



VICTOR JR. 23° 220cc CYLINDER HEADS
For Small-Block Chevrolet V8 Engines
Part #s: 61249 61255, & 61259
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**.

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: Victor Jr. 23° 220 heads are designed for competition and ultra high-performance street small blocks and accept valve train hardware designed for standard 23° Chevrolet heads. They have a 600+ hp potential, out-of-the-box, for a cost effective, race-winning set-up. High-flow precision-cast 220cc intake runners offer excellent port alignment with Fel-Pro #1206 intake gaskets (recommended) without the need for port matching. These heads also feature .300" raise exhaust ports and 64cc chambers with hardened, ductile iron valve seats and phosphor bronze guides. A 9/16" thick deck surface provides superior gasket retention. Valves are 1-piece, stainless steel high-quality construction. Available in configurations as follows:

Part No.	Description	Chamber Size
61249	Bare cylinder heads	64cc
61255	Complete cylinder heads with springs for Hydraulic Roller or Mechanical Flat-Tappet* cams	64cc
61259	Complete cylinder heads with springs for Mechanical Roller* cams	64cc
*Note: Check cam manufacturer's specifications for recommended spring rates.		

Complete Victor Jr. 23° Heads come with the following components: valve springs, stainless steel one-piece swirl-polished intake and exhaust valves with under-cut stems for increased flow and Viton metal jacket oil control seals.

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. They also require installation of valve springs, retainers and keepers that are compatible with the camshaft to be used.

ACCESSORIES: Although Edelbrock Cylinder Heads will accept some OEM components (valve covers, etc.), we highly recommend that premium quality hardware be used with your new heads. See our catalog for details. To order a catalog, call **(800) 416-8628**.

- **Head Bolts or Studs:** High quality head studs or head bolts with hardened washers, such as Edelbrock Head Bolt Kit #8550, ARP stud kit #234-4601, ARP bolt kit #434-3701, etc., must be used for proper gasket seal and to prevent galling of the aluminum bolt bosses.
- **Rocker Arms: Roller rocker arms and hardened pushrods must be used.** Carefully check clearance between rockers and valve covers and between pushrod and head.

NOTE: Because the valves have been moved from stock position, the rocker arms will sit at an angle when using the standard stud and guide plate configuration. Although this angle did not pose any issue during cylinder head testing, a shaft mounted rocker system from a reputable supplier is recommended for high performance and competition racing applications.

- **Valve Covers:** Edelbrock Victor Jr. heads accept standard small-block Chevrolet racing valve covers such as Edelbrock #4157, #4166, #4167, #4263, #41643, or #41733. These die-cast valve covers are available polished or black, with or without breather tubes.
- **Intake Manifold:** The Edelbrock Victor Jr. cylinder heads are matched in size and operating range with Edelbrock Jr. intake manifold #2975, Victor Jr. Port-Matched #2900, or Super Victor #2925. Fel-Pro intake manifold gasket #1206 is recommended. Apply Gasga-cinch Edelbrock #9300 to intake surface of heads, manifold, and both sides of intake gasket. Do not use cork or rubber end seals supplied with gaskets; instead, use RTV silicone sealer. Apply a ¼" bead along front and rear of block, overlapping gaskets at the four corners. Torque intake manifold bolts to 25 ft./lbs.
- **Exhaust Headers:** Any header or manifold designed for standard bolt pattern. Exhaust ports are CNC-matched to Fel-Pro #1405 exhaust gaskets, which are recommended for this application. Be sure to check spark plug-to-header clearance before installation.
- **Spark Plugs:** Use 14mm x ¾" reach gasketed spark plugs. Heat range may vary by application, but we recommend Champion C-63YC or C-61C (or equivalent) for most applications. Champion "C" series have a 5/8" hex and are ¼" 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!**

IMPORTANT: CHECK BEFORE INSTALLATION

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

- **Piston to valve clearance** – Minimum intake valve clearance should be .080". Minimum exhaust valve clearance should be .100". The point of minimum intake valve to piston clearance will usually occur somewhere between 5° and 15° ATDC during valve overlap. The point of minimum exhaust valve to piston clearance will usually occur 15° to 5° BTDC during valve overlap. Re-machining of the piston top eyebrows may be required with some pistons.
- **Proper lifter adjustment and rocker geometry** – Check Lifter pre-load. Check clearance of push rod to guideplate. Rocker geometry should be checked making sure that the contact point of the roller remains properly on the valve tip and does not roll off the edge (**See note on Page 1 regarding rocker arm geometry**). 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 headers, 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.
- If pushrod to cylinder head contact is a problem, loosen rocker studs and re-position guideplate as needed for clearance.

