

Fig. 31—Removing Camshaft Bearing

### Installation

(1) Install new camshaft bearings with Tool C-3132A. Place new camshaft bearing over proper adapter.

(2) Position bearing in the tool. Install the horse shoe lock and by reversing removal procedure, carefully drive bearing into place.

(3) Install remaining bearings in like manner.

**Install the NO. 1 camshaft bearing 1/32 inward from the front face of cylinder block.**

The oil holes in camshaft bearings and the cylinder block must be in exact register to insure proper lubrication (Fig. 31).

The camshaft bearing index can be inspected after installation by inserting a pencil flashlight in the bearing. The camshaft bearing oil hole should be perfectly aligned with the drilled oil passage from the main bearing. Other oil holes in the camshaft bearings should be visible by looking down on the left bank oil hole above and between NO. 6 and NO. 8 cylinders to NO. 4 camshaft bearing and on the right bank above and between NO. 5 and 7 cylinders to NO. 4 camshaft bearings. If camshaft bearing oil holes are not in exact register, remove and reinstall them correctly. Install a new welch plug at rear of camshaft. **Be sure this plug does not leak.**

## DISTRIBUTOR DRIVE SHAFT BUSHING

### Removal

(1) Insert Tool C-3052 into the old bushing and thread down until a tight fit is obtained (Fig. 32).

(2) Hold remover screw and tighten nut until bushing is removed.

### Installation

(1) Slide a new bushing over burnishing end of Tool C-3053 and insert tool bushing into the bore.

(2) Drive bushing and tool into position, using a hammer (Fig. 33).

(3) As the burnisher is pulled through the bushing by tightening remover nut, the bushing is expanded tight in the block and burnished to correct size (Fig. 34). **DO NOT REAM THIS BUSHING.**

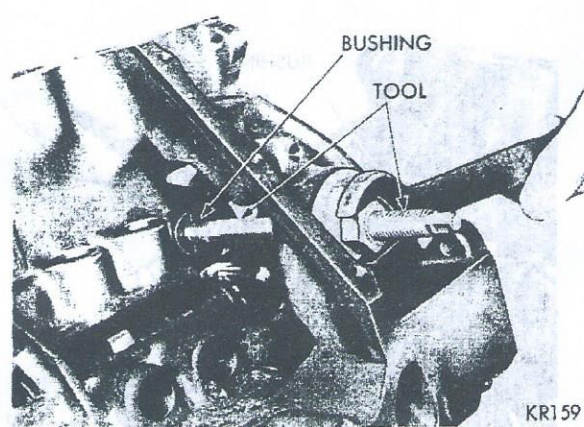


Fig. 32—Removing Distributor Drive Shaft Bushing

### Distributor Timing

Before installing distributor and oil pump drive shaft, time the engine as follows:

(1) Rotate crankshaft until NO. 1 cylinder is at top dead center on the firing stroke.

(2) When in this position, the straight line on the vibration damper should be under "O" on timing indicator.

(3) Coat shaft and drive gear with engine oil. Install the shaft so that after gear spirals into place, it will index with the oil pump shaft, so slot in top of drive gear will be parallel with center line of crankshaft (Fig. 35).

*NEXT PAGE*

### Installation of Distributor

(1) Hold distributor over mounting pad on cylinder block with vacuum chamber pointing toward center of engine.

(2) Turn rotor until it points forward and to approximate location of No. 1 tower terminal in the distributor cap.

(3) Place distributor gasket in position.

(4) Lower the distributor and engage the shaft in the slot of distributor drive shaft gear.

(5) Turn distributor clockwise until breaker con-

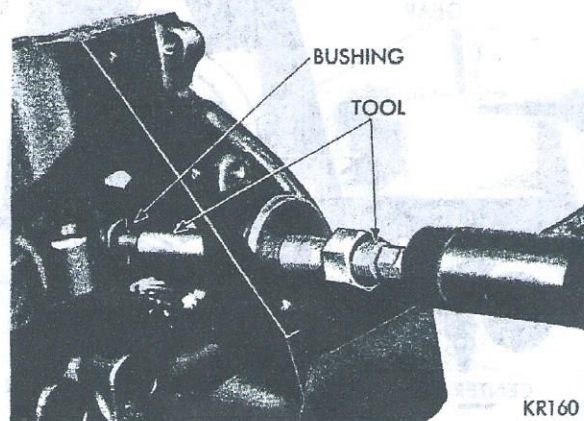
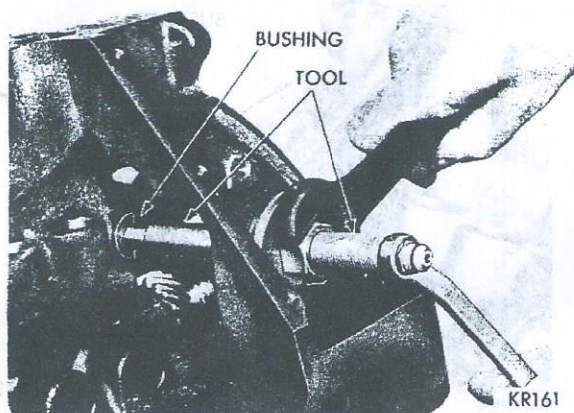


Fig. 33—Installing Distributor Drive Shaft Bushing





**Fig. 34—Burnishing Distributor Drive Shaft Bushing**

tacts are just separating, install and tighten hold down clamp.

