2000-06 ENGINE PERFORMANCE

EVAP System - Insight

COMPONENT LOCATION INDEX

2000-2005 MODELS

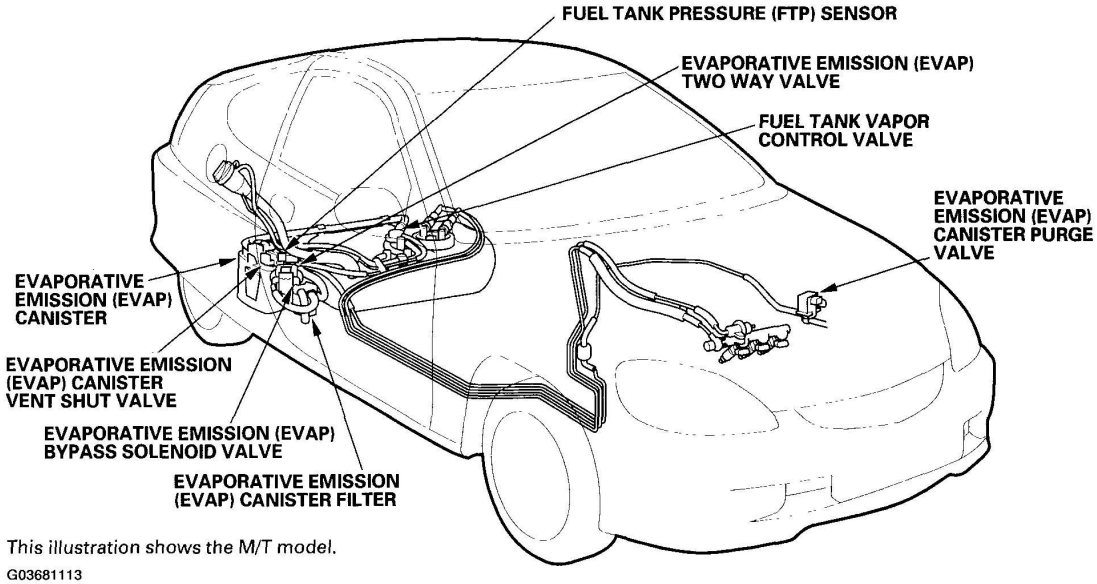

Fig. 1: Identifying EVAP System Component Location Index (2000-2005 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2006 MODEL

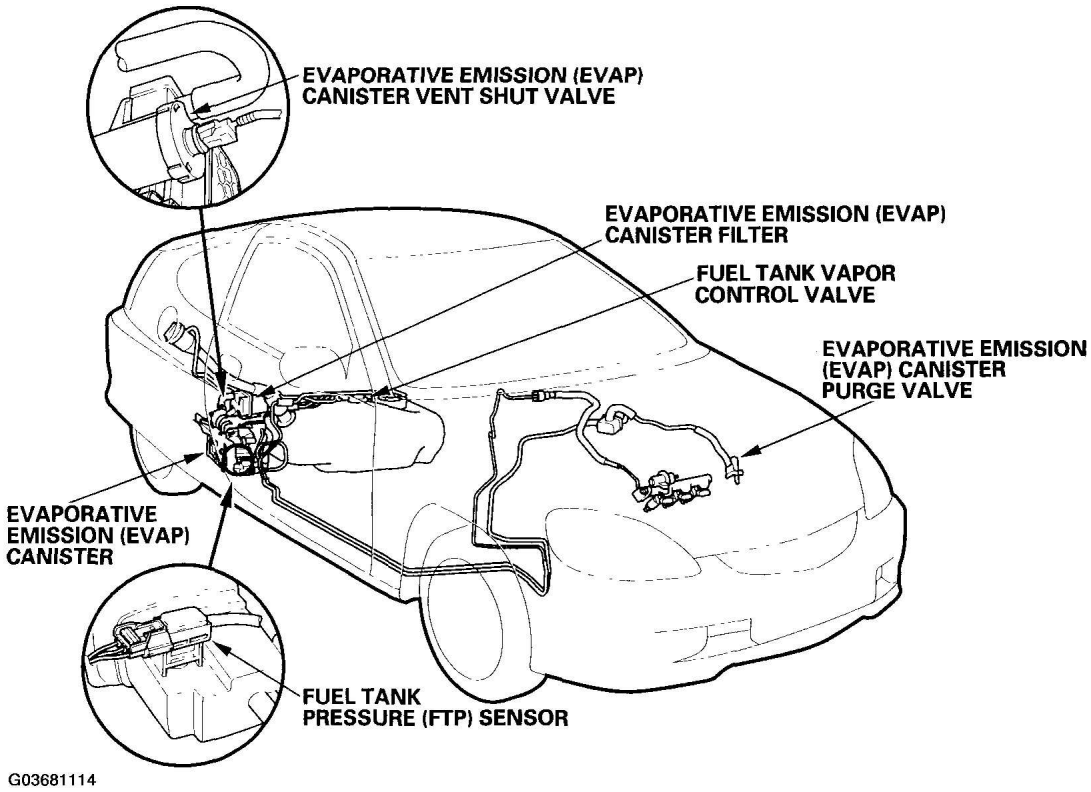

Fig. 2: Identifying EVAP System Component Location Index (2006 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

DTC TROUBLESHOOTING

DTC INDEX

DTC	Description
DTC P0442	EVAP System Small Leak Detected (2006 model)
DTC P0443	EVAP Canister Purge Valve Circuit Malfunction (2006 model)
DTC P0451	FTP Sensor Circuit Range/Performance Problem (2000-2005 models)
DTC P0451	FTP Sensor Circuit Range/Performance Problem (2006 model)
DTC P0452	FTP Sensor Circuit Low Voltage (2000-

	2005 models)
DTC P0452	FTP Sensor Circuit Low Voltage (2006 model)
DTC P0453	FTP Sensor Circuit High Voltage (2000-2005 models)
DTC P0453	FTP Sensor Circuit High Voltage (2006 model)
DTC P0456	EVAP System Very Small Leak Detected (2006 model)
DTC P0457	EVAP System Leak Detected/Fuel Fill Cap Loose or Missing (2006 model)
DTC P0496	EVAP System High Purge Flow (2006 model)
DTC P0497	EVAP System Low Purge Flow (2004-2005 models)
DTC P0497	EVAP System Low Purge Flow (2006 model)
DTC P0498	EVAP Canister Vent Shut Valve Circuit Low Voltage (2006 model)
DTC P0499	EVAP Canister Vent Shut Valve Circuit High Voltage (2006 model)
DTC P1454	FTP Sensor Circuit Range/Performance Problem (2006 model)
DTC P1456	EVAP Control System Leakage (Fuel Tank System) (2000-2005 models)
DTC P1457	EVAP Control System Leakage (EVAP Canister System) (2000-2005 models)
DTC P2422	EVAP Canister Vent Shut Valve Close Malfunction (2006 model)

DTC P0442: EVAP SYSTEM SMALL LEAK DETECTED (2006 MODEL); DTC P0456: EVAP SYSTEM VERY SMALL LEAK DETECTED (2006 MODEL)

NOTE: The fuel system is designed to allow specified maximum

vacuum and pressure conditions. Do not deviate from the vacuum and pressure tests as indicated in these procedures. Excessive pressure/vacuum would damage the EVAP components or cause eventual fuel tank failure.

Special Tools Required

- Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available
- Vacuum/pressure gauge, 0-4 in.Hg 07JAZ-001000B

NOTE:

- **Fresh fuel has a higher volatility that will create greater pressure/vacuum. The optimum condition for testing is less than a full tank of fresh fuel. If possible, to assist in leak detection, add 1 gallon of fresh fuel to the tank (as long as it will not fill the tank) just before starting these procedures.**
- **Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Check the fuel fill cap (the cap must say "If not tightened 3 clicks check engine light may come on").

   Is the correct fuel fill cap installed and properly tightened?

   YES -Go to step 2.

   NO -Replace or tighten the cap, then go to step 22 .
2. Check the fuel fill cap seal (A) and the fuel fill pipe mating surface (B). Make sure the fuel fill cap tether cord (C) is not caught under the cap.

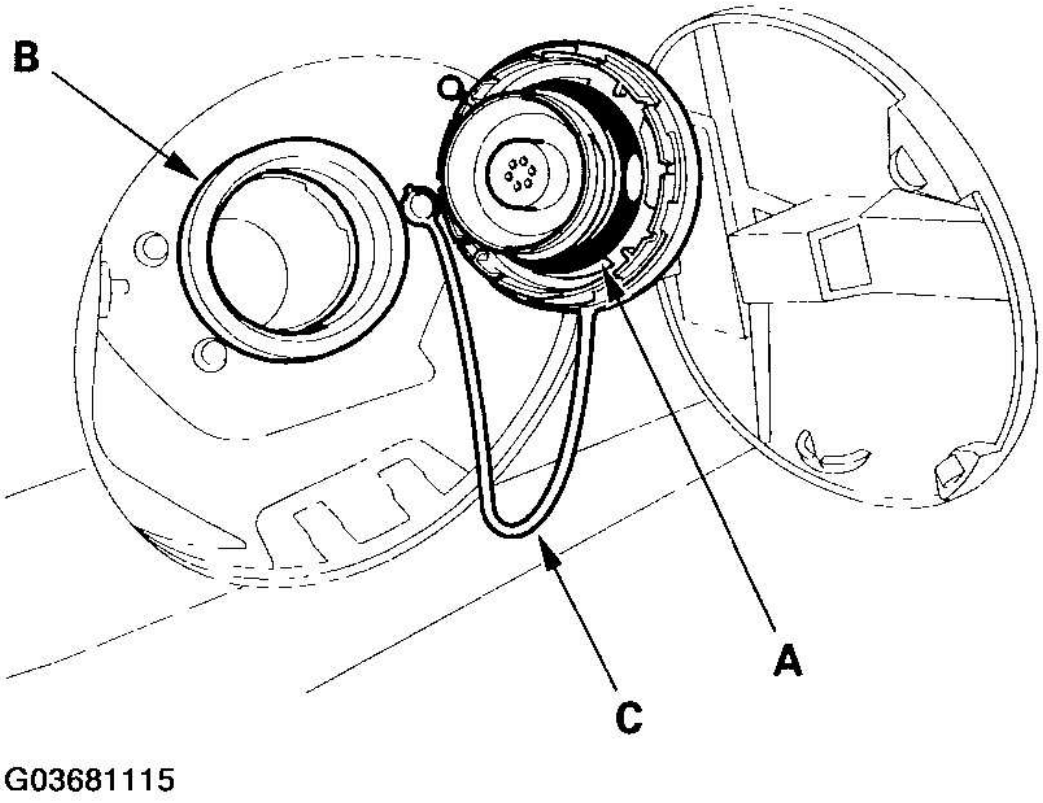

Fig. 3: Checking Fuel Fill Cap Seal And Fuel Fill Pipe Mating Surface
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is the fuel fill cap seal missing or damaged, is the fuel fill pipe damaged, or is the tether cord caught under the cap?

YES -Replace the fuel fill cap or the fuel fill pipe, then go to step 22 .

NO -Go to step 3.

3. Turn the ignition switch ON (II).
4. Clear the DTC with the HDS.
5. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

Is the result OK?

YES -Intermittent failure, system is OK at this time. Check for poor

connections or loose terminals at the FTP sensor, the EVAP canister purge valve, or the EVAP canister vent shut valve and the ECM.

NO -Go to step 6.

6. Turn the ignition switch OFF.
7. Turn the ignition switch ON (II).
8. Check for a poor connection or damage at the fuel tank vapor recirculation tube.

   Is the tube OK?

   YES -Go to step 9.

   NO -

   - Replace the fuel tank vapor recirculation tube, then go to step 22 .
   - If necessary, replace the fuel tank (see **2006 MODEL**), then go to step 22 .
9. Disconnect the fuel tank vapor recirculation tube (A) from the EVAP canister (B), and plug the EVAP canister port (C).

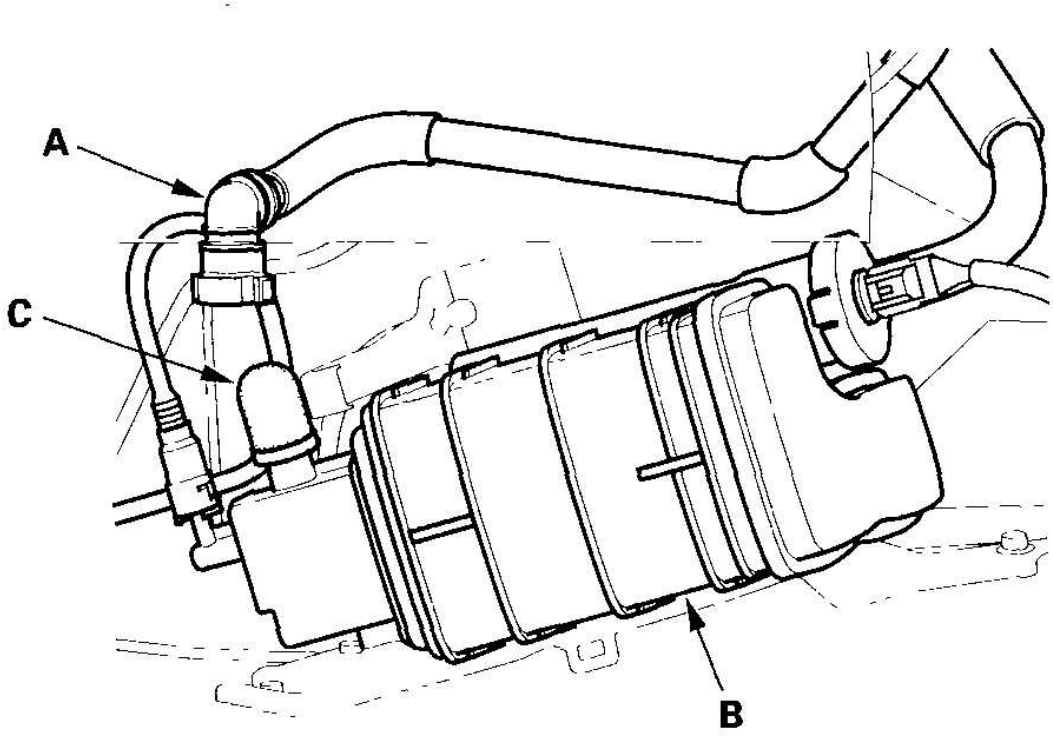

Fig. 4: Disconnecting Fuel Tank Vapor Recirculation Tube From EVAP Canister And Plug EVAP Canister Port
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Disconnect the vacuum hose (purge line) from the EVAP canister purge valve (A) and connect a T-fitting (B) from the vacuum gauge and the vacuum pump/gauge, 0-30 in.Hg, to the hose as shown.

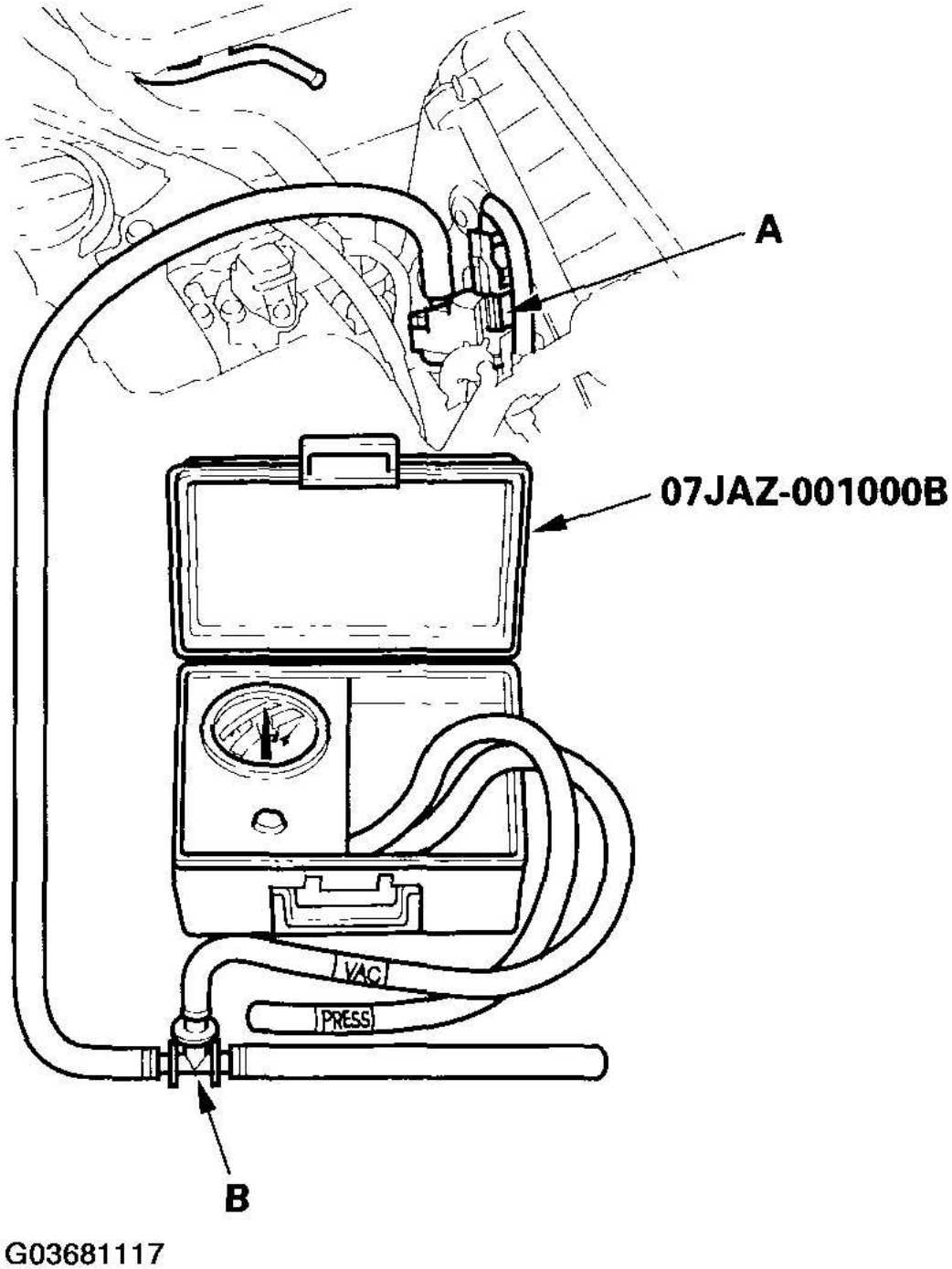

Fig. 5: Disconnecting Vacuum Hose (Purge Line) From EVAP Canister Purge Valve

Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
12. Apply vacuum to the hose until FTP reads 1.90 V (2 kPa (0.6 in.Hg, 15mmHg)).
13. Moniter the FTP SENSOR in the DATA LIST for 1 minute with the HDS.

Does the voltage increase more than 0.2 V (0.1 in.Hg, 0.5 mmHg)?

YES -Go to step 19 .

NO -Go to step 14.

14. Select EVAP CVS OFF in the INSPECTION MENU with the HDS.
15. Disconnect the fresh air hose (A) from the EVAP canister vent shut valve (B), and plug the EVAP canister vent shut valve ports (C).

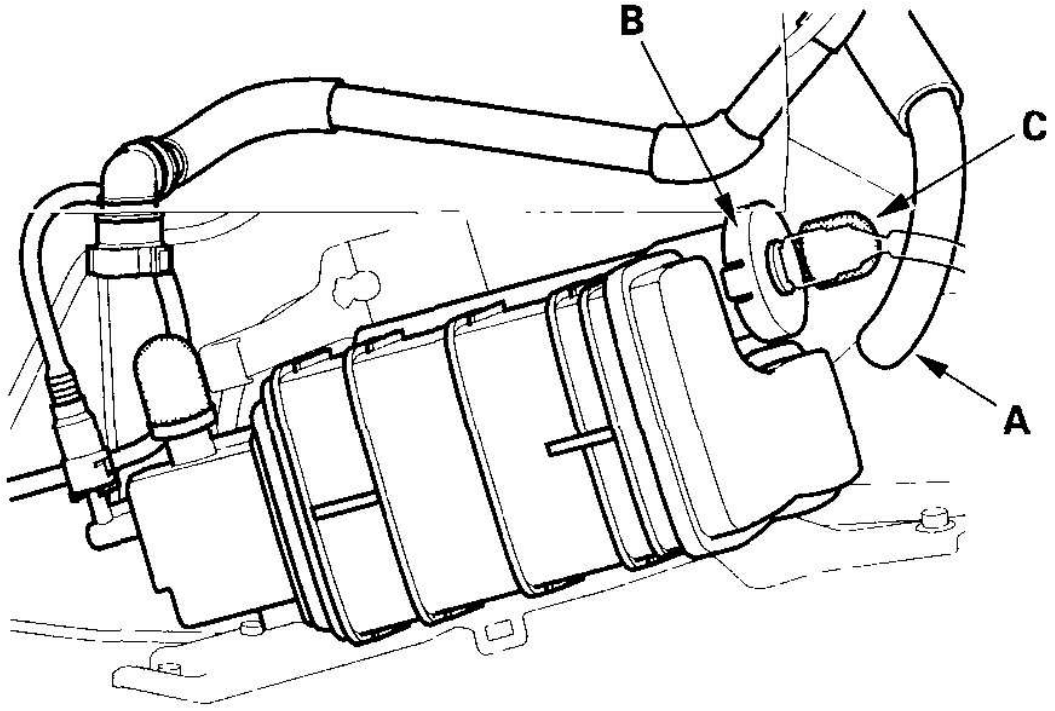

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Fig. 6: Disconnecting Fresh Air Hose From EVAP Canister Vent Shut Valve
Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Apply vacuum to the hose (disconnected in step 10) until FTP reads 1.90 V (2 kPa (0.6 in.Hg, 14.6 mmHg)).
17. Moniter the FTP SENSOR in the DATA LIST for 1 minute with the HDS.

    Does the voltage increase more than 0.2 V (0.1 in.Hg, 0.5 mmHg)?

    YES -Go to step 18.

    NO -Replace the EVAP canister vent shut valve, then go to step 21 .
18. Check for a loose or damaged PCS line between the EVAP canister and the EVAP canister purge valve.

    Is the line OK?

    YES -Replace the these parts, then go to step 21 .
    - FTP sensor O-ring
    - EVAP canister vent shut valve case and O-ring
    - EVAP canister

    NO -Reconnect or repair the PCS hose, then go to step 21 .
19. Select EVAP CVS OFF in the INSPECTION MENU with the HDS.
20. Check these parts for looseness or damage:
    - Fuel fill pipe
    - Fuel vapor return pipe

    Are the parts OK?

    YES -Check the fuel tank unit base gasket (see **FUEL FILTER REPLACEMENT**), and check the fuel tank, then go to step 21.

    NO -Repair or replace any damaged parts, then go to step 21.
21. Reconnect all hoses and connectors.
22. Turn the ignition switch ON (II).

23. Reset the ECM with the HDS.
24. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE**).
25. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

Is the result OK?

YES -Troubleshooting is complete.

NO -Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, or the EVAP canister vent shut valve, and the ECM, then Go to step 1 .

DTC P0443: EVAP CANISTER PURGE VALVE CIRCUIT MALFUNCTION (2006 MODEL)

Special Tools Required

Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available

NOTE: Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
4. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0443 indicated?

YES -Go to step 5.

NO -Intermittent failure, system is OK at this time. Check for poor connections or loose terminals at the EVAP canister purge valve and the ECM.

5. Turn the ignition switch OFF, and allow the engine to cool below 122 °F (50 °

C).

6. Disconnect the vacuum hose (A) from the EVAP canister parge valve (B) in the engine compartment, and connect a vacuum pump/gauge, 0-30 in.Hg, to the EVAP canister purge valve.

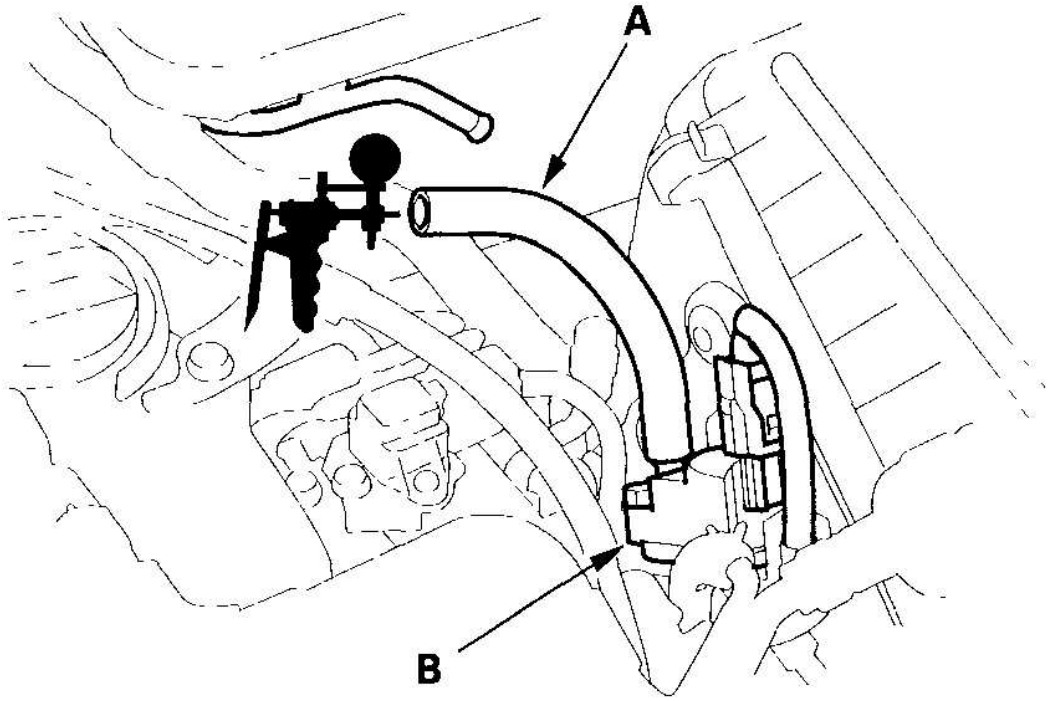


Fig. 7: Disconnecting Vacuum Hose From EVAP Canister Parge Valve In Engine Compartment
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Start the engine, and let it idle.

   Is there vacuum?

   YES -Go to step 8.
   NO -Go to step 14 .

8. Turn the ignition switch OFF.

9. Disconnect the EVAP canister purge valve 2P connector.
10. Check for continuity between EVAP canister purge valve 2P connector terminal No. 2 and body ground.

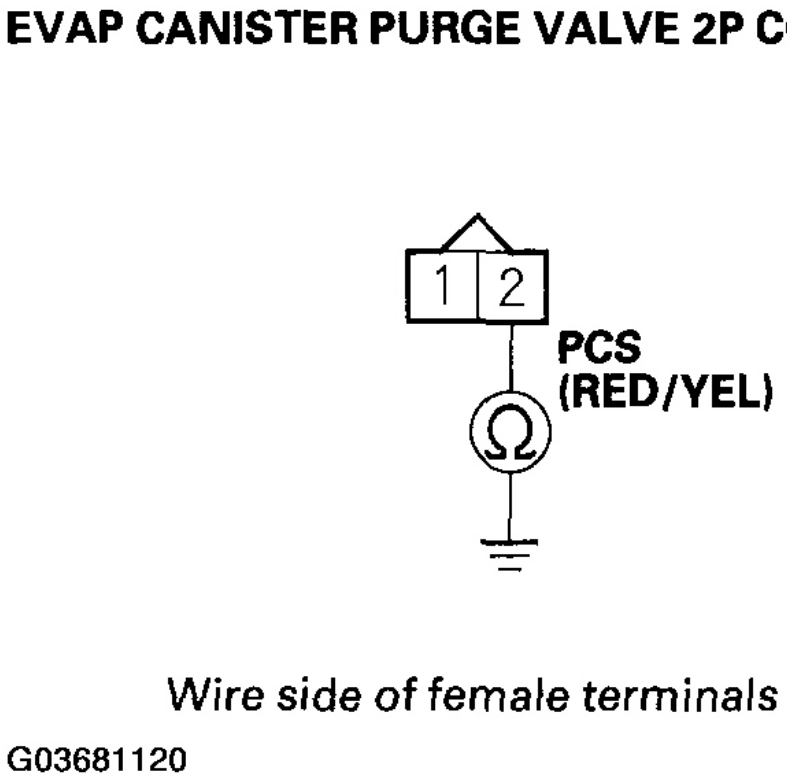


Fig. 8: Checking For Continuity Between EVAP Canister Purge Valve 2P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 11.

NO -Go to step 24 .

11. Wait for 1 minute. If the radiator fan is running, wait for 1 minute after it stops.
12. Disconnect ECM connector B (25P).

13. Check for continuity between EVAP canister purge valve 2P connector terminal No. 2 and body ground.

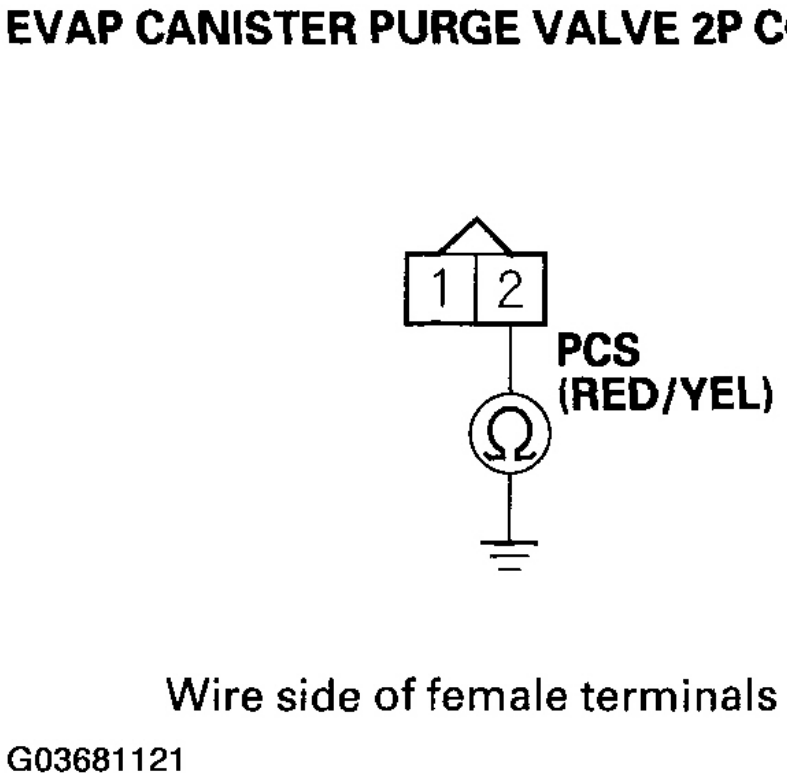


Fig. 9: Checking For Continuity Between EVAP Canister Purge Valve 2P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the EVAP canister purge valve and the ECM (B25), then go to step 25 .

NO -Go to step 31 .

14. Turn the ignition switch OFF.
15. Disconnect the EVAP canister purge valve 2P connector.
16. Turn the ignition switch ON (II).

17. Measure voltage between EVAP canister purge valve 2P connector terminal No. 1 and body ground.

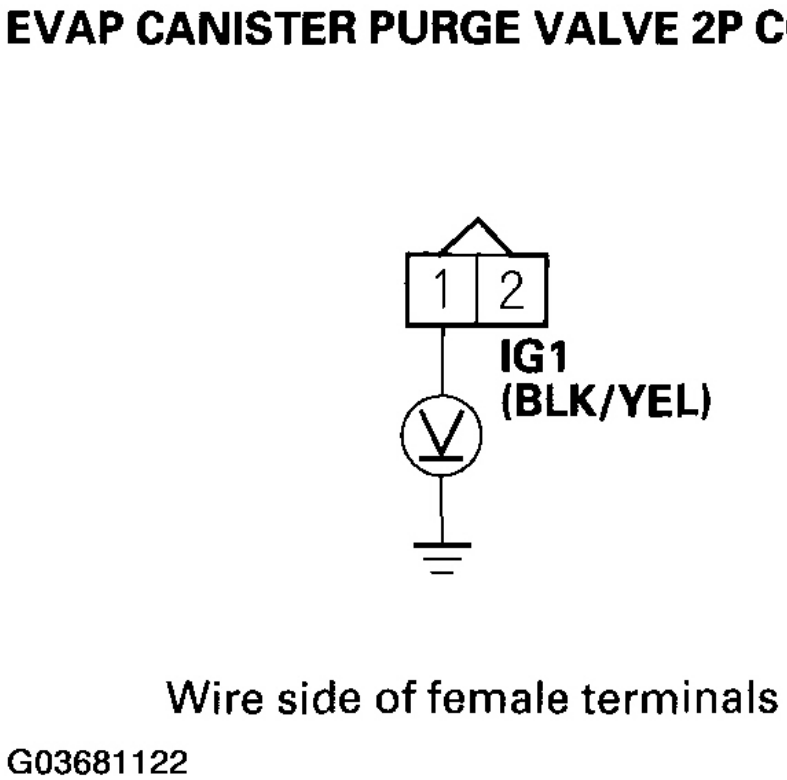


Fig. 10: Measuring Voltage Between EVAP Canister Purge Valve 2P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 18.

NO -Repair open in the wire between the EVAP canister purge valve and the No. 4 FI-ECU (7.5 A) fuse in the under-dash fuse/relay box, then go to step 25 .

18. Turn the ignition switch OFF.
19. Wait for 1 minute. If the radiator fan is running, wait for 1 minute after it stops.

20. Disconnect ECM connector B (25P).
21. Connect EVAP canister purge valve 2P connector terminal No. 2 to body ground with a jumper wire.

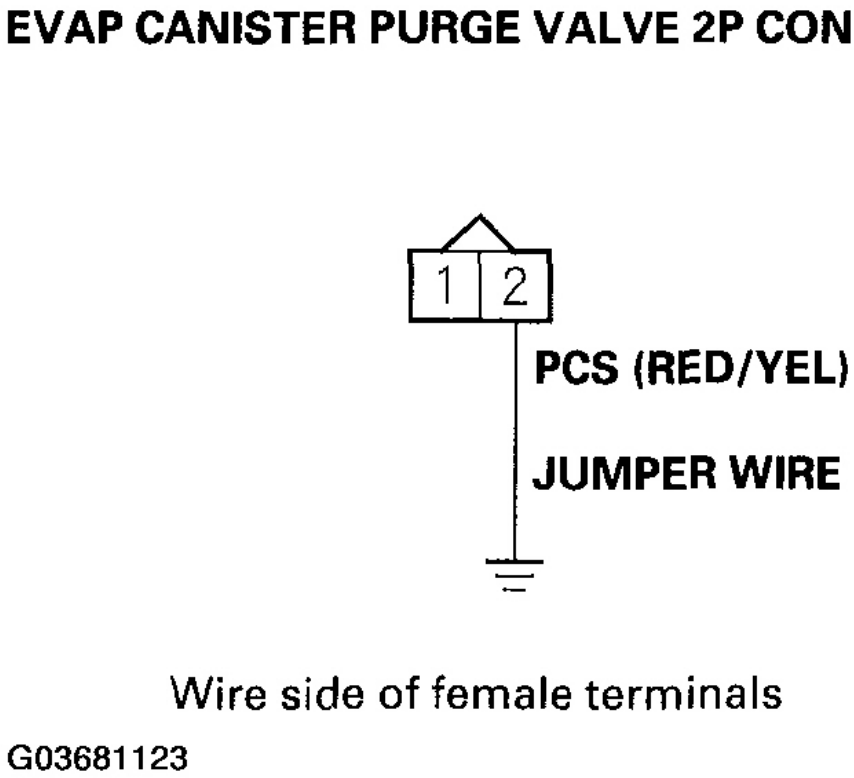


Fig. 11: Connecting EVAP Canister Purge Valve 2P Connector Terminal No. 2 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

22. Check for continuity between ECM connector terminal B25 and body ground.

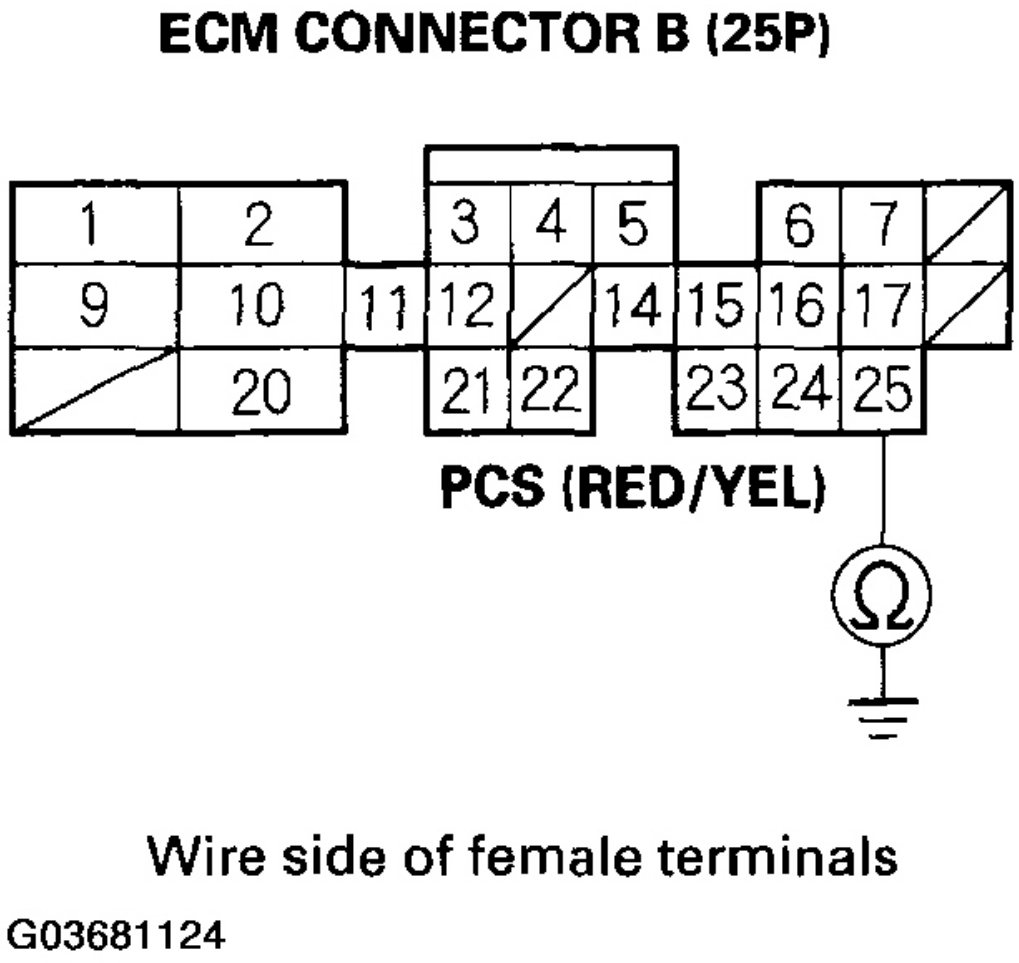


Fig. 12: Checking For Continuity Between ECM Connector Terminal B25 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 23.

