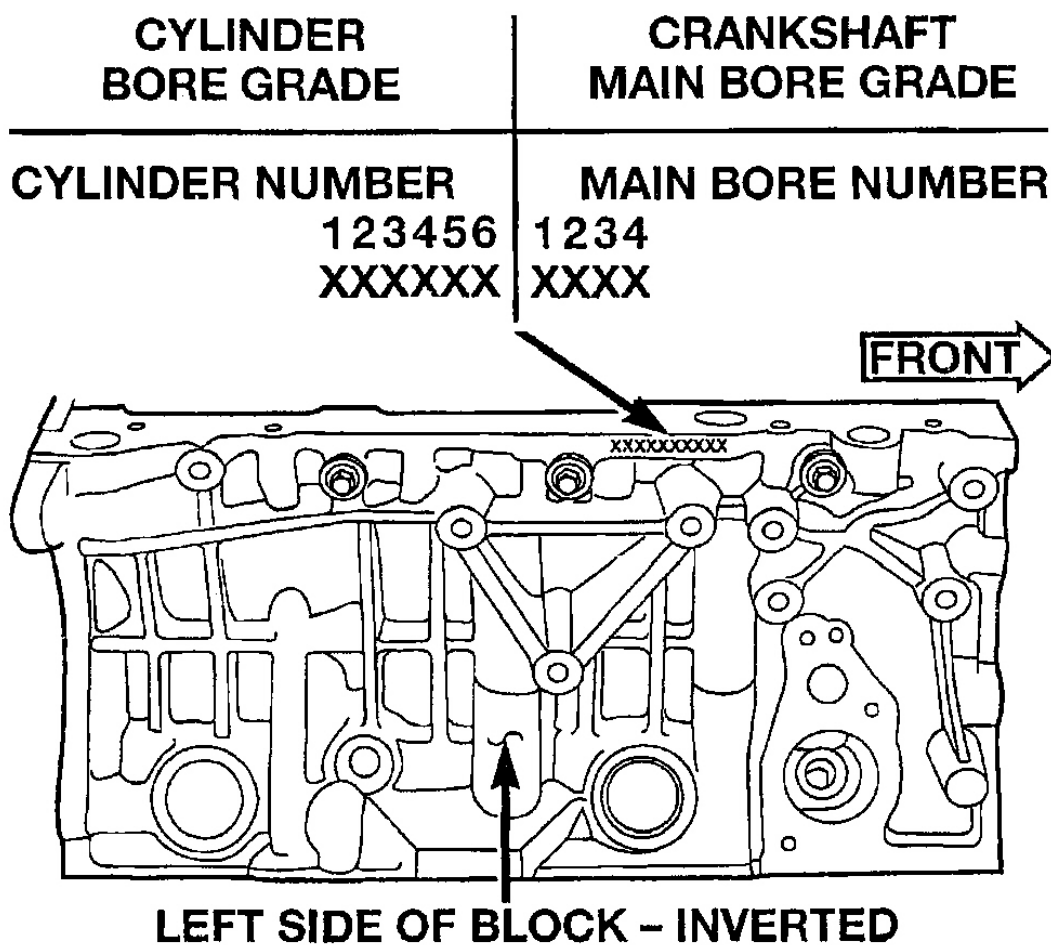


CRANKSHAFT MAIN BEARINGS

STANDARD PROCEDURE - CRANKSHAFT MAIN BEARING FITTING

The main bearings are "select fit" to achieve proper oil clearances. For main bearing selection, the block and crankshaft have grade identification marks.

