



Big Block Chrysler Aluminum Block Specifications and Instructions

Technical data and specifications for BARE ALUMINUM block part numbers:

Part #	Style	Bore	Bore Finish	Deck Height	Cam Height	Lifter Bores
088510	Hemi	4.240"	Rough Bore	10.725" Deck	STD Cam	Bushed Unfinished
088515	Hemi	4.490"	Rough Bore	10.725" Deck	STD Cam	Bushed Unfinished
088550	Wedge	4.240"	Rough Bore	10.725" Deck	STD Cam	Bushed Unfinished
088555	Wedge	4.490"	Rough Bore	10.725" Deck	STD Cam	Bushed Unfinished

Castling Number: BMP-426A

Block Material: A357-T6 Aluminum alloy.

Block Weights: BMP 426H / 440W Aluminum blocks with main caps, hardware and cylinder sleeves 142Lbs.

Deck Height: 10.725" ± .005"

Deck Thickness: .600" minimum

Camshaft: Standard location, standard cam bearings. Can be machined for 60mm cam bearings

Note: When installing cam bearings MAKE SURE the oil hole in the bearings is inline with the oil feed hole in the block.

Main Bearings: Stock main bearings.

Main Caps: Billet steel main caps. 1-4 caps are two-bolt w/ cross bolts. Rear cap is 2 bolt w/ no cross bolts. Caps use a ARP ½ x 13 studs. Torque spec on main studs is 100 ft-lbs. with moly and 45 ft-lbs on the cross bolts.

Rear Main Seal and Retainer: Blocks come with the rear seal retainer installed. Re-torque the seal cap retaining bolts to 30 ft-lbs.

Main Bearing Journals: Blocks are machined for 2.943" diameter (bearing OD)

Lifter Bores: Bushed with manganese bronze Bushings and semi-finished on a 45° angle / raised cam versions 48° and are rough bored to .904" and require finishing. **NOTE:** Bronze Bushings have a single .035" oiling hole that is timed at 6:00 POSITIONS of the bushings. In the need of removing the bushing, you must make sure this hole is timed at the 6:00 position to connect with the oil passages. This .035" size has been determined by a number of different engine builders to be more than adequate for sufficient oil pressure. Please determine with your engine builder whether the .035" hole is adequate with your application.

Cylinder Bores: **426H** 4.240", 4.490", **440W** 4.240", 4.490" +/- .005". Cylinder bores are of a Siamese design. Sleeves are a replaceable, centrifugal cast ductile steel pressed-in with a .001" to -.002" fit. Sleeves do not protrude into the water and are considered to be a DRY sleeve.

Maximum Recommended Bore: Maximum recommended bore: 4.560". Sleeve OD 4.685"

Cylinder Bore Centers: Stock 4.800"

Freeze plugs: All aluminum blocks include screw-in plugs. Torque to 35 Lb Ft with anti-seize on threads and O-ring.

Distributors: Stock distributor and related drive components. A bronze intermediate shaft bushing is included with each block.

Oil System Features: Block is set up for stock style external oil pump. Block may be converted to a dry sump oiling system. These blocks come with an adapter that accommodates stock oil pick-up tubes. Oil pressure can be drawn from rear of block, at the top of the bell housing.

Oil Restrictors: The oil feeds from the deck surfaces which feed the cylinder heads the common size is .040" restrictors. There are two blank restrictors included so that the engine builder can determine what he would like to run for restrictor size.

Filtration: Standard oil filter can be used in stock location.

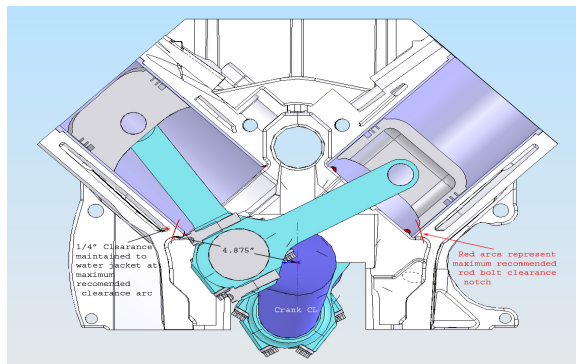
Oil Pan Rails: Stock width and bolt pattern

Cylinder Head Bolt Holes: Blind tapped with 1.000" of thread. A longer than stock stud is required for the valley bolt holes on the Hemi block. 426 Hemi: ARP Part# 145-4005, 426 Hemi inner valley studs only: 245-4312, 440 Wedge: ARP Part# 145-4013. Kits may not fit all cylinder heads and you need to check the compatibility.

Fuel Pump: Uses stock style fuel pump and stock length fuel pump pushrod.

Stroke Clearance: Will accept a 4.500" stroke crank with steel rods. For additional stroke clearance, you may run an external pickup tube from the block face to the oil pan. An AN-12 boss (1 1/16" x 12 TPI) is machined on the front face of the block which connects directly to the inlet side of the oil pump. An AN-12 fitting can be installed here to connect directly to the oil pickup tube in the oil pan. You must plug the oil pickup tube adapter in the crankcase with a pipe plug when using this modification.

When running a larger than stock stroke, a BBC rod journal and a BBC connecting rod may be required for additional clearance. **Caution:** Care must be taken while machining for additional clearance. YOU MUST NOT MACHINE STRAIGHT DOWN PERPENDICULAR TO THE OIL PAN RAIL FOR THIS CLEARANCE OR YOU WILL BREAK INTO WATER AT THE BOTTOM OF THE CYLINDER. See illustration to the below.



Starter: Starter mounting pad is drilled for stock and popular aftermarket starters.

Water Pump: Stock Water pump components can be used with this block.

Bell Housing Pattern: All BMP 426H and 440W aluminum blocks have a dual pattern. If using the GM pattern, A Reid or JW bellhousing conversion is required for mounting the starter.

Motor Mounts: Standard MOPAR.

Motor Mount Bracket P4510287, Left Motor Mount P4510288, Right Motor Mount P4510289

Note: The driver side engine mount for Wedge installations must be relieved by grinding as shown. Be sure the mount fits flush to its mounting pad. This only applies to the drivers side mount.

Before Final Assembly:

1. Before any machine or assembly begins, thoroughly inspect the block for any defects including all oil passages to assure they have been drilled completely. Remember you are the final inspector. Trial fit of the rear main seal is highly recommended to assure a nice fit. Once any machine work of any sort has begun, the block is NON-RETURNABLE. We do our very best in quality control but is not impossible for something to slip by.
2. Due to the nature of aluminum blocks with ductile iron sleeves we highly recommend that the sleeves be pressed down (not hammered) to ensure that they are completely seated in the block prior to decking. (hammering down with big hammer and a piece of wood will not assure the seat to be fully seated as this could cause the sleeve to bounce. You may find that after decking and cleaning the block in the hot tank that the sleeves may rise .001" to .002" above the deck. This is completely normal and you can proceed with assembly as this will not affect the operation of the block. This condition will be corrected with the installation of the cylinder heads.
3. Make sure block is free of debris. Clean block thoroughly.
4. Lifter bores are rough bored to .904" and require finishing. Lifter diameters vary by manufacturer.
5. Long rod and stroker applications need to be dry assembled and checked for connecting rod to block interference. Grinding of the oil pan rail may be necessary. Clearance needs to be kept at a .050 minimum

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While our products are used in many applications using super-chargers, Turbos or Nitrous successfully, please be aware that there is a greater potential for engine damage due to the possibility of tuning errors.

PLEASE DO NOT CALL THE DEALER FROM WHICH YOU PURCHASED YOUR PARTS. If you have any questions, please contact BMP customer service at:

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