

DIAGNOSIS AND TESTING (Continued)

10. Check valve guides for excessive guide clearance. Replace all valve stem/guide seals after correct valve guide clearance has been verified.
11. Worn or damaged internal engine components can cause excessive oil consumption. Small deposits of oil on tip of spark plugs can be a clue to internal oil consumption. If internal oil consumption still persists, proceed as follows:
 - a. Remove engine from vehicle and place it on an engine work stand. Remove intake manifold(s), cylinder head(s), oil pan and oil pump. Refer to Section 03-01A (3.0L), 03-01B (3.0L/3.2L SHO) or 03-01C (3.8L).
 - b. Check piston ring clearance, ring gap and ring orientation. Service as required.
 - c. Check for excessive bearing clearance. Service as required.

NOTE: After checking for worn parts, if it is determined parts should be replaced, make sure correct replacement parts are used.
12. Perform oil consumption test as outlined to confirm oil consumption concern has been resolved.

3.0L and 3.8L Engine**Static Engine Off Valve Train Analysis
(Rocker Arm Cover Removed)**

NOTE: Refer to the appropriate engine Section for the Removal and Installation of the engine rocker arm cover.

Check for damaged and/or severely worn parts, for correct assembly, and ensure use of correct parts by proceeding, as follows, with the static engine analysis.

Rocker Arm Assemblies

- Check for loose mounting stud and nut or bolt.
- Check for plugged oil feed in the rocker arm or cylinder head.

Push Rods (if equipped)

- Check for bent push rods and restriction in oil passage.

Valve Springs

- Check for broken or damaged parts.

Retainer and Keys

- Check for proper seating of keys on valve stem.

Positive Rotator and Keys

- Check for proper seating in the positive rotator, and on valve stem.

Valves and Cylinder Head

- Check the cylinder head gasket for proper installation.

- Check for plugged oil drain back holes.
- Check for worn or damaged valve tips.
- Check for missing or damaged guide-mounted valve stem oil seals.
- Check collapsed tappet gap, hydraulic tappet applications.
- Check installed spring height.
- Check for missing or worn valve spring seats, if equipped.

Static checks (engine off) are to be made on the engine prior to the following dynamic procedure.

Dynamic Valve Train Analysis

Start the engine and while running at idle, check for proper operation of all parts. Check the following:

Rocker Arm Assemblies, Individually Mounted

- Check for plugged oil feed in rocker arm or cylinder head.
- Check for proper overhead valve train lubrication.
- Check for plugged oil feed in rocker arm.

Rocker Arm Assemblies

- Check for plugged oil feeds.
- Check for proper overhead valve train lubrication.

If a condition of insufficient oiling is suspected, accelerate the engine to 1200 rpm \pm 100 rpm with the transaxle in NEUTRAL and the engine at normal operating temperature. Oil should spurt from the rocker arm oil holes such that valve tips and rocker arm are well oiled and/or, with the rocker arm cover off, oil splash may overshoot rocker arm. If oiling is insufficient for this condition to occur, check oil passages for blockage.

Push Rods

- Check for bent push rods and restriction in oil passage.
- Check for proper rotation of push rod (non-roller tappets).

Positive Rotator and Keys

- Check for proper operation of positive rotator.

Valves and Cylinder Head

- Check for plugged oil drain back holes.
- Check for missing or damaged valve stem oil seals or guide mounted oil seals.

If a condition of insufficient oiling is suspected, check oil passages for blockage, then accelerate the engine to 1200 rpm with the transaxle in NEUTRAL and the engine at normal operating temperature. Oil should spurt from the rocker arm oil holes such that valve tips and rocker arms are well oiled. With the rocker arm cover off, some oil splash may overshoot rocker arm.