



# PERFORMER & PERFORMER RPM CYLINDER HEADS FOR SMALL-BLOCK CHEVROLET V8 ENGINES INSTALLATION INSTRUCTIONS

## CATALOG #S

<b>60619</b>	<b>60859</b>	<b>60999</b>
<b>60639</b>	<b>60869</b>	<b>607115</b>
<b>60659</b>	<b>60879</b>	<b>607119</b>
<b>60697</b>	<b>60887</b>	<b>607315</b>
<b>60715</b>	<b>60889</b>	<b>607319</b>
<b>60719</b>	<b>60895</b>	<b>608879</b>
<b>60735</b>	<b>60899</b>	<b>608915</b>
<b>60739</b>	<b>60909</b>	<b>608919</b>
<b>60759</b>	<b>60949</b>	<b>608979</b>
<b>60849</b>	<b>60995</b>	

**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.

**IMPORTANT NOTE: Proper installation is the responsibility of the installer. Improper installation will void your warranty and may result in poor performance and engine or vehicle damage.**

## DESCRIPTION

Edelbrock Performer, Performer Centerbolt, and Performer Corvette Centerbolt Cylinder Heads are designed for street high performance use, and are interchangeable with original equipment cylinder heads (See "Applications" below). These heads retain an exhaust crossover passage and are street legal replacement parts. Contact Edelbrock for the current E.O. number, if required for emission validation. Performer RPM cylinder heads are designed for street/strip high performance use on non-emissions vehicles. These heads DO NOT retain an exhaust crossover passage, and will not work on any vehicle requiring EGR (Exhaust Gas Recirculation) equipment. Edelbrock cylinder heads feature intake and exhaust port openings that are CNC machine "matched" (to recommended gaskets) and have been designed for maximum flow velocity when matched with Edelbrock intake manifolds, camshafts, carburetors, or additional recommended performance parts.

Complete cylinder heads are assembled with the following components: Stainless steel, one-piece, swirl-polished intake and exhaust valves with under-cut stems for increased flow; 2-ring positive-oil-control seals; 3/8" rocker arm studs and 5/16" guide plates; Hardened steel valve spring locators; Edelbrock Sure-Seat Valve Springs, retainers, and valve keepers.

**NOTE:** Complete cylinder heads are assembled and prepared for installation right out of the box. **Bare cylinder heads will have valve guides and seats installed, but will require final guide sizing and a valve job to match the valves you will be using.**

## DESCRIPTION CONTINUED

**Performer:** Cylinder Heads are designed for 1986 & earlier 302, 327, 350, and 400 c.i.d. Chevrolet engines (not centerbolt). They accept either stock or Edelbrock valve covers #4449 or #4248.

**60659:** Single, bare, 70cc chamber.

**60759:** Complete, single, 70cc chamber.

**60909:** Complete, single, 64cc chamber.

**Performer Centerbolt:** Cylinder Heads are designed for 1987 through 1995 5.7 Litre Chevrolet engines (except LT-1 or LT-5 Corvettes) using centerbolt valve covers and the 1987 & later revised intake manifold bolt pattern. 50 State Legal. Available with straight spark plugs only.

**60849:** Single, bare head.

**60859:** Single, complete head.

**NHRA Legal:** These heads are similar to both stock and #60889 cylinders heads, but in order to be legal for NHRA use, the finishing operations performed on the Performer RPM version (#60889) have been eliminated (such as final valve job, gasket match profiling, and hand blending in the bowl area of both ports). These omissions are signified by the NHRA logo engraved on the ends of each head and the logo must remain on the heads for NHRA to consider them legal.

**60887:** Single head.

**Performer RPM SCCA American Sedan Series:** These heads are intended for SCCA sanctioned racing; 1.94" intake valves and 1.60" exhaust valves. Refer to SCCA Rules specifications before performing any modifications to intake, exhaust or bowl areas of the head.

**608899:** Single, bare head.

**608979:** Single, complete head.

**Performer Corvette Centerbolt:** Cylinder Heads are designed for 1987 through 1991 5.7 Litre Chevrolet Corvette engines (except LT-1 or LT-5 Corvettes) with factory aluminum cylinder heads using centerbolt valve covers and early style "straight" intake manifold bolt pattern. They also fit 1986 Corvette convertibles originally equipped with aluminum heads. When used with Fel-Pro head gaskets #1003 or #1010, they will produce the same compression ratio as the stock 57cc heads. Available only with angled spark plugs.

