES

Part Number	Valve Size	Stem Size	Description
Intake Valves			
14097045	2.19"	3/8"	Stock replacement valve for Gen V and Gen VI 454 and 502 HO engines
12366986	2.19"	11/32"	Stainless-steel valve with undercut chrome-plated stems, single-groove design, hardened tips, used on ZZ454, ZZ427 and the Anniversary Edition 427 crate engines
12366987	2.25"	11/32"	Stainless-steel valve with undercut chrome-plated stems, single-groove design, hardened tips, used on ZZ502 and ZZ572
Exhaust Valves			
14097049	1.88"	3/8"	Stock replacement valve for Gen V and Gen VI 454 and 502 HO engines
12366988	1.88"	11/32"	Stainless-steel valve with undercut chrome-plated stems, single-groove design, hardened tips, used on ZZ454, ZZ427 and the Anniversary Edition 427 crate engines
88963128	1.88"	11/32"	Stainless-steel valve with undercut chrome-plated stems, single-groove design, hardened tips, used on ZZ502 and ZZ572

BIG-BLOCK VALVE SPRINGS

Part Number	Description	Outside Diameter	Pressure at Installed Height	Solid Height	Average Rate (lbs per in)	Retainer Part Number	Valve Seal Kit	Technical Notes
3970627	Dual	1.487"	105# @ 1.88"	1.28"	267	3964264	460527	For high-performance 396/427/454 LS6 engines
12371061	Dual Kit	1.487"	105# @ 1.88"	1.28"	267	3964264	460527	Kit of 16 P/N 3970627 springs
12371062	Dual with Dampener Kit	1.538"	128# @ 1.90"	1.26"	356	3989353	Aftermarket PC-type seal	Kit of 16 P/N 3989354 springs, use with cam P/N 3994094
12495514	Dual Kit	1.487"	110# @ 1.88"	1.37"	316	14096274	12550422	Kit of 16 P/N 14097002 springs, use with 454 and 502HO engines
12495691	Dual Spring Kit	1.514"	140# @ 1.94"	1.20"	325	12366990	12495690	Kit of 16 P/N 12462970 springs, use with 502/502 engines
88963934	Dual Spring	1.540"	197# @ 1.80"	N/A	N/A	12366990	88963936	Use with 572/620 HP engines
88963933	Dual Spring	1.567"	230# @ 2.00"	N/A	N/A	12366990	88963936	Use with 572/720 HP engines
366282	Dual Spring	1.525"	128# @ 1.70"	1.26"	406	366254	Aftermarket PC-type seal	For competition engines

VALVE SPRING COMPONENTS

3875916
Spring Shim (not shown)
- 55/64" I.D. x 1 31/64" O.D. x 0.015" thick

3731058
Spring Shim (not shown)
- 55/64" I.D. x 1-15/16" O.D. x 0.030" thick

3891521
Spring Shim (not shown)
- 55/64" I.D. x 1 31/64" O.D. x 0.065" thick

88963937
Spring Shim (not shown)
- Shim for all 572 engines

88963935
Valve Spring Locator (not shown)
- Valve spring locator for setting the valve spring in the right location on all 572 engines

12360874
Retainer/Seal Kit (not shown)
- Kit of 16 retainers P/N 12550421 and 16 seals P/N 12550422 for1991-and-newer Gen V and Gen VI engines
- New design improves oil economy
- The valve guide bosses require minor machining with high-lift cams

12495688
Valve Spring Cap Kit (not shown)
- Kit of 16 special machined steel performance valve spring caps P/N 12366990 for use with spring P/N 12462970 on 502 and 572 engines

3964264
Valve Spring Retainer (not shown)
- Retainer and seal for valve spring P/N 3970627

3989353
Valve Spring Retainer (not shown)
- Steel retainer for valve spring P/N 3989354

Roller Rocker Arm Set, 1.7:1 Ratio **A**

ROCKER ARMS

Steel Rocker Arms
Steel rocker arms are designed for long-term durability. GM Performance Parts steel rocker arms are intended for 454- and 502-cubic-inch Big-Blocks. Rocker arm kits include one rocker arm and ball.

Aluminum Roller Rocker Arm for 7/16" Studs
GM Performance Parts aluminum roller rocker arms have bearings and fulcrums with an extra-wide design for improved load distribution. The rockers are lubricated with pressurized oil. The rockers have a 1.7:1 ratio for 7/16" studs. The roller-tip axle is made from 4130 steel and the roller tip is machined and ground from 8620 steel.

NOTE: *Not for use with production height-valve covers.*

ROCKER ARMS

12523976
Steel Rocker Arm Assembly (not shown)
- Designed for use on Gen V and Gen VI design 454- and 502-cubic-inch HO engines. The rocker arms have long slots for high-lift camshafts.

NOTE: *Kit includes rocker arm and ball. One rocker assembly per package; order 16 per engine.*

12368082
Steel Long Slot Rocker Arm, 1.7:1 Ratio (not shown)
- These 1.7:1 ratio hardened steel rocker arms have elongated slots to provide extra clearance for high-lift (.600" and greater) camshafts
- Use with all 396-502 Big-Block heads with adjustable rockers
- Each assembly includes rocker arm P/N 3959182 as well as the ball P/N 12338047 and nut P/N 3896648

NOTE: *Can be used on any Gen V or Gen VI by using rocker stud kit P/N 12495518.*

12368085
Long Slot Rocker Arm Kit (not shown)
- Set of 16 rocker arms (P/N 12368082) with the balls and nuts

NOTE: *These long slot rocker arms are stamped "H."*

A. 12361323
Roller Rocker Arm Set, 1.7:1 Ratio
- Set includes 16 roller rocker arms and nuts for 7/16" studs
- Used on 572-cubic" Big-Block engines
- Use P/N 12361330 for single replacement part

Premium 7/16" Intake Pushrod

Intake Pushrod, Roller Lifter Style

PUSHRODS

GM Performance Parts offers a complete line of premium-quality, heavy-duty pushrods for most GM Big-Block engines. Pushrods are that critical link between the camshaft and the rocker arms. These seemingly innocuous parts play a very important role in the combustion process. Two materials are used: 1010 mild steel for high-performance street cars, power boats, and limited competition applications, and 4130 chrome moly steel for maximum-performance racing engines. GM Performance Parts pushrods are case-hardened for use with pushrod guideplates. Pushrods are available in standard and extended lengths. Check the usage chart below to verify proper applications.

BIG-BLOCK PUSHRODS

Part Number	Material	Diameter	Length	Usage	Port	Description
10134307	1010 steel	3/8"	8.285"	Flat tappet	Intake	One-piece design. Recommended for high-performance street engines.[1]
10134308	1010 steel	3/8"	9.256"	Flat tappet	Exhaust	One-piece design. Recommended for high-performance street engines.[1]
10134304	1010 steel	7/16"	8.285"	Flat tappet	Intake	One-piece design. Recommended for high-performance and limited competition engines.[2]
10134303	1010 steel	7/16"	9.256"	Flat tappet	Exhaust	One-piece design. Recommended for high-performance and limited competition engines.[2]
10134306	4130 steel	7/16"	8.285"	Flat tappet	Intake	Premium quality one-piece design. Recommended for racing engines.[2]
10134305	4130 steel	7/16"	9.256"	Flat tappet	Exhaust	Premium quality one-piece design. Recommended for racing engines.[2]
14097068	1010 steel	3/8"	8.171"	Flat tappet	Intake	For Gen V 454 and 502 HO engines
14097070	1010 steel	3/8"	9.151"	Flat tappet	Exhaust	For Gen V 454 and 502 HO engines
10227762	1010 steel	3/8"	7.592"	Hyd. roller	Intake	(1) heavy-duty heat-treated .060" for use in Gen VI 454 and 502 engines with hydraulic roller lifters
10227763	1010 steel	3/8"	8.569"	Hyd. roller	Exhaust	(1) heavy-duty heat-treated .060" for use in Gen VI 454 and 502 engines with hydraulic roller lifters
12368081	1010 steel	3/8"	7.592"–8.569"	Hyd. roller	—	Kit of (8) P/N 10227762 and (8) P/N 10227763
88961559	4130 steel	3/8"	7.900"	Hyd. roller	Intake	Chromemoly 1-piece for 572/620 (Tall Deck Block)
88961558	4130 steel	3/8"	8.900"	Hyd. roller	Exhaust	Chromemoly 1-piece for 572/620 (Tall Deck Block)
88962284	4130 steel	3/8"	8.550	Mech. roller	Intake	Chromemoly 1-piece for 572/620 (Tall Deck Block)
88962283	4130 steel	3/8"	9.525	Mech. roller	Exhaust	Chromemoly 1-piece for 572/620 (Tall Deck Block)

[1]Use with pushrod guideplate P/N 3860038. [2]Use with pushrod guideplate P/N 3879620.

VALVE COVERS

Top off your high-performance Big-Block with a pair of handsome GM Performance Parts valve covers. These stylish, precision-fit valve covers come in a variety of finishes and colors. They're made out of die-cast aluminum or heavy-gauge stamped steel. Quality construction methods provide better sealing and less chance of leakage from deflection caused by over-tightened fasteners. Competition valve covers are designed to clear taller valvetrains.

NOTE: *Valve covers are sold in pairs unless otherwise specified.*

A. 12342093
Short Chrome Bowtie Valve Cover
- Show-quality covers embossed with the famous Bowtie logo and Chevrolet name
- Standard height, for use with 1965-1994 engines
- May not clear brake booster on some Corvette models

B. 12495488
Custom Aluminum Valve Covers
- Die-cast aluminum valve covers are black with a brushed aluminum finish on top revealing the Chevrolet name and Bowtie logo
- Can be finished with a custom engine designation badge (see page 252)
- For use on 1965-1994 engines
- Includes 2 covers, 1 grommet P/N 10198941, 1 grommet P/N 10198949, oil cap P/N 15681150 and 14 retaining bolts

C. 12371244
Aluminum Competition Design Valve Covers
- Display the Chevrolet name and Bowtie logo in natural aluminum finish, or paint to match engine or vehicle color
- No holes for PCV or oil fill, but bosses for drilling them
- Can be used on most Big-Block Chevrolet cylinder heads
- Use P/N 12370836 for single replacement part

NOTE: *Use with valve cover gasket P/N 14085759.*

D. 25534323
Aluminum Competition Design Valve Covers, Black Powder Coat
- Display the Chevrolet name and Bowtie logo in black powder-coated covers
- No holes for PCV or oil fill, but bosses for drilling them
- Can be used on most Big-Block Chevrolet cylinder heads

NOTE: *Use with valve cover gasket P/N 14085759.*

25534374
Aluminum Competition Design Valve Covers, Orange Powder Coat (not shown)
- Display the Chevrolet name and Bowtie logo in orange powder-coated covers
- No holes for PCV or oil fill, but bosses for drilling them
- Can be used on most Big-Block Chevrolet cylinder heads

NOTE: *Use with valve cover gasket P/N 14085759.*

A Short Chrome Bowtie Valve Cover

B Custom Aluminum Valve Covers

C Aluminum Competition Design Valve Covers

D Aluminum Competition Design Valve Covers, Black Powder Coat

Valve Covers, "572 Chevrolet" **E**

Valve Covers, "427 Chevrolet", Natural Appearance **F**

Valve Covers, "427 Chevrolet", Black Powder Coat **G**

E. 12499200
Valve Covers, "572 Chevrolet"
- Used on all 572-cubic" crate engines and can be used on most Big-Blocks
- Cast aluminum with "572 Chevrolet" as part of the casting
- One cover has oil fill and breather holes and the second cover has the breather hole only

NOTE: *Requires push on oil cap P/N 12341993, breather P/N 25534355 and breather tube P/N 88962074 that incorporates a baffle in the tube.*

F. 19202588
Valve Covers, "427 Chevrolet", Natural Appearance
- Natural finish
- Used on the Anniversary Edition 427 crate engine
- Can be used on any Big-Block engine

G. 19202589
Valve Covers, "427 Chevrolet", Black Powder Coat
- Used on the ZZ427/480 crate engine
- Can be used on any Big-Block engine

1991 CAMARO B4C

Nothing will ruin a spirited drive in your Camaro like flashing blue lights in your rearview mirror. The only thing that could make it worse is getting pulled over by another Camaro—and in 1991, the B4C Special Service packaged offered a host of performance upgrades designed to stretch the long arm of the law.

By checking off the B4C option, a base RS coupe became a fusion of the Z28 and 1LE performance packages and more. Available with the 230-hp 305 V-8 or the 245-hp 350, the B4C cars also gained heavy-duty front brakes, rear disc brakes, a limited-slip rear end, 16" wheels, a high-output alternator, and coolers for the power steering fluid, tranny fluid and engine oil.

Only 592 B4C options were sold in '91, but the package patrolled the order sheets until '02.

VALVE COVERS: ADDITIONAL REQUIRED COMPONENTS

Part Number	Gaskets (Qty)	Bolts (Qty)	Grommets (Qty)	Oil Fillers (Qty)	Engine Application
12495488	14085759 (2) **OR** Mark IV, V, VI (2)	25520079	10198941 **OR** 3989350	15681150	12499121, 12496962, 12371204, 12497323, 12496963, 12371171, Mark IV, V, VI BB
12499200	14085759 (2)	88961871 (8)	12341988 (1)	12341993 (1)	12498793, 12498827, 12498792, 12498826
19202588	14085759 (2)	88961871 (8)	12341988 (1)	12341993 (1)	12498793, 12498827, 12498792, 12498826
19202589	14085759 (2)	88961871 (8)	12341988 (1)	12341993 (1)	12498793, 12498827, 12498792, 12498826
25534323	14085759 (2)	88961871 (8)	N/A	12341993 (1)	12498793, 12498827, 12498792, 12498826

Additional components required for installation. See page 251.

Available for purchase online at gmperformanceparts.com

BREATHERS AND HARDWARE

88962074
Oil Baffle Tube (not shown)
- Pushes easily into most valve covers that have an oil baffle
- Requires breather P/N 25534355, used on ZZ572 engines

A. 25534355
ZZ572 Breather
- Special breathers for the ZZ572 valve covers
- Chrome breathers are 1-3/8", hose-clamp-style with the Bowtie logo on top
- Use with oil baffle tube P/N 88962074
- Includes 2 breathers

B. 12341993
Push-In Oil Filler Cap
- For valve covers with 1.22" hole

19131218
Chrome Push-In Breather (not shown)
- 2-3/4" O.D. x 1-1/2" tall with 3/4" nipple
- Embossed Bowtie logo; use with rubber grommet P/N 3894337

3894337
Rubber Grommet, Bowtie Valve Covers (not shown)
- Has 15/16" I.D. x 17/32" O.D.
- Can be used to plug the oil filler hole in Bowtie valve covers or to mount a push-in breather

14085759
Valve Cover Gasket (not shown)
- Steel-reinforced gasket fits all Big-Block Chevy valve covers
- Order 2 per engine

VALVE COVER BADGES

Designed to fit mounting area on valve covers P/N 12495488 (see page 250), these good-looking badges will fit some other Big-Block valve covers.

NOTE: *1 badge per package. Order 2 per engine.*

12363951
Valve Cover Badge, "427-Cubic-Inches" (not shown)

12363952
Valve Cover Badge, "454-Cubic-Inches" (not shown)

12363953
Valve Cover Badge, "502-Cubic-Inches" (not shown)

12366995
Valve Cover Badge, "454 GM Performance Parts" (not shown)

C. 12366994
Valve Cover Badge, "502 GM Performance Parts"

A ZZ572 Breather

B Push-In Oil Filler Cap

C Valve Cover Badge, "502 GM Performance Parts"

Rocker Adjusting Nut C

Rocker Arm Stud Kit (1960-1990 engines) D

E Pushrod Guide Plate (3/8")

ROCKER ARM STUDS AND ACCESSORIES

C. 3896648
Rocker Adjusting Nut
- Positive locking 7/16–20 nut for all Big-Block V-8s

D. 12495498
Rocker Arm Stud Kit (1960-1990 engines)
- Strong, 7/16" diameter screw-in studs are built to stand up to stiff valve springs and high-lift camshafts
- Suitable for all high-performance and competition applications
- Includes 16 pieces
- For single stud usage, use P/N 3921912

12495518
Rocker Arm Stud Kit (3/8" x 7/16", not shown)
- Designed for 1991-and-newer Gen V and Gen VI heads when adjustable tappets are desired
- Heat-treated, 8720 steel stud has a 3/8-16 thread that screws into the head and a 7/16-20 upper shaft for the rocker arm nut
- Use with rocker arm kit P/N 12368085 only
- For single stud usage, use P/N 12368941

10114123
Rocker Arm Stud Kit (Gen V style, not shown)
- Used on the Gen V engines
- Holds the "non-adjustable" rocker arms in place

GUIDE PLATES

E. 3860038
Pushrod Guide Plate (3/8")
- Designed for all 1965-1990 iron and aluminum cylinder heads with 3/8" diameter pushrods
- Slotted style with hardened steel construction aligns rocker arms with valve stem tips on Big-Block's splayed-valve head
- 8 required for each engine

NOTE: *Use with screw-in rocker stud P/N 3921912.*

3879620
Pushrod Guide Plate (7/16", not shown)
- Similar to guide plate described above, but for use with heavy-duty 7/16" diameter pushrods

12562369
Pushrod Guide Plate (Gen V 454/502 style, not shown)
- Used on all Gen V 454 and 502 engines with 3/8" diameter pushrods

VALVE LIFTERS AND COMPONENTS

12371044
Hydraulic Lifter Kit (set of 16, not shown)
- For use on all 396, 427, 454, and 502 engines that use hydraulic flat tappet lifters
- For single-service replacement use P/N 5232720

17102353
Lifter Assembly (single piece, not shown)
- Designed for use with the Gen V 454 and 502 engines
- Used when no adjustable rocker arms are required
- Package contains 1 lifter assembly

A. 17120060
Hydraulic Roller Lifter Kit, ZZ572/620
- Roller valve lifters used on the ZZ572/620 engines
- Use with camshaft P/N 88961557, intake pushrod P/N 88961559, exhaust pushrod P/N 88961558 and rocker arm P/N 12361323

B. 12371056
Hydraulic Roller Lifter Kit
- Hydraulic roller lifter retainer kit can be used on all Gen VI 454 and 502 engines that are machined for hydraulic roller lifters
- Includes 16 roller lifters P/N 17120061, 8 lifter guides, 1 lifter guide retainer and 4 retainer bolts
- For single service replacement lifter, use P/N 17120061

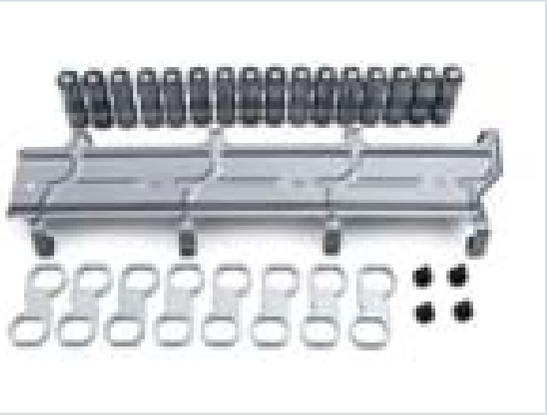
NOTE: *These lifters allow more oil to the rocker arms than the late-model truck roller lifters.*

C. 88962920
Mechanical Roller Lifter, ZZ572/720
- Mechanical roller valve lifters used on the ZZ572/720 horsepower engines
- Use with camshaft P/N 88962216, intake pushrod P/N 88962284, exhaust pushrod P/N 88962283 and rocker arm P/N 12361323
- Kit of 16 lifters

12551397
Roller Tappet Guides (not shown)
- Roller tappet guides used with all 502 engines and 454 HO engines
- Used with roller camshaft engines
- Sold individually; order 8 per engine

12551399
Roller Tappet Guide Retainer (not shown)
- Roller tappet guide retainer used with all 502 engines and 454 HO engines
- Used with roller camshaft engines
- Order only 1 per engine

A Hydraulic Roller Lifter Kit, ZZ572/620



B Hydraulic Roller Lifter Kit

C Mechanical Roller Lifter, ZZ572/720

CAMSHAFTS

The camshaft is one of the most important factors in determining an engine's overall performance profile and capability. GM Performance Parts' wide array of precision-engineered, extensively tested camshafts allows you to choose the best cam for your application. In order to avoid possible engine damage, a distributor with a melonized steel gear must be used with steel camshafts.

BIG-BLOCK CAMSHAFTS

Part Number	Description	Duration @ .050" Lift (deg)	Maximum Lift (in)	Lobe Centerline (deg)	Technical Notes
10185060	Hydraulic flat tappet 454ci	I: 220 E: 220	I: .500 E: .500	115	Street high performance and marine cam as used in Gen V 454 HO engines. Advanced 5°. Use spring P/N 3970627.
14096209	Hydraulic flat tappet 502ci	I: 220 E: 220	I: .500 E: .500	115	Street high performance and marine cam as used in Gen V 502 HO engines. Use spring P/N 3970627.
12366543	Steel hydraulic roller	I: 224 E: 234	I: .527 E: .544	110	For 502/502 special engine. Must use distributor gear P/N 10456413.
24502611	Steel hydraulic roller	I: 211 E: 230	I: .510 E: .540	112	For 454 and 502 HO engines. Must use distributor gear P/N 10456413.
88961447	Steel mechanical roller	I: 236 E: 232	I: .640 E: .598	I: 110 ATDC E: 109 BTDC	For ZL1 Ram Jet, discontinued
88961557	Steel hydraulic roller	I: 254 E: 264	I: .632 E: .632	112	For ZZ572/620 engine
88962216	Steel mechanical roller	I: 278 E: 282	I: .714 E: .714	112	For ZZ572/720 engine

BIG-BLOCK CAMSHAFT AND LIFTER KITS, INCLUDES CAMSHAFT AND 16 LIFTERS

Part Number	Description	Duration @ .050" Lift (deg)	Maximum Lift (in)	Lobe Centerline (deg)	Technical Notes
12361314	Hydraulic flat tappet	I: 202 E: 210	I: .468 E: .485	110	Low-end truck torque cam for all Big-Block truck applications from normal driving to towing/hauling; suitable for computer controlled Mark IV and V engines
12361316	Hydraulic flat tappet	I: 210 E: 218	I: .485 E: .490	115	Designed for '90-'93 454SS pickup; offers increased mid-range and top-end performance
12353920	Hydraulic flat tappet	I: 228 E: 238	I: .540 E: .542	114	For all 9.5-10.75 C.R. Big-Block V-8s including '65-'66 CA, '65-'68 Federal emissions, and '66-'92 off-highway/marine; good idle, daily performance and mild bracket racing use; 2200-5700 rpm range
12353922	Hydraulic flat tappet	I: 218 E: 228	I: .500 E: .500	114	For 8.75-10.5 C.R. 396, 427, 454, 502 Big-Blocks; good mid-range 2000-4500 rpm, idle, fuel efficiency and towing capabilities
12364055	Hydraulic flat tappet	I: 214 E: 218	I: .461 E: .480	115	Blueprinted, dual pattern replacement for P/N 3883986 350 HP 396 cam; for 8.75-10.0 C.R., 1500-3800 rpm range
12364058	Mechanical lifters	I: 264 E: 269	I: .560 E: .580	112	Blueprinted, dual pattern replacement for P/N 3925535 435 HP 427 early L88 camshaft; for 11.5-12.0 C.R. and 4400-7000 rpm

Cam Button Spacer **D**

Camshaft Bearings, 572 Engine **E**

NOTE: IMPORTANT! *Distributor with melonized steel gear MUST be used with steel camshafts or engine damage will occur.*

Camshaft Components

D. 12364086
Cam Button Spacer
- Solid aluminum button for all 1965-1995 Big-Blocks
- Limits lateral movement of roller lifter camshafts when installed in engines without a cam thrust plate

E. 12499434
Camshaft Bearings, 572 Engine
- Five standard-size premium camshaft bearings for the ZZ572 engine

CONNECTING RODS AND COMPONENTS

C. 19170198
Forged Steel Connecting Rod
- Magnafluxed 4340 steel with heavy-duty 7/16" bolts
- Machined for pressed piston pins and color-coded white
- Used in Gen V 454 and 502 engines
- 6.135" c-c length
- Use rod bearing P/N 12329715

19211226
427 Forged Connecting Rod (not shown)
- 4340 Steel with 7/16" heavy duty bolts
- Machined for pressed piston pins
- Used in 427 Anniversary and ZZ427 engines
- Big end chamfered for large crank pin radius
- 6.535" c-c length
- Use rod bearing P/N 88961556

D. 88962926
572 Connecting Rod
- Forged 4340 steel H-beam for all 572 engines
- 6.535" c-c length
- Use rod bearing P/N 88961556

E. 88961556
572 Connecting Rod Bearing Kit
- Standard-size, premium connecting rod bearings
- Includes all 8 rod bearings

14096148
Connecting Rod Bolt (not shown)
- Knurled shank 7/16-20 x 2.28" bolt
- Used with connecting rod P/N 19170198

F. 340289
Connecting Rod Nut
- Extra heavy-duty 6304 steel 12-point 7/16-20 nut

12366569
Connecting Rod Nut Set (not shown)
- Set of 16 aircraft-quality, 6304 steel 12-point 7/16-20 nuts for all 396, 427, 454, and 502 engines
- For single service replacement use P/N 14044866

1993 CAMARO Z28

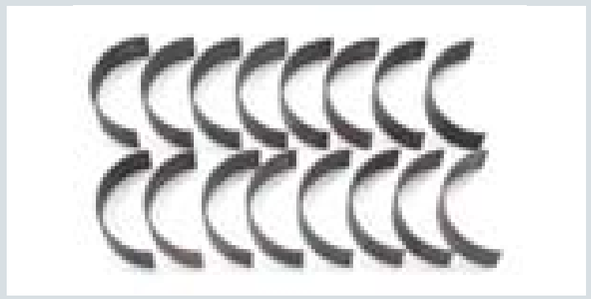
1993 was a huge year, as the Camaro was reborn as a sleeker, faster, more modern vehicle and the Z28 featured drool-worthy upgrades like a short/long-arm front suspension, a six-speed transmission and, of course, the new engine with the throwback name: LT1. It was rated at 275 horsepower.

Debuting a year earlier in the Corvette, the "new" LT1 featured an iron block and high-flow aluminum heads, but the real distinction was its reverse-flow cooling system. Banging gears with the six-speed manual, *Motor Trend* test drivers managed to just miss the 13-second zone with their best quarter-mile effort of 14.0 at 98 mph. The '93 Z28 also served as the Indy 500 Pace Car—the fourth time the honor was bestowed on the Camaro.

The legacy of the LT1 lives on in the higher-performance LT4-based components still available from GM Performance Parts, including the popular LT4 hot cam.

C Forged Steel Connecting Rod

D 572 Connecting Rod



E 572 Connecting Rod Bearing Kit

F 12-Point Connecting Rod Nut

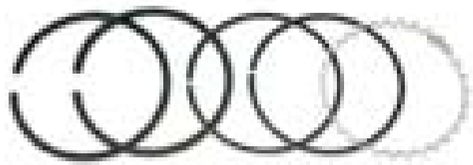
PISTONS AND RINGS

Pistons and rings operate in a very explosive environment, so they have to be extremely tough. GM Performance Parts are designed to withstand the rigors of high-performance engines. The pistons are factory-tested for quality assurance. GM Performance Parts pistons are sold in a variety of sizes and compression ratios. There are pistons for GM Big-Block engines ranging in displacement from 427 cubic inches to 572 cubic inches. Pistons are sold individually and are fitted with wrist pins.

NOTE: *Part numbers are for one piston; order eight per engine.*

BIG-BLOCK PISTONS

Part Number	Engine Size	Bore Size	Oversize	Rod Length	Pin Type	Compression Ratio	Chamber Size	Ring Size	Description
19171618	427	4.250"	—	—	—	10.1:1	110cc	1/16, 1/16, 3/16"	Forged 427
10215228	454	4.250"	—	6.135"	Pressed	8.75:1	118cc	5/64, 5/64, 3/16"	Forged Gen V and Gen VI 454 HO replacement
12529559	454	4.250"	+.030"	6.135"	Pressed	8.75:1	118cc	5/64, 5/64, 3/16"	Forged Gen V and Gen VI 454 HO replacement
12533507	502	4.470"	—	6.135"	Pressed	8.75:1	118cc	5/64, 1/16, 3/16"	Forged Gen V and Gen VI 502 replacement
88962925	572	4.560"	—	6.535"	Floating	9.6:1	118cc	1/16, 1/16, 3/16"	Forged 572/620
88963227	572	4.560"	—	6.535"	Floating	12.0:1	118cc	1/16, 1/16, 3/16"	Forged 572/720R



BIG-BLOCK PISTON RINGS

Part Number	Bore size	Oversize	Ring Thicknesses	Description
12499232	4.250"	Standard	—	Set of 8 ring packs of P/N 12523921
12523921	4.250"	Standard	5/64, 5/64, 3/16"	Standard-size ring pack for Gen V 454 HO
12523923	4.250"	+.030"	5/64, 5/64, 3/16"	Oversize ring pack for Gen V 454 HO
12524293	4.470"	Standard	5/64, 1/16, 3/16"	Standard-size low-tension ring pack for all 502 engines
12524294	4.470"	+.030"	5/64, 1/16, 3/16"	Oversize low-tension ring pack for all 502 engines
12499212	4.560"	Standard	1/16, 1/16, 3/16"	Standard-size ring pack for 572 engines

1996 CAMARO SS

After 24 long years, a new Camaro SS emerged from a cloud of tire smoke. Not only was it the first Super Sport in far too long, but the fourth-gen SS marked a unique alliance between Chevrolet and longtime Camaro tuner SLP.

While its prominent hood scoop announced the SS was willing to inhale and combust its competition, there was more to this Super Sport than free-flowing induction. SLP also added 17" Corvette ZR-1 wheels, and custom-valved shocks augmenting a 1LE suspension. Thanks to the induction, the SS was rated at 305 horsepower, and with the addition of an optional exhaust, the SS belted out 315 horses from its new OBD-II-equipped LT1. A number of options were available to the exclusive SS, of which there were only 2,410 built that year.

CRANKSHAFTS

Crankshafts are a critical, central component of any engine. Strength and durability are important traits of a great crankshaft. GM Performance Parts crankshafts are precision-engineered to be both strong and durable. GM Performance Parts understands how catastrophic crankshaft failure can be, so that's why its crankshafts are manufactured to such exacting specifications and tested to withstand the forces of high-performance engines. These crankshafts are the same tough parts used in GM Performance Parts crate engines.

3963524
Crankshaft, Forged Steel (454 and Mark IV 502-cubic-inches, not shown)
- Premium quality
- Externally balanced
- Nitride-treated 5140 forged steel with 4.00" stroke, cross-drilled 2.75" diameter main journals, and 2.20" diameter rod bearing journals
- Used on 1965-1990 454 and 502 with two-piece rear seal

NOTE: *Must be used with counterweighted torsional dampener and flywheel or flexplate.*

14096983
Crankshaft, Forged Steel (Gen V and Gen VI 454, not shown)
- Externally balanced
- Forged 1053 steel crankshaft with one-piece rear main seal

A. 10183723
Crankshaft, Forged Steel (Gen V and Gen VI 502)
- Externally balanced
- Cross-drilled
- Nitride-treated forged 1053 steel crankshaft with one-piece rear main seal
- Forging P/N 14097044

19171620
Crankshaft, Forged Steel (Gen V and Gen VI 427, not shown)
- Steel crankshaft with 3.75" stroke for 1991-and-later 427-cubic-inch engines
- One-piece rear main seal
- Requires chamfered connecting rods (P/N 19211226 or 88962926) and rod bearings P/N 88961556
- Used in ZZ427 and Anniversary Edition 427 engines
- Internally balanced

B. 88961554
Crankshaft, Forged Steel (572-cubic"es)
- Internally balanced
- Premium 4340 steel forging for 572-cubic-inch engines
- Use neutral balance dampener and flexplate or flywheel
- One-piece rear seal

NOTE: *Must use main bearing P/N 88962212 and rod bearing P/N 88962926.*

14061685
Roller Pilot Bearing (not shown)
- Used in high-performance manual transmission applications

A Crankshaft, Forged Steel (Gen V and Gen VI 502)

B Crankshaft, Forged Steel 572

C Balancer

14096987 Flywheel (see chart below)

12561217 Flexplate (see chart below)

BIG-BLOCK BALANCERS

Part Number	Engine Application	Outside Diameter	Technical Notes
3879623	Originally used on 1967-1969 427, ZZ427 and Anniversary Edition 427	8"	Can be used on all engines with internally balanced crank. Use with timing pointer P/N 3991436
10216339	454 and 502 with 4.00"-stroke crank	8"	Counterweighted for externally balanced engines. Use chrome timing pointer P/N 3991436
88962814	572	8"	This internal balance dampener is designed with inner and outer shells. It utilizes matched O-rings to control destructive crankshaft vibrations. Black zinc chromate finish. Laser engraved 360° timing marks

BIG-BLOCK FLYWHEELS

Part Number	Year of Engine	Outside Diameter	Crank Flange Bolt Pattern	Clutch Diameter	Starter Ring Gear Teeth	Technical Notes
14085720	1965-1989	12.75"	3.58"	10.4"	153	Lightweight nodular iron; weighs approximately 15 lbs; for internally balanced engines
3963537	1979-1990	12.75"	3.58"	10.4"	153	Lightweight nodular iron. Counterweighted for externally balanced 454 engines; use with balancer P/N 3963530
3991469	1965-1969	14"	3.58"	11"	168	Use with internally balanced engines and balancer P/N 3879623
3993827	1970-1990	14"	3.58"	11"	168	Counterweighted for externally balanced Mark IV 454 engines; use with balancer P/N 3963530
14096987	1991-up	14"	3.58"	11"	168	Lightweight nodular iron. For external balanced engines
12582964	1991-up	14"	3.58"	11.5"	168	Used with 572 crate engine. Internally balanced.

BIG-BLOCK FLEXPLATES

Part Number	Year of Engine	Outside Diameter	Crank Flange Bolt Pattern	Convertor Bolt Pattern	Starter Ring Gear Teeth	Technical Notes
10185034	1991-up	14"	3.58"	10.4"	168	Use with forged steel crank. Has dual-bolt pattern. Only three attaching bolts used with 4L80 transmission.
12561217	1991-up	14"	3.58"	11.75"	168	Use with 572/620 engine and crank P/N 88961554. For internally balanced engines.
471597	1965-1969	14"	3.58"	11.75"	168	For internally balanced engines
14001992	1970-1990	14"	3.58"	11.5"	168	For externally balanced engines

BALANCERS AND PULLEYS

Balancers are relatively small parts that play a big role in helping engines run smoothly. Balancers are also known as torsional dampeners or harmonic balancers, which is indicative of how they help control unwanted crankshaft vibrations. By controlling vibrations, GM Performance Parts balancers help engines run smoothly, which also extends engine life.