NO -Repair open in the wire between the EVAP canister purge valve and the ECM (B25), then go to step 25 .

23. Measure resistance between EVAP canister purge valve 2P connector terminals

No. 1 and No. 2.

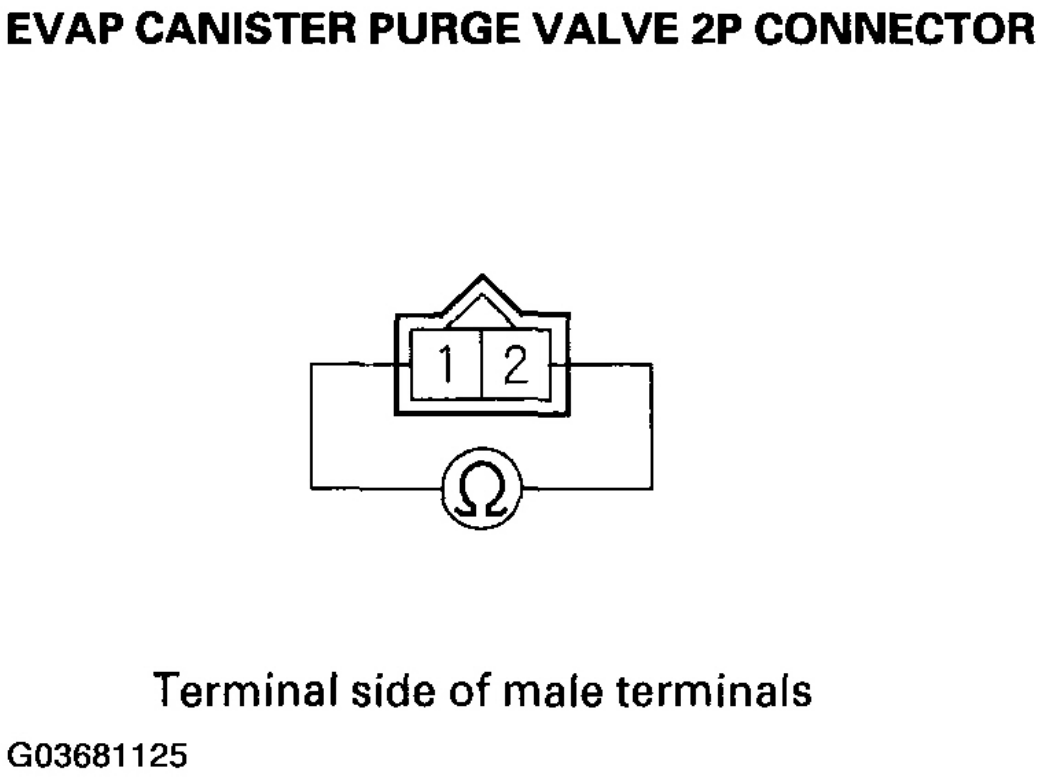


Fig. 13: Measuring Resistance Between EVAP Canister Purge Valve 2P Connector Terminals No. 1 And No. 2
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 23- 26 ohm at room temperature?

YES -Go to step 31 .
NO -Go to step 24.

24. Replace the EVAP canister purge valve.
25. Reconnect all connectors.
26. Turn the ignition switch ON (II).
27. Reset the ECM with the HDS.

28. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE**).
29. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
30. Check for Temporary DTCs or DTCs with the HDS.

    Are any Temporary DTCs or DTCs indicated?

    YES -If DTC P0443 is indicated, check for poor connections or loose terminals at the EVAP canister purge valve and the ECM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated **DTC TROUBLESHOOTING** .

    NO -Troubleshooting is complete.
31. Update the ECM if it does not have the latest software, or substitute a known-good ECM (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2006 M/T MODELS AND CVT MODEL**).
32. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
33. Check for Temporary DTCs or DTCs with the HDS.

    Are any Temporary DTCs or DTCs indicated?

    YES -If DTC P0443 is indicated, check for poor connections or loose terminals at the EVAP canister purge valve and the ECM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated **DTC TROUBLESHOOTING** .

    NO -If the ECM was updated, troubleshooting is complete. If the ECM was substituted, replace the original ECM (see **ECM REPLACEMENT**).

DTC P0451: FTP SENSOR CIRCUIT RANGE/PERFORMANCE PROBLEM (2000-2005 MODELS)

Special Tools Required

Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available

NOTE: Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Remove the fuel fill cap.
2. Turn the ignition switch ON (II).
3. Monitor FTP sensor voltage with the HDS, or measure voltage between ECM connector terminals A29 and C18.

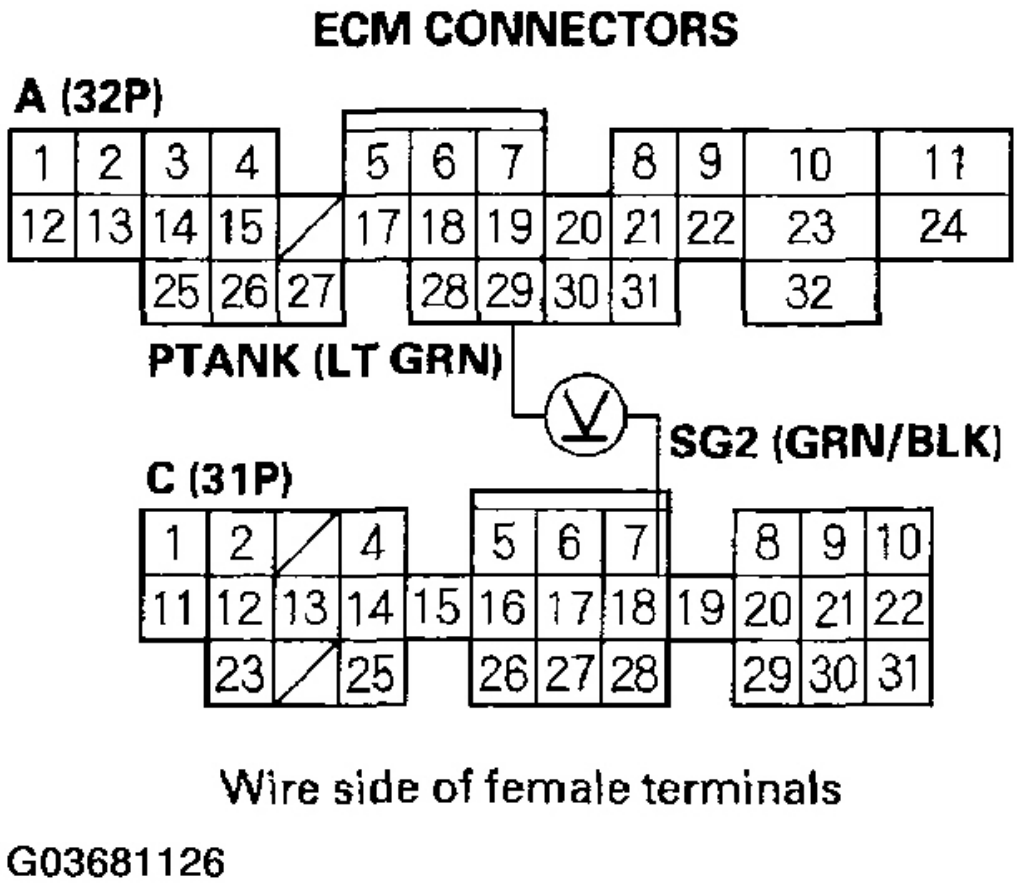


Fig. 14: Measuring Voltage Between ECM Connector Terminals A29 And C18
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 2.5 V?

YES -Go to step 4.

NO -Replace the FTP sensor (see **FTP SENSOR REPLACEMENT**).

4. Turn the ignition switch OFF.
5. Disconnect the hose between the EVAP two-way valve and the fuel tank pressure sensor (A) at the EVAP two-way valve end.

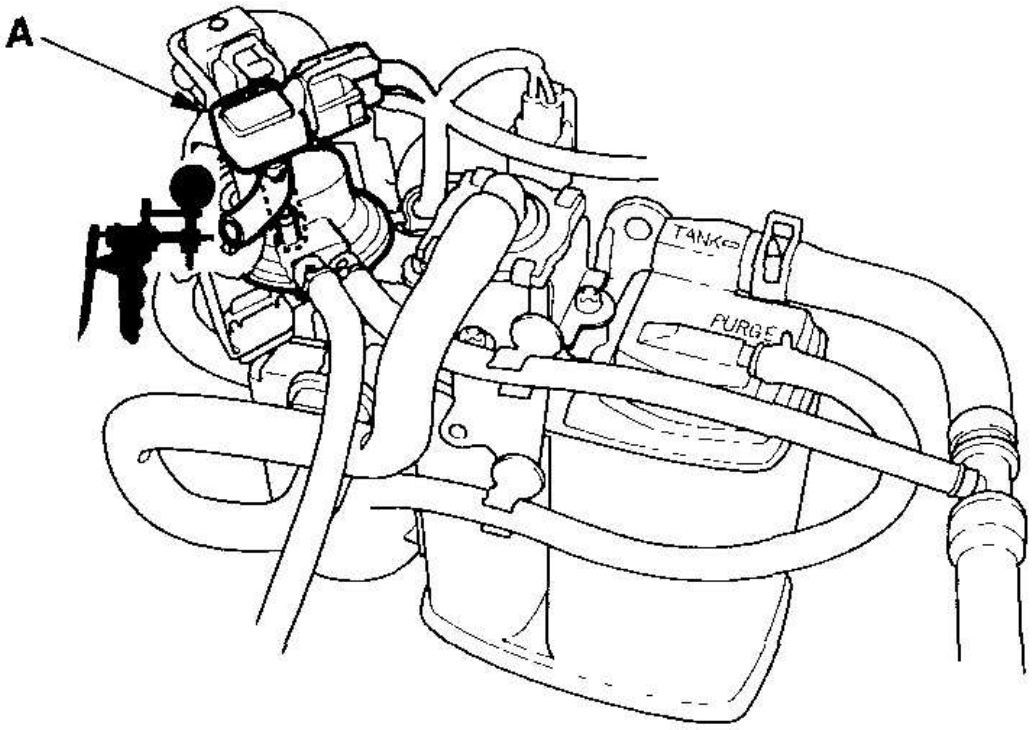


Fig. 15: Disconnecting Hose Between EVAP Two-Way Valve And Fuel Tank Pressure Sensor At EVAP Two-Way Valve End
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Connect a vacuum pump/gauge, 0-30 in.Hg, to the open end of the hose.
7. Turn the ignition switch ON (II).

8. Monitor the FTP sensor voltage with the HDS, or measure voltage between ECM connector terminals A29 and C18, and carefully squeeze the vacuum pump a little.

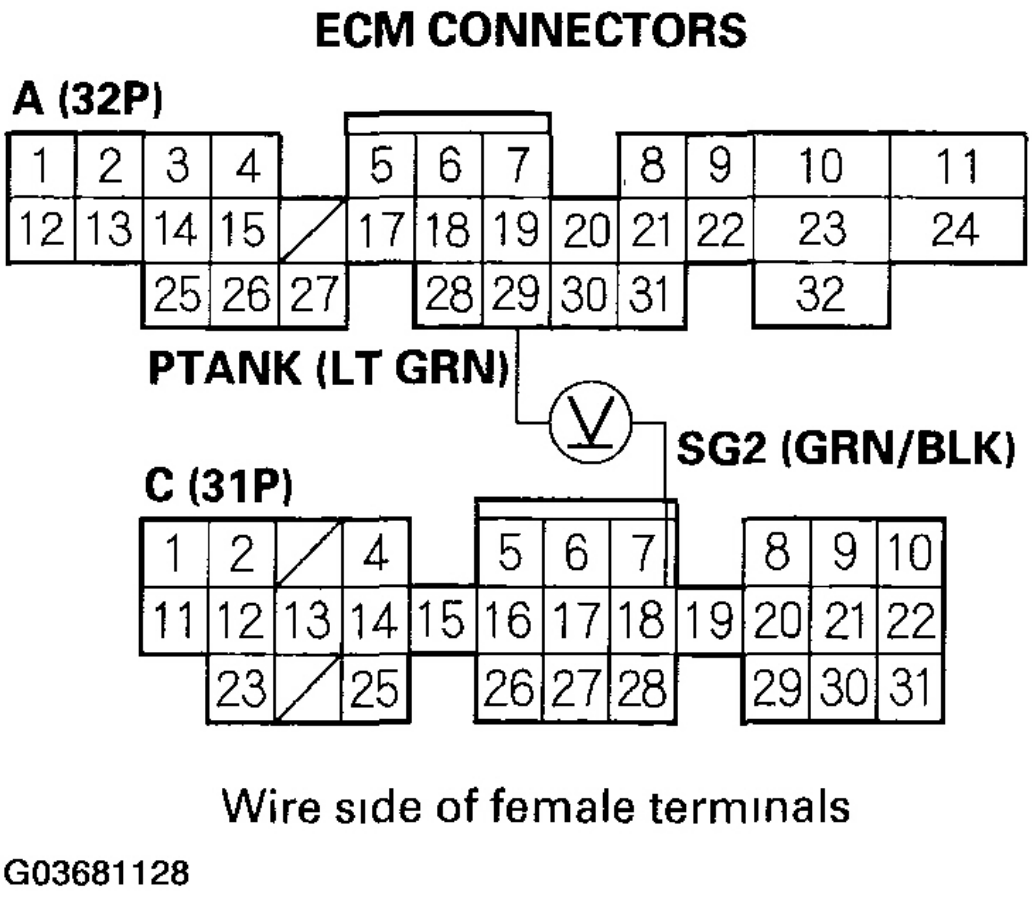


Fig. 16: Measuring Voltage Between ECM Connector Terminals A29 And C18
Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. The voltage should smoothly drop from about 2.5 V down to about 1.5 V. Stop applying vacuum when the voltage drops to about 1.5 V or damage to the fuel tank pressure sensor may occur.

Does the voltage drop to about 1.5 V and hold?

YES -Check for misrouted, leaking, or broken FTP sensor vacuum lines. If the vacuum lines are OK. Update the ECM if it does not have the latest software, or substitute a known-good ECM; 2000-2001 M/T models (see **HOW TO TROUBLESHOOT CIRCUITS AT THE ECM**), 2002-2005 M/T models and CVT model (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2006 M/T MODELS AND CVT MODEL**), then recheck. If the symptom/indication goes away with a known-good ECM, replace the original ECM (see **ECM REPLACEMENT**).

NO -Replace the FTP sensor (see **FTP SENSOR REPLACEMENT**).

DTC P0451: FTP SENSOR CIRCUIT RANGE/PERFORMANCE PROBLEM (2006 MODEL)

NOTE:

- **If DTC P2422 is stored at the same time as DTC P0451, troubleshoot DTC P2422 first, then recheck for DTC P0451.**
- **Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and let it idle 1 minute.
4. Monitor the OBD STATUS for DTC P0451 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 5.

   NO -If the screen indicates PASSED, intermittent failure, system is OK at this time. Check for poor connections or loose terminals at the FTP sensor and the ECM. If the screen indicates NOT COMPLETED, go to step 3 . and recheck.
5. Turn the ignition switch OFF.

6. Replace the FTP sensor (see **FTP SENSOR REPLACEMENT**).
7. Turn the ignition switch ON (II).
8. Reset the ECM with the HDS.
9. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE**).
10. Start the engine, and let it idle 1 minute.
11. Check for Temporary DTCs or DTCs with the HDS.

    Are any Temporary DTCs or DTCs indicated?

    YES -If DTC P0451 is indicated, check for poor connections or loose terminals at the FTP sensor and the ECM, then go to step 1 If any other Temporary DTCs or DTCs are indicated, go to the indicated **DTC TROUBLESHOOTING** .

    NO -Go to step 12.
12. Monitor the OBD STATUS for DTC P0451 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor and the ECM, then go to step 1 . If the screen indicates NOT COMPLETED, go to step 10 and recheck.

DTC P0452: FTP SENSOR CIRCUIT LOW VOLTAGE (2000-2005 MODELS)

NOTE: Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Check the vacuum lines of the FTP sensor for misrouting, leakage, breakage, or clogging.

   Are the vacuum lines OK?

YES -Go to step 2.

NO -Repair or replace vacuum lines as necessary.

2. Reset the ECM with the HDS (see **HDS CLEAR COMMAND**).
3. Remove the fuel fill cap.
4. Turn the ignition switch ON (II).
5. Monitor FTP sensor voltage with the HDS, or measure voltage between body ground and ECM connector terminal A29.

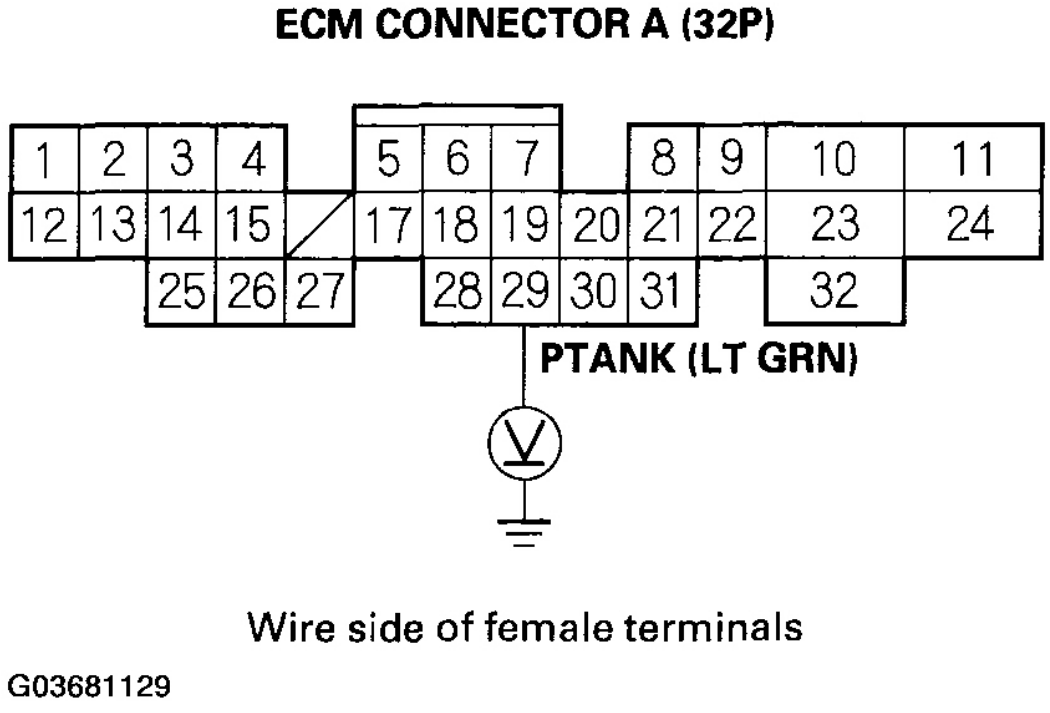


Fig. 17: Measuring Voltage Between Body Ground And ECM Connector Terminal A29
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 2.5 V?

YES -Intermittent failure, system is OK at this time. Check for poor connections or loose terminals at the FTP sensor and the ECM.

NO -Go to step 6.

6. Turn the ignition switch OFF.
7. Reinstall the fuel fill cap.
8. Disconnect the FTP sensor 3P connector.
9. Turn the ignition switch ON (II).
10. Measure voltage between FTP sensor 3P connector terminals No. 1 and No. 2.

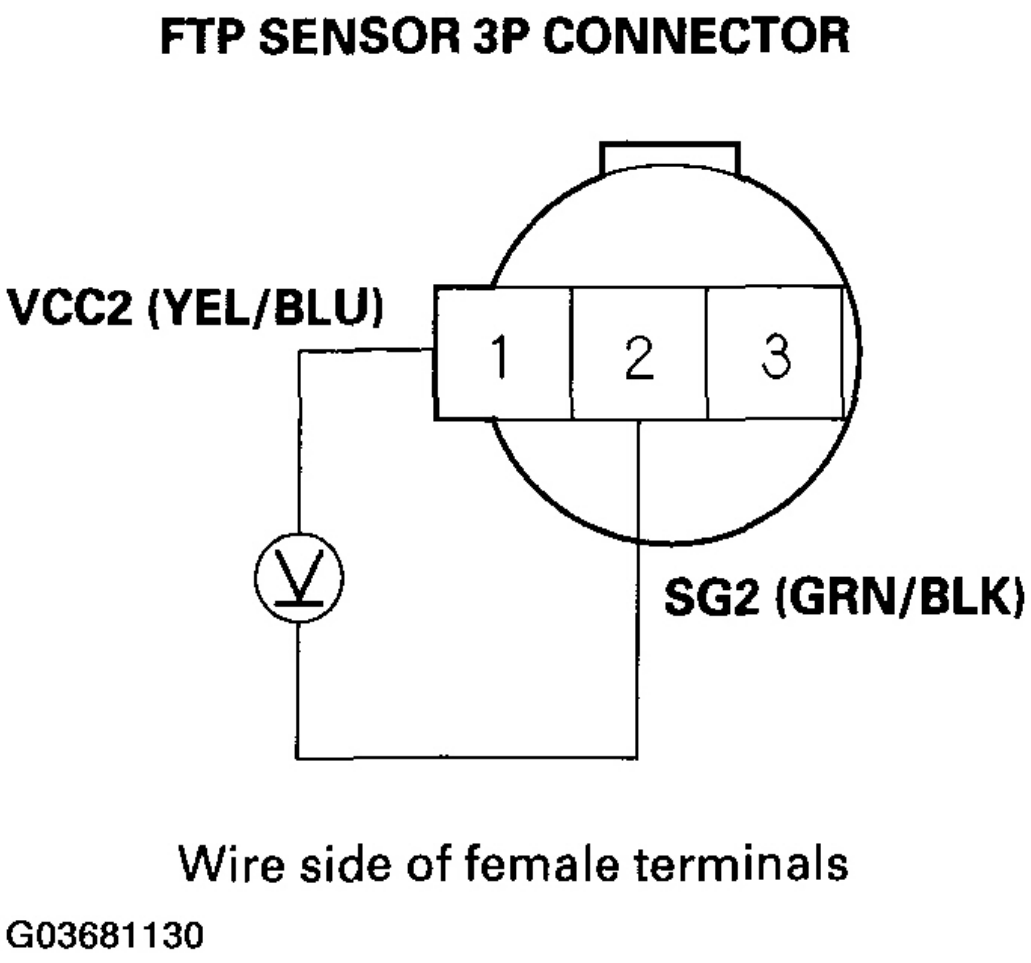


Fig. 18: Measuring Voltage Between FTP Sensor 3P Connector Terminals No. 1 And No. 2
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 11.

NO -Repair open in the wire between the FTP sensor and the ECM (C28).

11. Measure voltage between FTP sensor 3P connector terminals No. 2 and No. 3.

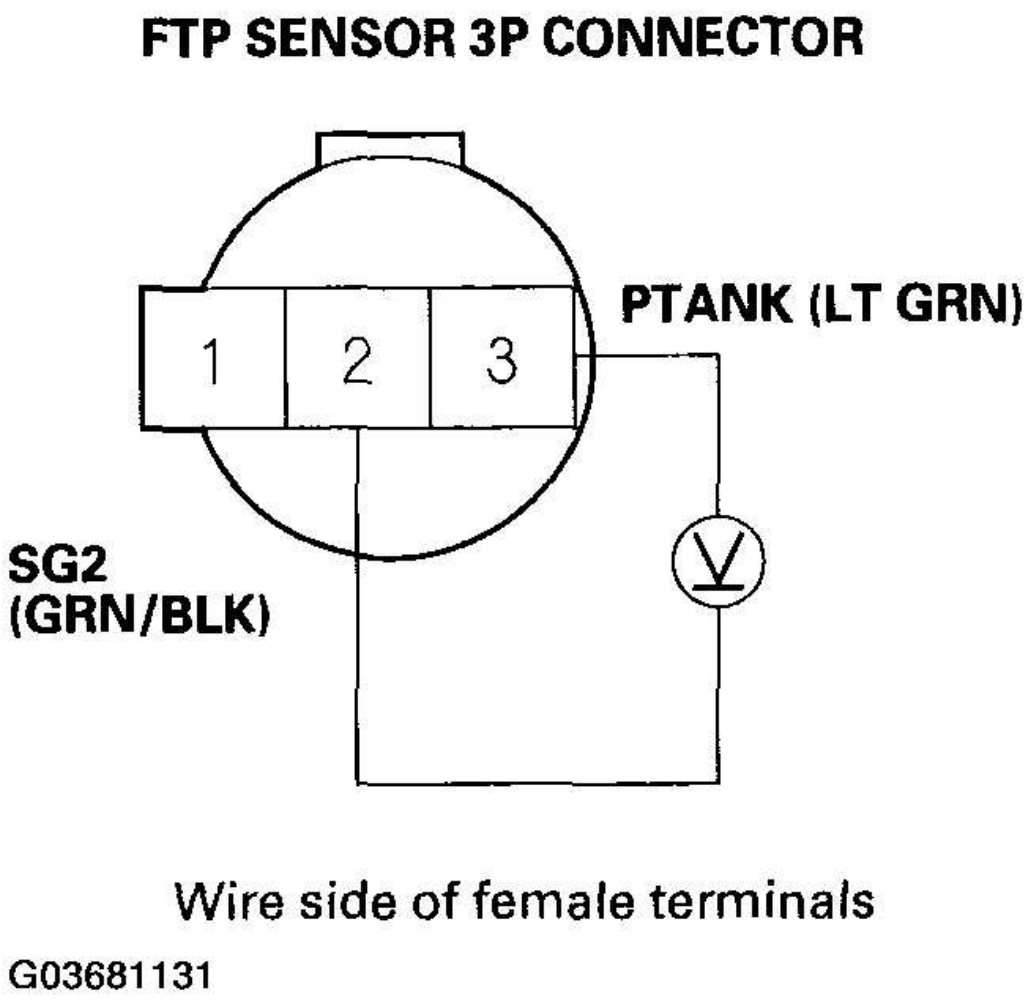


Fig. 19: Measuring Voltage Between FTP Sensor 3P Connector Terminals No. 2 And No. 3

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Replace the FTP sensor (see **FTP SENSOR REPLACEMENT**).

NO -Go to step 12.

12. Turn the ignition switch OFF.
13. Disconnect ECM connector A (32P).
14. Check for continuity between FTP sensor 3P connector terminal No. 3 and body ground.

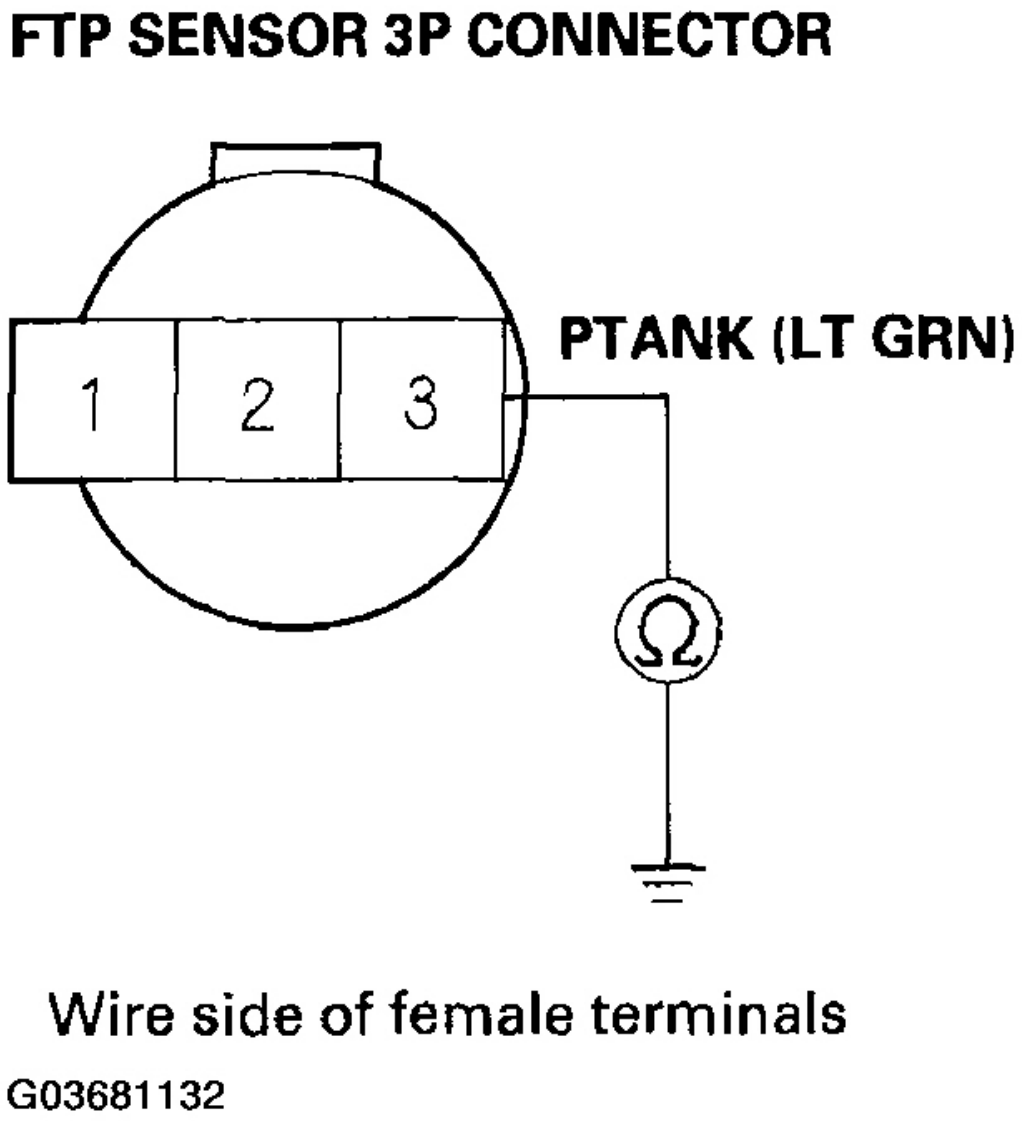


Fig. 20: Checking For Continuity Between FTP Sensor 3P Connector Terminal No. 3 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the FTP sensor and the ECM

(A29).

NO -Update the ECM if it does not have the latest software, or substitute a known-good ECM; 2000-2001 M/T models (see **HOW TO TROUBLESHOOT CIRCUITS AT THE ECM**), 2002-2005 M/T models and CVT model (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2006 M/T MODELS AND CVT MODEL**), then recheck. If the symptom/indication goes away with a known-good ECM, replace the original ECM (see **ECM REPLACEMENT**).

DTC P0452: FTP SENSOR CIRCUIT LOW VOLTAGE (2006 MODEL)

NOTE: Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch OFF.
4. Remove the fuel fill cap.
5. Turn the ignition switch ON (II).
6. Check the FTP SENSOR in the DATA LIST with the HDS.

   Is about - 7.3 kPa (- 2.16 in.Hg, - 55 mmHg), or 0.3 V or less indicated?

   YES -Go to step 10 .

   NO -Go to step 7.
7. Install the fuel fill cap.
8. Start the engine.
9. Monitor the OBD STATUS for DTC P0452 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 10.

   NO -If the screen indicates PASSED, intermittent failure, system is OK at

this time. Check for poor connections or loose terminals at FTP sensor and the ECM. If the screen indicates NOT COMPLETED, go to step 5 and recheck.

10. Turn the ignition switch OFF.
11. Disconnect the FTP sensor 3P connector.
12. Turn the ignition switch ON (II).
13. Check the FTP SENSOR in the DATA LIST with the HDS.

Is about 7.3 kPa (2.15 in.Hg, 54.7 mmHg), or 4.90 V indicated?

YES -Go to step 20 .

NO -Go to step 14.

14. Measure voltage between FTP sensor 3P connector terminal No. 1 and body ground.

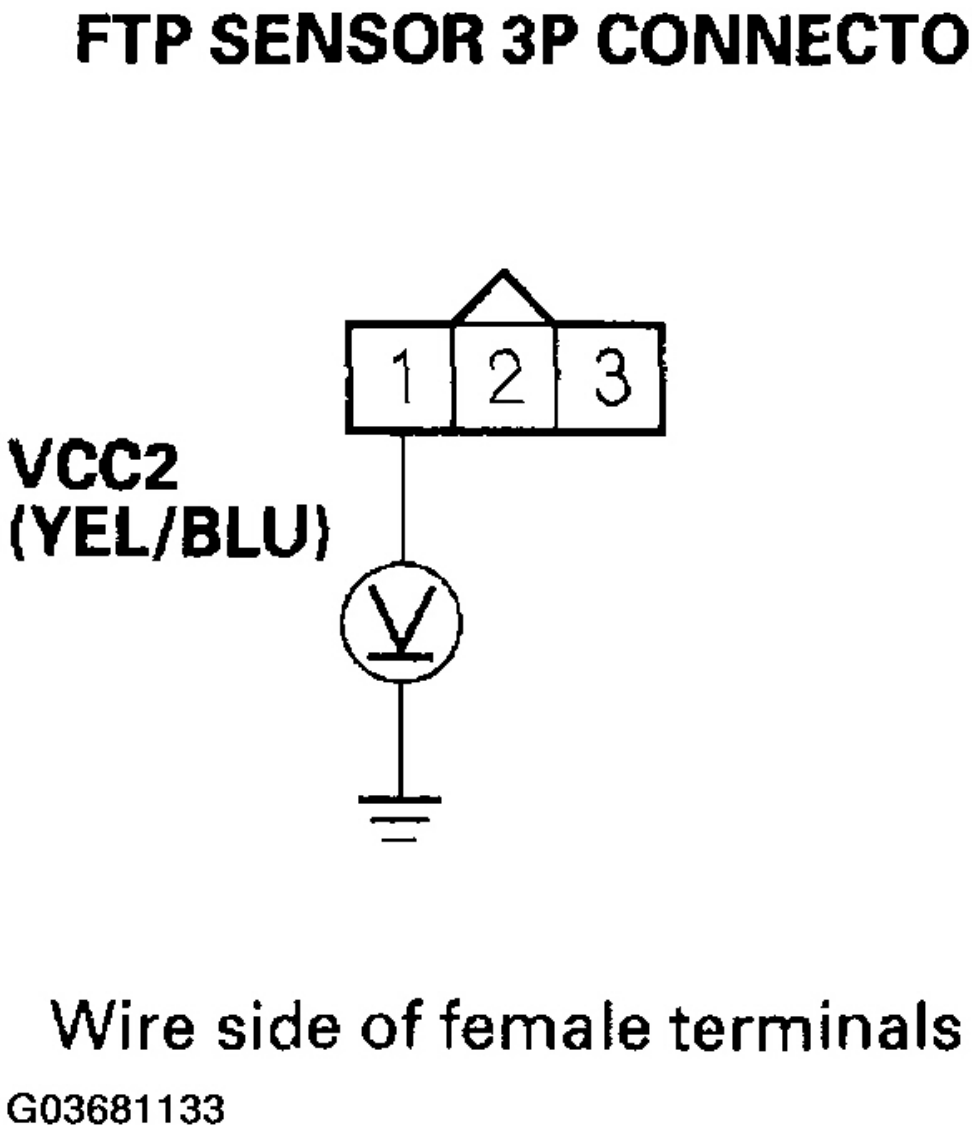


Fig. 21: Measuring Voltage Between FTP Sensor 3P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 16 .

NO -Go to step 15.

15. Measure voltage between ECM connector terminal C28 and body ground.

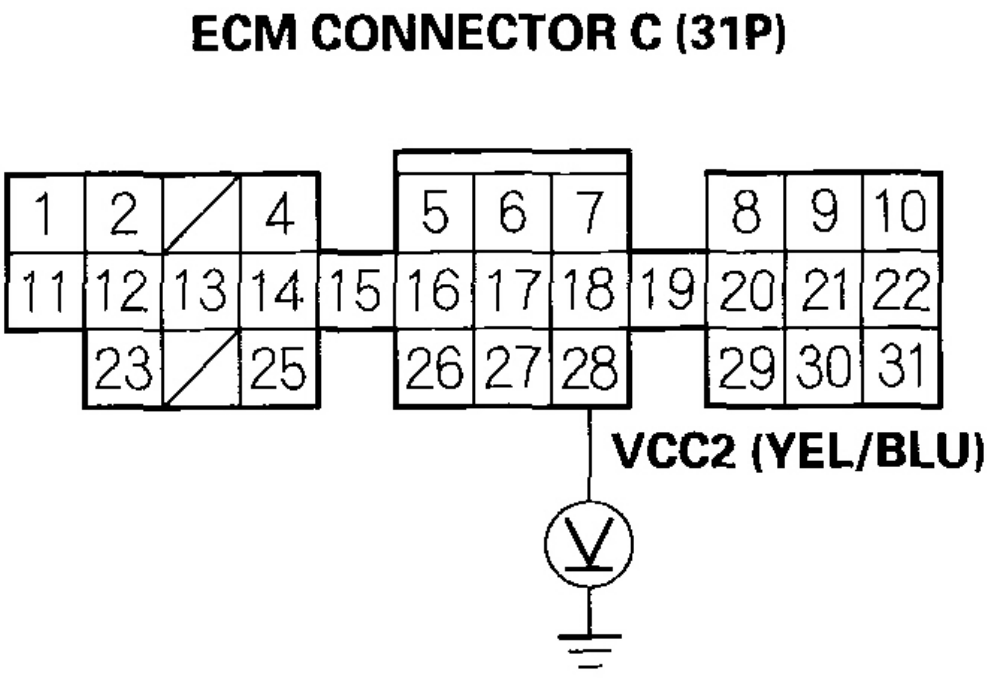


Fig. 22: Measuring Voltage Between ECM Connector Terminal C28 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there 5 V?

YES -Repair open in the wire between the ECM (C28) and the FTP sensor, then go to step 23 .

NO -Go to step 28 .

