PERFORMER RPM G.M. GEN III (LS SERIES) CYLINDER HEAD
For Gen III and Gen IV Small-Block Chevrolet V8s
Catalog #61969, 61979 & 61989
INSTALLATION INSTRUCTIONS

PLEASE study these instructions carefully before beginning this installation. Most installations can be accomplished with common tools and procedures. However, you should be familiar with and comfortable working on your vehicle. If you do not feel comfortable performing this installation, it is recommended to have the installation completed by a qualified mechanic. If you have any questions, please call our Technical Hotline at: 1-800-416-8628, 7:00 am - 5:00 pm, Pacific Standard Time, Monday through Friday or e-mail us at edelbrock@edelbrock.com.

NOTE: Proper installation is the responsibility of the installer. Improper installation may result in poor performance and engine or vehicle damage.

PLEASE complete and mail your warranty card. Be sure to write the model number of this product in the "Part #____" space. THANK YOU.

DESCRIPTION: Performer RPM Gen III cylinder heads are designed for 1997 and later 5.7L LS series engines, and other third and fourth generation small-block Chevrolet V8 engines. These heads provide great "out-of-the-box" performance and feature CNC-ported, 205cc intake and 82cc exhaust ports for superior flow, and efficient 65cc CNC profiled combustion chambers. CNC-ported cylinder heads #61969 & 61979 are designed for engines with 3.900" or larger bore diameters and will not fit 4.8L and 5.3L engines with factory 3.780" cylinder bores. Performer RPM Gen III cylinder heads can also be used on larger displacement Gen III and Gen IV small block V8 engines including 7.0L (427 c.i.d.) engines with 4.125" or larger cylinder bores using the C5R block, LS7 block, or sleeved production blocks.

As-cast cylinder heads #61989 can be finished to accommodate a smaller bore size. This would be determined by the professional cylinder head porting shop performing the finish machine work (See note below). All heads feature reinforced rocker arm bosses for increased strength.

Complete heads are assembled with the following components:

- ❑ High quality, stainless steel, one-piece, 2.02" intake and 1.57" exhaust valves for increased flow
- ❑ 2-ring positive oil control seals
- ❑ Valve springs accept camshafts with up to .650" lift
- ❑ Titanium valve spring retainers
- ❑ Hardened valve seats compatible with unleaded fuel

NOTE: Complete cylinder heads are assembled and prepared for installation right out of the box. Bare cylinder head #61979 will have valve guides and seats installed, but will require final sizing and a valve job to match the valves you will be using. Small-port, bare cylinder head #61989 requires professional preparation. This is a machined casting from which the finished heads are made. The small, as-cast ports and chambers are designed to allow a variety of designs to completely clean up when CNC-ported. Follow the finisher's recommendations regarding maximum valve lift, gaskets, and additional hardware, as cylinder head setup will vary depending on the specific cylinder head assembly.

IMPORTANT NOTES, READ BEFORE BEGINNING INSTALLATION!: For a successful installation, the Edelbrock Performer RPM Cylinder Heads require some components other than original equipment parts. To complete your installation, you will need the following items:

- ❑ Head gaskets (graphite); Right - GM #12558809, Left - GM #12558810. Or, multi-layer steel shim (MLS) gaskets, GM #12498544 (contains left and right gaskets) may also be used.
- ❑ Stock type intake manifold o-ring seals; GM #12533587 for LS1/LS6 intake manifolds, GM #17113557 for later CK truck intakes, or GM #89017585 for LS2 intake manifolds.
- ❑ Exhaust gaskets; Edelbrock #6962
- ❑ New cylinder head bolts or studs, with hardened steel washers
- ❑ Heads are machined to accept stock rocker arms, aftermarket rocker arm assemblies for Gen III and Gen IV engines may also be used
- ❑ Correct length pushrods (The required pushrod length is dependent upon camshaft base-circle diameter and the amount that has been surfaced from the heads or machined from your block. You will need to check for correct pushrod length.)
- ❑ 14mm x 17.5mm (.708") reach, tapered seat, resistor-type spark plugs

CHECKING PISTON-TO-VALVE, VALVE-TO-BORE AND PISTON-TO-HEAD CLEARANCES: Prior to installation, it is highly recommended that valve-to-piston clearances are checked and corrected to minimum specs, if necessary. These cylinder heads have larger-than-stock valve sizes and although they are designed to accept factory pistons in most cases, it's possible the use of aftermarket pistons and/or custom machining of your pistons may be required. Actual valve-to-piston clearance should be specified by your camshaft manufacturer. Valve-to-bore clearance should also be checked, and the top of the bore notched for clearance, if necessary.

ACCESSORIES: Although Edelbrock Cylinder Heads will accept most OEM components (valve covers, intake manifold, etc.), we highly recommend that premium quality hardware be used with your new heads.

HEAD BOLTS OR STUDS: High quality head studs or head bolts with hardened washers must be used to prevent galling of the aluminum bolt bosses. ARP head bolt kit #134-3609 includes all head bolts needed for use with these cylinder heads. New production head bolts may also be used. New style blocks use GM head bolt kit #11519772. Old style blocks use GM #12498545 *(See Note under Figure 1 for year span of old & new style blocks)*. Because factory bolts are a torque-to-yield type fastener, the stock head bolts CANNOT be re-used.

