

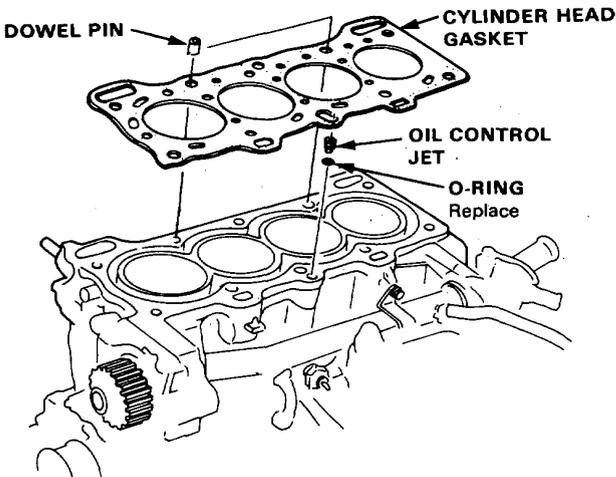


Installation

1. Install the cylinder head in the reverse order of removal:

- Always use a new head gasket.
- Cylinder head and engine block surface must be clean.
- "UP" mark on timing belt pulley should be at the top.

NOTE: Cylinder head dowel pins and oil control jet must be aligned.

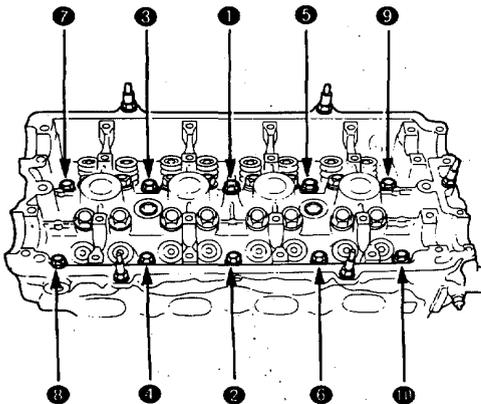


2. Tighten cylinder head bolts in two steps. In the first step tighten all bolts, in sequence, to about 30 N·m (3.0 kg-m, 22 lb-ft); in the final step tighten, in same sequence, to 68 N·m (6.8 kg-m, 49 lb-ft)

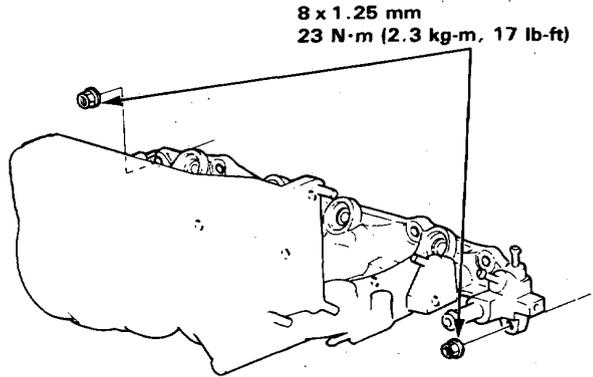
NOTE:

- Apply engine oil to the cylinder head bolts and the washers.
- Use the longer bolts at the position ① and ② as shown.

CYLINDER HEAD BOLTS TORQUE SEQUENCE

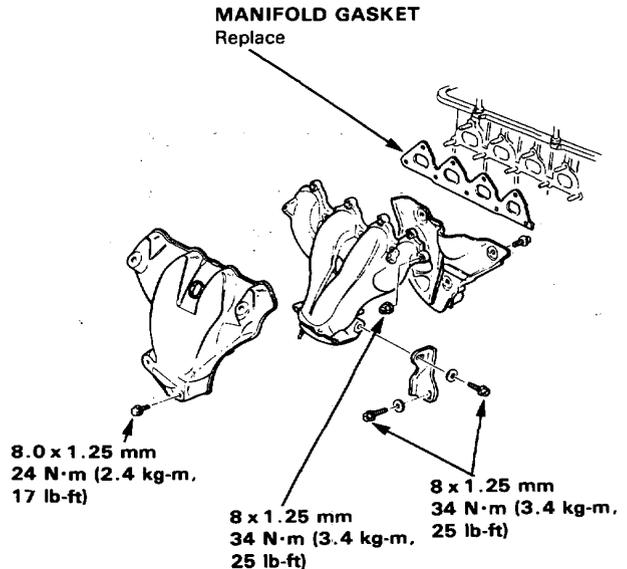


3. Install the intake manifold and tighten the nuts in a criss-cross pattern in 2 or 3 steps, beginning with the inner nuts.