## CYLINDER BLOCK

The cylinder block is of the deep block design which eliminates the need for a torque converter housing adapter plate. Its sides extend three inches below the crankshaft center line.

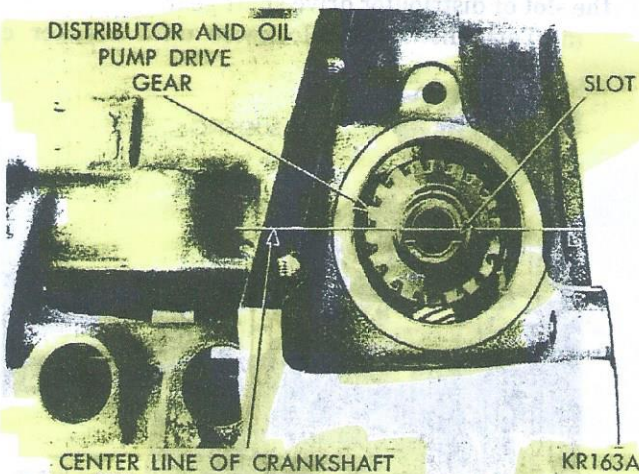
### Piston Removal

(1) Remove top ridge of cylinder bores with a reliable ridge reamer before removing pistons from cylinder block. **Be sure to keep tops of pistons covered during this operation.**

The pistons and connecting rods must be removed from the top of the cylinder block. When removing piston and connecting rod assemblies from the engine, rotate the crankshaft so each connecting rod is centered in cylinder bore.

(2) Inspect connecting rods and connecting rod caps for cylinder identification. Identify them if necessary.

(3) Remove connecting rod cap. Install connecting



**Fig. 35—Distributor Drive Gear Installed**

rod bolt guide set on connecting rod bolts. Push each piston and rod assembly out of cylinder bore. **Be careful not to nick crankshaft journals.**

(4) Install bearing caps on mating rods.

### Cleaning and Inspection

(1) Clean cylinder block thoroughly and inspect all core hole plugs for evidence of leaking.

(2) If new core plugs are installed, coat edges of plug and core hole with Number 1057794 Sealer or equivalent. Drive the core plug in so that the rim lies at least 1/64" below the lead-in chamfer.

(3) Examine block for cracks or fractures.

### Cylinder Bore Inspection

The cylinder walls should be measured for out-of-round and taper with Tool C-119. If the cylinder bores show more than .005" out-of-round, or a taper of more than .010" or if the cylinder walls are badly scuffed or scored, the cylinder block should be rebored and honed, and new pistons and rings fitted. Whatever type of boring equipment is used, boring and honing operation should be closely coordinated with the fitting of pistons and rings in order that specified clearance may be maintained.

### Honing Cylinder Bores

Before honing, stuff plenty of clean rags under the bores, over the crankshaft to keep the abrasive materials from entering the crankcase area.

(1) Used carefully, the cylinder bore resizing hone C-823 equipped with 220 grit stones and 390 extensions necessary with 383 and 440 cubic inch engines is the best tool for this job. In addition to deglazing, it will reduce taper and out-of-round as well as removing light scuffing, scoring or scratches. Usually, a few strokes will clean up a bore and maintain the required limits.

(2) Deglazing of the cylinder walls may be done using a cylinder surfacing hone, Tool C-3501, equipped with 280 grit stones (3501-3810) if the cylinder bore is straight and round. 20 to 60 strokes depending on the bore condition will be sufficient to provide a satisfactory surface. Inspect cylinder walls after each 20 strokes. Use honing oil C-3501-3880 or a light honing oil available from major oil distributors. **Do not use engine or transmission oil, mineral oil or kerosene.**

(3) Honing should be done by moving the hone up and down fast enough to get a cross-hatch pattern. When hone marks **intersect** at 60°, cross hatch angle is most satisfactory for proper seating of rings (See Fig. 36).

(4) After honing, it is necessary that the block be cleaned again to remove all traces of abrasives. Wash cylinder block and crankshaft thoroughly.