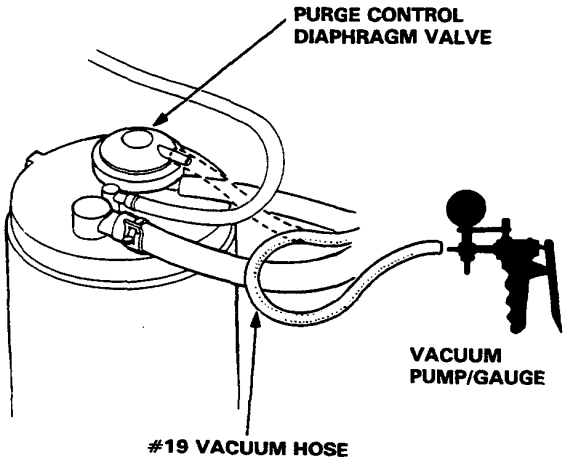
[KX, KS, KZ model]

Testing (COLD ENGINE)

NOTE: Engine coolant temperature must be below 63°C (145°F)

1. Disconnect the #19 vacuum hose at purge control diaphragm valve and connect vacuum pump/gauge to the hose.



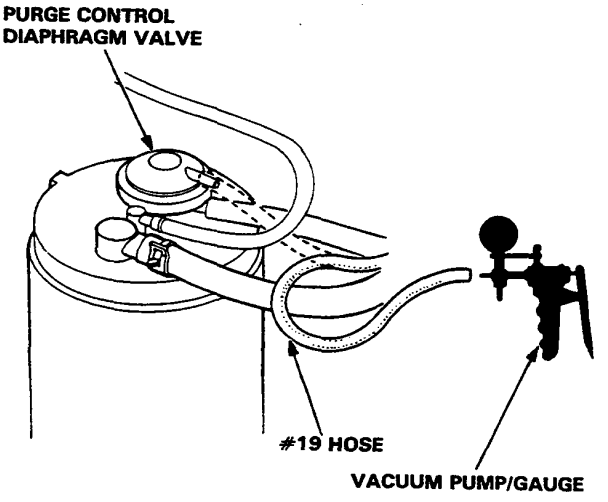
2. Start the engine and allow to idle.

   There should be no vacuum.

   - If there is no vacuum, go to hot engine test (next column).
   - If there is vacuum, go to troubleshooting (page 6-77).

Testing (HOT ENGINE)

1. Disconnect the #19 vacuum hose at the purge control diaphragm valve and connect a vacuum pump/gauge to the hose.



2. Start the engine and warm up to normal operating temperature (the cooling fan comes on).
   Raise engine speed to 3,500 min^{-1} (rpm).

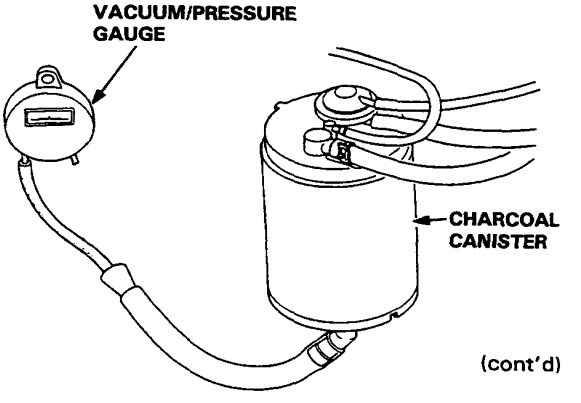
   There should be vacuum.

   - If there is vacuum, go to step 3.
   - If there is no vacuum, go to troubleshooting (page 6-77).

3. Disconnect a vacuum pump/gauge and reconnect hose.

4. Remove fuel filler cap.

5. Remove the canister purge air hose from frame and connect hose to a vacuum gauge as shown.



(cont'd)

Evaporative Emission Controls (cont'd)

6. Raise engine speed to 3,500 min^{-1} (rpm).

   Vacuum should appear on the gauge within 1 minute.

