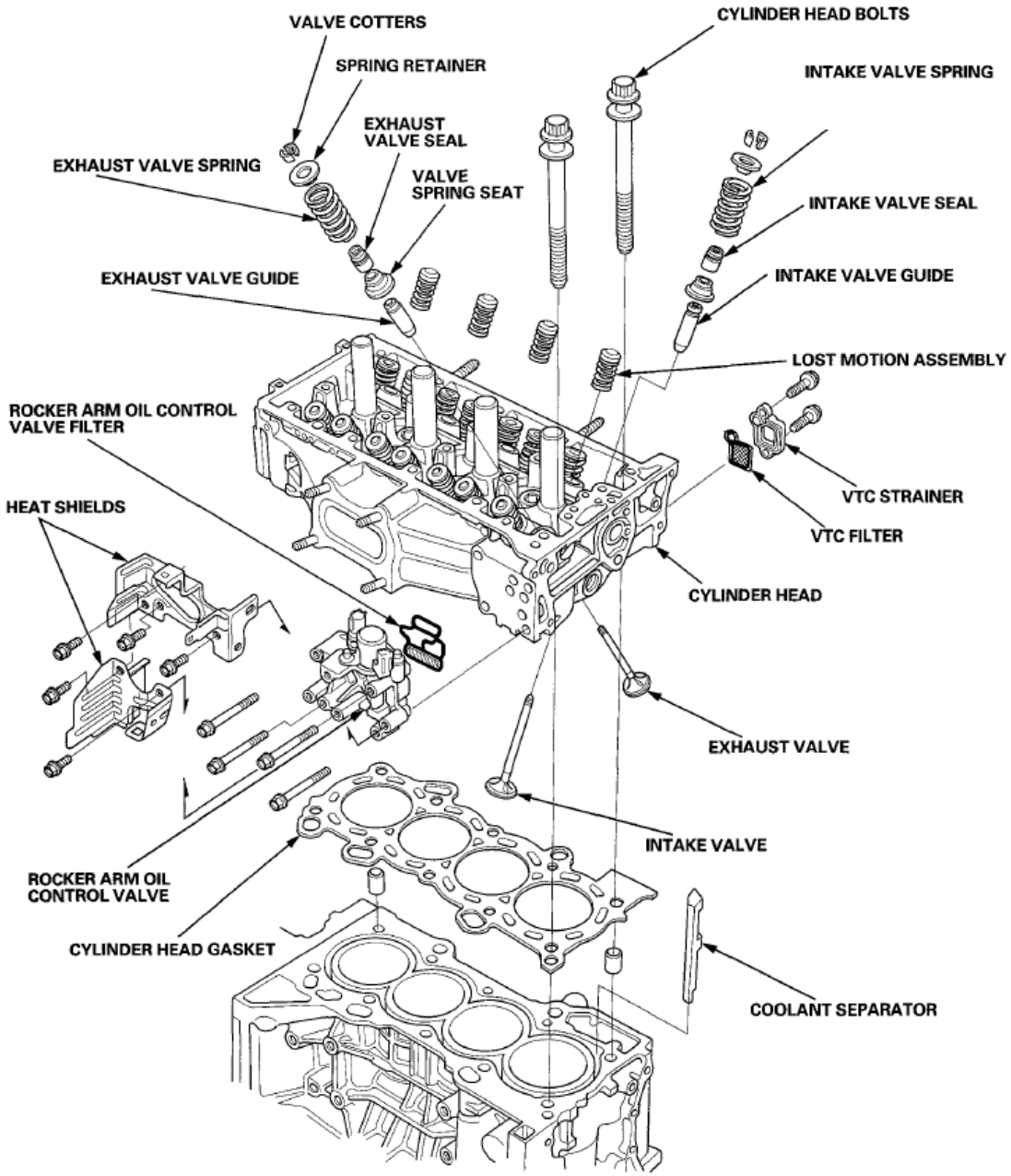

Fig. 4: Identifying Cylinder Head Components Location (3 Of 3)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

ENGINE COMPRESSION INSPECTION

NOTE: After this inspection, you must reset the PCM. Otherwise, the PCM will continue to stop the fuel injectors from operating.