Pulleys

3899660
Crankshaft Pulley, 6" (not shown)
- Two groove
- Cast-iron
- High rpm, power-saving crankshaft pulley

Balancers

C. 88962814
Balancer
- Internal balance dampener, designed with inner and outer shells
- Matched O-rings to control crankshaft vibration
- Black zinc chromate finish
- Laser engraved 360° timing marks

Balancer Bolts and Washers

9419218
Crankshaft Bolt (not shown)
- Positive retention 1/2-20 x 1-1/2" bolt
- For engines with tapped crank snout
- Use with washer P/N 3864814

3864814
Washer (crankshaft bolt, not shown)
- 2.06" OD x 0.52" ID x 0.28" thick washer
- For crankshaft bolt

FLYWHEELS AND FLEXPLATES

At the opposite end of the crankshaft from the balancer are flywheels and flexplates, which connect the engine to either manual (flywheels) or automatic (flexplates) transmissions. GM Performance Parts offers both internally and externally balanced flywheels and flexplates. It is critical that you use the correct design for your specific engine application. Engines with one-piece crankshaft seals require externally balanced flywheels or flexplates (except for ZZ427, ZZ572/620, ZZ572/720R and the Anniversary Edition 427). Check the accompanying charts to find the correct parts for specific engine applications.

NOTE: IMPORTANT! *All Chevy Small-Block and Big-Block engines with one-piece crankshaft seal require an externally balanced flywheel or flexplate.*

Bolts and Dowels

12337973
Flywheel Bolt (not shown)
- Fits all Chevy Small-Block V-8, Big-Block V-8 and 90° V-6 engines
- Sold individually; 6 required per engine

10046031
Flywheel Dowel (Big-Block, not shown)
- Highly recommended for all high-performance and competition Big-Block engines

1453658
Bellhousing Dowel, Clutch Housing/Transmission Dowel (Big-Block, not shown)
- Use with Big-Block engine
- Sold individually; 2 required per engine

3727207
Flexplate Bolt (not shown)
- Fits all Chevy Small-Block V-8, Big-Block V-8 and 90° V-6 engines
- Sold individually; 6 required per engine

TIMING CHAINS AND SPROCKETS

The timing chain is a vital link, as it connects the crankshaft to the camshaft and ensures that these two key components work in a synchronized manner. GM Performance Parts' strong, accurate timing chains and sprockets provide top performance and dependable service.

A. 12371053
Timing Chain Kit, 502 (second design Gen VI)
- Heavy-duty timing chain kit for all second-design 502 Gen VI roller-lifter engines with aluminum front timing cover
- Kit includes chain P/N 10114177, crankshaft sprocket P/N 12550039, camshaft sprocket P/N 12551401, camshaft retainer and bolts
- Also used in 572

B. 10114177
Timing Chain, 502 (second design Gen VI)
- Single-roller design for all second-design 502 Gen VI engines
- Use with crankshaft sprocket P/N 12550039 and camshaft sprocket P/N 12551401

12554553
Camshaft Dowel Pin (not shown)

C. 9424877
Camshaft Bolt
- 5/16-18 x 0.75" bolt

3975949
Shim (not shown)
- Camshaft sprocket shim, 0.10" thick

A Timing Chain Kit, 502 (second design Gen VI)

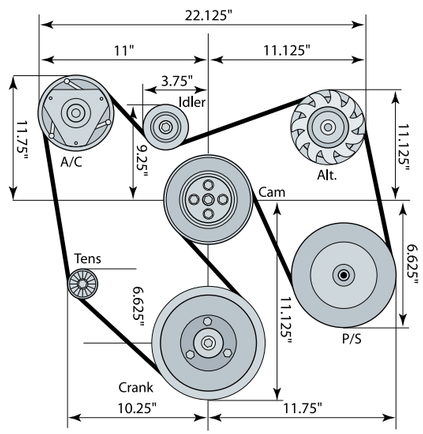
B Timing Chain, 502 (second design Gen VI)

C Camshaft Bolt

D Aluminum Water Pump, Short-Style

Cast-iron Water Pump, Long-Style **E**

Serpentine Accessory Drive Belt System, with Air Conditioning **F**



Serpentine Accessory Drive Belt System (with Air Conditioning): Diagram **F**

WATER PUMPS, PULLEYS AND ACCESSORY DRIVE SYSTEMS

D. 19168602
Aluminum Water Pump, Short-Style
- Lightweight standard-rotation pump has reinforced snout and large-diameter hub with dual bolt patterns for early- and late-model pulleys
- Has short mounting legs
- Use with early-design V-belt drive rotation

E. 19168606
Cast-iron Water Pump, Long-Style
- Same standard-rotation pump used on all GMPP 454 and 502 crate engines
- Not for use with a serpentine belt system

F. 19172805
Serpentine Accessory Drive Belt System With Air Conditioning
- Deluxe kit includes all the components and hardware necessary to install on a 9.800" deck or 10.200" tall deck engine (including bolts, nuts and spacer)
- Belt included

The system includes:

10463415	Alternator Assembly (cs130, reman)
26010328	Power Steering Pump (reman)
12456326	Water Pump Kit
88964862	A/C Compressor, R134a
10187612	A/C Compressor Bracket
10187613	A/C Compressor Bracket
10108470	Water Outlet
10085753	Crankshaft Pulley
88986828	Belt (water pump, A/C, alternator)
88986813	Belt (fan, water pump, A/C)
12552359	Tensioner
12552361	Idler Pulley
10085760	Fan and Water Pump Pulley
6272959	Thermal Bypass Hose Connector
1470030	Clamp
1485552	Heater Hose
12604004	Power Steering Pump Pulley
88961892	Power Steering Bracket (tall deck)
10187611	Alternator Bracket
10187610	Alternator/Power Steering Bracket

19172806
Serpentine Accessory Drive Belt System Without Air Conditioning (not shown)
- Deluxe kit includes all the components and hardware necessary to install on a 9.80" deck or 10.20" tall deck engine
- Kit includes hardware and belt

The system includes:

10463415	Alternator Assembly (cs130, reman)
26010328	Power Steering Pump (reman)
12456326	Water Pump Kit
10108470	Water Outlet
10085753	Crankshaft Pulley
88986828	Belt (water pump, A/C, alternator)
88986813	Belt (fan, water pump, A/C)
12552359	Tensioner
12552361	Idler Pulley
10085760	Fan and Water Pump Pulley
6272959	Thermal Bypass Hose Connector
1470030	Clamp
1485552	Heater Hose
12604004	Power Steering Pump Pulley
88961892	Power Steering Bracket (tall deck)
10187611	Alternator Bracket
10187610	Alternator/Power Steering Bracket
10055890	Idler Pulley

1998 CAMARO Z28

A sleek, rounded nose and flush headlights distinguished 1998 Camaros from previous models, while a new-generation LS1 engine beneath the hood truly set the '98 Z28 apart from it older siblings.

Of course, the all-aluminum, 305-hp LS1 wasn't just another Small-Block, but a completely re-engineered masterpiece. Packing 20 more horsepower and 10 more pound-feet of grunt, but weighing in 10-percent lighter than its LT1 predecessor, the LS1 joined the Camaro with more power, better gas mileage and started a performance revolution.

The LS engine revolution continues, with the LS1 leading the way for a succession of greater-performing variants, including the LS6, LS2, LS7 and LS3. GM Performance Parts offers numerous crate engine packages and countless components for the engine family that turned the fourth-gen Camaro into a performance legend.

OIL PANS, OIL PUMPS, GASKETS AND ACCESSORIES

Oil is an engine's lifeblood and a high quality GM Performance Parts oil pan is what keeps it where it belongs. Properly designed and manufactured oil pans fit right, and when used with matching GM Performance Parts gaskets, prevent leaks. GM Performance Parts has oil pans for street and competition applications. Oil pans are sold without dipsticks or other hardware unless otherwise noted.

A. 14091356
Corvette Oil Pan (1965-1974)
- Five-quart pan has a trap door baffle that controls oil slosh during cornering and heavy braking
- Windage tray is included and requires four mounting studs, P/N 3902885
- Used on LS7 engine assembly P/N 3965774

B. 14103141
6-Quart Oil Pan
- Six-quart pan fits all 1965-1990 engines
- Includes indicator P/N 12557083, tube P/N 12550533 and seal P/N 274244

C. 10240721
6-Quart Oil Pan, Gen V and Gen VI
- Six-quart pan fits all 1991-and-newer Gen V and Gen VI, 427, 454, 502 and 572 engines

D. 12495360
4-Quart Oil Pan Kit, Gen V and Gen VI
- Fits 1991-and-newer Gen V and Gen VI 427, 454 and 502 engines
- Fits many early-model Chevelles and Camaros
- Includes a 4-quart oil pan, 4 main cap bolts, oil pump screen, oil level tube, oil level gauge, and oil pan gasket
- Pan is not available separately

12557083
Dipstick, 6-Quart (not shown)
- For use with production 6-quart oil pan P/N 10240721 or P/N 14103141
- Use oil dipstick tube P/N 12550533 and seal P/N 274244

E. 12550533
Dipstick Tube, 6-Quart
- For use with production 6-quart oil pan P/N 10240721 or P/N 14103141
- Use oil dipstick P/N 12557083 and seal P/N 274244

274244
Oil Dipstick Tube Seal, 6-Quart (not shown)
- For use with the production 6-quart oil pan P/N 10240721 or P/N 14103141
- Use oil dipstick tube P/N 12550533 and dipstick P/N 12557083

3989391
Dipstick, 4-Quart (not shown)
- For use with 4-quart oil pan kit P/N 12495360 for all Gen V and Gen VI engines
- Use dipstick tube P/N 329231

F. 329231
Dipstick Tube, 4-Quart
- For use with 4-quart oil pan kit P/N 12495360
- Use oil dipstick P/N 3989391

A Corvette Oil Pan (1965-1974)

B 6-Quart Oil Pan

C 6-Quart Oil Pan, Gen V and Gen VI

D 4-Quart Oil Pan Kit, Gen V and Gen VI

E Dipstick Tube, 6-Quart

F Dipstick Tube, 4-Quart

Windage Tray G

Windage Tray H

Windage Tray, 572 Engine I

Oil Pump and Pick-Up, 572 Engine J

Oil Pump Shaft K

G. 14097040
Windage Tray
- Use with the Gen V and Gen VI 454 and 502 engines

H. 3967854
Windage Tray
- Separates the oil from the spinning crank assembly to reduce aeration of the oil, aids in oil control and minimizes oil slosh under hard braking
- Use with oil pan P/N 14091356
- Requires four mounting studs P/N 3902885

I. 88962187
Windage Tray, 572 Engine
- Used on all 572-cubic-inch engines
- Use with oil pan P/N 14091356
- Requires four mounting studs P/N 88958656

3969870
Oil Pump and Pick-Up (not shown)
- Heavy-duty pump
- 1.30" wide gears for increased volume; suitable for all Mark IV engines
- Distance from the pump mounting surface to the bottom of the pick-up tube screen is 4.94"
- Pick-up tube is tack-welded to the pump body
- Use with Corvette-style oil pan P/N 14091356

10051105
High-Volume Oil Pump (not shown)
- Delivers 25 percent more capacity than a production pump at standard pressure
- Use with oil pan P/N 12495360 and pick-up P/N 3955281

J. 19131250
Oil Pump and Pick-Up, 572 Engine
- For use with all 572-cubic-inch engines
- Use with oil pan P/N 10240721, oil pan gasket P/N 10106407 and windage tray P/N 88962187

K. 3865886
Oil Pump Shaft
- Heavy-duty all-metal
- Intermediate shaft fits all Big-Block engines

12555167
Oil Pump and Pick-Up, Gen V and Gen VI (not shown)
- For use with the Gen V and Gen VI 454 and 502 engines with one-piece rear main seal
- Pump has 1.30" gears and will fit Mark IV engines
- Distance from the mounting surface to the bottom of the screen is 5.87"

NOTE: *Tack-welding pick-up tube to pump is recommended.*

3955283
Oil Pump Pick-Up (not shown)
- Distance from pump mounting surface to lowest point of screen is 6.05"

NOTE: *Weld or braze the pick-up tube to the pump cover for off-highway applications.*

3955281
Oil Pump Pick-Up (not shown)
- Distance from pump mounting surface to lowest point of screen is 4.88"

NOTE: *Weld or braze the pick-up tube to the pump cover for off-highway applications.*

6269895
Oil Pump Screen (not shown)
- Distance from pump mounting surface to lowest point of screen is 4.94"

NOTE: *Weld or braze the pick-up tube to the pump cover for off-highway applications.*

A. 3952301
Oil Filter Adapter
- Mounts a spin-on cartridge oil filter
- Contains a filter bypass valve used on all V-8 engines

B. 25013759
Oil Cooler Bypass Valve
- For high-performance and Bowtie Big-Blocks with 4-bolt main bearing caps
- Must be installed in the rear hole behind the oil filter adapter bolt to route oil through the cooler

24241872
Magnetic Drain Plug (not shown)
- Catches and holds small pieces of metal before they can cause engine damage

C. 12368084
Engine Oil Primer
- Use to lube engine bearings prior to starting a new or rebuilt engine
- Fits both Big-Block and Small-Block engines

DISTRIBUTORS AND IGNITION SYSTEMS

GM Performance Parts distributors and ignition components are designed to provide the optimum spark at precisely the right time. The distributors in this group are interchangeable with Small-Block Chevrolet V-8 components. GM Performance Parts distributors cannot be used with Tall-Deck Bowtie blocks, except adjustable distributor P/N 10093387.

D. 93440806
Distributor
- Has melonized cam drive gear P/N 10456413 for steel roller camshafts
- Required on all crate engines and steel roller camshafts
- If engines are assembled not using this gear, it may affect your engine warranty
- Use connector wire P/N 8917052 to ignition

E. 88961867
Distributor, Billet HEI
- Most powerful and durable distributor for Small- or Big-Block Chevrolet engines that GM Performance Parts has serviced
- For strength and high rpm stability the oversized shaft is guided by a sealed ball bearing and long sintered bushing
- Treated coating on the shaft provides low friction
- Advance assembly features chromemoly weights that slide on nylon pads for smooth timing advancement through the entire rpm range
- Vacuum advance canister and billet aluminum housing is CNC-machined for greater accuracy
- Has melonized cam drive gear P/N 10456413 for steel roller camshafts
- High-quality cap with brass terminals

10456413
Distributor Gear (not shown)
- Melonized steel gear is required on all crate engines and steel roller camshafts
- If engines are assembled without using this gear, it may affect the warranty

NOTE: *This gear is part of distributor assembly P/N 93440806.*

F. 10093387
Distributor, Competition Adjustable Slip Collar
- Designed primarily for competition use
- Billet aluminum housing, ball bearing guide and adjustable mechanical advance assembly
- Magnetic pickup provides accurate trigger signals to GMPP Heavy Duty Ignition P/N 10037378 (not included)
- Uses a standard Chevrolet V-8 cap and rotor
- Will clear most induction systems
- Slip collar that can be adjusted to make up for block or head machining, or a tall-deck Bowtie block

A Oil Filter Adapter

B Oil Cooler Bypass Valve

C Engine Oil Primer

D Distributor

E Distributor, Billet HEI

F Distributor, Competition Adjustable Slip Collar

Intake Manifold, Oval Port (iron) G

High-Rise Intake Manifold, Rectangular Port H

High-Rise Intake Manifold, Oval Port I

Intake Manifold, Oval Port (Holley carburetors) J

CNC-Port-Matched Intake Manifold, Oval Port (Holley carburetors) K

INTAKE MANIFOLDS, GASKETS AND COMPONENTS

The wide range of GM Performance Parts intake manifolds are cast-iron and aluminum for carbureted and fuel injected applications. These intake manifolds were designed specifically for GM engines so you know they will deliver optimum performance. Due to the profile of some GM Performance Parts' high-rise intake manifolds, hood clearance should be carefully checked before ordering an intake manifold.

G. 14097092
Intake Manifold, Oval Port (iron)
- Economical iron four-barrel intake manifold
- Fits all 396–502 engines with large oval port heads
- Use oil splash shield P/N 346243 (if required)

H. 19131359
High-Rise Intake Manifold, Rectangular Port
- Aluminum, dual-plane manifold can be used with high-performance cast-iron or aluminum rectangular port heads
- Same as used on 454 HO and 502 HO engine assemblies

NOTE: *Ports do not match Bowtie cylinder heads P/N 14044861 and P/N 14044862, or symmetrical port heads P/N 10051128 and P/N 10051129.*

I. 12363420
High-Rise Intake Manifold, Oval Port
- Designed for all 396-502 engines with GM aluminum heads (1975 and earlier) and large oval port iron heads
- Has a dual-plane design with spread bore flange and a dual-bolt pattern
- Has no provisions for a hot-air choke, but will accept a divorced choke or electric choke
- Accepts air conditioning and alternator brackets
- Use intake manifold gasket P/N 12366985 and bolt kit P/N 12367959

NOTE: *May not fit on many Corvette models. Manifold height is 6" at the rear and 4.5" in front. Check for hood clearance before ordering.*

12363421
High-Rise CNC-Port-Matched Intake Manifold, Oval Port (not shown)
- Similar manifold design as P/N 12363420 (see above), but it is "CNC" port-matched to GM Performance Parts oval port aluminum cylinder heads

J. 12363406
Intake Manifold, Oval Port (Holley carburetors)
- Same as manifold P/N 12363420 (see above), but designed for use with a Holley carburetor
- Dual-plane design requires bolt kit P/N 12367959, which includes 16 bolts (8740 chromemoly 3/8-16 x 1.5" with 3/8" hex head and 16 5/8" O.D. washers), and manifold gasket kit P/N 12366985
- Accepts air conditioning and alternator brackets and a late-model water neck

NOTE: *Will not fit production Corvettes, and may not fit Chevelles. Manifold carb flange height is 4.45".*

K. 12363407
CNC-Port-Matched Intake Manifold, Oval Port (Holley Carburetors)
- Same as P/N 12363406 (see previous page), except it has been CNC-port-matched for GM aluminum oval port heads with large oval port heads (1975-and-older), and all aluminum heads with oval ports

Additional components required for installation. See page 268.

Available for purchase online at gmperformanceparts.com

Intake Manifolds, Gaskets and Components Continued

A. 88961161
Intake Manifold, ZZ572/620 Engine
- Aluminum single-plane intake manifold is used on the ZZ572/620 engine
- The carburetor flange is for a 4150-style carburetor
- Use intake gasket P/N 88962213
- For tall-deck blocks

B. 88962218
Intake Manifold, ZZ572/720R Engine
- Aluminum single plane intake manifold is used on the ZZ572/720R engine
- The carburetor flange is for a Dominator-style carburetor
- Use intake gasket P/N 88962213
- For tall-deck blocks

C. 88965829
Carburetor Spacer, Dual Plane, One-Inch
- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back
- Spacer accepts Quadrajet-style carburetors

D. 19155949
Carburetor Spacer, Dual Plane, Two-Inch
- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back
- Spacer accepts Quadrajet-style carburetors

E. 88965830
Carburetor Spacer, Single Plane, One-Inch
- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back

F. 88965832
Carburetor Spacer, Single Plane, One-Inch, Dominator
- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back

G. 88965831
Carburetor Spacer, Single Plane, Two-Inch
- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back

H. 88966018
Carburetor Spacer, Single Plane, Two-Inch, Dominator
- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back

A Intake Manifold, ZZ572/620 Engine

B Intake Manifold, ZZ572/720R Engine

C Carburetor Spacer, Dual Plane, One"

D Carburetor Spacer, Dual Plane, Two"

E Carburetor Spacer, Single Plane, One"

F Carburetor Spacer, Single Plane, One", Dominator

G Carburetor Spacer, Single Plane, Two"

H Carburetor Spacer, Single Plane, Two", Dominator

Ram Jet Fuel Injection Kit, with MEFI-4 Electronics **I**

Lower Manifold, 502 Ram Jet **J**

Upper Manifold, 502 Ram Jet **K**

I. 12499249
Ram Jet Fuel Injection Kit, with MEFI-4 Electronics
- Retro-fit fuel injection kit is calibrated for a 502/502 GMPP engine and is the same as used on the Ram Jet 502 P/N 12499121
- May be used on other Big-Block applications by replacing the ECU unit with an aftermarket unit with the proper calibration
- Includes brackets, sensors, bolts, nuts, gaskets and other small parts, including:

PART	DESCRIPTION	QTY
88962744	Instruction Manual	1
12489400	Diagnostic Trouble Code Tool	1
12555320	Intake Manifold Oil Shield	1
12366985	Gasket Package	1
12367959	Bolt/Screw Package	1
12489372	Upper Intake Manifold Gasket	1
12487372	Fuel Feed Hose	1
10216948	Tube Assembly–Fuel Press Regulator	1
88961968	Engine Harness Assembly	1
10456208	Knock Sensor	1
12489595	Bracket Assembly, Transmission Cable	1
12489596	Bracket Assembly, Transmission And Throttle Cable	1
12489597	Rod, Throttle Control	1
1104060	Distributor	2
1115491	Ignition Coil	1
12464482	Lower Intake Manifold	1
12464484	Upper Intake Manifold	1
17113524	Body Assembly Throttle	1
19172061	Air Cleaner Kit	1
12569240	MAP Sensor	1
25036751	Intake Air Temperature Sensor	1
17090919	Injector Assembly	8
17113222	Fuel Injector Retainer Kit	1
17120039	Rail Assembly, Multi-Port Fuel Injection	1
89060414	Fuel Pressure Regulator Assembly	1
88962718	Module Assembly Engine Cont.	1
15326386	Coolant Temperature Sensor	1

J. 12464482
Lower Manifold, 502 Ram Jet
- Aluminum lower portion of the intake manifold is used on Ram Jet 502 crate engine P/N 12499121
- Use with upper manifold P/N 12464484 (see below), upper manifold gasket P/N 12489372 and 8 bolts P/N 12490255

K. 12464484
Upper Manifold, 502 Ram Jet
- Aluminum upper portion of the intake manifold is used on Ram Jet 502 crate engine P/N 12499121
- Use with lower manifold P/N 12464482 (see above), upper manifold gasket P/N 12489372 and 8 bolts P/N 12490255

Additional components required for installation. See page 268.

Available for purchase online at gmperformanceparts.com

INTAKE MANIFOLDS: ADDITIONAL REQUIRED COMPONENTS

Part Number	Gaskets (Quantity)	Bolts (Quantity)	Engine Application
12464484	12366985 (1)	12497460 (1)	12499121, 12497323
12464482	12366985 (1)	12367959 (1)	12499121, 12497323
88961161	88962213 (1)	12367959 (1)	12498793
12363420	12366985 (1)	12367959 (1)	12498777, BB Oval Port High Rise
12363407	12366985 (1)	12367959 (1)	12496962, 12371171, CNC version of 12363406
19131359	12506106 (2)	10198997 (14), 9349918 (2)	12568774, BB Dual Plane
88962218	88962213 (1)	12367959 (1)	12498827

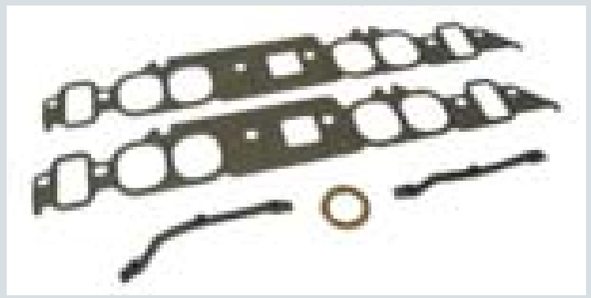
MANIFOLD ACCESSORIES AND GASKETS

A. 12555320
Oil Shield
- Isolates hot engine oil from the air/fuel mixture

B. 10174981
Gasket Kit, 1965-1981 Oval Port Heads
- This kit is used on all 1965-1981 oval port iron cylinder heads
- Includes 2 gaskets

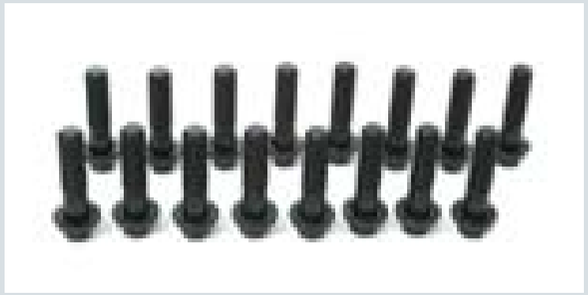
C. 12366985
Gasket, Aluminum Oval Port Heads
- Designed for Big-Block aluminum heads P/N 12363390, P/N 12363392 and P/N 12363399
- Use with manifold P/N 12363406, P/N 12363407, P/N 12363420 or P/N 12363421

A Oil Shield



B Gasket Kit, 1965-1981 Oval Port Heads

C Gasket, Aluminum Oval Port Heads



Bolt Kit, Intake Manifold D

Water Neck E

Air Cleaner, Chevrolet-Logo High-Performance Design F

Air Cleaner, Chevrolet-Logo Classic Design G

88962213
Intake Manifold Gasket (not shown)
- Use on all Big-Block engines with rectangular intake port heads 396 through 572-cubic-inch
- Includes 2 gaskets

12506106
Gasket, 454 and 502 Engines (not shown)
- Used on 454 and 502 engines; with restricted heat cross-over passages
- 1 gasket per package; order 2 per engine.

D. 12367959
Bolt Kit, Intake Manifold
- For any Big-Block Chevrolet engine
- Includes 16 bolts: 3/8-16 x 1.5" with wide, underhead flange with a 7/16" hex head
- Rated at 170,000 psi and will give consistent torque load
- Includes 16 hardened flat washers

NOTE: *Four of these washers are smaller in diameter for use around the front water passages.*

Chrome Water Necks

E. 12342024
Water Neck
- Chrome water neck with neoprene O-ring and chrome bolts
- For 1966-1975 Chevrolet, Camaro, and Chevelle V-8 engines

AIR CLEANERS

F. 12342080
Air Cleaner, Chevrolet-Logo High-Performance Design
- 14" round high-performance style air cleaner has chrome lid with embossed Chevrolet name and Bowtie attaching nut
- Fits most four-barrel and two-barrel carburetors
- Will not fit Dominator-style carburetors

NOTE: *Check clearance between hood and top of air cleaner. Minimum clearance is 3.75" from top of carburetor gasket area to underside of hood.*

G. 12342071
Air Cleaner, Chevrolet-Logo Classic Design
- 14" round classic-style air cleaner has chrome lid with embossed Chevrolet name and Bowtie attaching nut
- Fits most four-barrel and two-barrel carburetors
- Will not fit Dominator-style carburetors

2002 CAMARO SS ANNIVERSARY

"It's the Camaro you always dreamed of owning," exclaimed the '02 Camaro brochure of the Camaro SS. It was any easy car to remember, thanks to a completely unique package featuring red paint, checkered heritage stripes, unique wheels, two-tone interiors, and much more. Only 3,369 SS were ordered with this package (RPO Z4C), with the T-top coupes being slightly more popular than the convertibles.

The anniversary cars weren't all stripes and hype, however. Of the cammed-up LS1 in the SS, the brochure added that the "resemblance to the Corvette was purely intentional," and with 325 horse and 350 lb-ft on tap, there was no argument. In fact GM High Tech Performance extracted a 13.579-second quarter mile at 101.91 mph from the heaviest SS available, an automatic convertible, proving the LS1 muscled up in just a few short years and that the modern Small-Block could run with many of its heralded muscle car forefathers.

A. 17802110
Cat-Back Exhaust Systems
Offered in two distinct sound options: The Performance System gives your Cobalt an "aggressive growl," while the Touring System provides a "throaty purr."
- T-304 stainless steel
- Mandrel bent tubing
- Semi-polished muffler embossed with GM Performance Parts logo
- GM-validated
- Two sound levels
- Single-outlet, production location

P/N	MODEL YEAR	DESCRIPTION
17802111	2005-08	Performance
17802110	2005-08	Touring

NOTE: *Requires separate purchase of performance exhaust tip.*

NOTE: *Check local and state or provincial and territorial noise ordinances to ensure compliance.*

B. 17802112
Performance Exhaust Tips
Add high-performance appearance to the Cat-Back Exhaust System on your Cobalt with one of these highly polished exhaust tips.
- Unique design
- Rolled lip
- Polished T-304 stainless steel

P/N	MODEL YEAR	DESCRIPTION
17802112	2005-08	Bowtie Logo, Angle Cut
17802113	2005-08	Bowtie Logo, Straight Cut

NOTE: *Not for use on production exhaust systems.*

C. 19131972
Extrude Honed Exhaust Manifold
Provides improved flow over production exhaust manifold.

P/N	MODEL YEAR	DESCRIPTION
19131972	2005-08	SS/Supercharged (exc CA emissions)

NOTE: *Fits production or GM Performance Part Exhaust Systems.*

D. 17800578
16" Wheel
Personalize your Cobalt with attractive wheels.
- Chromed
- Available with matching center cap and lug nuts
- Validated to GM specifications

E. 17800195
18" Wheel

P/N	MODEL YEAR	DESCRIPTION
17800578	2005-08	AZ577, 16" Cast Chrome
17800195	2005-08	AP194, 18" Forged Polished

88958710
Heavy-Duty Front Steering Knuckle (not shown)
- Chevrolet Cobalt SS, Saturn ION Red Line
- Designed to provide enhanced load capacity for off-road use
- Designed to use the existing interfaces to the bearing, brake caliper, strut and control arm
- Installation requires caliper mounting bolts P/N 11588889, lower ball joint bolt P/N 11589341 and nut P/N 11511799 included with the kit
- Bearing spacer plate needs modification for installation
- Specific suspension point geometry—may induce increased tire wear during street duty
- LH P/N 88958710 and RH P/N 88958711

A Cobalt Cat-Back Exhaust System and Exhaust Tip

B Performance Exhaust Tips

C Extrude Honed Exhaust Manifold

D 16" Wheel

E 18" Wheel

Cobalt Wheel-Hop Kit **F**

Cobalt Clutch Upgrade Kit **G**

F. 19211782
Cobalt Wheel-Hop Kit
Under hard acceleration, wheel hop will slow you down and could lead to a broken or damaged transmission, axle, or other expensive parts. This kit is specially designed to eliminate wheel hop on your 2005-2007 Cobalt SS/SC or ION Redline so that you can get all of your power to the ground.

G. 19212712
Cobalt Clutch Upgrade Kit
This kit utilizes stronger components to create a package that will be less susceptible to clutch failure in your 2005-2007 Cobalt SS/SC and Ion Redline. This kit is capable of up to 300 hp and will give users better performance and more load capability because of increased surface area and extra clamping force.

SUPERCHARGER UPGRADE KITS

Stage 1 Performance Upgrade Kit: Cobalt SS/ION Red Line

Stage 2 Performance Upgrade Kit

17801947
Stage 1 Performance Upgrade Kit: Cobalt SS/ION Red Line
Increase the performance of your 2005-2007 Chevrolet Cobalt SS or Saturn ION Red Line with our Stage 1 Performance Upgrade Kit. This kit includes a recalibrated computer and high-flow injectors to meet the demands of more rpm and higher horsepower. The Stage 1 Kit takes the factory-blown 2.0L Ecotec from 205 horsepower up to 230 horse. Keep the fun rolling with a performance upgrade kit for your daily-driven supercar. *NOTE: premium (93-octane) fuel is required for Stage 1.*

Kit Includes:
- High-flow injectors
- PCM reprogramming

17803229
Stage 2 Performance Upgrade Kit
Make that Cobalt SS or Saturn ION Red Line sit up and beg with our Stage 2 Performance Kit. Building on the success of our Stage 1 Kit, our GM Performance Parts engineers wanted to push the overachieving four-banger just a little bit more. Stage 2 takes your Cobalt SS or ION Red Line from a stock rating of 205 horsepower all the way up to 245 horsepower.

The key to making that power is increasing the boost on the factory supercharger by swapping out the stock blower pulley. Increased boost means more air getting pumped into the high-revving Ecotec, and the increased airflow requires more fuel. That's why GM high-flow injectors are included in the kit. Together, this Performance Kit will keep your Cobalt/ION Red Line boosted ahead of the competition. *NOTE: premium (93-octane) fuel is required for Stage 2.*

Kit Includes:
- High-flow injectors
- Supercharger pulley
- Correct length supercharger belt
- PCM reprogramming

17803230
Stage 1 to Stage 2 Upgrade Kit
If you've already got our Stage 1 Upgrade Kit, and you just have to have some more, this upgrade kit is what you are looking for. This takes the 230-horse-level supercharged 2.0L Ecotec to 245 horsepower.

Kit Includes:
- Supercharger pulley
- Correct length supercharger belt
- PCM Reprogramming

NOTE: *Due to the display rate of the production tachometer in 1st and 2nd gears, the tachometer may not display 7000 RPM at fuel cutoff.*

SUPERCHARGER UPGRADE KITS CONTINUED

Stage 3 Kit for Cobalt SS/ION Red Line
Take your Cobalt SS or ION Red Line to the next level with our Stage 3 Off-Road Kit! The Stage 3 kit consists of the following:

- Smaller, 76mm supercharger pulley
- 2-pass intercooler end plate
- Unique PCM, which includes a calibration for the smaller pulley, an adjustable rev limiter, a 100-octane mode, and a nitrous control algorithm

Our Stage 3 Kit will take your supercharged Ecotec 2.0L engine to a whole new level of performance. Stage 3 takes horsepower output to 248 horsepower on 93 octane fuel and to 260 horsepower on 100 octane fuel. In addition to the power increase, you'll also get an adjustable rev limiter and calibration for a 50-shot of nitrous (nitrous kit not included). For best power, we recommend also installing a high-flow exhaust.

This PCM is equipped with a user adjustable rev limit from 6750 to 8000 rpm. The rev limit is adjusted by pressing on the throttle pedal with the ignition on and engine off. At about 50 percent throttle, the tachometer will show the current rev limit. Pressing the throttle further will adjust the rev limit in 250 rpm increments. This PCM is also equipped with a control scheme for the equivalent of a 50-horse shot of nitrous. The PCM will automatically provide the proper spark and fuel for nitrous up to 500 rpm below the current selected rev limit when the trigger is activated.

