

3.14 REAR MAIN OIL SEAL HOUSING

REMOVE

1. Disconnect battery earth lead.

NOTE:

If performing this operation with engine installed drain cooling system refer to [Section 6B1-1 ENGINE COOLING - V6 ENGINE](#).

2. Remove the four nuts securing engine dress cover.

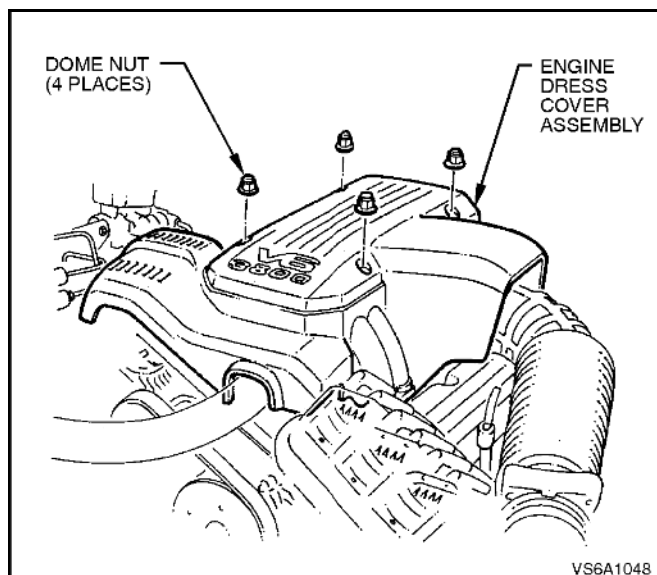


Figure 6A1-1-297

3. Remove bolts securing generator brace.

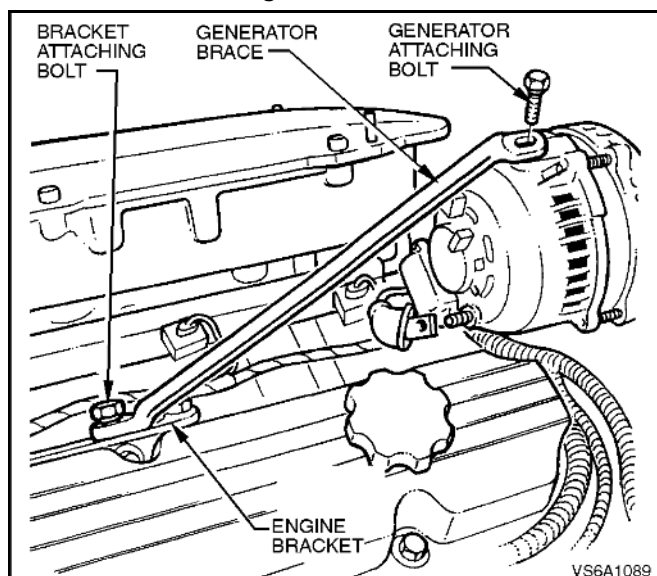


Figure 6A1-1-298

4. Disconnect mass air flow sensor wiring, loosen air flow duct rubber boot clamps at throttle body and air cleaner and remove air flow duct. Carefully place air flow duct and mass air flow sensor assembly to one side.