1. Warm up the engine to normal operating temperature (cooling fan comes on).
2. Turn the ignition switch to LOCK (0).

3. Connect the HDS to the DLC (see step 2 on **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)**).
4. Turn the ignition switch to ON (II).
5. Make sure the HDS communicates with the vehicle and the PCM. If it does not communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING**).
6. Select ALL INJECTORS STOP in the PGM-FI INSPECTION menu with the HDS.
7. Turn the ignition switch to LOCK (0).
8. Remove the four ignition coils and the four spark plugs (see **IGNITION COIL AND SPARK PLUG REMOVAL/INSTALLATION**).
9. Attach a compression gauge to the spark plug hole.

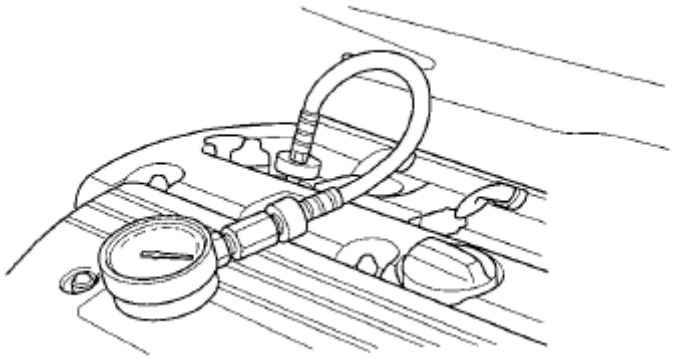

Fig. 5: Measuring Engine Compression Using Compression Gauge
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Step on the accelerator pedal to open the throttle fully, then crank the engine with the starter motor, and measure the compression.

    Compression Pressure

    Above 930 kPa (9.48 kgf/cm^2 , 134.8 psi)

11. Measure the compression on the remaining cylinders.

    Maximum Variation

    Within 200 kPa (2.04 kgf/cm^2 , 29.0 psi)

12. If the compression is not within the specifications, perform a cylinder leak down test to determine the problem area. Then check the following items, and remeasure the compression:
    - Incorrect valve clearance
    - Confirmation of camshaft timing
    - Damaged of worn cam lobes
    - Damaged or worn valves and seats

- Damaged cylinder head gasket
- Damaged or worn piston rings
- Damaged or worn piston and cylinder bore

13. Remove the compression gauge from the spark plug hole.
14. Install the four spark plugs and the four ignition coils (see **IGNITION COIL AND SPARK PLUG REMOVAL/INSTALLATION**).
15. Select PCM reset (see **HDS CLEAR COMMAND**) in the PGM-FI INSPECTION menu to cancel ALL INJECTORS STOP with the HDS.

VTEC ROCKER ARM TEST

Special Tools Required

- VTEC Air Stopper 07ZAJ-PNAA200
- VTEC Air Adapter 07ZAJ-PNAA101 (2)
- Air Joint Adapter 07ZAJ-PNAA300
- Air Pressure Regulator 07AAJ-PNAA101

1. Remove the four ignition coils and the four spark plugs (see **IGNITION COIL AND SPARK PLUG REMOVAL/INSTALLATION**).
2. Remove the cylinder head cover (see **CYLINDER HEAD COVER REMOVAL**).
3. Rotate the crankshaft pulley clockwise. Make sure that the intake secondary rocker arm (A) and the intake mid rocker arm (B) are separated and that the intake secondary rocker arm and the intake mid rocker arm should move independently:
   - If the mid and secondary rocker arms move together, remove the mid, primary, and secondary rocker arms as an assembly, and check that the pistons in the rocker arms move smoothly. If any rocker arm needs replacing, replace the mid, primary, and secondary rocker arms as an assembly, then retest.
   - If the secondary rocker arm moves independently, go to step 4.

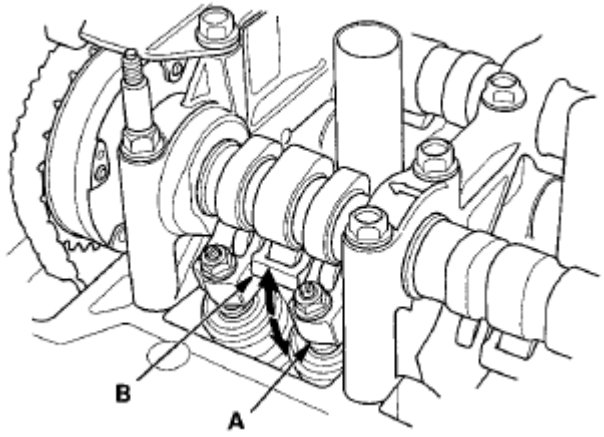

Fig. 6: Checking Intake Secondary Rocker Arm And Intake Mid Rocker Arm Movement
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Check that the air pressure on the shop air compressor gauge indicates over 400 kPa (4.08 kgf/cm^2 , 58.0 psi).
5. Inspect the valve clearance (see **VALVE CLEARANCE ADJUSTMENT**).
6. Remove the sealing bolt (A) from the relief hole, and install the VTEC air stopper (B).