16. Turn the ignition switch OFF.
17. Wait for 1 minute. If the radiator fan is running, wait for 1 minute after it stops.
18. Disconnect ECM connector C (31P).
19. Check for continuity between FTP sensor 3P connector terminal No. 2 and body ground.

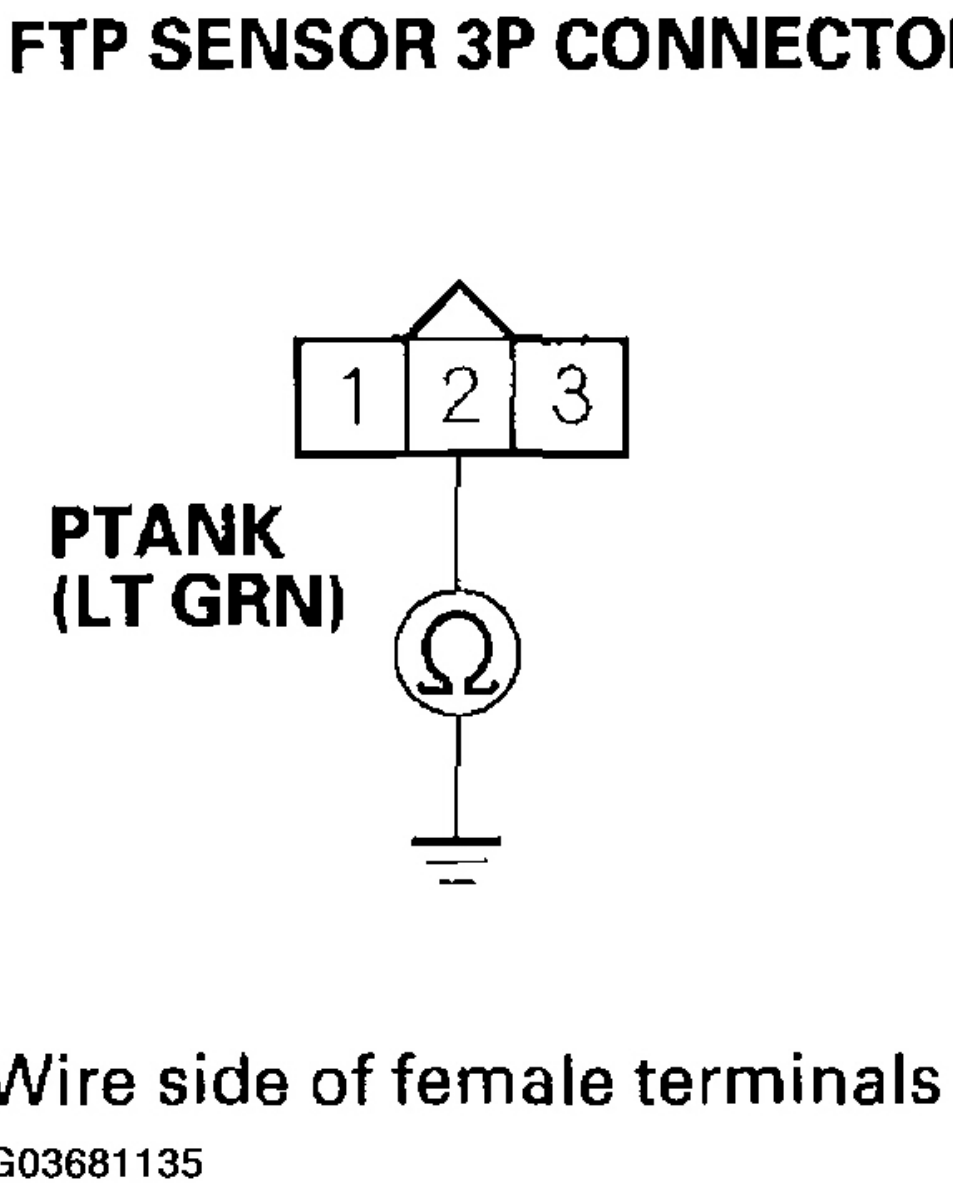


Fig. 23: Checking For Continuity Between FTP Sensor 3P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM (A29) and the FTP sensor, then go to step 22 .

NO -Go to step 28 .

20. Turn the ignition switch OFF.
21. Replace the FTP sensor (see **FTP SENSOR REPLACEMENT**).
22. Reconnect all connectors.
23. Turn the ignition switch ON (II).
24. Reset the ECM with the HDS.
25. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE**).
26. Check for Temporary DTCs or DTCs with the HDS.

Are any Temporary DTCs or DTCs indicated?

YES -If DTC P0452 is indicated, check for poor connections or loose terminals at the FTP sensor and the ECM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated **DTC TROUBLESHOOTING** .

NO -Go to step 27.

27. Monitor the OBD STATUS for DTC P0452 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

YES -Troubleshooting is complete.

NO -If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor and the ECM, then go to step 1 . If the screen indicates NOT COMPLETED, go to step 25 and recheck.

28. Update the ECM if it does not have the latest software, or substitute a known-good ECM (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2006 M/T MODELS AND CVT MODEL**).
29. Check for Temporary DTCs or DTCs with the HDS.

Are any Temporary DTCs or DTCs indicated?

YES -If DTC P0452 is indicated, check for poor connections or loose terminals at the FTP sensor and the ECM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated **DTC TROUBLESHOOTING** .

NO -If the ECM was updated, troubleshooting is complete. If the ECM was substituted, replace the original ECM (see **ECM REPLACEMENT**).

DTC P0453: FTP SENSOR CIRCUIT HIGH VOLTAGE (2000-2005 MODELS)

NOTE: Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Check the vacuum lines of the FTP sensor for misrouting, leakage, breakage, or clogging.

   Are the vacuum lines OK?

   YES -Go to step 2.

   NO -Repair or replace vacuum lines as necessary.
2. Reset the ECM with the HDS (see **HDS CLEAR COMMAND**).
3. Remove the fuel fill cap.
4. Turn the ignition switch ON (II).
5. Monitor FTP sensor voltage with the HDS, or measure voltage between body ground and ECM connector terminal A29.

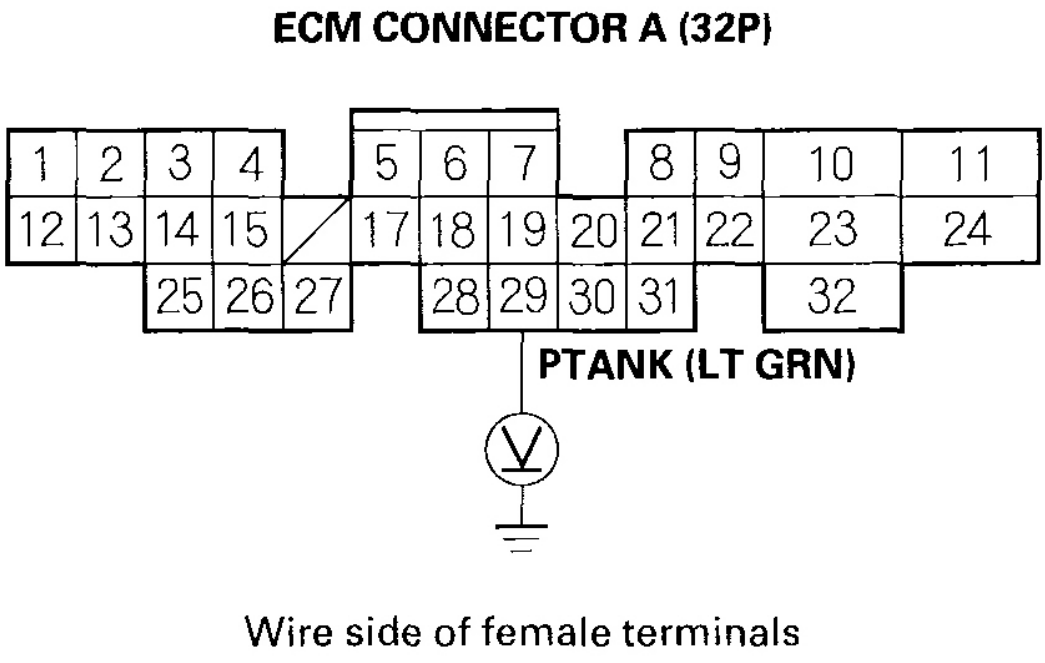


Fig. 24: Measuring Voltage Between Body Ground And ECM Connector Terminal A29
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 2.5 V?

YES -Intermittent failure, system is OK at this time. Check for poor connections or loose terminals at the FTP sensor and the ECM.

NO -Go to step 6.

6. Turn the ignition switch OFF.
7. Reinstall the fuel fill cap.
8. Disconnect the FTP sensor 3P connector.
9. Turn the ignition switch ON (II).
10. Measure voltage between FTP sensor 3P connector terminals No. 1 and No. 2.

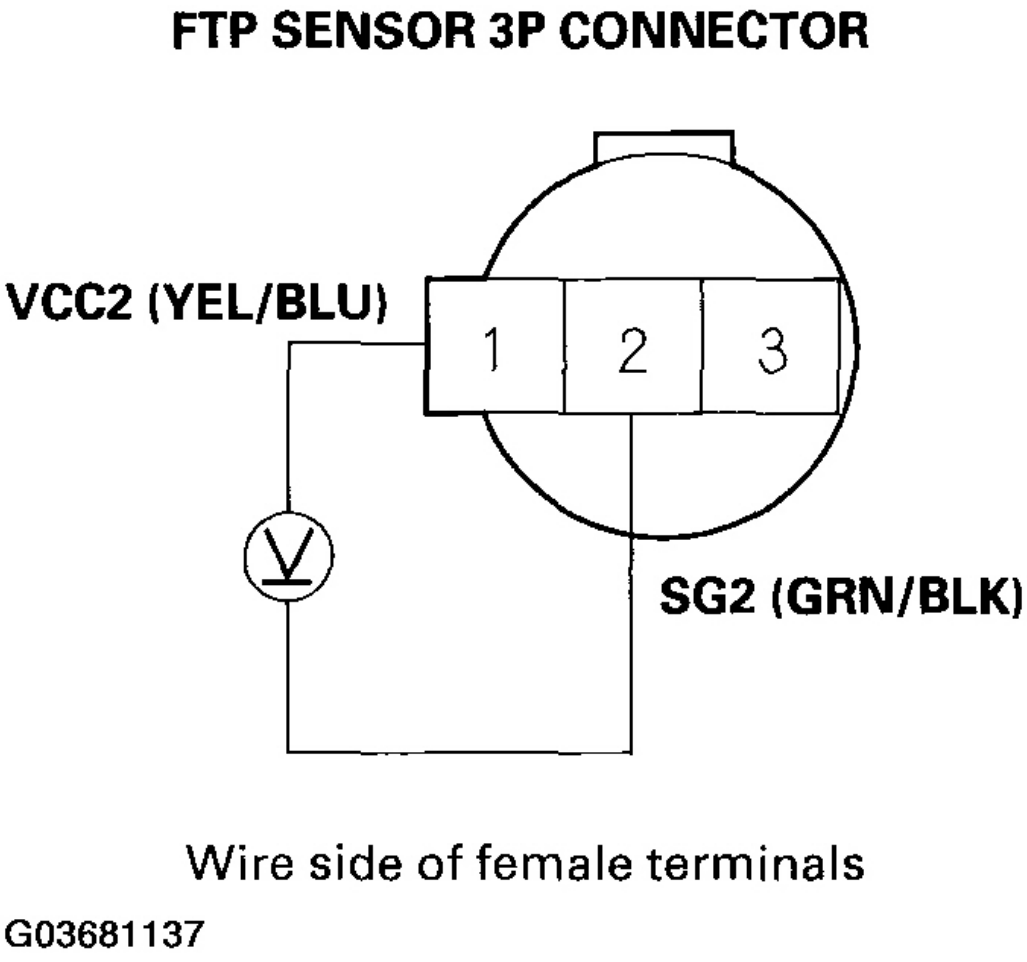


Fig. 25: Measuring Voltage Between FTP Sensor 3P Connector Terminals No. 1 And No. 2
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 11.

NO -Repair open in the wire between the FTP sensor and the ECM (C18).

11. Measure voltage between FTP sensor 3P connector terminals No. 2 and No. 3.

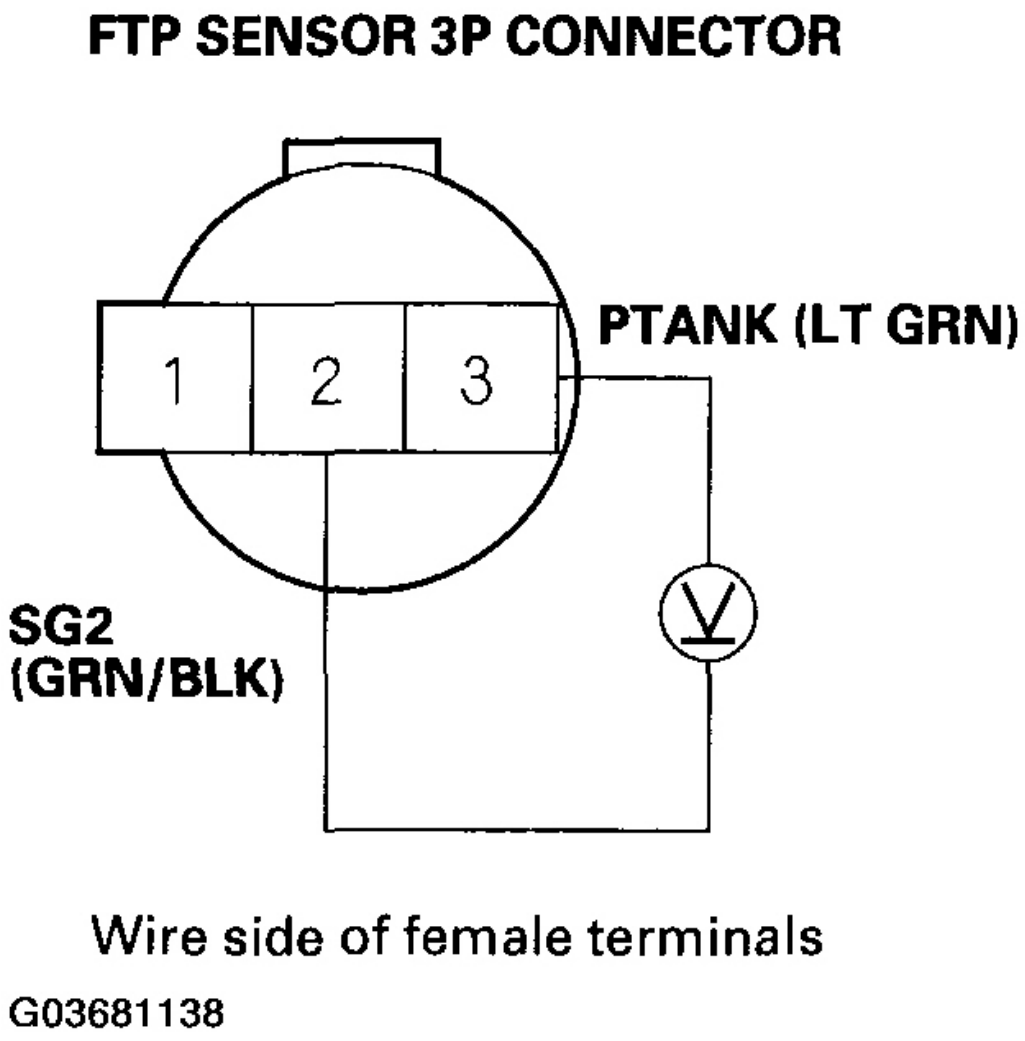


Fig. 26: Measuring Voltage Between FTP Sensor 3P Connector Terminals No. 2 And No. 3
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Replace the FTP sensor (see **FTP SENSOR REPLACEMENT**).
NO -Go to step 12.

12. Measure voltage between ECM connector terminals A29 and C18.

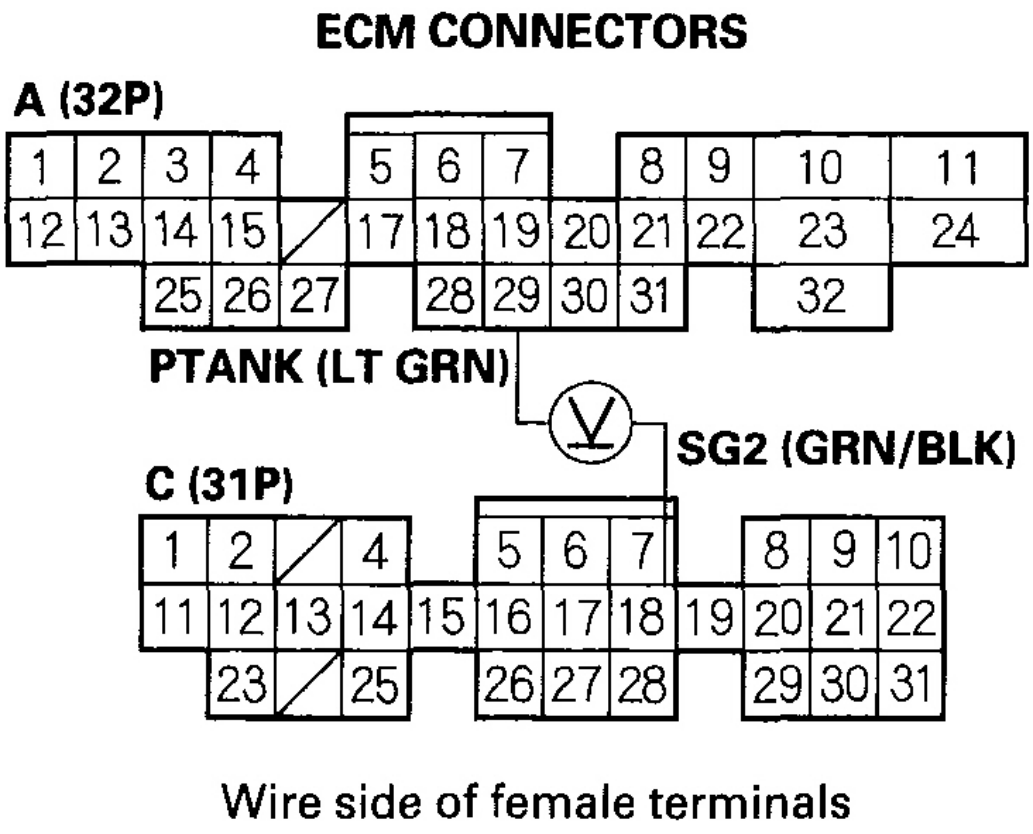


Fig. 27: Measuring Voltage Between ECM Connector Terminals A29 And C18
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Repair open in the wire between the FTP sensor and the ECM (A29).

NO -Update the ECM if it does not have the latest software, or substitute a known-good ECM; 2000-2001 M/T models (see **HOW TO TROUBLESHOOT CIRCUITS AT THE ECM**), 2002-2005 M/T models and CVT model (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2006 M/T MODELS AND CVT MODEL**), then

recheck. If the symptom/indication goes away with a known-good ECM, replace the original ECM (see **ECM REPLACEMENT**).

DTC P0453: FTP SENSOR CIRCUIT HIGH VOLTAGE (2006 MODEL)

NOTE: Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch OFF.
4. Remove the fuel fill cap.
5. Turn the ignition switch ON (II).
6. Check the FTP SENSOR in the DATA LIST with the HDS.

   Is about 7.3 kPa (2.16 in.Hg, 55 mmHg), or 4.7 V or more indicated?

   YES -Go to step 10 .

   NO -Go to step 7.
7. Install the fuel fill cap.
8. Start the engine.
9. Monitor the OBD STATUS for DTC P0453 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 10.

   NO -If the screen indicates PASSED, intermittent failure, system is OK at this time. Check for poor connections or loose terminals at the FTP sensor and ECM. If the screen indicates NOT COMPLETED, go to step 6 and recheck.
10. Turn the ignition switch OFF.
11. Disconnect the FTP sensor 3P connector.

12. Connect FTP sensor 3P connector terminals No. 2 and No. 3 with a jumper wire.

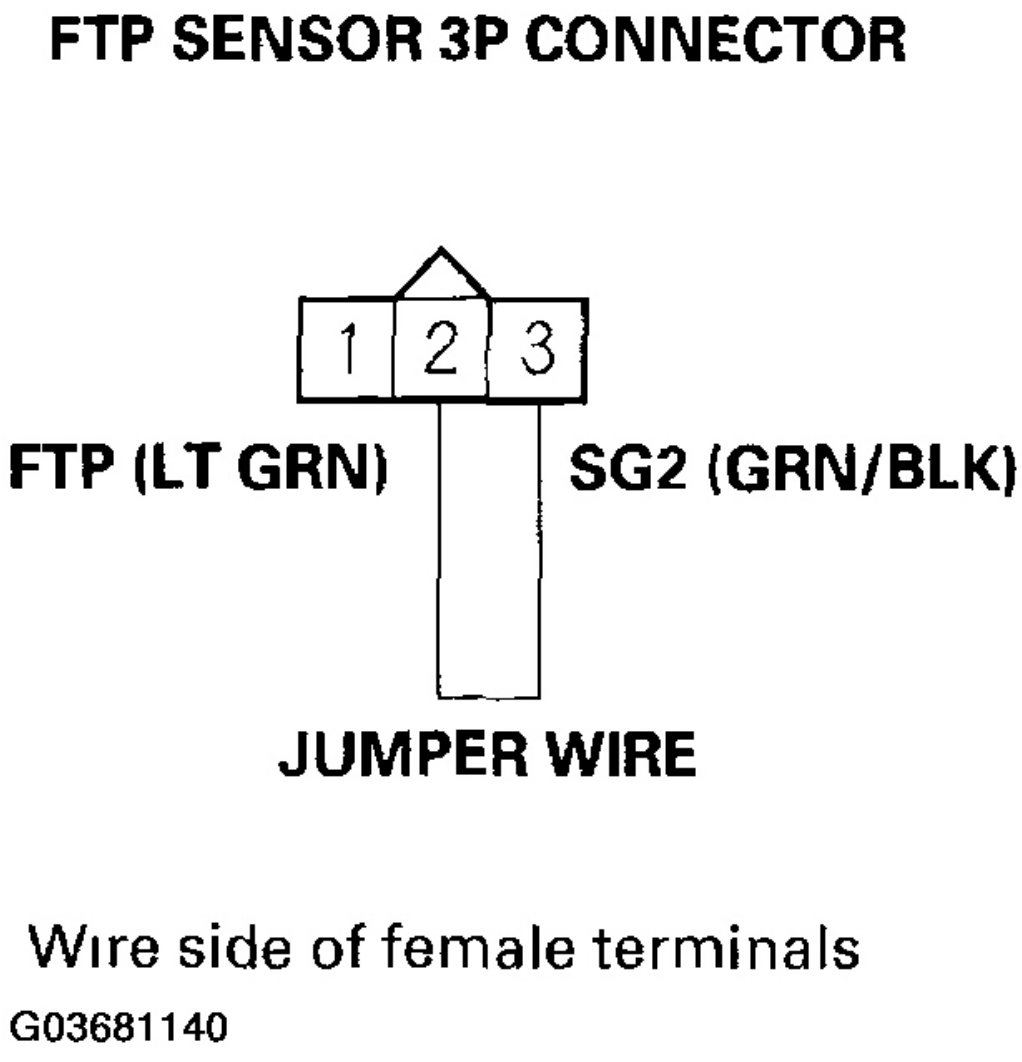


Fig. 28: Connecting FTP Sensor 3P Connector Terminals No. 2 And No. 3 With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Turn the ignition switch ON (II).

14. Check the FTP SENSOR in the DATA LIST with the HDS.

    Is about 7.3 kPa (2.16 in.Hg, 55 mmHg), or 4.7 V or more indicated?

    YES -Go to step 15.
    NO -Go to step 25 .
15. Measure voltage between FTP sensor 3P connector terminal No. 1 and No. 3.

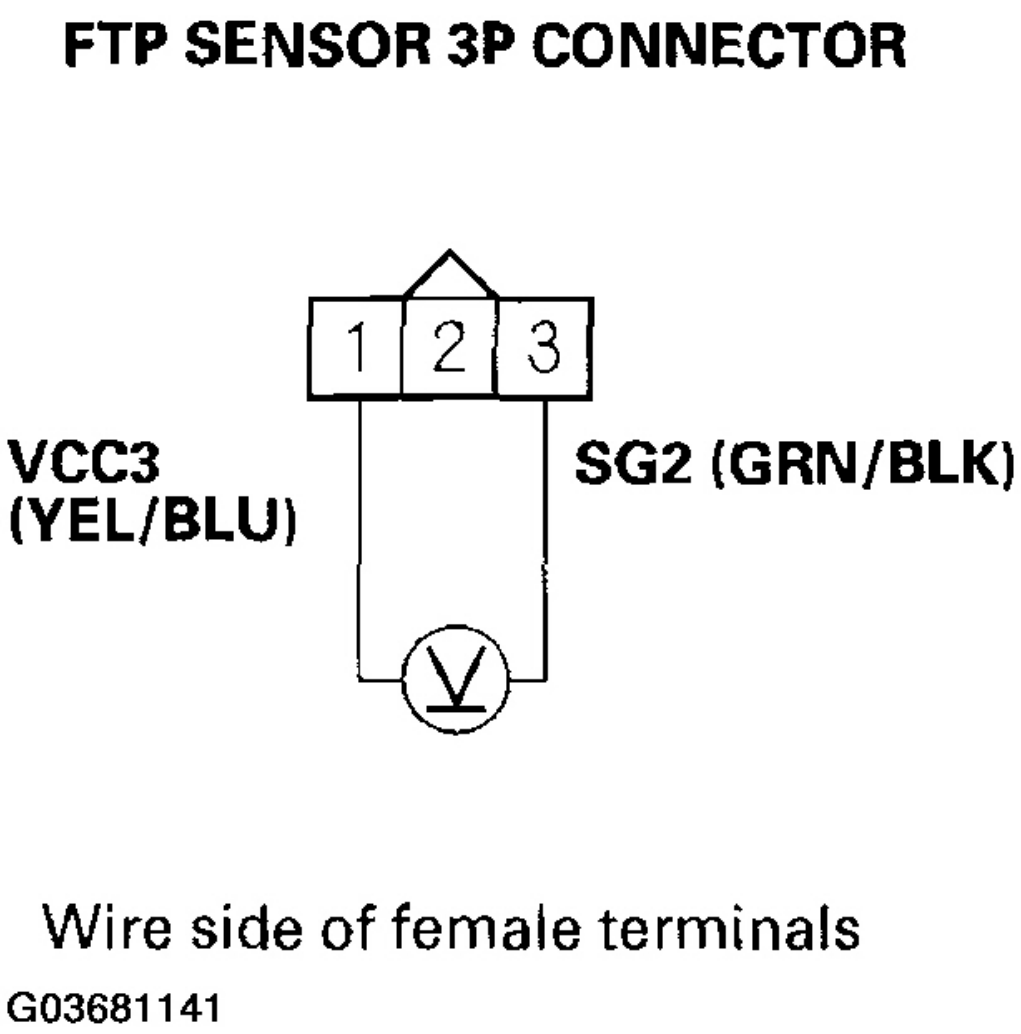


Fig. 29: Measuring Voltage Between FTP Sensor 3P Connector Terminal

No. 1 And No. 3
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 21 .

NO -Go to step 16.

16. Turn the ignition switch OFF.
17. Wait for 1 minute. If the radiator fan is running, wait for 1 minute after it stops.
18. Disconnect ECM connector C (31P).
19. Connect FTP sensor 3P connector terminal No. 3 to body ground with a jumper wire.

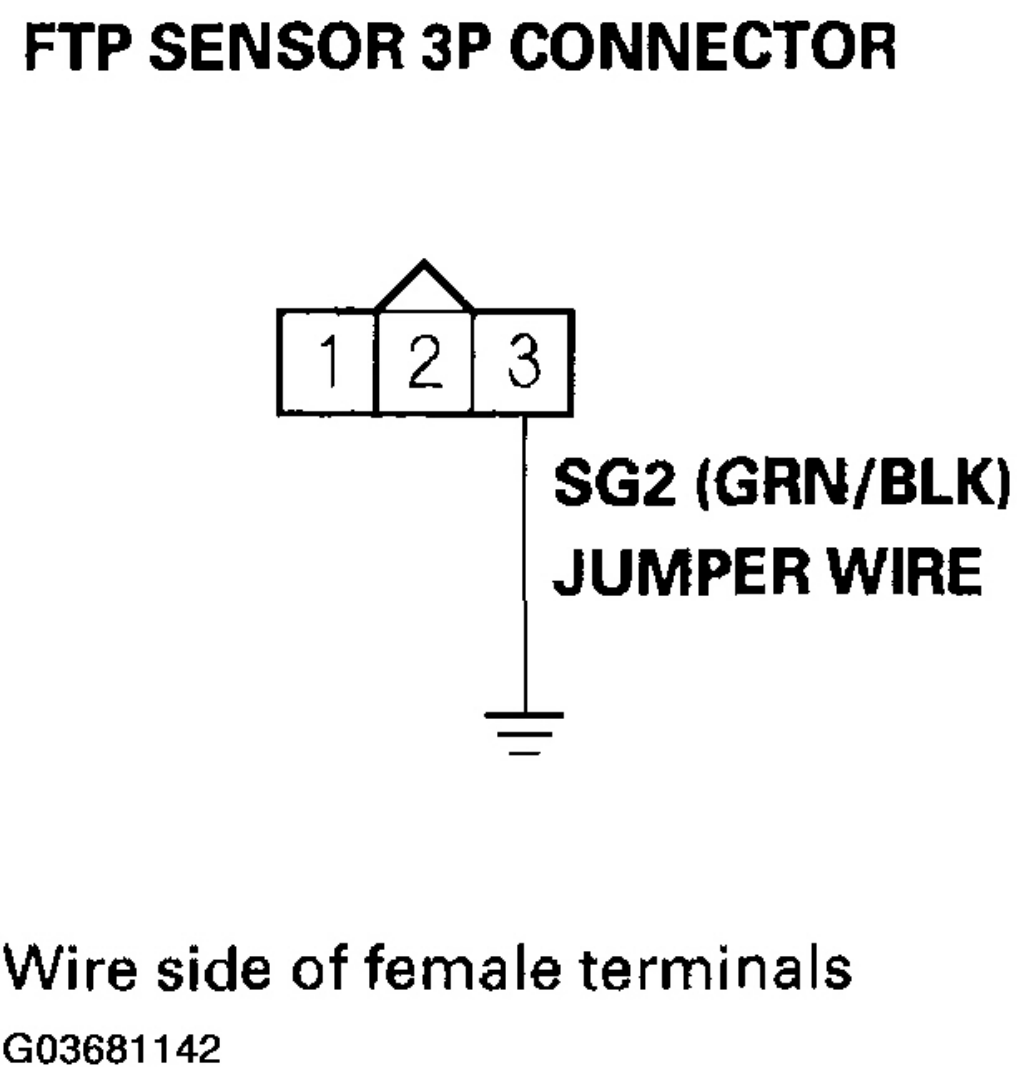


Fig. 30: Connecting FTP Sensor 3P Connector Terminal No. 3 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. Check for continuity between ECM connector terminal C18 and body ground.

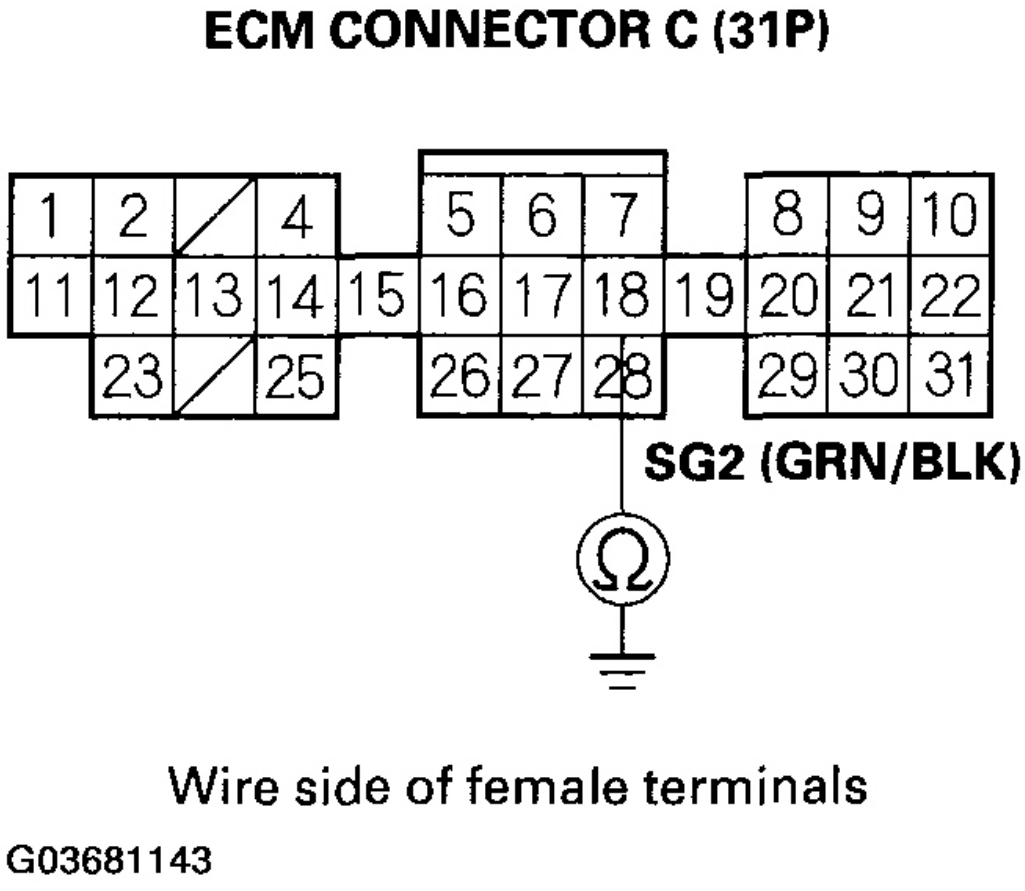


Fig. 31: Checking For Continuity Between ECM Connector Terminal C18 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 33 .

NO -Repair open in the wire between the ECM (C18) and the FTP sensor, then go to step 27 .

21. Turn the ignition switch OFF.
22. Connect ECM connector terminals A29 and C18 with a jumper wire.

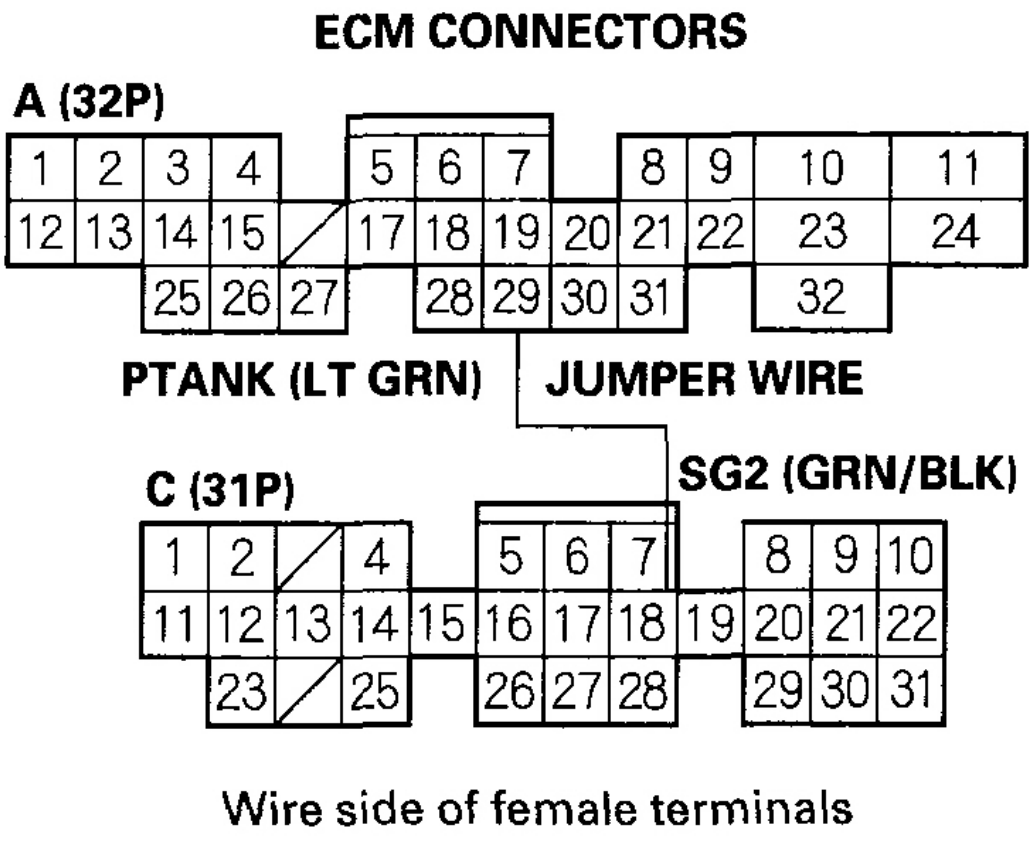


Fig. 32: Connecting ECM Connector Terminals A29 And C18 With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

23. Turn the ignition switch ON (II).
24. Check the FTP SENSOR in the DATA LIST with the HDS.

Is about 7.3 kPa (2.16 in.Hg, 55 mmHg), or 4.7 V or more indicated?

YES -Go to step 33 .

NO -Repair open in the wire between the ECM (C18) and the FTP sensor, then go to step 27 .

25. Turn the ignition switch OFF.
26. Replace the FTP sensor (see **FTP SENSOR REPLACEMENT**).
27. Reconnect all connectors.
28. Turn the ignition switch ON (II).
29. Reset the ECM with the HDS.
30. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE**).
31. Check for Temporary DTCs or DTCs with the HDS.

    Are any Temporary DTCs or DTCs indicated?

    YES -If DTC P0453 is indicated, check for poor connections or loose terminals at the FTP sensor and the ECM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated **DTC TROUBLESHOOTING** .

    NO -Go to step 32.
32. Monitor the OBD STATUS for DTC P0453 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor and the ECM, then go to step 1 . If the screen indicates NOT COMPLETED, go to step 30 and recheck.
33. Update the ECM if it does not have the latest software, or substitute a known-good ECM (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2006 M/T MODELS AND CVT MODEL**).
34. Check for Temporary DTCs or DTCs with the HDS.