NOTE: *The Stage 3 Kit is for off-road use only. The Stage 3 upgrades are meant for off-road use only and are not certified to be emissions-legal. The vehicle's air conditioning is disabled by the Stage 3 PCM.*

NOTE: *This kit is an upgrade to Stage 2. It requires the following parts from the Stage 2 Kit: high-flow fuel injectors, pulley adapter hub and serpentine belt.*

Stage 3 Kit, 2006-2007 Cobalt SS Supercharged

Kits

88958718	Stage 3 Kit, 2005 Cobalt SS Supercharged
88958719	Stage 3 Kit, 2006-2007 Cobalt SS Supercharged
88958715	Stage 3 Kit, 2004 ION Red Line
88958716	Stage 3 Kit, 2005 ION Red Line
88958717	Stage 3 Kit, 2006-2007 ION Red Line

Parts List

88958721	Intercooler Endplate, 2 Pass Style
12610641	PCM, Stage 3, 2004 ION Red Line
12610642	PCM, Stage 3, 2005 ION Red Line
12610643	PCM, Stage 3, 2006-2007 ION Red Line
12610644	PCM, Stage 3, 2005 Cobalt SS Supercharged
12610645	PCM, Stage 3, 2006-2007 Cobalt SS Supercharged

19212670
Performance Turbocharger Upgrade Kit for Solstice, Sky and HHR
- For 2007-08 Pontiac Solstice GXP, 2007-08 Saturn Sky Redline and 2008 Chevrolet HHR SS
- Increases horsepower up to 290 @ 5200 rpm and torque up to 340 lbs.
- Includes new calibration (flashed by your local dealer) and two new MAP sensors
- Premium fuel required

V-6 90° ENGINE BLOCK QUICK REFERENCE CHART

Part Number	10205294	10134371	10134351
Block Material	Cast-iron	A356-T6 aluminum	A356-T6 aluminum
Cylinder Wall Type	Non-Siamesed	Siamesed	Siamesed
Cylinder Deck Height	9.025"	9.025"	9.025"
Cylinder Bore (Max)	4.000"	4.125"	4.125"
Number Bearing Cap Bolts	2	4	4
Cap Bolt Orientation	Straight	Splayed (20°)	Splayed (20°)
Bearing Cap Type	Cast-iron	8620 steel	8620 steel
Crankshaft Journal Dia.	350 size	350 size	400 size Oil Sump Type
Oil Sump	Wet	Wet	Dry
Oil Seal Type	2 pc	2 pc	2 pc
Design Max Stroke	3.75"	4.00"	4.00"
Weight (lbs; bare)	N/A	78	78
Intended Usage	Discontinued	Professional competition	Professional competition
Non-Standard Parts Required	Has fuel pump boss	No mechanical fuel pump boss	No mechanical fuel pump boss

Aluminum Racing Bare Block (front) **A**

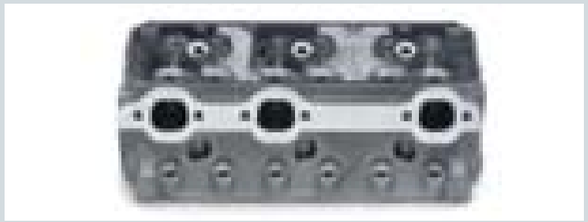
V-6 90° ENGINE BLOCKS

10134371
Aluminum Racing Bare Block (350 ci main size, not shown)
- Improved, new-design 90° V-6 A-356 aluminum racing block with 3.980" bores (maximum bore of 4.125")
- Will accommodate 4.000" stroke and can be built in displacements ranging from 3.0L to 5.2L
- Deck surface is 0.620" thick, with reinforced front and rear bulkheads
- Head bolt holes are blind-tapped to eliminate coolant leaks
- 4-bolt main caps are machined from 4340 chromemoly steel
- Block has an upgraded V-8-style oiling system
- Uses a two-piece rear main seal

A. 10134351
Aluminum Racing Bare Block (400 ci main size)
- Has the same features as block P/N 10134371 (see above), except it has 4.117" bores, a 2.65"-diameter main bearing bore and a provision for dry sump oiling
- Maximum recommended bore is 4.125"

V-6 90° CYLINDER HEADS QUICK REFERENCE CHART

Part Number	Description	Casting Number	Material	Port Size	Port Type	Valve Angle	Chamber CC's	Int Vlv	Exh Vlv	Plug Type	Heat Riser	Rocker Stud	Notes
10134359	18° V-6	12480009	Aluminum	215	Raised	18°	43	2.15	1.62	Angled	No	Shaft	No seats/guides
12480009	18° V-6	12480009	Aluminum	215	Raised	18°	43	2.15	1.62	Angled	No	Shaft	As cast ports



18° Aluminum Cylinder Head (exhaust) **B**

18° Aluminum Cylinder Head (top/intake) **B**

18° Aluminum Cylinder Head (combustion chamber) **B**

V-6 90° CYLINDER HEADS

B. 10134359
18° Aluminum Cylinder Head
- Low-port 18° aluminum cylinder head for maximum-effort competition engines
- Offers significant improvements over conventional head designs with 18° valve angles (vs. older 23° angles) and 43cc combustion chambers
- Spark plug holes are centrally located and valve centerlines are relocated
- Exhaust ports are high-flow
- Head face has an extra 0.080" of material for 9.1:1 compression, and up to 2.20" intake valves can be used
- Shallow wedge-shaped combustion chambers allow builders to achieve high compression ratios with small piston domes
- Heads do not include valve seats or guides
- Aftermarket shaft-mounted rocker arm assemblies and pushrods are required
- Piston domes and valve pockets must be matched to the revised combustion chamber design

12480009
18° Aluminum Cylinder Head (not shown)
- Low-port 18° aluminum cylinder head for competition engines
- Identical to P/N 10134359 (see above), except that it has a new design intake port for the Daytona Dash Racing Series

V-6 VALVE SPRINGS

12363215
Valve Spring (not shown)
- Moderate-performance chrome silicone wire spring, as used in the 3.4L conversion package
- Produces 105 pounds of seat pressure at an installed height of 1.70" and 296 pounds open pressure at a height of 1.20"
- Use with retainer P/N 12363216 (see below)

12363216
Valve Spring Retainer (not shown)
- Heavy-duty 4140 heat-treated steel retainer with 1.203" diameter for use with 11/32" valve stems
- Same part used in the 3.4L conversion package

V-6 90° PUSHROD GUIDEPLATES

14011051
Pushrod Guide Plate
(aluminum Bowtie head, not shown)
- Hardened steel guide plate has the correct pushrod spacing for aluminum Bowtie heads
- Should not be used with self-aligning rockers
- Pushrod slots are 0.365"

V-6 90° SPARK PLUG WIRES

A. 12361054
Spark Plug Wire Set, 90° V-6 (Chevy Bowtie logo)
- Designed for a 90° V-6, with 135° spark plug boots
- Route over the valve covers

12361060
Spark Plug Wire Set, 90° V-6
(GM Performance Parts logo, not shown)
- Designed for a 90° V-6, with 135° spark plug boots
- Route over the valve covers

V-6 90° INTAKE MANIFOLDS, GASKETS AND COMPONENTS

B. 14097284
Cast-Iron Intake Manifold, Four-Barrel
- Low-profile, cast-iron intake manifold accepts a Quadrajet four-barrel carburetor
- Designed for marine applications with no provisions for EGR

C. 10134390
Aluminum Intake Manifold, Four-Barrel
- High-performance aluminum manifold is used on all conventional-design 200/229/262 (3.8L and 4.3L) Chevrolet V-6 engines
- Designed to use with 390-cfm, 500-cfm or 600-cfm 4150-style carburetors
- There is no provision for EGR
- Check manifold and carburetor-to-hood clearance before installation

NOTE: *This manifold will not fit 18° head or 3800 V-6.*

A Spark Plug Wire Set, 90° V-6

B Cast Iron Intake Manifold, Four-Barrel

C Aluminum Intake Manifold, Four-Barrel

Manifold Deflector **D**

Raised Runner Intake Manifold Base **E**

Raised Runner Intake Manifold Cover **F**

D. 10134327
Manifold Deflector
- Manifold airflow deflector is used with intake manifolds P/N 10051125 and P/N 10051126

E. 10051125
Raised Runner Intake Manifold Base (aluminum)
- Cross-ram intake manifold is recommended for all maximum-performance competition engines
- Second-design box-style
- Designed for raised runner cylinder heads
- An air gap beneath the runners insulates the intake charge from engine heat

NOTE: *An aluminum plate should be mounted between the runner entries for optimum performance; see the Chevy Power manual for information. This manifold will clear a large-diameter HEI distributor.*

F. 10051126
Raised Runner Intake Manifold Cover
- Upper cover for use with Raised Runner Intake Base P/N 10051125
- Carburetor mounting flange fits standard flange and 4500-type four-barrel carburetors
- Carb pad is not drilled to allow the carburetor to be mounted per application

10185004
Splayed Valve Gasket Kit (not shown)
- Used only with splayed-valve cylinder head P/N 10134394
- Includes two gaskets

V-6 90° CAMSHAFTS

Part Number	Description	Duration @ .050" Lift (deg)	Maximum Lift (in)	Lobe Centerline (deg)	Technical Notes
10051147	Hydraulic roller tappet	I: 222 E: 222	I: .447 E: .447	114	Excellent power and torque for engines without balance shaft. Use only with roller tappet block.
10134321	Hydraulic flat tappet	I: 224 E: 224	I: .450 E: .460	112	High performance street and marine cam for 4.3L V-6. Use only with hydraulic roller tappet block.

OLDSMOBILE

Books and Manuals

12480027
Oldsmobile High-Performance Manual (not shown)
- Contains proven methods for building power in Olds V-8 engines
- Contains a detailed list of casting numbers for most Oldsmobile V-8 engines

Wheels and Accessories

22551491
Olds Rocketparts Wheel Studs (not shown)
- Long, 12mm studs have rounded ends to make tire changes quicker in the pits
- Fits all GM hubs designed for 12mm studs

NOTE: *Do not use with closed-end wheel nuts; bottoming of the wheel nut on the stud can cause the wheel to separate from the vehicle.*

Valve Covers

A. 22525295
Olds V-8 Aluminum Valve Cover
- Cast-aluminum valve cover fits all production 307-455 Oldsmobile V-8 engines
- Can be used with five- and 10-bolt cylinder heads

NOTE: *Sold as single piece. Order two per engine.*

PONTIAC V-8 AND SUPER-DUTY FOUR CYLINDER

Valve Covers

B. 25534420
301-455 Valve Covers
- Stylish covers fit 301-455 cubic-inch Pontiac engines manufactured from 1965-1979
- Designed for stock valvetrains and may not clear after-market rocker arms, springs or stud girdles
- Each cover has one 1.22" hole on left side for oil fill cap; or grommet for PCV or fresh air inlet
- Covers have a natural aluminum finish with machined Pontiac name and logo
- Includes 2 covers and grommet kit P/N 12341988

C. 12341643
Pontiac Big-Block Aluminum Valve Covers
- Cast-aluminum competition valve covers
- Designed for the Pontiac racing cylinder head that bolts onto a Chevrolet Big-Block engine
- Designed to accept most roller rocker arms and support systems
- Pontiac name is on the top of the cover
- There are no holes for oil fill or PCV

A Olds V-8 Aluminum Valve Cover

B 301–455 Valve Covers

C Pontiac Big-Block Aluminum Valve Covers

Super-Duty Valve Cover **D**

Aluminum Valve Cover, SB2.2 "Pontiac Logo" **E**

Super-Duty Intake Manifold **F**

D. 10031327
Super-Duty Valve Cover
- Stout, brightly polished die-cast aluminum valve cover
- Functional and stylish addition to any Super-Duty four-cylinder engine
- Top half of the cover can be removed quickly for easy valve adjustments
- O-ring seal prevents oil leaks

E. 12480012
Aluminum Valve Cover, SB2.2 "Pontiac Logo"
- Embossed with the Pontiac name

Intake Manifolds, Gaskets and Components

F. 10038470
Super-Duty Intake Manifold
- Single-plane aluminum intake manifold for racing only
- Mounts a single standard-flange 4150-style four-barrel carburetor
- Runners are engineered to work with Super-Duty cylinder heads

NOTE: *Does not fit production or high port special head P/N 10049801.*

12371032
Gasket (not shown)
- Designed for Super-Duty engines

NOTE: *Does not fit high port special head P/N 10049801.*

PONTIAC V-8 CAMSHAFTS

Part Number	Description	Duration @ .050" Lift (deg)	Maximum Lift (in)	Lobe Centerline (deg)	Technical Notes
12364043	Hydraulic flat tappet	I: 215 E: 225	I: .408 E: .407	N/A	For all 1955-1981 Pontiac V-8 engines with 8.5-10.0 C.R. and 1800-4000 basic rpm range. Emissions-legal in 50 states.
12364044	Hydraulic flat tappet	I: 230 E: 240	I: .469 E: .469	N/A	For all 1955-1981 Pontiac V-8 engines with 9.5-11.0 C.R. and 2600-5800 basic rpm range. Emissions-legal in 50 states.

CYLINDER HEADS

A. 88958640
Ecotec High-Performance CNC-Ported Cylinder Head
- Aluminum cylinder head is fully CNC-machined with high-performance-oriented ports and three-angle valve seats
- Deck surface has O-ring grooves
- Accepts a complete stock valvetrain
- Flow sheet included
- Uses head gasket kit P/N 88958614 (not included)

88958619
Ecotec "Street" CNC-Ported Cylinder Head (not shown)
- Aluminum cylinder head is fully CNC-machined with high-performance-oriented ports and three-angle valve seats
- Accepts a complete stock valvetrain
- No cam sensor provision
- Flow sheet included
- Uses stock head gasket
- Fits L61 2.2L only

B. 88958632
Exhaust Header Flange
- Use this .375"-thick steel flange as the starting point for your custom header system

CYLINDER HEAD GASKETS AND HEAD BOLTS

C. 88958614
Ecotec Head Gasket and O-Ring Kit
- Reduces cylinder bore distortion and improves cylinder sealing at high horsepower/boost levels
- Requires special machining to head and blocks per included instructions
- Includes copper head gasket and four one-piece stainless steel O-rings .043" thick
- For use on head P/N 88958640

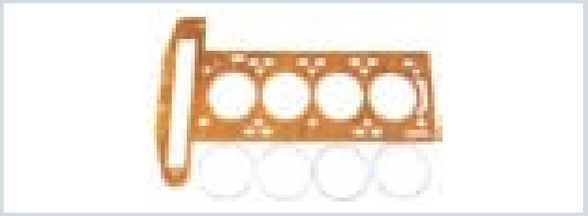
12499222
2.2L Cylinder Head Installation Kit (not shown)
- Comprehensive kit includes the gaskets and hardware necessary to install the cylinder head on the 2.2L engine
- Includes a cylinder head gasket assembly, 4 intake manifold gaskets, an exhaust manifold gasket, and special cylinder head bolts/screws

A Ecotec CNC-Ported Cylinder Head, Exhaust Ports and Combustion Chambers

A Ecotec CNC-Ported Cylinder Head, Intake Ports and Combustion Chambers

A Ecotec CNC-Ported Cylinder Head, Top View and Exhaust Ports

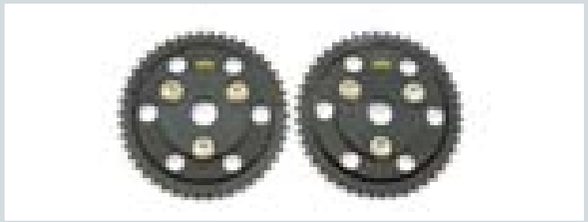
B Exhaust Header Flange



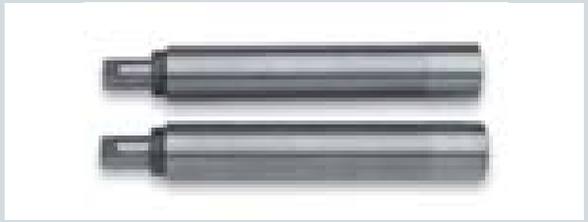
C Ecotec Head Gasket and O-Ring Kit

Ecotec Intake Camshaft Blank D

Ecotec Exhaust Camshaft Blank E



Ecotec Adjustable Cam Gear Set F



Ecotec Neutral Balance Shaft Set G

Ecotec Billet Connecting Rod Set H

CAMSHAFTS

88958648
Ecotec Performance Camshaft Set (not shown)
- For increased power in naturally aspirated and turbocharged engines
- Duration @ 0.050" lift is 247° on the intake and 249° on the exhaust
- Maximum lift is 0.499" for the intake and 0.499" on the exhaust
- Lobe centerline is 116°

D. 88958611
Ecotec Intake Camshaft Blank
- Heat-treated camshaft blank for grinding custom-profile intake cam

E. 88958612
Ecotec Exhaust Camshaft Blank
- Heat-treated camshaft blank for grinding custom-profile exhaust cam

F. 88958613
Ecotec Adjustable Cam Gear Set
- Includes intake and exhaust
- Allows valve timing to be advanced or retarded up to 16° of crankshaft rotation

G. 88958615
Ecotec Neutral Balance Shaft Set
- High-performance neutral balance shaft set (two shafts) used to replace stock balance shafts

H. 88958618
Ecotec Billet Connecting Rod Set
- Set of four machined billet 4350 steel connecting rods
- Length is 5.888", rod bearing diameter is 1.888", and floating piston pin diameter is 0.829"
- Designed for use with billet crankshaft P/N 88958620

CRANKSHAFTS

A. 88958620
Ecotec Crankshaft, Billet Steel
- Internally balanced, full-race, billet 4130 steel crankshaft
- 1.888" rod bearings and stock-size main bearings
- Reduced stroke of 3.505" for high rpm use

NOTE: *Displacement is 2.0 liters with 3.400" bore.*

88958631
Ecotec Crankshaft Pulley (not shown)
- Billet pulley has a reduced diameter to minimize horsepower-robbing drag of the alternator and air conditioning compressor

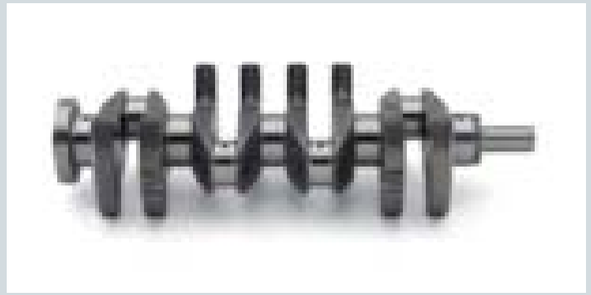
INTAKE MANIFOLDS, GASKETS AND COMPONENTS

B. 88958629
Fabricated Aluminum Intake Manifold
- Accepts a 75mm LS1 throttle body

88958633
Ecotec Intake Manifold Flange Set (not shown)
- 0.555"-thick aluminum flanges can be used to fabricate your own custom intake manifold

C. 88958728
Sport Compact Build Book
- Describes all the parts and procedures needed to transform your stock Ecotec engine into a high-performance racing engine for drag racing or drifting competition
- Also includes race modifications for a 4T65E automatic transmission

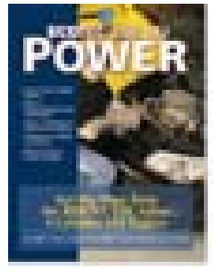
D. 88958686
Ecotec 2.0L LSJ Power Book
Step-by-step guide to boosting the horsepower and torque in this versatile four-cylinder powerplant.
- Detailed instructions on engine removal/reinstallation
- Special instructions on Installing Stage 1 and Stage 2 upgrade kits
- Build a 300-plus horsepower Ecotec!



A Ecotec Crankshaft, Billet Steel

B Fabricated Aluminum Intake Manifold

C Sport Compact Build Book



D Ecotec 2.0L LSJ Power Book

5-Spoke Wheel Kit, 16" ZQ8-Style E

Impala SS Wheel Kit F

Camaro Wheel Kit, Aluminum with Painted Insert G

WHEELS AND ACCESSORIES

Perhaps nothing gives your vehicle a more distinct look than its wheels. GM Performance Parts wheels are factory engineered and give your vehicle an integrated, production appearance. And best of all, they look great!

ZQ8 Wheels

E. 12498299
5-Spoke Wheel Kit, 16" ZQ8-Style
- Originally designed for S-trucks with the ZQ8 suspension
- 16" x 8" aluminum wheels have a -6.4mm rim offset and look great on 1987-and-older A-body and G-body cars; 1992-and-older F-body cars; and other vehicles that have the GM-style 5" x 4.75" five-lug bolt pattern
- Includes four wheels, Bowtie logo center caps, valve stems, wheel nuts and wheel nut caps

NOTE: *If GMC logo center caps desired, order cap P/N 9593761 (sold individually; order four per vehicle).*

Corvette and Impala SS Wheels

F. 12495438
Impala SS Wheel Kit
- Original-equipment set of 17" wheels used on the 1994-1996 Chevy Impala SS
- Includes four 17" x 8.5" wheels, center caps, wheel nuts and valve stems

Camaro Wheel Kits

Production-style 17" x 9" aluminum wheels will fit 1993-2002 F-cars. The 10-spoke design is similar to wheels offered on 2002 Z28 models, including the 35th Anniversary model. The wheels have a 50mm-offset and fit a 70.2mm hub. The kits include 4 wheels, 4 center caps, 20 wheel nuts and 20 wheel nut caps. Tires not included.

G. 12498899
Camaro Wheel Kit, Aluminum with Painted Insert
- Contains 4 wheels, 4 caps, 20 lug nuts and 20 lug nut caps

WHEEL HARDWARE AND ACCESSORIES

12363989
Valve Stem Assembly, Rubber (not shown)
- Rubber valve stem has chrome metal sleeve and metal hex head
- 4 per part number

22551491
Olds Rocketparts Wheel Studs (not shown)
- Long, 12mm-studs have rounded ends to make tire changes quicker in the pits
- Fits all GM hubs designed for 12mm studs

NOTE: *Do not use with closed-end wheel nuts; bottoming of the wheel nut on the stud can cause the wheel to separate from the vehicle.*

Cadillac CTS-V

A. 12499241
Shock Absorber Kit
- Performance-oriented kit consisting of two 45mm monotube front shocks and two 32mm self-leveling Nivomat rear shock absorbers
- Developed at the famed Nürburgring racetrack in Germany to work with the stock 2004-07 CTS-V suspension, providing exceptional road handling
- Nivomat rear shocks have a self-compensating hydropneumatic spring that helps maintain ride control, but also maintains level vehicle height when carrying passengers or cargo

NOTE: *Shock absorber kit improves handling, but may result in a harsher overall ride.*

B. 88964607
Front Rotors
- Cross-drilled rotors for 2004-07 Cadillac CTS-V
- Sold as a pair

C. 88964608
Rear Rotors
- Cross-drilled rotors for 2004-07 Cadillac CTS-V
- Sold as a pair

25534462
CTS-V Transmission Cooler Kit (not shown)
- Developed for SCCA T2 racing series
- Improved cooling during sustaining high-speed driving

Kit includes:

12480081	Pump
12480118	Clamp Pump Mount
12480087	Thermostat
25534489	Cooler
25534490	Bracket (Cooler Mount)
25534491	Fastener Kit
25534492	Plumbing Kit
25534493	Harness
25534482	Filter
25534494	Instruction Sheet

D. 25534463
Cadillac CTS-V Differential Cooler Kit
- Developed for SCCA T2 racing series
- Improved cooling during sustaining high-speed driving

Kit includes:

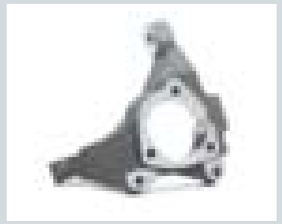
12480081	Pump
12480118	Clamp Pump Mount
25534477	Cooler/Differential
12480087	Thermostat
25534478	Fastener Package
25534479	Mounting Bracket
25534480	Plumbing Kit
25534481	Wiring Harness
25534482	Filter
25534483	Assembly Instructions
25534499	Fitting Differential Outlet

A Shock Absorber Kit

B Front Rotors

C Rear Rotors

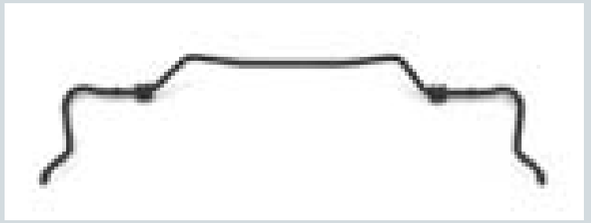
D Cadillac CTS-V Differential Cooler Kit



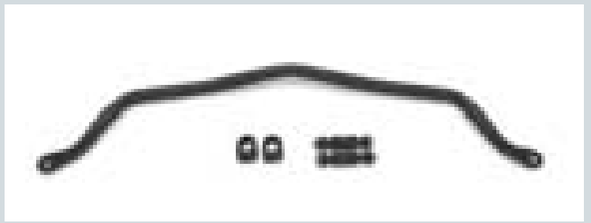
E Heavy Duty Front Steering Knuckle, Left-Hand

F Heavy Duty Front Steering Knuckle, Right-Hand

G Strut Tower Braces



Heavy-Duty Rear Stabilizer Bar **H**



Heavy-Duty Front Stabilizer Bar **I**

Tubular Rear Trailing Arm Kit **J**

High-Performance Front Brake Upgrade Kit **K**

Heavy-Duty Front Brake Caliper Brackets **L**

Cobalt SS, Saturn ION Red Line

E. 88958710
Heavy-Duty Front Steering Knuckle for Chevrolet Cobalt SS, Saturn ION Red Line, Left-hand
- Designed to provide enhanced load capacity for off-road use
- Designed to use the existing interfaces to the bearing, brake caliper, strut and control arm
- Installation requires caliper mounting bolts P/N 11588889, lower ball joint bolt P/N 11589341 and nut P/N 11511799 included with the kit
- Bearing spacer plate needs modification for installation
- Specific suspension point geometry—may induce increased tire wear during street duty

F. 88958711
Heavy-Duty Front Steering Knuckle for Chevrolet Cobalt SS, Saturn ION Red Line, Right-hand
- See P/N 88958710 for description

W-Body: 2000-2005 Monte Carlo and Impala; 1997-2003 Grand Prix

G. 12498648
Strut Tower Braces
- Install these easy bolt-on braces on your car to reduce body flex for firmer feel when cornering
- Includes hardware and installation instructions

H. 12498642
Heavy-Duty Rear Stabilizer Bar
- For reduced body roll, install this thick 19mm rear bar
- Includes bushings

I. 12498643
Heavy-Duty Front Stabilizer Bar
- Get the look and feel of performance with this sturdy 34mm front bar
- Includes bushings and end links

J. 12498649
Tubular Rear Trailing Arm Kit
- Replace your car's production stamped steel parts with stronger tubular steel arms
- Rear suspension performance is increased with reduction in flex under load
- Includes 2 trailing arms

K. 12498644
High-Performance Front Brake Upgrade Kit
- Attain increased braking performance with 12" vented disc rotors and high-performance brake pads
- Includes rotors, caliper mounting brackets, pads and bushings

NOTE: *Monte Carlo and Impala models already have this system installed as standard production. Will not fit stock Grand Prix "crosslace" wheels and spare tire may not fit. Heat generated by performance brake pads can cause rotor warping if not allowed to cool sufficiently between severe uses.*

L. 12498646
Heavy-Duty Front Brake Caliper Brackets
- Same brackets used in brake kit P/N 12498644 (see above)
- Includes brackets, bushings and pins
- Rotors equivalent to P/N 12498647 must be used

FACTORY ENGINEERED RACE PARTS F & Y CAR

T1 Suspension Package

3rd Gen Camaro and Firebird GM Racing Brake Components

For the racer, GM Performance Parts offers a line of superior brake components for the F-car. Originally developed for the 1996 Corvette, the brake components are modified to fit 1993-1999 Camaro and Firebird models. **They are intended for racing only and not street use**. Available components include:

12480038
Mounting Bracket, Race-Cut Rotor, Right-Hand Side (not shown)

12480039
Mounting Bracket, Full Rotor, Left-Hand Side (not shown)

12480041
Race-Cut Rotor, Left-Hand Side (not shown)

12480042
Race-Cut Rotor, Right-Hand Side (not shown)

12480044
Brake Pad Set, RR 1993-1997 (not shown)

12528689
Front Brake Caliper, Left-Hand Side (Production Corvette Grand Sport, not shown)

12528690
Front Brake Caliper, Right-Hand Side (Production Corvette Grand Sport, not shown)

Lightweight Racing Aluminum Driveshaft

Lose less power transferred from the transmission to the rear axle. These lightweight aluminum driveshafts are designed for F-cars equipped with the MM6 six-speed manual transmission:

12564004
Aluminum Driveshaft (not shown)
- 1998-1999 LS1 with MM6 transmission

Corvette

The Corvette engineering group and GM Racing collaborated to develop components that improves the durability and performance of production-based 1997-2004 Corvettes in professional Showroom Stock racing. GM Performance Parts offers these winning parts in convenient, comprehensive kits to make your Corvette's transformation from street car to racecar simple and straightforward.

NOTE: *C5 racing parts are validated for off-road use only and are not intended for street car use. Modification with these parts will void the vehicle's warranty.*

C5 Corvette

12480062
T1 Suspension Package
- Developed and approved for SCCA Touring 1 racing
- Comprehensive kit dramatically improves the handling of the Corvette
- Includes front and rear springs, front and rear stabilizer bars, stabilizer bar end links and isolators, upper and lower front A-arms
- Provides maximum performance when used with the SACHS shock absorbers (see below)

This kit includes the following items:

12480063	Spring-Front	**12480064**	Spring-Rear
12480065	Stabilizer Bar-Front	**12480066**	Stabilizer Bar-Rear
12480067	Stabilizer Link-Front and Rear (4 required)	**12480068**	Isolator-Front Stabilizer Bar (2 required)
12480069	Isolator-Rear Stabilizer Bar (2 required)	**12480072**	Upper Control Arm-Front LH
12480073	Upper Control Arm-Front RH	**12480077**	Lower Control Arm-Front LH
12480078	Lower Control Arm-Front RH		

12480094
SACHS Shock Absorber, Front (not shown)
- Tuned for use with the T1 suspension package (see above)
- Sold individually; order 2 per vehicle

12480095
SACHS Shock Absorber, Rear (not shown)
- Tuned for use with the T1 suspension package (see above)
- Sold individually; order 2 per vehicle

12480093
Camber Spacer Kit (not shown)
- 2 kits required per wheel

Kit includes one of each of the following:

12480071	Camber Plate, Large	**12480076**	Camber Plate, Small
15688265	Bolt, Lower Control Arm	**11516382**	Nut, Lower Control Arm

12480080
C5 Transmission Oil Cooler Kit (not shown)
- Intended for cars equipped with the six-speed manual transmission and has been updated for use on Z06 and export-model Corvettes
- Includes transmission pump, cooler assembly, wiring harness, plumbing kit, filter bracket, thermal switch, brackets and fasteners

C6 Corvette

25534430
T1 Suspension Kit for C6 Corvette (not shown)
- Approved by the SCCA for racing in the T1 class
- Similar to the championship winning C5 kit, but made to fit the C6

This kit includes the following items:

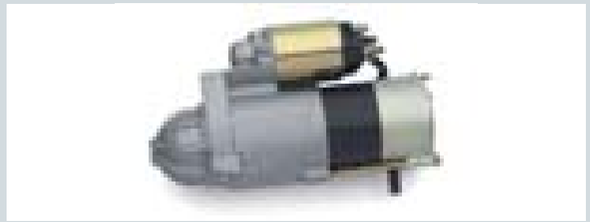
25534418	Spring-Front	**25534419**	Spring-Rear
12480065	Bar-Anti-Roll Front	**25534433**	Bar-Anti-Roll Rear (4 required)
12480067	Link-Anti-Roll Bar (4 required)	**12480068**	Isolator-Front Anti-Roll Bar (2 required)
12480069	Isolator-Rear Anti-Roll Bar (2 required)	**25534436**	Arm-Front Upper LH
25534437	Arm-Front Upper RH	**25534438**	Arm-Front Lower LH
25534439	Arm-Front Lower RH	**25534442**	Arm-Rear Lower LH
25534443	Arm-Rear Lower RH		

High-Torque Mini Starter **A**

High-Torque Mini Starter, Chrome **B**

Lightweight Starter 12.75" Flywheel (remanufactured) **C**

Lightweight Starter 12.75" Flywheel (remanufactured) **D**



LS Series Starter **E**

Alternator, 74 Amp (competition use) **F**

STARTERS AND ALTERNATORS

Flywheels with two different diameters are used on Chevrolet Small-Block, Big-Block, and 90° V-6 engines. Large flywheels are 14" in diameter and have 168 teeth on the starter ring gear. Small-diameter flywheels are 12.75" in diameter, with 153 teeth on the ring gear.

This difference in flywheel diameters requires two distinct starter housings. Starter noses used with large-diameter flywheels have two offset bolt holes, while starters for small flywheels have two bolt holes that are parallel to the back of the block. Most Chevy blocks are drilled for both types of starters.

Starters

A. 12361146
High-Torque Mini Starter
- Gear reduction starter is designed for 1958-1996 V-8 and all 90° V-6 engines
- Compact design provides increased clearance
- Weighs only 10.5 pounds and has a gear reduction of 3.75:1
- Equipped with a dual bolt pattern for 12.75" (153-tooth) and 14" (168-tooth) flywheels
- Housing can be rotated to clear exhaust systems
- Includes starter, mounting bolts, shims, gaskets and electrical connectors

NOTE: *Not recommended for competition use.*

B. 12363128
High-Torque Mini Starter, Chrome
- Same as starter P/N 12361146 (see above), but with a chrome housing

C. 10465143
Lightweight Starter (remanufactured)
- Lightweight high-performance starter was originally used on 1993-1997 Camaros and Firebirds with the LT1 engine
- Can be used on any Small-Block or Big-Block engine with a 12.75", 153-tooth flywheel

D. 12606096
Lightweight Starter, Big-Block and Small-Block
- Gear reduction starter can be used on Big-Block and Small-Block engines with a 14", 168-tooth flywheel

E. 10465385
LS Series Starter
- Works with all LS series and Gen IV V-8 engines

Alternators

F. 1101641
Alternator, 74-Amp (Competition Use)
- Has an electronic regulator assuring safe and reliable operation with positive turn-on, integral load response control and over/under voltage monitoring
- The "P" and "F" terminals permit on-board computer interface and a new bridge has passivated chips with high reliability
- Integral capacitor eliminates wiring, suppresses radio interference and uses less space
- Dynamically-balanced rotor assembly provides stable operation at speeds to 18,000 rpm

88958690
Alternator, 90-Amp (Competition Use, not shown)
- Proven in NASCAR use
- Similar to P/N 1001641
- CS121 design housing
- Serpentine belt pulley
- Hand-assembled and dyno-tested

Additional components required for installation. See page 286.

Available for purchase online at gmperformanceparts.com

STARTERS: ADDITIONAL REQUIRED COMPONENTS

Part Number	Bolts (Quantity)	Engine Application
12361146	14097279 (1), 14097278 (1)	Small-Block (except LT or LS Engines)
12361146	12338064 (2)	Big-Block
10465143	14097279 (1), 14097278 (1)	Small-Block (except LT or LS Engines) and 12499711, 12499710, 12499712, 19201330
10465143	12338064 (2)	Big-Block
12606096	12338064 (2)	Big-Block and 12499121, 12496962, 12497323, 12371171
12363128	14097278 (1)	Small-Block (except LT or LS Engines)
12363128	12338064 (2)	Big-Block
10465385	11588456 (1), 12561848 (1)	LS Series

SPARK PLUG WIRES

GM Performance Parts spark plug wire kits are designed to fit your GM engine, eliminating the guesswork in selecting the correct length.

GM Performance Parts Spark Plug Wire Set (90° Boots Shown)

Spark Plug Wire Set (135° Boot Shown)

Chevrolet Bowtie Spark Plug Wire Set (90° Boots Shown)

GM Performance Parts Logo Wires

These performance 8mm spark plug wires exhibit only 600 ohms per foot of resistance, with high noise suppression capabilities. Features include red wires with white GM Performance Parts insignia and black boots. Manufactured with double-wall silicone construction. Kits include a 10" coil wire for engines, such as the Ram Jet 350 and ZZ572 engines that have remote-coil HEI, plus four wire separators and HEI terminals and boots for the distributor cap.

Part Number	Description	Notes
12361056	Spark Plug Wire Set, Small-Block	Designed for a Small-Block, with 135° spark plug boots. Route over the valve covers.
12361057	Spark Plug Wire Set, Small-Block (90° Boot)	Designed for a Small-Block, with 90° spark plug boots. Route below the valve covers. Recommend wire loom kit: P/N 12496806.
12361058	Spark Plug Wire Set, Big-Block	Designed for a Big-Block, with 135° spark plug boots. Route over the valve covers.
12368383	Spark Plug Wire Set for GMPP Loom Kit, Big-Block	Custom-fit set designed to be used with black wire loom P/N 12495502.
12495078	Spark Plug Wire Set and Loom Kit, Big-Block	Supplied with wire set P/N 12368383 and black loom kit P/N 12495502.
12361060	Spark Plug Wire Set, 90° V-6	Designed for a 90° V-6, with 135° spark plug boots. Route over the valve covers.
12495519	Spark Plug Wire Set, LS Series V-8	Direct-fit wire set with factory-style boots and terminals.