**60869:** Single, bare head.

**60879:** Single, complete head.

**Performer RPM:** Cylinder Heads are designed for use on 1986 & earlier 302, 327, 350, and 400 c.i.d. Chevrolet engines (not centerbolt).

PART #	ASSEMBLY		FINISH		CHAMBER SIZE		SPARK PLUG ORIENTATION		CAM COMPATIBILITY	
	BARE	COMPLETE	SATIN	POLISHED	64CC	70CC	STRAIGHT	ANGLED	HYD. FLAT TAPPET	HYD. ROLLER
60619	✓		✓			✓		✓		
60639	✓		✓			✓	✓			
60649	✓		✓		✓			✓		
60715		✓	✓			✓		✓		✓
60719		✓	✓			✓		✓	✓	
60735		✓	✓			✓	✓			✓
60739		✓	✓			✓	✓		✓	
60887	✓		✓		✓		✓			
60889	✓		✓		✓		✓			
60895		✓	✓		✓		✓			✓
60899		✓	✓		✓		✓		✓	
60995		✓	✓		✓			✓		✓
60999		✓	✓		✓			✓	✓	
607115		✓		✓		✓		✓		✓
607119		✓		✓		✓		✓	✓	
607315		✓		✓		✓	✓			✓
607319		✓		✓		✓	✓		✓	
608915		✓		✓	✓		✓			✓
608919		✓		✓	✓		✓		✓	

## BEFORE BEGINNING INSTALLATION

### IMPORTANT NOTES: READ BEFORE BEGINNING INSTALLATION!

For a successful installation, the Edelbrock Performer/Performer RPM Cylinder Heads require some components other than original equipment parts. To complete your installation, you will need the following items:

- Head gaskets; Edelbrock #7310
- Intake manifold gaskets; Edelbrock #7201
- Exhaust gaskets; Edelbrock #7204
- Valve Cover gaskets; Edelbrock #7549

**NOTE:** Edelbrock Cylinder Head Gasket Set #7361 may also be used in place of individual gaskets. This set contains all gaskets necessary for cylinder head installation, including cylinder head, intake, exhaust, and valve cover gaskets.

- Edelbrock head bolt kit #8550 (see instructions below)
- 14mm x 3/4" reach x 5/8" hex, gasketed spark plugs (*heat range to be determined by specific application. Champion RC-12YC are a good spark plug for street applications*)
- Adjustable rocker arm assembly (*Premium roller rockers recommended*)
- +.100" longer-than-stock hardened pushrods; Edelbrock #9629 (For use with stamped steel rocker arms or with 64cc heads in some cases)

**CHECKING VALVE-TO-PISTON CLEARANCE:** Prior to installation, it is highly recommended that valve-to-piston clearances are checked and corrected to minimum specs, if necessary. Minimum intake valve clearance should be .100". Minimum exhaust valve clearance should be .110". Performer & Performer RPM cylinder heads are designed for use with flat-top pistons.

**PISTON-TO-CYLINDER HEAD CLEARANCE:** Edelbrock cylinder heads are designed for use with flat-top pistons. The use of domed pistons requires that piston-to-head clearance be checked before installation. Recommended minimum piston-to-head clearance is .050".

**VALVE-TO-BORE CLEARANCE:** Edelbrock cylinder heads are designed to be used on engines with a minimum bore size of 4.000". If used on engines with a bore size less than 4.000" (307, 305, 283, 267, 265, & 262 c.i.d.), do not use a camshaft with more than .450" lift or the valves may hit the cylinder bores.

**ROCKER GEOMETRY:** Rocker geometry should be checked, making sure that the contact point of the roller (or pad on a stock rocker arm) remains properly on the valve tip and does not roll off the edge. Visual inspection of the rockers, valve springs, retainers, and pushrods should be made to ensure that none of these components come into improper contact with each other. If problems with valve train geometry occur, changes such as pushrod length may have to be made.