    Are any Temporary DTCs or DTCs indicated?

    YES -If DTC P0453 is indicated, check for poor connections or loose terminals at the FTP sensor and the ECM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated **DTC**

TROUBLESHOOTING .

NO -If the ECM was updated, troubleshooting is complete. If the ECM was substituted, replace the original ECM (see **ECM REPLACEMENT**).

DTC P0457: EVAP SYSTEM LEAK DETECTED/FUEL FILL CAP LOOSE OR MISSING (2006 MODEL)

NOTE: Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Check the fuel fill cap (the cap must say "If not tightened 3 clicks check engine light may come on").

   Is the correct fuel fill cap installed and properly tightened?

   YES -Go to step 2.

   NO -Replace or tighten the cap, then go to step 19 .
2. Check the fuel fill cap seal (A) and the fuel fill pipe mating surface (B). Make sure the fuel fill cap tether cord (C) is not caught under the cap.

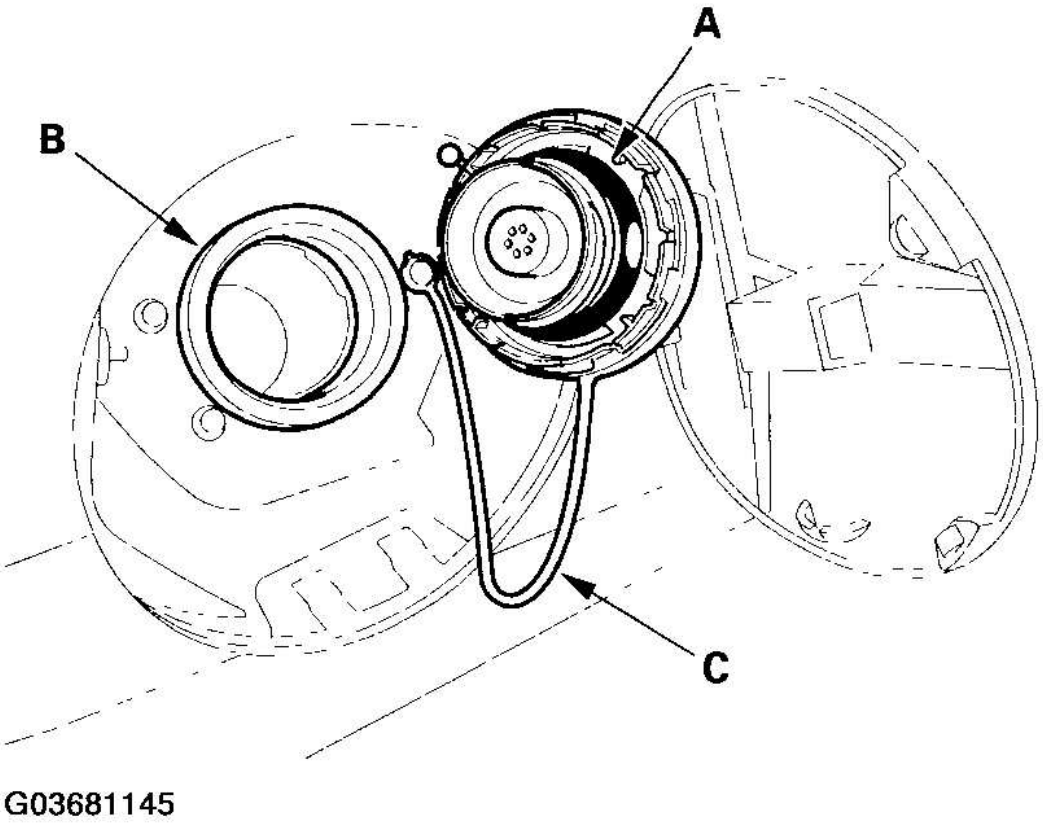


Fig. 33: Checking Fuel Fill Cap Seal And Fuel Fill Pipe Mating Surface
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is the fuel fill cap seal missing or damaged, is the fuel fill pipe damaged or is the tether cord caught under the cap?

YES -Replace the fuel fill cap or the fuel fill pipe, then go to step 19 .

NO -Go to step 3.

3. Turn the ignition switch ON (II).
4. Clear the DTC with the HDS.
5. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

Is the result OK?

YES -Intermittent failure, system is OK at this time. Check for poor connections or loose terminals at the FTP sensor, or the EVAP canister vent shut valve, and the ECM.

NO -Go to step 6.

6. Turn the ignition switch OFF.
7. Remove the EVAP canister vent shut valve from the EVAP canister (see **FTP SENSOR REPLACEMENT**).
8. Connect the 2P connector to the EVAP canister vent shut valve.
9. Turn the ignition switch ON (II).
10. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
11. Check the EVAP canister vent shut valve (A) operation.

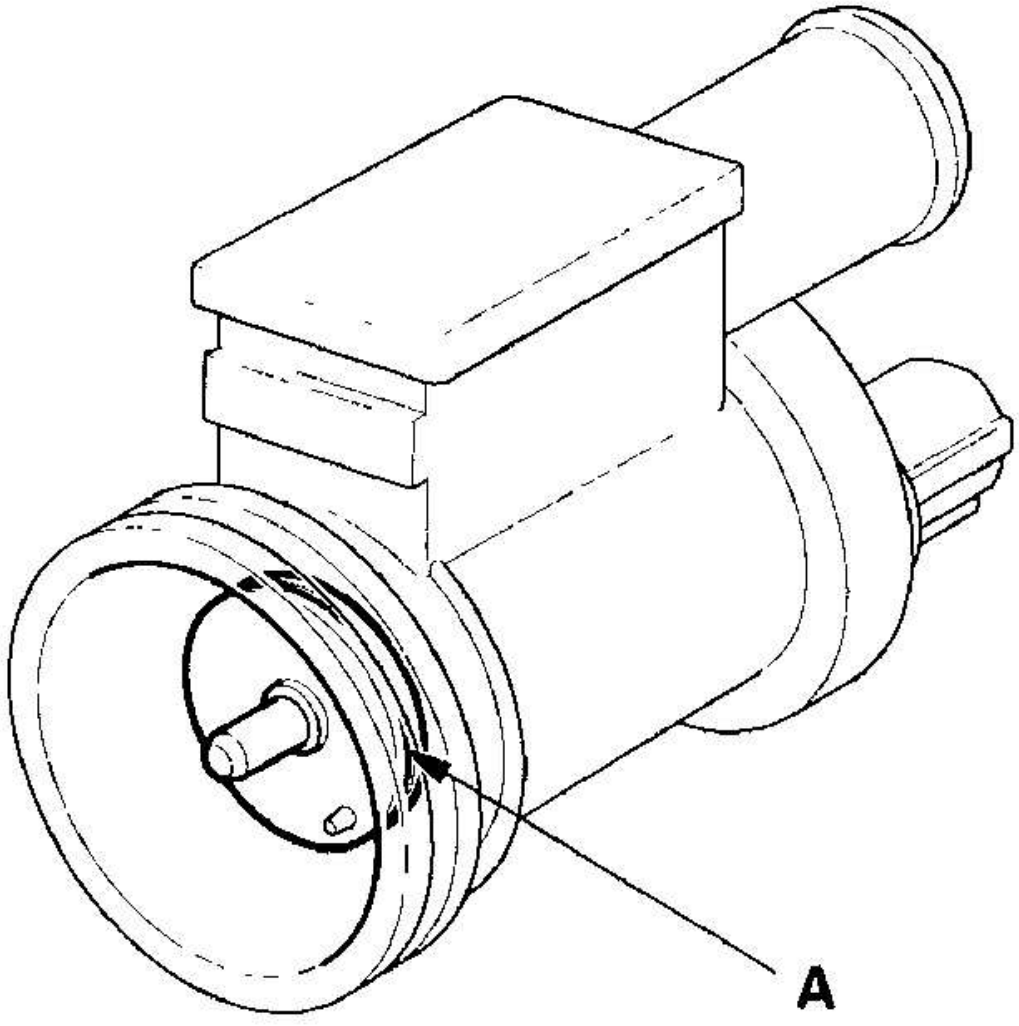


Fig. 34: Checking EVAP Canister Vent Shut Valve Operation
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Does the valve operate?

YES -Check the routing of the EVAP canister vent tube, then go to step 18 .

NO -Go to step 12.

12. Turn the ignition switch OFF.
13. Replace the EVAP canister vent shut valve (see **FTP SENSOR REPLACEMENT**).
14. Turn the ignition switch ON (II).
15. Reset the ECM with the HDS.
16. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE**).
17. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

Is the result OK?

YES -Troubleshooting is complete.

NO -Check for poor connections or loose terminals at the FTP sensor, the EVAP canister vent shut valve, and the ECM, then go to step 16 .

18. Reinstall the EVAP canister vent shut valve (see **FTP SENSOR REPLACEMENT**).
19. Turn the ignition switch ON (II).
20. Reset the ECM with the HDS.
21. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE**).
22. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

Is the result OK?

YES -Troubleshooting is complete.

NO -Check for poor connections or loose terminals at the FTP sensor, the EVAP canister vent shut valve, and the ECM, then go to step 1 .

DTC P0496: EVAP SYSTEM HIGH PURGE FLOW (2006 MODEL)

NOTE: Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).

2. Clear the DTC with the HDS.
3. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

   Is the result OK?

   YES -Intermittent failure, system is OK at this time. Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, the EVAP canister vent shut valve, and the ECM.

   NO -Go to step 4.
4. Turn the ignition switch OFF.
5. Replace the EVAP canister purge valve.
6. Turn the ignition switch ON (II).
7. Reset the ECM with the HDS.
8. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE**).
9. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

   Is the result OK?

   YES -Troubleshooting is complete.

   NO -Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, the EVAP canister vent shut valve, and the ECM, then Go to step 1 .

DTC P0497: EVAP SYSTEM LOW PURGE FLOW (2004-2005 MODELS)

Special Tools Required

Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available

NOTE: Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).

2. Measure voltage between ECM connector terminal A6 and body ground.

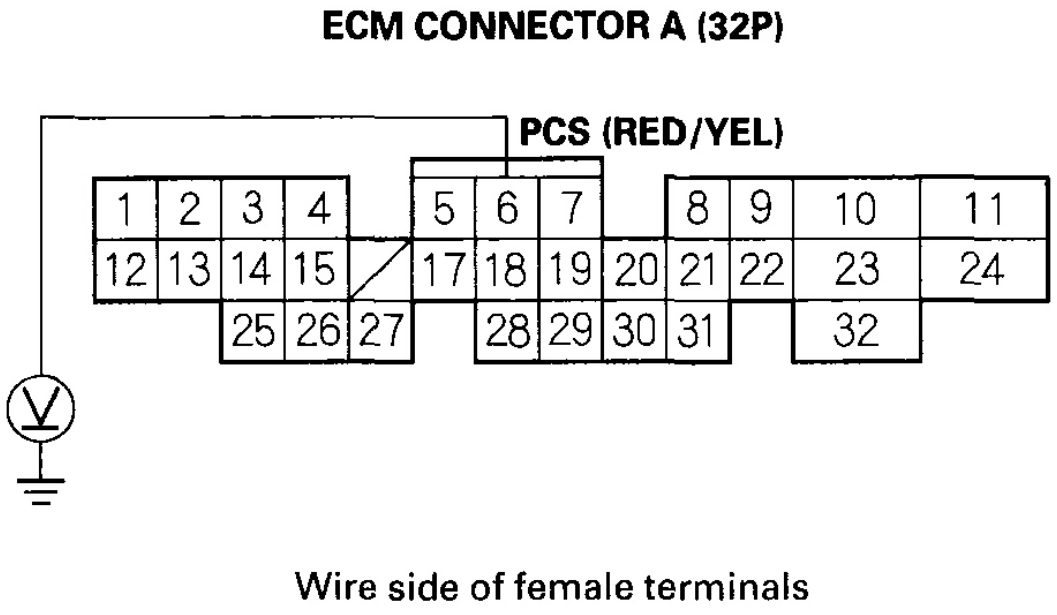


Fig. 35: Measuring Voltage Between ECM Connector Terminal A6 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 3.

NO -Go to step 8 .

3. Turn the ignition switch OFF.
4. Disconnect the vacuum hose (A) from the EVAP canister purge line (B) and connect a vacuum pump/gauge, 0-30 in.Hg, to the hose.

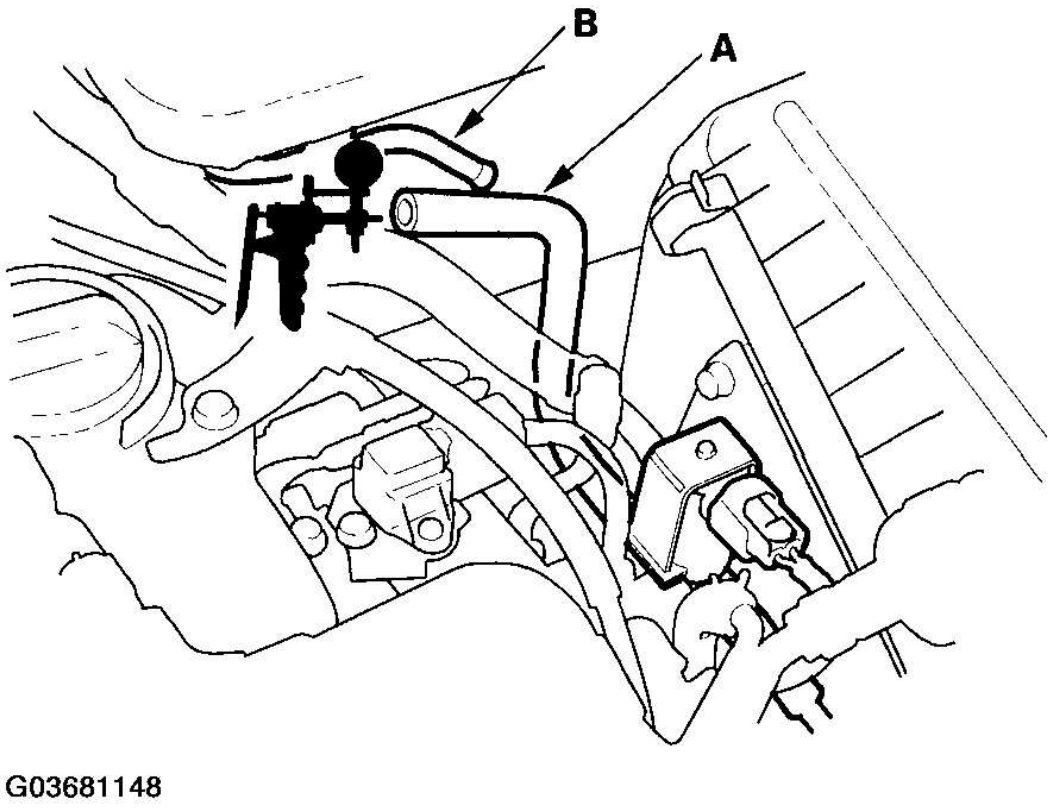


Fig. 36: Disconnecting Vacuum Hose From EVAP Canister Purge Line
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Connect ECM connector terminal A6 to body ground with a jumper wire.

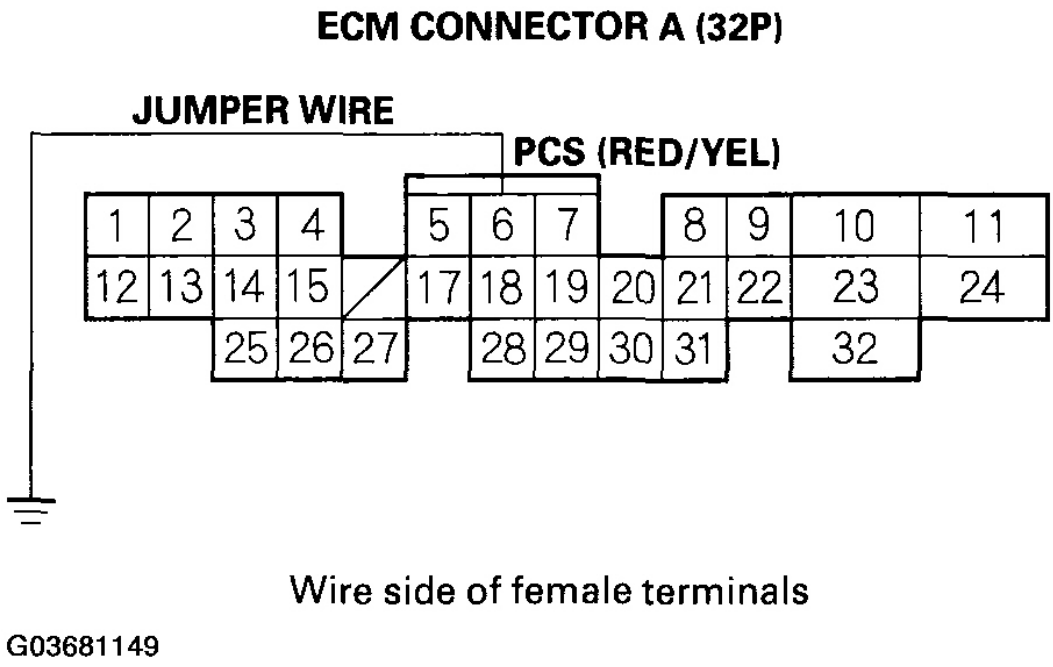


Fig. 37: Connecting ECM Connector Terminal A6 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Turn the ignition switch ON (II).
7. Apply vacuum to the hose.

Does the valve hold vacuum?

YES -Replace the EVAP canister purge valve.
NO -Go to step 16 .

8. Turn the ignition switch OFF.
9. Disconnect ECM connector A (32P).
10. Connect ECM connector terminal A6 to body ground with a jumper wire.

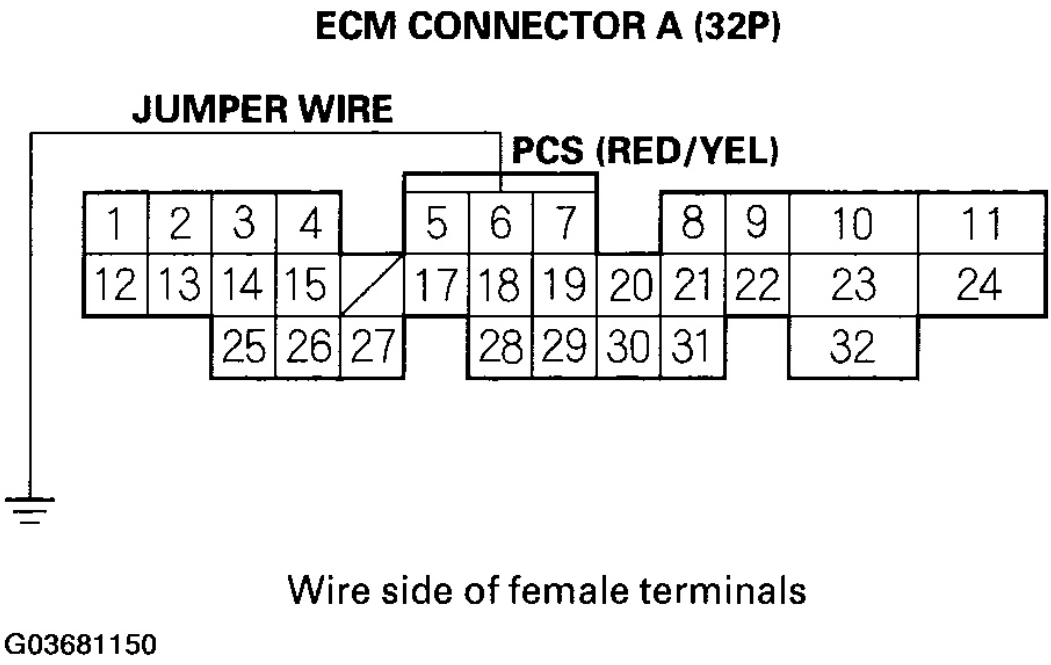


Fig. 38: Connecting ECM Connector Terminal A6 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Disconnect the EVAP canister purge valve 2P connector.
12. Check for continuity between EVAP canister purge valve 2P connector terminal No. 2 and body ground.

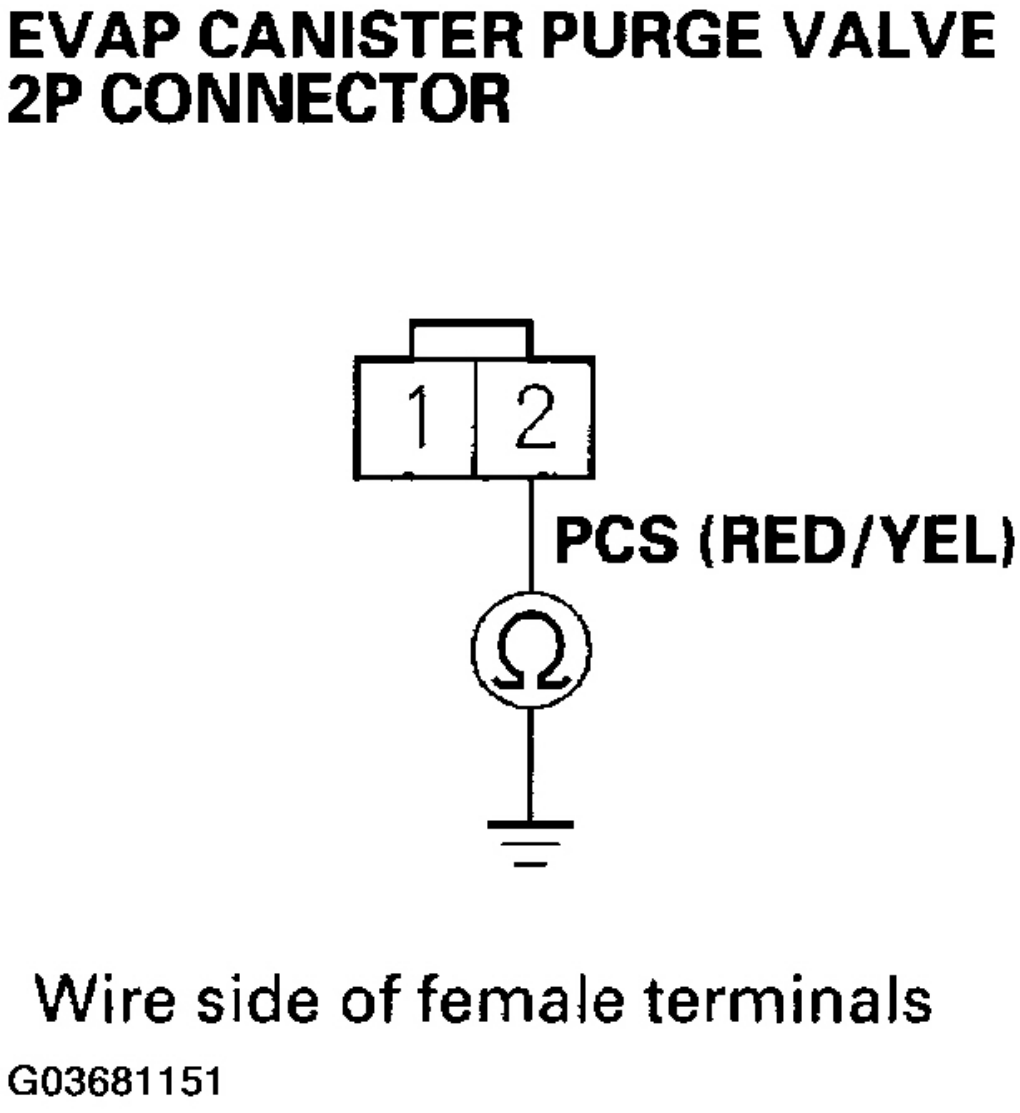


Fig. 39: Checking For Continuity Between EVAP Canister Purge Valve 2P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

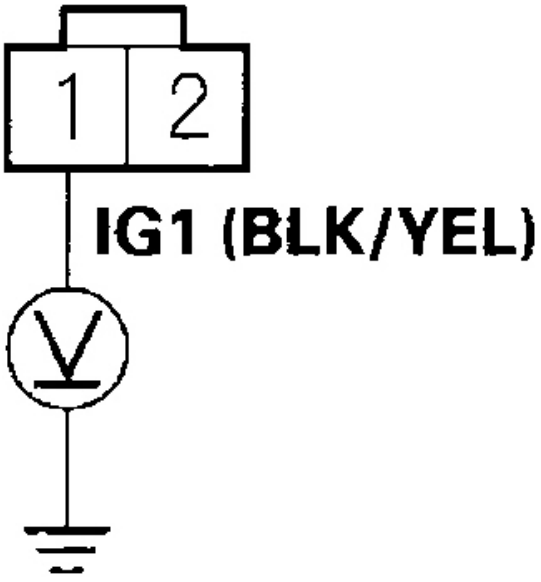
Is there continuity?

YES -Go to step 13.

NO -Repair open in the wire between the EVAP canister purge valve and the ECM (A6).

13. Turn the ignition switch ON (II).
14. Measure voltage between EVAP canister purge valve 2P connector terminal No. 1 and body ground.

EVAP CANISTER PURGE VALVE 2P CONNECTOR



Wire side of female terminals

G03681152

Fig. 40: Measuring Voltage Between EVAP Canister Purge Valve 2P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 15.

NO -Repair open in the wire between the EVAP canister purge valve and the No. 4 (7.5 A) fuse in the under-dash fuse/relay box.

15. At the sensor side, measure resistance between EVAP canister purge valve 2P connector terminals No. 1 and No. 2.

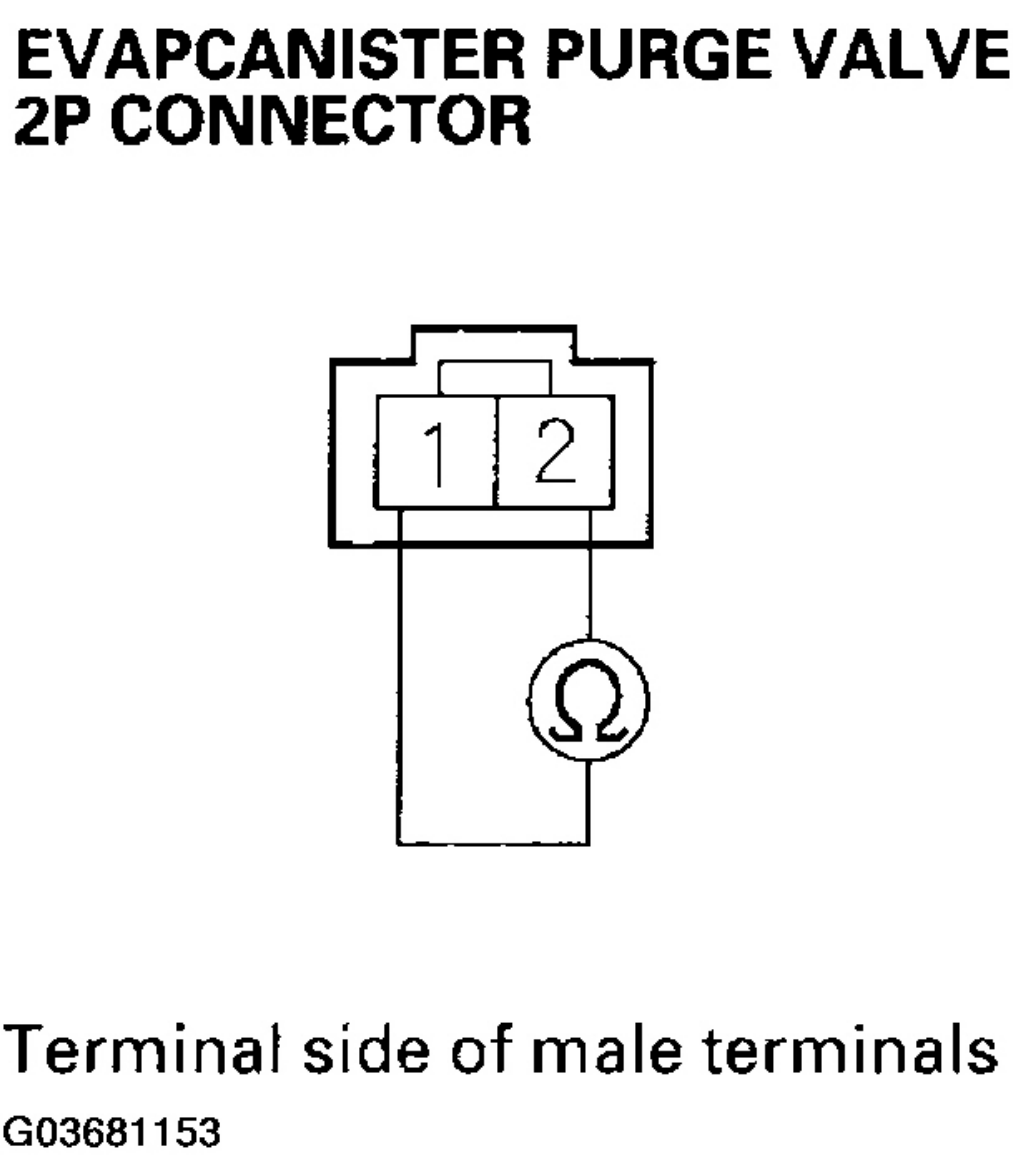


Fig. 41: Measuring Resistance Between EVAP Canister Purge Valve 2P Connector Terminals No. 1 And No. 2
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 33 ohm at room temperature?

YES -Update the ECM if it does not have the latest software, or substitute

a known-good ECM (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2006 M/T MODELS AND CVT MODEL**), then recheck. If the symptom/indication goes away with a known-good ECM, replace the original ECM (see **ECM REPLACEMENT**).

NO -Replace the EVAP canister purge valve.

16. Measure voltage between ECM connector terminal A4 and body ground.

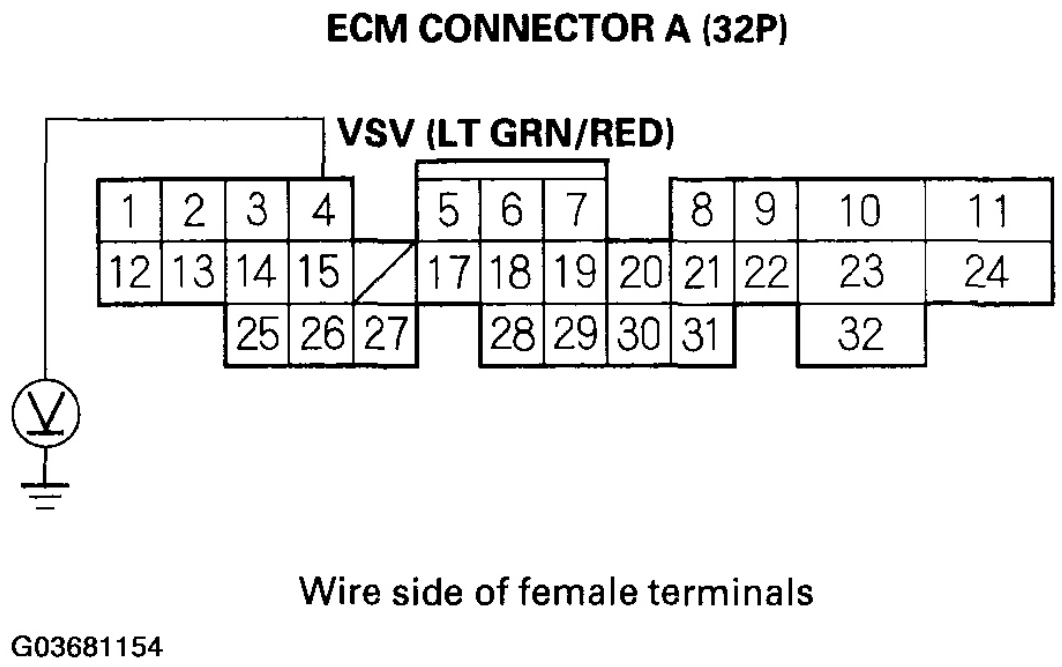


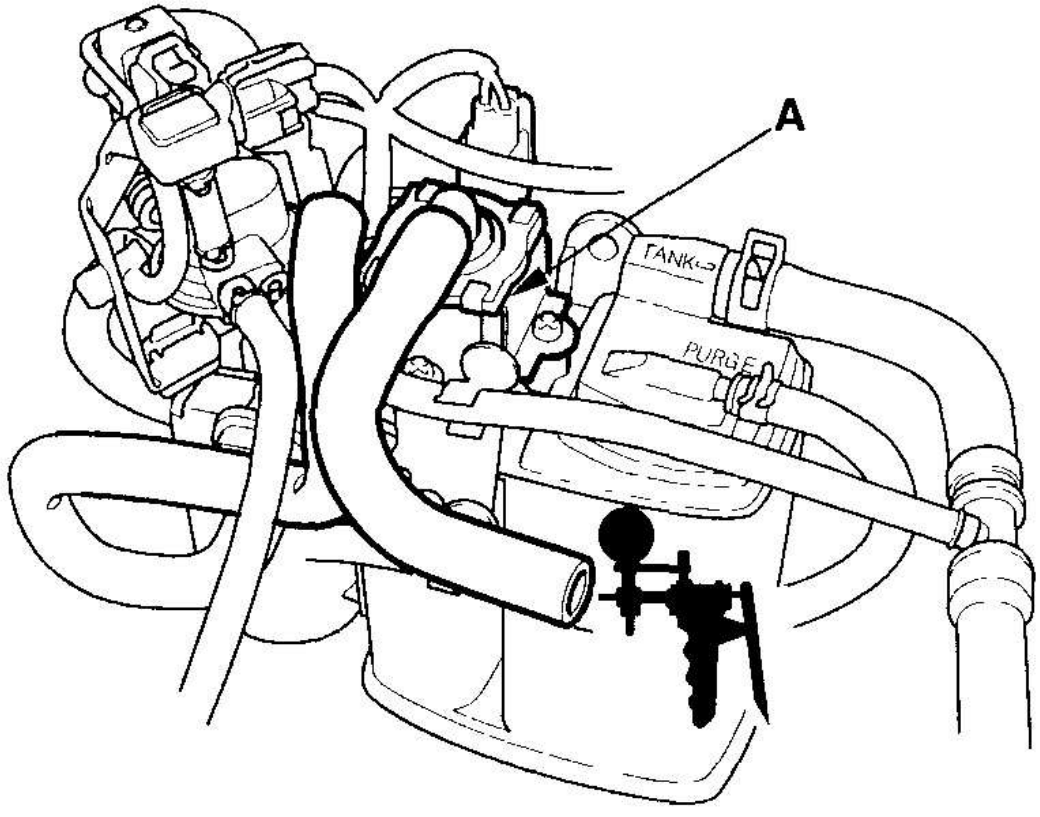
Fig. 42: Measuring Voltage Between ECM Connector Terminal A4 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 17.

NO -Go to step 22 .

17. Turn the ignition switch OFF.
18. Disconnect the vacuum hose from the EVAP canister vent filter line (A), and connect a vacuum pump/gauge, 0-30 in.Hg, to the hose.



G03681155

Fig. 43: Connecting Vacuum Pump/Gauge To Hose
Courtesy of AMERICAN HONDA MOTOR CO., INC.

19. Connect ECM connector terminal A4 to body ground with a jumper wire.

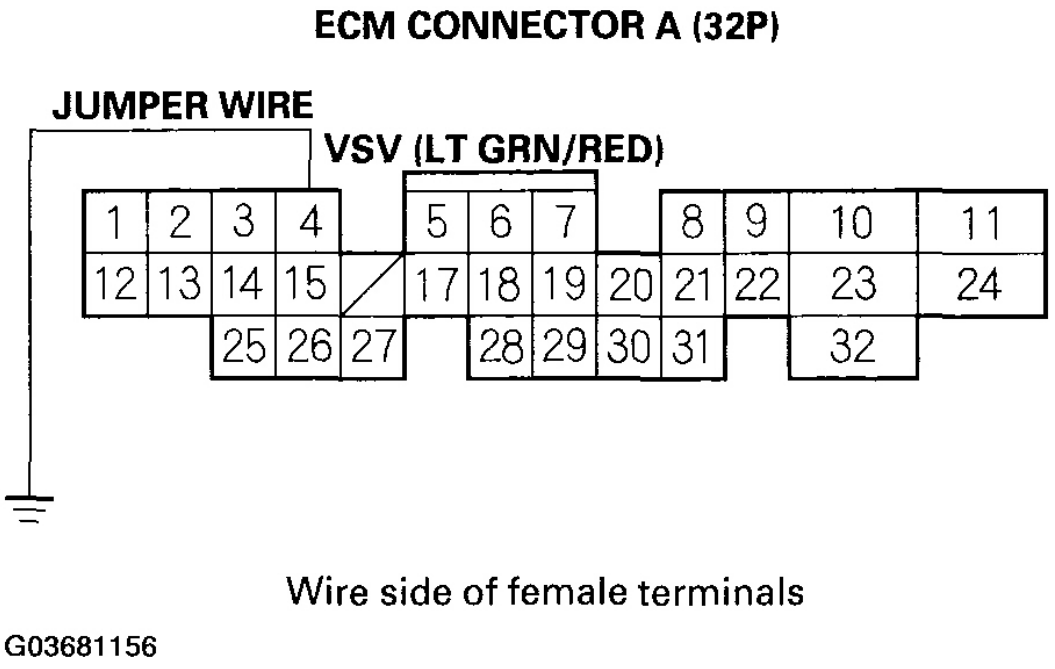


Fig. 44: Connecting ECM Connector Terminal A4 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. Turn the ignition switch ON (II).
21. Apply vacuum to the hose.

Does the valve hold vacuum?

YES -Inspect the vacuum line between the EVAP canister purge valve and the EVAP canister.

NO -Replace the EVAP canister vent shut valve.

22. Turn the ignition switch OFF.
23. Disconnect ECM connector A (32P).
24. Connect ECM connector terminal A4 to body ground with a jumper wire.