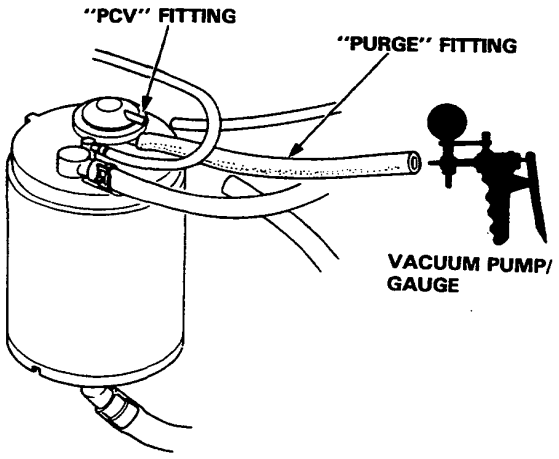
   - If vacuum appears on the gauge in 1 minute, remove the gauge and go on to step 8.
   - If no vacuum, disconnect the vacuum gauge and reinstall the fuel filler cap.

7. Remove the charcoal canister and check for signs of damage.

   - If damaged, replace the canister.
   - If OK, go on to step 8.

8. Stop the engine. Disconnect the hose from the canister PCV fitting.
   Connect a vacuum pump to the canister PURGE fitting as shown, and apply vacuum.

   Vacuum should remain steady.



   - If vacuum remains steady, go on to step 7.
   - If vacuum drops, replace the canister and retest.

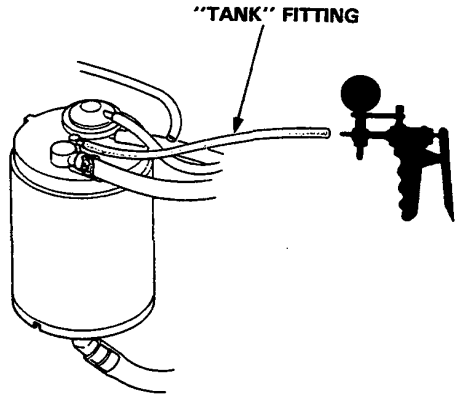
9. Restart the engine. Reconnect the hose to the canister PCV fitting.

   PURGE side vacuum should drop to zero.

   - If PURGE side vacuum does not drop to zero, replace the canister and retest.

10. Connect a vacuum pump to TANK fitting as shown, and apply vacuum.

    If should not hold vacuum.



    - If it does not hold vacuum, reinstall fuel filler cap and canister; test is complete.
    - If it holds vacuum, replace canister and retest.

Troubleshooting Flow Chart Purge Cut-off Solenoid Valve

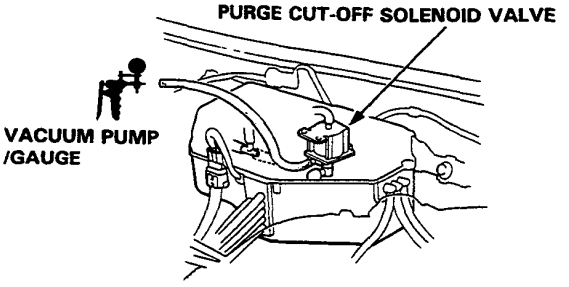
Inspection of Purge Cut-off Solenoid Valve

Remove the control box and open the control box lid.

Disconnect the upper vacuum hose of the solenoid valve from the 3-way joint, and connect a vacuum pump.

Start the engine.

NOTE: Engine coolant temperature must be below 63° C (145° F)



Apply vacuum.

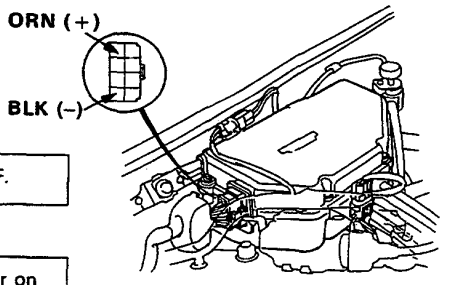
Does solenoid valve hold vacuum?

YES

Turn the ignition switch OFF.

Disconnect the 8P connector on the control box.

Start the engine.

