

OVERHAUL (Continued)

Inspection

The connecting rods and related parts should be carefully inspected and checked for conformance to specifications. For specifications, refer to Section 03-01A (3.0L), 03-01B (3.0L/3.2L SHO) or 03-01C (3.8L). Various forms of engine wear caused by these parts can be readily identified.

A shiny surface on either pin boss side of the piston usually indicates that a connecting rod is bent.

Abnormal connecting rod bearing wear can be caused by either a bent connecting rod, worn or damaged crankpin, or a tapered connecting rod bore.

Twisted connecting rods will not create an identifiable wear pattern, but badly twisted rods will disturb the action of the entire piston, rings and connecting rod assembly and may be the cause of excessive oil consumption.

Check the connecting rods for bend to twist on a suitable alignment fixture. Follow the instructions of the fixture manufacturer. If the bend and/or twist exceeds specification, the connecting rod must be replaced.

CAUTION: It is not necessary to ream or hone the pin bore in the connecting rod. Replace damaged connecting rod nuts and bolts.

Inspect the connecting rods for signs of fractures and the bearing bores for out-of-round and taper. If the bore exceeds the recommended limits and/or if the connecting rod is fractured, it should be replaced. Check the ID of the connecting rod piston pin bore. If the pin bore in the connecting rod is larger than specification, install a 0.03mm (0.0012 inch) oversize piston pin. First, prefit the oversize piston pin to the piston pin bore by reaming or honing the piston to provide 0.005mm (0.0002 inch)—0.012mm (0.00048 inch) clearance (light slip fit). Assemble the piston, piston pin and connecting rod following the procedures for the specific engine being worked on.

Camshaft**Cleaning**

Clean the camshaft in solvent and wipe it dry.

Remove light scuffs, scores or nicks from the camshaft machined surfaces with a smooth oil stone.

NOTE: If camshaft journals are excessively worn or scored, the camshaft must be replaced. Camshaft journals can be refinished to accommodate 0.38mm (0.015 inch) undersize bearing. If the journals do not "clean up," the camshaft must be replaced.

Inspection

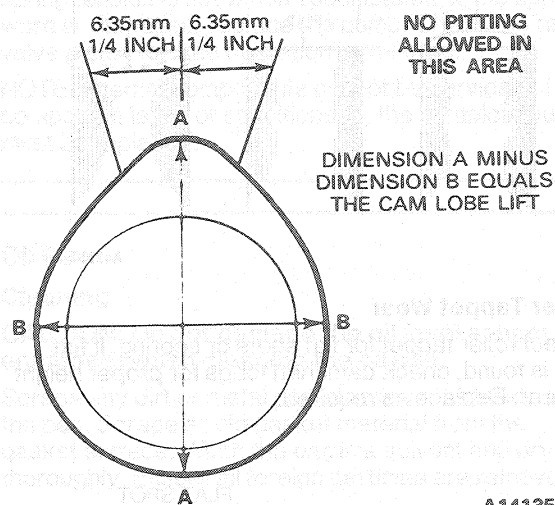
Check camshaft bores for size, taper, roundness, alignment and finish. If any of these exceed the limits given in Specifications, install new camshaft bearings.

Inspect the camshaft lobes for scoring and signs of abnormal wear. Lobe pitting in the general area of the lobe toe is not detrimental to the operation of the camshaft; therefore, the camshaft should not be replaced unless the lobe lift loss has exceeded specification or pitting has occurred in the lobe lift area.

The lift of the camshaft lobes can be checked with the camshaft installed in the engine or on centers.

To measure the camshaft lobe lift, proceed as follows:

1. Measure distance between major (A-A) and minor (B-B) diameters of each cam lobe with a Vernier caliper and record readings. The difference in readings on each cam diameter is lobe lift.
2. If readings do not meet specification, replace camshaft. For Specifications, refer to Section 03-01A (3.0L), 03-01B (3.0L/3.2L SHO) or 03-01C (3.8L).

**Hydraulic Tappets/ Hydraulic Roller Tappets**

CAUTION: If any part of the tappet assembly needs replacing, replace the entire assembly.

The tappet assemblies should be kept in proper sequence so that they can be installed in their original position. Inspect and test each tappet separately so as not to intermix. If a tappet is worn, it is recommended that all tappets and camshaft be replaced.

Cleaning

Thoroughly clean all the parts in clean solvent and wipe them with a clean, lint-free cloth.