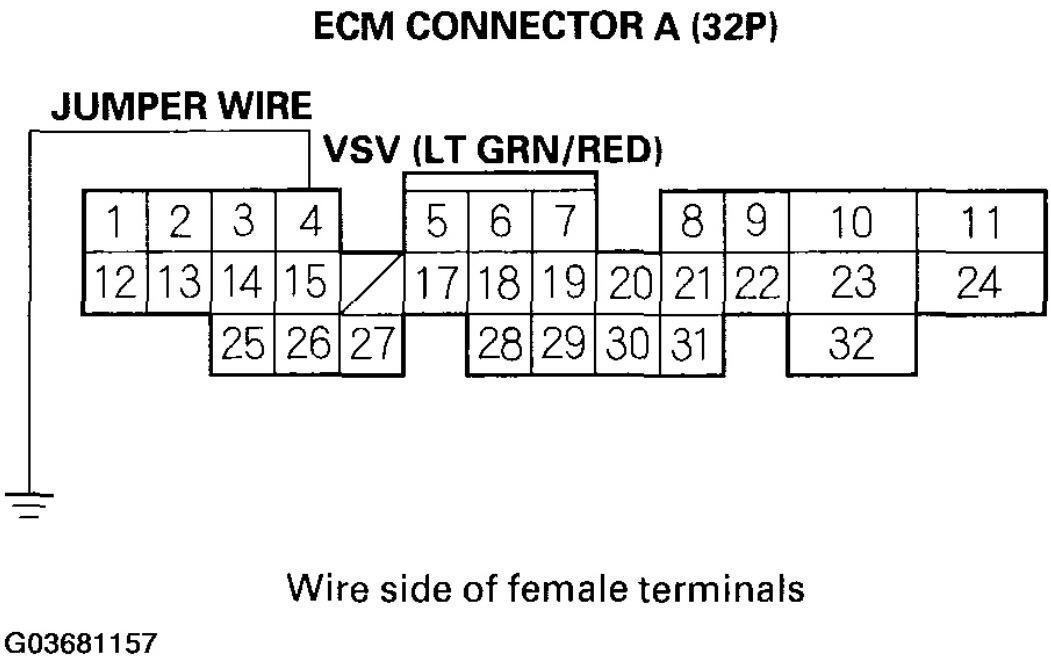


Fig. 45: Connecting ECM Connector Terminal A4 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

25. Disconnect the EVAP canister vent shut valve 2P connector.
26. Check for continuity between EVAP canister vent shut valve 2P connector terminal No. 2 and body ground.

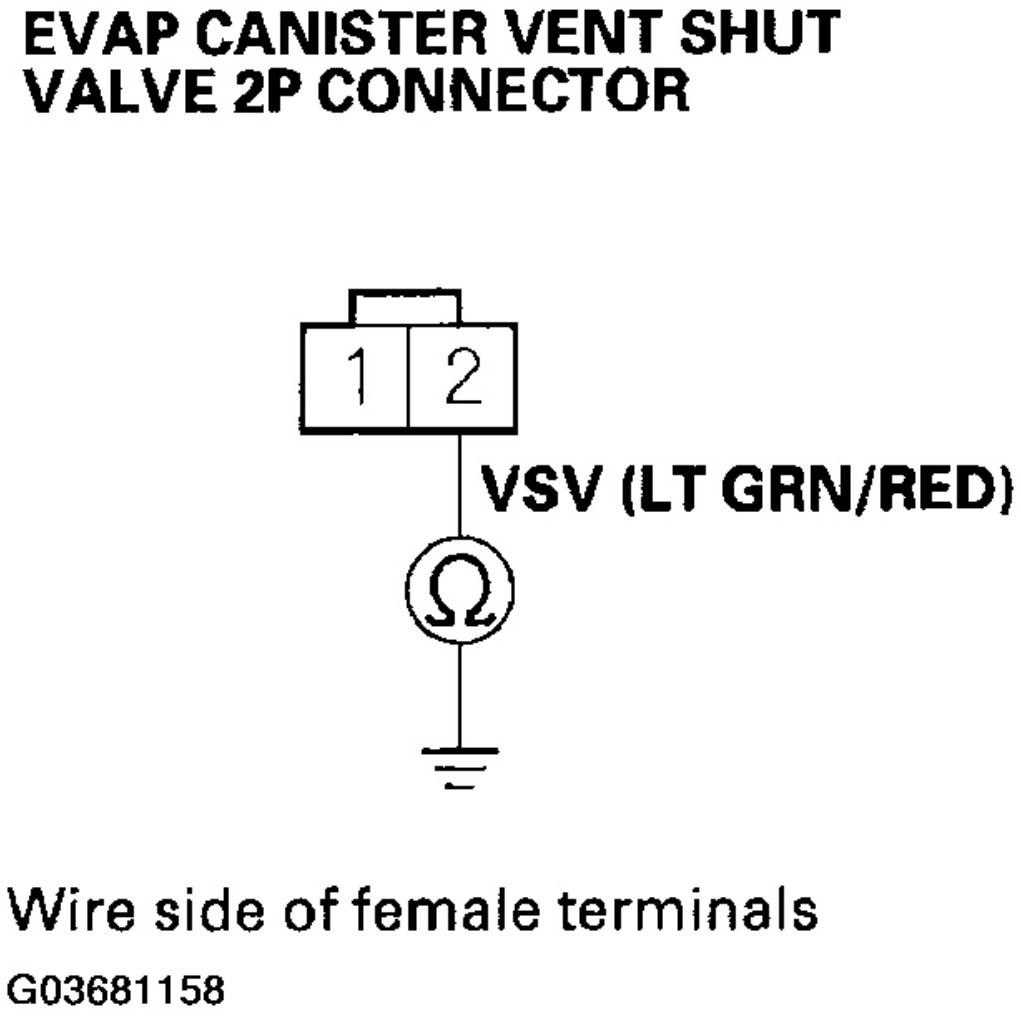


Fig. 46: Checking For Continuity Between EVAP Canister Vent Shut Valve 2P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 27.

NO -Repair open in the wire between the EVAP canister vent shut valve and the ECM (A4).

27. Turn the ignition switch ON (II).
28. Measure voltage between EVAP canister vent shut valve 2P connector terminal No. 1 and body ground.

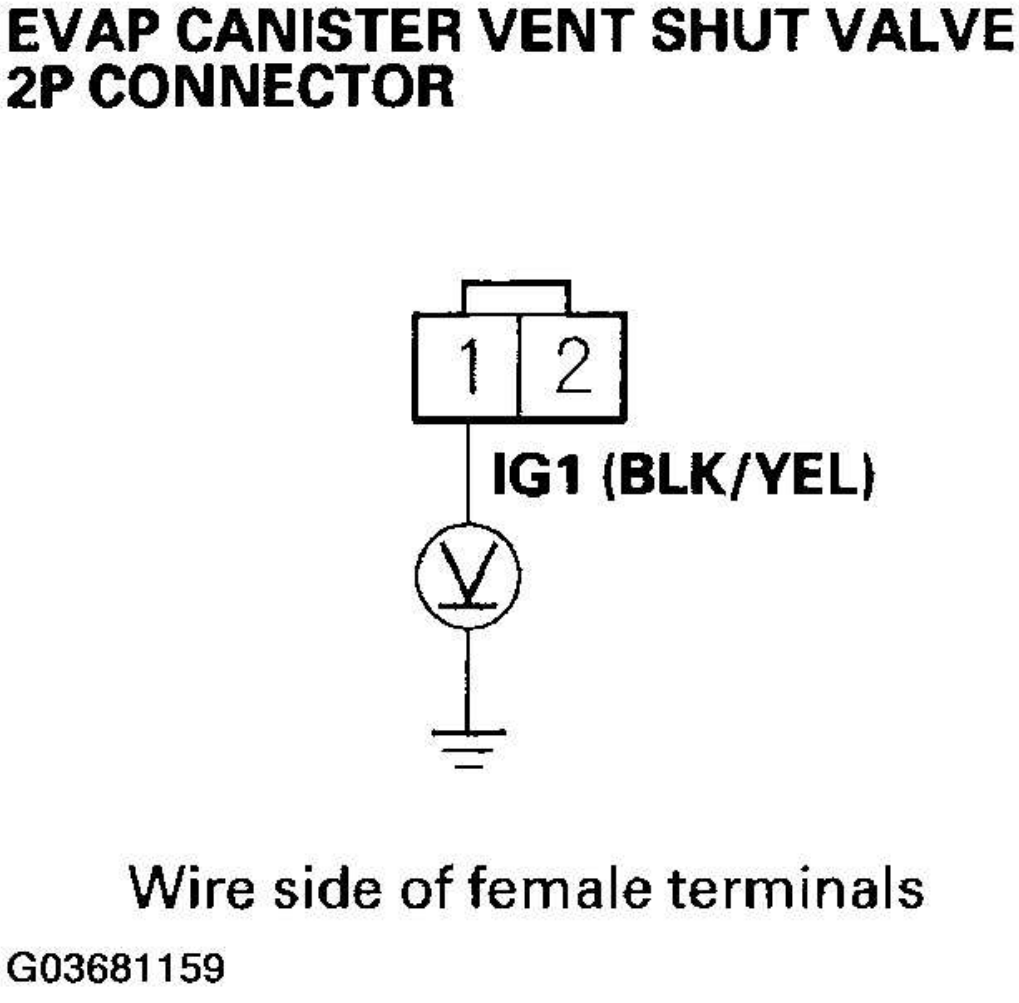


Fig. 47: Measuring Voltage Between EVAP Canister Vent Shut Valve 2P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 29.

NO -Repair open in the wire between the EVAP canister vent shut valve and the No. 4 (7.5 A) fuse in the under-dash fuse/relay box.

29. At the sensor side, measure resistance between EVAP canister vent shut valve 2P connector terminals No. 1 and No. 2.

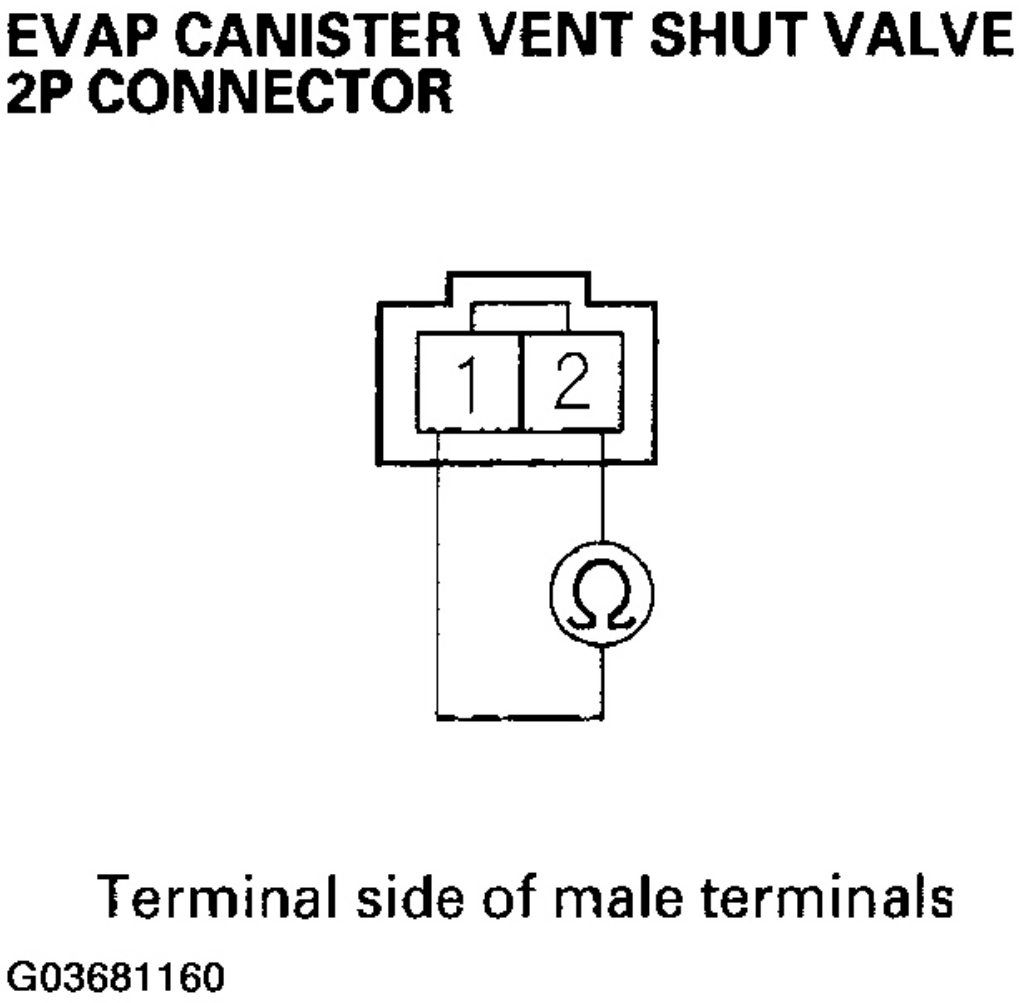


Fig. 48: Measuring Resistance Between EVAP Canister Vent Shut Valve 2P Connector Terminals No. 1 And No. 2
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 33 ohm at room temperature?

YES -Update the ECM if it does not have the latest software, or substitute a known-good ECM (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2006 M/T MODELS AND CVT MODEL**), then recheck. If the symptom/indication goes away with a known-good ECM, replace the original ECM (see **ECM REPLACEMENT**).

NO -Replace the EVAP canister vent shut valve.

DTC P0497: EVAP SYSTEM LOW PURGE FLOW (2006 MODEL)

Special Tools Required

- Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available
- Vacuum/pressure gauge, 0-4 in.Hg 07JAZ-001000B
- Fuel joint attachment 07AAJ-S6MA150

NOTE: Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Check the fuel fill cap (the cap must say "If not tightened 3 clicks check engine light may come on").

   Is the correct fuel fill cap Installed and properly tightened?

   YES -Go to step 2.

   NO -Replace or tighten the cap, then go to step 24 .
2. Turn the ignition switch ON (II).
3. Clear the DTC with the HDS.
4. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

   Is the result OK?

   YES -Intermittent failure, system is OK at this time. Check for poor

connections or loose terminals at the FTP sensor, the EVAP canister purge valve, or the EVAP canister vent shut valve and the ECM.

NO -Go to step 5.

5. Check for a loose or damaged EVAP canister purge line between the intake manifold and the EVAP canister purge valve.

   Is the line OK?

   YES -Go to step 6.

   NO -Reconnect or repair the EVAP canister purge line, then go to step 23 .

6. Disconnect the vacuum hose (A) from the purge line, and connect a T-fitting (B) from the vacuum gauge and the vacuum pump/gauge, 0-30 in.Hg, to the EVAP canister purge valve as shown.

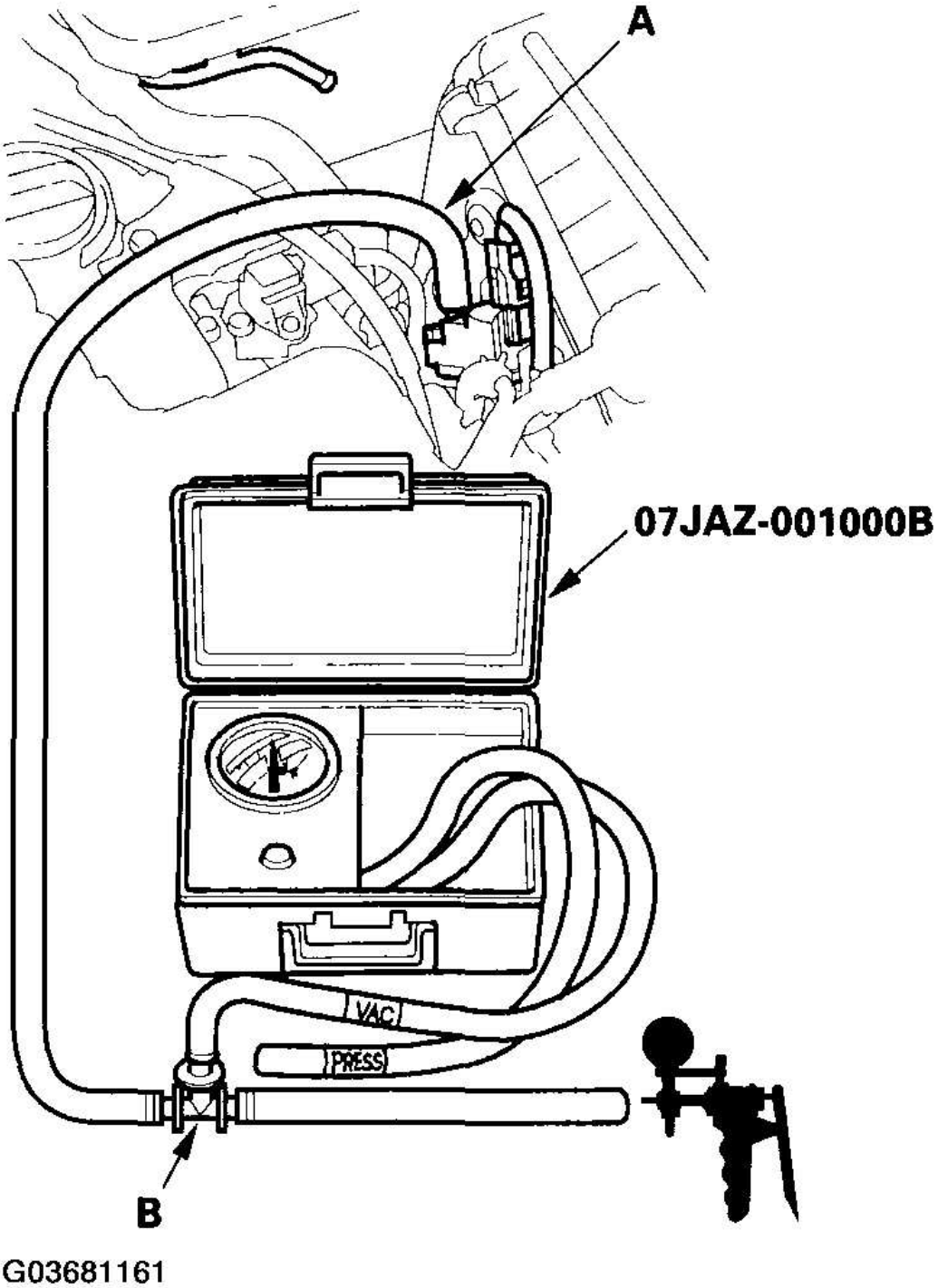


Fig. 49: Connecting T-Fitting From Vacuum Gauge And Vacuum

Pump/Gauge, 0-30 In.Hg, To EVAP Canister Purge Valve
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Select EVAP PCS ON in the INSPECTION MENU with the HDS.
8. Slowly apply about 2 kPa (0.6 in.Hg, 15 mmHg) of vacuum to the hose.

   Does it hold vacuum?

   YES -Check for a blockage on the EVAP canister purge line between the intake manifold and the EVAP canister purge valve. If the vacuum hose is OK, replace the EVAP canister purge valve, then go to step 24 .

   NO -Go to step 9.
9. Reconnect the vacuum hose to the EVAP canister purge valve.
10. Disconnect the vacuum hose from the EVAP canister purge line, and connect a T-fitting (A) from the vacuum gauge and the vacuum pump/gauge, 0-30 in.Hg, to the hose as shown.

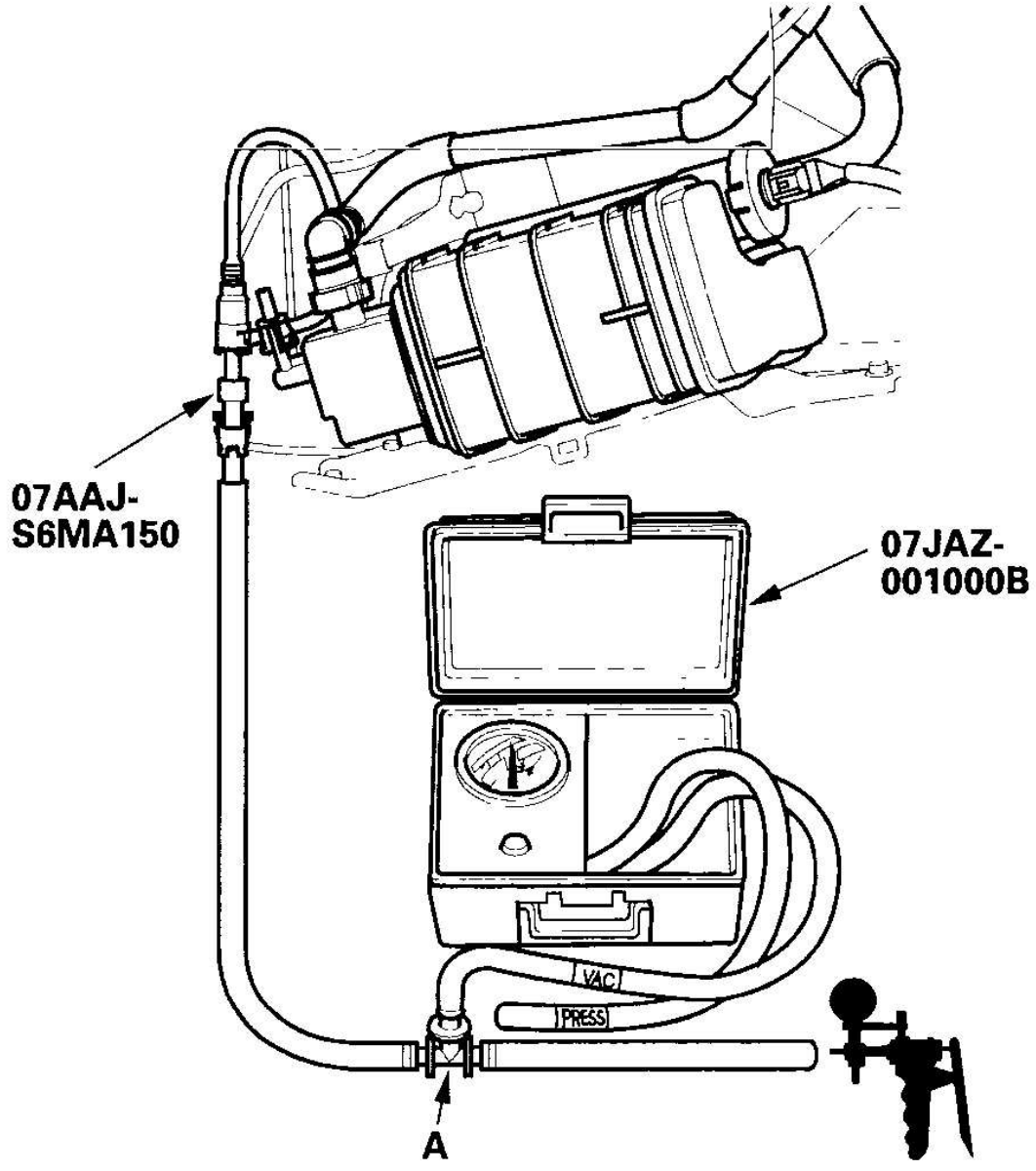


Fig. 50: Connecting T-Fitting From Vacuum Gauge And Vacuum Pump/Gauge To Hose
Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Select EVAP PCS ON in the INSPECTION MENU with the HDS.
12. Slowly apply about 2 kPa (0.6 in.Hg, 15 mmHg) of vacuum to the hose.

Does it hold vacuum?

YES -Check for a restricted EVAP canister purge line between the EVAP canister purge valve and the EVAP canister, then go to step 23 .

NO -Go to step 13.

13. Remove the FTP sensor with its connector connected (see **FTP SENSOR REPLACEMENT**).
14. Connect a T-fitting (A) from the vacuum pump/gauge, 0-30 in.Hg, and the vacuum pump to the FTP sensor (B) as shown.

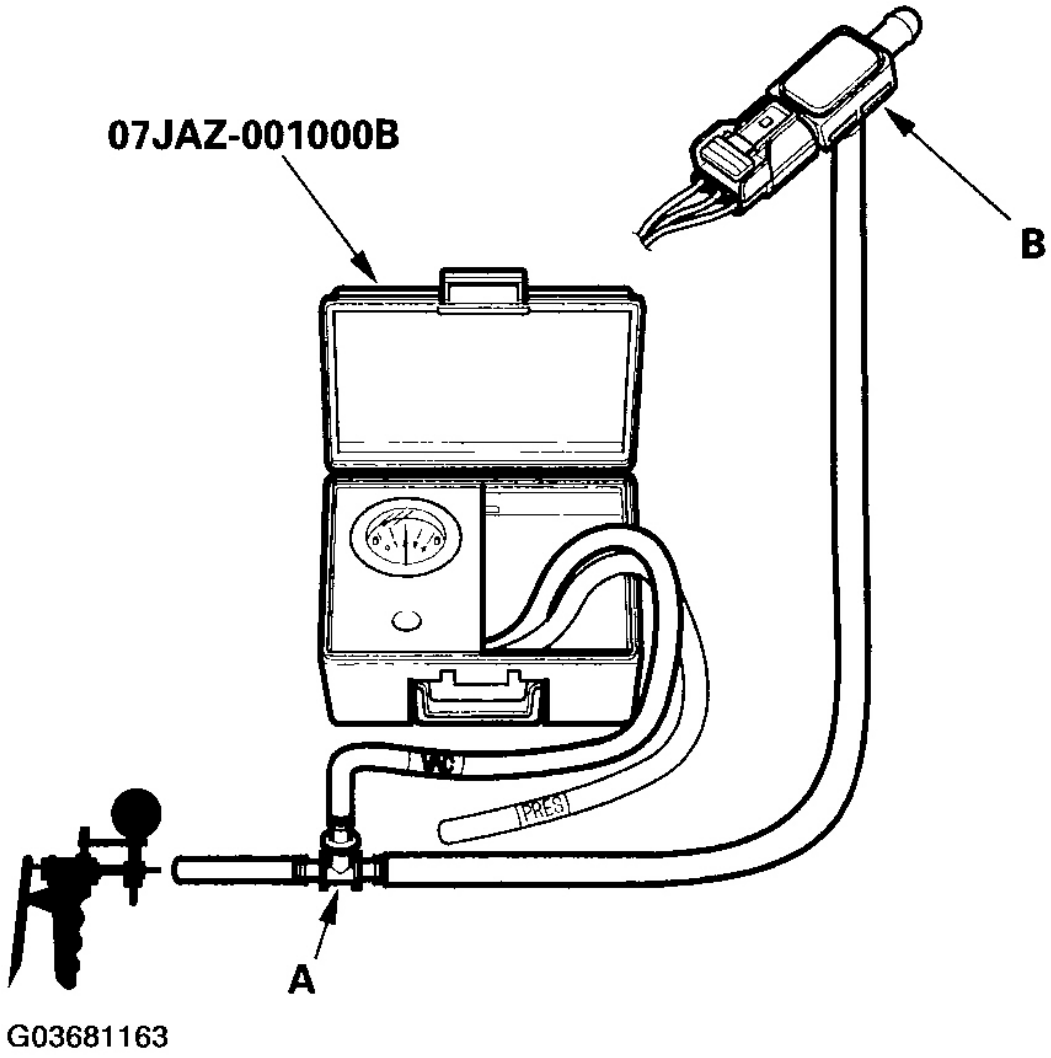


Fig. 51: Connecting T-Fitting From Vacuum Pump/Gauge And Vacuum Pump To FTP Sensor
Courtesy of AMERICAN HONDA MOTOR CO., INC.

15. Check and record the FTP SENSOR reading in the DATA LIST with the HDS.
16. Slowly apply about 1.3 kPa (0.4 in.Hg, 10 mmHg) of vacuum to the hose.
17. Check the FTP SENSOR in the DATA LIST with the HDS.

Is the difference more than 1.1 kPa (0.31 in.Hg, 8 mmHg) before and after

applying vacuum?

YES -Go to step 18.

NO -Replace the FTP sensor (see **FTP SENSOR REPLACEMENT**), then go to step 23 .

18. Reconnect the vacuum hose to the EVAP canister purge line (EVAP canister side), and reinstall the FTP sensor.
19. Disconnect the vacuum hose (A) from the EVAP canister purge line (EVAP canister purge valve side), and connect a T-fitting (B) from the vacuum gauge and the vacuum pump/gauge, 0-30 in.Hg, to the hose as shown.

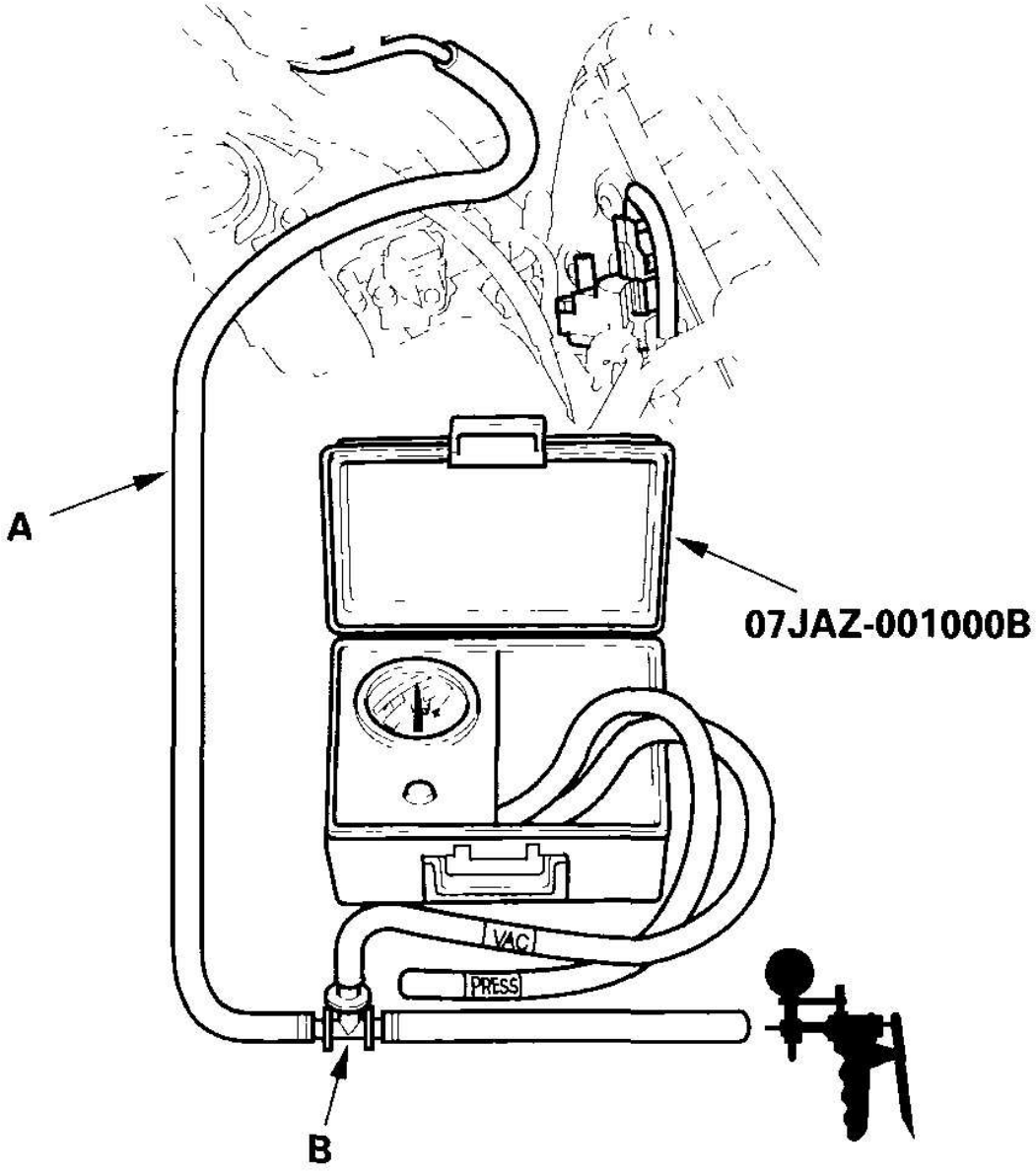


Fig. 52: Connecting T-Fitting From Vacuum Gauge And Vacuum Pump/Gauge To Hose
Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
21. Slowly apply about 2 kPa (0.6 in.Hg, 15 mmHg) of vacuum to the hose.

Does the hose hold vacuum?

YES -Check for blockage at the EVAP canister port, then go to step 22.

NO -Replace the EVAP canister vent shut valve, then go to step 22.

22. Install the FTP sensor (see **FTP SENSOR REPLACEMENT**).
23. Reconnect all hoses.
24. Turn the ignition switch ON (II).
25. Reset the ECM with the HDS.
26. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE**).
27. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

Is the result OK?

YES -Troubleshooting is complete.

NO -Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, the EVAP canister vent shut valve, and the ECM, then go to step 1 .

DTC P0498: EVAP CANISTER VENT SHUT VALVE CIRCUIT LOW VOLTAGE (2006 MODEL)

NOTE: Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS, then wait 5 seconds.
3. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0498 indicated?

YES -Go to step 6 .

NO -Go to step 4.

4. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
5. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0498 indicated?

YES -Go to step 6.

NO -Intermittent failure, system is OK at this time. Check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM.

6. Turn the ignition switch OFF.
7. Disconnect the EVAP canister vent shut valve 2P connector.
8. Measure resistance between EVAP canister vent shut valve 2P connector terminals No. 1 and No. 2.

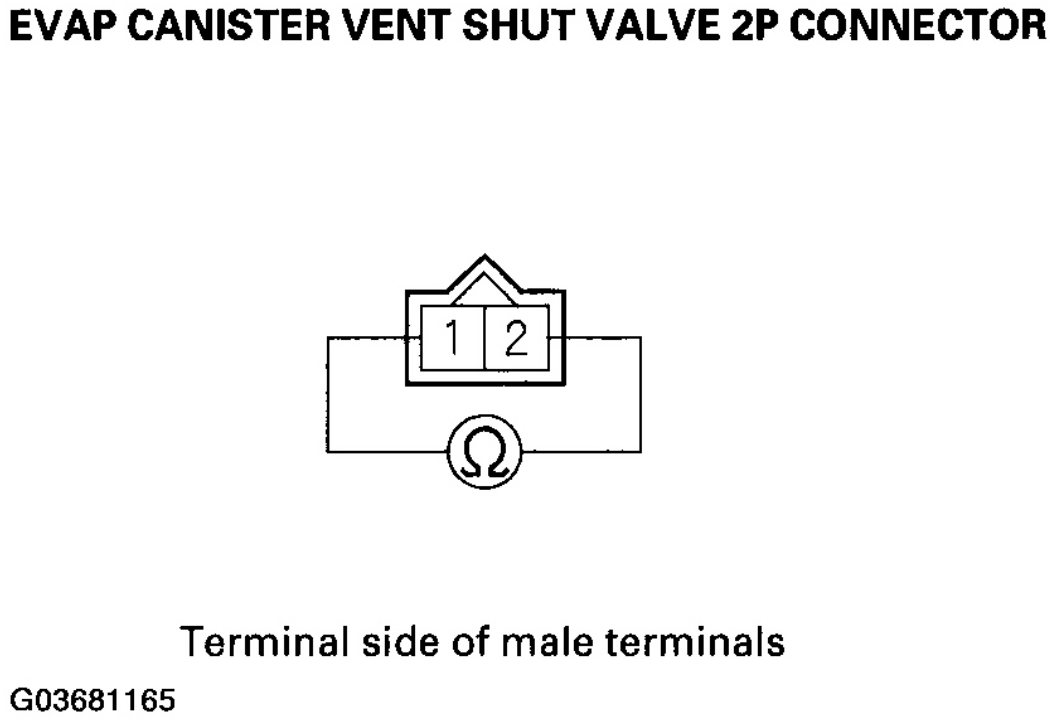


Fig. 53: Measuring Resistance Between EVAP Canister Vent Shut Valve 2P Connector Terminals No. 1 And No. 2
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 25-30 ohm at room temperature?

YES -Go to step 9.

NO -Go to step 12 .

9. Wait for 1 minute. If the radiator fan is running, wait for 1 minute after it stops.
10. Disconnect ECM connector A (32P).
11. Check for continuity between ECM connector terminal A4 and body ground.

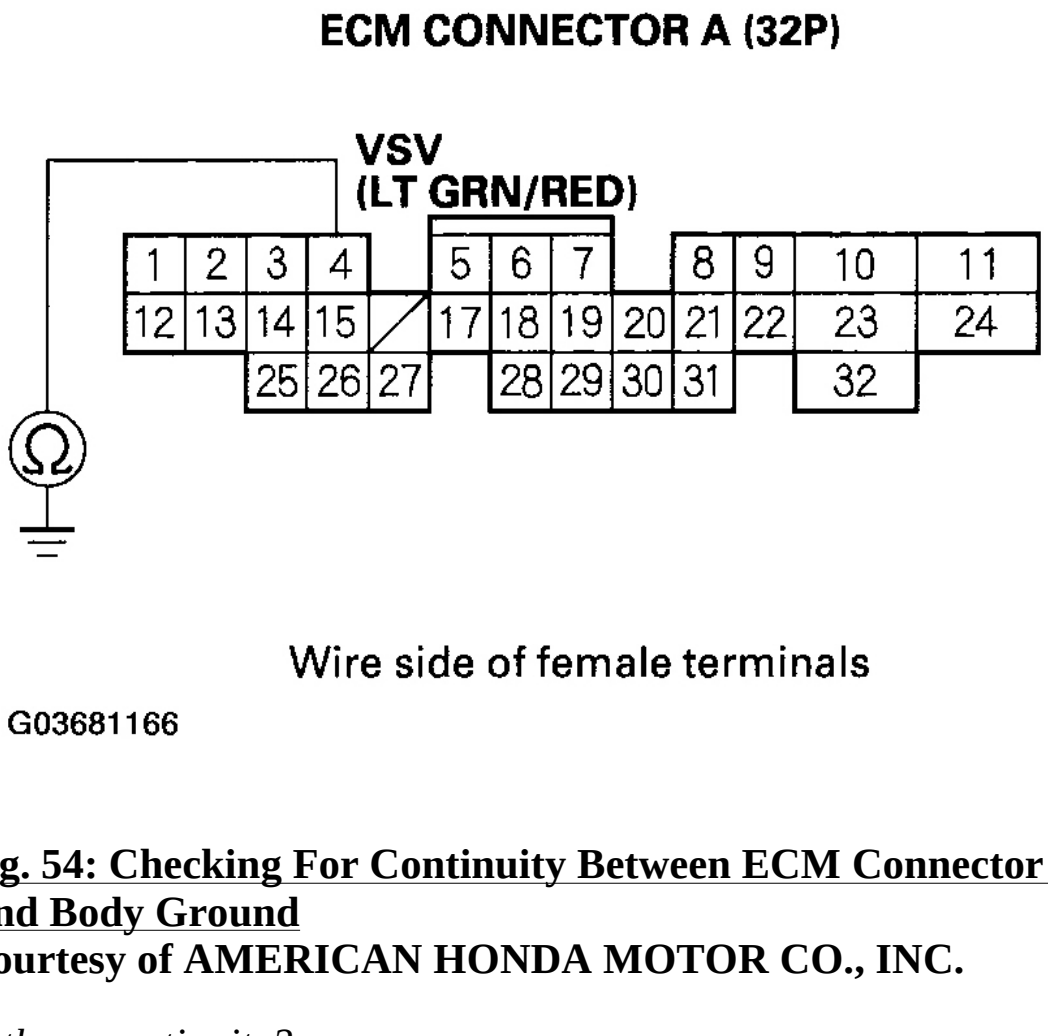


Fig. 54: Checking For Continuity Between ECM Connector Terminal A4 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the EVAP canister vent shut valve and the ECM (A4), then go to step 13 .