Chevrolet Bowtie Logo Wires

These red wires share the same high quality features as the GM Performance Parts wires, but have the Chevrolet Bowtie logo in white.

Part Number	Description	Notes
12361050	Spark Plug Wire Set, Small-Block (135° Boot)	Designed for a Small-Block, with 135° spark plug boots. Route over the valve covers.
12361051	Spark Plug Wire Set, Small-Block (90° Boot)	Designed for a Small-Block, with 90° spark plug boots. Route over the valve covers. Recommend wire loom kit: P/N 12496806.
12361052	Spark Plug Wire Set, Big-Block	Designed for a Big-Block, with 135° spark plug boots. Route over the valve covers.
12368384	Spark Plug Wire Kit for GMPP Loom Kit, Big-Block	Custom-fit set designed to be used with black wire loom P/N 12495502 or chrome wire loom P/N 12342049.
12495079	Spark Plug Wire Set & Loom Kit, Big-Block	Supplied with wire set P/N 12368384 and black loom kit P/N 12495502.
12361054	Spark Plug Wire Set, 90° V-6	Designed for a 90° V-6, with 135° spark plug boots. Route over the valve covers.

GM Racing Wires

Part Number	Description	Notes
24502521	Spark Plug Wire Set	Superior quality racing plug wires used by NASCAR teams. Designed to route over the valve cover, with 135° spark plug boots. 50 ohm/ft premium cable covered with 8mm of silicone and a black abrasive-resistant cover. Not for SB2 cylinder heads.

SPARK PLUG WIRES: ADDITIONAL REQUIRED COMPONENTS

Part Number	Engine Type	Loom Number	Logo	Ends	Routing	Engine Application
12361056	Small-Block	12496806 **OR** 88891792	GMPP	135°	Over valve covers	Small-Block V-8
12361057	Small-Block	12496806 **OR** 88891792	GMPP	90°	Below valve covers	12499711: 350 HO Turn-Key, 12499710: FB 385 Turn-Key, 19201330: ZZ4 Turn-Key, 12499120: Ram Jet 350, 12496968: 350 HO Deluxe, 12495515: Ram Jet 350
12361058	Big-Block	N/A	GMPP	135°	Over valve covers	
12368383	Big-Block	12495502	GMPP	135°	Over valve covers	12499121: Ram Jet 502, 12497323: Ram Jet 502
12495078	Big-Block	Included in kit	GMPP	135°	Over valve covers	12496962: 502 Deluxe, 12371171: 502 Deluxe Kit
12361060	90° V-6	N/A	GMPP	135°	Over valve covers	
12495519	LS Series	N/A	None		Over valve covers	
12361050	Small-Block	N/A	Bowtie	135°	Over valve covers	
12361051	Small-Block	12496806	Bowtie	90°	Below valve covers	Small-Block with 90° spark plug boots
12361052	Big-Block	N/A	Bowtie	135°	Over valve covers	
12368384	Big-Block	12495502 **OR** 12342049	Bowtie	90°	Below valve covers	
12495079	Big-Block	12495502	Bowtie	90°	Below valve covers	
12361054	90° V-6	N/A	Bowtie	135°	Over valve covers	
24502521	NASCAR	N/A	None	135°	Over valve covers	

LOOM KITS

Part Number	Description	Technical Notes
12496806	Wire Loom Kit, Small-Block	Stainless-steel supports with the Bowtie logo laser-cut in each of the six supports. Twelve retainers, bolts and washers are supplied to bolt to the side of the head. Use with spark plug wire set P/N 12361051 and P/N 12361057.
12495502	Wire Loom Kit, Big-Block	Used on late-model Big-Block trucks. Supplied with one left-hand support P/N 12553397, one right-hand support P/N 12553398, three four-wire retainers P/N 12132223, two three-wire retainers P/N 12047523, two two-wire retainers P/N 12132229, and two single-wire retainers P/N 12132228.

ELECTRONIC CONTROL UNITS AND COMPONENTS

A Ignition Controller

B Ignition Wire Harness

C Rev Limiter for CD Ignition Controller

D Controller and Wiring Harness, LS7

E LSX Ignition Controller

IGNITION AND ELECTRONIC CONTROL UNIT SYSTEMS

Ignition Components

A. 10037378
Ignition Controller
- CD ignition control for four-, six- or eight-cylinder racing engines
- Each spark is at full power from idle to racing rpm
- Supplied with shock-resistant mounts

NOTE: *Use with GM heavy-duty electronic distributors P/N 10051133 and P/N 10051134. Do not use with production HEI system.*

B. 10039932
Ignition Wire Harness (engine compartment-mounted)
- Will connect all GMPP heavy-duty electronic distributors to ignition controller P/N 10037378 when the control box is mounted in the engine compartment

C. 10037379
Rev Limiter for CD Ignition Controller
- Plugs directly into the GM High Performance CD Ignition Control P/N 10037378
- Rpm limit is set with plug-in rpm modules
- Kit is supplied with 6000, 7000, and 8000 rpm modules

RPM Limit Module Kits
These kits are supplied with five rpm modules for the Rev Limiter P/N 10037379 (see above). Choose from the following:

10039933
5000 rpm Module Kit (not shown)
- Includes 5000, 5200, 5400, 5600, and 5800 rpm modules

10039934
6000 rpm Module Kit (not shown)
- Includes 6000, 6200, 6400, 6600, and 6800 rpm modules

10039935
7000 rpm Module Kit (not shown)
- Includes 7000, 7200, 7400, 7600, and 7800 rpm modules

10039936
8000 rpm Module Kit (not shown)
- Includes 8000, 8200, 8400, 8600, and 8800 rpm modules

D. 19166567
LS7 Controller Kit, 2006-2008
- Includes all the components required to run your 2006-2008 LS7 crate engine
- For individual engine controller, use P/N 19166569 (included in kit)
- Will not run 2009 LS7's

19243066
LS7 Controller Kit, 2009 NEW (not shown)
- Includes all the components required to run your 2009 LS7 crate engine
- For individual engine controller, use P/N 19253067 (included in kit)
- Will not run 2006-2008 LS7's

19166568
LS2 Controller Kit (not shown)
- Includes all the components required to run your LS2 crate engine
- For individual engine controller, use P/N 19166570 (included in kit)

19201327
LS376/480 Controller Kit (not shown)
- Includes all the components required to run your LS376/480 crate engine
- For individual engine controller, use P/N 19201790 (included in kit)

19201861
LS3 Controller Kit (not shown)
- Includes all the components required to run the LS3 crate engine
- For individual engine controller, use P/N 19201859 (included in kit)

The previous kits (P/N 19166567, 19166568, 19201327, 19201861, 19253066) include the following items:

19202595	LS2/LS7 Engine Harness -OR-
19202596	LS3/LS376 Engine Harness
12576410	Mass Air Flow Meter
19166574	Mass Air Flow Meter Mounting Boss
10367117	Accelerator Pedal Assembly
12581966	Oxygen Sensor (2 Per Kit)
15156588	Oxygen Sensor Mounting Boss (2 Per Kit)
19171935	Instruction Sheet
Varies	Engine Specific Controller

NOTE: *The controller will not function in a production vehicle unless all kit components are used. These controllers will not operate any of the production gauges. Aftermarket gauges are required.*

E. 19171130
LSX Ignition Controller
- Distributorless plug-in ignition system for carbureted LS engines with 58X reluctor wheel
- Several pre-programmed timing curves provided
- Supplied software allows you to create custom vacuum advance curves, timing curves, program lo and hi rpm rev limiter and step retard
- Plugs into stock sensors (not provided)
- MAP sensor provided
- Compatible with all LS series ignition coils

ELECTRONIC CONTROL UNITS & COMPONENTS CONTINUED

Chevy Small-Block V-8 (LS Style)

12480112
ECU, LS1 V-8 (not shown)
- Calibrated for the LS1 Camaro/Firebird engine and can be used in a street rod or other early-model vehicles

NOTE: *Use with Camaro/Firebird LS1 engine and wire harness P/N 12480113.*

12480054
ECU, LS1/ASA Racing (not shown)
- LS1 ECU is similar to P/N 16238212, but is calibrated for ASA racing only
- Use with wire harness P/N 12480055

12480055
Wire Harness, LS1, ASA Racing (not shown)
- Designed for ASA racing ECU P/N 12480054 only

19212657 NEW
Transmission Controller, 4L60-E, 4L65-E, 4L80-E and 4L85-E Automatic (not shown)
- Required when using a GM electronically controlled automatic transmission (see page 297)
- Includes wiring harness, software and connector for lap-top computer
- Controller allows full programming of shifting, as well as part-throttle, wide-open throttle and shift firmness control

Chevy Small-Block V-8 (Gen I)

88962717
MEFI 4 ECU, Ram Jet 350 (not shown)
- Replacement ECU for all Ram Jet 350 crate engines, MEFI 3 P/N 12495515 or MEFI 4 P/N 12499120
- MEFI 4 Ram Jet engine is a closed loop system that gives a much smoother idle and improved performance

NOTE: *Replacing the ECU on MEFI 3 Ram Jet engine P/N 12495515 requires using new wire harness kit P/N 12499116, or use jumper wire P/N 88963118 to use MEFI 4 ECU as an open loop system.*

88961967
MEFI 4 ECU Wire Harness, Ram Jet 350 (not shown)
- Designed to be used with the MEFI 4 Ram Jet 350 P/N 12499120 and MEFI 4 ECU P/N 88962717

12499116
MEFI 4 ECU and Wire Harness Kit, Ram Jet 350 (not shown)
- Use to convert a Ram Jet 350 from MEFI 3 to the newer MEFI 4 design, which provides a better idle through closed-loop operation
- Includes ECU module P/N 88962717, wire harness P/N 88961967, oxygen sensor P/N 25312200, intake air temp sensor P/N 25036751, and oxygen sensor fitting P/N 15156588

NOTE: *ECU is programmed with a "green mode" that controls the rpm for the break-in period. From start-up to the end of first hour is 4000 rpm, second hour is 4500 rpm and third hour is 5500 rpm.*

15156588
Fitting, Oxygen Sensor (not shown)
- Used on all MEFI 4 electronic controlled ignition systems
- Should be welded into the exhaust pipe so the oxygen sensor can be screwed into the exhaust system

19171873
MEFI 3 ECU Wire Harness, Ram Jet 350 (not shown)
- Designed for use with the MEFI 3 350 Ram Jet engine P/N 12495515 using ECU P/N 12489488

Chevy Big-Block V-8

88962718
ECU, Ram Jet 502 (not shown)
- Replacement ECU for all Ram Jet 502 engines (MEFI 3 P/N 12497323 or MEFI 4 P/N 12499121)
- MEFI 4 Ram Jet engine is a closed-loop system that gives a much smoother idle and improved performance

NOTE: *Replacing the ECU on MEFI 3 Ram Jet engine P/N 12497323 requires using new wire harness kit P/N 12499117, or jumper wire P/N 88963118 to use MEFI 4 ECU as an open loop system.*

12499117
MEFI 4 ECU & Wire Harness Kit, Ram Jet 502 (not shown)
- Module/harness kit is used to convert a Ram Jet 502 from MEFI 3 to the newer MEFI 4 design, which offers improved idle and performance through a closed loop system
- Includes module P/N 88962718, wire harness P/N 88961968, oxygen sensor P/N 25312200, intake air temp sensor P/N 25036751 and oxygen sensor fitting P/N 15156588

NOTE: *The ECU is programmed with a "green mode" that controls the rpm for the break-in period. From start up to the end of first hour is 4000 rpm, second hour is 4500 rpm, third hour is 5500 rpm and fourth hour is 5800 rpm.*

88963118
Jumper Harness, MEFI 3 to MEFI 4 (not shown)
- Allows an MEFI 4 module to be used with an MEFI 3 wiring system (to stay as an open loop system)

88958621
PROM, 502 Truck Conversions (1991–1993, not shown)
- Used in the 502 emission-legal engine conversions for 1991–1993 trucks

12489494
MEFI 3 ECU Harness, 502 (not shown)
- Designed for the MEFI 3 ECU P/N 12489493 on the MEFI 3 Ram Jet 502 engine P/N 12497323
- Part of engine kit P/N 12499121

88961968
MEFI 4 ECU Harness, Ram Jet 502 (not shown)
- Used in the MEFI 4 Ram Jet 502 P/N 12499121 with the MEFI 4 closed loop oxygen sensor-equipped system
- Use with MEFI 4 ECU P/N 88962718

CHASSIS WIRING HARNESS

If you're building a hot rod or restoring an old musclecar, GM Performance Parts inclusive wiring harness kits make a great replacement for old, worn or damaged wires. These universal wiring kits come with the wires pre-installed on the fuse block, so wiring the vehicle is simply a matter of mounting the fuse block and routing the wires. Each wire is preprinted with the necessary application and is GM-color-coded. The kits also come with all necessary fuses, flashers, horn relay, tach leads, wire ties and grommets. High-temperature, 275°F wire is used—one size larger than factory specs. In all, it's everything you need to electrify your vintage GM car or truck!

NOTE: *Installation note: These universal systems will re-wire any car, truck or competition vehicle using a GM-keyed column. Kits come with extra-long wire to accommodate almost any vehicle.*

12355691
12-Circuit Wiring Harness (not shown)
- Basic system is wired for: heat/air conditioning, brake lights, coil, electric fan, emergency flashers, gauges/dash instruments, headlamps, horn, radio, turn signals, wipers, dome light and third brake light

12355693
18-Circuit Wiring Harness (not shown)
- Includes wiring for all circuits in P/N 12355691
- Also includes: cigarette lighter, power windows, power door locks, electric fuel pump, back-up lights/cruise control and speakers

DISTRIBUTORS AND COMPONENTS

High-quality, durable and dependable GM Performance Parts distributors optimize the performance of your GM engine. These distributors are interchangeable among standard GM Small-Block and Big-Block V-8s. For tall-deck engines, use adjustable slip collar distributor P/N 10093387.

NOTE: *Melonized distributor gear P/N 10456413 is required on all GM Performance Parts crate engines, or serious damage will occur.*

A. 93440806
Distributor, HEI
- Cast aluminum distributor for all Small-Block and Big-Block V-8 engine assemblies
- High-performance mechanical advance curve
- Vacuum advance canister included
- Use connector P/N 12167658 to attach tachometer and 12-volt power supply wire to distributor
- Includes module P/N 10482820, cap P/N 19110931 and rotor P/N 19110934

B. 88961867
Distributor, Billet HEI
- CNC-machined billet aluminum housing provides great strength
- Ball bearing guide, oversized shaft and long sintered bushing for stability
- Offers mechanical advance and vacuum advance
- Includes brass terminal cap
- Use connector P/N 12167658 to attach tachometer and 12-volt power supply wire to distributor

C. 1104060
Distributor, Ram Jet 350 and Ram Jet 502
- Used on the fuel-injected Ram Jet 350 and Ram Jet 502
- Includes ignition module P/N 10482830, cap P/N 19166099 and rotor P/N 10477219

1103952
Distributor, Late-Model EFI (not shown)
- Used on late-model V-8 engines with fuel injection and computer controls
- Kit includes ignition module, cap and rotor

D. 10093387
Distributor, Adjustable Slip Collar
- Designed for competition use
- Billet aluminum housing
- Ball-bearing guide
- Adjustable mechanical advance
- Magnetic pickup
- Uses standard cap and rotor
- Adjustable slip collar for tall-deck blocks or to compensate for cylinder head or block machining

10456413
Distributor Gear (not shown)
- Melonized gear for distributor P/N 1103952

10456413
Distributor Gear (not shown)
- Melonized steel gear is required on all GMPP crate engines
- Failure to use this gear will affect the engine warranty

NOTE: *Supplied on distributor P/N 93440806.*

12167658
Connector, HEI Distributor Power and Tachometer (not shown)
- Used to attach the power and tachometer wires to the cap of the HEI distributor

12498335
Coil, HEI (not shown)
- Production HEI coil

A Distributor, HEI

B Distributor, Billet HEI

C Distributor, Ram Jet 350 & Ram Jet 502

D Distributor, Adjustable Slip Collar

Carburetor, Holley 670-cfm **E**

Carburetor, Holley 850-cfm **F**

Carburetor, Holley 870-cfm **G**

CARBURETORS, THROTTLE BODIES AND AIR CLEANERS

GM Performance Parts has the right carburetor or throttle body to complete your new crate engine, or give life to your rebuilt engine. Then, top off your engine with one of our great-looking air cleaners.

Carburetors

19170097
Carburetor, Holley 650-cfm (not shown)
- Holley 4150-style 650-cfm four-barrel carburetor
- Features show-car-quality polished finish
- Mechanical secondaries
- Electric choke
- Four-corner idle adjustment
- Power valve blowout protection
- Bolts and gaskets included
- Replaces Holley 4160 600-cfm carburetor P/N 12497147

E. 19170092
Carburetor, Holley 670-cfm
- Holley 4160-style 670-cfm four-barrel carburetor
- Features show-car-quality polished finish
- Dual-feed center-hung fuel bowls
- Vacuum secondaries
- Electric choke
- Power valve blowout protection
- Quick-change adjustable vacuum secondary
- Bolts and gaskets included

19170093
Carburetor, Holley 770-cfm (not shown)
- Holley 4160-style 770-cfm four-barrel carburetor
- Features show-car-quality polished finish
- Dual feed, center-hung float bowls
- Vacuum secondaries
- Automatic electric choke
- Quick-change adjustable vacuum secondary
- Recommended for Small-Block and Big-Block engines, including street, competition, towing and off-road vehicles
- Bolts and gaskets included
- Replaces Holley 4160 750-cfm carburetor P/N 12485506

F. 19170095
Carburetor, Holley 850-cfm
- Holley 4150-style 850-cfm four-barrel carburetor
- Features show-car-quality polished finish
- Mechanical secondaries
- Electric choke
- Four-corner idle adjustment
- Power valve blowout protection
- Custom-calibrated for the ZZ572/620 crate engine
- Recommended for 502 crate engines and suitable for Big-Block engines, including street, competition, towing and off-road vehicles
- Bolts and gaskets included
- Replaces Holley 4160 850-cfm carburetor P/N 12366996

NOTE: *Carburetor can only be recalibrated for use with other large-displacement engines.*

G. 19170094
Carburetor, Holley 870-cfm
- Holley 4160-style 870-cfm four-barrel carburetor
- Features show-car-quality polished finish
- Dual feed, center-hung float bowls
- Vacuum secondaries
- Automatic electric choke
- Quick-change adjustable vacuum secondary
- Recommended for 502 crate engines and suitable for Big-Block engines, including street, competition, towing and off-road vehicles
- Bolts and gaskets included
- Replaces 4150 style 850-cfm carburetor P/N 88961560

Carburetors, Throttle Bodies and Air Cleaners Continued

A. 19170096
Carburetor, Holley Dominator 1090-cfm
- Dominator-style 1090-cfm four-barrel carburetor
- Features show-car-quality polished finish
- Mechanical secondaries
- Four-corner idle adjustment
- Power valve blowout protection
- Custom-calibrated for the ZZ572/720R crate engine
- Bolts and gaskets included
- Replaces 4500 style 1090-cfm carburetor P/N 88962217

Throttle Bodies

17096144
Throttle Body, Ram Jet 350 (not shown)
- Used on the Ram Jet 350 crate engine
- Use throttle body gasket P/N 12551240 and bolt P/N 11516425 for installation
- Single 75mm blades
- Flows 440-cfm

17113524
Throttle Body, Ram Jet 502 (not shown)
- Used on the Ram Jet 502 crate engine
- Use throttle body gasket P/N 10105379 and bolt P/N 11516344 for installation
- Dual 49.9mm blades
- Flows 440-cfm

NOTE: *Also fits L98 TPI engines.*

Carburetor Spacers

B. 88965829
Carburetor Spacer, Dual Plane, One-Inch
- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back
- Spacer accepts Quadrajet and Holley style carburetors

C. 19155949
Carburetor Spacer, Dual Plane, Two-Inch
- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back
- Spacer accepts Quadrajet and Holley style carburetors

D. 88965830
Carburetor Spacer, Single Plane, One-Inch
- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back

E. 88965832
Carburetor Spacer, Single Plane, One-Inch, Dominator
- Fully CNC'd from billet aluminum
- GM Performance Parts logo machined into front and back

Hardware

Standard Length Stud:

Part Number	Quantity	Description
10012990	4	Stud, 2" long 5/16 thd.
124920	4	Nut, hex
9439511	4	Washer

A Carburetor, Holley Dominator 1090-cfm

B Carburetor Spacer, Dual Plane, One-Inch

C Carburetor Spacer, Dual Plane, Two-Inch

D Carburetor Spacer, Single Plane, One-Inch

E Carburetor Spacer, Single Plane, One-Inch, Dominator

Air Cleaner, Chevrolet Logo Classic Design **F**

Air Cleaner, Chevrolet Logo High-Performance Design **G**

Air Cleaner, Ram Jet 350 **H**

Fuel Pump, High Capacity, Small-Block **I**

Fuel Pump, Street Performance, Small-Block **J**

Fuel Pump, Competition, Small-Block **K**

Fuel Pump, Street Performance, Big-Block **L**

Small-Block Fuel Pump Block-Off Plate **M**

Big-Block Fuel Pump Block-Off Plate **N**

Air Cleaners

F. 12342071
Air Cleaner, Chevrolet-Logo Classic Design
- 14" round classic-style air cleaner
- Has chrome lid with embossed Chevrolet name and Bowtie attaching nut
- Fits most four-barrel and two-barrel carburetors
- Does not fit Dominator style carburetors

G. 12342080
Air Cleaner, Chevrolet-Logo High-Performance Design
- 14" round high-performance style air cleaner
- Has chrome lid with embossed Chevrolet name
- Fits most four-barrel and two-barrel carburetors
- Does not fit Dominator style carburetors

H. 12498951
Air Cleaner, Ram Jet 350
- Designed for use with throttle body on Ram Jet 350 crate engine
- Can be used on other applications

19172061
Air Cleaner, Ram Jet 502 (not shown)
- Designed for use with throttle body on Ram Jet 502 crate engine
- Can be used on other applications

FUEL PUMPS AND ACCESSORIES

I. 6415325
Fuel Pump, High Capacity, Small-Block
- For use on carbureted engines
- Pump has 7 psi shutoff pressure and free flowing rate of 30 gph
- Lower housing can be rotated to reposition inlet and outlet ports

J. 12355612
Fuel Pump, Street Performance, Small-Block
- For use on carbureted engines
- Pump has 7 psi shutoff pressure and a free-flow rating of 110 gph
- Lower housing can be rotated to reposition inlet and outlet ports
- 3/8" - 18 inlet

K. 12355613
Fuel Pump, Competition, Small-Block
- For use on carbureted racing engines
- Pump has 9 psi shutoff pressure and a free-flow rating of 115 gph
- Lower housing can be rotated to reposition inlet and outlet ports
- 1/2" - 14 inlet

L. 12355614
Fuel Pump, Street Performance, Big-Block
- For use on carbureted Big-Block engines built from 1965 through 1990
- Pump has 7 psi shutoff pressure and a free-flow rating of 100 gph
- Lower housing can be rotated to reposition inlet and outlet ports
- 3/8" - 18 inlet

Chrome Fuel Pump Block-Off Plates

M. 12341998
Small-Block Fuel Pump Block-Off Plate
- Plate has stamped Bowtie logo
- Special non-asbestos gasket included

N. 12341999
Big-Block Fuel Pump Block-Off Plate
- Plate has stamped Bowtie logo
- Special non-asbestos gasket included

Fuel Pumps and Accessories Continued

A. 6472657
Electric Fuel Pump
- For use on all carbureted engines
- Flows 30-40 gph at 6-9 psi

B. 25115899
Electric Fuel Pump, High-Output
- Heavy-duty 12-volt electric rotary pump
- Flows 72 gph at 6-8 psi

12574986
Fuel Pressure Regulator Kit (not shown)
- Used on Ram Jet 502 crate engine
- Fits other fuel-injected engines

C. 10185094
Fuel Pressure Regulator
- Suitable for single- or dual-carburetor applications, as well as single-carb setups with nitrous

D. 854619
Fuel Filter
- High-capacity inline filter
- Suitable for all high-performance carbureted applications
- 5/16" inlet and outlet

19170365
Carb High Idle Solenoid (not shown)
- Used to increase idle speed on carbureted applications
- Increases idle when air-conditioning compressor is engaged
- Fits all Holley 670, 770, 870 carburetors

A Electric Fuel Pump

B Electric Fuel Pump, High-Output

C Fuel Pressure Regulator

D Fuel Filter

2.4L Twin Cam Supercharger E

Pontiac Vibe Supercharger F

Stage 1 Performance Upgrade Kit: Cobalt SS/ION Red Line G

SUPERCHARGERS

Turn your GM car into a true sport compact with the horsepower boost of a supercharger. By squeezing pressurized air into the engine, a supercharger dramatically increases the performance of your vehicle while maintaining excellent drivability. GM Performance Parts Roots-type supercharger systems are factory engineered and extensively tested to meet the same rigorous standards of GM's production vehicles and components.

E. 12498660
2.4L Twin Cam Supercharger (Cavalier, Sunfire, Grand Am, Alero)
- Add up to 50 horsepower and 40 lb.-ft. of torque!
- Designed for 2000-2002 GM vehicles equipped with the 2.4L Twin Cam engine (engine code RPO LD9)
- Includes all mounting brackets, air ducts, adapters, Gen II MAP sensor and spark plugs
- Can be installed with normal hand tools
- Includes new serpentine drive belt

NOTE: *Recalibration of Vehicle Control Module is included, but must be performed by an authorized GM dealership.*

F. 12498927
Pontiac Vibe Supercharger (automatic transmission)
- Add up to 30 percent more power and 18 percent more torque to your 2003-2004 Pontiac Vibe, for new power outputs of 170 horsepower and 150 lb.-ft. compared to the stock 1.8L engine
- Supercharger produces up to 7.5 pounds of boost
- Includes mounting brackets, air ducts, serpentine drive belt, PCV hoses, new fuel injectors and add-on controller for calibration of the Vehicle Control Module

12499105
Pontiac Vibe Supercharger (manual transmission, not shown)
- Same as P/N 12498927
- Includes upgraded engine mounts

SUPERCHARGER UPGRADES

G. 17801947
Stage 1 Performance Upgrade Kit, Cobalt SS/ION Red Line
- For 2005-2007 Saturn ION Red Line and Chevrolet Cobalt SS only
- Enhances engine performance to 236 horsepower (up from stock 205 horsepower)
- Includes high-flow injectors and specific performance engine calibration
- Premium fuel required

Supercharger Upgrades Continued

A. 17803229
Stage 2 Performance Upgrade Kit, Cobalt SS/ION Red Line
- For 2005-2007 Saturn ION Red Line and Chevrolet Cobalt SS only
- Enhances engine performance to 241 horsepower (up from stock 205 horsepower)
- Includes high-flow injectors, supercharger pulley, new special length supercharger belt and specific performance engine calibration
- Premium fuel required

17803230
Stage 1 to Stage 2 Upgrade Kit, Cobalt SS/ION Red Line (not shown)
- For 2005-2007 Saturn ION Red Line and Chevrolet Cobalt SS with Stage 1 Performance upgrade kit already installed only
- Converts your Stage 1 Kit to Stage 2, increasing performance from 236 horsepower to 241 horsepower
- Includes supercharger pulley, and new special-length supercharger belt
- Premium fuel required

B. Stage 3 Kit for Cobalt SS/ION Red Line
Take your Cobalt SS or ION Red Line to the next level with our Stage 3 Off-Road Kit!
The Stage 3 Kit consists of the following:

- A smaller, 76mm supercharger pulley
- A 2-pass intercooler end plate
- A unique PCM, which includes a calibration for the smaller pulley, an adjustable rev limiter, a 100-octane mode, and a nitrous control algorithm
- See page 272 for more information

88958721
Two Pass Intercooler Endplate Kit (not shown)
- Upgrade from Stage 3
- Kit includes: seal P/N 12584355, seal P/N 12584333, nipple P/N 10235669 and instruction sheet
- Go to **tunersource.gmblogs.com** for more information

SERVICE MANUALS

C. 12486611
Service Manual, Ram Jet 350 (MEFI 3)
- Covers the installation and service of the MEFI 3 Ram Jet 350 P/N 12495515

88962723
Service Manual, Ram Jet 350 (MEFI 4, not shown)
- Covers the installation and service of the MEFI 4 Ram Jet 350 P/N 12499120

D. 12486610
Service Manual, Ram Jet 502 (MEFI 3)
- Covers the installation and service of the MEFI 3 Ram Jet 502 P/N 12497323

88962724
Service Manual, Ram Jet 502 (MEFI 4, not shown)
- Covers the installation and service of the MEFI 4 Ram Jet 502 P/N 12499121

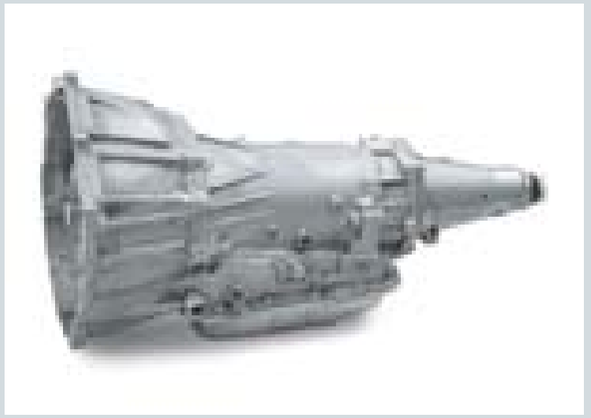
A Stage 2 Performance Upgrade Kit, Cobalt SS/ION Red Line

B Stage 3 Kit for Cobalt SS/ION Red Line

C Service Manual, Ram Jet 350 (MEFI 3)

D Service Manual, Ram Jet 502 (MEFI 3)

Hydra-Matic 4L60-E Four-Speed Automatic Transmission **E**



Hydra-Matic 4L65-E Four-Speed Automatic Transmission (LS series V-8) **F**

SuperMatic 4L85-E Four-Speed Transmission **G**

TRANSMISSIONS AND COMPONENTS

Back your GM performance engine with a genuine GM transmission. Transmissions from GM Performance Parts are brand-new and deliver smooth, dependable performance for a variety of high-torque applications. These new transmissions are purchased outright, so there's no need to deal with messy cores. Conversion kits allow the use of electronically controlled automatic transmissions in older and vintage vehicles, giving them the drivability and economic benefits of a modern overdrive transmission. All transmissions come with a 12-month warranty.

NOTE: *Installing these automatic transmissions in an older vehicle with a mechanical speedometer requires an aftermarket signal converter.*

Automatic Transmissions

E. 19156259
Hydra-Matic 4L60-E Four-Speed Automatic Transmission (Gen III/IV)
- Electronically controlled four-speed overdrive transmission
- Suitable for engines producing up to 370 lb.-ft. of torque
- Has a two-piece case Chevy V-8 bellhousing bolt pattern
- Includes 2300 rpm (approx.) torque converter
- Gear ratios: 1st: 3.06, 2nd: 1.75, 3rd: 1.00, 4th: 0.70
- Use adapter kit P/N 19154766 on Gen I and II engines

NOTE: *Use with electronic controller P/N 12497316 or 19212657.*

F. 19156260
Hydra-Matic 4L65-E Four-Speed Automatic Transmission (LS series V-8)
- Similar in design to the 4L60-E
- Electronically controlled four-speed overdrive transmission
- Suitable for engines producing up to 380 lb.-ft. of torque
- Features five-pinion gearsets, heat-treated stator shaft splines, induction-hardened turbine shaft, seven-plate clutch and revised valve body calibration
- Includes torque converter
- Gear ratios: 1st: 3.06, 2nd: 1.62, 3rd: 1.00, 4th: 0.70
- Use adapter kit P/N 19154766 on Gen I and II engines

NOTE: *Use with electronic controller P/N 12497316 or 19212657.*

G. 19154550
SuperMatic 4L85-E Four-Speed Transmission
- Newly designed for use on our ZZ572/720 crate engine
- All new parts, including additional clutch plates
- Improved valve body for firmer shifts
- Direct bolt-on for Gen 1 small block and all big blocks
- Includes torque converter for Big-Block applications (approx. 2200 rpm stall)
- For Small-Block applications, an aftermarket converter is strongly recommended
- Gear ratios: 1st: 2.48, 2nd: 1.48, 3rd: 1.00, 4th: 0.75

NOTE: *Use with electronic controller P/N 12497316 or 19212657.*

19156257
Hydra-Matic 4L85-E Four-Speed Automatic Transmission, 2WD
- Rated for a maximum torque output of 460 lb.-ft.
- Includes 2300 rpm (approx) torque converter
- Gear ratios: 1st: 2.48, 2nd: 1.48, 3rd: 1.00, 4th: 0.75
- **Also available in 4WD as P/N 19156258**

NOTE: *Use with electronic controller P/N 12497316 or P/N 19212657.*

Manual Transmissions

12581400
F23 Manual Transmission '05-'07 Cobalt/G5 (not shown)
- Non-supercharged applications
- 3.84 ratio

19213181
T-56 Transmission Kit (not shown)
- For Big-Block and Gen I and II Small-Blocks
- Gear ratios: 1st: 2.66, 2nd: 1.78, 3rd: 1.30, 4th: 1.00, 5th: 0.74, 6th: 0.50
- Includes shifter, no handle

19213178
T-56 Transmission Kit (not shown)
- For Gen III and IV Small-Blocks (LS series)
- Gear ratios: 1st: 2.66, 2nd: 1.78, 3rd: 1.30, 4th: 1.00, 5th: 0.74, 6th: 0.50
- Includes shifter, no handle

Controllers and Accessories

A. 12497316
Transmission Controller, 4L60-E, 4L65-E, 4L80-E and 4L85-E Automatic
- Required when using a GM electronically controlled automatic transmission (see page 297)
- Includes wiring harness, software and connector for lap-top computer
- Controller allows full programming of shifting, as well as part-throttle, wide-open throttle and shift firmness control
- Comes pre-programmed—simply enter rear tire diameter and axle ratio
- Wiring harness P/N 124894 included

19212657 NEW
Transmission Controller, 4L60-E, 4L65-E, 4L80-E and 4L85-E Automatic (not shown)
- Required when using a GM electronically controlled automatic transmission (see page 297)
- Includes wiring harness, software and connector for lap-top computer
- Controller allows full programming of shifting, as well as part-throttle, wide-open throttle and shift firmness control

B. 24502513
4L60/700R4 Transmission Swap Kit
- Adapts the 4L60 or 700R4 automatic transmission (non-electronic version) for use in early-model vehicles, with or without an engine management computer
- Includes instruction sheet, throttle valve spring for carbureted engines, a normally-closed fourth-gear clutch switch and wiring connector for the torque converter

C. 12563532
Crankshaft Spacer
- For use with Gen I style (Turbo 350/400, 700R4, 4L60, 4L60E and 4L85E) transmission on Gen III- and Gen IV-engines
- Needs regular flat flexplate P/N 1255136 and six torque converter bolts P/N 11589040 or starter will not reach
- Also requires longer bolts P/N 12563533

D. 19154766
Transmission Adapter Kit
- Allows installation of Gen III/IV style 4L60E/4L65E transmission onto Gen I and II engine
- Includes spacer ring, shims, dowels, bolts and flexplate
- Works on 1-piece rear main seal engines only

A Transmission Controller, 4L60-E, 4L65-E, 4L80-E and 4L85-E Automatic

B 4L60/700R4 Transmission Swap Kit

C Crankshaft Spacer

D Transmission Adapter Kit

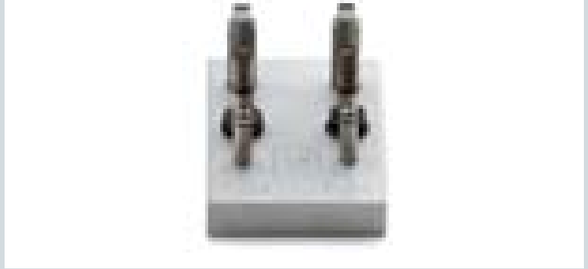
E Torsen Differential

F 8.625" Differential Cover

Engine Lift Bracket Kit G

Piston H

Engine Oil Primer I



Rocker Arm Ratio Checking Tool J

Valvetrain Organizer Tray K

DIFFERENTIAL COMPONENTS

E. 88958682
Torsen Differential
- Used in GM 4T65E Racing's FWD drag racing programs
- Tested to 900-plus horsepower
- In drag-race style, straight-line acceleration runs, this results in a close to ideal 50/50 power split to both drive wheels
- In cornering, while accelerating out of a turn, the Torsen biases power to the outside wheel, reducing inside-wheel spin
- Provides constant and infinitely variable drive
- Power is transferred automatically without the use of normal friction
- Extremely strong and durable, because it is gear operated
- No plates or clutches that can wear out
- Comes with new pinion gears already loaded

F. 12498974
8.625" Differential Cover
- Heavy duty cast-aluminum differential cover to fit your CK 1500 series truck
- Doubles the fluid capacity of the differential allowing it to run cooler and ultimately extending the life of the differential
- Be sure to add the proper amount of fluid, see instructions

TOOLS

G. 12363238
Engine Lift Bracket Kit
- Bolt to the ends of cylinder heads for secure removal or installation
- Contains two 7/16" thick brackets

NOTE: *Must use with Grade 5 or higher bolts.*

H. 12364087
Piston Stop
- Helps positively locate piston at Top Dead Center (TDC) during camshaft degreeing
- Made from brass with drilled center to vent cylinder pressure
- Screws into spark plug hole

I. 12368084
Engine Oil Primer
- Lubricates bearings prior to start-up of new or rebuilt engine
- For use on all Gen I and Gen II Chevy Small-Block V-8, all Big-Block V-8 and all V-6 engines

12346004
Pipe Sealant (50cc, not shown)
- GM-recommended sealant

J. 88958663
Rocker Arm Ratio Checking Tool
- Checks 1.5 and 1.6 aluminum rocker arm ratios
- For use only with GM Performance Parts aluminum rocker arms

NOTE: *Intended for use by racing sanctioning bodies.*

K. 12364088
Valvetrain Organizer Tray
- Keeps your engine's valvetrain components correctly organized
- With provisions for rocker arms, pushrods, adjusting nuts and lifters

RACE TRACK ACCESSORIES

Instant Shelters
Made for GM Performance Parts by shelter manufacturer E-Z UP. Can be erected in less than 60 seconds without special assembly tools or ropes. They are available in 10' x 10', 10' x 15', and 10' x 20' sizes. Available in blue with the Chevy Bowtie logo. Side walls also available. See below for part numbers and descriptions:

A. 12364234
E-Z UP Shelter, 10' x 10', Bowtie Logo

12364235
E-Z UP Shelter, 10' x 15', Bowtie Logo (not shown)

12364236
E-Z UP Shelter, 10' x 20', Bowtie Logo (not shown)

12364229
E-Z UP Shelter Side Walls, 10' (blue, no logo) (not shown)

12364230
E-Z UP Shelter Side Walls, 15' (blue, no logo) (not shown)

BOOKS AND MANUALS

Get the most from your vehicle and its GM Performance Parts. These books and manuals provide insider information and technical tips from direct sources within General Motors. They are invaluable for building an engine for the street or race track.

