



## PERFORMER ALUMINUM CYLINDER HEADS

for Small-block Ford V8s

#6021\*, #6022\*, #6024\*, #6025\*, #6026\*, #6027, #6028, #6029,  
#6031, #6032, #6034, #6035, #6036, #6037, #6038, & #6039

### GENERAL INSTRUCTIONS

- **PLEASE** study these instructions carefully before installing your new cylinder heads. If you have any questions or problems, do not hesitate to contact our **Technical Hotline** at: 1-800-416-8628.

- **DESCRIPTION**

The Edelbrock Performer, Performer RPM, and Performer 5.0 Street Cylinder Heads are designed for street high performance use, and are interchangeable with original equipment small-block Ford cylinder heads. Performer and Performer 5.0 heads have exhaust crossover and air injection passages and are street legal in all 50 states. Contact Edelbrock for the current E.O. number if required for emission validation. Edelbrock Ford cylinder heads offer "out of the box" bolt-on performance with no additional porting required. The performance range is 1500-6500 rpm for great throttle response throughout the power band as well as top-end horsepower. The intake and exhaust ports are CNC machine "matched" and have been designed for maximum flow velocity when matched with either the Performer or the Performer RPM intake manifold, Performer-Plus or Performer RPM cam kit, and Performer Series Carburetors. The Performer RPM Power Package produced 400 horsepower in dyno tests on a 351-W Ford with 9.5:1 compression on pump gasoline. **NOTE:** These heads are drilled for 1/2" diameter head bolts as used on 351-W engines. Use Edelbrock Head Bolt Kit #8553 or stock Ford 1/2" head bolts with hardened washers (ARP #200-8533) to mount these heads on 351-W engines. **To mount these heads on 289-302 engines, you must use Edelbrock head bolt bushings with integral washers #9680 with either Edelbrock head bolt kit #8552 or stock 7/16" head bolts.**

- **IDENTIFICATION**

These heads are available in pairs, either bare or assembled, with either 1.90" or 2.02" intake valves for the following applications:

**Performer RPM Ford head #6021\* (bare, 1.90") or #6024\* (bare, 2.02"); #6022\* (complete, 1.90") or #6025\* (complete, 2.02")**

For non-emission controlled 289, 302, and 351-W V8s with rocker studs and pushrod guideplates; will not accept rail rockers.

**Performer Ford head #6031 (bare, 1.90") or #6034 (bare, 2.02"); #6032 (complete, 1.90") or #6035 (complete, 2.02")**

For emission controlled 1965 & later 289, 302, and 351-W with rocker studs and pushrod guideplates; will not accept rail rockers.

**Performer 5.0 Ford head #6036 (bare, 1.90") or #6038 (bare, 2.02"); #6037 (complete, 1.90") or #6039 (complete, 2.02")**

For emission controlled 1982 & later 5.0 Liter V8s with pedestal mount rocker rocker arms; will not accept rail rockers.

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 studs and 5/16" guideplates; Edelbrock Sure-Seat Valve Springs #5767, retainers #9724, and valve keepers #9611. 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 sizing and a valve job to match the valves you will be using.**

- **ACCESSORIES**

Although Edelbrock Street Cylinder Heads will accept OEM components (rocker arms, valve covers, intake manifold, head bolts [351-W only], 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. Recommended head bolts are ARP #254-3708 for engines with 7/16" head bolt holes (289 and 302). You may use Edelbrock Head Bolt Kit #8552 or stock 7/16" bolts on 289-302 engines only if you purchase Edelbrock head bolt bushings with integral washers #9680. Engines with 1/2" diameter head bolts (351-W and 302 SVO) use Edelbrock Head Bolt Kit #8553 or stock 351-W bolts with high quality head bolt washers such as ARP #200-8533.

**NOTE:** It is recommended that 289-302 engines producing 380 or more horsepower (or with nitrous oxide) be converted to accept 1/2" diameter head bolts by a qualified machine shop to ensure maximum head gasket durability.