NO -Go to step 20 .

12. Replace the EVAP canister vent shut valve (see **FTP SENSOR REPLACEMENT**).
13. Reconnect all connectors.
14. Turn the ignition switch ON (II).
15. Reset the ECM with the HDS.
16. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE**).
17. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
18. Check for Temporary DTCs or DTCs with the HDS.

    Are any Temporary DTCs or DTCs indicated?

    YES -If DTC P0498 is indicated, check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated **DTC TROUBLESHOOTING** .

    NO -Troubleshooting is complete.
19. Update the ECM if it does not have the latest software, or substitute a known-good ECM (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2006 M/T MODELS AND CVT MODEL**).
20. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
21. Check for Temporary DTCs or DTCs with the HDS.

    Are any Temporary DTCs or DTCs indicated?

    YES -If DTC P0498 is indicated, check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated **DTC TROUBLESHOOTING** .

    NO -If the ECM was updated, troubleshooting is complete. If the ECM was substituted, replace the original ECM (see **ECM REPLACEMENT**).

DTC P0499: EVAP CANISTER VENT SHUT VALVE CIRCUIT HIGH VOLTAGE (2006 MODEL)

NOTE: Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS, then wait 5 seconds.
3. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
4. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P0499 indicated?

   YES -Go to step 5.

   NO -Intermittent failure, system is OK at this time. Check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM.
5. Turn the ignition switch OFF.
6. Disconnect the EVAP canister vent shut valve 2P connector.
7. Turn the ignition switch ON (II).
8. Measure voltage between EVAP canister vent shut valve 2P connector terminal No. 2 and body ground.

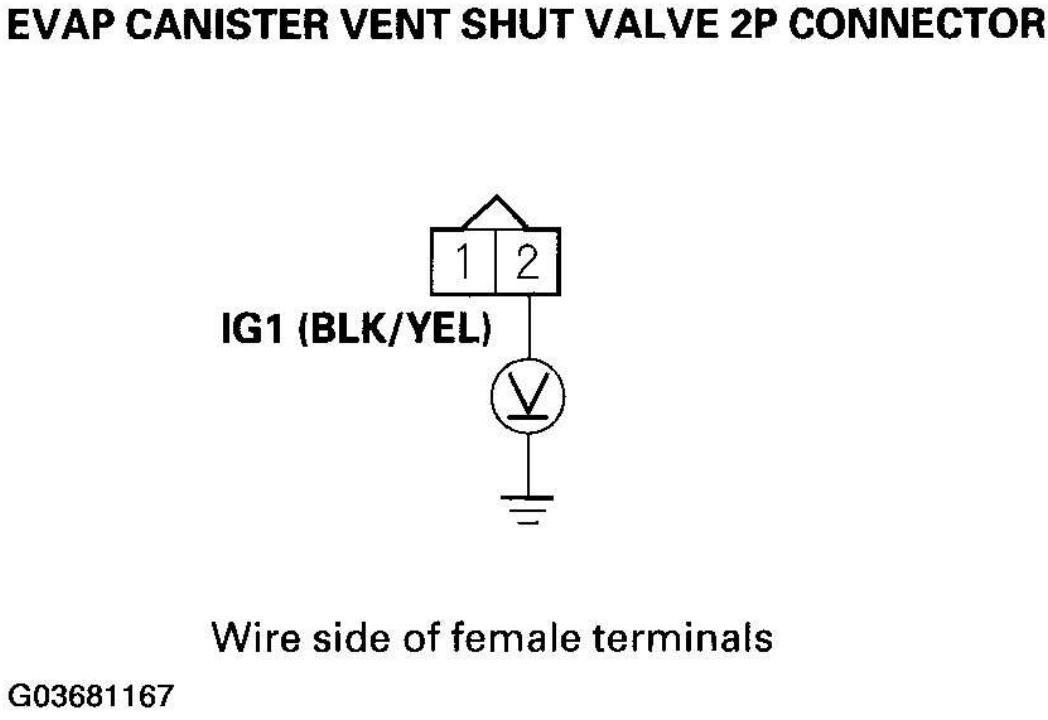


Fig. 55: Measuring Voltage Between EVAP Canister Vent Shut Valve 2P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 9.

NO -Repair open in the wire between the EVAP canister vent shut valve and the No. 4 FI-ECU (10 A) fuse in the under-dash fuse/relay box, then go to step 16 .

9. Turn the ignition switch OFF.
10. Measure resistance between EVAP canister vent shut valve 2P connector terminals No. 1 and No. 2.

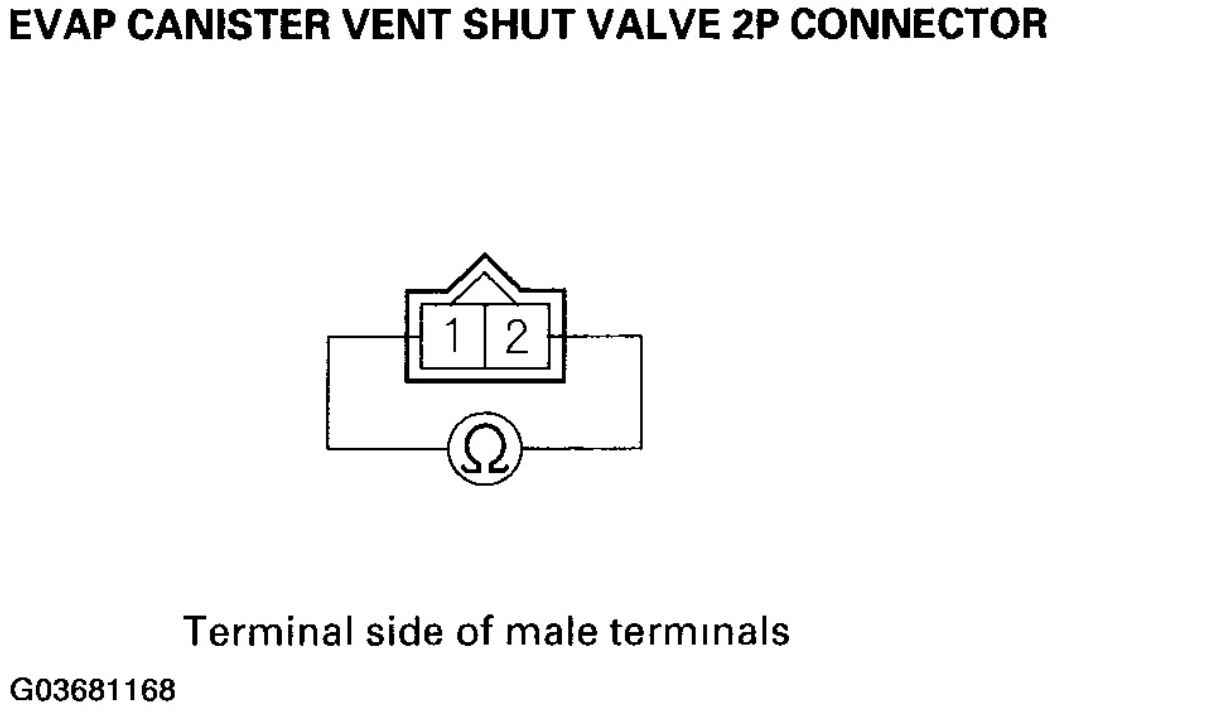


Fig. 56: Measuring Resistance Between EVAP Canister Vent Shut Valve 2P Connector Terminals No. 1 And No. 2
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 25-30 ohm at room temperature?

YES -Go to step 11.

NO -Go to step 15 .

11. Wait for 1 minute. If the radiator fan is running, wait for 1 minute after it stops.
12. Disconnect ECM connector A (31P).
13. Connect EVAP canister vent shut valve 2P connector terminal No. 1 to body ground with a jumper wire.

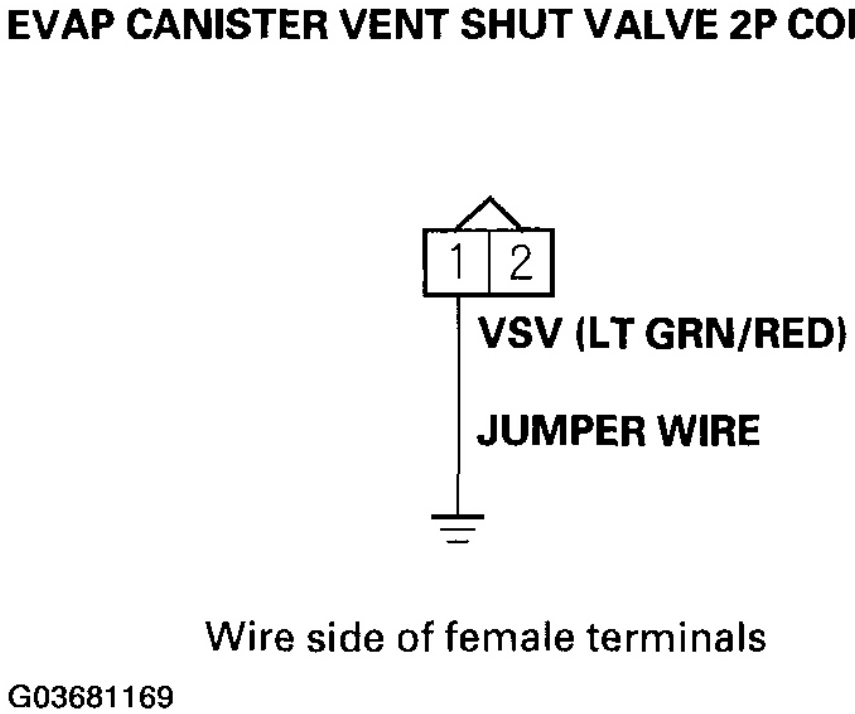


Fig. 57: Connecting EVAP Canister Vent Shut Valve 2P Connector Terminal No. 1 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Check for continuity between ECM connector terminal A4 and body ground.

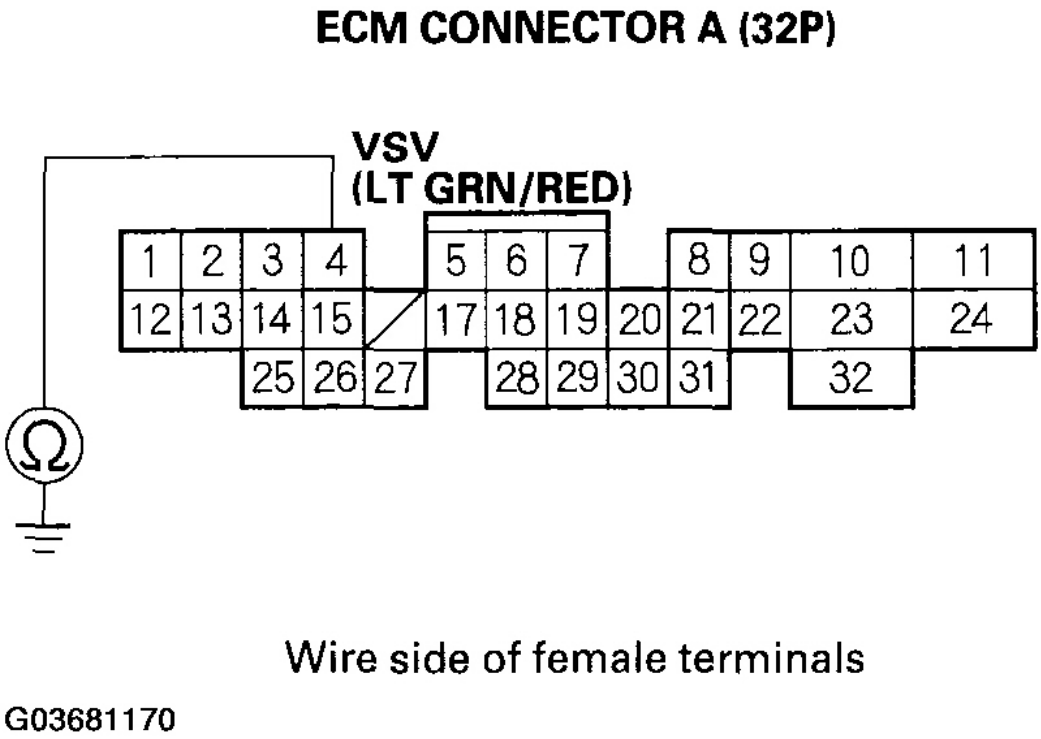


Fig. 58: Checking For Continuity Between ECM Connector Terminal A4 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 23 .

NO -Repair open in the wire between the EVAP canister vent shut valve and the ECM (A4), then go to step 16 .

15. Replace the EVAP canister vent shut valve (see **FTP SENSOR REPLACEMENT**).
16. Reconnect all connectors.
17. Turn the ignition switch ON (II).
18. Reset the ECM with the HDS.
19. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE**).

20. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
21. Check for Temporary DTCs or DTCs with the HDS.

    Are any Temporary DTCs or DTCs indicated?

    YES -If DTC P0499 is indicated, check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated **DTC TROUBLESHOOTING** .

    NO -Troubleshooting is complete.
22. Update the ECM if it does not have the latest software, or substitute a known-good ECM (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2006 M/T MODELS AND CVT MODEL**).
23. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
24. Check for Temporary DTCs or DTCs with the HDS.

    Are any Temporary DTCs or DTCs indicated?

    YES -If DTC P0499 is indicated, check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM, then Go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated **DTC TROUBLESHOOTING** .

    NO -If the ECM was updated, troubleshooting is complete. If the ECM was substituted, replace the original ECM (see **ECM REPLACEMENT**).

DTC P1454: FTP SENSOR CIRCUIT RANGE/PERFORMANCE PROBLEM (2006 MODEL); DTC P2422: EVAP CANISTER VENT SHUT VALVE CLOSE MALFUNCTION (2006 MODEL)

NOTE: Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.

3. Turn the ignition switch OFF.
4. Remove the fuel fill cap, and wait 1 minute.
5. Check the FTP SENSOR in the DATA LIST with the HDS.

   Is it between - 0.67 kPa and 0.67 kPa (- 0.2 and 0.2 in.Hg, - 5 and 5 mmHg), or 2.4 and 2.6 V?

   YES -Go to step 6.

   NO -Go to step 17 .
6. Install the fuel fill cap.
7. Clear the DTC with the HDS.
8. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
9. Monitor the OBD STATUS for DTC P1454 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 10.

   NO -If the screen indicates PASSED, intermittent failure, system is OK at this time, check for poor connections or loose terminals at the FTP sensor, or the EVAP canister vent shut valve and the ECM. Also check for blockage in the canister filter, vent hoses, and drain joint. If the screen indicates NOT COMPLETED, go to step 8 and recheck.
10. Clear the DTC with the HDS.
11. Turn the ignition switch OFF.
12. Remove the EVAP canister vent shut valve from the EVAP canister (see **FTP SENSOR REPLACEMENT**).
13. Connect the 2P connector to the EVAP canister vent shut valve.
14. Turn the ignition switch ON (II).
15. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
16. Check the EVAP canister vent shut valve (A) operation.

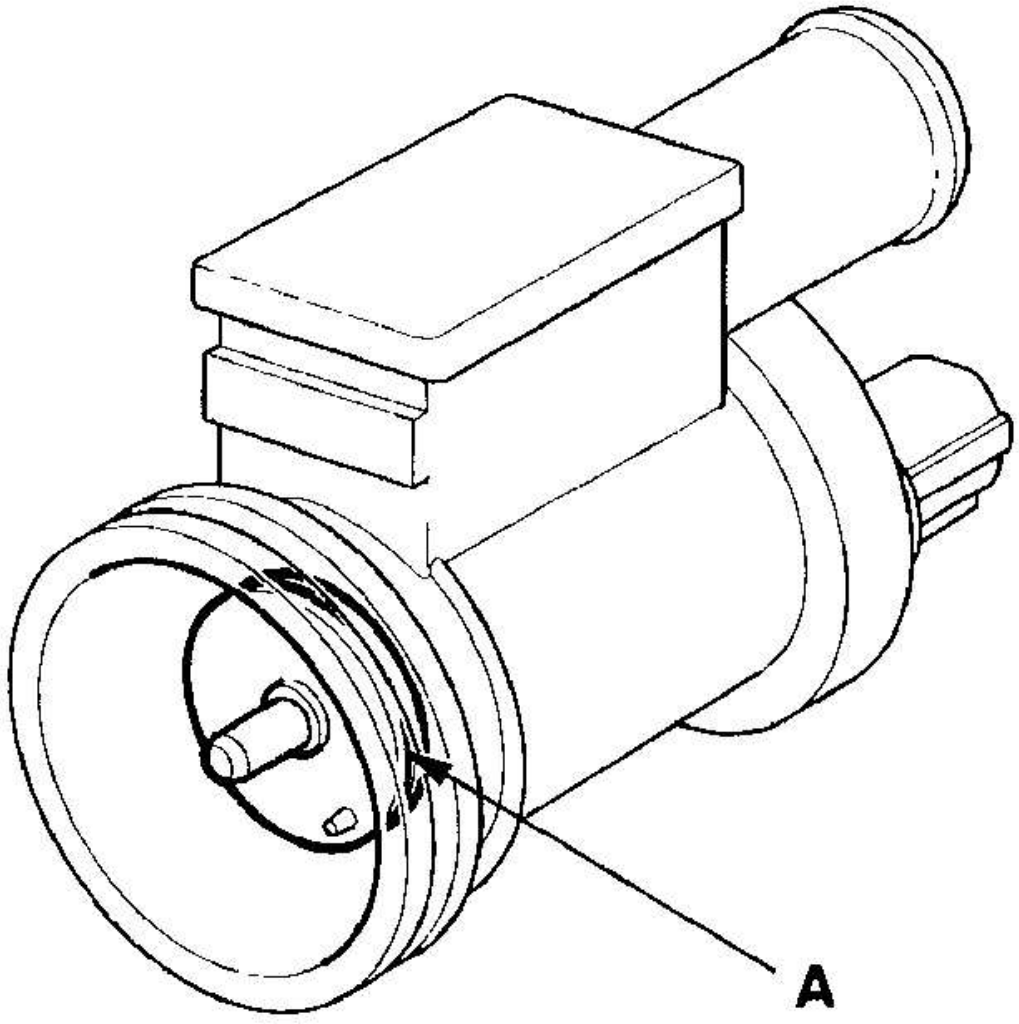


Fig. 59: Checking EVAP Canister Vent Shut Valve Operation
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Does the valve operate?

YES -Check for a blockage in the EVAP canister, canister filter, vent hoses, and drain joint, and install EVAP canister vent shut valve, then go to step 23 .

NO -Replace the EVAP canister vent shut valve (see **FTP SENSOR REPLACEMENT**), then go to step 23 .

17. Disconnect the air tube (A) from the FTP sensor (B).

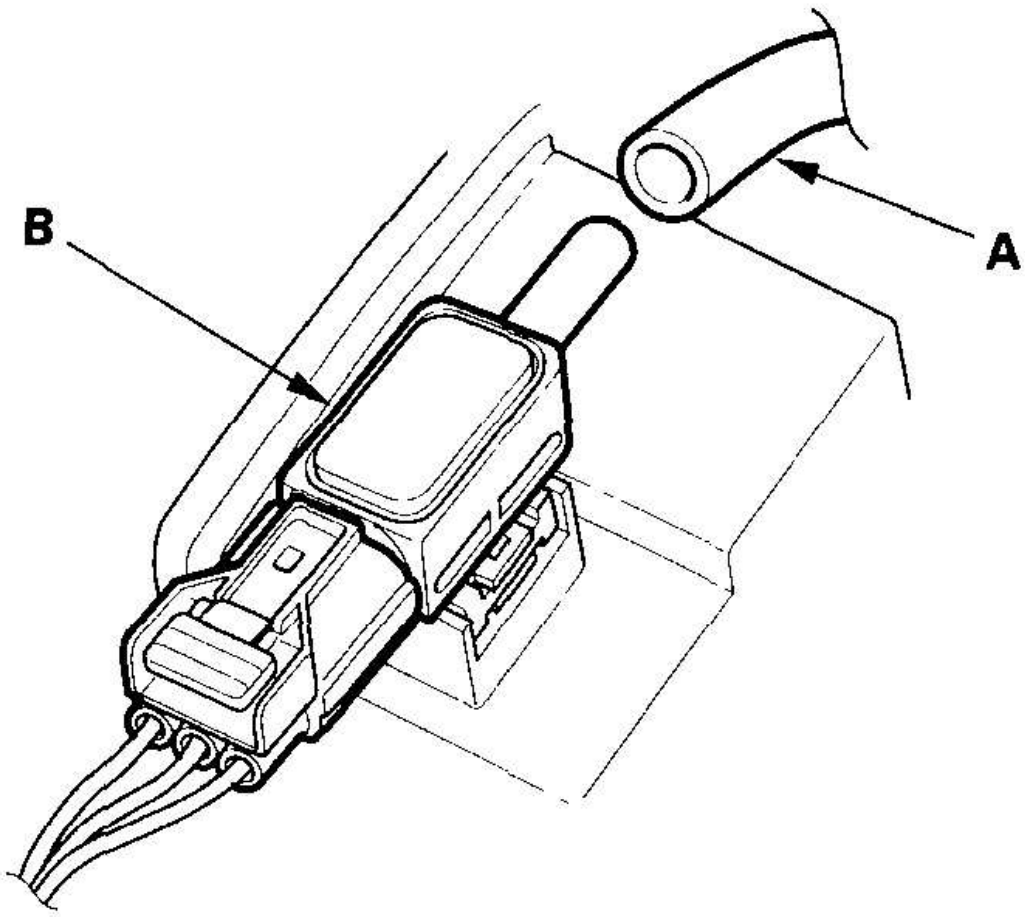


Fig. 60: Disconnecting Air Tube From FTP Sensor
Courtesy of AMERICAN HONDA MOTOR CO., INC.

18. Check the FTP SENSOR in the DATA LIST with the HDS.

Is it between - 0.67 kPa and 0.67 kPa (- 0.2 and 0.2 in.Hg, - 5 and 5 mmHg),

or 2.4 and 2.6 V?

YES -Check for a blockage in the FTP sensor air tube, then go to step 23 .

NO -Go to step 19.

19. Turn the ignition switch OFF.
20. Remove the FTP sensor (A) from the EVAP canister with its connector connected (see **FTP SENSOR REPLACEMENT**).

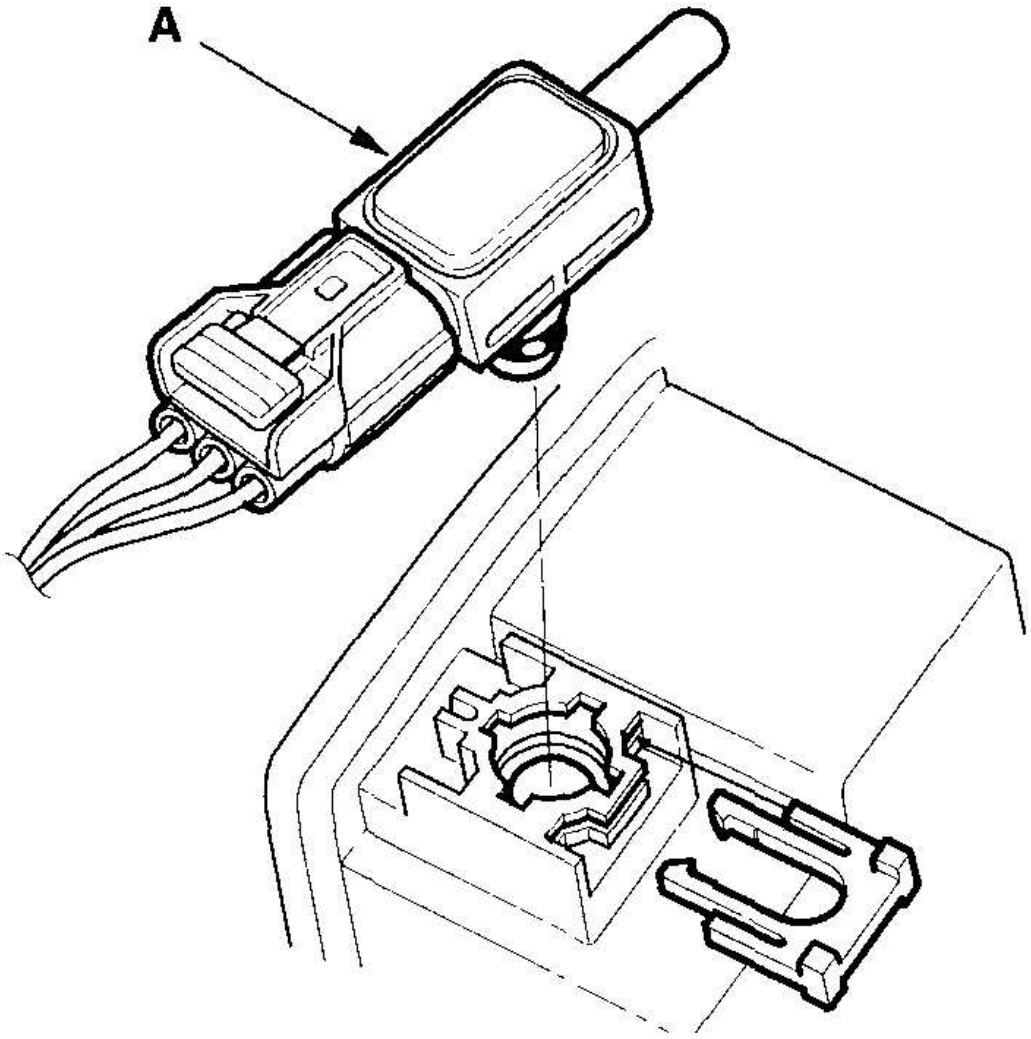


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Fig. 61: Removing FTP Sensor From EVAP Canister With Its Connector Connected
Courtesy of AMERICAN HONDA MOTOR CO., INC.

21. Turn the ignition switch ON (II).
22. Check the FTP SENSOR in the DATA LIST with the HDS.

    Is it between - 0.67 kPa and 0.67 kPa (- 0.2 and 0.2 in.Hg, - 5 and 5 mmHg), or 2.4 and 2.6 V?

    YES -Check for debris or clogging at the EVAP canister, and the FTP sensor port, then go to step 23.

    NO -Replace the FTP sensor (see **FTP SENSOR REPLACEMENT**), then go to step 23.
23. Turn the ignition switch ON (II).
24. Reset the ECM with the HDS.
25. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE**).
26. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
27. Check for Temporary DTCs or DTCs with the HDS.

    Are any Temporary DTCs or DTCs indicated?

    YES -If DTC P1454 and/or P2422 is indicated, check for poor connections or loose terminals at the FTP sensor, or the EVAP canister vent shut valve, and the ECM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated **DTC TROUBLESHOOTING** .

    NO -Go to step 28.
28. Monitor the OBD STATUS for DTC P1454 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete.

NO -If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor, the EVAP canister vent shut valve, and the ECM, then go to step 1 . If the screen indicates NOT COMPLETED, go to step 26 and recheck.

DTC P1456: EVAP CONTROL SYSTEM LEAKAGE (FUEL TANK SYSTEM) (2000-2005 MODELS)

NOTE: The fuel system is designed to allow specified maximum vacuum and pressure conditions. Do not deviate from the vacuum and pressure tests as indicated in these procedures. Excessive pressure/vacuum would damage the EVAP components or cause eventual fuel tank failure.

Special Tools Required

Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available

These are two-trip codes. Once cleared, they cannot be reproduced in one trip. Also, certain specific driving and ambient conditions must occur before the ECM will complete the system checks. Additional test drives may still not meet the specific conditions needed to reproduce the codes.

Follow these troubleshooting procedures carefully to ensure the integrity of the system and to confirm the cause of the problem or code.

NOTE:

- **Fresh fuel has a higher volatility that will create greater pressure/vacuum. The optimum condition for testing is fresh fuel, and there must be less than a full tank of fuel. If possible, to assist in leak detection, add one gallon of fresh fuel to the tank (as long as it will not fill the tank), just before starting these procedures.**
- **Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**

Fuel fill cap check

1. Check the fuel fill cap (the cap must be an OEM cap and be tightened at least three "clicks" to properly seal the system).

   Is proper fuel fill cap installed and properly tightened?

   YES -Go to step 2.

   NO -Replace or tighten the cap.
2. Check the fuel fill cap seal.

   Is the fuel fill cap seal missing or damaged?

   YES -Replace the fuel fill cap.

   NO -The fuel fill cap is OK. Go to step 3.

EVAP canister purge valve test

3. Disconnect the vacuum hose from the EVAP canister purge control valve (A), and connect a vacuum pump/gauge, 0-30 in.Hg, to the hose.

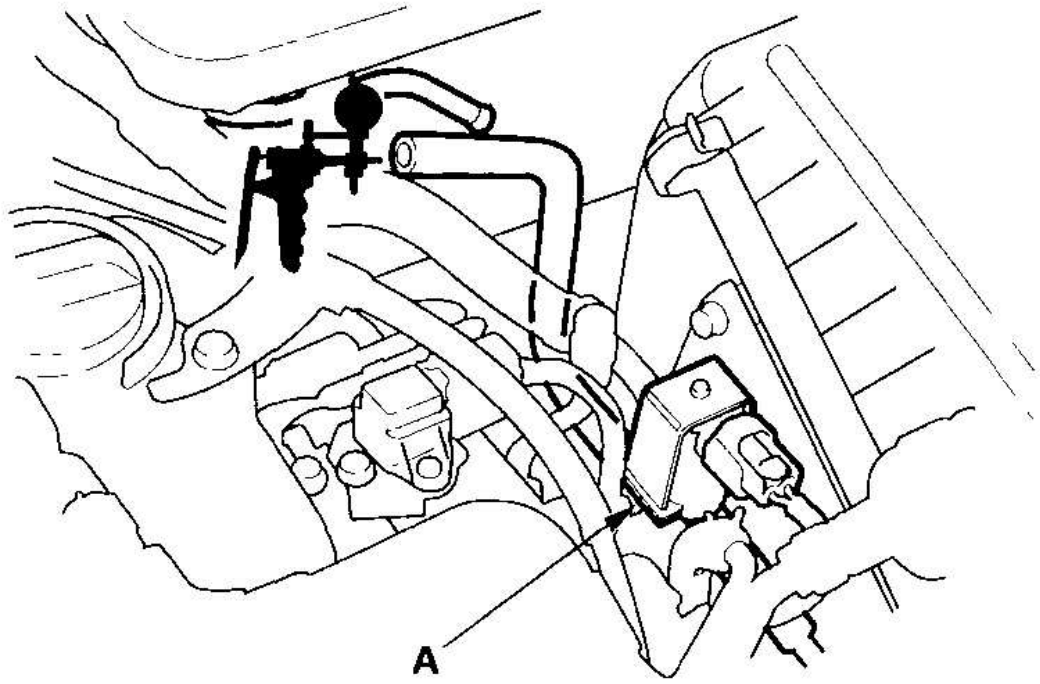

Fig. 62: Connecting Vacuum Pump/Gauge To Hose
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Turn the ignition switch ON (II).
5. Apply vacuum to the hose.

Does the valve hold vacuum?

YES -The EVAP canister purge valve is OK. Go to step 11.

NO -Go to step 6.

6. Turn the ignition switch OFF.
7. Disconnect the EVAP canister purge valve 2P connector.
8. Check for continuity between the EVAP canister purge valve 2P connector terminal No. 2 and body ground.

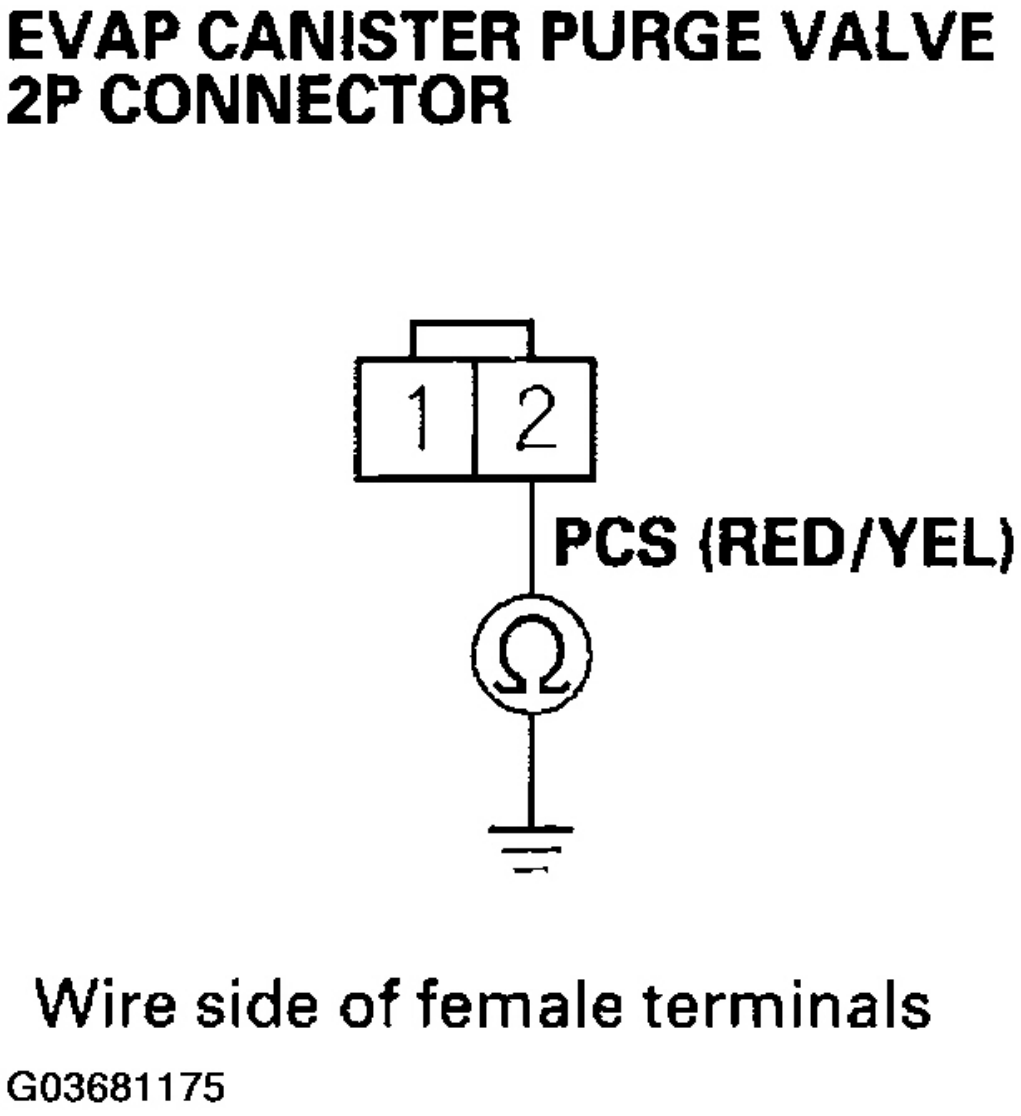

Fig. 63: Checking For Continuity Between EVAP Canister Purge Valve 2P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 9.

NO -Replace the EVAP canister purge valve.

9. Disconnect ECM connector A (32P).
10. Check for continuity between EVAP canister purge valve 2P connector terminal No. 2 and body ground.

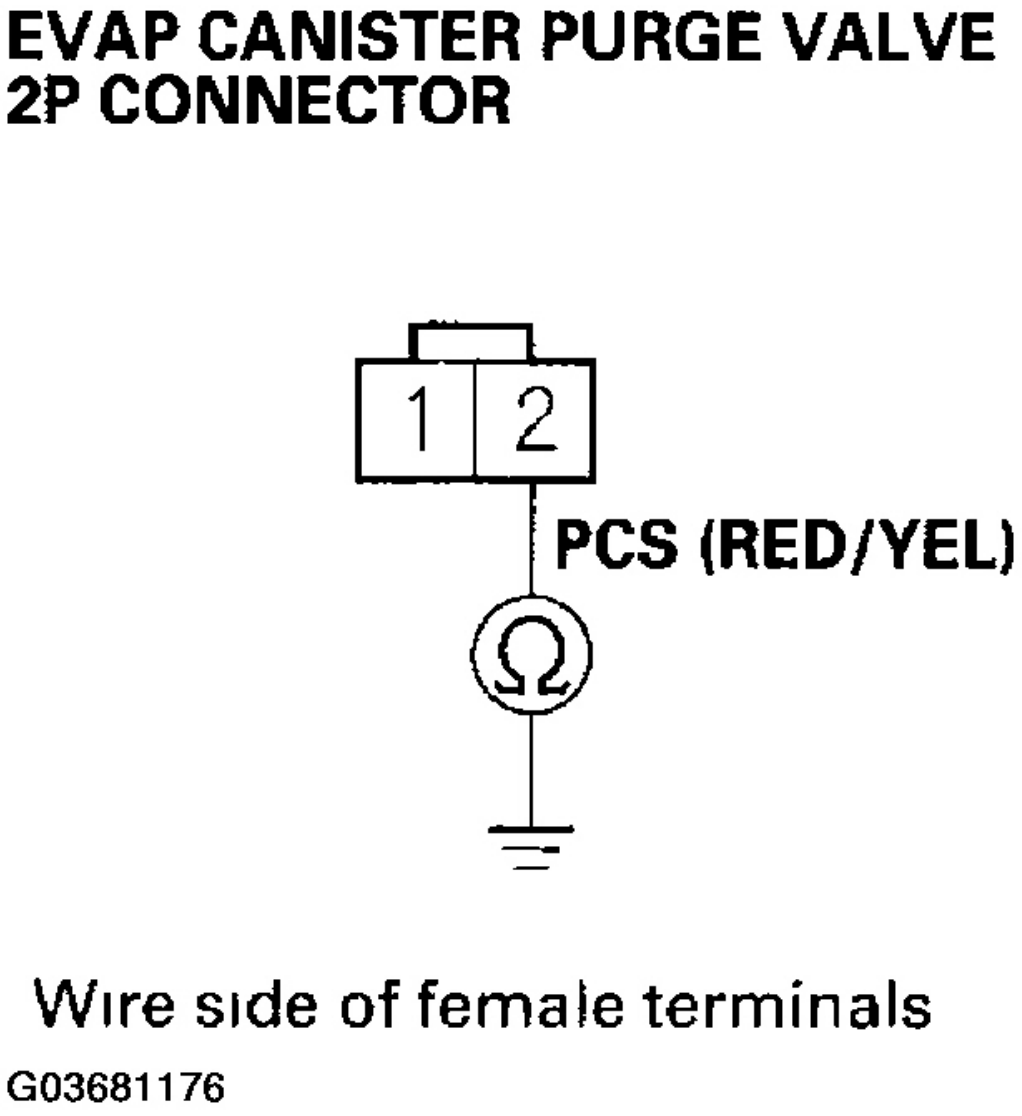

Fig. 64: Checking For Continuity Between EVAP Canister Purge Valve 2P Connector Terminal No. 2 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the EVAP canister purge valve and the ECM (A6).