B. 24502488
Chevrolet Power
- Seventh edition of the time-tested guide to building competition engines for oval track racing, drag racing, road racing and marine applications
- Includes information on Small-Block, Big-Block, 90° V-6 and 60° V-6
- Contains more than 600 photos, illustrations, blueprints and charts

12486611
Service Manual, Ram Jet 350 (MEFI 3, not shown)
- Covers the installation and service of the MEFI 3 Ram Jet 350 P/N 12495515

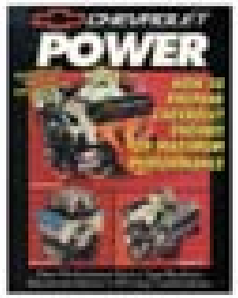
C. 88962723
Service Manual, Ram Jet 350 (MEFI 4)
- Covers the installation and service of the MEFI 4 Ram Jet 350 P/N 12499120

D. 12486610
Service Manual, Ram Jet 502 (MEFI 3)
- Covers the installation and service of the MEFI 3 Ram Jet 502 P/N 12497323

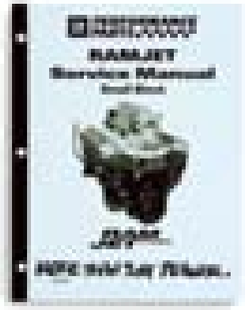
88962724
Service Manual, Ram Jet 502 (MEFI 4, not shown)
- Covers the installation and service of the MEFI 4 Ram Jet 502 P/N 12499121

E. 88959384
LS1 Engine Kit Installation Guide
- Detailed instructions to help you install an LS1 engine in your older vehicle
- Includes notes and technical explanations for necessary parts, along with part numbers you can order from your GM dealer to get the job done easily

A E-Z UP Shelter, 10' x 10', Bowtie Logo



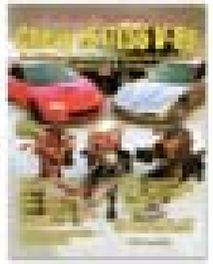
B Chevrolet Power



C Service Manual, Ram Jet 350 (MEFI 4)

D Service Manual, Ram Jet 502 (MEFI 3)

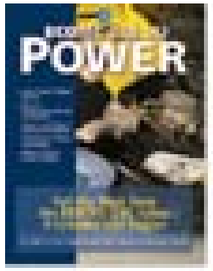
E LS1 Engine Kit Installation Guide



High-Performance Chevy LS1/LS6 V-8's F

Oldsmobile High-Performance Manual G

Sport Compact Build Book H



Ecotec 2.0L LSJ Power Book I

Motorsports Aurora V-8 Engine Handbook J

Busch Grand National Engine Handbook K

SuperTruck Engine Handbook L

Solstice Performance M

F. 88958786
High-Performance Chevy LS1/LS6 V-8's
- 160 pages discuss the LS series engine architecture and design, parts interchangeability along with step-by-step engine removal sequences for many GM vehicles with LS series engines
- Shows how to build, modify and tune LS engines

G. 12480027
Oldsmobile High-Performance Manual
- Contains proven methods for building power in Olds V-8 engines
- Also contains a detailed list of casting numbers for most Oldsmobile V-8 engines

88958674
LS "How to Rebuild" Book (not shown)
- A complete reference that shows how to rebuild an LS-series engine
- Includes tips and modification procedures to improve power and economy
- More than 600 step-by-step color photos

H. 88958728
Sport Compact Build Book
- Describes all the parts and procedures needed to transform your stock Ecotec engine into a high-performance racing engine for drag racing or drifting competition
- Also includes race modifications for a 4T65E automatic transmission

I. 88958686
Ecotec 2.0L LSJ Power Book
Step-by-step guide to boosting the horsepower and torque in this versatile four-cylinder powerplant.
- Detailed instructions on engine removal/reinstallation
- Special instructions on Installing Stage 1 and Stage 2 upgrade kits
- Build a 300-plus horsepower Ecotec!

J. 24502570
Motorsports Aurora V-8 Engine Handbook
- Covers component selection and recommendations, as well as engine building procedures, for engines used in specific racing series

K. 12370848
Busch Grand National Engine Handbook
- Covers component selection and recommendations, as well as assembly procedures, for building a 358-cubic-inch engine for use in the NASCAR Busch Grand National series
- Includes specifications for bore clearances, bearing clearances, etc.

L. 12370844
SuperTruck Engine Handbook
- Covers component selection and recommendations, as well as assembly procedures, for building a 358-cubic-inch engine for use in the NASCAR Craftsman Truck series
- Includes specifications for bore clearances, bearing clearances, etc.

88958668
Circle Track Techbook (not shown)
- Technical manual for GM Circle Track crate engines P/N 88958602, P/N 88958603 and P/N 88958604
- Covers all details regarding rebuilding specifications, including parts lists
- 47 pages with photos and details on valve machining, valve springs, camshafts and other factory specifications

M. 88958697
Solstice Performance
- 132 pages show how to take advantage of the performance capabilities of the Pontiac Solstice
- Loaded with almost 900 images and detailed technical information to help everyone from the beginner to the expert
- Shows how a Sports Car Club of America (SCCA) road racing Solstice is created, along with the buildup of a 'drifting' Solstice and a brute-performance Solstice

GM Licensed Parts

NEW!

Slant-Edge Die-Cast Valve Covers: 10 New Looks! (see page 304)

NEW!

HEI Distributors: Factory-Proven Performance (see page 310)

NEW!

Heavy Duty High-Torque Mini Starter (see page 310)

GM LICENSED PARTS

Your engine is a source of pride. Show it off with accessories designed to complement its style and support its performance!

From chrome valve covers and air cleaners to an extensive list of performance-enhancing products, GM Performance Parts has everything you need to personalize your Camaro, Bel Air, Chevelle, or Blazer—or any other GM-powered vehicle.

You've got choices, too! There are dozens of valve cover styles—in natural, polished, heavily plated chrome, and painted finishes—made with your choice of stamped steel (20 percent thicker for leak-free performance), die-cast aluminum, and fabricated aluminum, along with air cleaners designed for weight reduction using molded carbon fiber, glass fiber, and stamped aluminum. With this selection, you can finish your engine like no other.

These parts are manufactured under license for General Motors and GM Performance Parts. They meet strict dimensional and quality standards, ensuring you the highest-quality, best-fitting, top-performing components.

Our lineup also includes great-looking hard parts, including chrome plated alternators, die-cast electric water pumps, a high-torque gear-reduction starter and HEI distributors with a melonized gear and an adjustable vacuum advance.

Finish your project your way with dress-up accessories and other licensed components from GM Performance Parts.

Parts without images in this catalog may be viewed online.

$10 CASH REBATE COUPON*

To receive your $10 cash rebate, please send (1) your name and mailing address legibly written (and optional email address in case questions arise), (2) this coupon cut from your 2009 catalog, (3) proof-of-purchase: a copy of your online order for $50 or more, excluding shipping, shipped to the same name and address as that to which the $10 should be sent (ordered through the www.factoryperformanceparts.com website, which is also accessible through the www.gmperformanceparts.com website) to: 2009 GMPP Catalog Rebate, Factory Performance Parts, P.O. Box 306, Roseville, MI 48066. Visit proformparts.com/rebate2009 for complete terms and conditions.

***NOTE:** Only the parts displayed on pages (303-311) are eligible for the $10 rebate from Factory Performance Parts.

Ordering Information

The licensed engine dress-up parts displayed on the following pages (302-311) may be purchased online through gmperformanceparts.com (or from factoryperformanceparts.com), as well as from GM Performance Parts Authorized Centers and participating GM dealers. To locate products, find additional product information, or receive technical support, please visit gmperformanceparts.com, click on "Parts," and then on "Licensed Products."

ATTENTION GM DEALERS: The following pages of General Motors licensed products (302-311) may be ordered online from the licensee: visit the gmperformanceparts.com website, click on the DEALER INFO tab, on "Dealer's Zone," and on the "Engine Dress-Up Parts" link (or go to factoryperformanceparts.com directly), and proceed to the "Dealer Login" page. These procedures are also referenced in Dealer Bulletin ACC08-035.

SUPER-LIGHT, FABRICATED ALUMINUM VALVE COVERS

Precision-welded fabricated aluminum valve covers are available for street and racing applications (with and without, respectively, breather holes and baffles). The valve covers have recessed Chevrolet and Bowtie logos, billet mounting rails (for maximum leak resistance), and weigh approximately three pounds less than stamped steel die-cast valve covers. Sold in pairs.

A.–B. Chevrolet Small-Block V-8, 1958-1986

- Clear anodized, tall, no baffle (shown, A) 141-800
- Clear anodized, tall, with baffle 141-801
- Black anodized, tall, no baffle 141-802
- Black anodized, tall, with baffle (shown, B) 141-803

C. Chevrolet Big-Block, 1965-Later

- Clear anodized, tall, no baffle 141-805
- Black anodized, tall, no baffle 141-806
- Black anodized, tall, with baffle (shown, C) 141-807
- Clear anodized, tall, with baffle 141-808

DIE-CAST VALVE COVERS

These premium die-cast aluminum valve covers are manufactured to GM specifications and are equipped with internal oil drippers (small-block only) and baffles. The valve covers are highlighted with recessed red Bowtie and Chevrolet logos. Sold in pairs.

D. Chevrolet Big-Block, 1965-Later

- Chrome, tall, with baffle (shown, D)..... 141-140
- Black crinkle, tall, with baffle..... 141-141
- Polished, tall, with baffle 141-142

E.–F. Chevrolet Small-Block V-8, 1958-1986

- Polished, tall, with baffle (shown, E) 141-108
- Black crinkle, tall, with baffle (shown, F) 141-116
- Chrome, tall, with baffle..... 141-117

LATE-MODEL DIE-CAST VALVE COVERS

Late-model valve covers are the tall, center hold-down-style and come with mounting bolts and appropriate washers. All late-model valve covers come with baffles and grommets. Sold in pairs.

G. Chevrolet Small-Block V-8, 1987-Current

- Polished, with baffle..... 141-130
- Black crinkle, with baffle 141-131
- Chrome, with baffle (shown, G) 141-132
- Replacement bolt and washer kit..... 141-133
- Polished, Circle Track, with vent tubes on one cover, no baffle, no Bowtie logo..... 141-139

SLANT-EDGE DIE-CAST VALVE COVERS

These tall, slant-edge die-cast valve covers have a progressive design and a modern look. Offered with raised or recessed Chevrolet and Bowtie logos, plus plain. The valve covers are baffled and sold in pairs. Patent Pending.

H. Chevrolet Small-Block V-8, 1958-1986

Polished, raised logo (shown, page 301)..... 141-920
Black crinkle, raised logo..... 141-921
Chrome, raised logo..... 141-922
Metallic gray, recessed logo 141-923
Chevy Orange, raised logo (shown, H) 141-924
Cast gray crinkle, raised logo 141-925
Polished, no logo..... 141-926
Polished, recessed red/black logo (shown, page 301)..... 141-927
Black crinkle, recessed logo..... 141-928
Chrome, recessed red/black logo 141-930

A 141-800

B 141-803

C 141-807

D 141-140

E 141-108

F 141-116

G 141-132

H 141-924

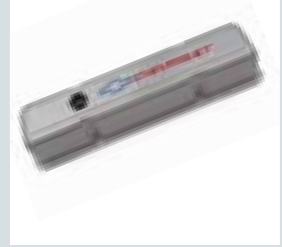
141-905 I

141-813 J

141-103 K

141-115 L

141-751 M



141-361 N

141-811 O

141-814 P

STAMPED VALVE COVERS

These heavy-gauge stamped steel valve covers are designed to prevent leakage. The high-quality chromed covers feature Chevrolet and Bowtie logos. They are available in both tall and short (production height) designs. Some valve covers have oil baffles for PCV hookups. The valve covers are sold in pairs with necessary grommets, unless otherwise specified.

NOTE: *Production height Chevy Small-Block valve covers and valve covers with baffles will not clear most stud girdle applications.*

I., K., M., N. Chevrolet Small-Block V-8, 1958–1986

- Chrome, tall, no baffle..... 141-101
- Chrome, short, with baffle 141-102
- Chrome, tall, with baffle (shown, K)..... 141-103
- Metallic gray, tall, with baffle (shown, N) 141-361
- Black crinkle, short, with baffle 141-750
- Black crinkle, tall, with baffle (shown, M)..... 141-751
- Chrome, short, with baffle, black/red logo 141-899
- Chrome, tall, with baffle, black/red (shown, I)..... 141-905

J., L., O., P. Chevrolet Big-Block V-8, 1965–1996

- Chrome, short, with baffle 141-114
- Chrome, tall, with baffle (shown, L)..... 141-115
- Black crinkle, short, with baffle 141-810
- Black crinkle, tall, with baffle (shown, O) 141-811
- Chrome, short, with baffle, black/red logo 141-812
- Chrome, tall, with baffle, black/red (shown, J) 141-813
- Metallic gray, short, with baffle (shown, P)..... 141-814
- Metallic gray, tall, with baffle..... 141-815

TRANSMISSION OIL PANS

These stock-depth transmission oil pans have drain plugs for easier maintenance. The finned design aids cooling. There is a large GM logo stamped on the pans.

Transmission Oil Pans (not shown)

- Turbo 350..... 141-250
- Turbo 400..... 141-251

Personalize your engine with a distinctive component combo in three easy steps:

(1) Select your preferred color theme, choosing from various offerings in classic chrome, chrome with recessed painted logos, black crinkle, high-tech metallic gray, polished, clear anodized; or select the Chevy orange valve covers.

(2) Select your basic materials, choosing from stamped steel, die-cast aluminum, stamped aluminum, fabricated aluminum, composite or graphite fiber.

(3) Consider the importance of functionality, internal and external clearance, weight, mechanical strength, and surface finish characteristics.

...the result will be an appearance that is uniquely yours.

Plating more than four times thicker than some aftermarket parts.

TWO-PIECE DIE-CAST ALUMINUM VALVE COVERS

Valvetrain maintenance is greatly simplified with two-piece die-cast aluminum valve covers. The top section has a diagonal cut and a retained gasket for a tight, leak-free seal. The valve covers feature oversized bolts for fast removal. These tall valve covers will clear roller rockers and stud girdles. These valve covers are available in a variety of styles/finishes with and without Bowties and/or Chevrolet logos. Small-Block valve covers fit 1958-1986 engines, and Big-Block fit 1965-1996. The valve covers are sold in pairs and include an Allen wrench and required grommets. U.S. Pat. Nos. 7,343,890, D543,998S

A.–C.

Chevrolet Small-Block V-8, 1958–1986

- Polished, recessed logo (shown, A)..... 141-910
- Black crinkle, recessed logo (shown, B) 141-911
- Chrome, recessed logo 141-912
- Polished, raised logo (shown, C) 141-913
- Black crinkle, raised logo 141-914
- Polished, no logo 141-915
- Replacement gasket kit (2)..... 141-916

NOTE: *Will not fit cylinder head 12340034 or similar (with three rectangular raised internal sections near the valve cover mounting surface), unless such sections are milled off.*

Chevrolet Big-Block V-8, 1965-1996

- Polished, recessed logo..... 141-940
- Black crinkle, recessed logo 141-941
- Chrome, recessed logo 141-942
- Chevy® Orange, recessed logo..... 141-943
- Replacement gasket kit (2)..... 141-946

LATE-MODEL STAMPED-STEEL VALVE COVERS

These short-style valve covers are the center hold-down design for later Small-Block engines. They have baffles and grommets, but are not supplied with mounting bolts. Sold in pairs.

D.–F.

Chevrolet Small-Block V-8, 1987–Current

- Chrome, short (shown, D) 141-107
- Black crinkle, short (shown, E) 141-907
- Metallic gray, short (shown, F) 141-908

DRESS-UP KITS

G., H.

Chevrolet Small-Block V-8, 1958-1986

- Includes 2 short baffled Bowtie valve covers (141-102), plus Bowtie timing chain cover with GM production oil seal installed (141-215), 2 black/red Bowtie 4-wire looms (141-636), 1 Bowtie push-in air breather (141-616), oil dipstick (141-550), timing tab for 8" Balancer (141-202), and 2 grommets (air breather cap and PCV) (shown, G)..... 141-001
- Includes two short baffled Bowtie valve covers (141-102), plus 8 Bowtie valve cover wing nuts (141-600), 4 valve cover hold-down clamps (141-610), 2 black/red Bowtie 4-wire looms (141-636), 1 Bowtie push-in air breather cap (141-616), oil dipstick (141-550), and 2 grommets (air breather cap and PCV) (shown, H) 141-002

A 141-910

B 141-911

C 141-913

D 141-107

E 141-907

F 141-908

G 141-001

H 141-002

141-302 I

141-692 J

141-362 K

141-752 L

141-906 M

141-793 N

141-307 O

141-333 P

141-323 Q

141-327 R

DELUXE DRESS-UP KITS

These dress-up kits include one pair of tall valve covers, an air cleaner, timing chain cover, breather cap, 8 wing nuts and 8 hold-down clamps.

- Metallic gray (not shown) 141-360
- Black crinkle (not shown).....141-758
- Chrome, black/red logos (not shown).....141-900

	141-360	141-758	141-900
Valve Covers	141-361	141-751	141-905
Air Cleaner	141-362	141-752	141-906
Timing Chain Cover	141-363	141-753	141-904
Air Breather Cap	141-365	141-754	141-616
8 Wing Nuts	141-364 x2	141-756 x2	141-902 x2
8 Hold-Down Clamps	141-366 x2	141-757 x2	141-903 x2

AIR CLEANERS

These steel air cleaners are available in the classic GM style and the newer, high-performance look. They feature the Chevrolet logo and come with maximum flow ACDelco air filter elements* and mounting hardware. The classic air cleaners include die-cast Bowtie center nuts (except P/N 141-906). The air filter bases are recessed for a low profile and maximum hood clearance (a minimum of 3.75 inches from the top of carburetor gasket area to hood underside).

*14" x 3" Filter (A212CW), 10" x2-53/64" Filter (A773)

I., K., L., M., O.

14" Steel Air Cleaners

- 14" Classic with Bowtie center nut (shown, I)..... 141-302
- 14" High-performance (shown, O) 141-307
- 14" Metallic gray (shown, K) 141-362
- 14" Black crinkle (shown, L)..... 141-752
- 14" Chrome, black/red logo (shown, M)..... 141-906

10" Steel Air Cleaners

- 10" Classic with Bowtie center nut..... 141-309
- 10" High-performance..... 141-315

SUPER-LIGHT 14" AIR CLEANERS

Weight savings can be had by using air cleaners made of aircraft aluminum, carbon or composite fiber. The aluminum air cleaners are available in clear anodized or black anodized finishes. These air cleaners come with a 3" -tall ACDelco filter element, all necessary mounting hardware and standard wing nuts.

J., N.

14" Super-Light Air Cleaners

- Black anodized aluminum, no logo 141-690
- Clear anodized aluminum, no logo 141-691
- Black anodized aluminum, Chevrolet Bowtie logo (shown, J) 141-692
- Clear anodized aluminum, Chevrolet Bowtie logo..... 141-693
- Carbon Fiber, silver Bowtie logo..... 141-790
- Composite fiber, Bowtie logo (shown, N)..... 141-793

AIR CLEANER CENTER NUTS

Add some extra flair to your custom air cleaner by topping it with a distinctive GM or Bowtie chrome plated zinc die-cast center nut. The center nuts are available in small and large sizes. They fit both 1/4-20 and 5/16-18 studs.

P.–R.

Large and Small Air Cleaner Center Nuts

- Bowtie, small..... 141-322
- Bowtie, large (shown, P) 141-333
- Hi-tech Bowtie, small..... 141-328
- Hi-tech Bowtie, large (shown, Q)..... 141-323
- Hi-tech GM, small..... 141-332
- Hi-tech GM, large (shown, R) 141-327

VALVE COVER WING NUTS

These custom valve cover wing nuts feature a Bowtie logo on the top of each fastener. The lower ends of the shafts have wide shoulders for optimum clamping/load distribution. Studs are included for precise gasket positioning. The wing nuts fit Chevrolet Big-Block, Small-Block, and V-6 cylinder heads. Sold 4 per package.

A.–D.

Valve Cover Wing Nuts

- Chrome (shown, A)..... 141-600
- Metallic gray (shown, B)..... 141-364
- Black crinkle (shown, C)..... 141-756
- Chrome, with red Bowtie (shown, D)..... 141-902

AIR BREATHER CAPS

Air breather caps with raised Bowtie logos are available in a variety of finishes to complement die-cast or stamped valve covers. Use on valve covers with grommets fitting 1.22" holes unless otherwise specified. The breather caps are available in traditional domed-style and push-in, 3"-diameter air-filter-element style.

E. Push-In, Rectangular

- Chrome (shown, E)..... 141-619

F.–H.

Push-In, 3" Diameter

- Metallic gray (shown, F)..... 141-365
- Chrome (shown, G)..... 141-616
- Black crinkle (shown, H)..... 141-754

Push-On, 3" Diameter, For Use with Oil Filler Tube, 1.82" Opening

- Chrome..... 141-617

Twist-On, 3" Diameter

- Chrome..... 141-618

These popular push-in filter air breathers, with the raised Bowtie logo stamped prominently in the top, are offered in two styles: with the heat-shield hood and without. 3" diameter. Fits valve covers with 1.22" holes.

I.–J.

Push-In Filter Air Breathers

- Chrome, with hood (shown, I)..... 141-621
- Chrome, without hood (shown, J)..... 141-622

Clamp-On Filter Air Breather, Fits 1-3/8th

- Chrome, with hood..... 141-625

WATER NECKS

These Chevrolet water necks utilize neoprene O-ring gaskets instead of regular gaskets-eliminating leakage. Supplied with chrome bolts.

- V-8, 1955-1965, Chevy II V-8 1965, Corvette 1956-1963 (not shown)..... 141-500
- Chevrolet, Camaro, and Chevelle V-8s, 1966-1975 (not shown)..... 141-501

MASTER CYLINDER COVERS

These GM dual line master cylinder covers are offered for the most popular applications. Supplied with clips and a precisely positioned GM logo. PDB = Power Disk Brakes

- Single clip, 5"x 2-3/8", PDB (not shown)..... 141-225
- Double clip, 5-3/4"x 3", PDB (not shown)..... 141-226
- Single clip, 5-5/8"x 3", PDB or manual (not shown)...141-227

A 141-600

B 141-364

C 141-756

D 141-902

E 141-619

F 141-365

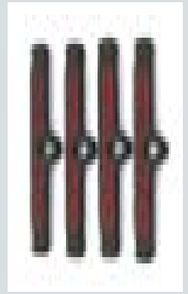
G 141-616

H 141-754

I 141-621

J 141-622

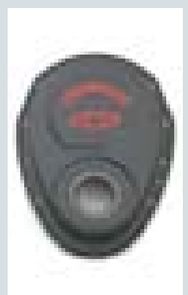
141-366 K



141-757 L

141-903 M

141-363 N



141-753 O

141-904 P

141-215 Q

141-216 R

141-217 S

141-730 T

VALVE COVER HOLD-DOWN CLAMPS

Valve cover hold-down clamps distribute the load over a wider area to minimize valve cover distortion and possible leakage. The clamps feature Bowtie logos and fit stamped valve covers for Chevrolet Small-Block V-8 and V-6/90-degree engines through 1986. (4 clamps per package.)

K.–M.

Hold-Down Clamps

- Chrome, no logo..... 141-610
- Metallic gray (shown, K)..... 141-366
- Black crinkle (shown, L)..... 141-757
- Chrome, red Bowtie (shown, M)..... 141-903

TIMING CHAIN COVERS

Add a distinctive look to the front of any Chevrolet Small-Block or Big-Block engine with a custom timing cover that's accented with Chevrolet and Bowtie logos. These stamped-steel covers are engineered to GM specifications and come with a GM production oil seal pre-installed. The covers use bolt-on timing pointers.

NOTE: *Replacement oil seals: S/B GM 10111769, B/B GM 3860095.*

N.–P., Q.

Chevrolet Small-Block V-8 1969-1991 and V-6/90°

- Chrome (shown, Q)..... 141-215
- Metallic gray (shown, N)..... 141-363
- Black crinkle (shown, O)..... 141-753
- Chrome, black/red logo (shown, P)..... 141-904

R. Chevrolet Big-Block 1965-1990

- Chrome (shown, R)..... 141-216

Striking die-cast timing covers, supplied with separate GM production oil seal. Bowtie logo directly cast into the upper surface.

S. Die-Cast Aluminum, Chevrolet Small-Block V-8 1965-1990

- Polished (shown, S)..... 141-217
- Chrome..... 141-218

HARMONIC BALANCER COVERS

Enhanced looks and engine timing accuracy are benefits of installing a custom aluminum harmonic balancer cover. More than just a dress-up item, the precision-degreed Small-Block and Big-Block covers are mounted directly through the center hub, which eliminates any timing inaccuracies caused by outer inertia ring slippage. The balancer covers are marked with a Bowtie logo, Top Dead Center and proper timing degrees. They are available in black and chrome finishes. U.S. Patent 5,675,078

Chevrolet Small-Block, 6-3/4"

- Black..... 141-727
- Chrome..... 141-725

Chevrolet Small-Block, 8"

- Black..... 141-728
- Chrome..... 141-726

T. Chevrolet Big-Block

- Black (shown, T)..... 141-730
- Chrome..... 141-729

CHROME ALTERNATORS

These chrome (with red Bowtie logo) alternators are totally new with no rebuilt components, so they perform as well as they look. The quality is assured with generous over-spec amperage and an individual Quality Assurance graph that documents operating performance. The alternators come with a machined pulley.

A. 100% New Chrome Alternators

- 1973-1986 internal regulator 141-656
- 100 amp, 1-wire (shown, A) 141-657
- 60 amp, 1-wire 141-658
- 80 amp, 1-wire 141-659
- 120 amp, 1-wire 141-660

ALTERNATOR BRACKETS

Alternator Brackets

- Top bracket bolts to manifold 141-402
- Top bracket bolts to neck (not Corvette) 141-403

HEI DISTRIBUTORS

These high quality, 100% new, and dependable HEI distributors set the standard in ignition, loaded with premium components like the original GM-melonized distributor gear and sintered steel weights to optimize GM engine performance. Includes an adjustable vacuum advance for fine-tuning the rate and amount of advance that will result in increased power and eliminate harmful detonation.

B. Chevrolet Small and Big Block, 1955-1982

- Yellow cap, with coil (shown, page 301) 141-681
- Black cap, with coil (shown, page 301) 141-682
- Red cap, with coil (shown, B) 141-683

BOWTIE HIGH PERFORMANCE ELECTRIC FANS

Auxiliary electric fans can improve engine performance and increase gas mileage, as well as prevent overheating in congested traffic. The fans are available in 10", 12", 14", heavy-duty 15" with thermostat, and 16" sizes to fit most popular cars and trucks. Their ultra-thin design is great for cramped locations. The 15" fan has an adjustable 180-240° F thermostat, and pulls 2,800 cfm, bolting to the radiator supports with supplied sturdy brackets. Installation is easy with basic hand tools. The fans feature a red Bowtie logo.

C., D. Bowtie High Performance Electric Fans

- 10" fan 141-641
- 12" fan 141-642
- 14" fan (shown, C) 141-644
- 15" fan with adjustable thermostat (shown, D) 141-647
- 16" fan 141-646

ELECTRIC WATER PUMPS

Electric water pumps help race and high-performance street engines save weight and eliminate high-rpm impeller drag. The lightweight, but durable, die-cast aluminum pumps are epoxy-powder-coated in three colors (plus chrome and polished finishes) for corrosion resistance. The flow rate is more than 35 gallons per minute. The units are decorated with a red Bowtie logo. A stepped fitting (1" pipe to 1.75" hose) and weather-tight connector are included.

	141-670	141-650
Polished	141-670 (shown, E)	141-654
Chrome	141-671	141-650
Red	141-672	141-652
Blue	141-673 (shown, F)	141-653
Black	141-674	141-651 (shown, G)

HEAVY DUTY HIGH-TORQUE MINI STARTER

High-torque, gear-reduction design. 100% New, not rebuilt. Offset design results in more clearance between the oil pan and the starter, and can be rotated for additional chassis clearance. 15-to-1 compression for maximum cranking!

H. High-Torque Mini Starter

- Heavy-duty, 2.0 KW starter (shown, H) 141-684

A 141-657

B 141-683

C 141-644

D 141-647

E 141-670

F 141-673

G 141-651

H 141-684

141-232 I

141-233 J

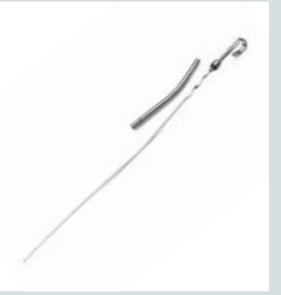
141-630 K

141-210 L

141-638 M

141-636 N

141-200 O



141-550 P

BOWTIE LOGO FREEZE PLUG INSERTS

Make your engine block Bowtie all the way with decorative machined billet aluminum Bowtie logo freeze plug inserts. These are NOT freeze plug replacements. They fit all Chevy Small-Block engines except the LS series. Two per package.

I.–J. Freeze Plug Inserts

- Black, raised logo (shown, I) 141-232
- Red, recessed logo (shown, J) 141-233

PUSH-IN OIL FILLER CAP

A raised, embossed Bowtie logo adorns the top of this push-in filler cap that fits valve covers with 1.22" holes.

K. Oil Filler Cap

- Chrome (shown, K) 141-630

TWIST-ON OIL FILLER CAP

A large, white-on-blue epoxy-coated GM logo highlights this large, twist-on oil filler cap. It fits Chevrolet-style holes and includes a non-asbestos gasket.

Twist-On Oil Filler Cap

- Chrome with GM logo (not shown) 141-631

FUEL PUMP BLOCK-OFF PLATES

These Chevrolet V-8 fuel pump block-off plates feature a stamped Bowtie logo and come with a special non-asbestos gasket

L. Fuel Pump Block-Off Plates

- Small-Block, chrome (shown, L) 141-210
- Big-Block, chrome 141-211

LINEAR WIRE LOOMS

Messy spark plug wires can detract from an otherwise sharp engine, but those unruly wires can easily be tamed with Bowtie logo linear wire looms. The looms attach to the valve cover bolts and hold the wires in a neat parallel arrangement. A patented nylon wedge allows the wire holders to be opened and closed individually. One pair per package.

M. Linear Wire Looms

- Small-Block V-8, 1959-1986 (shown M) 141-638
- Big-Block V-8, 1965-1991 141-639

IGNITION WIRE LOOMS

These ignition wire looms feature black nylon separators with Bowtie and Chevrolet logos in red. They're mounted on chrome stems. They fit Small-Blocks from 1959-1986 and Big-Blocks from 1965-1991. Two per package.

N. Ignition Wire Looms

- Wire looms (shown, N) 141-636

TIMING CHAIN POINTERS

Chrome, bolt-on timing pointers are available for 6.75" or 7" balancers and 8" balancers on Small-Block Chevrolet engines from 1969-1990 and Big-Blocks from 1965-1991.

