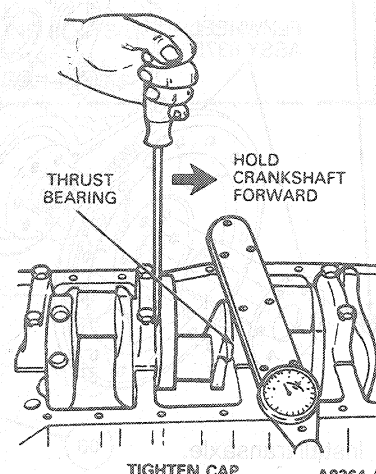
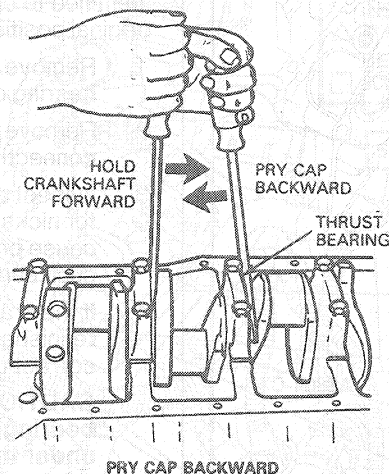
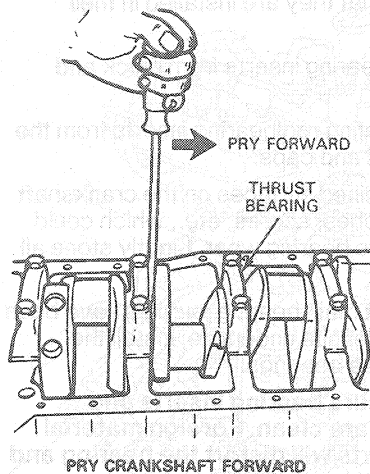


REMOVAL AND INSTALLATION (Continued)

10. Lubricate the journal with Engine Assembly Lubricant D9AZ-19579-D (ESR-M99C80-A) or equivalent. Install the thrust bearing cap with the bolts finger-tight. Pry the crankshaft forward against the thrust surface of the upper half of the bearing. Hold the crankshaft cap to the rear. This will align the thrust surfaces of both halves of the bearing. Retain the forward pressure on the crankshaft.



11. Check crankshaft end play. Refer to Section 03-00.
12. If end play exceeds specification, replace upper and lower thrust bearings. If the end play is less than specification, inspect thrust bearing faces for damage, dirt or improper alignment. Install thrust bearing and align the faces. Recheck end play.
13. Install new bearing inserts in the connecting rods and caps. Check the clearance of each bearing. Refer to Section 03-00.
14. If bearing clearances are to specification, apply a light coat of Engine Assembly Lubricant D9AZ-19579-D (ESR-M99C80-A) or equivalent to the journals and bearings.
15. Turn the crankshaft throw to the bottom of the stroke. Push the piston all the way down until the rod bearings seat on the crankshaft journal.
16. Install connecting rod cap.
17. After piston and connecting rod assemblies have been installed, check connecting rod crankshaft journal side clearance.
18. Turn engine on the work stand so that the front end is up. Install timing chain, sprockets, front cover, new oil seal and crankshaft pulley as outlined.
- Turn engine on the work stand so that the rear end is up. Install rear oil seal as outlined.

19. Clean oil pan, oil pump and oil pump screen assembly.
20. Prime oil pump by filling the inlet opening with oil and rotating the pump shaft until oil emerges from the outlet opening. Install oil pump, baffle and oil pan as outlined.
21. Position flywheel on the crankshaft. Tighten to 80 N·m (59 lb-ft).
22. Turn engine on the work stand so that the engine is in the normal upright position. Install accessory drive tensioner. Install accessory drive belt. Refer to Section 03-05.
23. Remove engine from the work stand. Install engine.

Crankshaft Rear Main Oil Seal**Tools Required:**

- Jet Plug Remover T77L-9533-B
- Crankshaft Rear Seal Replacer T88L-6701-A

Removal

1. Remove engine as outlined in this section.
CAUTION: Use care to avoid scratching or damaging oil seal surface.
2. Using a sharp awl, punch one hole into the seal metal surface between the lip and block.