**ROCKER ARMS:** The valve springs supplied will accommodate valve lifts up to .575", which is much higher than stock rocker arms will allow. Roller rocker arms will be required if your camshaft has more than .480" lift. Stock rockers may require longer-than-stock pushrods to clear the valve springs.

**VALVE COVERS:** Because most roller rockers are physically larger than stock rockers, taller valve covers are usually required to clear them. For heads #6025 and #6035, use Edelbrock Signature Series chrome valve covers #4460, Elite Series polished aluminum valve covers #4260, or cast aluminum Classic valve covers #4160. Performer 5.0 heads #6037 and #6039 accept stock 5.0 Liter valve covers, which are required for component clearance on most street applications.

**INTAKE MANIFOLD:** Although stock intake manifolds will fit, the Edelbrock

Street Cylinder Heads are matched in size and operating range with Edelbrock Performer or Performer RPM intake manifolds. If the Performer or Performer RPM is too tall to fit under your hood you may use the Edelbrock Torker II manifold (#5021 or #5081). Additionally, any manifold that matches Fel-Pro gasket #1250 may be used (Edelbrock Performer, Torker II, Victor Jr., etc.).

**EXHAUST HEADERS:** Any header or manifold designed for original equipment heads will fit the Edelbrock Street Cylinder Heads. Exhaust ports are CNC profiled to match Fel-Pro #1415 exhaust gaskets which are recommended for this application.

**SPARK PLUGS:** Use 14mm x 3/4" reach gasketed spark plugs. Heat range will vary by application and may range from Champion N-9Y to N-14Y (or equivalent). Use anti-seize compound on the plug threads to prevent galling in the cylinder head, and torque to manufacturers specification for aluminum heads.

- **INSTALLATION**

Before final installation of the cylinder heads several things need to be checked to assure proper engine operation:

1. **Piston to valve clearance** - 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. **With #6025, #6035 and #6039 heads, re-machining of the piston top eyebrows may be required with some pis-**

tons. Heads with 1.90" intake valves (#6022, 6032, & 6037) should be compatible with stock pistons in engines that have the stock or recommended camshafts.

2. **Proper hydraulic lifter pre-load and rocker geometry** - With #6022, #6025, #6032 and #6035 cylinder heads hydraulic lifter pre-load is easily adjustable due to the stud/guideplate design. **On #6037 and #6039 Performer 5.0 heads, adjustments to lifter pre-load with non-adjustable pedestal bolt-down style rockers can only be made with shims as sold by Ford SVO #M-6529-A302 or Crane #99170-1.** Rocker geometry should be checked making sure that the contact point of the roller or pad on a stock rocker 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, simple changes such as pushrod length may have to be made.
  - **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 16-18 ft./lbs. on the intake manifold bolts and**

**lubricate the bolt threads prior to assembly.**

- For emissions passage equipped cylinder heads (#6032, #6035, #6037, & #6039), plugs have been supplied for the air injection passage which is drilled in the end of the heads. The plugs should be installed in the front of the heads to seal off the passages, and the stock air injection manifold is installed on the back of the engine in the stock location.
- If pushrod to cylinder head contact is a problem, loosen rocker studs and re-position guideplate as needed for clearance.
- Installation is the same as for original equipment cylinder heads. Consult service manual for specific procedures, if necessary. Use Fel-Pro head gasket #1011-2 or equivalent. 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 moly-oil mixture to head bolt threads, washer, and area under head bolt to prevent galling and improper torque readings. Torque to 70 ft./lbs. for 7/16" bolts (289/302) or 100 ft./lbs. for 1/2" bolts (351-W) in three or four steps following the factory tightening sequence (see Figure 1), then tighten the long (upper) head bolts to 80 ft./lbs. (7/16") or 110 ft./lbs. (1/2"). A re-torque is recommended after initial start-up and cool-down (allow 2-3 hours for adequate cooling).