O. Chevrolet Small-Block V-8 or V-6/90°, 1969-1990

- 6-3/4" or 7" balancer (shown, O) 141-200
- 8" balancer 141-202

Chevrolet Big-Block, 1965-1991

- 8" balancer 141-201

OIL DIPSTICK KITS

Chrome dipstick kits are available for a large variety of Chevrolet Small-Block and Big-Block engines. The kits include the dipstick tube and a hooked handle dipstick that has the Bowtie logo stamped near the fill indicator mark.

P. Chevrolet Oil Dipstick Kits

- Small-Block V-8, through 1977 (shown, P) 141-550
- Small-Block V-8, 1978-1981 141-551
- Big-Block V-8, 1965-1991 141-553

RCR PARTS

Only the best components are acceptable on Richard Childress Racing's winning NASCAR teams, so GM Performance Parts partnered with RCR to offer these high quality parts for our circle track customers. RCR parts are the ideal complements to complete any GM Performance Parts racing crate engine. You can race with confidence and look sharp, too, with RCR accessories.

NOTE: ATTENTION GM DEALERS: *The following pages are General Motors LICENSED PRODUCTS and must be ordered from the licensee. For detailed instructions see Bulletin number ACC08-035 or visit the gmperformanceparts.com website, click on Dealer Info, and then click on Dealer Sites.*

A. RCRAC100
Air Cleaner
- Clear anodized super-light 14" aluminum drop-down air cleaner
- With element

B. RCRAL150
Alternator
- Lightweight
- 93mm housing
- 50 amp alternator from Denso
- Designed for professional motorsports use

C. RCRAL151
Alternator Installation Kit
- Complete your alternator installation with this kit
- 2.700" diameter pulley
- 25" 3 rib belt (not shown)

D. RCRAL152
Alternator Mounting Hardware
- Designed to be used with the 93mm RCRAL150 Denso alternator and the RCRFD350 Front Drive Kit

E. RCRDS250
Distributor
- Pro Billet HEI Distributor
- With oversized shaft sealed ball bearing and long sintered bushing
- Extra springs and bushings are included to tailor your curve
- Includes a removable vacuum advance canister

F. RCRDS251
Pro Billet Distributor
- With adjustable mechanical advance
- Powdered metal gear
- Must be used with MSD 6, 7, 8 or 10 series ignition

G. RCRFP300
Fuel Pump
- Professionally designed billet mechanical fuel pump
- Delivers 70 gph at 7 PSI

H. RCRFD350
Front Drive Kit
- Upper and lower serpentine pulley set
- Provides a 7% underdrive for the water pump
- Comes complete with drive hub, belt and necessary installation hardware

A Air Cleaner

B Alternator

C Alternator Installation Kit (rib belt not shown)

D Alternator Mounting Hardware

Spark Plug Wires I

Starter J

Water Pump K

E Distributor

F Pro Billet Distributor

G Fuel Pump

H Front Drive Kit

Power Steering Bracket L

Power Steering Pump Assembly M

Valve Covers N

I. RCRSP400
Spark Plug Wires
- 8mm spiral core spark plug wire set fitted and numbered with a wire loom kit
- Designed to route under the headers with 90° high temp spark plug boots and HEI Distributor boots

J. RCRST450
Starter
- 10 lb. high-torque starter will work with both 153 and 168 tooth flywheels
- 3.75 to 1 gear reduction
- 1.4 KW motor

K. RCRWP550
Water Pump
- Competition proven water pump
- Made from 356 T6 aluminum with heavy duty bearing and seal
- Includes an installation kit complete with gaskets, bolts and spacers

L. RCRPS600
Power Steering Bracket
- Billet aluminum power steering bracket
- Allows a low-mount for the power steering pump, RCRPS601

M. RCRPS601
Power Steering Pump Assembly
- Low drag pump designed for race applications
- Internal design adjusts fluid volume/pressure resulting in lower operating temperatures and less parasitic horsepower loss
- Comes complete with pulley and belt to work with RCRFD350 Front Drive Kit

N. RCRVC500
Valve Covers
- Beautiful, powder-coated die cast aluminum cover set
- With breather tubes and a deep groove for good gasket retention
- Comes with retaining bolts
- Sold in pairs

BOWTIE LOGO GAUGES

Now that you've built your dream high-performance Chevrolet engine, let GM Performance Parts keep tabs on all vital functions with handsome Chevrolet logo gauges. A wide variety of gauges and styles are offered by Autometer products with Chevrolet, Bowtie, and GM Performance Parts logos. These gauges are designed to withstand the rigors of racing or high-performance street use. Mounting hardware is included unless otherwise specified.

NOTE: ATTENTION GM DEALERS: *The following pages are General Motors' LICENSED PRODUCTS and must be ordered from the licensee. For detailed instructions, see Bulletin number ACC08-035 or visit the gmperformanceparts.com website, click on "Dealer Info," and then click on "Dealer Sites."*

Electrical

A. 3613-00406
2-1/16" Fuel Level, 0-90 Ohms GM Short Sweep
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

B. 3627-00406
2-1/16" Oil Pressure, 0-100 PSI Short Sweep
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers
- See photo on page 390

C. 3637-00406
2-1/16" Water Temperature, 100-250° F Short Sweep
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

D. 3644-00406
2-1/16" Pyrometer Kit, 0-1600° F Full Sweep
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

E. 3645-00406
2-1/16" Pyrometer Kit, 0-2000° F Full Sweep
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

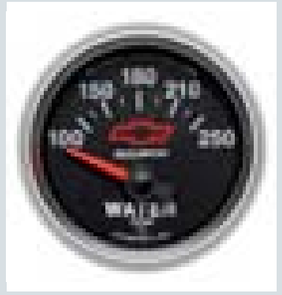
F. 3649-00406
2-1/16" Transmission Temperature, 100-250° F Short Sweep
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

G. 3653-00406
2-1/16" Oil Pressure, 0-100 PSI
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

H. 3655-00406
2-1/16" Water Temperature, 100-260° F Full Sweep
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

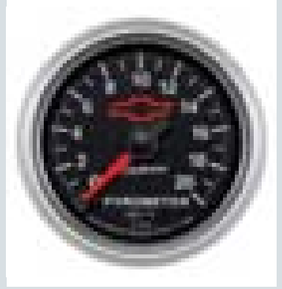
A 2-1/16" Fuel Level, 0-90 Ohms GM Short Sweep

B 2-1/16" Oil Pressure, 0-100 PSI Short Sweep

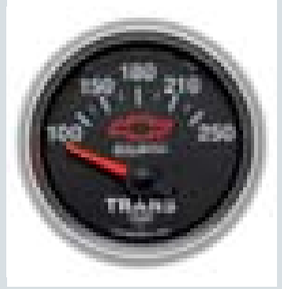


C 2-1/16" Water Temperature, 100-250° F Short Sweep

D 2-1/16" Pyrometer Kit, 0-1600° F Full Sweep



E 2-1/16" Pyrometer Kit, 0-2000° F Full Sweep

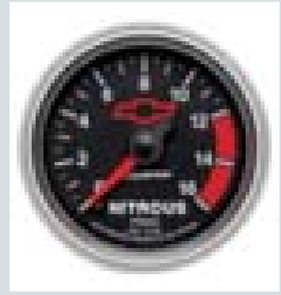


F 2-1/16" Transmission Temperature, 100-250° F Short Sweep

G 2-1/16" Oil Pressure, 0-100 PSI

H 2-1/16" Water Temperature, 100-260° F Full Sweep

2-1/16" Transmission Temperature, 100-260° F Full Sweep **I**

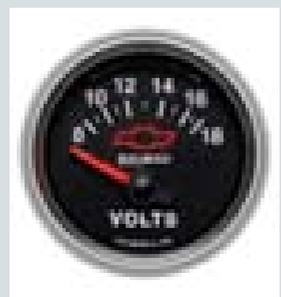


2-1/16" Nitrous, 0-1600 PSI Full Sweep **J**

2-1/16" Air/Fuel Ratio Full Sweep **K**

3-3/8" Speedometer, 160 mph Programmable **L**

3-3/8" Tachometer, 10,000 rpm with Shift Light **M**



2-1/16" Voltmeter, 8-18 Volt Short Sweep **N**

3-3/8" Tachometer, 10,000 rpm **O**

I. 3657-00406
2-1/16" Transmission Temperature, 100-260° F Full Sweep
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

3659-00406
2-1/16" Boost, Vacuum 30 In Hg/30 psi (not shown)
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

J. 3674-00406
2-1/16" Nitrous, 0-1600 psi Full Sweep
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

K. 3675-00406
2-1/16" Air/Fuel Ratio Full Sweep
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

L. 3688-00406
3-3/8" Speedometer, 160 mph Programmable
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

M. 3690-00406
3-3/8" Tachometer, 10,000 rpm with Shift Light
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers
- 4-, 6-, and 8-cylinder compatible

N. 3692-00406
2-1/16" Voltmeter, 8-18 Volt Short Sweep
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

O. 3697-00406
3-3/8" Tachometer, 10,000 rpm
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers
- 4-, 6-, and 8-cylinder compatible
- In-dash mount

Bowtie Logo Gauges Continued

A. 3699-00406
5" Tachometer, 10,000 rpm with Shift Light
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers
- 4-, 6-, and 8-cylinder compatible
- In-dash or pedestal mount

B. 5780-00406
3-3/4" Tachometer, 8000 rpm
- Red Bowtie logo
- White dial, black numbers
- 4-, 6-, and 8-cylinder compatible
- In-dash or pedestal mount

5795-00406
5" Tachometer, 10,000 rpm with Memory, Standard Ignition (not shown)
- Red Bowtie logo
- White dial, black numbers
- 4-, 6-, and 8-cylinder compatible
- In-dash or pedestal mount

C. 5814-00406
2-5/8" Fuel Level
- Red Bowtie logo
- White dial, black numbers
- 0 Ohms empty, 90 Ohms full

D. 5827-00406
2-5/8" Oil Pressure, 0-100 psi
- Red Bowtie logo
- White dial, black numbers

E. 5837-00406
2-5/8" Water Temperature, 100-250° F
- Red Bowtie logo
- White dial, black numbers

F. 5889-00406
5" Speedometer, 160 mph
- Red Bowtie logo
- White dial, black numbers

A 5" Tachometer, 10,000 rpm with Shift Light

B 3-3/4" Tachometer, 8000 rpm

C 2-5/8" Fuel Level

D 2-5/8" Oil Pressure, 0-100 psi

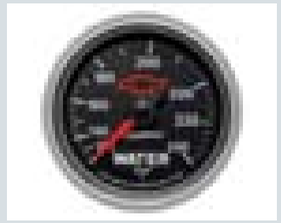
E 2-5/8" Water Temperature, 100-250° F

F 5" Speedometer, 160 mph

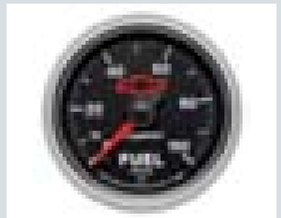
2-1/16" Boost, Vacuum 30 in Hg/30 psi **G**

2-1/16" Boost, 0-35 psi **H**

2-1/16" Oil Pressure, 0-100 psi **I**



2-1/16" Water Temperature, 120-240° F **J**



2-1/16" Fuel Pressure, 0-100 psi Full Sweep **K**

2-5/8" Fuel Pressure, 0-100 psi **L**

2-5/8" Fuel Pressure, 0-15 psi with Isolator **M**

2-5/8" Oil Pressure, 0-100 psi **N**

2-5/8" Nitrous, 0-2000 psi **O**

2-5/8" Water Temperature, 120-240° F **P**

Bowtie Logo Gauges Continued

Mechanical

G. 3603-00406
2-1/16" Boost, Vacuum 30 in Hg/30 psi
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

H. 3604-00406
2-1/16" Boost, 0-35 psi
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

3605-00406
2-1/16" Boost, 0-60 psi (not shown)
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

3607-00406
2-1/16" Boost, Vacuum 30 In Hg/20 psi (not shown)
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

I. 3621-00406
2-1/16" Oil Pressure, 0-100 psi
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

J. 3632-00406
2-1/16" Water Temperature, 120-240° F
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

K. 3663-00406
2-1/16" Fuel Pressure, 0-100 psi Full Sweep
- Red Bowtie logo
- Through-the-dial lighting
- Black dial, white numbers

L. 5812-00406
2-5/8" Fuel Pressure, 0-100 psi
- Red Bowtie logo
- White dial, black numbers

M. 5813-00406
2-5/8" Fuel Pressure, 0-15 psi with Isolator
- Red Bowtie logo
- White dial, black numbers

N. 5821-00406
2-5/8" Oil Pressure, 0-100 psi
- Red Bowtie logo
- White dial, black numbers

O. 5828-00406
2-5/8" Nitrous, 0-2000 psi
- Red Bowtie logo
- White dial, black numbers

P. 5832-00406
2-5/8" Water Temperature, 120-240° F
- Red Bowtie logo
- White dial, black numbers

VINTAGE BOWTIE LOGO GAUGES

A. 1300-00408
Five-Piece Kit Box with Mechanical Speedometer
- Vintage logo
- White dial, black logo
- All 2" gauges feature chrome-embossed Bowtie bezel
- Orange pointer
- Includes electric speedometer, oil pressure, voltmeter, water temperature, fuel level gauges and all required sensors and sending units

B. 1302-00408
Five-Piece Kit Box with Electrical Speedometer
- Vintage logo
- White dial, black logo
- All 2" gauges feature chrome-embossed Bowtie bezel
- Orange pointer
- Includes speedometer, oil pressure, voltometer, water temperature and fuel level gauges, and all required sensors and sending units

C. 1303-00408
5" Quad Gauge and Speedometer
- Vintage logo
- White dial, black logo
- All 2" gauges feature chrome-embossed Bowtie bezel
- Orange pointer
- Includes speedometer, oil pressure, voltmeter, water temperature, fuel level gauges and all required sensors and sending units

D. 1398-00408
3-1/8" Tachometer, 7000 rpm
- Vintage logo
- White dial, black logo
- All 2" gauges feature chrome embossed Bowtie bezel
- Orange pointer
- 4-, 6-, and 8 cylinder compatible

A Five-Piece Kit Box with Mechanical Speedometer

B Five-Piece Kit Box with Electrical Speedometer

C 5" Quad Gauge and Speedometer

D 3-1/8" Tachometer, 7000 rpm

3-3/4" Tachometer, 8000 rpm A

5" Tachometer, 10,000 rpm with Memory, Standard Ignition B

2-5/8" Oil Pressure, 0-100 psi C

2-5/8" Water Temperature, 100-250° F D

2-5/8" Voltmeter, 8-18 Volts E

5" Tachometer, 10,000 rpm with Shift Light F

5" Tachometer, 10,000 rpm In-Dash G

2-5/8" Fuel Level H

5" Speedometer, 160 mph I

2-5/8" Voltmeter, 8-18 Volt J

GM PERFORMANCE PARTS LOGO GAUGES

Electrical

A. 5780-00407
3-3/4" Tachometer, 8000 rpm
- GM Performance Parts logo
- White dial, black numbers
- 4-, 6-, and 8 cylinder compatible

B. 5795-00407
5" Tachometer, 10,000 rpm with Memory, Standard Ignition
- GM Performance Parts logo
- White dial, black numbers
- 4-, 6-, and 8 cylinder compatible
- In-dash or pedestal mount

C. 5827-00407
2-5/8" Oil Pressure, 0-100 psi
- GM Performance Parts logo
- White dial, black numbers

D. 5837-00407
2-5/8" Water Temperature, 100-250° F
- GM Performance Parts logo
- White dial, black numbers

E. 5891-00407
2-5/8" Voltmeter, 8-18 Volts
- GM Performance Parts logo
- White dial, black numbers

F. 5899-00407
5" Tachometer, 10,000 rpm with Shift Light
- GM Performance Parts logo
- White dial, black numbers
- 4-, 6-, and 8 cylinder compatible
- In-dash or pedestal mount

G. 5898-00407
5" Tachometer, 10,000 rpm In-Dash
- GM Performance Parts logo
- White dial, black numbers
- 4-, 6-, and 8 cylinder compatible

H. 5814-00407
2-5/8" Fuel Level
- GM Performance Parts logo
- White dial, black numbers
- 0 Ohms empty, 90 Ohms full

I. 5889-00407
5" Speedometer, 160 mph
- GM Performance Parts logo
- White dial, black numbers

J. 5891-00407
2-5/8" Voltmeter, 8-18 Volt
- GM Performance Parts logo
- White dial, black numbers

GM Performance Parts Logo Gauges Continued

Mechanical

A. 5812-00407
2-5/8" Fuel Pressure, 0-100 psi
- GM Performance Parts logo
- White dial, black numbers

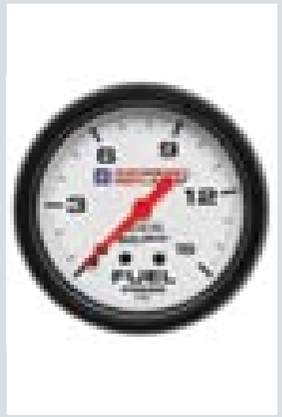
B. 5813-00407
2-5/8" Fuel Pressure, 0-15 psi with Isolator
- GM Performance Parts logo
- White dial, black numbers

C. 5821-00407
2-5/8" Oil Pressure, 0-100 psi
- GM Performance Parts logo
- White dial, black numbers

D. 5828-00407
2-5/8" Nitrous, 0-2000 psi
- GM Performance Parts logo
- White dial, black numbers

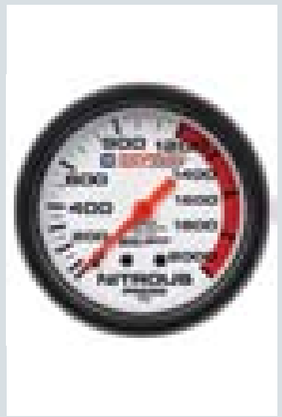
E. 5832-00407
2-5/8" Water Temperature, 120-240° F
- GM Performance Parts logo
- White dial, black numbers

A 2-5/8" Fuel Pressure, 0-100 psi



B 2-5/8" Fuel Pressure, 0-15 psi with Isolator

C 2-5/8" Oil Pressure, 0-100 psi



D 2-5/8" Nitrous, 0-2000 psi

E 2-5/8" Water Temperature, 120-240° F

GAUGE PODS & PILLAR MOUNTS

10002-00409
2-1/16" Four-Gauge Console (Camaro '68-'69)

10183-00409
2-1/16" Dual Pod (Chevelle A-Body '68-'72)

10184-00409
2-1/16" Single Pod (Chevelle A-Body '68-'72)

10190-00409
2-1/16" Dual Pod (Corvette '84-'96)

10200-00409
2-1/16" Dual Pod ('82-'92 Camaro/ Firebird)

10204-00409
2-1/16" Dual Pod ('95-'02 Cavalier Z24)

10210-00409
2-1/16" Dual Pod (Camaro/Firebird '93-'02)

10233-00409
2-1/16" Dual Pod (Impala/Caprice '92–'96)

10402-00409
2-1/16" Dual Pod (Grand Prix/Cutlass/ Monte Carlo '78-'87)

12192-00409
2-1/16" Dual Pillar (Corvette '97-'01)

12193-00409
2-1/16" Dual Pillar (Corvette '03-'04)

12194-00409
2-1/16" Dual Pillar (Corvette '05)

12195-00409
2-1/16" Triple Pillar (Corvette '05)

12200-00409
2-1/16" Dual Pillar (Camaro/Firebird Hardtop '82-'92)

12201-00409
2-1/16" Triple Pillar (Camaro/Firebird Hardtop '82-'92)

12202-00409
2-1/16" Dual Pillar (Camaro/Firebird T-Top '82-'92)

12203-00409
2-1/16" Triple Pillar (Camaro/Firebird T-Top '82-'92)

12212-00409
2-1/16" Dual Pillar (Camaro T-Top '97-'01; Firebird '93-'01)

12213-00409
2-1/16" Triple Pillar (Camaro T-Top '97-'01; Firebird '93-'01)

12234-00409
2-1/16" Triple Pillar (Impala/Caprice '92)

15007-00409
2-1/16" Steering Column (C/K Truck '00-'03 Automatic)

15008-00409
2-1/16" Steering Column (C/K Truck '00-'03 Manual)

15103-00409
2-1/16" Dual Pod (C/K Truck '95-'98)

15104-00409
2-1/16" Dual Pod (C/K Truck '00-'03)

15110-00409
2-1/16" Dual Pod (S-10 '94-'02 and Blazer '95-'02)

15113-00409
2-1/16" Dual Pod (S-10 and Blazer '86-'93)

17100-00409
2-1/16" Dual Pillar (C/K Truck '88-'94)

17101-00409
2-1/16" Triple Pillar (C/K Truck '88-'94)

17102-00409
2-1/16" Dual Pillar (C/K Truck '95-'98)

17103-00409
2-1/16" Triple Pillar (C/K Truck '95-'98)

17104-00409
2-1/16" Dual Pillar (C/K Truck '00-'01)

17105-00409
2-1/16" Triple Pillar (C/K Truck '00-'01)

17106-00409
2-1/16" Dual Pillar with Speaker (C/K Truck '00-'03)

17107-00409
2-1/16" Triple Pillar with Speaker (C/K Truck '00-'03)

17110-00409
2-1/16" Dual Pillar ('94-'98 S-10 and '95-'97 Blazer)

17113-00409
2-1/16" Dual Pillar (S-10 '86-'93)

17114-00409
2-1/16" Triple Pillar (S-10 '86-'93)

18022-00409
2-1/16" Dual Overhead Console (C/K Truck '00-'04)

18023-00409
2-1/16" Triple Overhead Console (C/K Truck '00-'04)

18024-00409
2-1/16" Quad Overhead Console (C/K Truck '00-'04)

2203-00409
2-1/16" Mounting Cup Chrome Plastic Gauge

2204-00409
2-1/16" Mounting Cup Black Plastic Gauge

2237-00409
2-1/16" 2-Hole Gauge Panel, Black Aluminum

2238-00409
2-1/16" 3-Hole Gauge Panel, Black Aluminum

2259-00410
Electrical Cylinder Head Replacement Sender

2277-00410
1/8" Npt To M12 x 15 Metric Adapter

2280-00410
Heater Hose Adapter 5/8"

2281-00410
Heater Hose Adapter 3/4"

2282-00410
Radiator Hose Adapter 1" To 1-1/4"

2283-00410
Radiator Hose Adapter 1-1/2"

3201-00409
2-5/8" Mounting Cup Press Gauge (Chrome)

3202-00409
2-5/8" Mounting Cup Press Gauge (Black)

3203-00409
2-5/8" Mounting Cup Temp Gauge (Chrome)

3204-00409
2-5/8" Mounting Cup Temp Gauge (Black)

3232-00409
2-5/8" 2-Hole Gauge Panel, Black Aluminum

3233-00409
2-5/8" 3-Hole Gauge Panel, Black Aluminum

3284-00410
LED Replacement Bulb Kit (Red)

3285-00410
LED Replacement Bulb Kit (Green)

3286-00410
LED Replacement Bulb Kit (Blue)

5291-00410
Speedometer Sender 7/8" (18THD Hall Effect, 16 Pulse)

Camaro Accessories and Performance Parts

Since it was introduced in 1967, the Chevy Camaro has been a canvas for countless enthusiasts to express their automotive style. From appearance upgrades to serious performance modifications, it's a car designed for personalization.

The 2010 Camaro carries that personal quality, with sensuous styling and a long list of features and options. At GM Performance Parts, we know the factory options still aren't enough for many owners. Enthusiasts want even greater personalization options; is there a red-blooded Camaro fan who doesn't want a few extra horses running wild under the hood?

We worked with the Camaro's planners from the moment its production was green-lighted. We designed and developed appearance, convenience and power-enhancing performance upgrades to complement the car as soon as the first production model rolled off the line.

All of our Camaro accessories and performance parts were tested and validated to GM production vehicle specifications and manufactured with production-quality materials. That means you're getting original equipment quality parts with the best fit and finish. Our performance parts are legal in 50 states, too, for worry-free emissions compliance.

Browse our diverse range of components and design your ultimate Camaro. If you can dream it, you can build it with the new Camaro appearance and performance parts from GM Performance Parts!

The accessories and performance components include:

- **GM Performance Parts –** Numerous performance-enhancing components, including tuned air boxes, performance exhaust systems, Hurst® short-throw shifters and more
- **Interior Trim Kits –** For Camaro owners who have the factory illumination package, add even more color options
- **Interior Accessories –** Items include premium "Camaro" embroidered floor mats, sill plates and more
- **Exterior Detailing Accessories –** A variety of components are offered, from grille inserts and fuel doors to a high rear wing spoiler and a lower ground effects package
- **Stripes –** Heritage-inspired stripes are offered in RS-style for the hood or "hockey stick-style" side design
- **Engine Covers –** Available in five colors for the V-6 and V-8 engines
- **Wheels and Tires –** Split-five-spoke 21-inch wheels are offered in two finishes. The first finish is a black painted finish and the other is machined aluminum with black accent paint that can be ordered with complementing performance tires

GM PERFORMANCE PARTS

We know you want greater performance from your Camaro. That's why long before it was scheduled to hit the showroom floor, GM Performance Parts designers and engineers were hard at work developing emissions-legal bolt-on components that would accentuate and enhance the factory-delivered horsepower.

Following the adage that more air in and more air out equals more horsepower, we developed air box, header and exhaust kits, as well as complementing short-throw shifters for manual-transmission applications. We even designed color-coordinated engine covers that may not add any direct horsepower, but just might help grab a "Best in Show" trophy at the next car show.

Because you're buying GM Performance Parts components, you can be confident they'll fit and perform as promised. They're also emissions-legal in 50 states with CARB EO numbers where required.

Check out the parts below and build your Camaro to pull away from the crowd!

Exhaust

Upgrade the look and sound of your Camaro's exhaust system with one of our tuned, emissions-legal bolt-on exhaust kits. They deliver a great performance sound and reduced restriction, which promotes increased power—especially when combined with other performance parts. Whether you're looking for a street-legal sound or a completely off-roading system, GM Performance Parts has got you covered. The exhausts are available with or without ground effects. When ordering the ground effects package, there is no need to include an exhaust tip. Our exhaust kits are designed for simple remove-and-replace installation, for a quick and hassle-free changeover. NOTE: When selecting a kit for SS models, check for specific LS3 (manual transmission) or L99 (automatic transmission) part numbers.

92206990 **V-6 (LLT) Exhaust Upgrade kit, Round Tip (not shown)**
92206992 **LS3 & L99 V-8 Exhaust Upgrade Kit, Round Tip**
92225673 **V-6 (LLT) Exhaust Upgrade Kit, No Tip (not shown)**
92225672 **LS3 V-8 Exhaust Upgrade Kit, No Tip (not shown)**
92231570 **LS3 & L99 V-8 Track Pack (Off-Road use only), Round Tip (not shown)**

LS3 & L99 V-8 Exhaust Upgrade Kit, Round Tip

Short-Throw Shifter

A greater feeling of control comes with a precise, quick-acting shifter. GM Performance Parts' short-throw shifter kits for both V-6 and V-8 models deliver sharper and quicker throws between gears, enabling you to keep the engine's revs right where you want them for optimal performance.

We worked with legendary shifter manufacturer Hurst® to develop the kits, so they complement great performance with classic styling. The kits include all necessary hardware and detailed instructions.

92214389 **V-6 Short-Throw Shifter Kit (not shown)**
92214388 **V-8 (LS3) Short-Throw Shifter Kit**

V-8 (LS3) Short-Throw Shifter Kit

Air Box

Give your Camaro a breath of fresh air—and improve your horsepower—with GM Performance Parts air box kits. They include an open-element air filter for lower restriction and a great-looking, performance-style housing for a true tuner appearance. They're available for V-6 and V-8 applications.

92212302 **V-8 (LS3/L99) Air Box Kit (not shown)**
92212304 **V-6 (LLT) Air Box Kit (not shown)**

Shorty Headers

Low-restriction exhaust headers enable exhaust gases to be carried away from the engine quicker, boosting the engine's airflow efficiency and overall performance. Our bolt-on header kit is emissions-legal and provides a simple bolt-in replacement for the factory exhaust manifolds. Match them with one of our exhaust kits for even greater performance. V-8 engines only.

92213295 **Shorty Header Kit, LS3/L99 V-8 (not shown)**

GM PERFORMANCE PARTS

Engine Cover Kits

High performance and high style have always mixed with Camaro enthusiasts. You can give your Camaro's V-6 or V-8 engine a stylish, show-quality upgrade with our gorgeous engine cover kits. They're available to match most exterior colors, allowing you to complement or contrast the color choices to suit your style. Match the engine cover with one of the color-coordinated interior trim kits, too, for a completely integrated look.

The engine cover kits are easy to install and are easily removed when service is required. They don't interfere with oil fill or other common maintenance access points.

92219194 V-6 Engine Cover, Victory Red (not shown)
92219193 V-6 Engine Cover, Red Jewel Tintcoat (not shown)
92219192 V-6 Engine Cover, Inferno Orange (not shown)
92219188 V-6 Engine Cover, Scorch Yellow
92219186 V-6 Engine Cover, Black
92219184 V-8 Engine Cover, Victory Red (not shown)
92219182 V-8 Engine Cover, Red Jewel Tintcoat (not shown)
92219180 V-8 Engine Cover, Inferno Orange
92219178 V-8 Engine Cover, Scorch Yellow (not shown)
92219176 V-8 Engine Cover, Black (not shown)

V-6 Engine Cover, Scorch Yellow

V-8 Engine Cover, Inferno Orange

V-6 Engine Cover, Black

INTERIOR ACCESSORIES

Interior Protection & Convenience

Maximize the style and convenience of your Camaro's cabin, while maintaining its original condition with accessories that include floor mats, cargo helpers and more. Our sill plates add a distinctive appearance and added protection when entering the car.

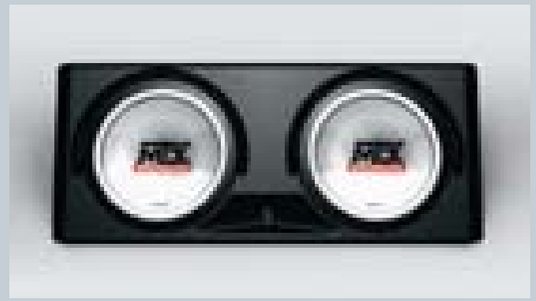
92222441 Cargo Area Floor Mat
92223802 Cargo Net (not shown)
92223800 Sill Plates (not shown)
92223048 Smoker's Package (not shown)

Cargo Area Floor Mat

Audio and Electronics

The new Camaro is more than the next-generation muscle car—it's also a technology showcase that offers the latest in convenience and infotainment systems. You can take your Camaro's technology to a higher level with upgraded audio subwoofer and lighting systems, as well as remote starting. Our audio system brings greater features and capability, while a peripheral device interface module allows you to plug in devices to play through the audio system. Remote starting allows you to start your Camaro to let it heat up on a cold morning or cool down with air conditioning on a hot day. Finally, our footwell lighting kit delivers customizable, colored ambient lighting for a premium, high-tech interior appearance.

92213214 Audio System-Subwoofer
92213212 Peripheral Device Interface Module (not shown)
92213222 Interior Lighting Kit, Footwell (not shown)
92213216 Remote Starting System, Factory-Enabled (not shown)



Audio System-Subwoofer

Interior Trim Kits

When ordering the factory illumination package you can personalize the interior lighting color with parts, color-matched to the Camaro's exterior colors. Use them to complement or contrast your Camaro's exterior color for a completely custom appearance.

92221433 Interior Trim Kit, Scorch Yellow (not shown)
92221438 Interior Trim Kit, Inferno Orange (not shown)
92233738 Interior Trim Kit, Olympic White (not shown)
92233739 Interior Trim Kit, Switchblade Silver (not shown)

EXTERIOR ACCESSORIES

Create your own look for your Camaro with our diverse lineup of exterior accessories, from a satin nickel fuel door or a grille insert to color-matched splash guards and a complete ground effects kit. And don't forget to check out our stylish, wing-style rear spoiler.

The ground effects package creates a dramatic, ground-hugging look for your Camaro—one that is suitable for drifting, drag racing or a few laps around the road course. It comes delivered in a great Metallic Grey color that accents your car's original color. Our wing-style rear spoiler complements that competition look.

Camaro exterior accessories are designed and manufactured to the same quality and durability standards as all regular-production components. That means you're assured of perfect-fitting, long-lasting accessories that will stand up to years of use.

92212671 **Satin Nickel Fuel Filler Door (not shown)**
92208704 **Grille Insert Assembly**
92207441 **Ground Effects Kit, LS/LT Models, Metallic Grey (not shown)**
92208008 **Ground Effects Kit, SS Models, Metallic Grey**
92207433 **Wing Spoiler Package, Primed (not shown)**
92225526 **Wing Spoiler Package, Black (not shown)**
92225528 **Wing Spoiler Package, Victory Red (not shown)**
92225530 **Wing Spoiler Package, Red Jewel Tintcoat (not shown)**
92225532 **Wing Spoiler Package, Cyber Grey (not shown)**

Ground Effects Kit, Rear Diffuser

Ground Effects Kit, Side Spoiler

Ground Effects Kit, Front Spoiler

Hood and Hockey Stick Stripe Kit, Black

Grille Insert Assembly (Bowtie logo not included)

Stripe Kits

The heritage-inspired 2010 Camaro is accented perfectly with our stripe kits. They give your Camaro a classic look and contemporary style. Our stripe kits are inexpensive and easy to install; or, have your dealer install them for a hassle-free upgrade that will make your new ride the envy of the neighborhood! Choose from multiple colored hockey stick-style, hood and hockey stick-style and rally-style stripes.

92215975 **Hood and Hockey Stick Stripe Kit, Black**
92215976 **Hood and Hockey Stick Stripe Kit, Grey (not shown)**
92215977 **Hood and Hockey Stick Stripe Kit, White (not shown)**
92227577 **Hockey Stick Stripe Kit, Black (not shown)**
92227579 **Hockey Stick Stripe Kit, Grey (not shown)**
92227581 **Hockey Stick Stripe Kit, White (not shown)**
92225513 **Rally Stripe Kit, Black**
92225515 **Rally Stripe Kit, Orange**
92225517 **Rally Stripe Kit, Silver**
92225519 **Rally Stripe Kit, Grey**
92225521 **Rally Stripe Kit, White**

Rally Stripe Kit, Black

Rally Stripe Kit, Orange

Rally Stripe Kit, Silver

Rally Stripe Kit, Grey

Rally Stripe Kit, White

Outdoor Car Cover, Grey with Black Stripes

Car Covers

Protect your pride and joy from the elements and UV rays with a fitted, outdoor-rated car cover. Our covers are custom-contoured to fit your Camaro's curves like a glove. They're available in two colors, each with stylish, heritage-inspired black stripes.

92215993 **Outdoor Car Cover, Red with Black Stripes (not shown)**

92215994 **Outdoor Car Cover, Grey with Black Stripes**

Contoured Splash Guards

GM Performance Parts contoured slpash guards add to the look of ground-hugging muscle while protecting your vehicle from mud, dirt, snow, salt and gravel.