## ACCESSORIES

*Although Edelbrock Performer RPM cylinder heads will accept OEM components we highly recommend that premium quality hardware be used*

• **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. We recommend Edelbrock Head Bolt Kit #8550. OEM head bolts may be used if they meet these specs for length: 1-3/4" (short bolts); 3" (medium bolts); 3-13/16" (long bolts). Shorter bolts do not have enough thread engagement for use with hardened washers. With OEM bolts, use hardened GM #10051155, ARP #200-8511, or equivalent washers. Bolt threads, underside of bolt heads, and washers should be lubricated with an oil/moly mix prior to installation and torquing.

• **Valve Springs:** Complete cylinder heads are assembled with valve springs that are compatible with either hydraulic flat tappet or hydraulic roller camshafts; See the description of your particular cylinder head to verify. If any other camshaft is used, check with the camshaft manufacturer for recommended valve spring pressures.

**NOTE:** If valve springs are changed to achieve more spring pressures it will be necessary to also change rocker studs.

• **Rocker Arms:** Stock (stamped) type rocker arms will require +.100" longer-than-stock hardened pushrods (Edelbrock #9629) to maintain proper geometry. The valve springs supplied will accommodate valve lifts up to .575", which is much higher than stock rocker arms will allow. Long-slot stamped or roller rocker arms will be required if your camshaft has more than .480" lift.

**NOTE:** 64cc heads #60899, 608899 and 608979 may require +.100" longer-than-stock pushrods even with roller rocker arms. You must check retainer-to-rocker clearance.

**CAUTION:** Some factory heads are equipped with "self-aligning" rocker arms. These rocker arms have a stamped recess on the valve tip end to guide the rocker arm on the valve stem which allows the rocker arm to guide the pushrod. Edelbrock cylinder heads are equipped with hardened pushrod guideplates. Therefore, non-self-aligning, stamped (i.e., Crane #11801-16, Sealed Power #R-865R, Pioneer-Barnes #818001 etc.), or non-self-aligning roller rocker arms are recommended. Guided rocker arms may be used by removing the guide plates and using hardened head bolt washers as spacers.

• **Intake Manifold:** Although stock intake manifolds will fit, the Edelbrock Street Cylinder Heads are matched in size and operating range with Edelbrock Performer RPM intake manifolds. For best results, use stock or Edelbrock intake manifolds listed as stock replacement parts for the year and model of your vehicle. Use recommended intake manifold gaskets. Apply Edelbrock Gasgacinch #9300 to intake surface of heads and both sides of intake gasket. **DO NOT** use cork or rubber end seals supplied with gaskets; instead, use RTV Silicone sealer. Apply a 1/4" bead along front and rear of block, overlapping gaskets at the four corners. Torque manifold bolts to 25 ft./lbs.

• **Exhaust Headers:** Any header or manifold designed for original equipment heads will fit Edelbrock Cylinder Heads. Exhaust ports are CNC profiled to match Edelbrock #7204 exhaust gaskets which are recommended for this application. Some applications may require the use of straight plug heads, due to header tube interference which can be caused by angle plug heads.

## ACCESSORIES CONTINUED

- **Spark Plugs:** Use 14mm x 3/4" reach x 5/8" hex gasketed spark plugs. Heat range may vary by application, but we recommend Champion RC-12YC (or equivalent) for most applications. Champion RC-12YC (5/8" Hex) are a 1/4" shorter than "N" series plugs and may be required for header clearance. Use anti-seize on the plug threads to prevent galling in the cylinder head, and torque to 10 ft./lbs.

**NOTE: Do not overtighten sparkplugs!**

- **Valve Covers:** Edelbrock cylinder heads accept stock valve covers for the year and model for which they are listed. They also accept Edelbrock valve covers #4449, #4649, #4249 or #4248.

**NOTE:** Most taller-than-stock valve covers will interfere with the EGR system and other accessories, and are not legal on emission controlled vehicles.

- **Lubricants:** For added performance and protection, we recommend using Edelbrock performance lubricants.

