EDELBROCK BV3 HIP'd Pro Port, BBC 11°
Big Block Chevrolet
Part #614668 & #614669
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 warranty and may result in poor performance and engine or vehicle damage.

DESCRIPTION: Edelbrock 11° BV3 Pro-Port cylinder heads are designed for high rpm and large displacement big block Chevrolet applications. #614669 has an unmachined combustion chamber which can be shaped to facilitate a variety of high compression ratios and the rocker stud bosses are reinforced for valve train stability. For maximum head gasket retention, these heads include two auxiliary head bolt holes *(**Note:** If machining the intake port exposes these holes, they must be plugged to prevent oil consumption)*. #614668 is a fully CNC version of #614669. It is ported to match Edelbrock intake manifolds #285408, 285428 and 28549. When coupled with an Edelbrock BV3 valley cover plate (#77730, 77732, 77739), the package offers a unique cooling system capability beyond that of any current design available. Please note that these cylinder heads have undergone a professional Hot Isostatic Pressing (HIP) treatment prior to machining. This process significantly improves metal density and tensile strength and therefore may affect ideal tool speed and other aspects of the machining process. Intake rocker studs and pushrod holes are not machined.

INSTALLATION PROCEDURE

IMPORTANT NOTES: These heads are designed with a 4.84" bore spacing ***(Minimum 4.500" Bore)***. Custom valves and pistons are required at this time.

Accessories & Installation Items: We highly recommend that premium quality hardware be used with your new heads. See our catalog for details. To order a catalog, call **(800) FUN-TEAM**, or visit our website at: **www.edelbrock.com.**

Head Bolts: High quality head bolts or head studs with hardened washers must be used to prevent galling of the aluminum bolt bosses. The head bolt boss heights and required bolt lengths are listed below ***(See Fig. 1)***, along with the head bolt tightening sequence. The bolt bosses adjacent to the exhaust port exits (Bolt C), require a 5.750" long head bolt. These bosses have been raised to provide more material thickness between the head bolt boss counterbore and the exhaust port wall. Many of the other head bolt boss heights have also been adjusted to prevent head bolt bottoming in Mark IV, Gen V, and Gen VI engine blocks.

> ***NOTE:*** *Bolt length on positions 13 and 16 must be carefully checked. It is likely that the bolt will need to be shortened by one to two threads to prevent bottoming out on blocks with blind bolt holes.*

Rocker Arms: Edelbrock recommends the use of Jesel or T&D rockers. Custom systems may be required depending on the pushrod machining.

Valve Covers: The valve cover bolt pattern is unique to this cylinder head, however, sheet metal welded covers are available from Moroso. Contact Moroso at 203-453-6571 and ask for the Custom Department Sales.

Intake Manifolds: Choosing the correct intake manifold will depend upon your specific engine combination. The following Edelbrock manifold are designed specifically for use with these cylinder heads:

Part Num.	Description	Deck Height	Bore Spacing
285408	BV3 CNC Standard Deck	9.8	4.84
285428	BV3 CNC Tall Deck	10.2	4.84
28549	Thick Flange	>10.2	4.84

Please consult with your engine builder or contact Edelbrock via our **Technical Hotline** at **1-800-416-8628** for information regarding intake manifold selection.

Exhaust Headers: Any header or manifold designed for original equipment heads will fit the Edelbrock Race Cylinder Heads. Fel-Pro exhaust gaskets, #1412, or equivalent are recommended for this application. It is recommended to check proper clearance between the exhaust flange and the head bolt relief.

Spark Plugs: Use 14mm x 3/4" reach, gasketed spark plugs. Heat range for competition applications will vary. We recommend the use of **anti-seize** on the spark plug threads to prevent galling in the cylinder head, and torque to 10 ft/lbs. **DO NOT OVERTIGHTEN**.

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INSTALLATION:

Note: *Prior to assembly, the following should be checked:*

1. *Valve to Cylinder Wall Clearance*
2. *Piston to Valve Clearance*
3. *Piston Dome to Combustion Chamber Clearance*
4. *Rocker Arm to Valve Cover Clearance*
5. *Rocker Arm to Valve Cover Rail Clearance (intake only)*

Installation is the same as for original equipment cylinder heads. Consult a service manual for specific procedures, if necessary. For 454 and small Mark IV engines, use Fel-Pro head gasket #1017-1, or equivalent. For 502 c.i.d. Gen V and Gen VI engines, use Fel-Pro head gasket #1047 or equivalent. Lay the head gasket on the deck surface of the head, verifying that the gasket does not overhang into the chamber at any point. A larger bore head gasket must be used if a visible overhang is present to prevent premature head gasket failure. Be sure that the surface of the block and the surface of the head are cleaned thoroughly to remove any oily film before installation. Use alcohol or lacquer thinner on a lint-free rag to clean. Apply liquid Teflon PST or suitable thread sealer to head bolt threads that thread into coolant passages. Torque the head bolts to 70 ft/lbs in three steps, following the factory tightening sequence ***(See Fig. 1)***. A re-torque is recommended after initial start-up and cool-down (Allow 2-3 hours for adequate cooling).

SPECIFICATIONS:

Head Bolt Torque:	70 ft./lbs.
Deck Thickness:	.715”
Valve Seats:	Interlocking, compatible with racing fuel
Recommended Valve Length:	Intake - 7.450”, Exhaust - 7.250”
Valve Spring Pocket Diameter:	1.76”

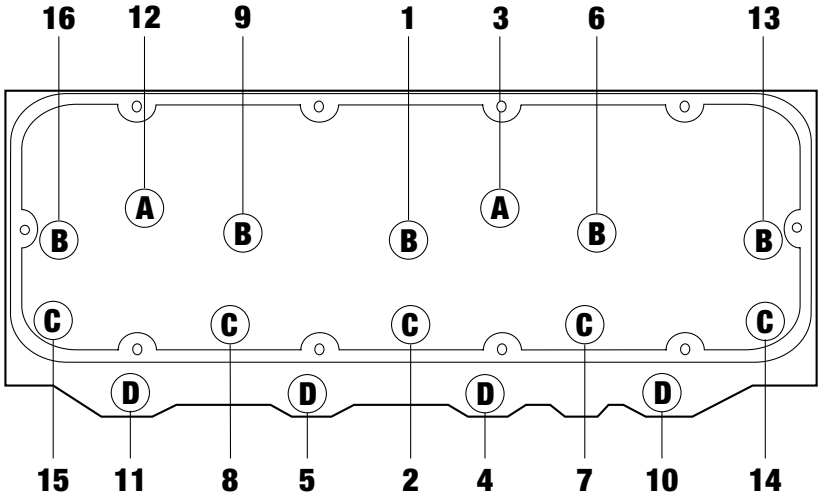


Figure 1 - Cylinder Head Bolt Torque Sequence and Bolt Boss Height Chart
Torque Bolts to 70 ft./lbs In The Sequence Shown

Boss Height and Bolt Length			
Letter	**Boss Height**	**Recommended Bolt Length**	**Roof Plug Qty.**
A	1.250”	1.625”	2
B	4.750”	5.500”	5
C	5.125”	5.750”	5
D	1.470”	2.190”	4

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