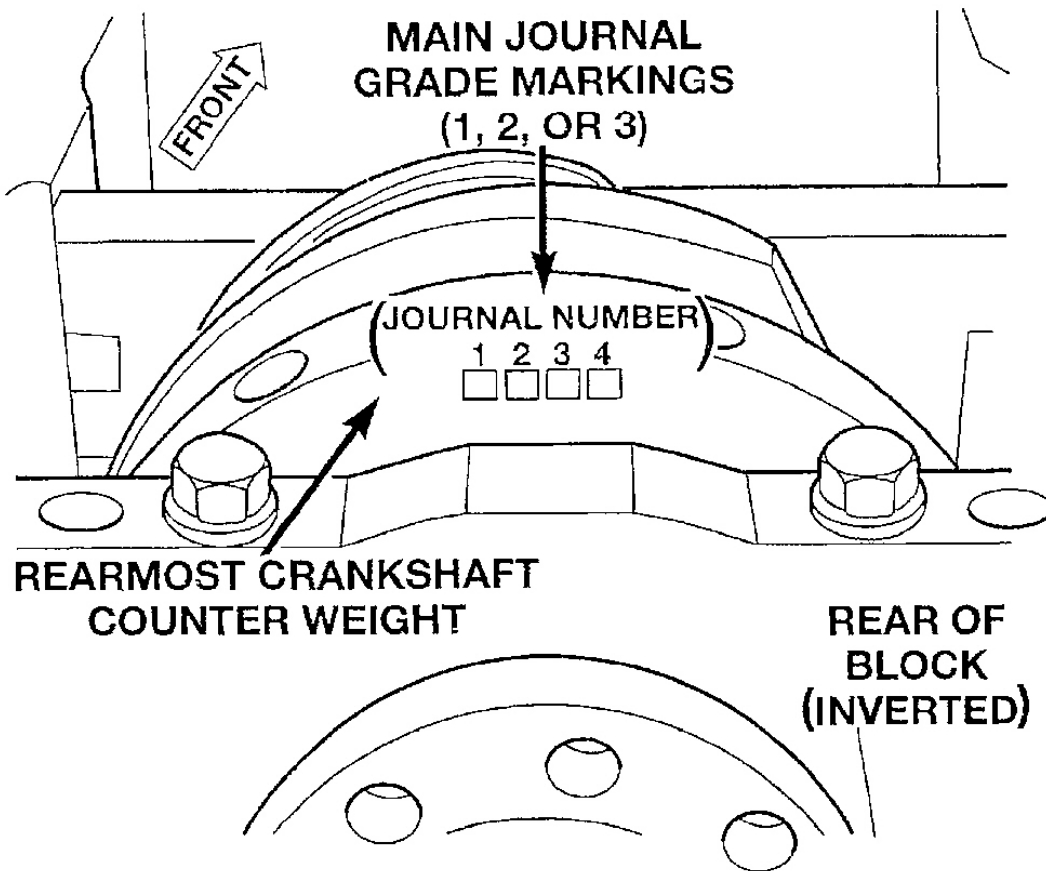
The grade marks for the cylinder block main bearing bore grade is located on the pan rail just below the left side engine mount bracket (**Fig. 101**). These marks are read left to right, corresponding to main bore 1, 2, 3, 4.



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Fig. 101: Locating Cylinder Block Main Bore Grade Marking
 Courtesy of DAIMLERCHRYSLER CORP.

The grade marks for the crankshaft are located on the rearmost crankshaft counter weight as shown in (**Fig. 102**). The crankshaft journal grade marks are read left to right, corresponding with journal number 1, 2, 3, 4.



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Fig. 102: Locating Crankshaft Main Journal Grade Marking
 Courtesy of DAIMLERCHRYSLER CORP.

