

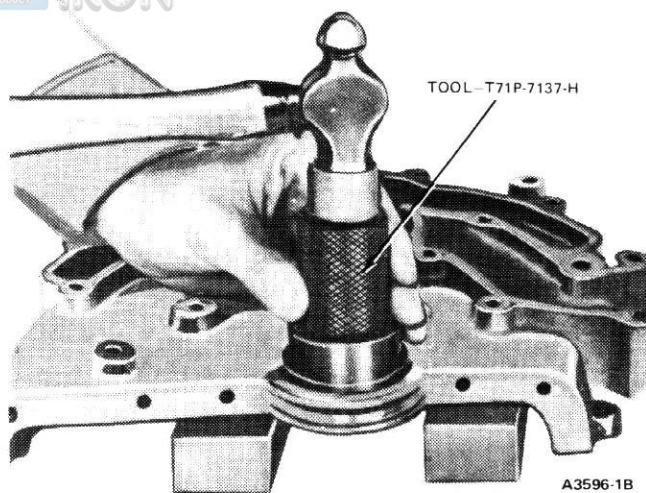


FIG. 22 Installing Front Oil Seal—Front Cover Removed

Use the proper plier-type tool to remove the spark plug wire boots.

3. Drain the crankcase. Refer to Rocker Arm Removal and remove rocker arm and shaft assemblies. Lift out push rods and place in a marked rack so they can be reinstalled in the same location.
4. Remove oil pan, as described under Oil Pan Removal.
5. Remove drive sprocket attaching bolt and slide sprocket off end of shaft.
6. Remove engine front cover and water pump as an assembly.
7. Remove camshaft gear attaching bolt and slide gear off camshaft.
8. Remove camshaft thrust plate and screws.
9. Remove the tappets, following Tappet Removal procedure.
10. Carefully pull the camshaft from the block, avoiding any damage to the camshaft bearings. Remove camshaft gear key and spacer ring.

Installation

1. Oil the camshaft journals with heavy SE engine oil and apply Lubriplate or equivalent lubricant to the cam lobes.
2. Install the camshaft in the block, carefully avoiding damage to the bearing surfaces.
3. Install the spacer ring with the chamfered side toward the camshaft. Insert camshaft key. Install thrust plate so that it covers the main oil gallery (Fig. 24). Torque attaching screws to specifications.

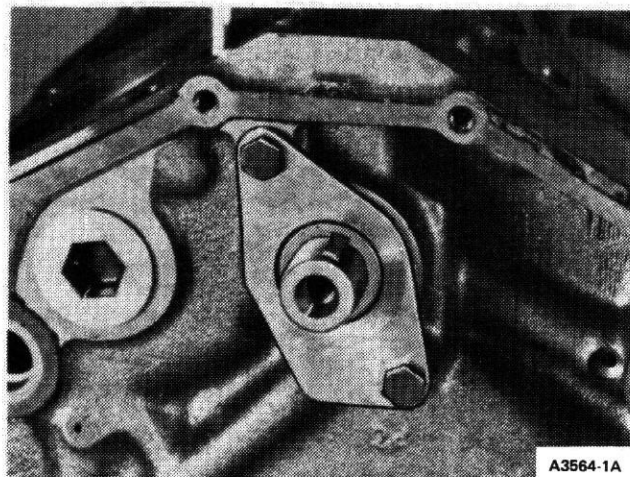


FIG. 24 Camshaft Thrust Plate Installed

4. Check the camshaft for the specified end play (see Part 21-01). The spacer ring and thrust plate are available in two thicknesses to permit adjusting the end play.
5. Turn camshaft and crankshaft as necessary to align timing marks as shown in Fig. 27 and install camshaft gear. Install attaching bolt and washer and tighten to specifications.
6. Position the tappets in their original locations, following Tappet Installation procedure.
7. Install engine front cover and water pump as an assembly.
8. Install belt drive pulley and secure with washer and attaching bolt. Tighten bolt to specifications.