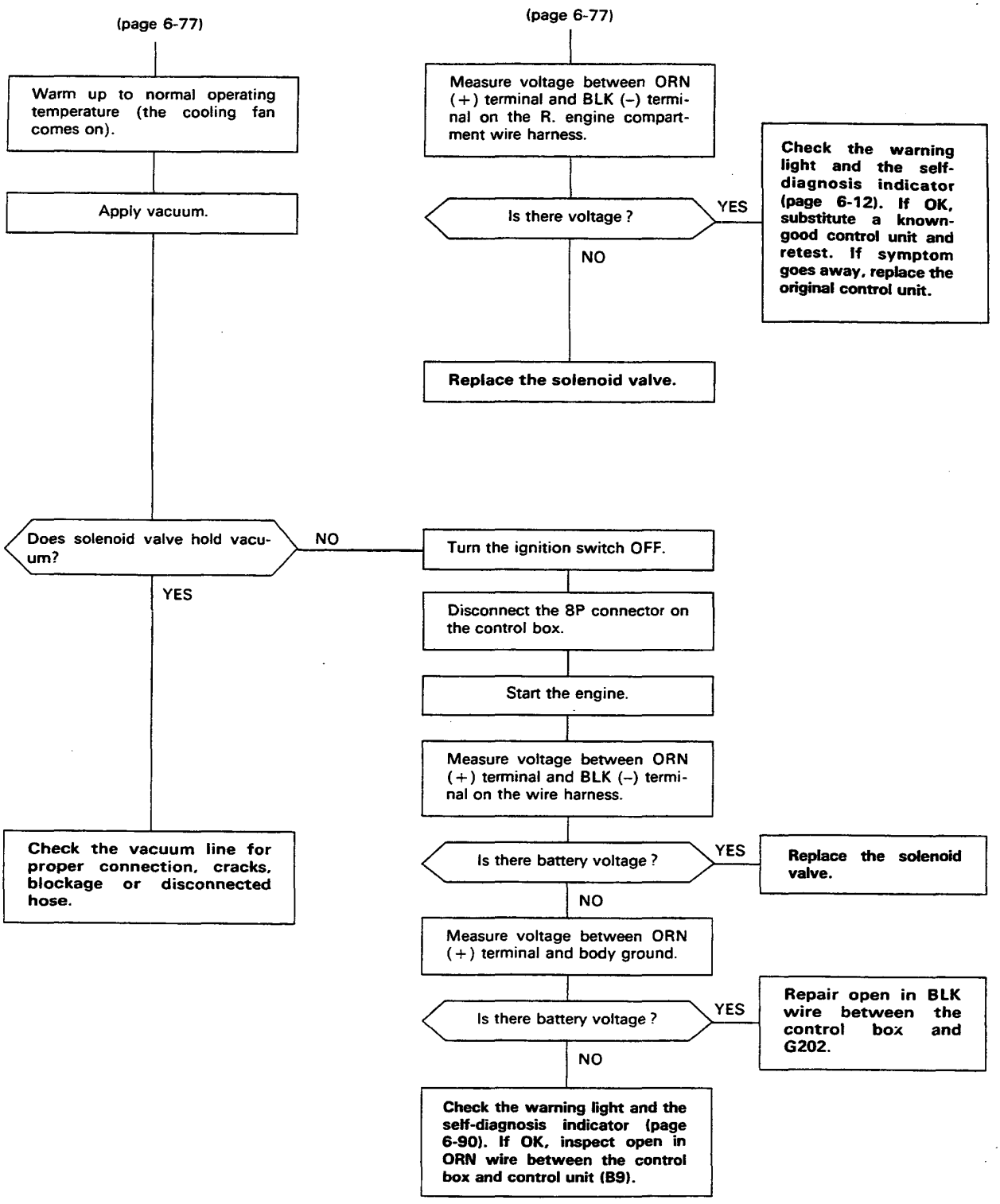


NO

(page 6-78)

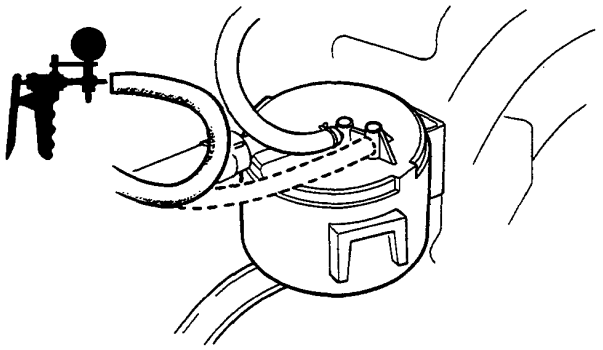
(page 6-78)

