

tween the rear main bearing cap and the cylinder block from the outside. Blow compressed air against the seals from the inside of the block. If air bubbles appear in the oil, it indicates possible oil leakage. **This test should not be performed on newly installed seals until sufficient time has been allowed for the seals to expand into the seal grooves.**

12. Install the oil pump and oil pan. Install the oil level dipstick. Fill the crankcase with the proper amount and viscosity oil.

13. Operate the engine and check for oil leaks.

MAIN AND CONNECTING ROD BEARING REPLACEMENT

The main and connecting rod bearing inserts are selective fit. **Do not file or lap bearing caps or use shims to obtain the proper bearing clearance.**

Selective fit bearings are available for service in standard sizes and 0.001 and 0.002 inch undersize. Standard bearings are divided into two sizes and are identified by a daub of red or blue paint. Refer to the Parts Catalog for the available sizes. **Red marked bearings increase the clearance; blue marked bearings decrease the clearance.** Undersize bearings, which are not selective fit, are available for use on journals that have been refinished.

MAIN BEARING REPLACEMENT

1. Drain the crankcase. Remove the oil level dipstick. Remove the oil pan and oil pump. Remove the spark plugs to allow easy rotation of the crankshaft.

2. **Replace one bearing at a time leaving the other bearing securely fastened.** Remove the main bearing cap to which new bearings are to be installed.

On a 427 V-8, remove the main bearing cap cross-bolts, washers and spacers (Fig. 53) before removing the cap retaining bolts.

3. Insert the upper bearing removal tool (tool 6331-E) in the oil hole in the crankshaft (Fig. 54).

4. Rotate the crankshaft in the direction of engine rotation to force the bearing out of the block.

5. Clean the crankshaft journal and bearing inserts. When replacing standard bearings with new bearings, it is good practice to first try to obtain the proper clearance with two blue bearing halves.

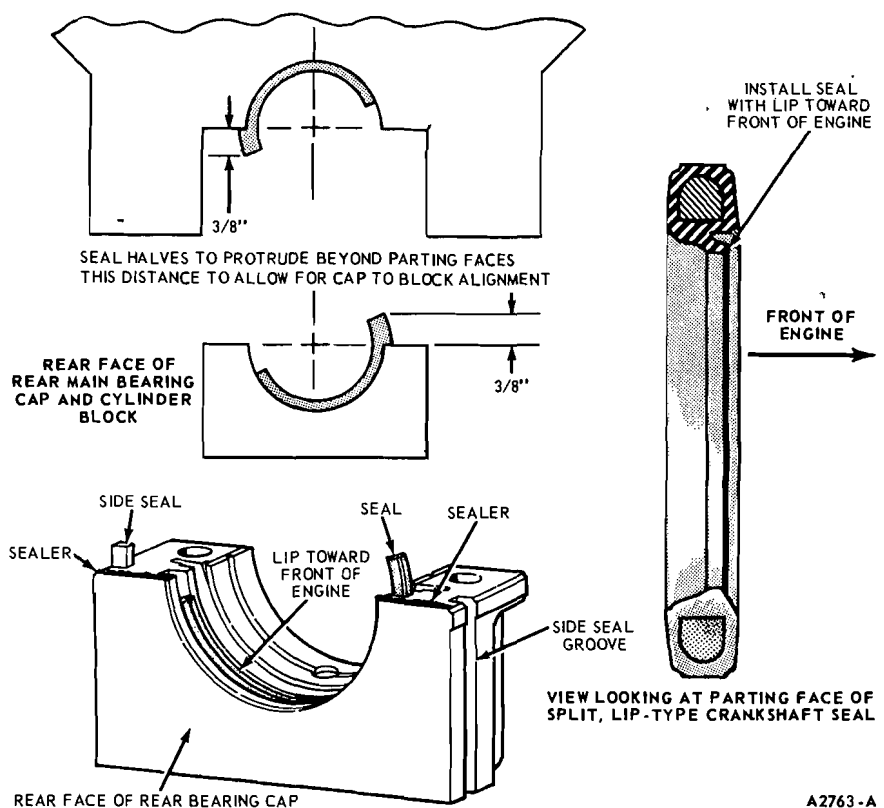


FIG. 52—Crankshaft Rear Seal Installation

6. To install the upper main bearing, place the plain end of the bearing over the shaft on the locking tang side of the block and partially install the bearing so that tool 6331-E can be inserted in the oil hole in the crankshaft (Fig. 54). With tool 6331-E positioned in the oil hole in the crankshaft, rotate the crankshaft in the opposite direction of engine rotation until the bearing seats itself. Remove the tool.

7. Install the cap bearing.

8. Support the crankshaft so that its weight will not compress the Plastigage and provide an erroneous reading. Position a small jack so that it will bear against the counterweight adjoining the bearing which is being checked.

9. Place a piece of Plastigage on the bearing surface the full width of the bearing cap and about 1/4 inch off-center (Fig. 55).

10. Install the cap and torque the bolts to specifications. **Do not turn the crankshaft while the Plastigage is in place. When checking the width of the Plastigage, check at the widest point in order to get the minimum clearance. Check at the narrowest point in order to get the maximum clearance. The difference between the two readings is the journal taper.**

11. If the clearance is less than

the specified limits, try two red bearing halves or a combination of red and blue depending upon the condition. If the clearance exceeds specified limits, try 0.001 or 0.002 inch undersize bearings in combination with standard, blue, or red bearings. **The bearing clearance must be within specified limits. Whenever a combination of 0.001 or 0.002 inch undersize bearings with blue or red bearings is used, the undersize bearing should go in the top, or cylinder block.** If the standard and 0.001 or 0.002 inch undersize bearings do not bring the clearance within the desired limits, refinish the crankshaft journal (Refer to Part 8-1, Section 2). Then install undersize bearings. For complete application and availability of bearings, refer to the Master Parts and Accessories Catalog. **Do not file or lap bearing caps or use shims in an effort to decrease bearing clearances.**

12. After the bearing has been checked and found to be satisfactory apply a light coat of engine oil to the journal and bearings; then install the bearing cap. Torque the cap bolts to specifications.

13. If the thrust bearing cap (No. 3 main bearing) has been removed, install it as follows:

Install the thrust bearing cap with the bolts finger-tight. Pry the crank-