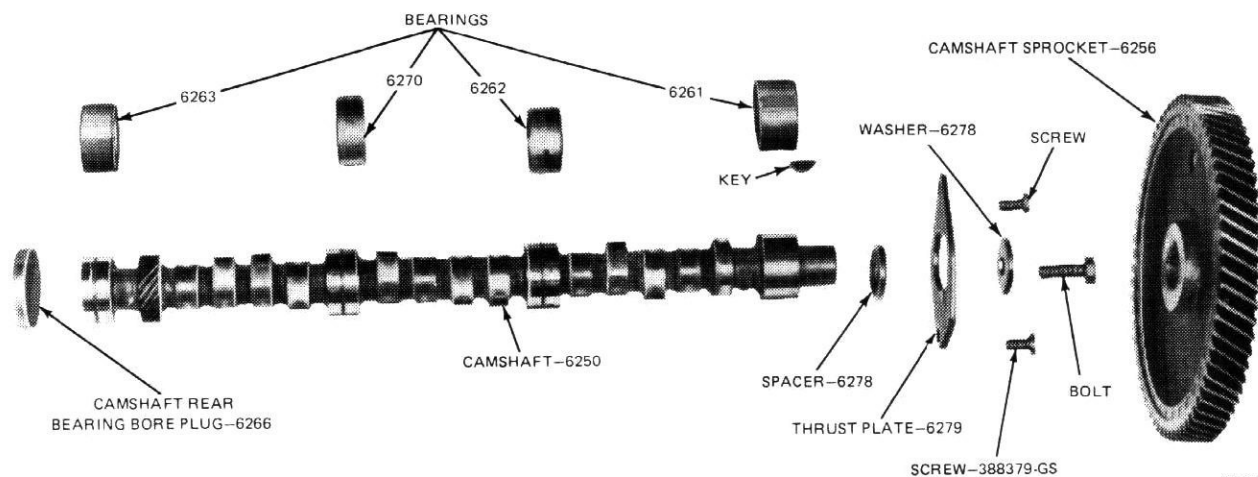


FIG. 23 Camshaft and Related Parts

9. Install oil pan, as described under Oil Pan Installation.
10. Apply Lubriplate or equivalent to both ends of the push rods. Install valve push rods in same location as removed.
11. Install intake manifold, as described under Intake Manifold Installation.
12. Install oil baffles and rocker arm and shaft assemblies. Tighten rocker arm stand bolts to specifications. Adjust valves to specified cold setting.
13. Install water pump pulley, fan spacer, fan, and drive belt. Adjust belt tension to specifications. Install carburetor, fuel line, alternator, thermactor pump, distributor, distributor vacuum line, and distributor cap and wires. Connect distributor wiring harness. **Before installing spark plug wires, coat inside of each boot with silicone lube using a small screwdriver.** Install the radiator. Fill the cooling system to the proper level with the specified coolant. See Part 27-01 for detailed instructions. Adjust ignition timing as described in Group 29.
14. Install valve covers following Valve Cover Installation procedures.
15. Run the engine and check the idle speed.
16. Run the engine at fast idle speed and check for coolant, fuel, vacuum and oil leaks.

TIMING GEARS

Removal

1. Drain the cooling system and crankcase. Remove oil pan and radiator.
2. Remove the cylinder front cover and water pump, drive belt, and camshaft timing gear.
3. Use the gear pullers as shown in Fig. 25 and remove the crankshaft gear. Remove the key from the crankshaft.

Installation

1. Align the keyway in the gear with the key, then slide the gear onto the shaft, making sure that it seats tight against the spacer.

