



**PERFORMER CYLINDER HEAD**  
**For Jeep Inline Six 4.0L**  
**Catalog #50159, 50169**  
**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:** This new Performer cylinder head is designed as a bolt-on performance upgrade for 1987-2006 Jeeps with a 4.0L inline six cylinder engine. The Performer Jeep 4.0L is designed with 1991-2006 4.0L intake port locations and must be used with 1991-2006 intake manifold. The Performer Jeep 4.0L is designed with 1991-98 4.0L exhaust port locations and must be used with 1991-98 factory header or aftermarket exhaust header. This cylinder head will also fit 1976-90 AMC 4.2L engines with no modification to the water jacket and the appropriate intake manifold and header combination.

The Performer Jeep cylinder head features all-new better flowing intake/exhaust ports along with a modern combustion chamber design and backcut and swirl polished valves. It retains the stock valve angle, pushrod length and valve cover rail height for use with factory components and off the shelf accessories. It also features larger reinforced rocker bosses for improved strength at high RPM and Heli-Coil® threaded inserts in the manifold bolt holes for added strength. A 3/4" deck throughout the head also promotes stiffness and durability. This cylinder head is machined to accept either distributor or coil pack ignition.

**NOTE:** Complete cylinder head, #50169, is assembled and prepared for installation right out of the box. Bare head, #50159, is shipped with reamed and semi-finished valve stem guides and seats. Bare head will require final sizing and a valve job to match the specific valves being used.

**IMPORTANT: READ BEFORE BEGINNING INSTALLATION!**

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

- Head Gasket Set: Edelbrock #7350
- Head Gasket: Edelbrock #7348 or equivalent
- Intake/Exhaust Manifold Gaskets: Edelbrock # 7275 or equivalent
- Valve Cover Gasket: Edelbrock #7583 or equivalent
- Head Bolt Kit: Edelbrock #8533 or equivalent

**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 stock valve sizes and will work with the valve pockets in stock pistons. 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 (**Min Clearance 0.030"**).

**ACCESSORIES:** Although Edelbrock Cylinder Heads will accept OEM components (valve cover, intake manifold, etc.), we highly recommend that premium quality hardware be used with your new head. Continue to next page for hardware recommendations.

**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. Edelbrock head bolt kit, #8533, includes all bolts which must be used with this cylinder head.

**Rocker Arms and Valve Train:** These heads are designed to use stock rocker arm and valve train components.

**Valve Covers:** This Edelbrock Performer cylinder head is designed to accept factory style valve cover.

**Intake Manifold:** This Edelbrock Performer cylinder head must be used with 1991-2006 intake manifold. To install the manifold, clean gasket surfaces. Install gasket and intake manifold to factory specifications. Torque to recommended manufacturer's specifications in the factory sequence. Refer to factory service manual.

**Exhaust Headers:** This Edelbrock Performer cylinder head must be used with 1991-98 factory header or aftermarket exhaust header.

**Spark Plugs:** Use 14mm x 3/4" reach gasketed spark plugs. Heat range will vary by application.

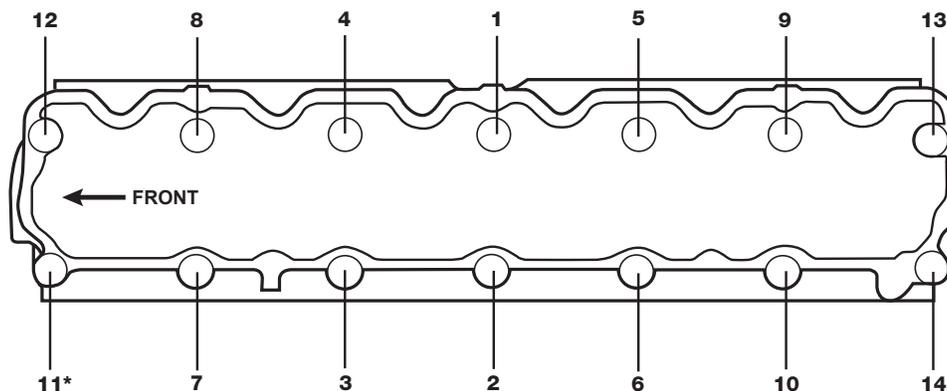
**NOTE:** Use anti-seize on the plug threads to prevent galling in the cylinder head, and torque to 10 ft./lbs. Do not overtighten sparkplugs! If short reach plug is used, poor performance and possible engine damage may occur.

**INSTALLATION:** Installation is the same as for original equipment cylinder heads. Consult 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. Torque cylinder head bolts in three steps following the factory tightening sequence (**See Figure 1**).

**SPECIFICATIONS:**

Head Bolt Torque:	See Figure 1, or use head bolt manufacturer's specifications	Valve Spring Seat Pressure:	
		Flat Tappet Cam	100 lbs. @ 1.710"
Deck Thickness:	3/4"	Valve Spring Open Pressure	
Combustion Chamber Volume:	55 ±1cc	Flat Tappet Cam	260 lbs. @ .400" Lift
Valve Size (Except for 61169):	Intake - 1.910" Exhaust - 1.500"	Max. Valve Lift:	.540"
Valve Seats:	Hardened powdered metal, non-interlocking, compatible with unleaded fuel	Coil Bind	1.120"
Valve Spring Diameter:	1.265"	Replacement Valve Springs:	#5814 - Flat Tappet Cam
Valve Spring Installed Height:	1.720"		

**Fig. 1 - Cylinder Head Bolt Tightening Sequence**



**Edelbrock Cylinder Head Bolt Torque Spec**

*(Torque specs below only apply if using ARP Ultra-Torque Fastener Assembly Lubricant; included with head ARP head bolt kits. If using other fastener lubricant(s), please use manufacturer's recommended torque specs.)*

**\*NOTE:** Make sure to use thread sealant on bolt #11 as it goes into a water jacket.

**First Pass:** Torque all bolts, in sequence, to 25 ft./lbs.

**Second Pass:** Torque all bolts, in sequence, to 40 ft./lbs.

**Final Pass:** Torque all bolts, in sequence, to 80 ft./lbs..

**NOTES:** A head bolt re-torque is recommended after initial start-up and cool-down (allow 2-3 hours for adequate cooling).



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