

Camshaft

Inspection

NOTE:

- Do not rotate the camshaft during inspection.
- Remove the rocker arms and rocker shafts.

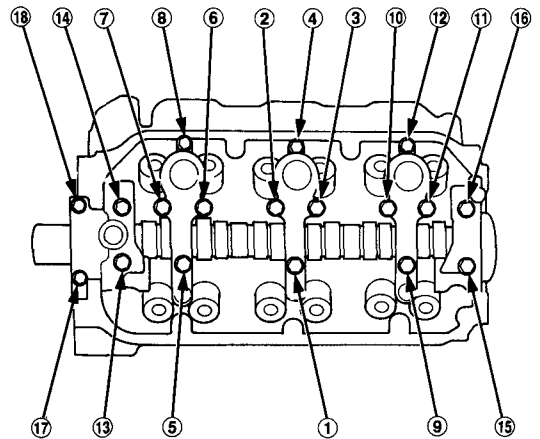
1. Put the camshaft and the camshaft holders on the cylinder head, then tighten the bolts to the specified torque.

Specified torque:

8 mm bolts: 22 N-m (2.2 kgf-m, 16 lbf-ft)

6 mm bolts: 12 N-m (1.2 kgf-m, 8.7 lbf-ft)

8 mm bolts: ①, ⑤, ⑨, ⑬, ⑭, ⑮, ⑯



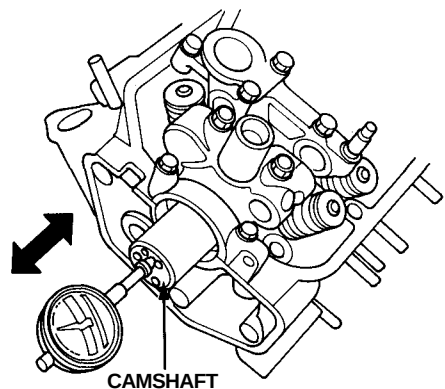
2. Seat the camshaft by pushing it toward the rear of the cylinder head.
3. Zero the dial indicator against the rear of the camshaft. Push the camshaft back and forth, and read the end play.

Camshaft End Play:

Standard (New): 0.05 - 0.15 mm

(0.002 - 0.006 in)

Service Limit: 0.15 mm (0.006 in)



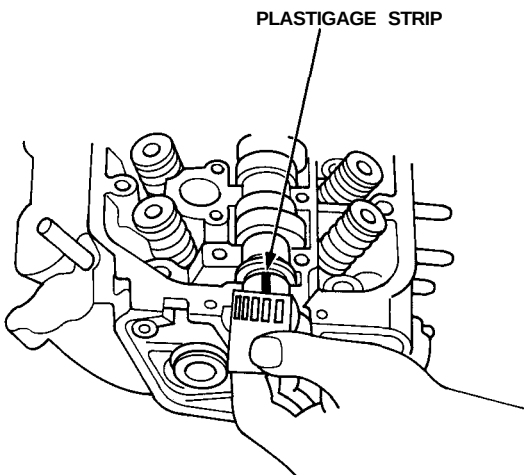


4. Remove the bolts, then remove the camshaft holders from the cylinder head.
5. Lift the camshaft out of the cylinder head, wipe it clean, then inspect the lift ramps. Replace the camshaft if any lobes are pitted, scored, or excessively worn.
6. Clean the camshaft bearing surfaces in the cylinder head, then set the camshaft back in place.
7. Place a plastigage strip across each journal.
8. Install the camshaft holders, then tighten the bolts to the specified torque shown on the previous page.
9. Remove the camshaft holders. Measure the widest portion of plastigage on each journal.

Camshaft-to-Holder Oil Clearance:

Standard (New): 0.050 - 0.089 mm
(0.0020 - 0.0035 in)

Service Limit: 0.10 mm (0.004 in)



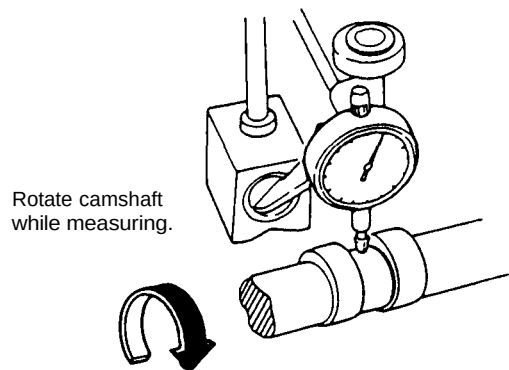
10. If camshaft-to-holder oil clearance is out of tolerance:

- And the camshaft has already been replaced, you must replace the cylinder head.
- If the camshaft has not been replaced, first check the total runout with the camshaft supported on V-blocks.

Camshaft Total Runout:

Standard (New): 0.03 mm (0.001 in) max.

Service Limit: 0.04 mm (0.002 in)



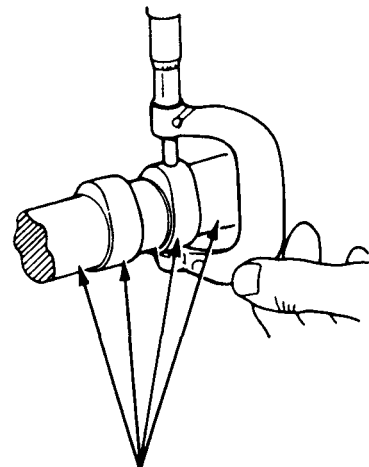
- If the total runout of the camshaft is within tolerance, replace the cylinder head.
- If the total runout is out of tolerance, replace the camshaft and recheck. If the oil clearance is still out of tolerance, replace the cylinder head.

11. Check cam lobe height wear.

Cam Lobe Height Standard (New):

INTAKE 40.175 mm (1.5817 in)

EXHAUST 37.878 mm (1.4913 in)



Check this area for wear.