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2014 Ford Special Service Police Sedan Service and Repair Manual

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NOTE

This chart is for selecting main bearings 1 and 5 only, the remaining bearings will be selected using a different chart in the next step.

Using the data recorded earlier and the Bearing Select Fit Chart, Standard Bearings, determine the required bearing grade for main bearings 1 and 5.

1. Maximum crankshaft journal diameter
 2. Minimum block bore diameter
- Read the first letter of the engine block main bearing code and the first letter of the crankshaft main bearing code.
 - Read down the column below the engine block main bearing code letter and across the row next to the crankshaft main bearing code letter, until the 2 intersect. This is the required bearing grade(s) for the No. 1 crankshaft main bearing.
 - As an example, if the engine block code letter is "F" and the crankshaft code letter is "P", the correct bearing grade for this main bearing is a "1" for the upper bearing and a "2" for the lower bearing.
 - Repeat the above steps using the fifth letter of the block and crankshaft codes to select the No. 5 bearing.

Figure 1 is a 2D heatmap showing the spatial distribution of the 1000 most abundant taxa. The x-axis represents 1000 taxa (labeled A-X) and the y-axis represents 1000 samples (labeled X-A). The color scale ranges from 0 (white) to 1000 (dark blue). The heatmap shows a clear pattern of high abundance (dark blue) in the top-left corner, indicating that a few taxa are highly abundant in many samples. The bottom-right corner shows low abundance (white/yellow).

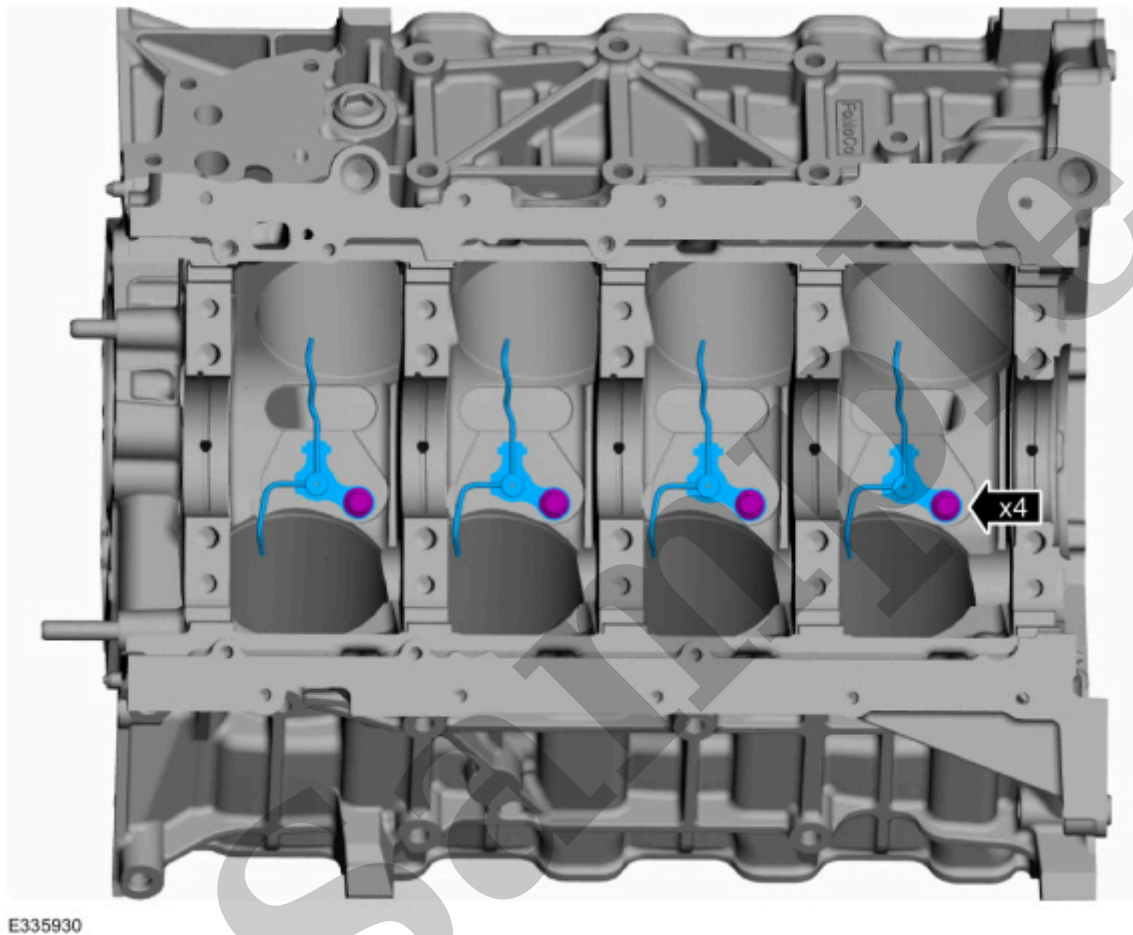
[Click here to learn about symbols, color coding, and icons used in this manual.](#)