Zinc Additive	-	P/N 1074
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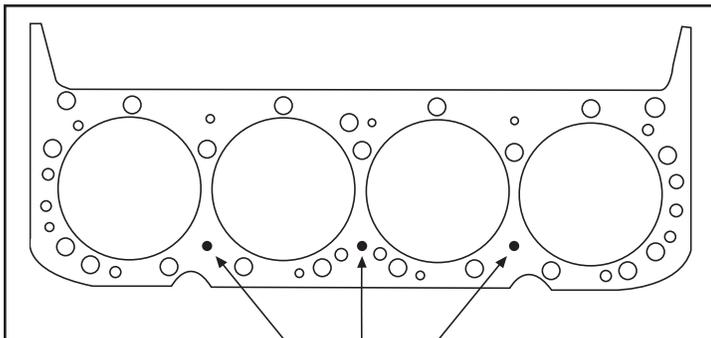
Protect your brand new engine

High Performance Break-In Oil	SAE 30	P/N 1070
Engine Assembly Lube	-	P/N 1075

## INSTALLATION PROCEDURE

Installation is the same as for original equipment cylinder heads. Consult service manual for specific procedures, if necessary. Use Edelbrock head gasket #7310. #7310 has a flattened steel O-ring around each bore and will provide an excellent, long lasting seal. However, it will compress the aluminum and you must use #7310 for subsequent gasket changes to get a good seal.

**NOTE: YOU MUST DRILL "STEAM HOLES" IN CYLINDER HEADS FOR 400 ENGINES (See Figure 1).**



Drill three .125" holes in each head using 400 c.i.d. head gasket as a guide. **DRILL ONLY THE THREE LOWER STEAM HOLES** (closest to the spark plugs) as indicated. Drill straight into the head (90° from the deck) until the drill breaks through into the water jacket (about 9/16").

**COOLANT HOLES ABSOLUTELY MUST NOT OVERLAP INTO THE HEAD GASKET SEALING RING AREA!**

**Figure 1 - Steam Hole Locations (400 C.I.D. Engines ONLY)**

### IMPORTANT NOTICE

These cylinder heads are equipped with valve spring cups. Due to the diameter of the valve spring cups, it may be necessary to clear the headbolt washer #1. The #1 headbolt is called out in your instruction sheet (see figure 1). The headbolt washer in the #1 location is the only washer that may require clearancing. This will allow the headbolt washers to seat properly to the cylinder head (See Figure 2). This can also be accomplished by removing the valve spring and cup. Then position washer prior to installation of cylinder head.

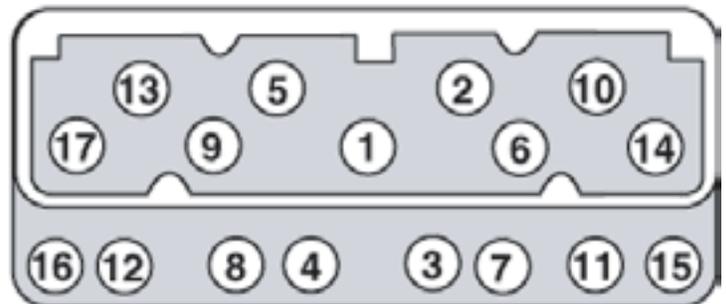


**Figure 2 - #1 Head Bolt Washer**

Be sure that the surface of the block and the surface of the head is thoroughly cleaned to remove any oily film before installation. Use alcohol or lacquer thinner on a lint-free rag to clean. Apply RTV silicone or ARP thread sealer to head bolt threads, and apply engine oil or ARP lubricant to the head bolt washers and underside of bolt heads. Torque bolts to 65 ft./lbs. in three steps (40-55-65), following the factory tightening sequence (See Figure 3). Check to make sure engine has proper grounds to chassis. When pouring coolant back in the radiator make sure to use at least a 50/50 mixture of coolant to water. A re-torque is recommended after initial start-up and cool-down (allow 2-3 hours for adequate cooling).

**Other Assembly Tips:** When installing the sparkplugs and exhaust manifolds, be sure to use a high temperature anti-seize compound on the threads to reduce the possibility of thread damage in the future.

**NOTE: Torque sparkplugs to 10 ft./lbs. Do not overtighten sparkplugs! If short reach plug is used, poor performance and possible engine damage may occur.**



**Figure 3 - Cylinder Head Bolt Torque Sequence  
Torque Bolts to 65 ft./lbs. in Three Steps (40-55-65)**

## **PUSHROD GUIDE PLATE ALIGNMENT**

Complete Edelbrock cylinder heads are sold with the pushrod guideplates and rocker studs installed, but they will require checking for proper valve train alignment and pushrod clearance before operating engine. The pushrod guideplates are attached to the cylinder heads with two (each) rocker studs. There is enough clearance around the stud holes to adjust the guideplates for optimum alignment of your valve train components **(See Figure 4)**.