NO -Update the ECM if it does not have the latest software, or substitute a known-good ECM; 2000-2001 M/T models (see **HOW TO TROUBLESHOOT CIRCUITS AT THE ECM**), 2002-2005 M/T models and CVT model (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2006 M/T MODELS AND CVT MODEL**), then recheck. If the symptom/indication goes away with a known-good ECM, replace the original ECM (see **ECM REPLACEMENT**).

EVAP bypass solenoid valve test

11. Disconnect the vacuum hoses from the EVAP two-way valve (A), and connect a vacuum pump/gauge, 0-30 in.Hg, to the hose.

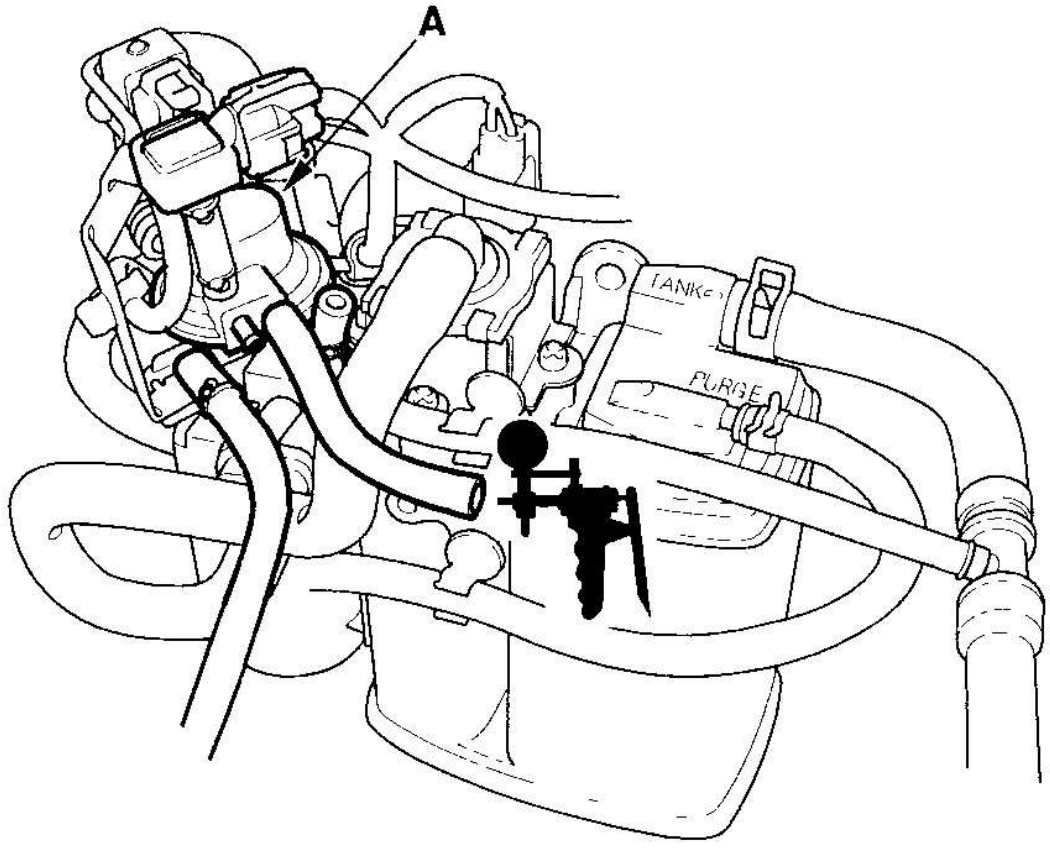

Fig. 65: Connecting Vacuum Pump/Gauge To Hose
Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. Turn the EVAP bypass solenoid valve ON with the HDS, or connect ECM connector terminal A3 to body ground with a jumper wire.

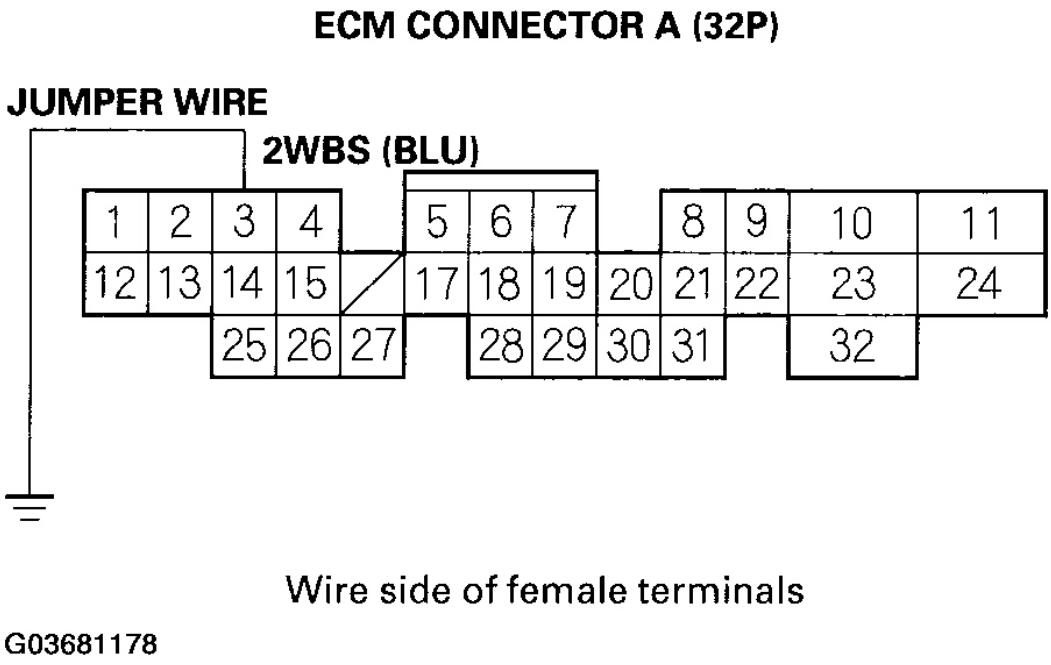

Fig. 66: Connecting ECM Connector Terminal A3 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Turn the ignition switch ON (II).
14. Apply vacuum to the hose.

Does the valve hold vacuum?

YES -Go to step 15.

NO -Go to step 20 .

15. Turn the ignition switch OFF.
16. Disconnect the EVAP bypass solenoid valve 2P connector.
17. Check for continuity between EVAP bypass solenoid valve 2P connector terminal No. 2 and body ground.

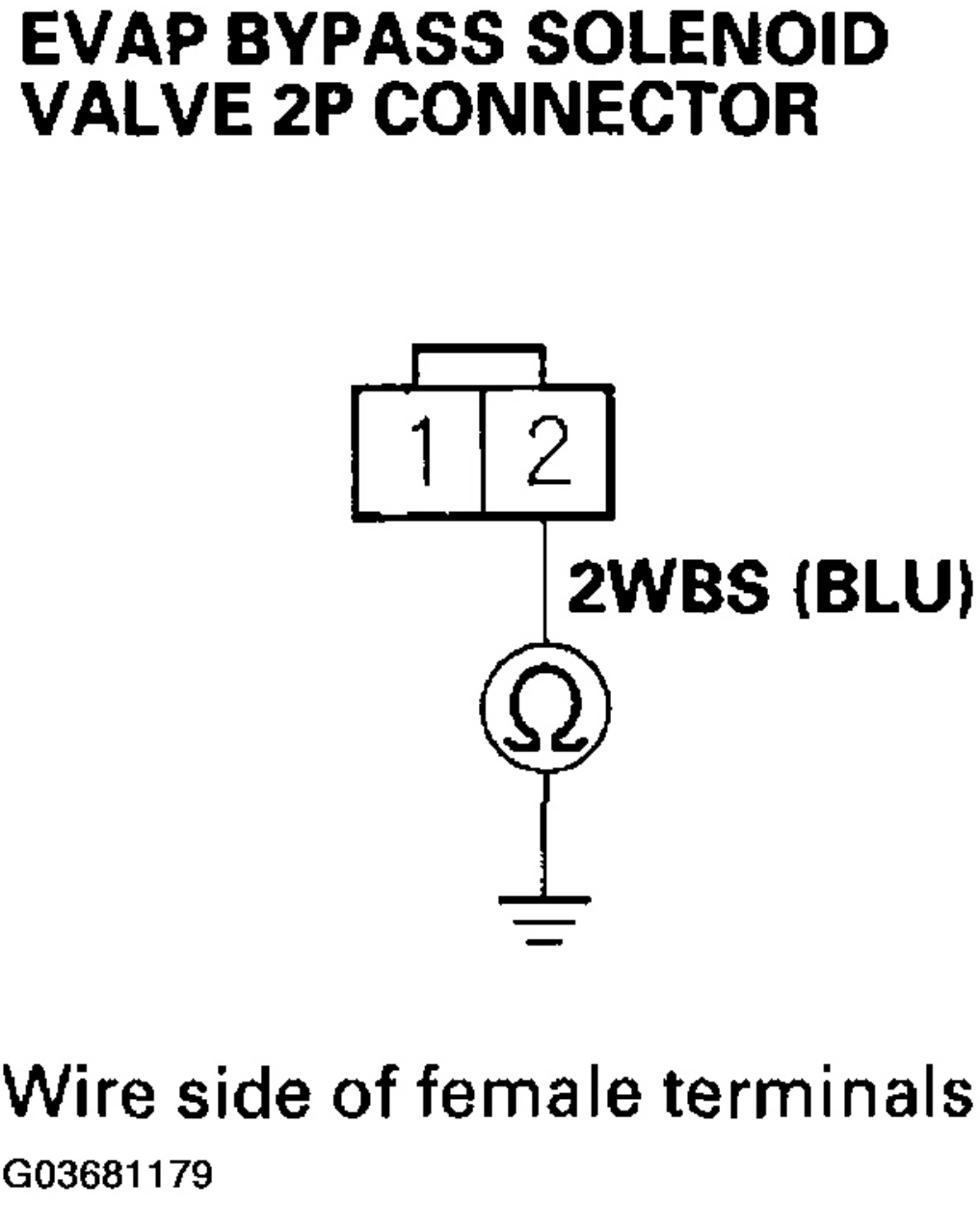

Fig. 67: Checking For Continuity Between EVAP Bypass Solenoid Valve 2P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 18.

NO -Repair open in wire between the EVAP bypass solenoid valve and the ECM (A3).

18. Turn the ignition switch ON (II).

19. Measure voltage between EVAP bypass solenoid valve 2P connector terminal No. 1 and body ground.

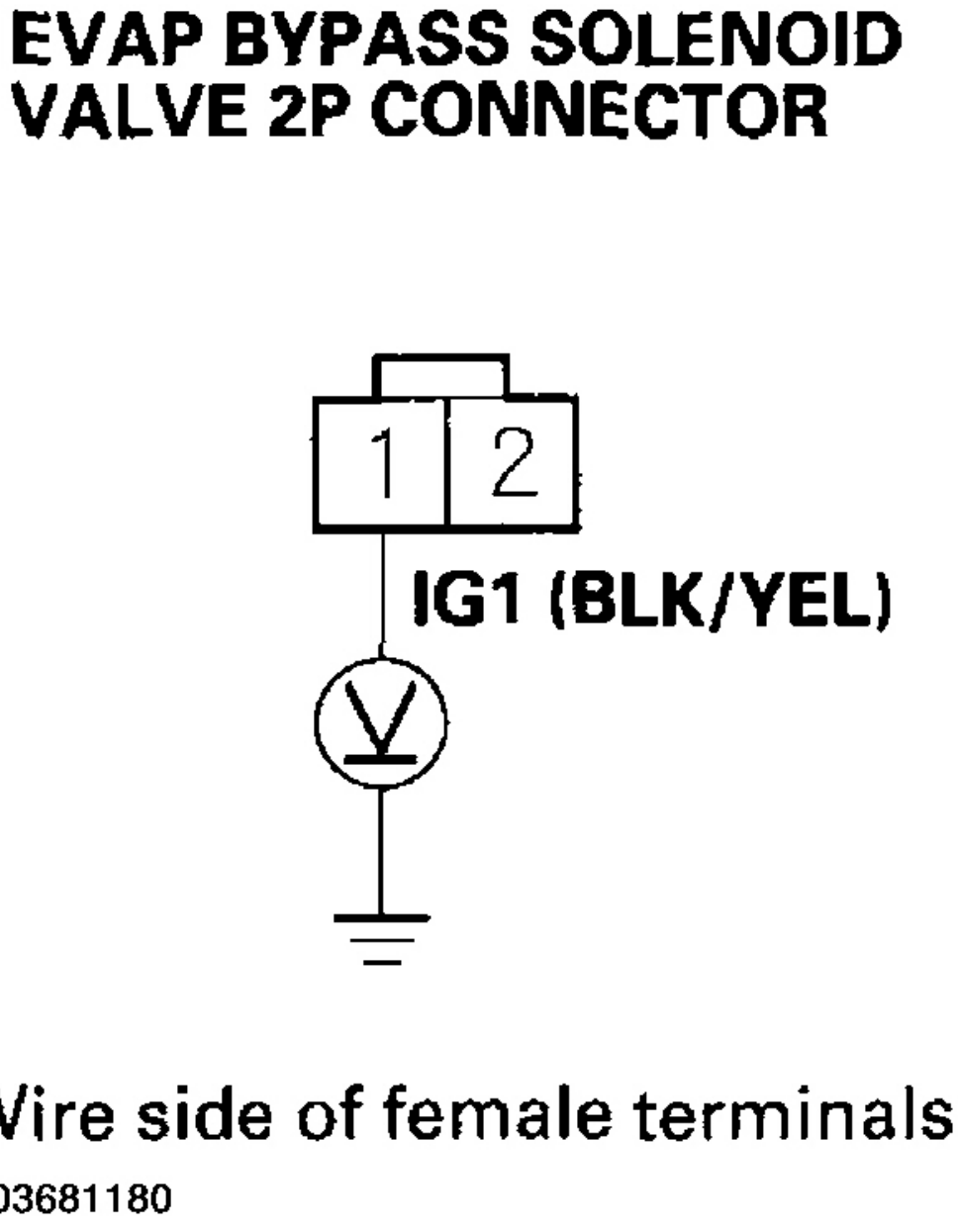

Fig. 68: Measuring Voltage Between EVAP Bypass Solenoid Valve 2P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

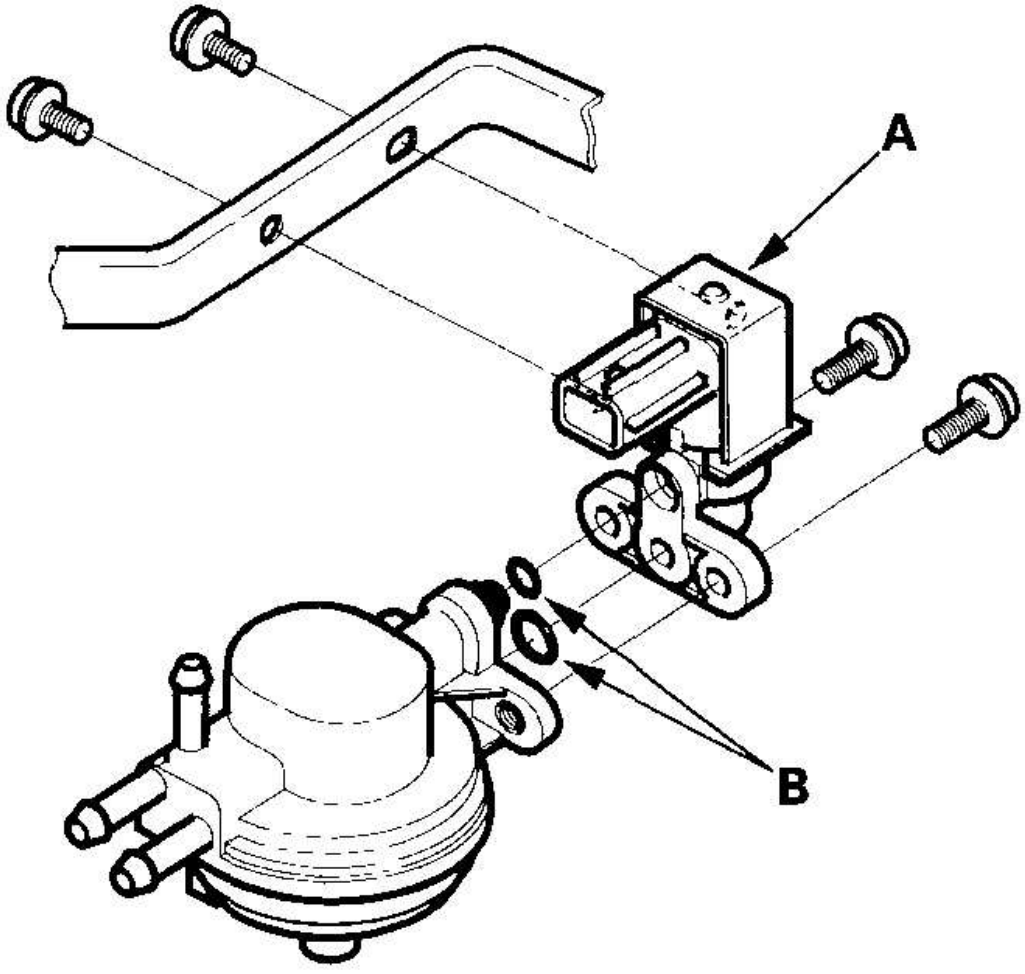

Fig. 69: Removing EVAP Bypass Solenoid Valve And O-Rings
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Replace the EVAP bypass solenoid valve (A) and the O-rings (B).

NO -Repair open in the wire between the EVAP bypass solenoid valve and the No. 4 (7.5 A) fuse.

20. Plug the EVAP two-way valve upper port (A).

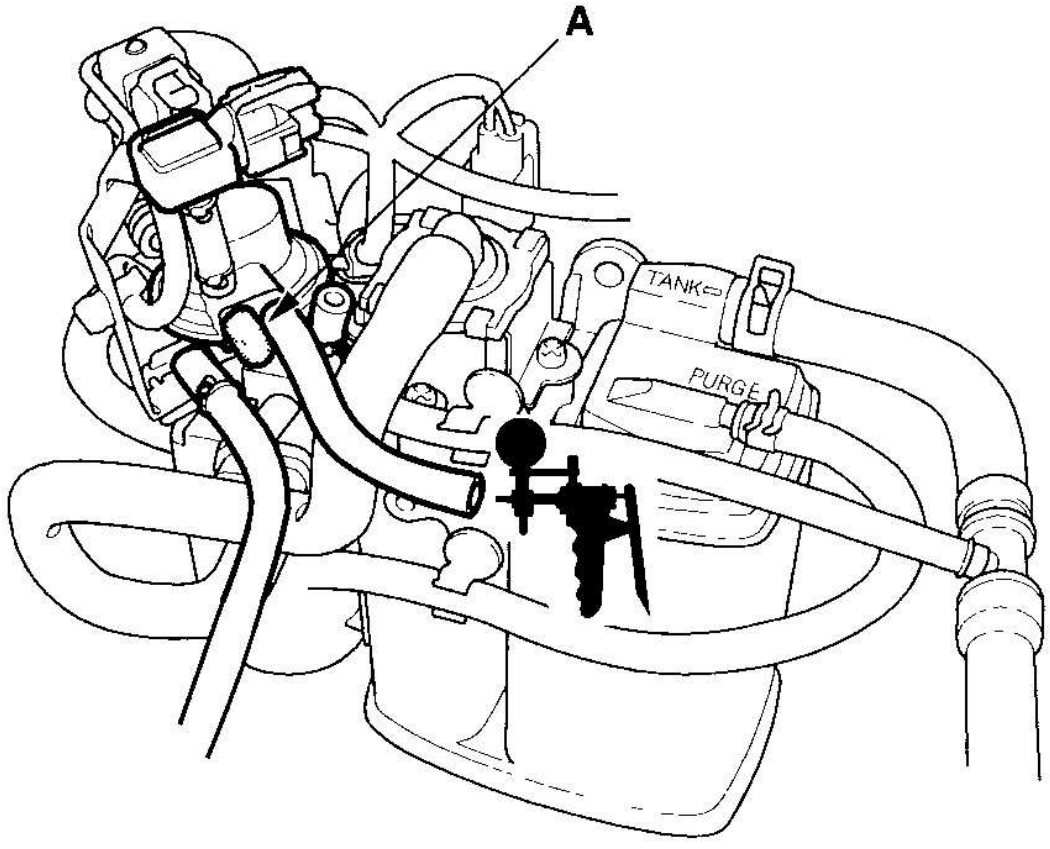

Fig. 70: Plugging EVAP Two-Way Valve Upper Port
Courtesy of AMERICAN HONDA MOTOR CO., INC.

21. While monitoring FTP sensor voltage with the HDS, or measuring the voltage between ECM connector terminals A29 and C18, slowly pump the vacuum pump until the voltage drops to about 1.5 volts.

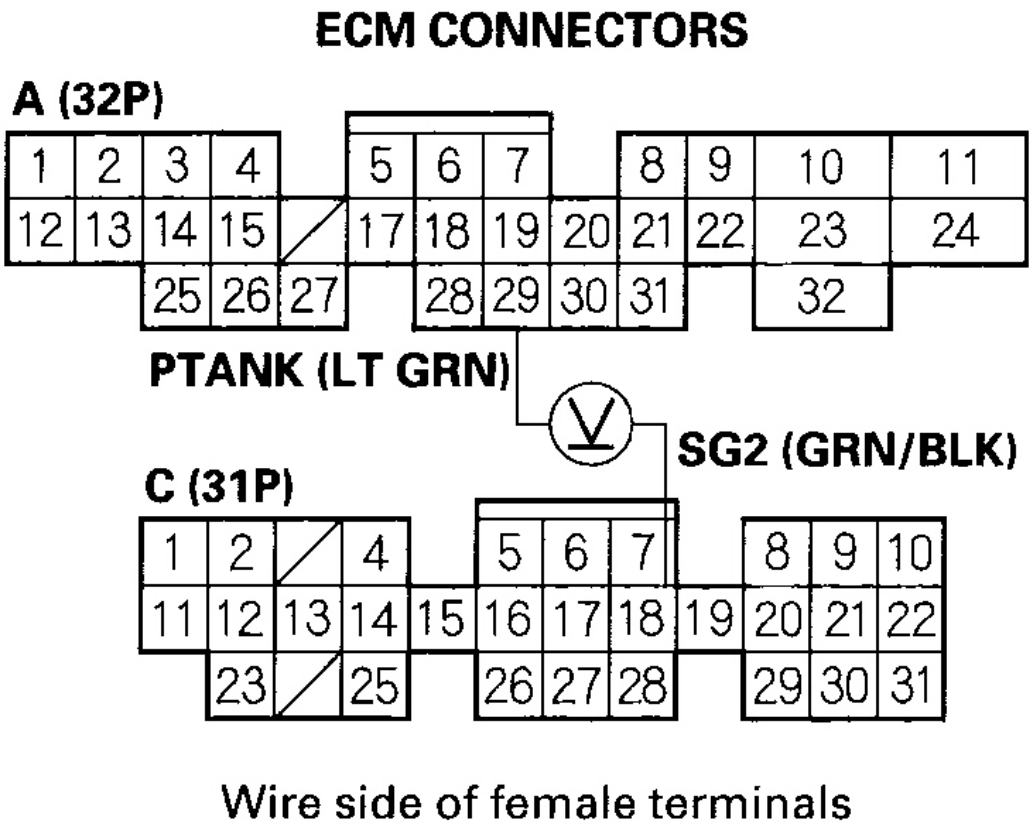

Fig. 71: Measuring Voltage Between ECM Connector Terminals A29 And C18
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Does the voltage drop to 1.5 V and hold for at least 20 seconds?

YES -The EVAP bypass solenoid valve/EVAP two-way valve is OK. Go to step 22.

NO -Repair leakage from the EVAP bypass solenoid valve, EVAP two-way valve, fuel tank pressure sensor, or O-rings.

EVAP canister vent shut valve test

22. Disconnect the vacuum hose from the EVAP canister vent shut valve (A).

and connect a vacuum pump/gauge, 0-30 in.Hg, to the hose.

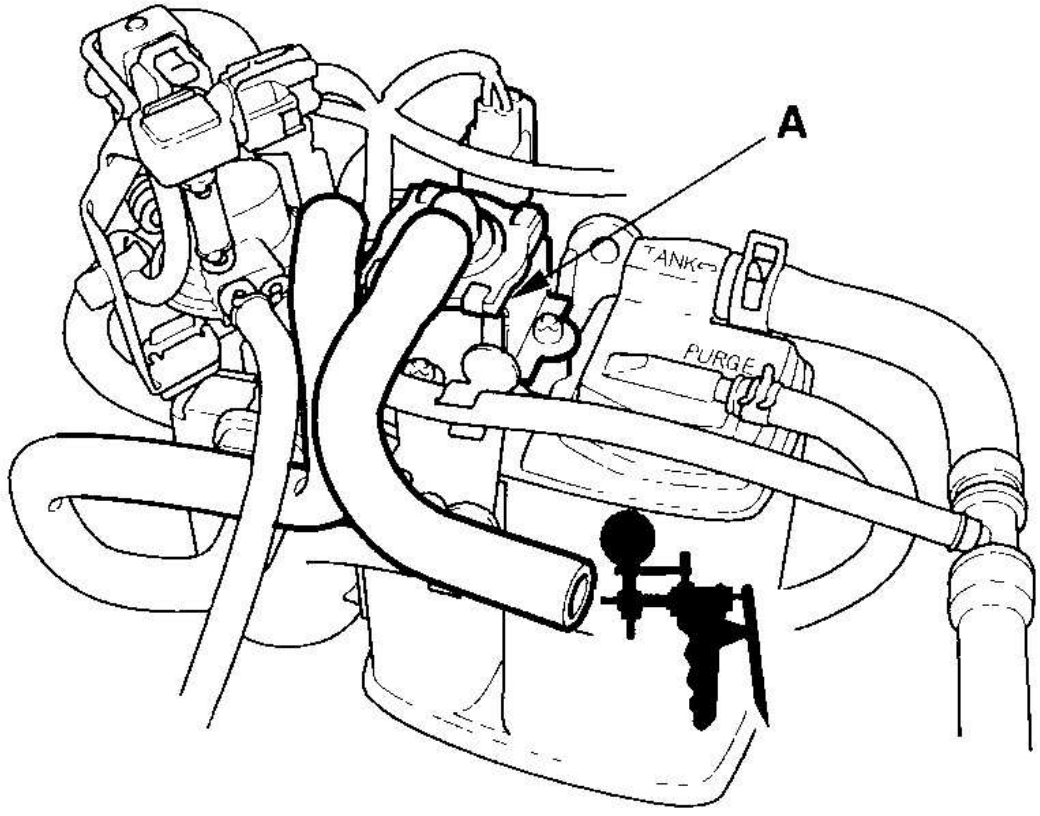

Fig. 72: Connecting Vacuum Pump/Gauge To Hose
Courtesy of AMERICAN HONDA MOTOR CO., INC.

23. Turn the ignition switch ON (II).
24. Apply vacuum to the hose with five strokes of the pump.

Does the valve hold vacuum?

YES -Go to step 25.
NO -The EVAP canister vent shut valve is OK. Go to step 30.

25. Turn the ignition switch OFF.

26. Disconnect the EVAP canister vent shut valve 2P connector.

27. Check for continuity between EVAP canister vent shut valve 2P connector terminal No. 2 and body ground.

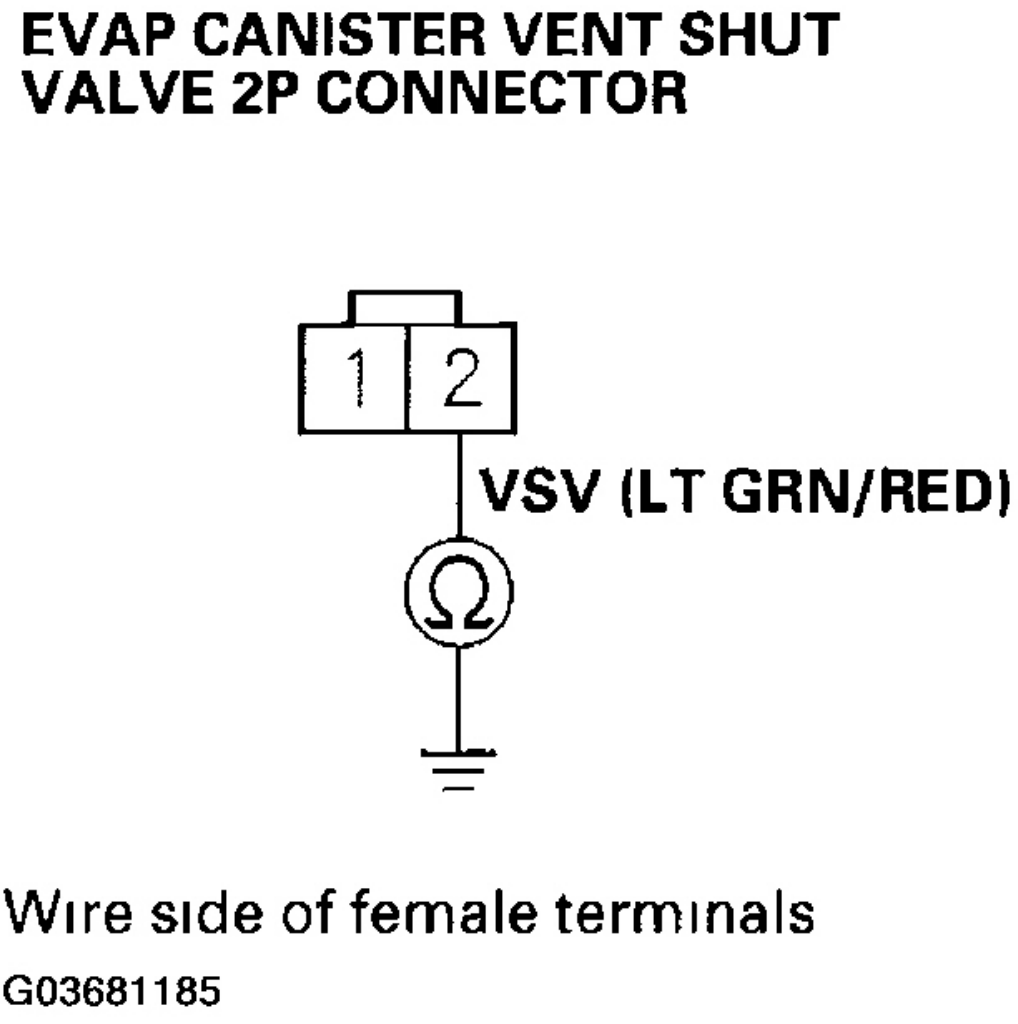

Fig. 73: Checking For Continuity Between EVAP Canister Vent Shut Valve 2P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

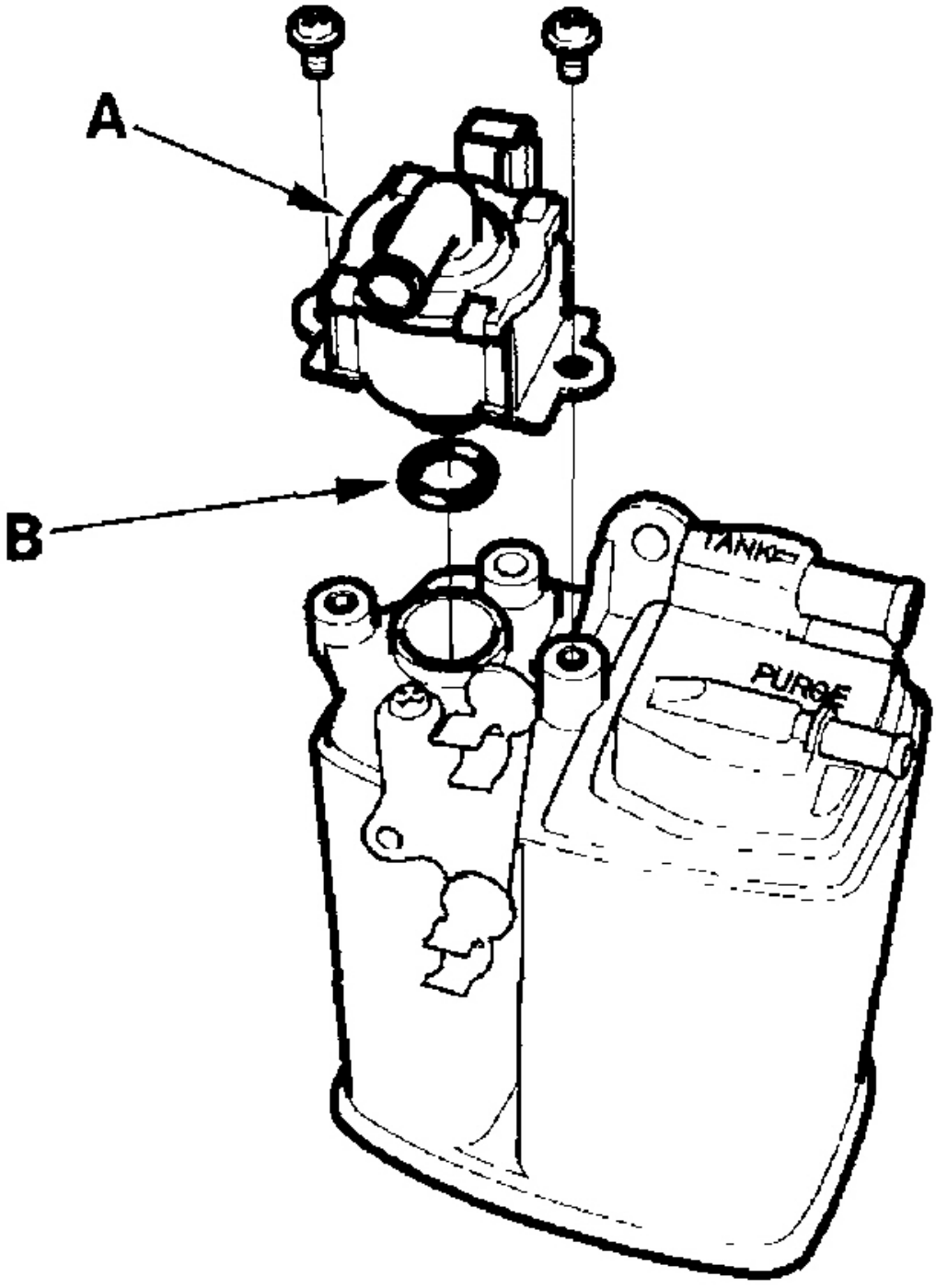

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Fig. 74: Removing EVAP Canister Vent Shut Valve And O-Ring
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 28.

NO -Replace the EVAP canister vent shut valve (A) and O-ring (B).

28. Disconnect ECM connector A (32P).

29. Check for continuity between EVAP canister vent shut valve 2P connector terminal No. 2 and body ground.

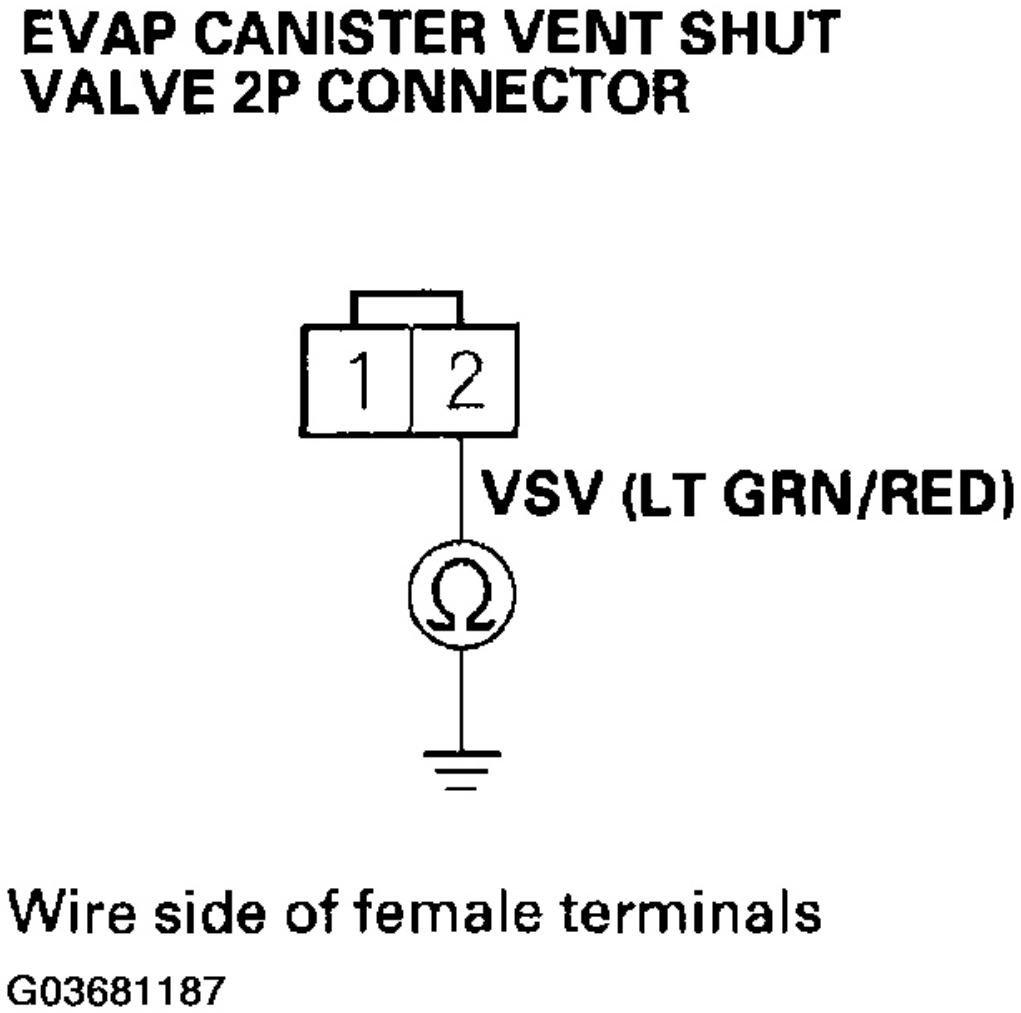


Fig. 75: Checking For Continuity Between EVAP Canister Vent Shut Valve 2P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the EVAP canister vent shut valve and the ECM (A4).