92214931 **Molded Splash Guards, Black (not shown)**

92214927 **Molded Splash Guards, Victory Red (not shown)**

92214928 **Molded Splash Guards, Inferno Orange (not shown)**

92214929 **Molded Splash Guards, Scorch Yellow (not shown)**

92214930 **Molded Splash Guards, Red Jewel Tintcoat (not shown)**

92229701 **Molded Splash Guards, Cyber Grey (not shown)**

92229704 **Molded Splash Guards, Switchblade Silver (not shown)**

WHEELS & TIRES

We don't have to tell you how a great set of wheels transforms the look and feel of your car. The 2010 Camaro comes with a family of attractive, 18-, 19-, and 20-inch wheels, but GM Performance Parts takes it a step further with great-looking, racing-inspired 21-inch wheels and complementing performance tires.

The wheel design features a contemporary split five-spoke center available in two finishes. The first finish is a black painted finish and the other is machined aluminum with black accent paint. They are offered in 8.5-inch across all V-6 models or 8.5-inch fronts and 9.5-inch widths rears for the SS models.

Don't forget the center caps and chrome lug nuts (sold separately) as well as the required tire pressure monitor sensors. Order a complete kit of wheels, tires, center caps, lug nuts and pressure sensors for hassle-free installation by your dealer.

21-inch x 8.5-inch Black Painted Wheel with Chrome Chevrolet-Logo Center Cap

V-6 customers need to order only one of the following:

92229349	**21-inch x 8.5-inch wheel; black painted, set of 4 (not shown)**	**92229351**	**21-inch x 8.5-inch wheel; machined aluminum w/ black accent, set of 4 (not shown)**

V-8 customers need to order two front 21 x 8.5-inch and two rear 21 x 9.5-inch:

92230279	**21-inch x 8.5-inch wheel; black painted, single wheel (order two wheels) (not shown)**	**92230281**	**21-inch x 9.5-inch wheel; black painted, single wheel (order two wheels) (not shown)**
92230280	**21-inch x 8.5-inch wheel; machined aluminum with black accent, single wheel (order two wheels)**	**92230282**	**21-inch x 9.5-inch wheel; machined aluminum w/ black accent, single wheel (order two wheels)**

Additional wheel and tire components:

19159968	**Chevrolet logo center cap, chrome, set of 4**	**92221881**	**Chrome standard lug nut kit (package fits 1 vehicle) (not shown)**
19212271	**Tire pressure sensors kit (package fits 1 vehicle) (not shown)**	**92205121**	**Performance tire, P245/40ZR21, single tire (not shown)**
92221879	**Chrome locking lug and standard lug nuts kit, (package fits 1 vehicle) (not shown)**	**92205122**	**Performance tire, P275/35ZR21, single tire (not shown)**
92221880	**Chrome locking lug nuts kit (package fits 1 vehicle) (not shown)**		

GM PERFORMANCE PARTS

TO ORDER CALL TOLL FREE:

888-821-4646

IN CANADA CALL:

810-629-0373

VISA/MASTERCARD ACCEPTED

DEALER—CALL FOR PRICING.
Qualifies for Co-op Reimbursement from Dealer's GM Parts Promotional Fund.

Polysonic Camp Shirt
PP-30275 (Men's)
$46.75 each for SM–XL
$49.75 each for 2XL and 3XL

Performance Parts logo on left chest. Available in Bone (shown), Black and Navy.

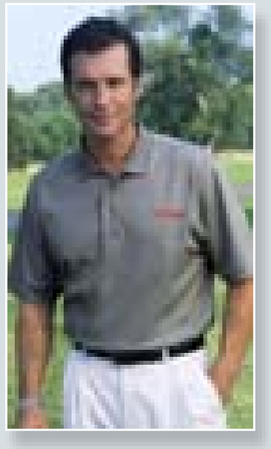
Performance Parts T-Shirt
PPGM-22410 thru **22416**
$14.95 each for SM–4XL

Performance Parts logo on the left chest and full back with website. 100% pre-shrunk.

LSX Camaro T-Shirt
PP-22407
$15.50 each for SM–XXL

Velocity Repel & Release Twill Shirt
PP-39716 (Men's)
$30.00 each for SM–XL
$34.00 each for 2XL and 3XL

Performance Parts logo on left chest. 55% cotton/45% polyester, 4.5 oz. microsanded twill with stain resistant and stain release properties. Available in White or Black (shown).



Honeycomb Jacquard Polo
PP-39627 (Men's)
$38.60 each SM–XL
$42.60 for 2XL and 3XL

Performance Parts logo on left chest. Available in Granite/Latte (shown), Navy/Bay Blue and Khaki/Latte.

Granite/Latte | Navy/Bay Blue | Khaki/Latte

Project X T-Shirt
PP-22408
$15.50 each for SM–XXL

572 Chevrolet Engine with Chevelle T-Shirt
PPGM-22401 thru **22405**
$14.95 each for SM–2XL

Ash Gray with Performance Parts logo on the left chest, 527 Chevrolet Engine and Chevelle full back.

Checker Trim Lightweight Jacket
PP-18401 (Men's)
$31.50 each for SM–XL
$33.85 each for XXL
$35.65 each for 3XL and 4XL
$39.95 each for 5XL

Red | Yellow | Royal Blue

Tournament Jacket
PP-MI-0066-06 thru **0072-06**
$35.00 each for SM–XL
$38.00 for 2XL
$42.00 for 3XL and 4XL

Performance Parts logo on left chest. Versatile, water repellent and lightweight. Available in Black.

Ladies Cap Sleeve Checker Flag T-Shirt
PP-15F03
$17.85 each for SM–XL
$21.65 each for XXL

Red | Pink | White | Black

Ladies 3/4-Length Sleeve Checker Flag Trim T-Shirt
PP-15F04
$20.75 each for SM–XL
$24.50 each for XXL

Red | Black | White

Prices subject to change. FOR MORE GREAT OFFICIAL MERCHANDISE, VISIT **GMPERFORMANCEPARTS.COM**

GM PERFORMANCE PARTS

TO ORDER CALL TOLL FREE:

888-821-4646

IN CANADA CALL:

810-629-0373

VISA/MASTERCARD ACCEPTED

DEALER—CALL FOR PRICING.
Qualifies for Co-op Reimbursement from Dealer's GM Parts Promotional Fund.

Hat with LSX rip-out
PPGM2209LSX
$14.95 each
Performance Parts logo

Hat with Swoosh and Checker Board Trim
PP-57A17
$12.95 each
Performance Parts logo

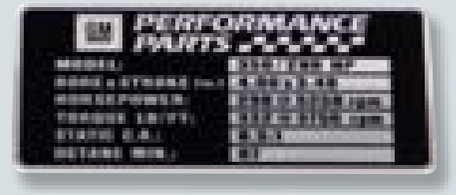
Hat with Checker Board Trim
PP-57A04
$12.95 each
Performance Parts logo

Racing Beanie
PP-85B01
$8.65 each

Skull Cap
PP-12A03
$12.50 each
LSX logo

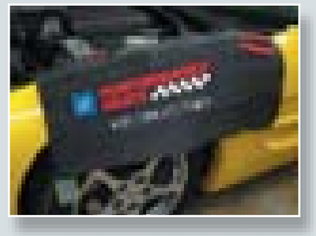
Crewneck Sweatshirt
PP-39310 (Men's)
$25.00 each for SM–XL
$29.00 each for 2XL and 3XL
Performance Parts logo on left chest. Available in Black.

Duffle Bag
PP-34B01
$38.00 each
Nylon duffle bag embroidered with Performance Parts logo.



Engine Plaques
$19.99 each

PPGM2216 – 350/290 HP
PPGM2218 – ZZ4
PPGM2219 – Ram Jet 350
PPGM2222 – ZZ383
PPGM2227 – LS364/440
PPGM2229 – LS7
PPGM2230 – 454 HO
PPGM2234 – Ram Jet 502
PPGM2235 – ZZ572/620
PPGM2236 – LS3
PPGM2237 – ZZ427
PPGM2238 – LS376/480
PPGM2239 – 350 H.O.
PPGM2240 – LS2
PPGM2241 – ZZ502
PPGM2242 – LS376/515
PPGM2243 – ZZ454



Fender Cover
PPGM2209
$30.00 each
PPGM2210
$55.00 set of 2

LSX Fender Cover
PPGM2209-LSX01
$30.00 each
PPGM2210-LSX01
$55.00 set of 2

License Plate
PPGM2211
$7.00 each
6" x 12" Aluminum Plate

Arctic Tumbler
PP-24B27
$9.00 each
Performance Parts Logo. Silver, 16 oz travel mug.

Koozie
PPGM2213 – Black with white imprint
PPGM2214 –Yellow with black imprint
$1.00 each
Performance Parts logo

Ergo Pack
PP-71450
$12.00 each
Soft side cooler with mesh pockets.

GM Performance Parts Decal Kit
PPGM-07G01
$10.99 each

Each GM Performance Parts Decal Kit contains:
(1) GMPP Windshield Decal
(4) GMPP Decal 12"
(4) GMPP Decal 6"
(2) GMPP/LSX Decal 8"

LSX Decal Kit
PPGM-07G02
$10.99 each

Each GM Performance Parts Decal Kit contains:
(4) GMPP/LSX Decal 12"
(4) GMPP/LSX Decal 8"
(4) GMPP/LSX Decal 6"
(2) GMPP Decal 12"

Prices subject to change.

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USA

Alabama

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Ivan Leonard Chevrolet, Inc.	John Moore	1620 Montgomery Hwy	Hoover	AL	35216	205.823.5428	205.979.3048		llparts@yahoo.com
Capitol Chevrolet	Jody Elmore	711 Eastern Blvd	Montgomery	AL	36117	334.272.9595	334.270.9162	capitolchevrolet.com	jody.elmore@capitolchevrolet.com

Arizona

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Thorobred Chevrolet, Inc.	Jerry Anderson	2121 N Arizona Ave	Chandler	AZ	85225	480.899.1251	480.917.1010		janderson@thorobredchevrolet.com
Sands Motor Company	Robert Wellman	5418 NW Grand	Glendale	AZ	85301	623.931.9349	623.842.5205		parts@sandschevrolet.com
Brown & Brown Chevrolet, Inc.	David Priest	145 E Main St	Mesa	AZ	85201	480.827.3376	480.827.2171	shopchevy.com	priestd@autonation.com
Courtesy Chevrolet	Phil Graziano	1233 E Camelback Rd	Phoenix	AZ	85014	602.604.3003	602.604.3099	courtesychev.com	pgraziano@courtesychev.com
Midway Chevrolet Company	Rod Martin	2323 W Bell Rd	Phoenix	AZ	85023	602-760-3357	602.387.7526	parts4chevys.com	rmartin@vtaig.com
Power Chevrolet	Dan Bieber	2646 W Camelback Rd	Phoenix	AZ	85017	602.589.9405	602.249.7321	powerchevroletcamelback.com	bieberd@autonation.com
Van Chevrolet	Chuck Rudgiro	8585 E Frank Lloyd Wright Blvd	Scottsdale	AZ	85260	480.368.3957	480.905.1659	gmpartscenter.net	sphillips01@vtaig.com
Chapman Chevrolet, L.L.C.	Rod Egnash	1717 E Baseline	Tempe	AZ	85283	480.752.1641	480.752.1456	chapmanchevy.com	rodegnash@chapmanchoice.com
Watson Chevrolet, Inc.	Bob Valencia	625 W Auto Mall Dr	Tuscon	AZ	85705	520.292.1500	520.292.3252		bobv@watsonchevrolet.com

Arkansas

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Smith Chevrolet-Cadillac Co.	Brad Scoggins	1215 Hwy 71 S	Ft. Smith	AR	72901	479.646.1581	476.648.0439	smithchevyland.com	brad-jordan-123@hotmail.com

California

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Hardin Buick-Pontiac-Gmc	Michael P	1315 S Claudina Street	Anaheim	CA	92806	714.778.1931	714.533.2370	hardingmc.com	michaelp@hardin.com
Motor City Buick Pontiac Gmc	R Herman	3101 Pacheco Rd	Bakersfield	CA	93313	661.836.9999	661.836.234	motorcitywest.com	rherman@motorcitywest.com
Diamond Hill Auto Group,Inc.	Brian Yates	4545 W Ramsey	Banning	CA	92220	951.849.7861	951.849.0970	diamondhillsautogroup.com	byyates@yahoo.com
Connell Chevrolet	Dave Hardy	2828 Harbor Blvd	Costa Mesa	CA	92626	714.546.9400	714.979.3578	connellchevrolet.com	wearegm@aol.com
Fitzpatrick Chev-Buick-Hummer	Roy Wold	2121 Diamond Blvd	Concord	CA	94520	925.349.3251	925.356.3049	fitzpatrickchevy.com	roy@fitzpatrickchevy.com
Crown Chevrolet	John Vinci	7544 Dublin Blvd	Dublin	CA	94568	925.828.6500	925.829.2941		parts@crowndublin.com
Foothill Ranch Chevrolet	Bob Mortensen	70 Auto Centre Drive	Foothill Ranch	CA	92610	949.457.2020	949.457.2022	foothillranchperformance.com	bob@frchevy.com
Martin Cadillac-Pontiac	Gary Carter	12101 Olympic Blvd	Los Angeles	CA	90064	310.820.3611	310.207.8429	martincad.com	garyc@martincad.com
Rydell Automotive Group	D Colwell	18600 Devonshire	Northridge	CA	91324	818.832.1625	818.832.1635	rydells.com	dcolwell@rydells.com
Mark Christopher Auto Center	Doug Reeves	2131 Convention Center Way	Ontario	CA	91764	909.390.2900	909.390.4677	markchristopher.com	dreeves@markchristopher.com
Rally Cad Chev Buick Pont Gmc	Brenden Herem	39012 Carriage Way	Palmdale	CA	93551	800.585.0551	661.266.1881	4rally.com	bherem@4rally.com
Victory Chevrolet Cadillac	Adrian Smith	1360 Auto Center Dr	Petaluma	CA	94952	707.765.3068	707.762.7606		jethydro@comcast.net
Taylor Motors, Inc.	Cliff Mayne	2525 Churn Creek Road	Redding	CA	96002	530.222.1200	530.722.1089	talormotorsredding.com	cliffmayne@sbcglobal.net
Crest Chevrolet	Don Young	909 W 21st Street	San Bernardino	CA	92405	909.883.8833	909.882.4661		donyoung@crestfleet.com
City Chevrolet	Dan Perry	2111 Morena Blvd	San Diego	CA	92110	619.276.6900	619.276.2414		dperry@city-chevrolet.com
Courtesy Chevrolet Center	Bill Chakos	750 Camino Del Rio North	San Diego	CA	92108	619.297.3961	619.297.4023		courtesychevsd@aol.com
Guaranty Chevrolet Motors, Inc	Carl Lutes	711 E 17th Street	Santa Ana	CA	92701	714.560.4277	714.543.3387	guarantyperformance.com	clutes@guarantychevrolet.com
F. H. Dailey Motor Co.	Peter Chin	800 Davis St	San Leandro	CA	94577	510.351.5800	510.614.9220	fhdailey.com	fhdailey2002@yahoo.com
Paradise Chevrolet CadilLac	Ruben Aranda	27360 Ynez Road	Temecula	CA	92591	951.699.2699	951.676.4789	pardiseautos.com	partsdept@paradiseautos.com
Courtesy Chevrolet	Ed Kolodziej	3610 Thousand Oaks Blvd	Thousand Oaks	CA	91362	805.497.8631	805.497.6643	courtesysandiego.com	courtesychevparts@hotmail.com
Bonander Pontiac-Buick-Gmc	Pete McCarthy	231 S Center St	Turlock	CA	95380	209.632.8871	209.633.4749	bonanderauto.com	zz4pete@prodigy.net

Colorado

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Daniels Motors, Inc.	Jeff Williams	670 Automotive Dr	Colorado Spr.	CO	80906	719.632.5591	719.228.3578		jeffw@danielschevrolet.com
Burt Chevrolet, Inc.	A Billings	5200 S Broadway	Englewood	CO	80113	303.789.6328	720.284.5275	burt.com	abillings@burt.com

Delaware

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Nucar Chevrolet	B Grasso	174 N Dupont Hwy	New Castle	DE	19720	302.322.6606	302.322.7135	nucar.com	bgrasso@nucar.com

Florida

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Jon Hall Chevrolet, Inc.	Scott Bowser	551 N Nova Road	Daytona Beach	FL	32114	386.947.0692	386.947.0615		parts@jonhall.com
Bill Branch Chevrolet, Inc.	Dave Hack	3980 Fowler	Fort Myers	FL	33901	800.226.7806	239.936.5771	branchchevy.com	davehack@branchchevy.com
Nimnicht Chevrolet Company	J Allen	1550 Cassat Ave	Jacksonville	FL	32210	904.387.4041	904.389.7779	nimnichtchevy.com	dbjork@nimnichtauto.com
Autoway Chevrolet	George Hoover	1700 E Hillsborough Ave	Tampa	FL	33610	813.238.8861	813.237.4383		hooverg@autonation.com
James-Rivard Pontiac-Gmc, Inc.	Larry Folino	9740 Adamo Dr	Tampa	FL	33619	877.909.6565	813.620.6589	jrgmparts.com	parts@jrgmparts.com

Georgia

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Day's Chevrolet, Inc.	Jeff Tate	3693 North Cobb Pkwy	Acworth	GA	30101	770.975.1802	770.974.2683		jtate@dayschevrolet.com
Nesmith Chev Bu Pon Gmc, Inc.	Tim Bland	7334 Hwy 280 West	Claxton	GA	30417	877.497.3624	912.739.7000	nesmithnow.com	tim@nesmithnow.com
Hardy Chevrolet, Inc.	Gary Connally	1249 Charles Hardy Pkwy	Dallas	GA	30157	770.445.9411	770.445.1143	hardychevy.com	gconnally@hardychevy.com
Carl Black Bu-Pon-Gmc Trk Inc	David Bolden	1110 Robers Blvd	Kennesaw	GA	30144	770.424.2200	770.424.9112	carlblackkennesaw.com	dbolden@carlblack.com
Nash Chevrolet Company	George Pittman	630 Scenic Highway	Lawrenceville	GA	30045	770.963.9266	770.822.6671	nashchevy.com	gkpittman@yahoo.com
John Thornton Chevrolet	Gary Ellis	1971 Thornton Rd	Lithia Springs	GA	30122	770.941.8550	770.732.6433		gellis@johnthornton.com
Maypole Chevrolet, Inc.	J Andrews	1223 S Big A Rd	Toccoa	GA	30577	706.886.7481		maypolechevrolet.com	jandrews@maypolechevrolet.com

Idaho

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Edmark Chevrolet Cadillac	Bob Robinson	15700 Idaho Center Blvd	Nampa	ID	83687	208.466.6000	208.442.2713	edmarksuperstore.com	partsroom@edmarksuperstore.com

Illinois

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Shepard Chevrolet Inc	Russ Fowler	930 Carriage Ln	Lake Bluff	IL	60044	847.295.5310	847.234.9459		shepardparts@yahoo.com
Jim McComb Chevrolet, Inc.	Bill Brouch	3622 N University	Peoria	IL	61604	309.686.2500	309.686.0121	jimmccomb.com	billbrouch@jimmccomb.com
Weir Chev-Buick-Pontiac-Gmc	Chris Lutman	1107 S Main	Red Bud	IL	62278	618.282.3111	618.282.3993	weirparts.com	chris.lutman@weirparts.com
Gibson Chevrolet, Inc.	Bob Ravesloot	1533 E 162nd Street	S Holland	IL	60473	708.339.7400	708.271.4939	gibsonchevy.com	sloot@gibsonchevy.com

Indiana

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Hubler Chevrolet, Inc.	Rick Bell	8220 S US 31	Indianapolis	IN	46227	317.882.4018	317.882.4719	drivehubler.com	rbell@drivehubler.com
Schepel Buick-Pontiac-Gmc, Inc	Ron Carlson	3209 West Lincoln Hwy	Merrillville	IN	46410	219.769.7757	219.755.0339	schepel.com	parts@schepel.com
Shepherd's Chev Old Pon Bu Cad	Bryon Utter	1520 East 9th Street	Rochester	IN	46975	574.224.7278	574.223.2718	sheperdsgm.net	butter@shepherdsgm.com

Iowa

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Karl Chevrolet, Inc.	Jason Roach	1101 SE Oralabor Rd	Ankeny	IA	50021	515.299.4411	515.299.4380	karlchevrolet.com	jasonr@karlchevrolet.com
Bob Brown Chevrolet, Inc.	Ron Dorrian	4224 Merle Hay Road	Des Moines	IA	50310	515.278.7888	515.278.7895	bobbrownauto.com	ron.dorrian@bobbrownauto.com
Knoepfler Chevrolet Co.	B Knoepfler	100 Jackson St	Sioux City	IA	51101	712.279.7153	712.279.0316	kchev.com	bknoepfler@kchev.com
Rydell Chevrolet, Inc.	Brian Tenley	1325 E San Marnan Dr	Waterloo	IA	50702	319.234.4601	319.234.4815	rydellauto.com	brian@rydellauto.com

Kansas

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Superior Chevrolet	David Hosley	8300 Shawnee Mission Pkwy	Merriam	KS	66202	913.789.4308	913.789.1005	superchevyperformance.com	dhosley@hendauto.com

Kentucky

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Bachman Auto Group, Inc.	Tom Finley	9650 Bluegrass Pkwy	Louisville	KY	40299	502.499.6161	502.719.3849	bachmanparts.com	tfinley@bachmanautogroup.com
Bob Hook Chevrolet, Inc.	Jack Tillman	4144 Bardstown Rd	Louisville	KY	40218	502.499.8060	502.499.0917	bobhookperformance.com	jtillman@bobhook.net

Louisiana

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
All Star Chevrolet, Inc.	P Jackson	11377 Airline Hwy	Baton Rouge	LA	70816	225.298.8080	225.298.8041	allstarautomotive.com	pjackson@allstarautomotive.com
Gerry Lane Chevrolet	John Ventress	6505 Florida Blvd	Baton Rouge	LA	70806	225.926.4600	225.925.9613	gerrylane.com	chevyparts@gerrylane.com
Banner Chevrolet	CB Costantini	5950 Chef Menteur Hwy	New Orleans	LA	70126	501.242.4624	504.253.8596	bannerauto.com	costantini@bannerauto.com
Chevyland	Jeral Lawler	7500 Youree Dr	Shreveport	LA	71105	318.425.3471	318.222.4990	chevyland.com	jlawler@chevyland.com

Maryland

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Jerry's Chevrolet, Inc.	V Poling	1940 E Joppa Rd	Baltimore	MD	21234	410.661.9100	410.513.0196	jerrysautogroup.com	vpoling@jerryschevrolet.com
Criswell Chevrolet, Inc.	Alex Verna	503 Quince Orchard Rd	Gaithersburg	MD	20878	301.948.0880	301.921.9806	criswellauto.com	averna@criswellauto.com
Ourisman's Rockmont Chevrolet	Dave Katz	#20 Southlawn Court	Rockville	MD	20850	301.424.5900	301.424.0027		dave.katz@ourismanautomotive.com
Courtesy Chev-Olds-Cad	Bill Cropper	2531 N Salisbury Blvd	Salisbury	MD	21801	410.749.7100	410.749.4257	courtesychevroletcadillac.com	parts@courtesychevrolet.biz

Massachusetts

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Clay Chevrolet-Hyundai	B Sassaman	391 Providence Hwy	Norwood	MA	02062	781.762.8300	781.255.8912	claychevrolet.com	bsassaman@claycars.com
Central Chevrolet Inc	Kenneth Day	675 Memorial Ave	W Springfield	MA	01089	413.781.1410	413.732.5524	centralchevy.net	centralgmparts@yahoo.com

Michigan

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Ed Rinke Chevrolet Co.	J Hensley	26125 Van Dyke	Centerline	MI	48015	586.754.7000	586.754.5030	edrinke.com	jhensley@edrinke.com
Berger Chevrolet, Inc.	Dan Vosovie	2525 28th St SE	Grand Rapids	MI	49512	616.949.5200	616.949.2870	bergerchevy.com	parts@bergerchevy.com
Shaheen Chevrolet	Mike Lynch	3901 S Mlk Blvd	Lansing	MI	48910	517.394.0330	517.394.6305		mlynch@shaheenchevrolet.com
Young Chevrolet, Cadillac, Inc	Mike Szura	1500 E Main Street	Owosso	MI	48867	989.725.2184	989.729.3016		mikeszura@youngautosales.com

Mississippi

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Turan-Foley Motors, Inc.	Joe May	11123 Hwy 49 N	Gulfport	MS	39503	228.539.7500	228.539.5689	turanfoley.com	joemay@turanfoley.com

Minnesota

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Suburban Chevrolet	Dave Latvis	12475 Plaza Drive	Eden Praire	MN	55344	952.947.5432	952.947.5439	suburbanchev.com	dlatvis@suburbanchev.com

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Missouri									
Perry Chevrolet, Inc.	R Neuner	1 Business Loop 70	Columbia	MO	65203	573.442.6156	573.441.5632	perrychevrolet.com	rneuner@perrychevrolet.com
Lou Fusz Pont-Buick-Gmc Truck	Sean Speer	10950 Page Avenue	St. Louis	MO	63132	800.325.1492	314.595.2790	pontiac.fusz.com	pontiacparts@fusz.com
Weber Chevrolet Company	Jim Nixon	12015 Olive Blvd	St. Louis	MO	63141	314.567.3300	314.567.3088		jnixon@weberchevrolet.net
Reliable Chevrolet, Inc.	D Jones	3655 S Campbell	Springfield	MO	65807	417.887.5800	417.887.4012	reliablechevy.com	djones@vtaig.com
Nebraska									
Bob Spady, Inc.	Bunny Wampole	2302 E 4th Street	North Platte	NE	69101	308.532.1750	308.532.1905		bunnywampole@hotmail.com
H & H Chevrolet Company	Tim	4645 South 84th St	Omaha	NE	68127	402.596.2710	402.596.2719	hhchevy.com	timhurlbutt@hhchevy.com
Friesens Chevrolet, Inc.	Jon Pedersen	806 S Way	Sutton	NE	68979	402.773.5538	402.773.5639	friesenchevy.com	info@friesenchevy.com
Nevada									
Henderson Chevrolet Co.	Pete Zachrison	240 N Gibson Rd	Henderson	NV	89015	702.558.2430	702.558.2444		petezachrison@hendersonchevy.com
Fairway Chevrolet	Brad Oaks	3100 E Sahara Ave	Las Vegas	NV	89104	702.641.1446	702.641.5866	fairwaychevy.com	bradoaks@fairwaychevy.com
Champion Chevrolet Geo	Roger	800 Kietzke Lane	Reno	NV	89502	775.786.3111	775.786.0458	championchev.com	roger@championchev.com
Winkel Pontiac-Gmc Truck	George	900 Kietzke Ln	Reno	NV	89502	775.329.0831	775.786.1513		george@winkelmotors.com
New Hampshire									
Banks Chevrolet-Cadillac, Inc.	Jack O'Neil	137 Manchester St	Concord	NH	03301	603.224.4055	603.225.6489		joneil@banksauto.com
Quirk Chevrolet Buick Hummer	Gary Philbin	1250 S Willow St	Manchester	NH	03103	800.842.9600	800.641.5554		gphilbin@quirkcars.com
New Jersey									
Bob Maguire Chevrolet, Inc.	Bill Curren	840 Route 206	Bordentown	NJ	8505	609.298.3600	609.298.3033	bobmaguirechevrolet.com	bill.curren@maguireauto.com
Great American Chevrolet, Llc	Ed Halatin	55 Hackensack Ave	Hackensack	NJ	7601	800.481.9105	201.883.6341	greatamericanchevy.com	edh8546@aol.com
New Mexico									
Galles Chevrolet Company	Richard Rodriguez	1601 Lomas Blvd NE	Albuquerque	NM	87102	505.767.6266	505.242.0350	galleschevy.com	firstrich1@galles.com
Watson Chev-Buick-Pont Div	Robin Ashcroft	1501 N Grimes	Hobbs	NM	88240	505.397.2411	505.397.0838	watsonauto.com	dwharff@watsontruck.com
New York									
Hoselton Chevrolet, Inc.	Mike Fraser	909 Fairport Rd	East Rochester	NY	14445	585.586.7373	585.586.0273		mikef@hoselton.com
Bresee Chevrolet Co. Inc.	Al Koster	604 Old Liverpool Rd	Liverpool	NY	13088	315.233.0333	315.233.0347		
Fulton Chev-Cad Co Inc	Bruce Bartlet	5216 Route 17M	Middletown	NY	10940	845.343.8954	845.341.1361		bbartlett@fultonchev.com
Nye Pontiac-Gmc	Jon Curro	1479 Genesee Street	Oneida	NY	13421	315.363.2388	315.363.2873	nyeautogroup.com	joncurro@nyeauto.com
Ramp Chevrolet Inc.	Mitch Dobshinsky	1395 Route 112	Pt. Jeff. Station	NY	11776	631.473.6100	631.331.3094	rampchevy.com	mdobshinsky@rampmotors.org
Gillogly Chevrolet Central	Michael Sokol	1777 Union Rd	West Seneca	NY	14224	716.674.5000	716.674.7190	gilloglychev.com	msokol@gilloglychev.com
North Carolina									
McCauley Chevrolet	Steve Lowder	2307 Hwy 52 N	Albemarle	NC	28002	704.982.2191	704.982.3134	modernautomotive.com	stevelowder@mccauleychevy.com
Burnsville Chev-Buick, Inc.	Mike C	627 W Main St	Burnsville	NC	28714	828.682.6141	828.678.3481	burnsvillechevy.com	mikec@burnsvillechevy.com
City Chevrolet	Tom Wooldridge	5101 East Independence Blvd	Charlotte	NC	28212	800.324.6593	704.568.7422	citychevrolet.com	tom.wooldridge@citychevrolet.net
Everett Chevrolet, Inc.	Tedd Brewer	161 Hwy 70 SE	Hickory	NC	28602	828.327.9171	828.328.3282	everettchevy.com	tbrewer@everettchevy.com
Bobby Murray Chevrolet, Inc.	Terry Hinnant	1820 Capital Blvd	Raleigh	NC	27604	800.662.7502	919.832.1603	morethanjustpower.com	parts@bobbymurray.com
Flow Cadillac	Chris Porter	1400 S Stratford	Winston Salem	NC	27103	336.345.2644	336.760.7074	gmpartsdirect.com	cporter@flowauto.com
Modern Chevrolet Company	Ivil Porter	5415 Kelley-Moore Dr	Winston Salem	NC	27105	800.334.0165	336.727.4809		chege@modernautomotive.com
Ohio									
Burt Greenwald Chevrolet	Matt Pace	1490 Vernon Odom Blvd	Akron	OH	44320	800.362.9650	330.836.4074		info@bgcperformanceparts.com
Greenwood Chevrolet Hummer Inc.	Marc B	4695 Mahoning Ave.	Austintown	OH	44515	330.792.5252	330.792.2101	greenwoodchevy.com	marcb@greenwoodchevy.com
Jim Pace Pontiac, Inc.	Ron Milo	430 Youngstown Rd	Niles	OH	44446	800.748.3791	330.652.7484	paceperformance.com	parts@paceperformance.com
Roby Auto Group	R Wallace	15801 US Rte 36	Marysville	OH	43040	937.644.9000	937.644.3000	robyautogroup.com	rwallace@robyautogroup.com
Oklahoma									
Hudiburg Chevrolet Inc	Zach	6000 Tinker Diagonal	Midwest City	OK	73110	405.737.6641	405.739.0636	hudiburg.com	zach@hudiburg.com
City Chevrolet	Tom Wooldridge	5000 West Reno	Oklahoma City	OK	73127	800.324.6593	405.949.2109		tom.wooldridge@citychevrolet.net
Smicklas Chevrolet	Ron Kimbrough	3501 N Santa Fe	Oklahoma City	OK	73118	405.525.4402	405.525.4484		rkimbrough@bobhowardauto.com
Danny Beck Chevrolet, Inc.	Andy Boyce	8300 New Sapulpa Rd	Tulsa	OK	74131	918.227.1070	918.227.7746		andyb@dannybeckchevy.com
Oregon									
Kendall Chevrolet	Mike Romig	846 Goodpasture Island Rd	Eugene	OR	97401	541.342.1121	541.335.6895	kendallauto.com	mromig@kendallauto.com
Airport Chevrolet	Larry Lavada	3001 Biddle Road	Medford	OR	97504	541.770.1300	541.772.8079	airportchevy.com	parts@airportchevy.com
Gilbert Chevrolet	Scott Gilmore	1003 S Main	Milton-Freewater	OR	97862	541.938.5561	541.938.5580	gilbertauto.com	sgilmore@gilbertauto.com
Ron Tonkin Chevrolet Co.	Allen English	122 NE 122nd Ave	Portland	OR	97230	503.255.2355	503.257.2285	tonkin.com	gmparts@tonkin.com
Wentworth Chevrolet Co.	Darrin Rea	107 SE Grand Ave	Portland	OR	97214	503.232.2000	503.234.3374	wentworthchevrolet.com	darrinrea@wentworthchevrolet.com
Capitol Chevrolet Cadillac,Inc	T Dalton	2711 Misson St SE	Salem	OR	97309	503.585.4141	503.316.4223		tdalton@capitolauto.com