4. Install the exhaust manifold and bracket.

Without CATA:



(cont'd)

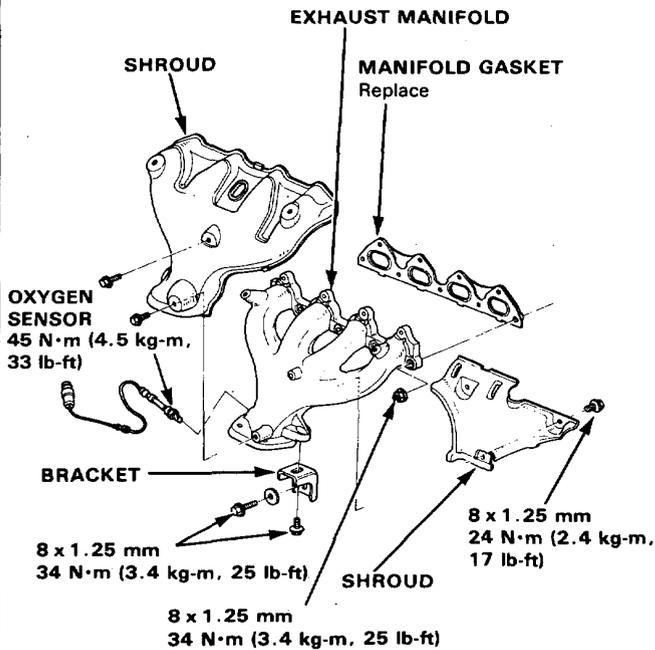
Cylinder Head

Installation (cont'd)

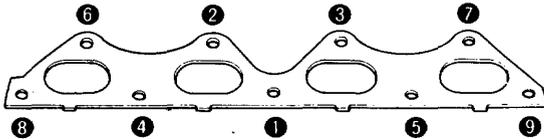
NOTE:

- Remove the oxygen sensor prior to disconnecting the exhaust pipe A and the exhaust manifold.
- Do not use the impact wrench or hammer when the oxygen sensor is not to be removed.
- Reinstallation of oxygen sensor should be carried out after connecting the exhaust pipe A and the exhaust manifold.
- Do not tighten the connection with the impact wrench if the oxygen sensor has not been removed.

With CATA:

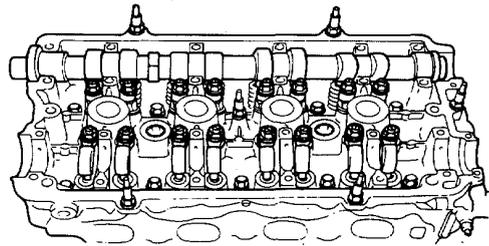


EXHAUST MANIFOLD TORQUE SEQUENCE



CAUTION:

- Make sure that the keyways on the camshafts are facing up. (NO. 1 cylinder TDC).
 - Valve locknuts should be loosened and adjust screws backed off before installation.
 - Replace the rocker arms in these original positions.
5. Place the rocker arms on the pivot bolts and the valve stems.

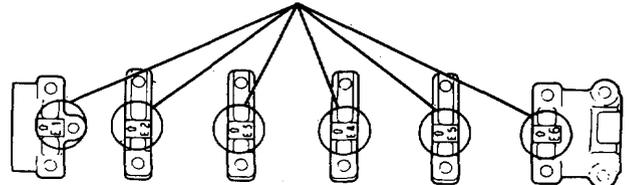


6. Install the camshafts and the camshaft seals with the open side (spring) facing in.

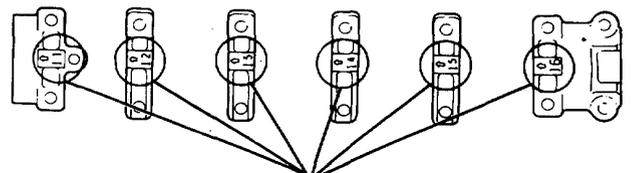
NOTE:

- "I" or "E" marks are stamped on the camshaft holders.
- Do not apply oil to the holder mating surface of camshaft seals.

