



PERFORMER RPM BUICK CYLINDER HEADS
For 1967-1981 400-455 Buick V8 Engines
Catalog #60037(NHRA Legal), #60039, #60049
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.

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 RPM Buick Cylinder Heads are designed for street/strip high performance use on 1967-1981, 400-430-455 C.I.D. Buick V8 engines (Minimum 4.040" bore) and feature a performance range of 1500-6500 rpm for great throttle response throughout the power band as well as top-end horsepower. The intake and exhaust port openings are CNC machine "matched" and have been designed for maximum flow velocity when matched with our Performer Buick 455 or B4B intake manifold and a Performer or Thunder Series Carburetor. The deck, intake flange, exhaust flange, and valve cover flange are in the stock locations. Spark plug location and angle is the same as stock. The heads are machined to accept the more commonly available small-block Chevrolet stud mounted adjustable rocker arms. Cylinder head features 2.125" intake and 1.750" exhaust valve sizes. The combustion chamber is as-cast with a volume of 68cc. **NOTE:** This head has no exhaust crossover passage and will not work on any vehicle requiring EGR.

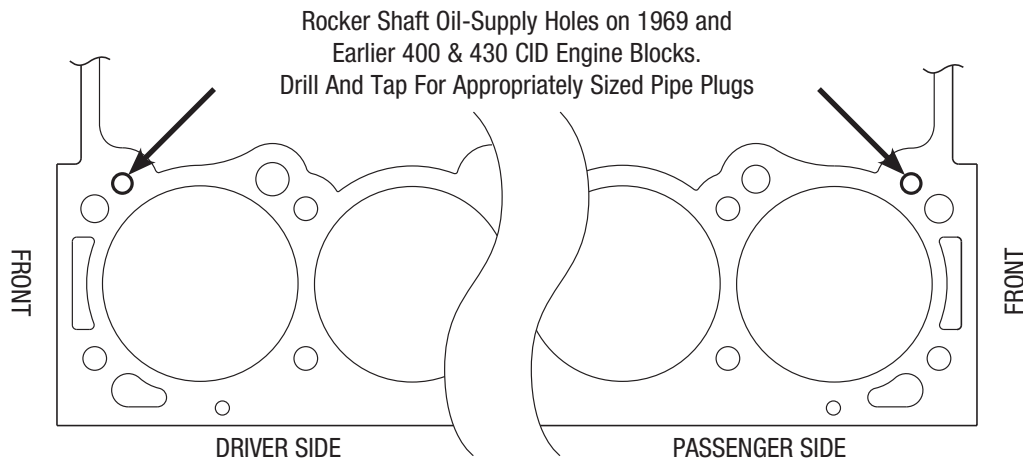
Complete cylinder heads are assembled with the following components: Stainless steel, one-piece, swirl-polished intake and exhaust valves with under-cut stems for increased flow; Viton oil control seals; Hardened steel spring cups; Edelbrock Sure-Seat Valve Springs #5792, Retainers #9644, and Valve Locks #9615.

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.**

IMPORTANT NOTES: READ BEFORE BEGINNING INSTALLATION!

1969 AND EARLIER BLOCKS (400 & 430 CID): When converting to pushrod oiled rocker arms (which is the case with Performer RPM cylinder heads), you must block each rocker shaft oil-supply passage on each side of the block prior to cylinder head installation. Holes are located near the front of the deck for each cylinder bank. Failure to block off these two passages will result in a loss of oil pressure. These hole sizes may vary. Drill and tap the holes for an appropriate size pipe plug. If the engine is assembled, you may wish to press-fit an appropriately sized aluminum plug. Otherwise, extreme caution should be used to prevent ANY metal shavings from entering the oil passage. See the diagram below. 1970 and later 455 blocks do not require this procedure. Edelbrock heads manufactured after 3/1/07 account for this early oil passage by providing additional material and will seal this passage using only the head gasket.

CAUTION: 1969 and earlier 400 & 430 blocks that are converting to Edelbrock cylinder heads and push rods that have oiling holes must also use 1970 and later hydraulic lifters that have oil holes on the top. This will allow oil to pass through the push rods and to the new rocker arms.



TYPICAL DECK VIEW OF 1969 AND EARLIER BUICK ENGINE BLOCK

BEFORE BEGINNING INSTALLATION (CONTINUED)

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; Edelbrock #7346
- Intake manifold gaskets; Edelbrock #7246
- Exhaust gaskets; Edelbrock #7247
- Valve cover gaskets; Edelbrock #7546

NOTE: Edelbrock Cylinder Head Gasket Set #7369 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 #8503 (see instructions below)
- 14mm x 3/4" reach x 5/8" hex, gasketed spark plugs (heat range to be determined by specific application)
- Adjustable rocker arm assembly. Cylinder head is designed to use most commonly available Stud Mounted small block Chevrolet 1.6:1 adjustable rocker arms. Always check rocker-to-valve spring and rocker to valve cover clearance before final assembly. Valve cover modification may be required with the use of roller rockers (See *Valve Covers* section below).
- Pushrods compatible with adjustable rocker arm assembly. We used Edelbrock #9605 in our testing (Length: 9.655").

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 .080". Minimum exhaust valve clearance should be .110". The point of minimum intake valve to piston clearance will usually occur somewhere between 5° and 20° After Top Dead Center during valve overlap. The point of minimum exhaust valve to piston clearance will usually occur 20° to 5° Before Top Dead Center during valve overlap. Performer RPM Buick heads should be compatible with stock pistons in engines that have the stock or recommended camshafts. Other than recommended camshafts may require aftermarket pistons and/or custom machining of your pistons.