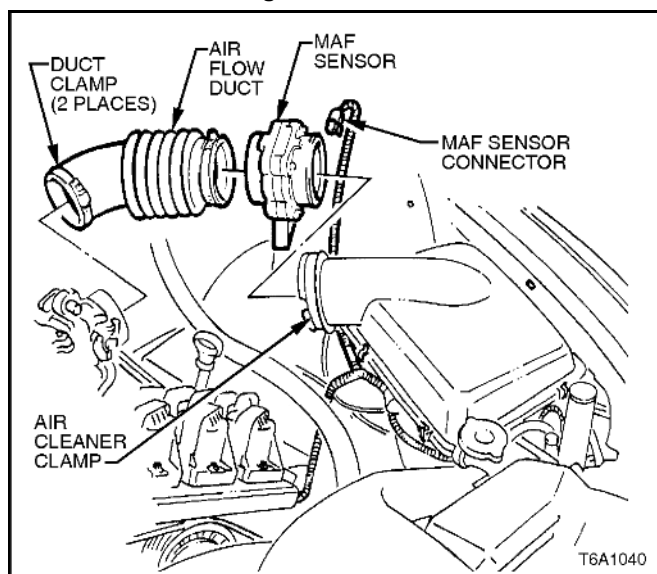


Figure 6A1-1-299

5. Remove lower radiator hose and drain coolant.

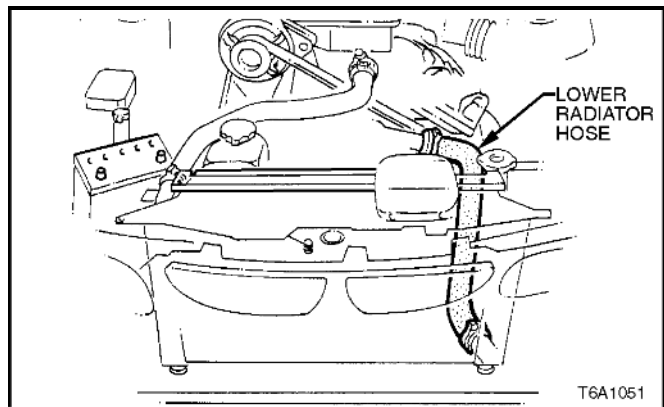


Figure 6A1-1-300

6. Remove the engine hood assembly, refer to [Section 1B SHEET METAL](#).
7. Install engine lifting brackets and engine lifting frame to engine.

NOTE:

Ensure adequate clearance between lifting equipment and engine components.

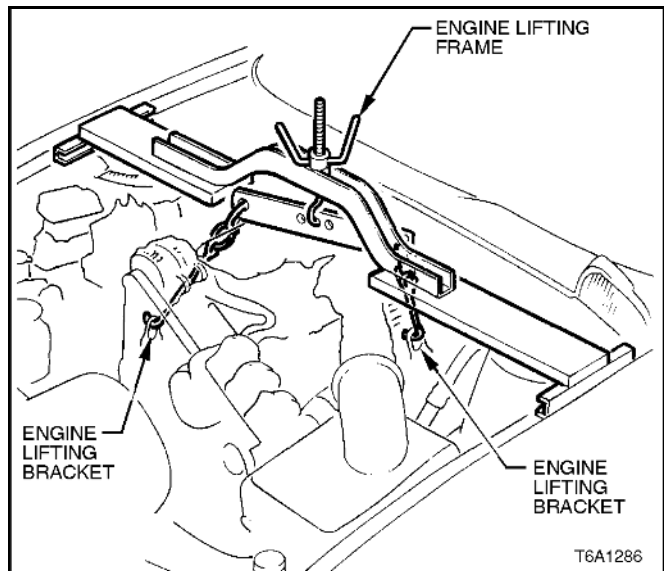


Figure 6A1-1-301

8. Remove transmission, refer to [Section 7B1 MANUAL TRANSMISSION - V6 ENGINE](#), or to [Section 7C4 AUTOMATIC TRANSMISSION](#).
9. Remove flywheel/flexplate, refer to [3.4 FLYWHEEL/FLEXPLATE](#) in this Section.
10. Remove steering rack mounting bolts, lower steering rack to improve access.

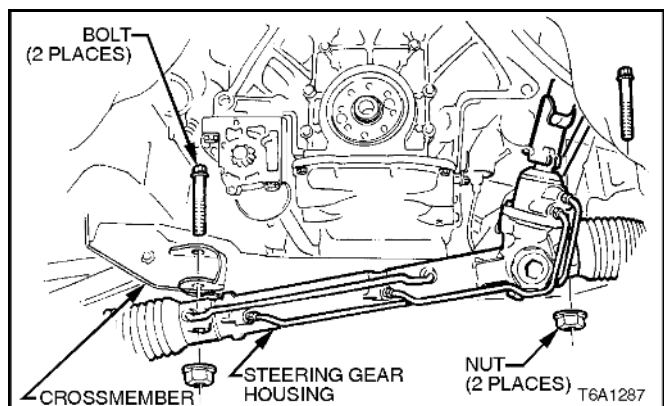


Figure 6A1-1-302

11. Remove engine mounting to front crossmember attaching nuts.
12. Raise engine 40 mm.
13. Fit 40 mm spacers between engine mounts and crossmember to support engine.