1. After the heads have been bolted on your engine and torqued to specs, install your pushrods, rocker arms, and rocker arm adjusting nuts.
2. Check pushrod-to-cylinder head clearance.

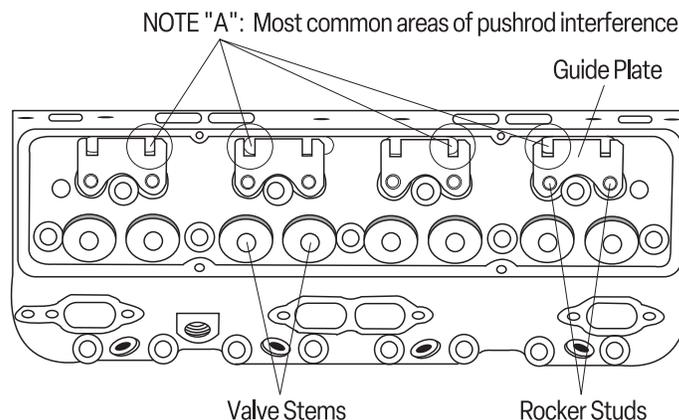
**NOTE: YOU MUST CHECK TO ENSURE THAT THERE IS CLEARANCE BETWEEN THE PUSHRODS AND THE CYLINDER HEADS (.005" min.) (See Note "A", Figure 4).**

3. If adequate clearance exists between pushrod and head, slowly turn engine over through at least two revolutions while watching pushrod. Make sure that pushrod does not rub on the head either at full lift or when the valve is seated closed.
4. If pushrod rubs on the cylinder head, remove rocker arms, loosen the rocker studs and move the guideplate as needed to provide clearance.
5. After checking all pushrods for proper clearance, ensure that the tip of the rocker arm is making adequate contact with the top of the valve stem.
6. Carefully re-torque to 45 ft./lbs. any rocker studs that were loosened. Check alignment again to be sure that the guideplates did not move while torquing the studs.

### **SPECIAL INSTRUCTIONS**

#### **For Performer Centerbolt Heads #60859 (When used as a part of the Total Power Package)**

Performer Centerbolt Heads #6085 can be used as part of a Total Power Package on 1987 and later 305 /350 V8s with T.B.I. (Throttle Body Injection) along with Performer-Plus Camshaft #3702 and Performer T.B.I. manifold #3704. This combination of parts gave an incredible performance gain of 2.61 seconds in 0 to 60 m.p.h. testing on a full-sized 1993 Suburban. In order for all of these components (Edelbrock heads, cam, and intake manifold) to give the best performance, it is necessary to change the computer chip in the stock ECM (Electronic Control Module).



**Figure 4 - Pushrod Guide Plate Clearance**

### **SPECIFICATIONS**

**Head bolt torque:** ..... 65 ft./lbs. (in steps of 40-55-65)

**Rocker stud torque:** ..... 45 ft./lbs.

#### **Intake Gaskets:**

#60659, 60759, 60909 ..... Edelbrock #7201

Performer RPM & NHRA Legal Heads ..... Edelbrock #7201

#60849, 60859 ..... GM #10159409

#60869, 60879 ..... GM #10148096

**Deck thickness:** ..... 9/16"

**Valve Seats:** .....

Hardened, interlocking (Compatible with unleaded fuels)

**Valve Size:** ..... Intake- 2.02", Exhaust- 1.60"

**Valve Spring Diameter:** ..... 1.45"

#### **For Hydraulic Flat Tappet Applications**

**Valve Spring Installed Height:** ..... 1.800"

**Valve Spring Seat Pressure:** ..... 120 lbs.

**Valve Spring Seat Pressure @ .500" Lift:** ..... 320 lbs.

**Max. Valve Lift:** ..... 0.575"

#### **For Hydraulic Roller Applications**

**Valve Spring Installed Height:** ..... 1.800"

**Valve Spring Seat Pressure:** ..... 150 lbs.

**Valve Spring Seat Pressure @ .600" Lift:** ..... 420 lbs.

**Max. Valve Lift:** ..... 0.65"



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