EXHAUST CAMSHAFT HOLDERS



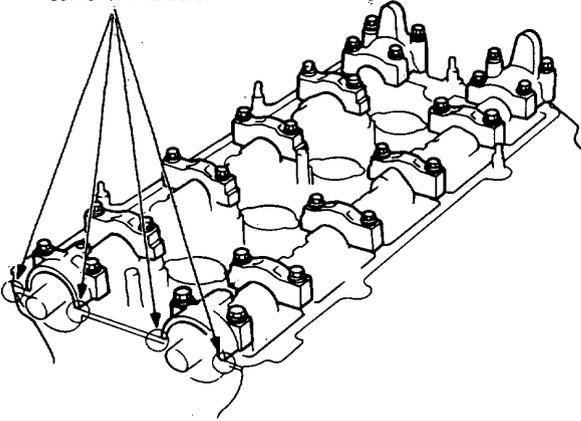
INTAKE CAMSHAFT HOLDERS





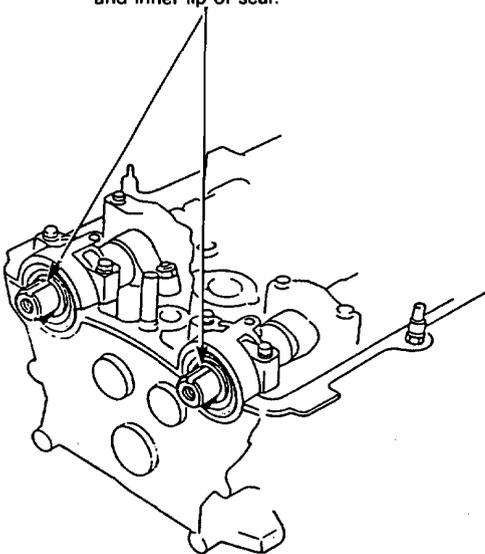
7. Apply liquid gasket to the head mating surfaces of the No. 1 and No. 6 camshaft holders, then install them, along with the No. 2, 3, 4 and 5.
8. Tighten the camshaft holders temporarily.
 - Make sure that the rocker arms are properly positioned on the valve stems.

Apply non-hardening sealant to these areas (also opposite sides) before installing camshaft holders.

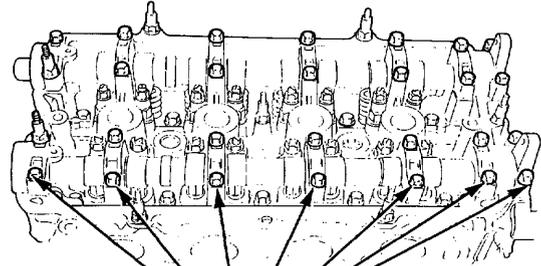


9. Press in the camshaft oil seal securely with the special tool.

Seal housing surface should be dry. Apply a light coat of oil to camshaft and inner lip of seal.



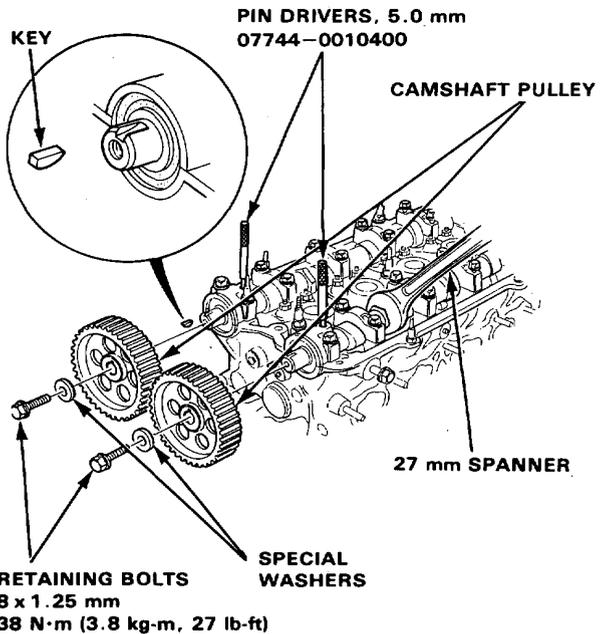
10. Tighten each bolt two turns at a time in the sequence shown below to insure that the rockers do not bind on the valves.



6 x 1.0 mm
12 N·m (1.2 kg-m, 9 lb-ft)

11. Install keys into grooves in camshafts.

NOTE: To set the No. 1 piston at TDC, align the hole on the camshaft with the hole in the No.1 camshaft holders and drive 5.0 mm pin drivers into the holes.



12. Push camshaft pulleys onto camshafts, then tighten retaining bolts to torque shown.
13. Adjust the valve timing (page 5-39).
14. After installation, check that all hoses and connectors are installed correctly.