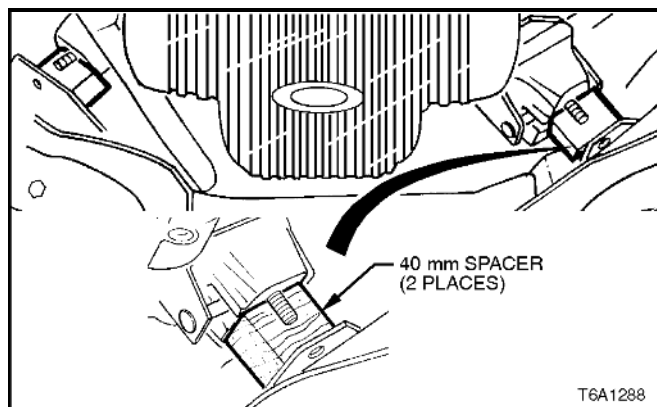


Figure 6A1-1-303

14. Drain engine oil.
15. Remove the engine oil pan.
16. Disconnect wiring harness to knock sensors.
17. Drain remaining coolant by removing both knock sensors from engine block.
18. Remove rear main oil seal housing to cylinder block bolts, remove housing.

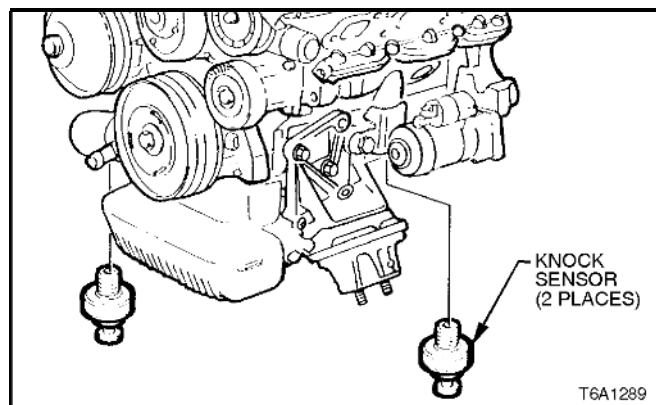


Figure 6A1-1-304

19. Thoroughly clean all mating surfaces using a scraper and solvent.

REINSTALL

Installation is the reverse of removal procedures noting the following points.

NOTE:

Ensure block face is clean of oil and water before reinstalling housing. Approximately 15 minutes is required for oil to drain sufficiently to achieve an oil free surface.

1. Prior to reinstallation of rear main oil seal housing, check thickness of housing as shown in Fig. 6A1-1-305. If dimension is not within specification of 7.24 - 7.29 mm, replace rear main oil seal housing.

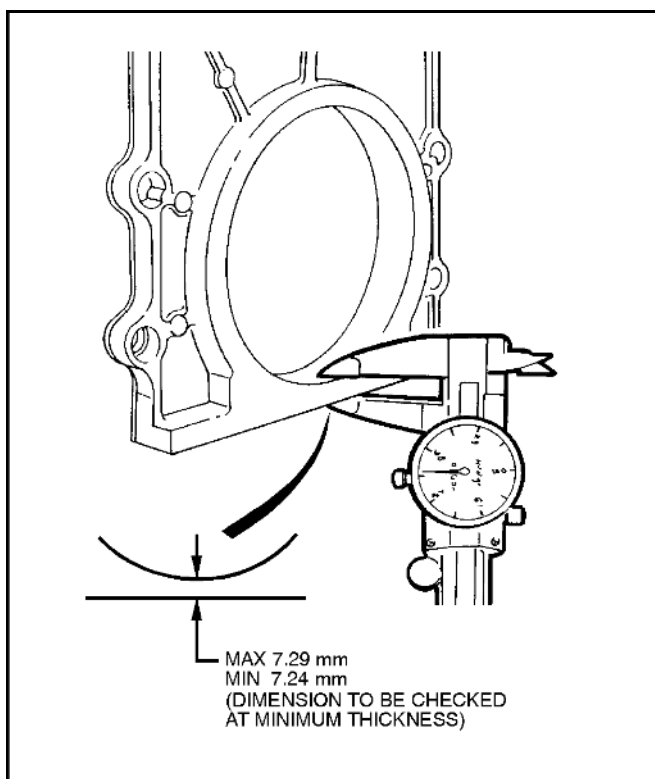


Figure 6A1-1-305

2. Fit rear main seal housing aligning tool E1409/12 to oil pan rail.
3. Loosely reinstall rear main oil seal housing and gasket to rear of cylinder block.