5. Install the piston cooling jets and bolts.

Torque :

Stage 1: 89 lb.in (10 Nm)

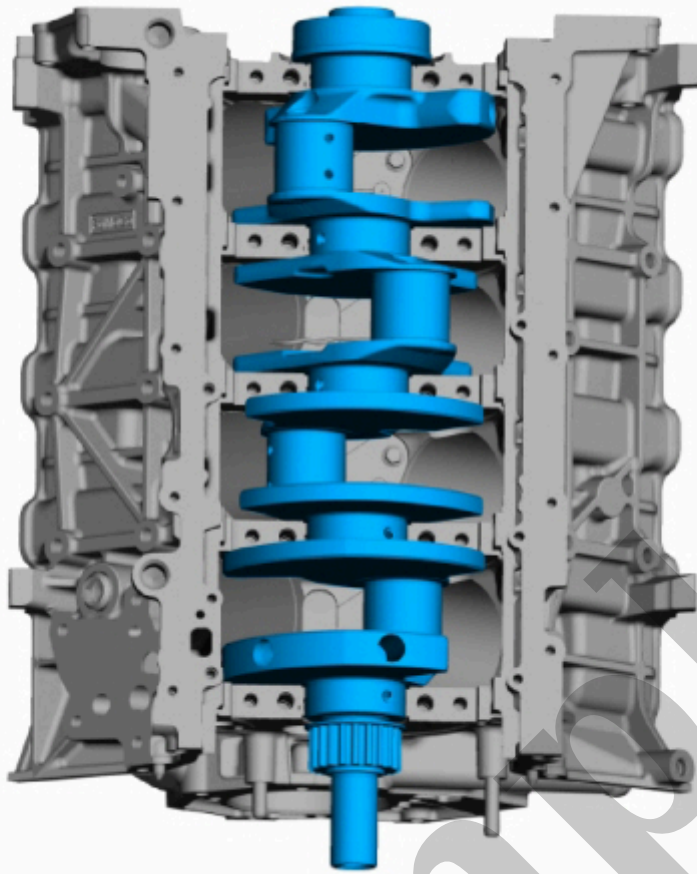
Stage 2: 45°



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6. Install the crankshaft main bearings.

- Install the crankshaft upper main bearings into the cylinder block.
- Install the crankshaft lower main bearings and thrust bearing into the bearing caps.
- Make sure all oil passages are aligned.
- Lubricate all main bearings with clean engine oil.



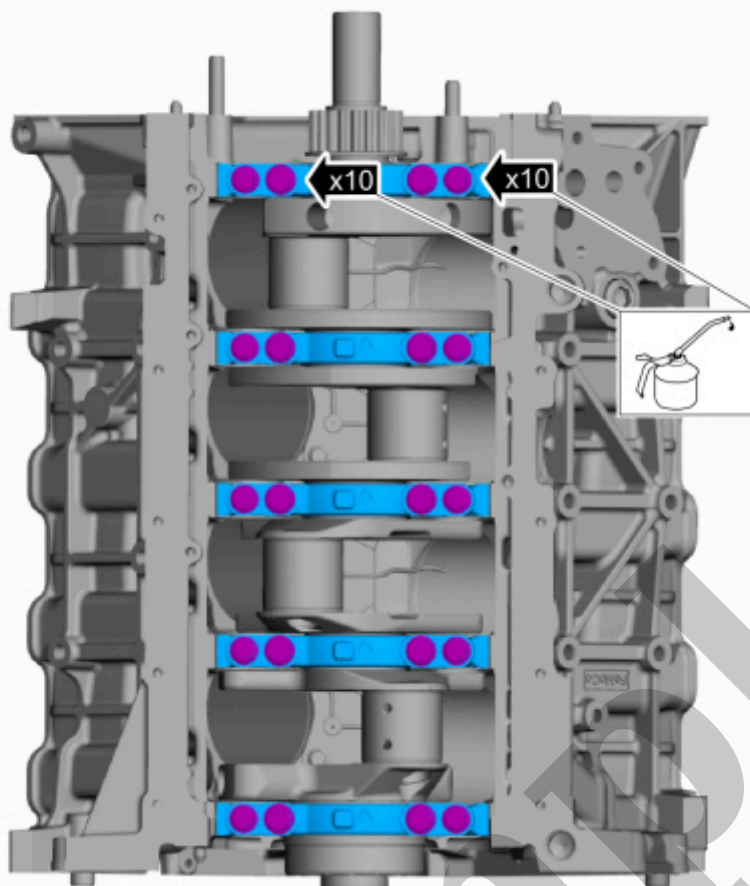
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8. **NOTE**

The oil groove on the thrust washer must face toward the rear of the engine (against the crankshaft thrust surface).