Evaporative Emission Controls (cont'd)



[Except KX, KS, KZ model]

1. Disconnect vacuum hose at the charcoal canister, connect a vacuum pump/gauge to hose.



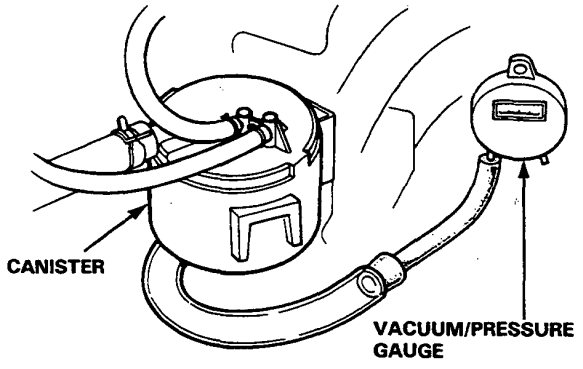
2. Start the engine and raise speed to 3,500 min^{-1} (rpm).

   There should be vacuum.

   - If vacuum is available, go on to step 3.
   - If vacuum is not available, check the vacuum line.

3. Disconnect a vacuum pump/gauge and reconnect hose. Remove fuel filler cap.

4. Remove canister purge air hose from frame and connect hose to a vacuum gauge as shown.



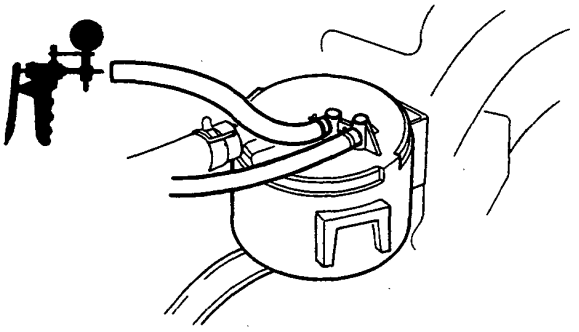
5. Raise engine speed to 3,500 min^{-1} (rpm).
   Vacuum should appear on gauge within 1 minute.

   - If vacuum appears on gauge in 1 minute, remove gauge and go on to step 7.
   - If no vacuum, disconnect a vacuum pump/gauge and go on to step 6.

6. Remove charcoal canister and check for signs of damage or defects.

   - If defective, replace the charcoal canister.
   - If OK, except KY model: test is complete. KY model: go on to step 7.

7. KY model:
   Connect vacuum pump/gauge to TANK fitting as shown, and apply vacuum.



   - If vacuum does not remain steady, test is complete.
   - If vacuum remains steady, replace the charcoal canister.

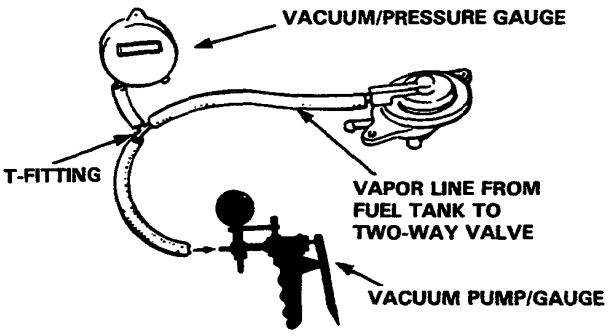
(cont'd)

Evaporative Emission Controls (cont'd)

[KX, KS, KZ, KY model]

Two-Way Valve

1. Remove the filler cap.
2. Remove vapor line from the fuel tank and connect to T-fitting from vacuum gauge and vacuum pump as shown.