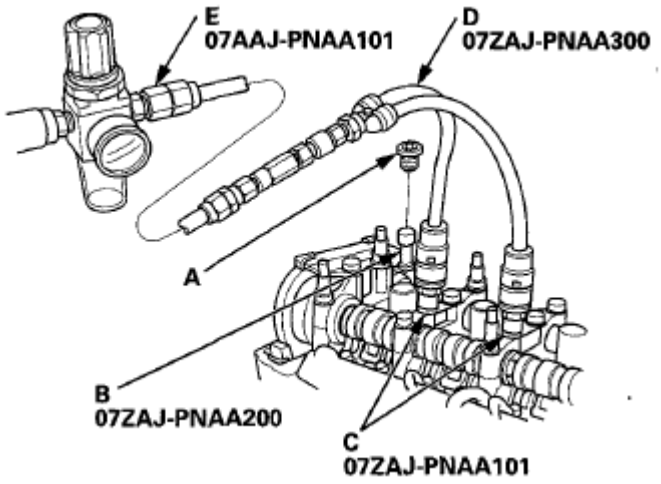

Fig. 7: Identifying Air Joint Adapter Connection With Air Pressure Regulator
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Remove the No. 2 and No. 3 camshaft holder bolts, and install the VTEC air adapters (C) finger-tight.
8. Connect the air joint adapter (D) and the air pressure regulator (E).
9. Loosen the valve on the air pressure regulator, and apply the specified air pressure.

Specified Air Pressure

290 kPa (2.96 kgf/cm^2 , 42.1 psi)

10. With the specified air pressure applied, rotate the crankshaft pulley clockwise. The secondary rocker arm (A) should move together with the mid rocker arm (B) and the primary rocker arm (C):
    - If the mid, primary, and secondary rocker arms move independently, remove the mid, primary, and secondary rocker arms as an assembly, and check that the pistons in the rocker arms move smoothly. If any rocker arm needs replacing, replace the mid, primary, and secondary rocker arms as an assembly, then retest.
    - If the mid, primary, and secondary rocker arms move together, go to step 11.

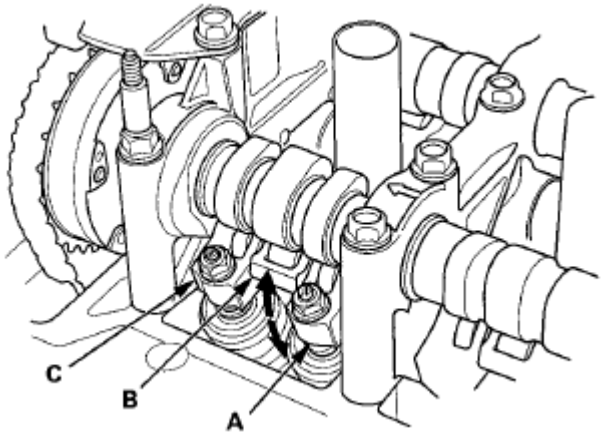

Fig. 8: Checking Secondary Rocker Arm Movements Together With Mid Rocker Arm And Primary Rocker Arm
Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Remove the air pressure regulator, the air joint adapter, the VTEC air adapters, and the VTEC air stopper.
12. Torque the camshaft holder mounting bolts to 22 N.m (2.2 kgf.m, 16 lbf.ft).
13. Torque the sealing bolt to 10 N.m (1.0 kgf.m, 7 lbf.ft).
14. Install the cylinder head cover (see **CYLINDER HEAD COVER INSTALLATION**).
15. Install the four spark plugs and the four ignition coils (see **IGNITION COIL AND SPARK PLUG REMOVAL/INSTALLATION**).

VTC ACTUATOR INSPECTION

1. Remove the cam chain (see **CAM CHAIN REMOVAL**).
2. Loosen the rocker arm adjusting screws (see step 2 on).
3. Remove the camshaft holder (see step 3 on).
4. Remove the intake camshaft.
5. Check that the VTC actuator is locked by turning the VTC actuator counterclockwise. If it is not locked, turn the VTC actuator clockwise until it stops, then recheck it. If it is still not locked, replace the VTC actuator.
6. Seal the retard holes (A) in the No. 1 camshaft journal with tape and a wire tie.