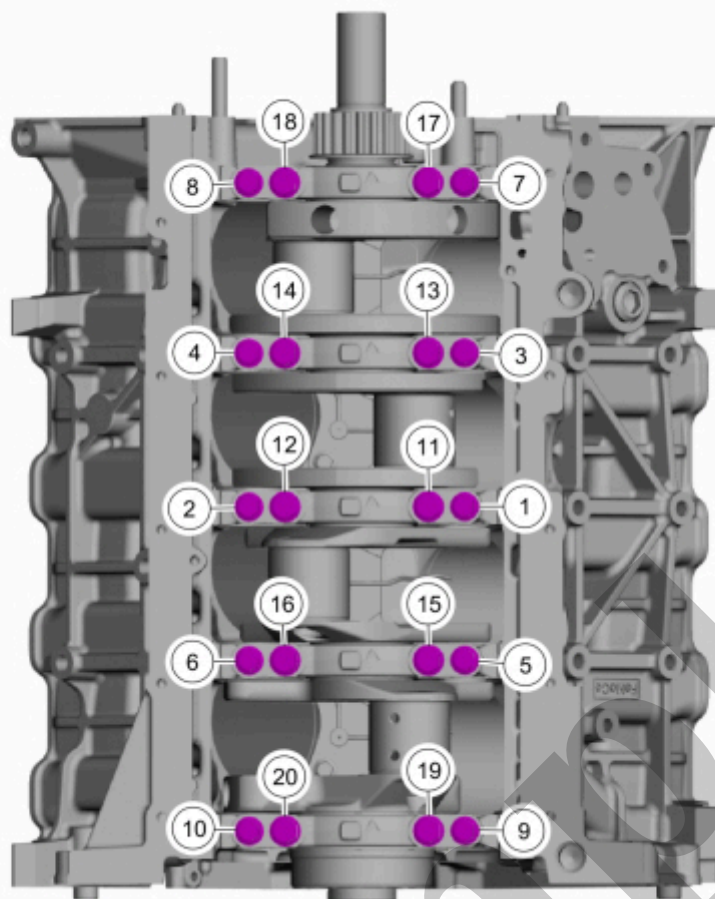
- Lubricate the thrust washer with clean engine oil.
- Push the crankshaft rearward.
- Install the rear crankshaft upper thrust washer at the back of the No. 5 main boss.



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10. Push the crankshaft forward to seat the crankshaft thrust washer.



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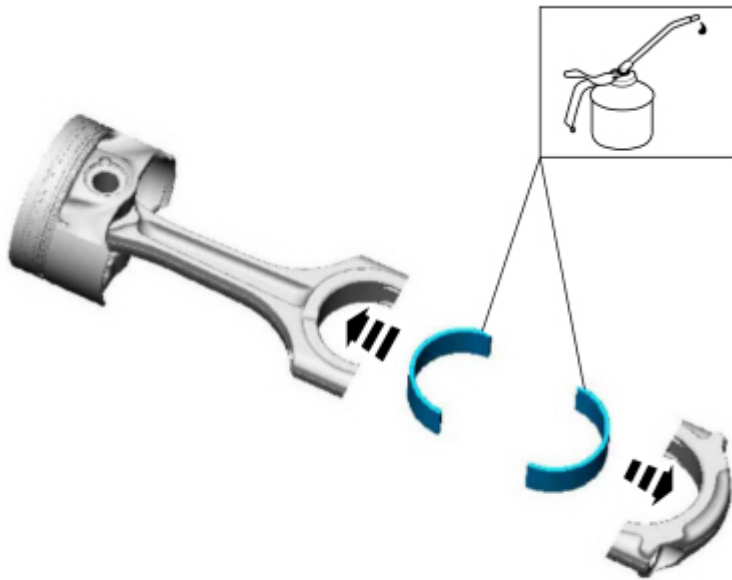
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12. Install the cross-mounted main bearing cap fasteners.

Torque :

Stage 1: 22 lb.ft (30 Nm)

Stage 2: 60°



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15. **NOTICE**

Do not allow the piston connecting rods to come in contact with the piston cooling jets or engine damage may occur.

