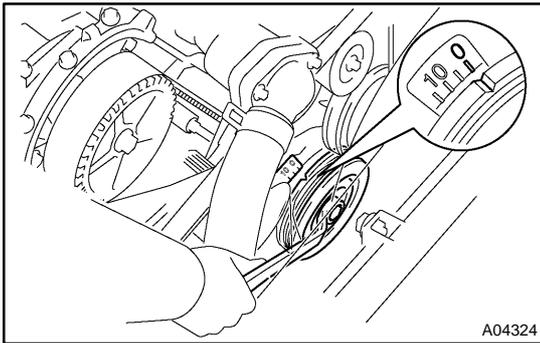


VALVE CLEARANCE (2UZ-FE)

14073-03

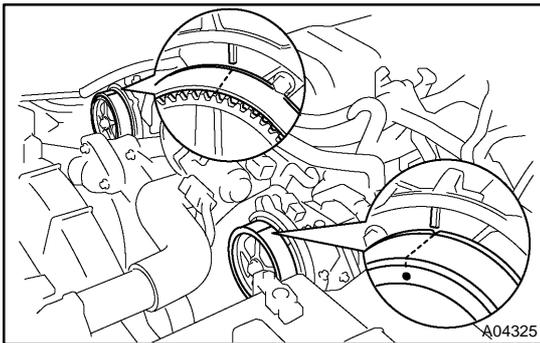
ADJUSTMENT

1. DRAIN ENGINE COOLANT (See page 16-5)
2. SEPARATE BATTERY NEGATIVE TERMINAL
3. REMOVE THROTTLE BODY COVER SUB-ASSY
4. REMOVE AIR CLEANER HOSE ASSY
5. REMOVE RADIATOR SUPPORT SEAL UPPER
6. REMOVE FAN AND GENERATOR V BELT (See page 14-5)
7. REMOVE OIL COOLER PIPE (See page 14-107)
8. REMOVE TIMING BELT COVER SUB-ASSY NO.3 LH (See page 14-107)
9. REMOVE TIMING CHAIN OR BELT COVER NO.2 (See page 14-107)
10. REMOVE CYLINDER HEAD COVER SUB-ASSY
 - (a) Remove the 9 bolts, 9 seal washers and cylinder head cover.
11. REMOVE CYLINDER HEAD COVER SUB-ASSY LH
 - (a) Disconnect the PCV hose.
 - (b) Remove the 9 bolts, 9 seal washers and cylinder head cover.

