



MOTOWN PRO LIGHT-WEIGHT Cast Iron Block Specifications, Technical Data and Instruction Sheet

Part #	Bore Size	Main Size /Type	Deck Height	Stage
083010	3.995	350 Nodular Cap	9.025	Bare Block
083010BBC	3.995	350 Nodular Cap	9.025	Bare Block
083020	4.120	350 Nodular Cap	9.025	Bare Block
083020BBC	4.120	350 Nodular Cap	9.025	Bare Block

Block Applications:	The Motown Light-Weight blocks are designed to be a replacement for the small block Chevy two piece seal, driver side dipstick applications. BBC suffix blocks have big block Chevy cam tunnel - 2.120" housing bore and .904" lifter bores.
Block Material:	40,000 PSI cast iron
Deck Height:	9.025" (Standard Chevrolet)
Deck Thickness:	Approximately .600" minimum.
Cam Bearings:	Dura-Bond DT1T for Standard Cam tunnel. GMP2T for BBC blocks.
Rear Main Seal	All blocks use 2909 Fel-Pro rear main seal or equivalent
Main Caps:	Iron blocks come with ductile iron main caps with the three center caps being the standard four bolt style. All the main caps have 7/16" thread bolts. Torque specs on main bolts both inner and outer is 70 ft. lbs. with ARP lube. Caps are located by deep stepped end registers.
Lifter Bores:	Indexed. Lifter bore size is standard Chevy diameter .8437". BBC blocks have .904" lifter bores.
Maximum Bore:	4.185"
Cylinder Bores:	Block cylinder bores are of a Siamese design. Because of increased cylinder wall thickness, it is not necessary to incorporate steam holes for street use.
Cyl. Wall Thickness:	@ 4.125" bore: approximately .250"
Gear & Belt Drives:	Due to the expanded water jackets, DO NOT RUN GEAR DRIVES because of clearance issues with the backside of the idler gears and the cylinder block in the timing cover area. Jesel belt drives will work with minor grinding of the block and/ or belt drive cover.
Lubrication:	Priority main oiling system. We recommend oils designated SM/SL/SJ, 15W-40 or 20W-50.
Oil System Features:	As is, block is set up for OE style internal oil pump. Block has provisions to be converted to a dry sump oiling system.
Oil Restrictors:	You will need to tap with a long 5/16 tap in the front oil cross over to install restrictors in this block
Filtration:	Integral mount for spin on filter.
Oil Pan Rails:	Solid (stock width) can be clearanced for strokers.
Clearance:	Blocks can handle up to a 4.000 inch stroke with a 6.00 inch steel H-beam style connecting rod with 7/16 bolt head rods with 1/2 bolt heads will not clear 4.000 stroke do not cut stroke clearance any deeper.
Camshaft:	In long rod and stroker combinations it is recommended to use a camshaft base circle of 1.050 for flat tappet applications and a .875 base circle for roller camshaft applications.
Fuel Pump:	Uses stock style fuel pump and stock length fuel pump pushrod. When using a billet aluminum fuel pump block off plate you may need to modify it slightly for fit due to overall size.

Starter: Starter mounting pad is drilled for both straight across and stagger bolt patterns.

Motor Mounts: Drilled and tapped for side and front mounts in OEM locations.

Cyl. Head Bolt Holes: Threads 7/16. Head bolt holes are blind tapped and do not extend into the water jackets. **IT IS THE BUILDER'S RESPONSIBILITY TO DETERMINE THAT BOLTS OR STUDS USED HAVE THE PROPER ENGAGEMENT TO PREVENT STRIPPING THE THREADS.**

Definitions and Dimensions:

Bare Block: Due to a vast difference of opinion among professional builders regarding specifications and procedures, all blocks when purchased bare, are finished within GM +/- tolerances. Motown blocks are supplied with the following specs:

Deck Height: 9.030 +/- .005.

Cylinder Bore: 3.995 or 4.120

Main Journals: SBC 350: 2.6408 +/- .0005

Lifter Bores: 8437 +/- .0005

Stroke Notch: 4.000. stroke **do not cut stroke clearance any deeper**

It is the responsibility of the engine builder to finish the block to his or the end users preferences. Freeze plugs, dowel pins, oil galley plugs and cam bearings are not included or installed.

Before Final Assembly:

1. Before any assembly begins, thoroughly inspect the block for any defects. Remember you are the final inspector. Once machine work has begun, the block is **NON-RETURNABLE**.
2. Make sure block is free of debris. Clean block thoroughly.
3. Lifter bores are machined to the factory spec of .8437. Lifter diameters vary by manufacturer. Slight honing of the lifter bores may be needed for proper lifter to lifter bore clearance.
4. 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.
5. Motown blocks come with a deck height of 9.025. If a lower deck height is desired, **PLEASE** measure the deck before any cutting is done. **REMEMBER: MEASURE TWICE, CUT ONCE.**

WARRANTY TERMS:

World Products Inc. (World) manufactures parts to meet QS 9000 specifications. In addition, all parts go through several inspection procedures before shipping. However, **YOU ARE THE FINAL INSPECTOR**. Please note: Inspect all parts before doing any machine work or assembly. Remember the saying "measure twice and cut once." If any defects are found or suspected, call World before proceeding.

World will replace or repair at its option any defective part which has not been modified or misused within one year of INVOICE purchase date. Any modification or marine use of parts will void all warranties.

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