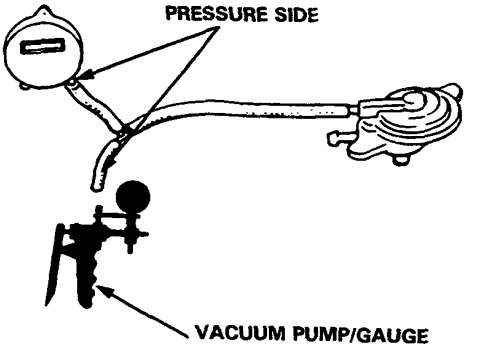


3. Slowly draw a vacuum while watching the gauge.

   Vacuum should stabilize at 5 to 15 mmHg (0.2 to 0.6 in.Hg).

   - If vacuum stabilizes momentarily (two-way valve opens) between 5 and 15 mmHg (0.2 and 0.6 in.Hg), go on to Step 4.
   - If vacuum stabilizes (valve opens) below 5 mmHg (0.2 in.Hg) or above 15 mmHg (0.6 in.Hg), install new valve and re-test.

4. Move vacuum pump hose from vacuum to pressure fitting, and move vacuum gauge hose from vacuum to pressure side as shown.



5. Slowly pressurize the vapor line while watching the gauge.

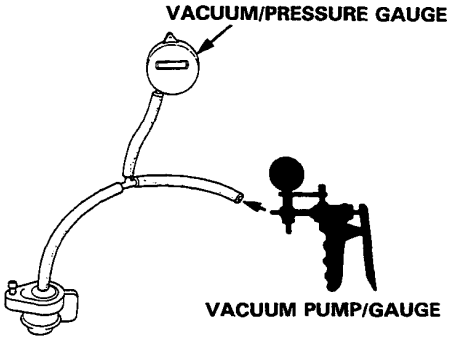
   Pressure should stabilize at 10 to 35 mmHg (0.4 to 1.4 in.Hg).

   - If pressure momentarily stabilizes (valve opens) at 10 to 35 mmHg (0.4 to 1.4 in.Hg), the valve is OK.
   - If pressure stabilizes below 10 mmHg (0.4 in.Hg) or above 35 mmHg (1.4 in.Hg), install a new valve and retest.

[Other model]

1. Remove the fuel filler cap.

2. Remove the vapor line from the canister or frame, and connect to a T-fitting from the vacuum gauge and the vacuum pump as shown.

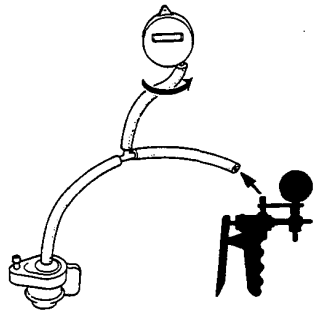


3. Slowly draw a vacuum while watching the gauge. Vacuum should stabilize at 15 to 30 mmHg (0.6 to 1.2 in. Hg).

   - If vacuum stabilizes momentarily (Two-way Valve opens) between 15 and 30 mmHg (0.6 and 1.2 in.Hg), go on step 4.

   - If vacuum stabilizes (valve opens) below 15 mmHg or above 30 mmHg (1.2 in.Hg), install new valve and retest.

4. Move vacuum pump hose from vacuum to pressure fitting, and move vacuum gauge hose from vacuum to pressure side as shown.



5. Slowly pressurize the vapor line while watching the gauge.
   Pressure should stabilize at 5 to 15 mmHg (0.2 to 0.6 in.Hg).

   - If pressure momentarily stabilizes (Valve opens) at 5 to 15 mmHg (0.2 to 0.6 in.Hg), the valve is OK.

   - If pressure stabilizes below 5 mmHg (0.2 in.Hg) or above 15 mmHg (0.6 in.Hg), install a new valve and re-test.

Evaporative Emission Controls (cont'd)

[KX, KS, KZ model]

Troubleshooting Flow Chart Inner Vent Solenoid Valve

Inspection of Inner Solenoid Valve

Remove the air cleaner cover and filter element.

Disconnect two vacuum hose from the carburetor and connect a vacuum pump.

Start the engine and warm up to normal operating temperature (the cooling fan comes on).

Apply vacuum.

Does solenoid valve hold vacuum?

YES → Turn the ignition switch OFF.

NO

Stop the engine.

Apply vacuum.