INSTALLATION: Installation is the same as for original equipment cylinder heads. Consult service manual for specific procedures, if necessary. For 350 and smaller engines, use Fel-Pro head gasket #1003. #1003 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 #1003 for subsequent gasket changes to get a good seal. For 400 c.i.d. small blocks, use Fel-Pro #1014. **YOU MUST DRILL "STEAM HOLES" IN CYLINDER HEADS FOR 400 ENGINES** (see Figure 2). 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 Loctite PST or suitable thread sealer to head bolt threads. Torque to 65 ft./lbs. in three steps (30-50-65) following the factory tightening sequence (see Figure 1). A re-torque is recommended after initial start-up and cool-down (allow 2-3 hours for adequate cooling).

SPECIFICATIONS

Head Bolt Torque:	65 ft./lbs. (in steps of 30-50-65)
Intake Bolt Torque	25 ft./lbs.
Rocker Stud Torque:	45 ft./lbs.
Combustion Chamber Volume:	64cc
Intake Runner Volume:	220cc
Exhaust Runner Volume:	65cc
Deck Thickness:	9/16"
Valve Seats:	Hardened, interlocking (Compatible with all fuels)
Valve Size:	Intake- 2.10", Exhaust- 1.60" (+.100 longer than stock)
Recommended Intake Part #:	#9784 (1 only), #9785 (set of 8)
Recommended Exhaust Part #:	#9786 (1 only), #9787 (set of 8)
Valve Locks:	11/32" x 7" (#9616)
Valve Spring Retainers:	7° 4140 steel (#9728)
Valve Spring Diameter:	1.55"
Valve Spring Installed Height:	#61255: 1.800" #61259: 1.970"
Valve Spring Seat Pressure:	#61255: 130 lbs. #61259: 215 lbs.
Max. Valve Lift:	#61255: 0.630" #61259: 0.700"
Pushrod Guideplates:	1010 Hardened Steel
Rocker Arms:	Aftermarket roller type required (7/16" stud)
Pushrods:	5/16" dia. (Hardened pushrods required for use with guideplates)
Spark Plugs:	14mm x 3/4" reach gasketed seal
Recommended Intake Gasket:	Fel-Pro #1205 or Fel-Pro #1206
Recommended Exhaust Gasket:	Fel-Pro #1405

*NOTE: Check cam manufacturer's specifications for recommended spring rate.

Figure 1 - Cylinder Head Bolt Torque Sequence
Torque Bolts to 65 ft./lbs. in Three Steps (40-55-65)

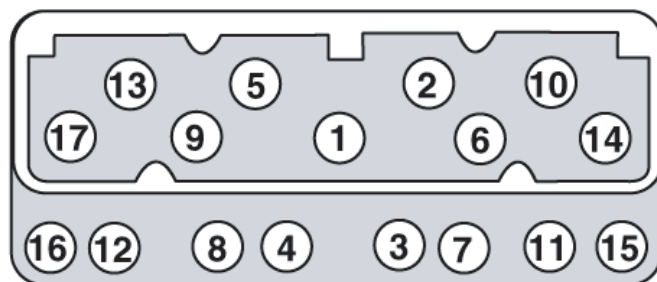
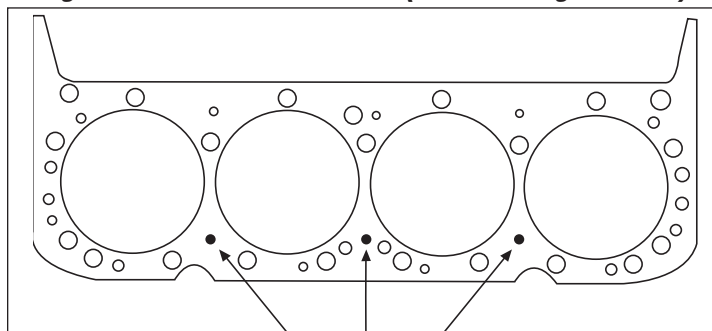


Figure 2 - Steam Hole Locations (400 C.I.D. Engines ONLY)



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!**