ROCKER GEOMETRY: Rocker geometry should be checked, making sure that the contact point of the roller (or pad on a stock type 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 Buick cylinder heads will accept most OEM components (valve covers, intake manifold, head bolts, 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. We recommend Edelbrock Head Bolt Kit #8503. Bolt threads, underside of bolt heads, and washers should be lubricated prior to installation and torquing, we recommend using Torco Engine Assembly Lube #1075. Use thread sealant on any bolts that go into coolant passages.
- **Rocker Arms:** Requires adjustable 1.6:1 ratio. Cylinder heads accept commonly available 3/8" stud-mounted, small-block Chevrolet rocker arms. The valve springs supplied will accommodate valve lifts up to .600". Always check rocker-to-valve spring and rocker to valve cover clearance before final assembly.
- **Intake Manifold:** Although stock intake manifolds may be used, we highly recommend the use of Edelbrock Performer Buick or B4B intake manifolds. Intake ports are CNC-profiled to match Edelbrock #7246 intake gaskets which are recommended for this application.
- **Exhaust Headers:** Most headers or exhaust manifolds designed for original equipment heads will fit the Edelbrock Performer RPM Buick Cylinder Heads. Exhaust ports are CNC-profiled to match Edelbrock #7247 exhaust gaskets which are recommended for this application.
- **Valve Covers:** Use any OEM steel, or aftermarket aluminum valve covers designed to fit stock cylinder heads. When using roller rockers, the stock valve covers may need to be spaced upwards with extra thick valve cover gaskets, or by laminating multiple gaskets together using silicone sealer or gasket adhesive.
- **Spark Plugs:** Use 14mm x 3/4" reach gasketed spark plugs with a 5/8" hex. Heat range will vary by application; typical street plug would be Champion RC12-YC. **Use anti-seize compound on the plug threads to prevent galling in the cylinder head, and torque to the spark plug manufacturers specification for aluminum heads.**
- **Lubricants:** For added performance and protection, we recommend using Edelbrock performance lubricants.

PROTECT YOUR BRAND NEW ENGINE

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| Zinc Additive | - | P/N 1074 |
| 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. 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. Apply oil or suitable thread lubricant to head bolt threads and the underside of bolt heads and washers to prevent galling and improper torque readings. Use thread sealant on any bolts that go into coolant passages. Torque top row of bolts to 110 ft./lbs. and bottom row of bolts to 100 ft./lbs. in three or four steps, following the factory tightening sequence (**See Figure 1**). A re-torque is recommended after the 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. Do not exceed a torque of 25 ft./lbs. on the intake manifold bolts and lubricate the bolt threads prior to assembly.

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

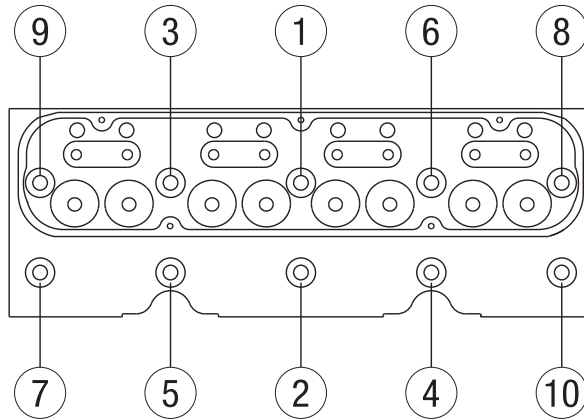


Figure 1 - Buick Cylinder Head Bolt Torque Sequence

Torque Top Row of Bolts to 110 ft./lbs.

Torque Bottom Row of Bolt s to 100 ft./lbs.

(Torque Bolts in 3 to 4 steps, gradually approaching final torque spec)

SPECIFICATIONS

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| Head bolt torque: | 110 ft./lbs. (Top Row Bolts); 100 ft./lbs. (Bottom Row Bolts; All Others) |
| Intake Bolt Torque: | 25 ft./lbs. |
| Combustion Chamber Volume: | 68 cc |
| Intake Port Volume: | 215 cc |
| Exhaust Port Volume: | 130 cc |
| Deck thickness: | 5/8" |
| Valve Size: | Intake- 2.125", Exhaust- 1.750" |
| Valve Spring Diameter: | 1.55" |
| Valve Spring Installed Height: | 1.900" |
| Valve Spring Pressure: | 120 lbs |
| Max. Valve Lift: | .600" - Check Spring Pressures Per Cam Manufacturer. |
| Valve Spring Coil Bind: | 1.150" |
| Rocker Stud Diameter | 3/8" |
| Pushrod Diameter | 3/8" |
| Replacement Valve Spring | #5792 |
| Valve Seats: | Hardened, Interlocking, Compatible w/ Unleaded Fuels |
| Valve Spring Retainers | 7° .4140 Steel (#9644)" |
| Valve Locks | 11/32" x 7° (#9615) |
| Rocker Arms | Adjustable 1.6:1 Ratio Required (Small Block Chevy) |
| Pushrods | Custom Length Pushrods. #9605 (Overall Length: 9.655") |
| Spark Plugs | 14mm x 3/4" Reach, 5/8" Hex, Gasketed Seat |



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