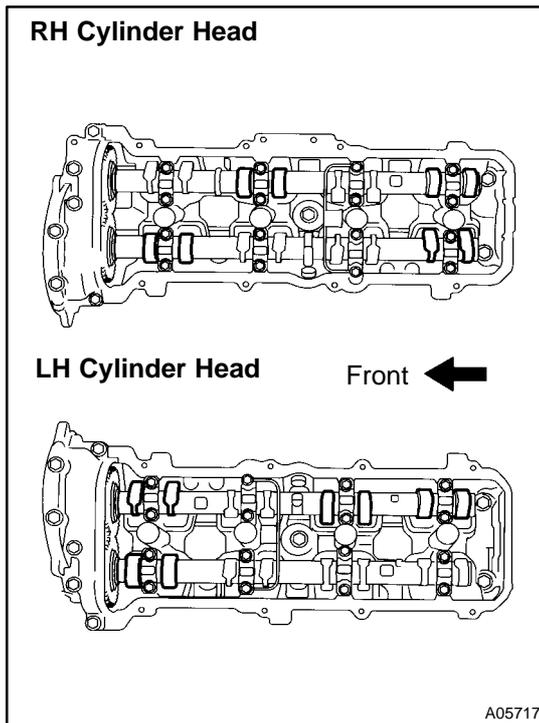


12. SET NO. 1 CYLINDER TO TDC/COMPRESSION

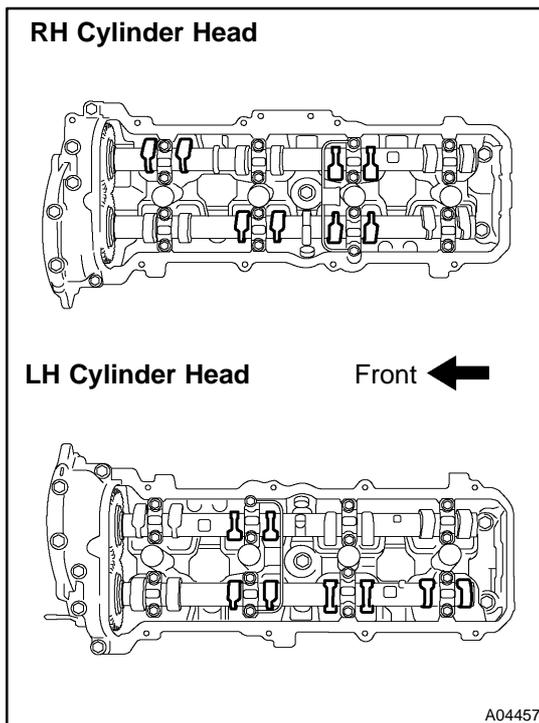
- (a) Turn the crankshaft pulley, and align its groove with timing mark "0" of the No. 1 timing belt cover.



- (b) Check that the timing marks of the camshaft timing pulleys and timing belt rear plates are aligned. If not, turn the crankshaft 1 revolution (360°) and align the mark as above.

**13. INSPECT VALVE CLEARANCE**

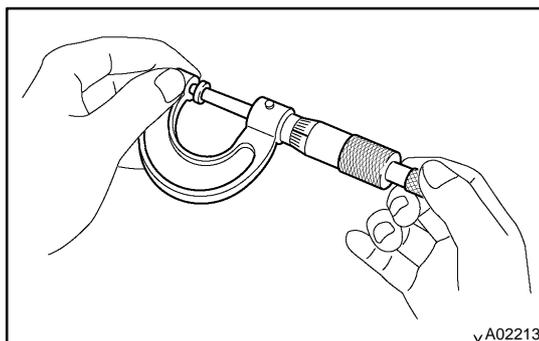
- (a) Check only the valves indicated.
- (1) Using a feeler gauge, measure the clearance between the valve lifter and camshaft.
 - (2) Record the out-of-specification valve clearance measurements. They will be used later to determine the required replacement adjust shim.

Valve clearance (Cold):**Intake 0.15 - 0.25 mm (0.006 - 0.010 in.)****Exhaust 0.25 - 0.35 mm (0.010 - 0.014 in.)**

- (b) Turn the crankshaft 1 revolution (360°) and align the mark as above.
- (c) Check only the valves indicated as shown. Measure the valve clearance.

14. ADJUST VALVE CLEARANCE

- (a) Remove the timing belt (See page 14-107).
- (b) Remove the camshafts (RH Bank) (See page 14-132).
- (c) Remove the camshafts (LH Bank) (See page 14-141).
- (d) Remove the valve lifter and adjusting shim.



- (e) Determine the replacement adjusting shim size according to these Formula or Charts:
- (1) Using a micrometer, measure the thickness of the removed shim.
 - (2) Calculate the thickness of a new shim so that the valve clearance comes within the specified value.

T: Thickness of removed shim**A: Measured valve clearance****N: Thickness of new shim**

Intake:

$$N = T + (A - 0.20 \text{ mm (0.008 in.)})$$

Exhaust:

$$N = T + (A - 0.30 \text{ mm (0.012 in.)})$$

- (3) Select a new shim with a thickness as close as possible to the calculated value.

HINT:

Shims are available in 41 increments of 0.020 mm (0.0008 in.), from 2.00 mm (0.0787 in.) to 2.80 mm (0.1102 in.).

- (f) Place a new adjusting shim on the valve.
 - (g) Place the valve lifter.
 - (h) Reinstall the camshafts (LH Bank) (See page [14-141](#)).
 - (i) Reinstall the camshafts (RH Bank) (See page [14-132](#)).
 - (j) Reinstall the timing belt (See page [14-107](#)).
 - (k) Recheck the valve clearance.
15. **INSTALL CYLINDER HEAD COVER SUB-ASSY LH (See page [14-31](#))**
 16. **INSTALL CYLINDER HEAD COVER SUB-ASSY (See page [14-31](#))**
 17. **INSTALL TIMING CHAIN OR BELT COVER NO.2 (See page [14-107](#))**
 18. **INSTALL TIMING BELT COVER SUB-ASSY NO.3 LH (See page [14-107](#))**
 19. **INSTALL OIL COOLER PIPE (See page [14-107](#))**
 20. **INSTALL FAN AND GENERATOR V BELT (See page [14-5](#))**
 21. **INSTALL RADIATOR SUPPORT SEAL UPPER**
 22. **INSTALL AIR CLEANER HOSE ASSY**
 23. **INSTALL THROTTLE BODY COVER SUB-ASSY**
 24. **REFILL ENGINE COOLANT (See page [16-5](#))**