(page 6-83)

Disconnect the BLK/YEL connector and BLK connector near the air cleaner.

Start the engine.

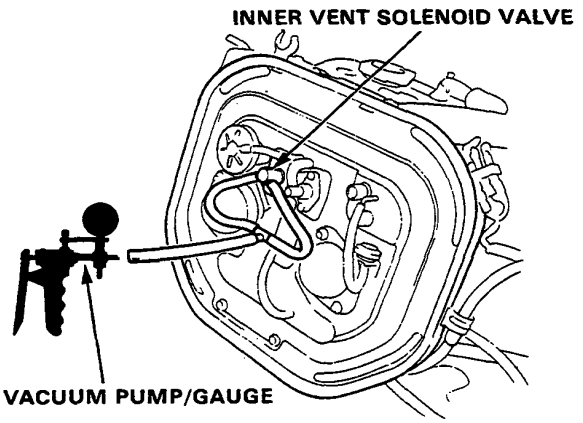
Measure voltage between BLK/YEL (+) terminal and BLK (–) terminal.

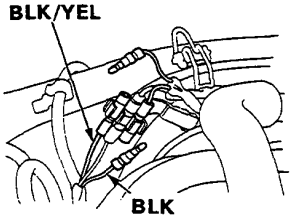
Is there battery voltage ?

YES → **Replace the solenoid valve.**

NO

(page 6-83)





(page 6-82)

(page 6-82)

Measure voltage between BLK/YEL (+) terminal and body ground.

Is there battery voltage? YES → **Repair open in BLK wire between the solenoid valve and G151.**

NO

Check the self-diagnosis indicator (page 6-90). If OK, inspect open in BLK/YEL wire between the solenoid valve and control unit (B13).

Does solenoid valve hold vacuum? NO

Turn the ignition switch OFF.

Disconnect the BLK/YEL connector and BLK connector near the air cleaner.

Turn the ignition switch ON.

Measure voltage between BLK/YEL (+) terminal and BLK (–) terminal.

Is there voltage? YES → **Check the self-diagnosis indicator (page 6-90). If OK, substitute a known-good control unit and retest. If symptom goes away, replace the original control unit.**

NO

Replace the solenoid valve.

YES

Solenoid valve is OK.

(cont'd)

Evaporative Emission Controls (cont'd)

[KX, KS, KZ model]

Troubleshooting Flow Chart Air Vent Cut-off Solenoid Valve

Inspection of Air Vent Cut-off Solenoid Valve.

Disconnect the upper hose of the solenoid valve from the air cleaner and connect a vacuum pump.

Disconnect the lower hose of the solenoid valve.

Start the engine and warm up to normal operating temperature (the cooling fan comes on).

Apply vacuum.

Does solenoid valve hold vacuum ?

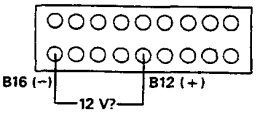
YES

Turn the ignition switch OFF.

Connect the ECU check adaptor B between the control unit and connector (page 6-91).

Start the engine.

Measure voltage between B12 (+) terminal and B16(–) terminal.



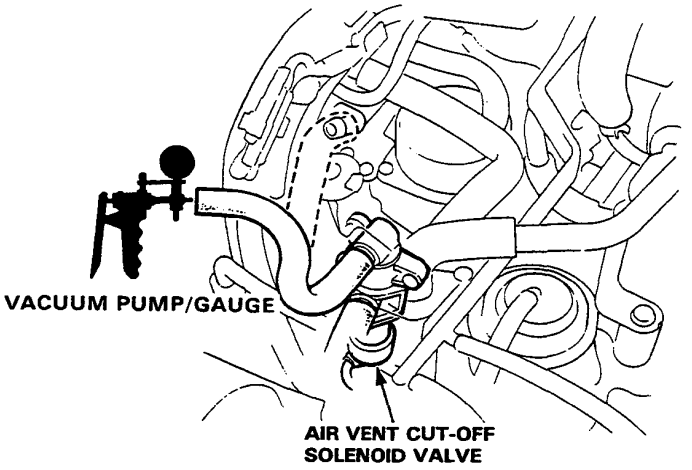
(page 6-85)

NO

Stop the engine.