NOTICE

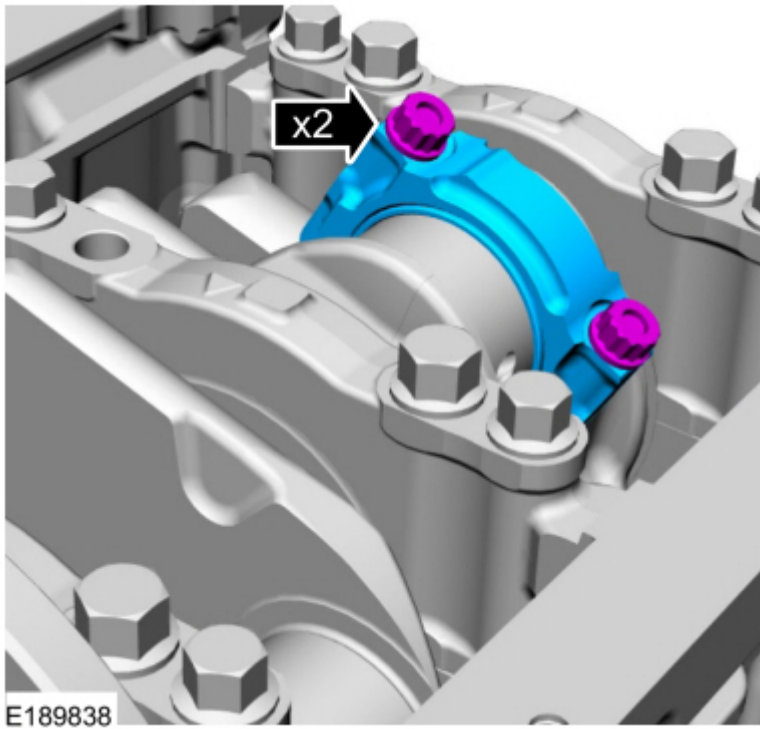
Be sure not to scratch the cylinder wall or crankshaft journal with the connecting rod. Push the piston down until the connecting rod bearing seats on the crankshaft journal.

NOTICE

Be sure not to scratch the cylinder wall or crankshaft journal with the connecting rod. Push the piston down until the connecting rod bearing seats on the crankshaft journal.

NOTE

Lubricate the piston with clean engine oil.



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17. Repeat the previous 3 steps for each of the remaining pistons.

18. Tighten the connecting rod bolts.

Torque :

Stage 1: 177 lb.in (20 Nm)

Stage 2: 28 lb.ft (38 Nm)

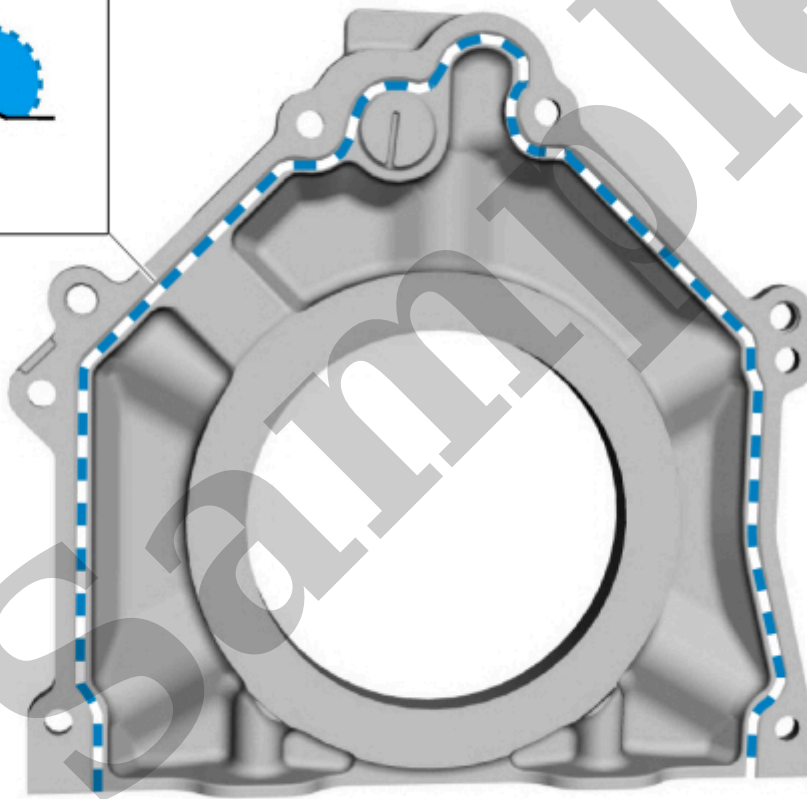
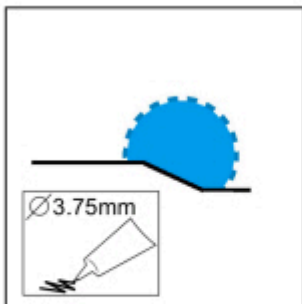
Stage 3: 105°

20. **NOTE**

If the rear crankshaft seal retaining plate is not secured within 5 minutes, the sealant must be removed and the sealing area cleaned. Failure to follow this procedure may cause future oil leaks.