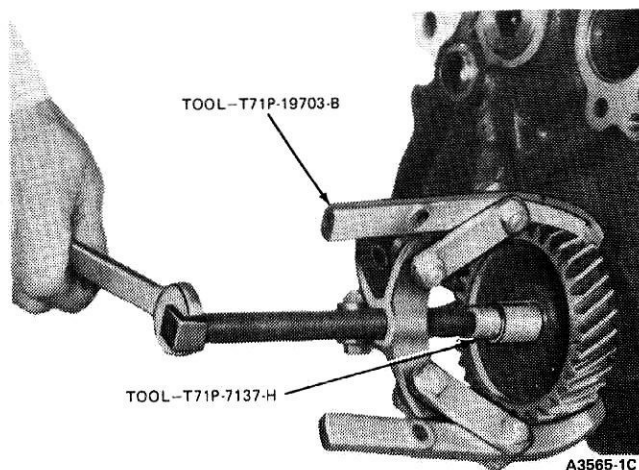


FIG. 25 Removing Crankshaft Gear

2. Check the camshaft end play (Part 21-01). If not within specifications, replace the thrust plate.
3. Position the key in the crankshaft. Align the keyway in the crankshaft gear with the key in the crankshaft, and align the timing marks as shown in Fig. 26. Install the gear, using the tool shown in Fig. 27.
4. Install the cylinder front cover following the procedures in this section. Install the oil pan and radiator.
5. Fill the cooling system (see Part 27-01) and crankcase. Start the engine and adjust the ignition

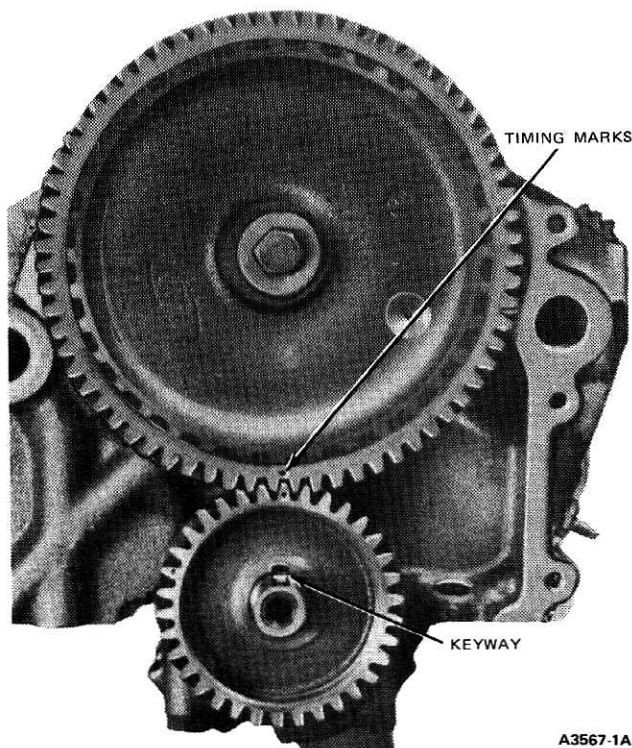


FIG. 26 Aligning Timing Marks

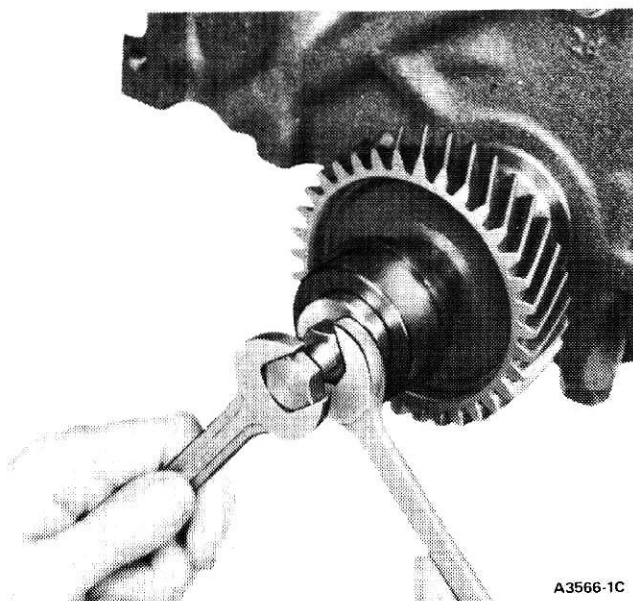


FIG. 27 Installing Crankshaft Gear