Apply vacuum.

(page 6-85)



(page 6-84)

(page 6-84)

Is there battery voltage ?

YES

Repair open or short in GRN/YEL wire between the solenoid valve and control unit (B12). If OK, replace the solenoid valve.

NO

Check self-diagnosis indicator (page 6-90). If not, substitute a known-good control unit and retest. If symptom goes away, replace the original control unit.

Does solenoid valve hold vacuum ?

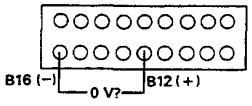
NO

Turn the ignition switch OFF.

YES

Connect the ECU check adaptor B between the control unit and connector (page 6-).

Turn the ignition switch ON.



Measure voltage between B12 (+) terminal and B16 (–) terminal.

Is there voltage ?

YES

Check the self-diagnosis indicator (page 6-90). If OK, substitute a known-good control unit and retest. If symptom goes away, replace the original control unit.

NO

Solenoid valve is OK.

Replace the solenoid valve.

(cont'd)

Evaporative Emission Controls (cont'd)

[Except KX, KS, KZ model]

Troubleshooting Flow Chart **Inner Vent Solenoid Valve**

Inspection of Inner Solenoid Valve

Remove the air cleaner cover and filter element.

Disconnect two vacuum hose from the carburetor and connect a vacuum pump.

Apply vacuum.

Does solenoid valve hold vacuum? — NO → **Replace the solenoid valve.**

YES

Start the engine.

Apply vacuum.

Does solenoid valve hold vacuum? — YES → Turn the ignition switch OFF.

NO

Solenoid valve is OK.

Disconnect the BLK/YEL connector and BLK connector near the air cleaner.

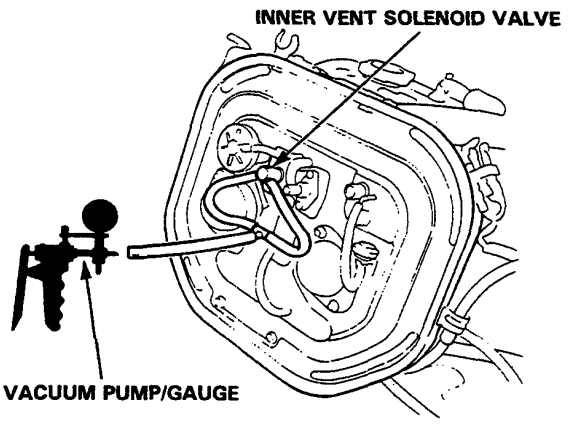
Start the engine.

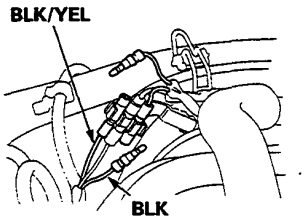
Measure voltage between BLK/YEL (+) terminal and BLK (−) terminal.

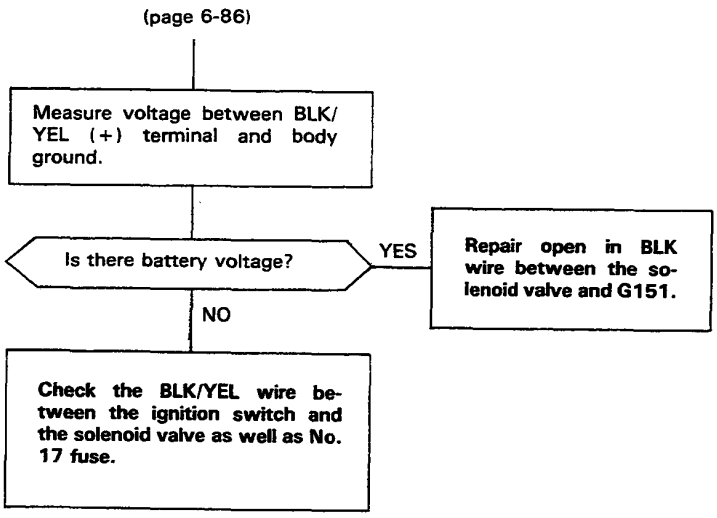
Is there voltage? — YES → **Replace the solenoid valve.**

NO

(page 6-87)






(page 6-86)
Measure voltage between BLK/YEL (+) terminal and body ground.
Is there battery voltage?
YES
Repair open in BLK wire between the solenoid valve and G151.
NO
Check the BLK/YEL wire between the ignition switch and the solenoid valve as well as No. 17 fuse.