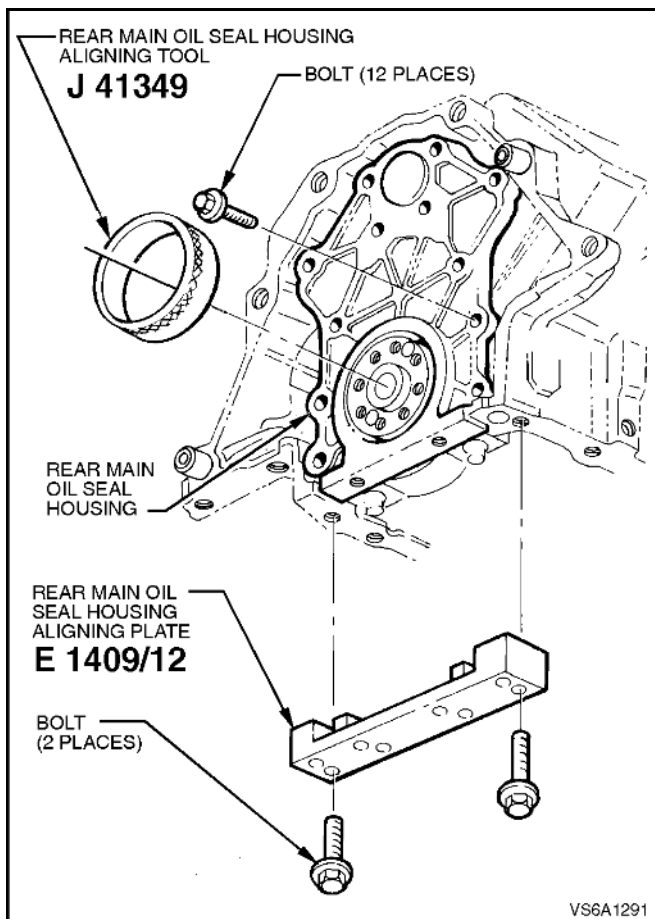
NOTE:

Rear main oil seal housing to block bolts are torque-to-yield bolts and must not be reused.

4. Lubricate rear main oil seal housing and crankshaft flange plus I.D. and O.D. of J41349. Install rear main seal housing aligning tool J41349 tapered end first to crankshaft flange and rotate tool. Tool should turn evenly without binding or tight spots if housing is correctly aligned.

NOTE:

If correct location of housing cannot be achieved, nylon inserts in housing may be removed.