Company Name	Contact Name	Address	City	ST	Zip	Phone	Fax	Internet Site	Email Address
Pennsylvania									
Fred Beans Cad Buick Pont Gmc	Dave Wittlinger	131 Doyle Street	Doylestown	PA	18901	877.385.5769	336.940.3768	877fullpower.com	wedopartsright@fredbeans.com
Sutliff Chevrolet Co	Joe Halula	1251 Paxton Street	Harrisburg	PA	17104	800.932.0284	717.234.8825	sutliffchevrolet.com	jhalula@sutliff.net
Jones Pontiac Buick Gmc	J Shuman	1335 Manheim Pike	Lancaster	PA	17604	717.394.7087	717.394.1752	gojones.com	jshuman@gojones.com
Macintyre Chev-O-Cad-B-P Inc	Boyd Musser	10 East Walnut Street	Lock Haven	PA	17745	800.343.7366	570.893.8263		parts@macintyreauto.com
Bowser Pontiac	Dave McManus	Rte 51 & Lewis Run Rd	Pittsburgh	PA	15236	412.469.2100	412.469.3596		parts@powerofbowser.com
Rohrich Cadillac, Inc.	Paul Lilja	1000 Saw Mill Run Blvd	Pittsburgh	PA	15220	412.390.2940	412.390.2950		plilja@rohrich.com
A.W. Golden Chevrolet Cadillac	Scott Schaeffer	801 Lancaster Ave	Reading	PA	19607	800.422.8347	610.777.6652	goldenpartscenter.com	scott@goldenspartscenter.com
Apple Chevrolet Apple Cadillac	Jason Alwood	1200 Loucks Rd, PO Box 7767	York	PA	17404	717.848.1300	717.843.5730	applechevrolet.com	jalwood@appleauto1.com
Rhode Island									
Simon Chevrolet-Buick, Ltd.	Jim Newcomb	114 Fortin Drive	Woonsocket	RI	2895	401.769.3000	401.765.7913	simonchevroletbuick.com	simonparts@hotmail.com
South Carolina									
Love Chevrolet Company	Andy Tranum	1255 Knox Abbott Drive	Cayce	SC	29033	803.794.9000	803.926.1658		
John Newsome, Inc.	Fred Bowker	1510 S 5th Street	Hartsville	SC	29550	843.339.2719	843.339.2716	johnnewsomesuperstore.com	fbowker@newsomeparts.com
South Dakota									
Billion Motors, Inc.	Dale Zimmer	600 West 41st St	Sioux Falls	SD	57105	605.333.3436	605.333.3459	zimmer@billionauto.com	zimmer@billionauto.com
Tennessee									
West Chevrolet, Inc.	John Parke	3450 Airport Hwy	Alcoa	TN	37701	865.970.9378	865.970.4559	westchevrolet.com	johnparker@westchevrolet.com
Dobbs Pontiac-Gmc	J Sappington	2621 Mendenhall Rd S	Memphis	TN	38115	901.795.4500	901.367.3146		sappingtonj@autonation.com
Texas									
Henna Chevrolet, L.P.	Hal Matthews	8805 North IH-35	Austin	TX	78753	512.719.6273	512.832.2355	henna.com	halmat@henna.com
Friendly Chevrolet Co.	Kris Jones	2754 N Stemmons Blvd	Dallas	TX	75207	214.920.4199	214.920.4138	friendlypartscenter.com	kjones@friendlychevy.com
Bruce Lowrie Chevrolet, Inc.	Jeff Sharrow	711 SW Loop 820	Ft. Worth	TX	76134	800.256.9743	817.293.8371		jsharrow1921@msn.com
Don Hewlett Chevrolet-Buick	Jeff Gilbert	7601 S. IH 35	Georgetown	TX	78626	512.681.3000	512.681.3113	donhewlett.com	jeffg@donhewlett.com
Classic Chevrolet, Ltd.	Tom Cross	1101 Hwy 114	Grapevine	TX	76051	817.421.7236	817.251.1633	classicchevytexas.com	tlcross@classicchevytexas.com
Champion Chev Gulf Freeway	Wayne Knape	13800 Gulf Freeway	Houston	TX	77034	281.929.3220	281.929.3238		knapew@autonation.com
Scoggin-Dickey Chevrolet-Buick	Brian Gruben	5901 Spur 327	Lubbock	TX	79424	800.456.0211	806.798.4086	sdparts.com	parts@sdparts.com
Atzenhoffer Chevrolet Cadillac	Robert Solansky	3211 N Navarro	Victoria	TX	77901	361.578.2841	361.578.8082		robert@atzenhoffer.com
Utah									
Larry H. Miller Chevrolet	Grant Martin	5650 S State Street	Murray	UT	84107	801.264.3330	801.264.3336	lhmchevy.com	gmartin@lhm.com
Brent Brown Chevrolet	Tom Maxfield	2125 North University Pkwy	Provo	UT	84604	801.373.9500	801.375.0059	brentbrownauto.com	tomm@brentbrownauto.com
Virginia									
Heritage Chevrolet, Inc.	William Moats	12420 Jefferson Davis Hwy	Chester	VA	23831	800.523.6137	804.748.9770	heritagechevrolet.com	wmlmoats@aol.com
Radley Chevrolet	Chris Rogers	3670 Jefferson Davis Hwy	Fredericksburg	VA	22408	540.898.4000	540.891.2074	radleyauto.com	chrisrogers@radleyautogroup.com
Colonial Chevrolet	Keith Frazier	6252 Virginia Beach Blvd	Norfolk	VA	23502	800.446.8148	757.455.4427	colonialchevrolet.net	keith.frazier@hendrickauto.com
Dominion Chev-Buick-Pont-Gmc	John Faison	12050 West Broad Street	Richmond	VA	23233	804.364.4500	804.364.4598	dominionautogroup.com	jfaison@dominionautogroup.com
Berglund Chev Jeep Buick Pont	Danny Price	1824 Williamson Rd	Roanoke	VA	24012	540.344.1461	540.345.7431	berglundperformance.com	dprice@berglundcars.com
Vermont									
Springfield Buick Pontiac Gmc	Linley Messer	Rte 106	N Springfield	VT	05150	802.886.2281	802.886.2213	springfieldautomart.com	parts@vermontel.net
Washington									
Jet Chevrolet, Inc.	Steve Haase	35700 Enchanted Pkwy S	Federal Way	WA	98003	253.952.7417	253.952.7419	jetchevrolet.com	parts@jetchevrolet.com
Speedway Chevrolet, Llc	G White	16957 W Main St	Monroe	WA	98272	360.794.1155	360.863.9356	speedwaychevrolet.com	gwhite@speedwaychevrolet.com
Hall Chevrolet-Buick Company		314 Sixth St	Prosser	WA	99350	800.676.4255	509.786.0239		parts@hallchevbuick.com
Camp Automotive, Inc.	Brian O'Shaughnessy	101 Montgomery	Spokane	WA	99207	509.456.7890	509.456.7895	campchevrolet.com	boshaughnessey@lithia.com
Sunset Chevrolet, Inc.	Bruce Douglass	910 Traffic Ave	Sumner	WA	98390	253.863.8144	253.863.9428	sunsetchev.com	parts@sunsetchev.com
Wisconsin									
Bud Weiser Motors, Inc.	Brad Schrock	2676 Milwaukee Rd	Beloit	WI	53511	608.364.6340	608.364.6355	budweiserbeloit.com	parts@budweiserbeloit.com
Broadway Automotive, Inc.	Rob Bauer	2700 S Ashland Ave	Green Bay	WI	54304	800-236-2819	920.498.6620	broadwayautomotive.com	rparts@broadwayautomotive.com
Ivan Gandrud Chevrolet, Inc.	Chris Slack	919 Auto Plaza Dr	Green Bay	WI	54302	920.468.6800	920.468.3673	gandrud.com	parts@gandrud.com
Holz Motors, Inc.	Dale Keup	5961 S 108 Place	Hales Corners	WI	53130	800-236-2407	414.425.1402	holzmotors.com	dkeup@holzmotors.com

Canada

Alberta

Company Name	Contact Name	Address	City	PR	PC	Phone	Fax	Internet Site	Email Address
CMP Classic	Brent Peterson	1313 36 Street N.E.	Calgary	AB	T2A 6P9	403.207.1002	403.207.1033	cmpclassic.com	ncomstock@cmpclassic.com
GSL Chev City	Melinda Parker	1729 Bow Trail SW	Calgary	AB	T2T 5P7	403.781.1520	403.237.5090	gslchevcity.com	parts@gslchevcity.com
Jack Carter Chevrolet Cadillac	Cameron Klem	6711 MacLeod Trail South	Calgary	AB	T2H 2C5	403.258.6300	403.258.6363	jackcarterchev.gmcanada.com	jgrant@jackcarterchev.com
Shaganappi Motors	Kevin Craig	4720 Crowchild Trail NW	Calgary	AB	T3A 2N2	403.288.0555	403.288.4720	shaganappi.com	partsdepartment@shaganappi.com
Shaw GMC Pontiac Buick	Greg Schaffer	4620 Blackfoot Tr. S.E.	Calgary	AB	T2G 4G2	403.287.5937	403.287.5727	shawgmc.com	gregschaffer@shawgmc.com
Devon Chevrolet	Robin Oetiker	7 Saskatchewan Ave.W.	Devon	AB	T9G 1B2	780.987.2433	780.987.2535	devonchev.gmcanada.com	devonchev@gmcanada.com
Edmonton Motors Limited	Robin Oetiker	11445 Jasper Avenue	Edmonton	AB	T5K 0M6	780.482.5772	780.482.7840	edmontonmotors.com	roetiker@edmontonmotors.com
Nicholson Chevrolet (1977) Ltd.	Mark Brucotte	7215 Argyll Road	Edmonton	AB	T6C 4J2	780.465.6471	780.469.5225	nicholsonchev.com	mbrulotte@nicholsonchev.com
Southgate Pontiac Buick GMC	Carla Calhour	9751 34 Ave.	Edmonton	AB	T6E 5X9	780.435.4000	780.435.5420	southgatepontiac.gmcanada.com	southgatepontiac@gmcanada.com
Ken Sargent Pontiac Buick GMC Ltd.	Gord Nellis	12308 100 Street	Grande Prairie	AB	T8V 4H7	780.532.8865	780.532.8807	kensargentpontiac.gmcanada.com	kensargentpontiac@gmcanada.com
Davis Pontiac Buick GMC Ltd.	Colin Richter	115 W.T. Hill Boulevard S.	Lethbridge	AB	T1J 4T6	403.329.4444	403.328.7721	davispontiac.net	crichter@davispontiac.net
Davis Pontiac Buick GMC	Mike Schritt	1450 Trans Canada Wat SE	Medicine Hat	AB	T1B 4M2	403.527.2787	403.580.5219		mschritt@davis pontiac.ca
Murray Chevrolet	Ron Donald	1270 Trans Canada Way	Medicine Hat	AB	T1B 1J5	403.527.1141	403.526.7753	murraychevmedicinehat.gmcanada.com	rondonald@murraychev.ca
Keith Pontiac Buick GMC Ltd.	Terry Winters	100 Woodgate Road	Okotoks	AB	T1S 1A8	403.938.5700	403.938.4655	keithpontiac.com	keithpontiac@gmcanada.com
Marshall Automotive Ltd	Rober Paul	7501 - 100 Avenue	Peace River	AB	T8S 1S2	780.624.3681	780.624.4124	marshallautomotve.gmcanada	marshallautomotive@gmcanada.com
Kipp Scott Pontiac Buick Ltd.	Gerry Paquette	6841 50th Ave.	Red Deer	AB	T4N 4E2	403.343.6633	403.350.2205	scottsville.com	kspbparts@scottsville.com
Ron Hodgson Pontiac Buick Ltd.	Peter Robinson	5 Galarneau Place	St. Albert	AB	T8N 2Y3	780.458.7100	780.418.6553	ronhodgson.com	parts@ronhodgson.com
Petersen Pontiac Buick GMC	Randy Koberstein	10 Automall Road	Sherwood Park	AB	T8A 2A6	780.464.5123	780.467.5851	petersenpontiac.gmcanada.com	petersenpontiac@gmcanada.com

British Columbia

Company Name	Contact Name	Address	City	PR	PC	Phone	Fax	Internet Site	Email Address
Carter Pontiac Buick Ltd.	Earl Johnson	4550 Lougheed Highway	Burnaby	BC	V5C 3Z5	604.291.7501	604.291.8116	carterauto.com	gmparts@carterauto.com
Mertin Pontiac Buick Ltd.	Peter Alexander	45930 Airport Road	Chilliwack	BC	V2P 1A2	604.795.9104	604.795.3505	mertinpontiac.gmcanada.com	peteralexander@mertingm.com
Barnes Wheaton Coquitlam	Paul Mossey	1090 Loughead Highway	Coquitlam	BC	V2K 6G9	604.526.4566	604.526.2897	barneswheatongm.com	pmossey1@barneswheatongm.com
Eagle Ridge Pontiac Buick GMC	Steve Boylan	2595 Barnet Hwy	Coquitlam	BC	V3E 1K9	604.464.6868	604.464.6559	eagleridgegm.com	performanceparts@eagleridgegm.com
P.L. Baljet ChevPont Buick GMC Ltd.	Doug Jones	6300 Trans Canada Highway	Duncan	BC	V9L 6C7	250.746.4466	250.746.6838	peterbaljetgm.com	parts@peterbaljetgm.com
Zimmer Wheaton Pont Buick GMC Ltd.		685 Notre Dame Dr.	Kamloops	BC	V2C 5N7	250.374.1139	250.374.3650	zimmerwheatongm.com	parts@zimmerwheatongm.com
Don Folk Chevrolet Inc.	Joey Stychin	2350 Hwy 97 N.	Kelowna	BC	V1X 4H8	250.860.6050	250.860.7189	donfolkchev.gmcananda.com	jstychin@shaw.ca
Jacobsen Pontiac Buick Ltd.	Jim Patterson	2727 Highway 97N	Kelowna	BC	V1X 4J8	250.860.3568	250.860.4999	jacobsenpontiac.gmcanada.com	parts@jacobsenexcellence.com
Preston Chev Cadillac	Larry McKinney	19990 Langley By-Pass	Langley	BC	V3A 4Y1	604.534.4154	604.532.4598	prestongm.com	lmckinney@prestongm.com
Wood Wheaton Chevrolet Ltd.	Brian Pearce	2829 Highway 16 West	Prince George	BC	V2N 0A3	250.564.4466	250.614.1133	woodwheaton.com	performanceparts@woodwheaton.com
Carter Chevrolet	Andrew Thorp	1991 Lougheed Hwy	Port Coquitlam	BC	V3B 1A6	604.941.5455	604.941.0848	carterchevpoco.com	thorp@carterchevpoco.com
Don Carr Chevrolet	Rick Warawa	5-3050 King George Highway	Surrey	BC	V4P Ab6	604.536.7661	604.541.7212	doncarrchevrolet.com	rickw@doncarr.com
Gold Key Pontiac Buick Ltd.	George Lino	19545 Langley By-Pass	Surrey	BC	V3S 6K1	604.534.8617	604.534.6910	goldkeypontiac.gmcanada.com	parts@goldkey.ca
Dueck Chev Cad Hummer Limited	Skip Parker	400 S.E. Marine Drive	Vancouver	BC	V5X 4X2	604.324.3361	604.324.1394	dueckgm.com	skip.parker@dueckonmarine.com
Dave Wheaton Pont Buick GMC Ltd.	Gary Kellington	2867 Douglas Street	Victoria	BC	V8T 4M7	250.388.5141	250.382.4621	davewheatongm.com	parts@wheatonpontiac.com

Manitoba

Company Name	Contact Name	Address	City	PR	PC	Phone	Fax	Internet Site	Email Address
Jim Gauthier Chev	Ron Dueck	1400 McPhilips St.	Winnipeg	MB	R2V 4G6	204.697.1400	204.633.1742	jimgauthierchev.gmcanada.com	parts@gauthierautogroup.com

New Brunswick

Company Name	Contact Name	Address	City	PR	PC	Phone	Fax	Internet Site	Email Address
J. Clark & Son Limited	Keith Grant	820 Scoudoc Hwy	Fredericton	NB	E3B 4Z2	506.452.1010	506.457.3619	clark.fred.gmcanada.com	kgrant@clarks.ca
MacDonald Pontiac	Craig Champion	111 Baig Blvd. Box 1460	Moncton	NB	E1C 8T6	506.853.6200	506.853.6210	macdonaldpontiac.com	parts@macdonaldpontiac.com
Seaside Chev Olds Ltd.	Jacques P. Bourque	Scoudoc Hwy	Shediac	NB	E4P 8T8	506.532.6666	506.532.1432	seasidechev.com	jacques.bourque@seasidechev.com

Newfoundland

Company Name	Contact Name	Address	City	PR	PC	Phone	Fax	Internet Site	Email Address
Hickman Motors Limited (Main Loc)	Peter Cheeseman	85 Kenmount Road, Box 8340	St. John's	NFLD	A1B 3N7	709.726.6990	709.726.0323	hickmanmotors.stjohns.gmcanada.com	pcheeseman@hickmanmotors.ca

Nova Scotia

Company Name	Contact Name	Address	City	PR	PC	Phone	Fax	Internet Site	Email Address
Forbes Chevrolet	Jarrett Fowler	580 Portland Street	Dartmouth	NS	B2Y 3Y7	902.434.4000	902.462.7343	forbeschev.com	parts@forbeschev.com

Ontario

Company Name	Contact Name	Address	City	PR	PC	Phone	Fax	Internet Site	Email Address
Frost Pontiac-Buick-Cadillac Ltd.	Jeff Graff	320 Queen Street East	Brampton	ON	L6V 1C2	905.459.0126	905.459.8442	frostpontiac.gm.ca	jgraff@frostpontiac.com
Heuvelmans Chev Cadillac Limited	Al Pellerin	7555 Grand Avenue West	Chatham	ON	N7M 5L1	519.354.3550	519.352.5080	heuvelmanschev.gmcanada.com	heuvelmanschev@gmcanada.com
Cornwall Motor Sales (2002) Ltd.	Gilles Godard	2695 Brookdale Avenue N	Cornwall	ON	K6H 5V1	613.933.3000	613.933.6477	cornwallmotorsales.gmcanada.com	cornwallmotorsales1989 on/gmcadlr
Roy Nichols Chevrolet	Dana Damant	2728 Courtice Road	Courtice	ON	L1E 2M7	905.436.2227	905.493.6866	roynicholsmotors.gm.ca	bob.adams@roynicholsmotors.com
Courtesy Chevrolet Ltd.	T. Magyar/ T. Janes	1635 The Queensway	Etobicoke	ON	M8Z 1T8	416.251.5211	416.251.8873	courtesychevolds.com	courtesychev@gmcanada.com
Lindsay Pontiac Buick GMC Ltd.	Les Fowler	150 Angeline Street North	Lindsay	ON	K9V 4N1	705.324.9561	705.324.2203	lindsaypontiacbuick.com	lfowler@lindsaypontiacbuick.com
Brian Finch Pontiac Buick GMC Ltd.	Steve Williams	300 Southdale Rd.	London	ON	N6C 5Y7	519.649.7779	519.685.2756	brianfinchpontiac.gmcanada.com	brianfinchpontiac@gmcanada.com
MacMaster Chevrolet Ltd.	Brad Walker	1470 Dundas St. East	London	ON	N5W 3B9	519.455.1365	519.455.1886	macmaster.on.ca	brad@macmaster.on.ca
Ray Cullen Chevrolet Ltd.	Wade Webb	730 Wharncliffe Rd. S.	London	ON	N6J 2N4	519.686.7282	519.686.2642	raycullen.com	parts@raycullen.com
Applewood Chevrolet Cadillac	Gord Guerin	3000 Woodchester Dr	Mississauga	ON	L5L 2R4	905.828.7111	905.828.2551	acoc.com	gguerin@applewoodauto.com
Falls Chevrolet Cadillac	Dave Miller	5888 Thoroldstone Rd.	Niagara Falls	ON	L2J 1A2	905.358.7791	905.358.8837	fallschev.com	parts@fallschev.com
MacMaster PontBuick GMC (1999) Inc.	J. Marshall/P. Darch	Highway #9, East	Orangeville	ON	L9W 2Z5	888.279.9922	519.941.6107	macmasterpontiaqc.com	parts@macmasterpontiac.com
Ontario Motors Sales Limited	Parts Department	140 Bond St.	Oshawa	ON	L1H 7L8	905.728.9476	905.436.7445	ontariomotorsales.com	parts@ontariomotorsales.com
Jim Tubman Motors	Wayne Soutar	1770 Bank Street	Ottawa	ON	K1V 7Y6	613.733.5483	613.733.9164	jimtubmanmotors.com	wsoutar@jimtubmanmotors.com
Wilson Niblett Motors	Deb Kay	10675 Yonge St.	Richmond Hill	ON	L4C 3E1	905.884.7708	905.884.0033	wilsonniblett.com	
Wallis Pontiac Buick GMC Ltd	Jim Rops	1103 Confederation Street	Sarnia	ON	N7S 3Y4	519.336.4060	519.332.5068		parts@wallismotors.com
Stratford Motor Products (1984) Ltd.	Steve Court	824 Ontario St.	Stratford	ON	N5A 3K1	519.271.5900	519.271.6320	stratfordmotorproducts.com	
Crosstown Chevrolet Ltd.	Donovan Proulx	280 Falconbridge Road	Sudbury	ON	P3A 5K3	705.566.9000	705.566.9723	crosstownchev.gmcanada.com	crosstownchev@gmcanada.com
Roy Foss Motors Ltd.	Steve Barclay	7200 Yonge St.	Thornhill	ON	L4J 1V8	905.886.2947	905.886.9418	royfossmotors.gmcanada.com	sbarclay@royfoss.com
Timmins Garage Incorporated	Mitch Cloutier	1395 Riverside Dr.	Timmins	ON	P4R 1A6	705.268.4122	705.264.1540	timminsgarage.com	timminsgarage@gmcanada.com
Niagara Motors Limited	Dennis Willms	1537 Hwy. 55 P.O. Box 70	Virgil	ON	L0S 1T0	905.468.4204	905.468.4454	niagaramotors.com	parts@niagaramotors.com
Forbes Motors Inc.	Dave Stanley	165 Weber St. S.	Waterloo	ON	N2J 4A6	519.742.4463	519.743.5623	forbesauto.com	dstanley@forbesmotors.com
Gus Brown Pont Buick GMC Ltd.	Jim Horner	1201 Dundas Street East	Whitby	ON	L1N 2K6	905.668.8853	905.668.5897	gusbrown.com	jimhorner@gusbrown.com

Quebec

Company Name	Contact Name	Address	City	PR	PC	Phone	Fax	Internet Site	Email Address
Lussier Pontiac Buick GMC Ltee	Eric Leblanc	3000, rue Dessaulles	St-Hyacinthe	PQ	J2S 2V8	450.778.1112	450.778.1422	lussierpontiac.com	eleblanc@lussierpontiac.com
Drouin et Freres Auto Ltd	Alain Tuimel	1020 Boul Vachon	Ste-Mariee	ON	G6E 1M2	418.387.6601	418.387.8159	drouinetfreresauto.com	pieces1@drouinetfreresauto.com

Saskatchewan

Company Name	Contact Name	Address	City	PR	PC	Phone	Fax	Internet Site	Email Address
Watrous Mainline Motor Products	Todd Pidhorodesky	Hwy #24 2nd St	Watrous	SK	S0K 4T0	306.946.3336	306.946.2229	waterousmainline.gmcanada.com	watrousmainline@gmcanada.com

NOTES

GM SERVICE REPLACEMENT POWERTRAIN & GM PERFORMANCE PARTS LIMITED WARRANTY

Engines, Engine Components, Transmissions, Transmission Components & Transfer Cases

To retain the safety and dependability built into this product, it is essential that your product receives the scheduled maintenance at the recommended intervals contained in your vehicle Owner's Manual/ Maintenance Schedule.* Since emissions-related components vary by model and engine application, you should follow the emissions maintenance recommendations also contained in your vehicle's manuals.

Maintenance services should be performed by an authorized GM dealer or other qualified independent service centre.

General Motors of Canada Limited ("GM Canada") warrants to the purchaser for the time and/or mileage indicated that it will repair or replace, at its option, using new or remanufactured parts, GM Parts Service Replacement Engine, Engine Component, Transmission/Transaxle, Transmission Component, Transfer Case or Short Block Assembly that fails due to a defect in material or workmanship.

GM Canada Parts

Effective with purchases on or after 4/15/05	Passenger Car & Light-Duty Truck[3]	Medium-Duty Truck, Class A Motor Home, Taxi, Police[4] & Tow Truck[4]	Other[5]
Engines & Automatic Transmissions[6,10]	36 months or 160,000 kilometers[1,2,18]	18 months or 160,000 kilometers[1,2]	12 months or 20,000 kilometers[1,11]
Transfer Cases	24 months or 40,000 kilometers[1,2]	24 months or 40,000 kilometers[1,2]	12 months or 20,000 kilometers[1]
Short Block Assemblies[9]	24 months or 40,000 kilometers[1,2]	12 months or 20,000 kilometers[1]	12 months or 20,000 kilometers[1,11]
Manual Transmissions	12 months or 20,000 kilometers[1,2]	12 months or 20,000 kilometers[1,2]	12 months or 20,000 kilometers[1,11]
Engine & Transmission Components[9]	12 months or 20,000 kilometers[1]	12 months or 20,000 kilometers[1]	12 months or 20,000 kilometers[1]

GM Canada PERFORMANCE PARTS

Effective with purchases on or after 3/1/07	Passenger Car & Light-Duty Truck[3,13]
Performance Parts Transmissions, Components & Short Block Assemblies[9]	12 months or 20,000 kilometers[1,12]
Performance Parts Engines	24 months or 80,000 kilometers[1,2,8,11,12,13]

[1] Whichever occurs first, months or mileage; [2] Parts and labor warranty; [3] Light-Duty series 10-30; [4] Medium-Duty series 40-70; [5] Parts only warranty for non-cataloged applications; [6] Includes Allison assemblies sold through GM Dealers; [7] 3 year / 80,000 kilometer warranty applies to purchases prior to 4-15-05; [8] Engine upgrades require appropriate associated parts to ensure proper engine and transmission cooling and torque capacity, fuel/air delivery and emission controls (upgrade example: 305 engine replaced with 350 engine) ; [9] Parts only warranty when sold over the counter or to a qualified independent repair facility; [10] Excludes ACDelco and Performance Parts; [11] Includes marine, propane, natural gas, and certain industrial applications (excludes industrial stationary applications) ; [12] 12 month / 20,000 kilometers warranty applies to purchases prior to 3-1-07; [13]Must be installed in a street legal automotive application.

WARRANTY BEGINS ON THE DATE OF INSTALLATION BY AN AUTHORIZED GM DEALER OR BY A QUALIFIED INDEPENDENT SERVICE CENTER. PARTS ONLY WARRANTY (NO LABOUR) APPLIES FOR WARRANTY REPAIRS NOT PERFORMED BY AN AUTHORIZED GM DEALER OR QUALIFIED INDEPENDENT SERVICE CENTER.

GM sells other engines and transmissions in various states of completion. This warranty covers only those engines and transmissions that are marketed by GM as Goodwrench or GM Parts.

THIS WARRANTY DOES NOT COVER:

- Damage due to improper installation, negligence, alteration, accident, improper use, or any use related to racing or competition. Proper vehicle use is discussed in the vehicle Owner's Manual. In addition, coverage does not apply if the odometer has been disconnected or the mileage reading has been altered.
- Damage caused by lack of proper maintenance as described in the vehicle's original Maintenance Schedule/Owner's Manual, failure to follow Maintenance Schedule intervals, or failure to use or maintain proper type and levels of fluid, fuel, oil and lubricants recommended in the Maintenance Schedule/Owner's Manual. Proof of proper maintenance is the owner's responsibility. Keep all receipts and be prepared to make them available if questions arise about maintenance.
- Damage as a result of overheating, contamination or lack of lubrication.
- Damage caused by a turbocharger, supercharger, nitrous oxide, or similar product, which is not an approved GM Performance Part or Accessory.
- Racing engines and/or their components.
- Use of components in excess of maximum torque specification.
- Damage as a result of modification/replacement of torque converter that is part of transmission assembly.
- Loss of time, inconvenience, loss of use, or other economic loss.
- Vehicles registered and normally operated outside of Canada.
- This warranty does not apply to any unit installed under the General Motors New Vehicle Warranty.

DOCUMENTATION REQUIREMENTS

The GM dealer or independent service center must be furnished with this warranty statement, purchase receipt, installation date invoice and proof of proper maintenance. This warranty is transferable to subsequent owners by providing the above required documents to any purchaser of the vehicle in which the assembly/component was originally installed.

OBTAINING REPAIRS

GM Dealer Installation—The GM dealer who initially installed the assembly/component or any GM dealer may perform the repairs. You must allow a reasonable period of time for repairs following delivery of the vehicle to the GM dealer's place of business.

Independent Service Center Installation—The independent service center that installed the assembly/component or any GM dealer may perform repairs. Before any repairs can be performed under warranty by an independent repair center, the selling GM dealer (or any GM Dealer) must first authorize needed repairs as a sublet service.

OTHER TERMS

TO THE FULL EXTENT PERMITTED BY APPLICABLE CANADIAN LAW: The foregoing warranty is the only and the entire warranty provided by GM Canada and is in lieu of and excludes all other representations, warranties or conditions, express or implied (including any implied warranty of merchantability or fitness for a particular purpose).

The performance of repairs, the provision of replacement parts, or reimbursement thereof, as described above, is the exclusive remedy under this written warranty or under any otherwise applicable implied warranty or condition.

GM CANADA DOES NOT AUTHORIZE ANY PERSON TO CREATE FOR IT ANY OTHER OBLIGATIONS or liability in connection with the products and no person is permitted to extend or enlarge this warranty on behalf of GM Canada by written, verbal or other representation and if made, such representation or warranty will not be enforceable against GM Canada.

DISCLAIMER OF LIABILITY: Except as provided in this limited warranty, GM Canada will not be liable in contract, tort or otherwise for any direct, indirect, economic, commercial, incidental, or consequential or special loss or damage or expense or claim howsoever caused, arising in connection with the sale, use, loss of use, performance or non-performance of the product.

NOTICE REGARDING LIMITATIONS: The terms contained in this limited warranty are not intended to limit or otherwise modify or exclude any warranty that by law cannot be limited, disclaimed or excluded. When and to the extent that any applicable Canadian law prohibits in a particular situation, any term contained in this warranty, such term will be considered severable and deemed deleted from this warranty in that situation.

Some states/provinces do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages, therefore, the above limitation or exclusions may not apply to you.

SERVICE CHECKS:

Transmissions: It is important for you or a service technician to check the transmission/transaxle fluid level at regular intervals.

Engines: It is important for you or a service technician to perform these underhood checks at each fuel fill:

- Check engine oil level and add if necessary.
- Check engine coolant level in coolant reservoir and add if necessary.
- Check belts and hoses for visible wear and replace if necessary.

GM SERVICE REPLACEMENT POWERTRAIN & GM PERFORMANCE PARTS LIMITED WARRANTY

Engines, Engine Components, Transmissions, Transmission Components & Transfer Cases

To retain the safety and dependability built into this product, it is essential that your product receives the scheduled maintenance at the recommended intervals contained in your vehicle Owner's Manual/ Maintenance Schedule* or GM Performance Parts Engine Instruction Sheet. Since emissions-related components vary by model and engine application, you should follow the emissions maintenance recommendations also contained in your vehicle's manuals.

Maintenance services should be performed by an authorized GM dealer or other qualified independent service center.

General Motors Corporation warrants to the purchaser for the time and/or mileage indicated that it will repair or replace, at its option, using new or remanufactured parts, GM Parts Service Replacement Engine, Engine Component, Transmission/Transaxle, Transmission Component, Transfer Case or Short Block Assembly that fails due to a defect in material or workmanship.

**If owner's manual/maintenance schedule is lost, visit www.ownercenter@mygmlink.com*

Parts

Effective with purchases on or after 4/15/05	Passenger Car & Light-Duty Truck[3]	Medium-Duty Truck, Class A Motor Home, Taxi & Police[4]	Other[5]
Engines & Automatic Transmissions[6,10]	36 months or 100,000 miles[1,2,7,8]	18 months or 100,000 miles[1,2]	12 months or 12,000 miles[1]
Transfer Cases	24 months or 24,000 miles[1,2]	24 months or 24,000 miles[1,2]	12 months or 12,000 miles[1]
Short Block Assemblies[9]	24 months or 24,000 miles[1]	12 months or 12,000 miles[1]	12 months or 12,000 miles[1]
Manual Transmissions	12 months or 12,000 miles[1,2]	12 months or 12,000 miles[1,2]	12 months or 12,000 miles[1]
Engine & Transmission Components[9]	12 months or 12,000 miles[1]	12 months or 12,000 miles[1]	12 months or 12,000 miles[1]

PERFORMANCE PARTS

Effective with purchases on or after 3/1/07	Passenger Car & Light-Duty Truck[3,12]
Performance Parts Transmissions, Components & Short Block Assemblies[9]	12 months or 12,000 miles[1,12]
Performance Parts Engines	24 months or 50,000 miles[1,2,8,11,12]

[1]Whichever occurs first, months or mileage; [2]Parts and labor warranty; [3]Light-Duty series 10-30; [4]Medium-Duty series 40-80, unlimited miles; [5]Parts only warranty for non-cataloged applications; [6]Includes Allison assemblies sold through GM Dealers; [7]3 year, 50,000 mile warranty applies to purchases prior to 4/15/05; [8]Engine upgrades require appropriate associated parts to ensure proper engine and transmission cooling and torque capacity, fuel/air delivery and emission controls (upgrade example: 305 engine replaced with 350 engine); [9]Parts only warranty when sold over the counter or to a qualified independent repair facility; [10]Excludes ACDelco and Performance Parts; [11]12 month, 12,000 mile warranty applies to purchases prior to 3/1/07; [12]Must be installed in a street legal automotive application.

Warranty begins on the date of installation by an authorized GM dealer or by a qualified independent service center. For over-the-counter sales, warranty begins on date of retail sale.

This Warranty Does Not Cover:

- Damage due to improper installation, negligence, alteration, accident, improper use, or any use related to racing, track or competition. Proper vehicle use is discussed in the vehicle Owner's Manual. In addition, coverage does not apply if the odometer has been disconnected or the mileage reading has been altered.
- Damage caused by lack of proper maintenance as described in the vehicle's original Maintenance Schedule/Owner's Manual, failure to follow Maintenance Schedule intervals, or failure to use or maintain proper type and levels of fluid, fuel, oil and lubricants recommended in the Maintenance Schedule/Owner's Manual. Proof of proper maintenance is the owner's responsibility. Keep all receipts and be prepared to make them available if questions arise about maintenance.
- Damage as a result of overheating, contamination or lack of lubrication.
- Damage caused by a turbocharger, supercharger, nitrous oxide, or similar product, which is not an approved GM Performance Part or Accessory.
- Racing engines and/or their components.
- Use of components in excess of maximum torque specification.
- Damage as a result of modification/replacement of torque converter that is part of transmission assembly.
- Loss of time, inconvenience, loss of use, or other economic loss.
- Vehicles registered and normally operated outside of the United States.
- This warranty does not apply to any unit installed under the General Motors New Vehicle Limited Warranty.

Documentation Requirements:

The GM dealer or independent service center must be furnished with the purchaser's original repair order or sales slip (or dealer's photo copy), and this warranty certificate properly completed. This warranty is transferable to subsequent owners by providing the above required documents to any purchaser of the vehicle in which the assembly/component was originally installed.

Obtaining Repairs:

GM Dealer Installation—The GM dealer who initially installed the assembly/ component or any GM dealer may perform the repairs. You must allow a reasonable period of time for repairs following delivery of the vehicle to the GM dealer's place of business.

Independent Service Center Installation—The independent service center that installed the assembly/component or any GM dealer may perform repairs. Before any repairs can be performed under warranty by an independent repair center, the selling GM dealer (or any GM Dealer) must first authorize needed repairs as a sublet service.

Emergency Repairs (GM Dealers Only)—Reimbursement to an owner for repairs performed by other than a GM dealer will be considered when GM dealer service was not available (e.g. weekends, evenings, etc.) or when repairs were made in a foreign country where warranty repairs by a GM dealer were difficult to obtain.

Other Terms:

GM sells other engines and transmissions in various states of completion. This warranty covers only those engines and transmissions that are marketed by GM as Goodwrench, GM Parts or GM Performance Parts.

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

General Motors does not authorize any person to create for it any other obligations or liability in connection with these assemblies.

ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLICABLE TO ASSEMBLIES OR PARTS IS LIMITED IN DURATION TO THE DURATION OF THIS WRITTEN WARRANTY. THE PERFORMANCE OF REPAIRS OR REPLACEMENT IS THE EXCLUSIVE REMEDY UNDER THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY. GM SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM BREACH OF THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY.

Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages, therefore, the above limitation or exclusions may not apply to you.

Service Checks:

Transmissions: It is important for you or a service technician to check the transmission/transaxle fluid level at regular intervals.

Engines: It is important for you or a service technician to perform these underhood checks at each fuel fill:

- Check engine oil level and add if necessary.
- Check engine coolant level in coolant reservoir and add if necessary.
- Check belts and hoses for visible wear and replace if necessary.

Direct any inquiries to:

General Motors Corporation
Consumer Relations Dept.
P.O. Box 33136
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