(cont'd)

Evaporative Emission Controls (cont'd)

[Except KX, KS, KZ model]

Troubleshooting Flow Chart **Air Vent Cut-off Solenoid Valve**

Inspection of Air Vent Cut-off Solenoid Valve.

Disconnect the upper hose of the solenoid valve from the air cleaner and connect a vacuum pump.

Disconnect the lower hose of the solenoid valve.

Apply vacuum.

Does solenoid valve hold vacuum?

NO → **Replace the solenoid valve.**

YES

Start the engine.

Apply vacuum.

Does solenoid valve hold vacuum?

YES → Turn the ignition switch OFF.

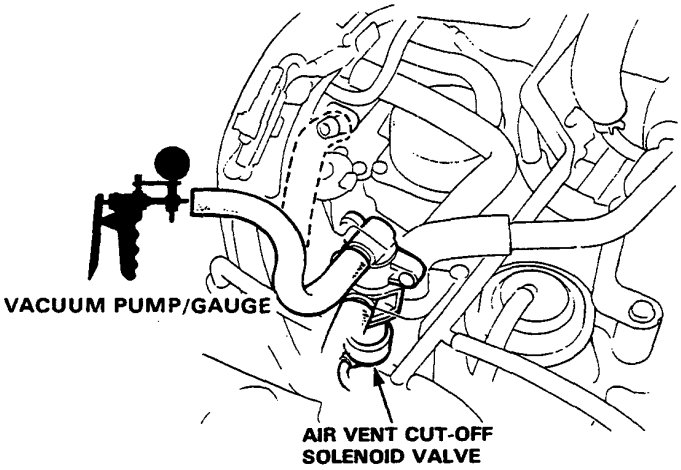
NO

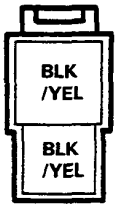
Solenoid valve is OK.

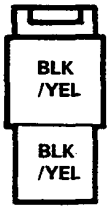
Disconnect the 2P connector on the air vent cut-off solenoid valve.

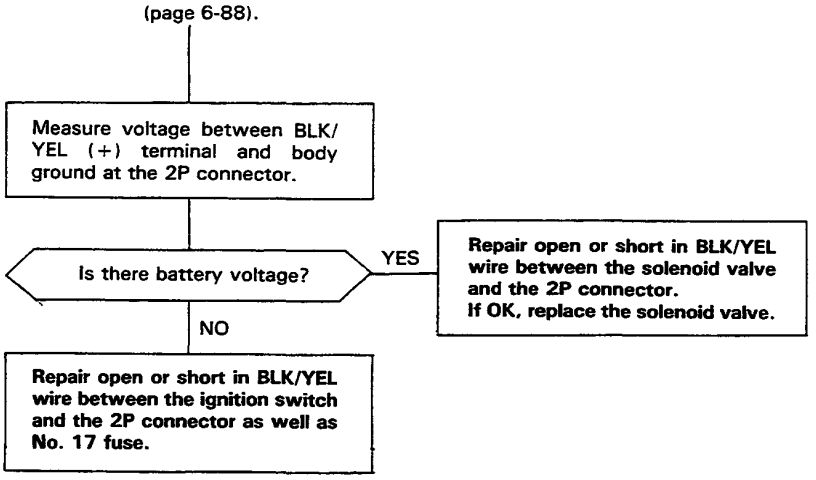
Start the engine.

(page 6-89).








(page 6-88).
Measure voltage between BLK/YEL (+) terminal and body ground at the 2P connector.
Is there battery voltage?
YES
Repair open or short in BLK/YEL wire between the solenoid valve and the 2P connector.
If OK, replace the solenoid valve.
NO
Repair open or short in BLK/YEL wire between the ignition switch and the 2P connector as well as No. 17 fuse.