



FORD PERFORMANCE

# M-6010-B302BB BOSS 302 ENGINE BLOCK BIG BORE

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**PRIOR TO INSTALLATION READ THESE INSTRUCTION COMPETELY**  
**For questions, Call the FORD PERFORMANCE Techline 1-800-367-3788**

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## OVERVIEW:

This sheet contains important information regarding dimensions and specifications of the M-6010-B302BB blocks. These instructions should be reviewed by all engine builders, due to minor changes that could impact the engine assembly process. The M-6010-B302BB block does not have cross drilling between the bores.

## CONTENTS:

Be sure to check for the following parts included with M-6010-B302BB.

- M-6026-A plug and dowel kit.  
**NOTE:** Early kits will have steel plugs. Torque specifications for both steel and aluminum are listed below.
- Check for clearance from rear core plug to the starter index plate on the left bank. The starter index plate may require additional clearance.

## FEATURES AND SPECIFICATIONS:

Part Number	M-6010-B302BB
Material	Diesel grade cast iron
Bore Size	M-6010-B302BB 4.115 – 4.120 out of box finish at 4.125"
Minimum rec. bore thickness (@ dia.)	Designed for minimum bore wall thickness 0.180" @ 4.125"
Bore Spacing	Bore spacing 4.380
Block Deck Height (out of box)	8.210-8.215" out of box, finish at 8.200
Siamese Bore	Siamese bores no cross drilling
Maximum Stroke recommended	M-6010-B302BB maximum stroke recommended 3.400",
Deck Thickness	.500" -.560" Deck thickness
Head Bolt Size	1/2-13 UNC Head bolts
Main Bolt configuration	Splayed 4 bolt main caps on positions 2, 3, 4
Main Bearing Bore Size	Main bearing bore size 2.4412" – 2.4420"
Main Cap Material	Nodular cast iron main caps
Main Cap Fasteners	1/2-13 UNC (torque spec. 100 lb-ft) and 3/8-16 UNC (35 lb-ft) grade 8 HCS
Cam Bearing Bore Size	Cam bearing bore size 2.2032" - 2.2052" requires M-6261-J351 or M-6261-R351 cam bearings
Cam Plug Size	Requires M-6026-S351 cam plug
Lifter Bore Size	Lifter bore size .8753" - .8768"
Lifter Style compatibility	Compatible with hydraulic roller lifters
Oiling System	Wet sump oiling system
Oil Filter Mounting	Block mount oil filter M-6731-FL1A
Oil Pan Configuration	Check oil pan fitment to insure clearance

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Freeze Plugs/Threaded Core Plugs	Threaded/o-ringed core and oil galley plugs -4 AN (qty 9) Aluminum 8-10 lb-ft Steel 22 lb-ft -20 AN (qty 8) Aluminum 24-26 lb-ft Steel 30 lb-ft -6 AN (qty 1) Aluminum 14-16 lb-ft Steel 24 lb-ft
Rear Seal Type	1 piece rear seal M-6701-B302
Maximum Displacement	M-6010-B302BB 363 cubic inches

### Recommended Parts

Heads	Recommended cylinder heads M-6049-X2, M-6049-Z2, M-6049-Z304P(A), M-6049-Z304D(A), M-6049-D3
Head Gaskets	Head gaskets M-6051-S331, M-6051-CP331, M-6051-R351, M-6051-B341
Cam Bearings	Cam bearings M-6261-J351 or M-6261-R351
Head Stud Kit	Head stud kit M-6014-Z304, M-6014BOSS
Head Bolt Kit	Head bolt kit M-6065-BOSS
Main Bearings	Main bearing bores 2.750 main journal same as 351 Cleveland
Oil Filter	Oil filter M-6731-FL1A
Rear Seal	Rear seal M-6701-B302
Timing Cover	Timing cover M-6059-D351 (includes fuel pump provision)
Timing Chain and Sprocket Set	Timing chain and sprocket set M-6268-A302, M-6268-B302

### CAM BORES:

All cam bores are finished to a diameter of 2.204" nominally and require a common outside diameter cam bearing.

- Use M-6261-R351 cam bearings for a common journal camshaft.
- Use M-6261-J351 cam bearings for a stepped journal production type camshaft.

Maximum cam bore diameter for roller cam bearings (1-4) 2.480" (5) 2.280"

### ADDITIONAL FEATURES:

- The two lower timing cover bolts are 3/8-16 UNC.
- Front oil pressure sending unit hole is 1/2 NPT. Check fitting thread engagement prior to final wash.
- Check main caps for adequate clearance to oil pan (.150" minimum).
- Designed for standard 1-piece 302 rear main seal.

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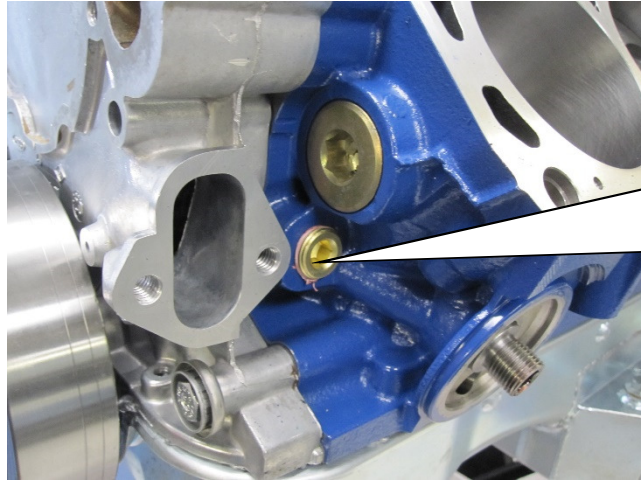


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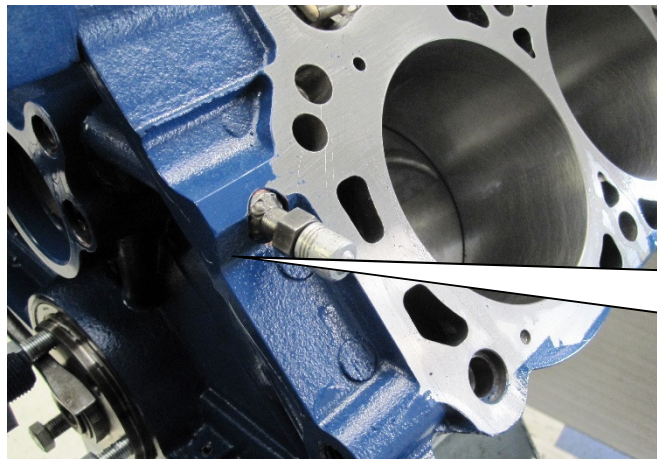
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## **ADDITIONAL NOTES:**



Use caution when tightening  $\frac{1}{2}$  NPT oil galley plug. **40 Ft. Lbs. MAX.** Overtightening can cause cracking in this area.



Oil pressure available at the right rear of block via -4 AN fitting with an O-ring seal.

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