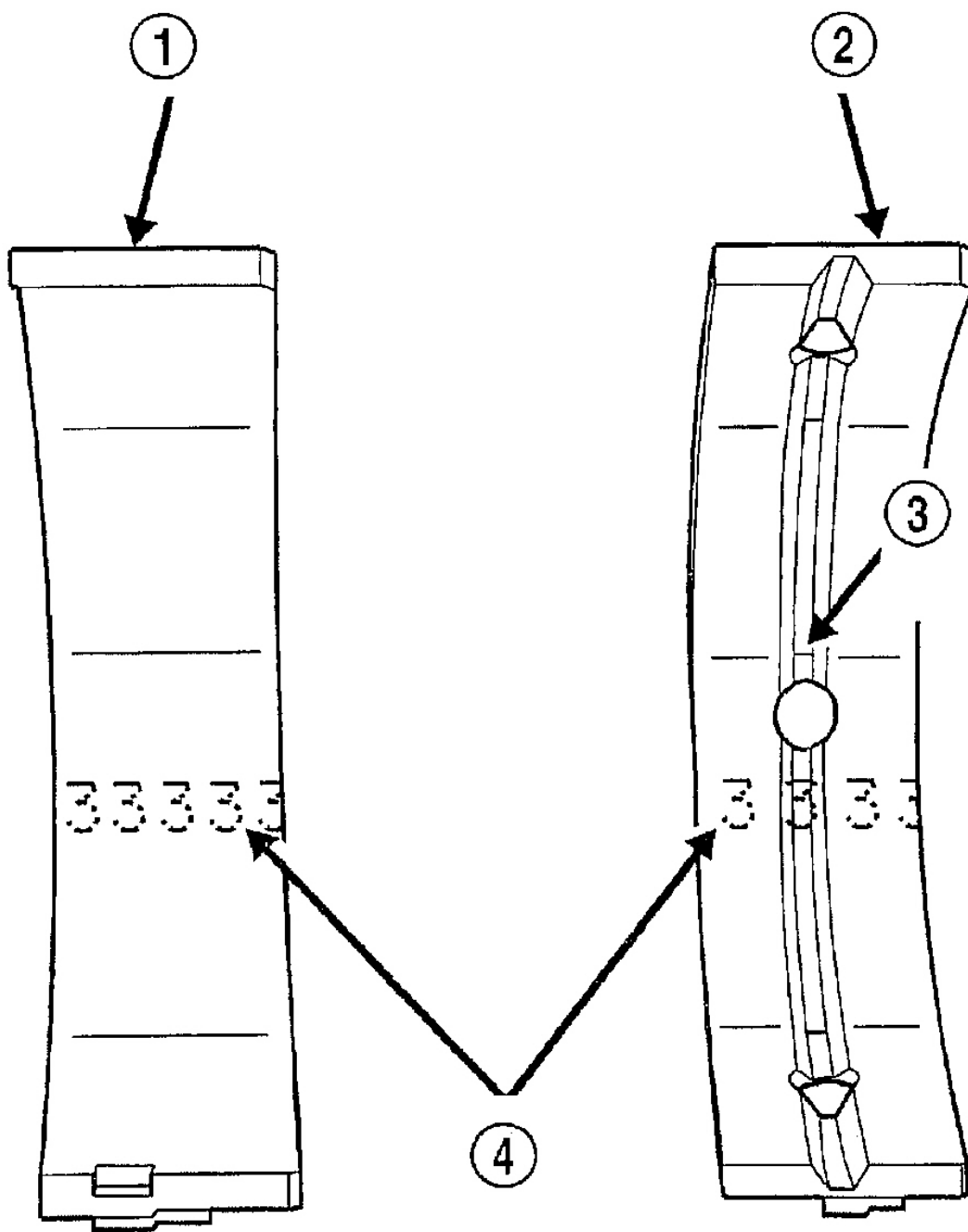
Refer to the Main Bearing Selection Chart (**Fig. 103**) to properly select the main bearings. For an example, if the main bore grade is 3 and the journal grade is 2, the proper select fit bearing would be (2) +0.003 mm (+0.0002 in.).

NOTE: Service main bearings have a number from 1-5 marked in ink on the bearing surface (**Fig. 104**). For verification, use the Main Bearing Selection Chart (**Fig. 103**) for number to size identification.

		Main Bearing Bore Grade Mark		
		1	2	3
Crankshaft Main Journal Grade Mark	1	(3) standard	(2) +0.003 mm (+0.0002 in.)	(1) +0.006 mm (+0.0003 in.)
	2	(4) -0.003 mm (- 0.0002)	(3) standard	(2) +0.003 mm (+0.0002 in.)
	3	(5) -0.006 mm (- 0.0003 in.)	(4) -0.003 mm (- 0.0002 in.)	(3) standard

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Fig. 103: Main Bearing Selection Chart
 Courtesy of DAIMLERCHRYSLER CORP.



- 1 - LOWER MAIN BEARING
- 2 - UPPER MAIN BEARING
- 3 - OIL FEED HOLE AND GROOVE
- 4 - GRADE SELECTION INK MARKS

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Fig. 104: Locating Main Bearing Grade Marks
Courtesy of DAIMLERCHRYSLER CORP.

The upper main bearing has a oil feed hole and a center groove to allow lubrication of the main journal and must be properly positioned in the block.

NOTE: **Although cylinder bores are graded for size, there is only one piston size.**