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Figure 6A1-1-306

5. Torque all bolts to 12-18 Nm + 47-53° in sequence.

**CRANKSHAFT REAR MAIN OIL SEAL HOUSING
TORQUE SPECIFICATION**

- STEP 1. 12 - 18 Nm
STEP 2.. 47 - 53 Degrees

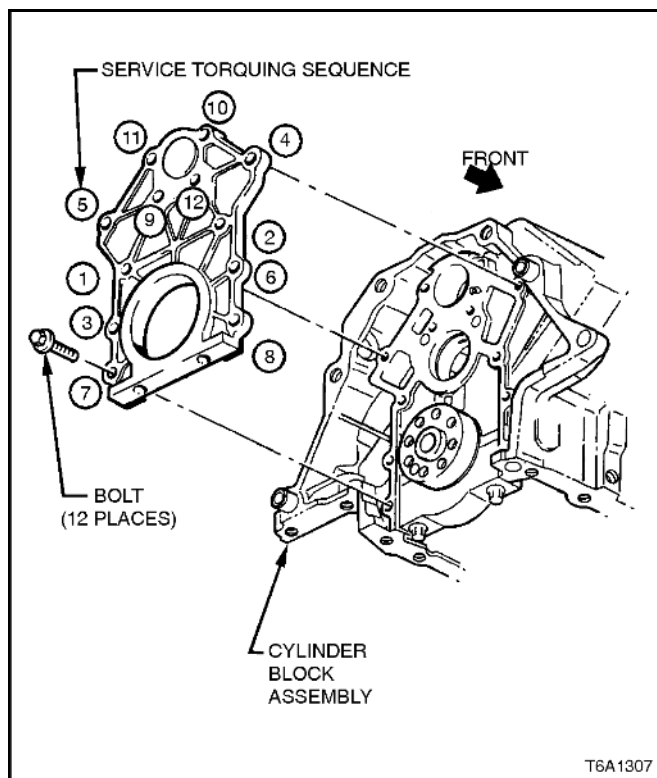


Figure 6A1-1-307

6. Recheck location of housing by rotating tool J41349 on crankshaft. Tool should turn evenly without binding or tight spots.

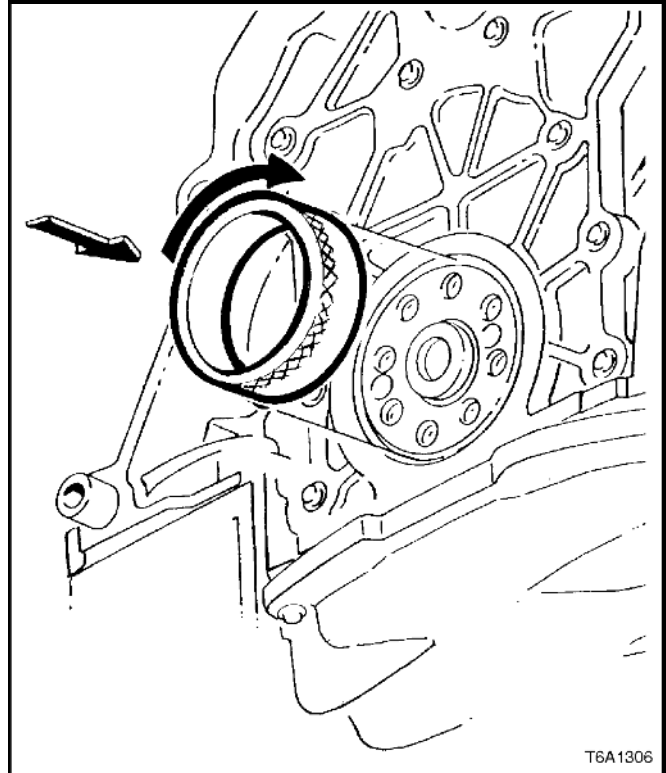


Figure 6A1-1-308

7. Using feeler gauge and E1409/12, check height of rear main oil seal housing to oil pan rail. Housing must be even to - 0.10 mm to oil pan rail. If not, replace rear main oil seal housing assembly and install as from step 1. Above.
8. Remove tools J41349 and E1409/12.

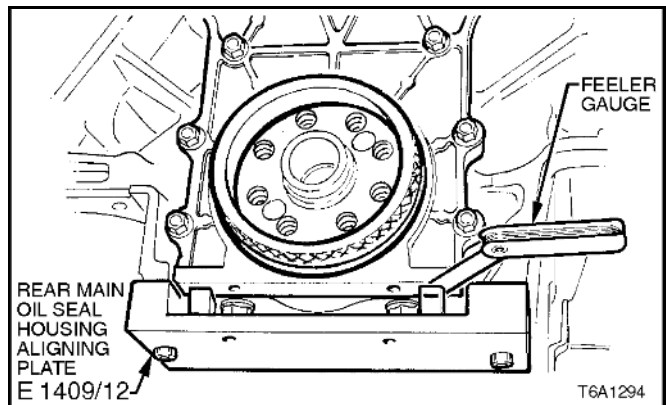


Figure 6A1-1-309

9. Reinstall rear main oil seal refer to [3.13 REAR MAIN OIL SEAL](#) in this Section.
10. Reinstall flywheel/flexplate using new bolts refer to [3.4 FLYWHEEL/FLEXPLATE](#) in this Section. For flywheel Service Operations refer to [Section 7A CLUTCH](#).
11. Fill and bleed cooling system refer to [Section 6B1-1 ENGINE COOLING - V6 ENGINE](#).
12. Refill engine with oil.
13. Road test vehicle and check for oil leaks.