Apply a 3.75 mm (0.147 in) bead of silicone gasket and sealant to the chamfer of the rear crankshaft seal retaining plate sealing surface.

Material : Motorcraft® High Performance Engine RTV Silicone / TA-357 (WSE-M4G323-A6)



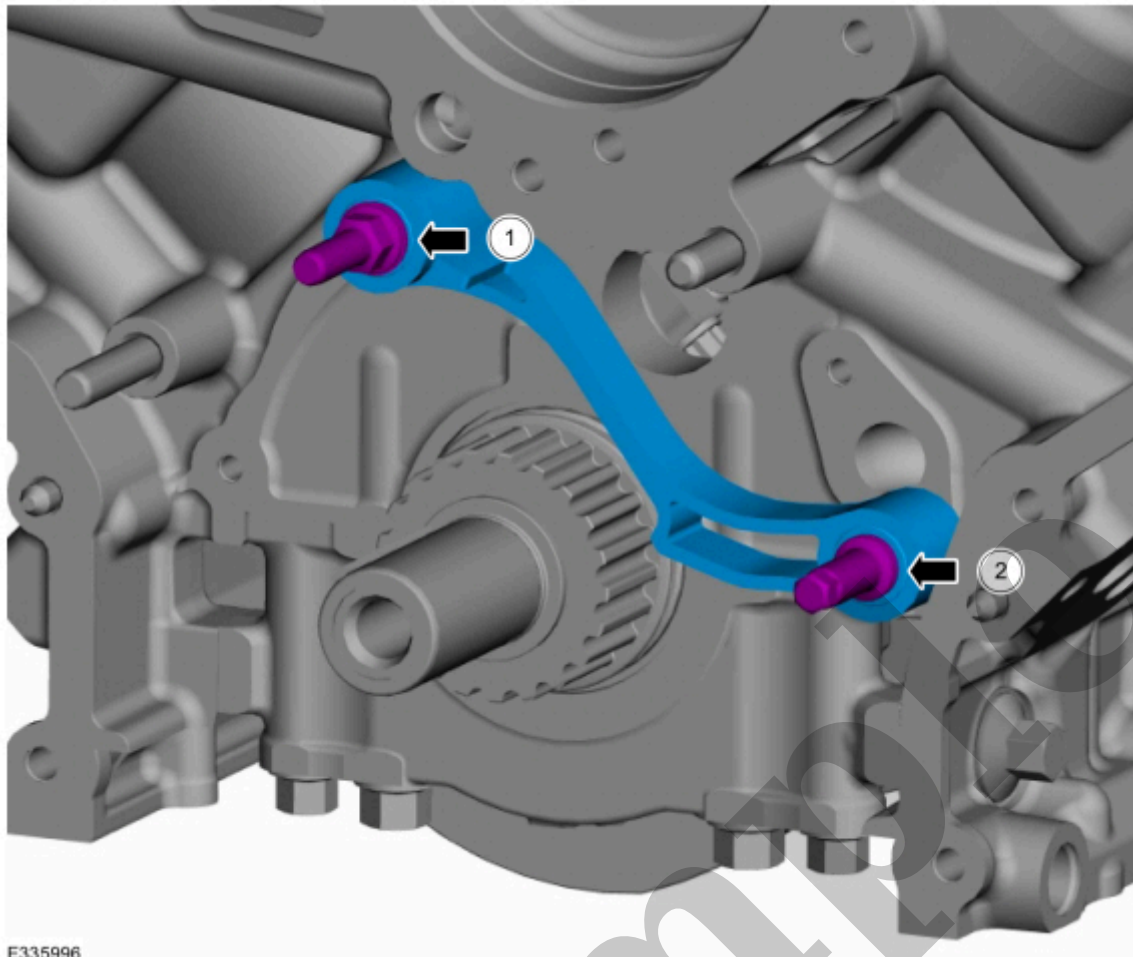
E317327

21. Install the crankshaft rear seal retainer plate and the bolts.

Torque :

Stage 1: 89 lb.in (10 Nm)

Stage 2: 30°



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23. Position the oil pump drive belt on the crankshaft sprocket.