ROCKER ARMS AND VALVE TRAIN: These cylinder heads are designed to use the stock rocker arms or aftermarket replacement rocker arms designed for the Gen III and Gen IV engines. Due to the larger intake port design on these CNC-ported heads, the factory rocker bolts will need to be shortened, or you may use aftermarket rocker bolts.

VALVE COVERS: Edelbrock Performer RPM cylinder heads will accept stock center-bolt design valve covers. Engines originally equipped with perimeter bolt valve covers will need to convert to center bolt valve covers. Perimeter bolt cylinder heads are found on 1997, 1998, and some 1999 vehicles.

INTAKE MANIFOLD: Cylinder Heads will accept stock intake manifolds, as well as our Performer RPM LS-1 Carbureted intake manifold #7118, Victor JR. LS-1 Carbureted intake manifold #2908, or Victor Jr. LS-1 EFI intake manifold #29085 (or #29086, includes fuel rails). Use stock type LS1/LS6 individual port o-ring seals.

EXHAUST HEADERS: For optimum performance, exhaust headers and a low restriction exhaust system are highly recommended for use with Edelbrock Cylinder Heads. Exhaust ports are CNC-profiled to match stock or Edelbrock #6962 exhaust gaskets which are recommended for this application.

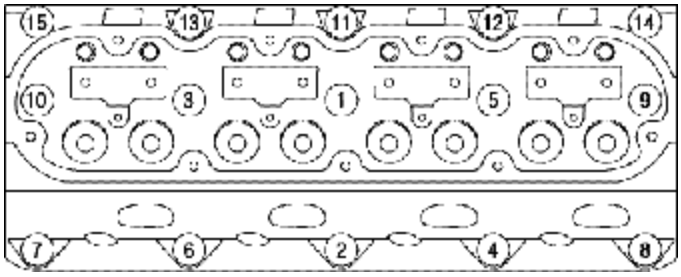
SPARK PLUGS: Use 14mm x 17.5mm (.708") reach tapered seat resistor type spark plugs. Heat range requirements will vary by application. For many applications, GM factory spark plugs or equivalent spark plus such as Champion RS14YC6, NGK TR55, or Denso IT16 spark plugs may be used. Use anti-seize on the plug threads to prevent galling in the cylinder head, and torque to 10 ft./lbs. Do not over tighten sparkplugs! If a short reach plug is used, poor performance and possible engine damage may occur.

INSTALLATION: Installation is the same as for original equipment cylinder heads. Consult a factory service manual for specific procedures, if necessary. Factory manuals can be purchased direct from Helm® at: www.helminc.com. Be sure that the surface of the block and the surface of the head are thoroughly cleaned to remove any oily film before installation. Use alcohol or lacquer thinner on a lint-free rag to clean. *NOTE: Be VERY careful to remove any coolant or other fluids that may be in the cylinder head bolt holes in the block. These bolt holes are sealed at the bottom, and any fluid trapped in the holes will cause the block to crack when you torque the bolts.* When using the GM factory head bolts, be sure to replace all of the bolts with new bolts, and to follow the factory recommended installation procedures. The factory bolts and installation procedures do not call for the use of oil or any lubricant on the threads. When using aftermarket bolts or studs, follow the manufacturer's recommended torque specifications *(See Figure 1 for factory tightening sequence)*.

NOTE: Torque to yield fasteners are not designed to be re-torqued after installation.

SPECIFICATIONS:

Head Bolt Torque:	See Figure 1, or use head bolt manufacturer's specifications
Deck Thickness:	5/8"
Combustion Chamber Volume:	65 cc
Valve Size:	Intake - 2.02" Exhaust - 1.57"
Valve Seats:	Hardened ductile iron, non-interlocking, compatible with unleaded fuel
Valve Spring Diameter:	Beehive type spring, 1.300" at base of spring
Valve Spring Installed Height:	1.800"
Valve Spring Seat Pressure:	130 lbs. @ 1.800"
Valve Spring Open Pressure	318 lbs. @ 1.200"
Max. Valve Lift:	.650"
Coil Bind	1.085"



(EXHAUST PORT SIDE)

Figure 1 - Factory Cylinder Head Bolt Torque Sequence

First Design Blocks
(8 short, 2 medium length M11 bolts per cylinder head)

First Pass:	*Torque all M11 bolts (1-10) in sequence, to 22 ft./lbs.*
Second Pass:	*Turn all M11 bolts (1-10) in sequence, an additional 90 degrees.*
Final Pass:	*Turn all short M11 bolts (1-8) in sequence, an additional 90 degrees. Turn medium M11 bolts (9-10) an additional 50 degrees. Tighten M8 bolts (11-15) in sequence shown to 22 ft./lbs.*

Second Design Blocks
(10 short, M11 bolts per cylinder head)

First Pass:	*Torque all M11 bolts (1-10) in sequence, to 22 ft./lbs.*
Second Pass:	*Turn all M11 bolts (1-10) in sequence, an additional 90 degrees.*
Final Pass:	*Turn all M11 bolts (1-10) in sequence, an additional 90 degrees. Tighten M8 bolts (11-15) in sequence shown to 22 ft./lbs.*

NOTE: First to Second design change-over date is roughly mid December 2003 for block manufacturing date.

Edelbrock Corporation • 2700 California St. • Torrance, CA 90503
Tech Line: 800-416-8628 • E-Mail: Edelbrock@Edelbrock.com