**SPECIFICATIONS**

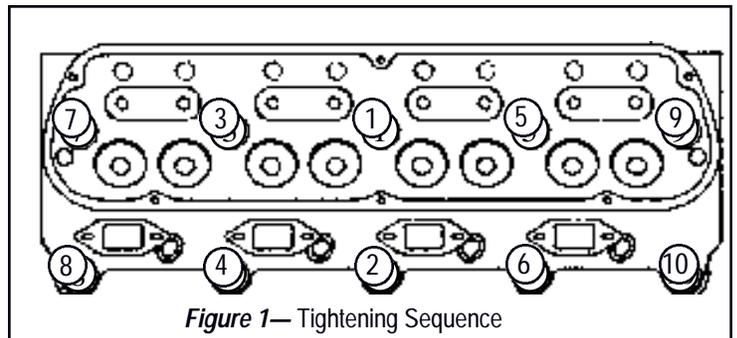
Head bolt torque:	7/16" bolts - 70/80 ft./lbs. (short/long bolts) 1/2" bolts - 100/110 ft./lbs. (short/long bolts)
Intake bolt torque:	16-18 ft./lbs.
Rocker studs:	3/8" (#6022, 6025, 6032, 6035)
Rocker stud torque:	45 ft./lbs. (7/16"-14; #6022-#6035)
Rocker pedestal bolt torque:	18-20 ft./lbs. (5/16"-18; #6036-37)
Combustion chamber volume:	60-61 cc
Intake port volume:	170 cc
Exhaust port volume:	60 cc
Deck thickness:	5/8"
Valve Seats:	Hardened, interlocking ductile iron, compatible with unleaded fuels
Valve Size:	#6025, #6035 & #6039 - Intake- 2.02", Exhaust- 1.60" #6022, 6032, & 6037 - Intake- 1.90", Exhaust- 1.60"
Valve Locks	11/32" x 7° (#9611)
Valve Spring Retainers	7° 4140 steel (#9724)
Valve Spring Diameter:	1.45"
Valve Spring Installed Height:	1.800"
Valve Spring Seat Pressure:	110-120 lbs.
Max. Valve Lift:	.575"
Pushrod guideplates:	4140 hardened steel (#6022, #6025, #6032 & #6035 only)
Rocker arms:	#6022, 6025, 6032 & 6035 accept stock (except rail style) or aftermarket roller type
Rocker arms:	#6037 & #6039 accept stock 5.0 L or aftermarket pedestal bolt down style
Pushrods:	#6022, 6025, 6032 & 6035 require hardened pushrods for use with guideplates #6037 & #6039 use stock pushrods
Spark plugs:	14mm x 3/4" reach gasketed seat
Recommended intake gasket:	Fel-Pro #1250
Recommended exhaust gasket:	Fel-Pro #1415

**Head Gaskets**

- Head gasket requirements change according the application for which the cylinder heads are being used. Use the following as a guide for head gasket selection.
1. Engines with low or stock compression ratios (8-10:1), stock size head bolts (7/16"), and applications where the cylinder head is being used as a stock replacement or a performance upgrade with the stock piston volume, without nitrous or forced induction (blowers or turbos)- use Fel-Pro Head Gasket p/n 9333-PT1.
  2. Medium performance engines, 10-12:1 compression ratio, increased preload cyl.head fasteners (7/16" stud or 1/2" head bolts or studs), not recommended with nitrous or forced induction- Fel-Pro Head Gasket p/n 1011-2.
  3. Highest performance racing engines. 12:1 and above compression ratio, 1/2" cyl.head fasteners designed for the highest preload, engines using nitrous or forced induction- Fel-Pro Head Gasket p/n 1006 Locwire.

**NOTE:** This gasket will require modification of the head deck surface by a competent machine shop to Fel-Pro specifications. **Edelbrock offers cylinder heads machined to the proper specifications for use with Fel-Pro Locwire head gaskets only, as follows:**

<u>Std Head #</u>	<u>Machined for Locwire Head Gaskets</u>
6025.....	6026
6035.....	6027
6037.....	6028
6039.....	6029



- **PLEASE** complete and mail your warranty card. Be sure to write the model number of this product in the "Part # \_\_\_\_" space.

**THANK YOU.**