NO -Update the ECM if it does not have the latest software, or substitute a

known-good ECM; 2000-2001 M/T models (see **HOW TO TROUBLESHOOT CIRCUITS AT THE ECM**), 2002-2005 M/T models and CVT model (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2006 M/T MODELS AND CVT MODEL**), then recheck. If the symptom/indication goes away with a known-good ECM, replace the original ECM (see **ECM REPLACEMENT**).

Vacuum hoses and connections test

30. Do the fuel tank vapor control valve tests (see **FUEL TANK VAPOR CONTROL VALVE TEST**).

Is the fuel tank vapor control valve OK?

YES -Go to step 31.

NO -Replace the fuel tank vapor control valve.

31. Tighten the fuel cap 3 "clicks", then monitor the FTP readings with the HDS.
32. Start the engine, and let the engine idle 5 minutes.
33. Check the FTP sensor reading with the HDS.

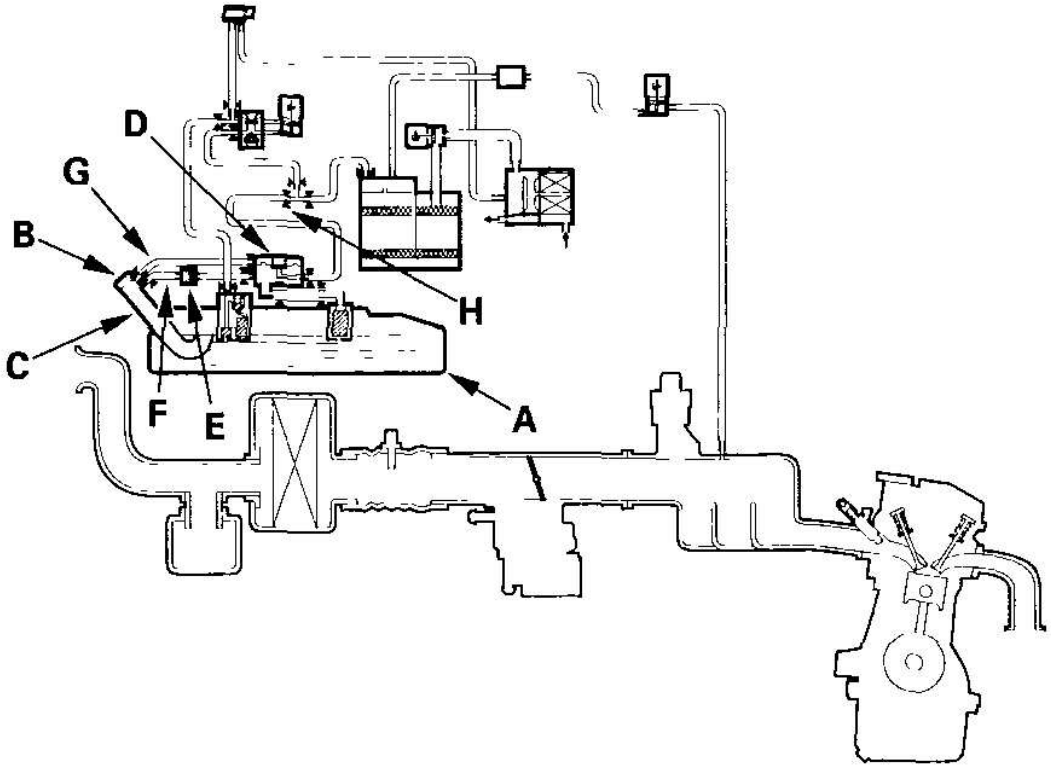


Fig. 76: Checking FTP Sensor Reading With HDS
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is the reading above 0.5 kPa (0.16 in.Hg, 4 mmHg), pressure, below - 4 mmHg vacuum, or about 3 V?

YES -Update the ECM if it does not have the latest software, or substitute a known-good ECM; 2000-2001 M/T models (see **HOW TO TROUBLESHOOT CIRCUITS AT THE ECM**), 2002-2005 M/T models and CVT model (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2006 M/T MODELS AND CVT MODEL**), then recheck. If the symptom/indication goes away with a known-good ECM, replace the original ECM (see **ECM REPLACEMENT**).

NO -Check these parts for leaks:

- Fuel tank (A)
- Fuel fill cap (B)
- Fuel fill pipe(C)
- Fuel tank vapor control valve (D)
- Fuel tank vapor recirculation valve (E)
- Fuel tank vapor recirculation tube (F)
- Fuel tank vapor signal tube (G)
- Fuel tank vapor control vent tube (H)
    - If necessary, repair or replace the parts.

DTC P1457: EVAP CONTROL SYSTEM LEAKAGE (EVAP CANISTER SYSTEM) (2000-2005 MODELS)

NOTE: The fuel system is designed to allow specified maximum vacuum and pressure conditions. Do not deviate from the vacuum and pressure tests as indicated in these procedures. Excessive pressure/vacuum would damage the EVAP components or cause eventual fuel system failure.

Special Tools Required

Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available

This is a two-trip code. Once cleared, it cannot be reproduced in one trip. Also, certain specific driving and ambient conditions must occur before the ECM will complete the system checks. Additional test drives may still not meet the specific conditions needed to reproduce the code.

Follow these troubleshooting procedures carefully to ensure the integrity of the system and to confirm the cause of the problem or code.

NOTE:

- **Fresh fuel has a higher volatility that will create greater pressure/vacuum. The optimum condition for testing is fresh fuel, and there must be less than a full tank of**

fuel. If possible, to assist in leak detection, add 1 gallon of fresh fuel to the tank (as long as it will not fill the tank), just before starting these procedures.

- **Before you troubleshoot, record all freeze data and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**

EVAP Canister purge valve test

1. Disconnect the vacuum hose (A) from the EVAP canister side, and connect a vacuum pump/gauge, 0-30 in.Hg, to the hose.

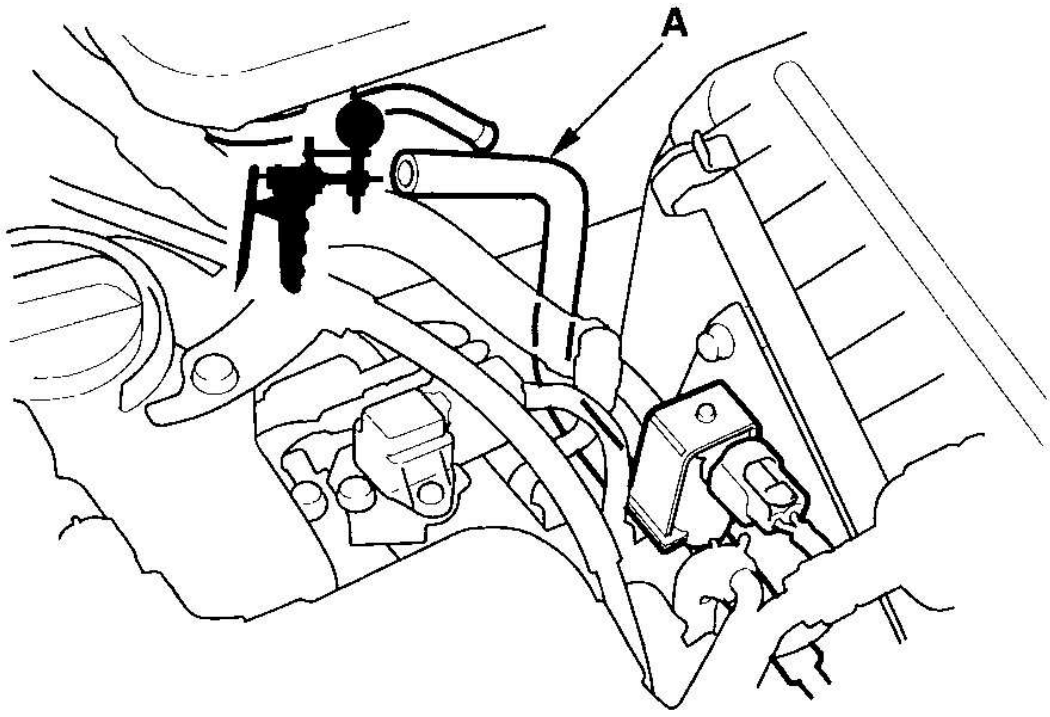


Fig. 77: Connecting Vacuum Pump/Gauge To Hose
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Turn the EVAP canister purge valve on with the HDS, or connect ECM

connector terminal A6 to body ground with a jumper wire.

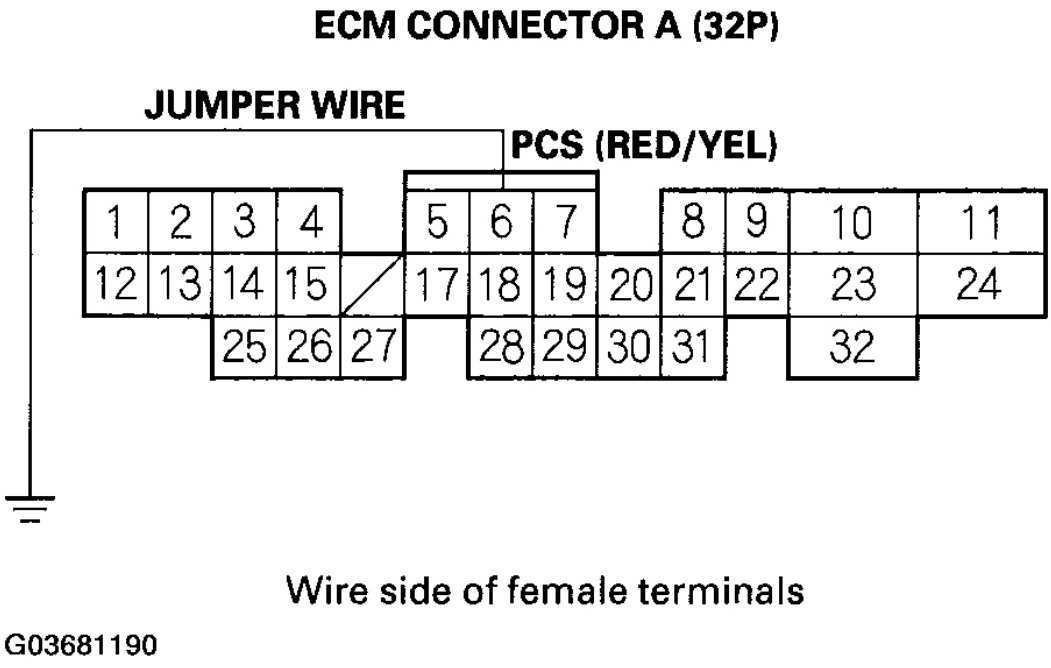


Fig. 78: Connecting ECM Connector Terminal A6 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Turn the ignition switch ON (II).
4. Apply vacuum to the hose.

Does the valve hold vacuum?

YES -Go to step 5.
NO -The EVAP canister purge valve is OK. Go to step 10.

5. Turn the ignition switch OFF.
6. Disconnect the EVAP canister purge valve 2P connector.
7. Check for continuity between EVAP canister purge valve 2P connector terminal No. 2 and body ground.

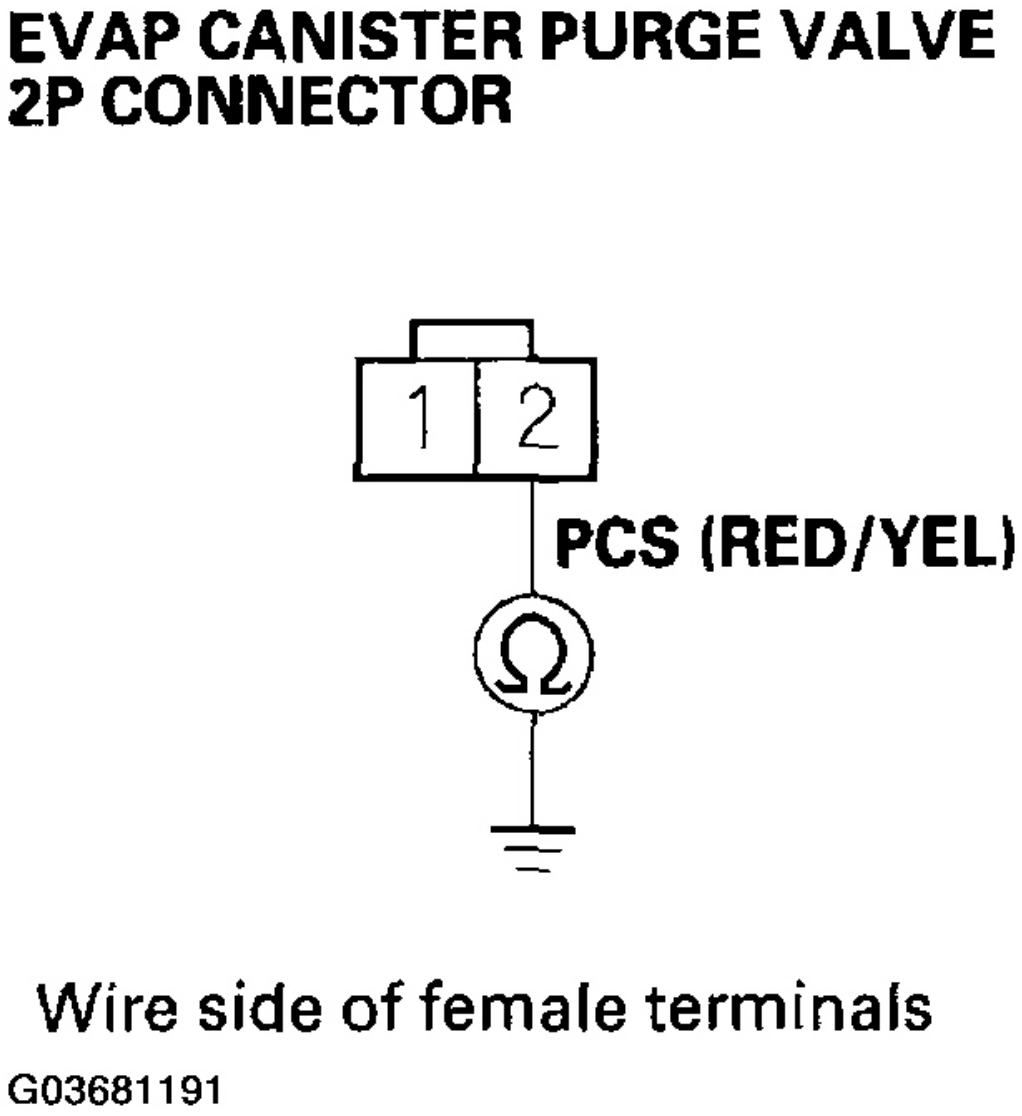


Fig. 79: Checking For Continuity Between EVAP Canister Purge Valve 2P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 8.

NO -Repair open in the wire between the EVAP canister purge valve and the ECM (A6).

8. Turn the ignition switch ON (II).
9. Measure voltage between EVAP canister purge valve 2P connector terminal No. 1 and body ground.

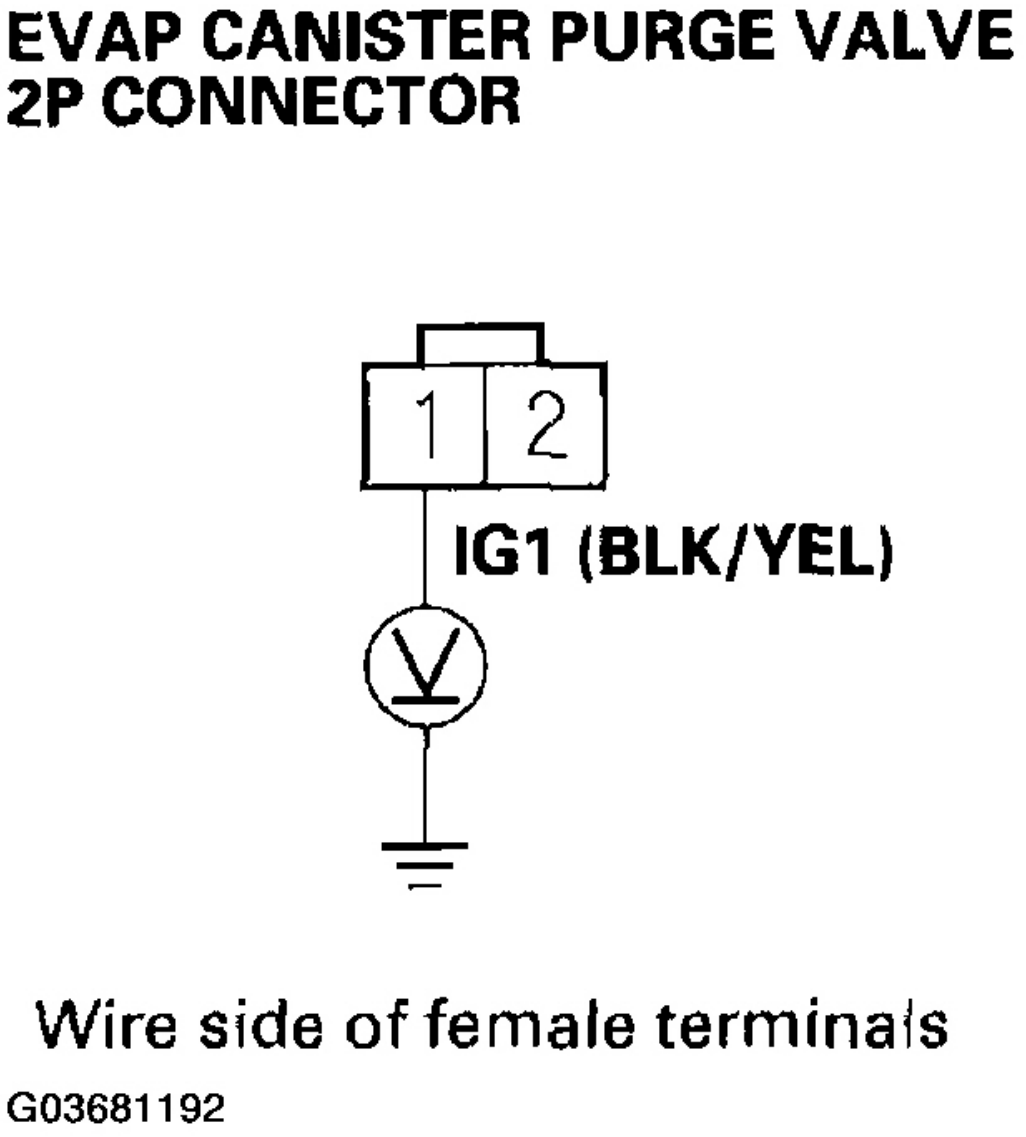


Fig. 80: Measuring Voltage Between EVAP Canister Purge Valve 2P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Replace the EVAP canister purge valve.

NO -Repair open in the wire between the EVAP canister purge valve and the No. 4 (7.5 A) fuse.

EVAP bypass solenoid valve test

10. Disconnect the vacuum hose from the EVAP two-way valve (A), and connect a vacuum pump/gauge, 0-30 in.Hg, to the hose.

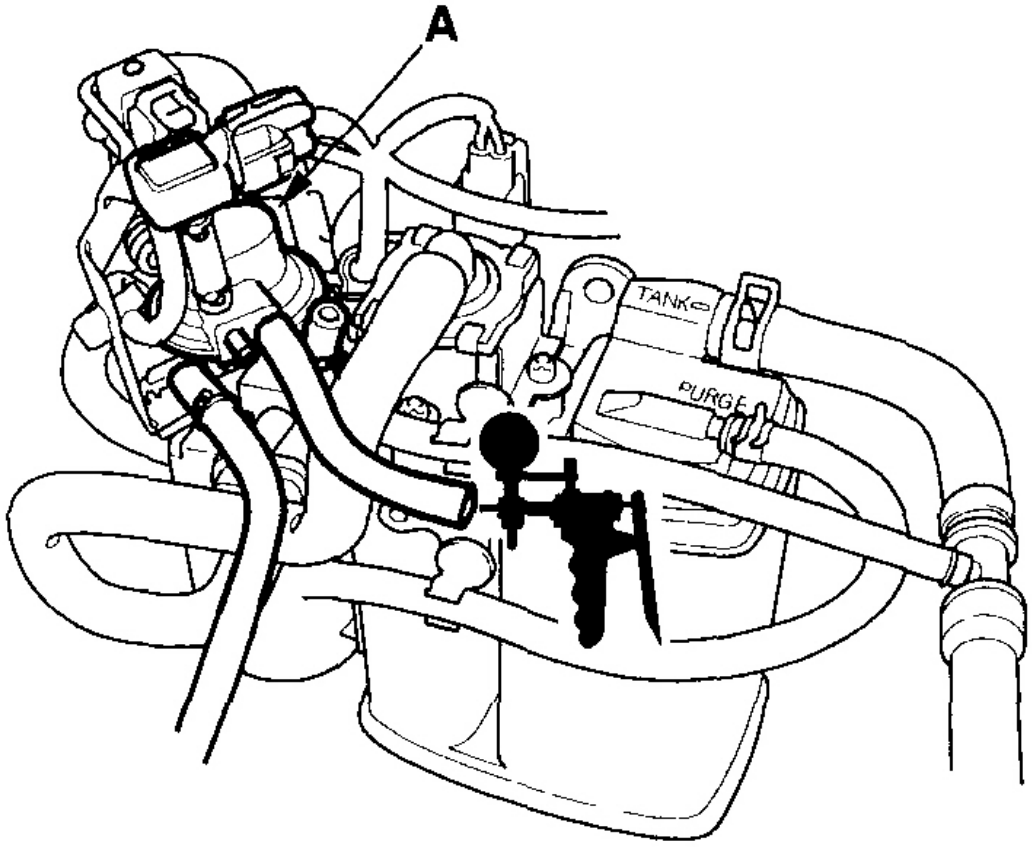


Fig. 81: Connecting Vacuum Pump/Gauge To Hose
Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Turn the ignition switch ON (II).
12. Apply vacuum to the hose.

Does the valve hold vacuum?

YES -The EVAP bypass solenoid valve/EVAP two-way valve is OK. Go to step 18.

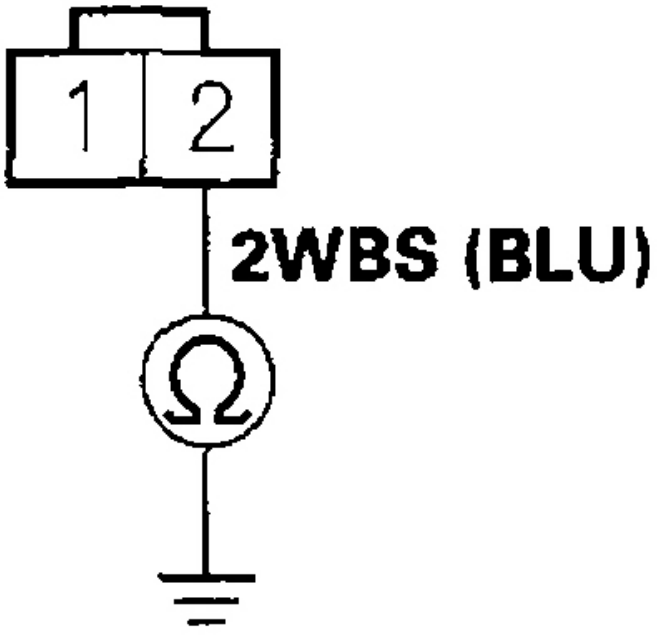
NO -Go to step 13.

13. Turn the ignition switch OFF.

14. Disconnect the EVAP bypass solenoid valve 2P connector.

15. Check for continuity between EVAP bypass solenoid valve 2P connector terminal No. 2 and body ground.

EVAP BYPASS SOLENOID VALVE 2P CONNECTOR



Wire side of female terminals

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Fig. 82: Checking For Continuity Between EVAP Bypass Solenoid Valve 2P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

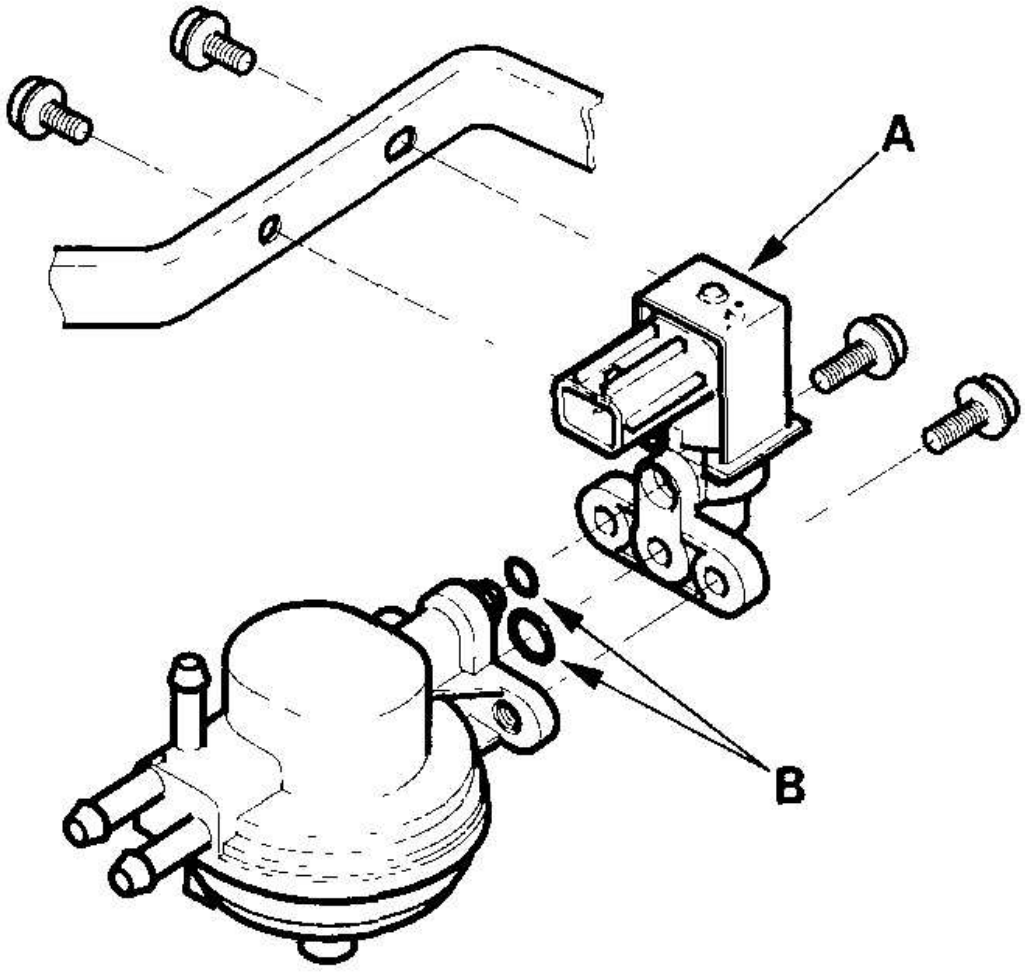

Fig. 83: Removing EVAP Bypass Solenoid Valve And O-Rings
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 16.

NO -Replace the EVAP bypass solenoid valve (A) and O-rings (B).

16. Disconnect ECM connector A (32P).

17. Check for continuity between EVAP bypass solenoid valve 2P connector terminal No. 2 and body ground.

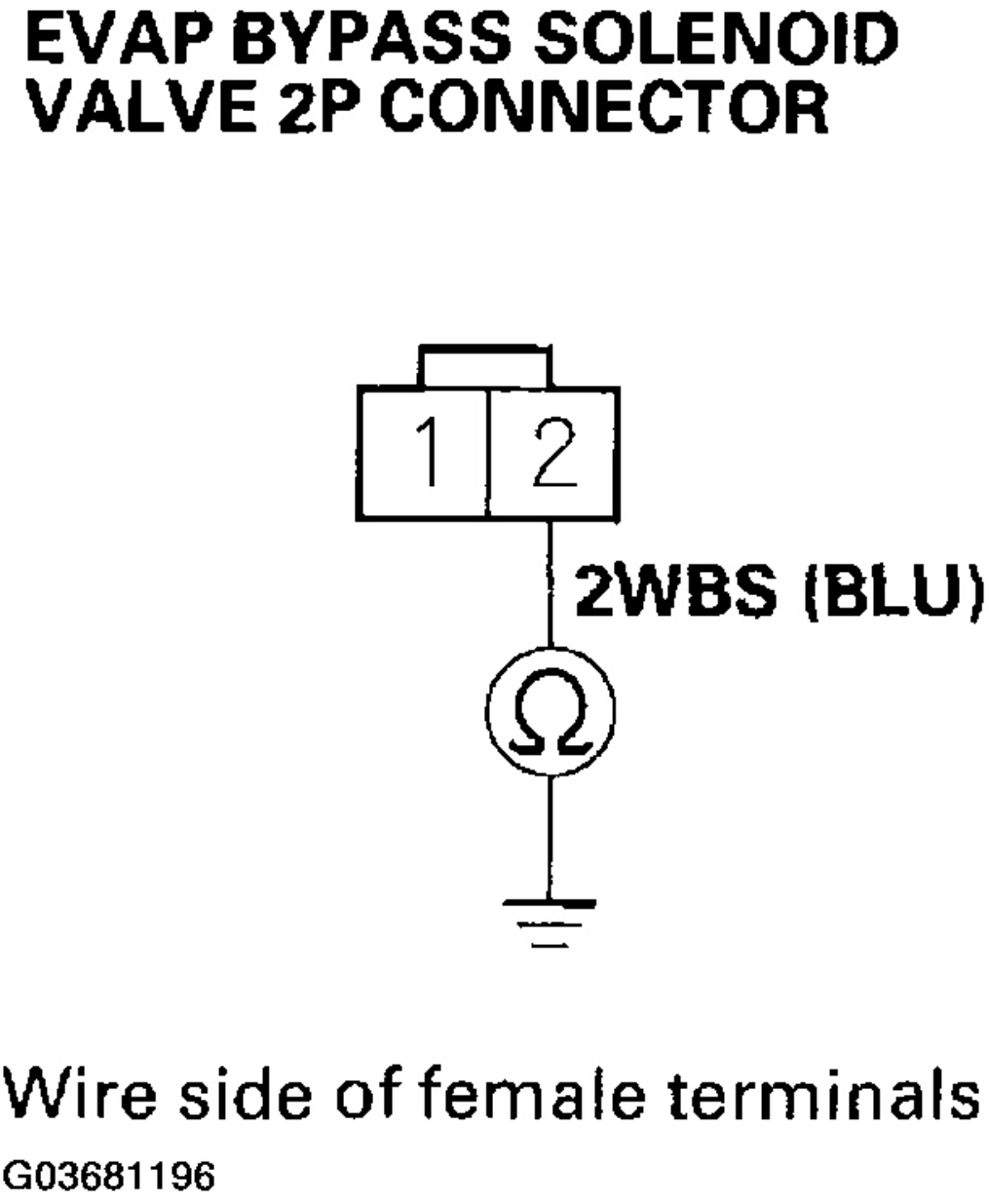

Fig. 84: Checking For Continuity Between EVAP Bypass Solenoid Valve 2P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the EVAP bypass solenoid valve and the ECM (A3).

NO -Update the ECM if it does not have the latest software, or substitute a known-good ECM; 2000-2001 M/T models (see **HOW TO TROUBLESHOOT CIRCUITS AT THE ECM**), 2002-2005 M/T models and CVT model (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2006 M/T MODELS AND CVT MODEL**), then recheck. If the symptom/indication goes away with a known-good ECM, replace the original ECM (see **ECM REPLACEMENT**).

EVAP canister vent shut valve test

18. Disconnect the vacuum hose from the EVAP canister vent shut valve (A), and connect a vacuum pump/gauge, 0-30 in.Hg, to the hose.

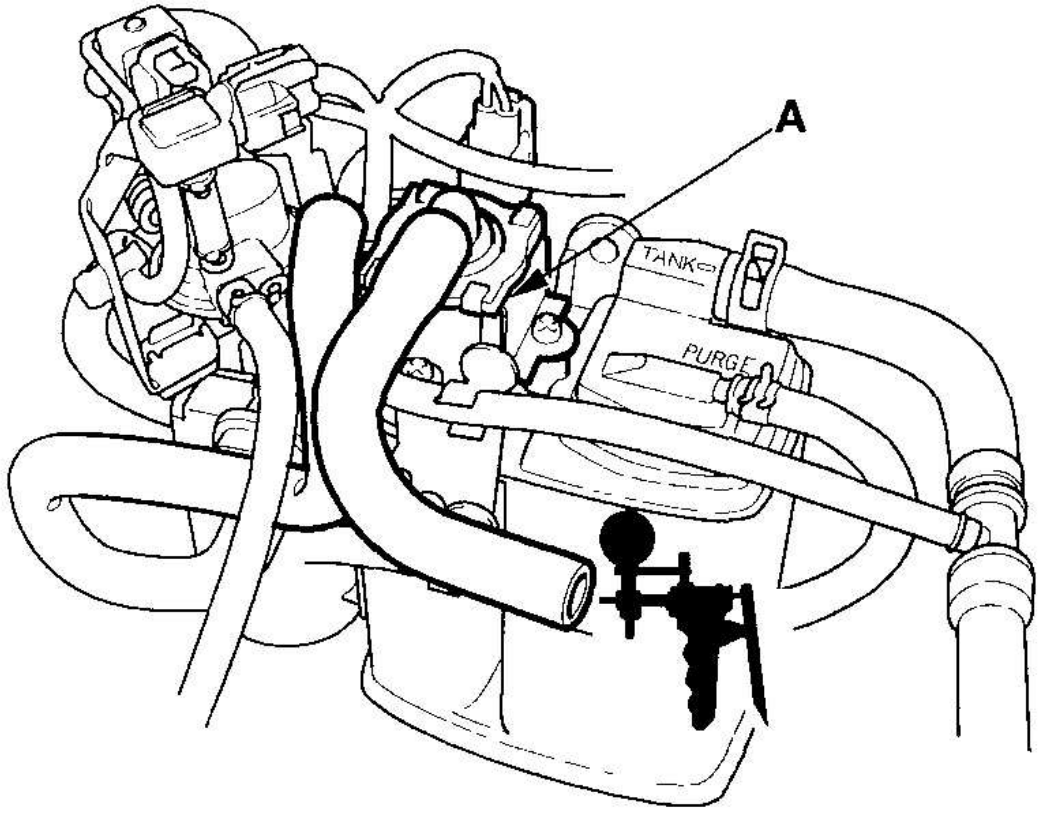

Fig. 85: Connecting Vacuum Pump/Gauge To Hose
Courtesy of AMERICAN HONDA MOTOR CO., INC.

19. Select EVAP CVS ON in the INSPECTION MENU with the HDS, or connect ECM connector terminal A 4 to body ground with a jumper wire.

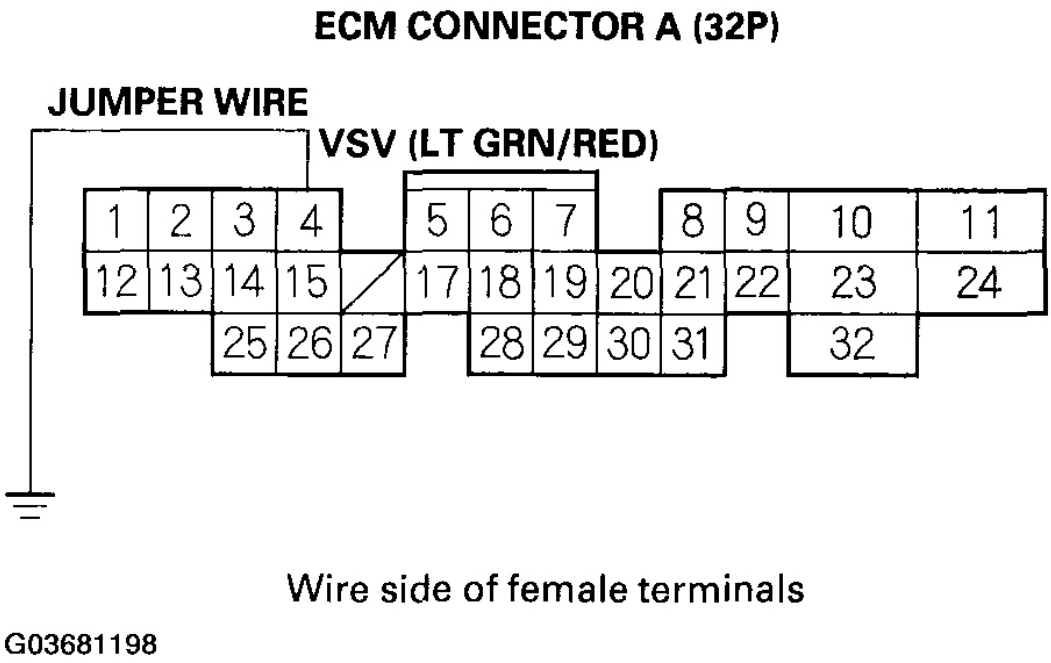

Fig. 86: Connecting ECM Connector Terminal A 4 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. Turn the ignition switch ON (II).
21. Apply vacuum to the hose.

Does the valve hold vacuum?

YES -The EVAP canister vent shut valve is OK. Go to step 27.

NO -Go to step 22.

22. Turn the ignition switch OFF.
23. Disconnect the EVAP canister vent shut valve 2P connector.
24. Check for continuity between EVAP canister vent shut valve 2P connector terminal No. 2 and body ground.

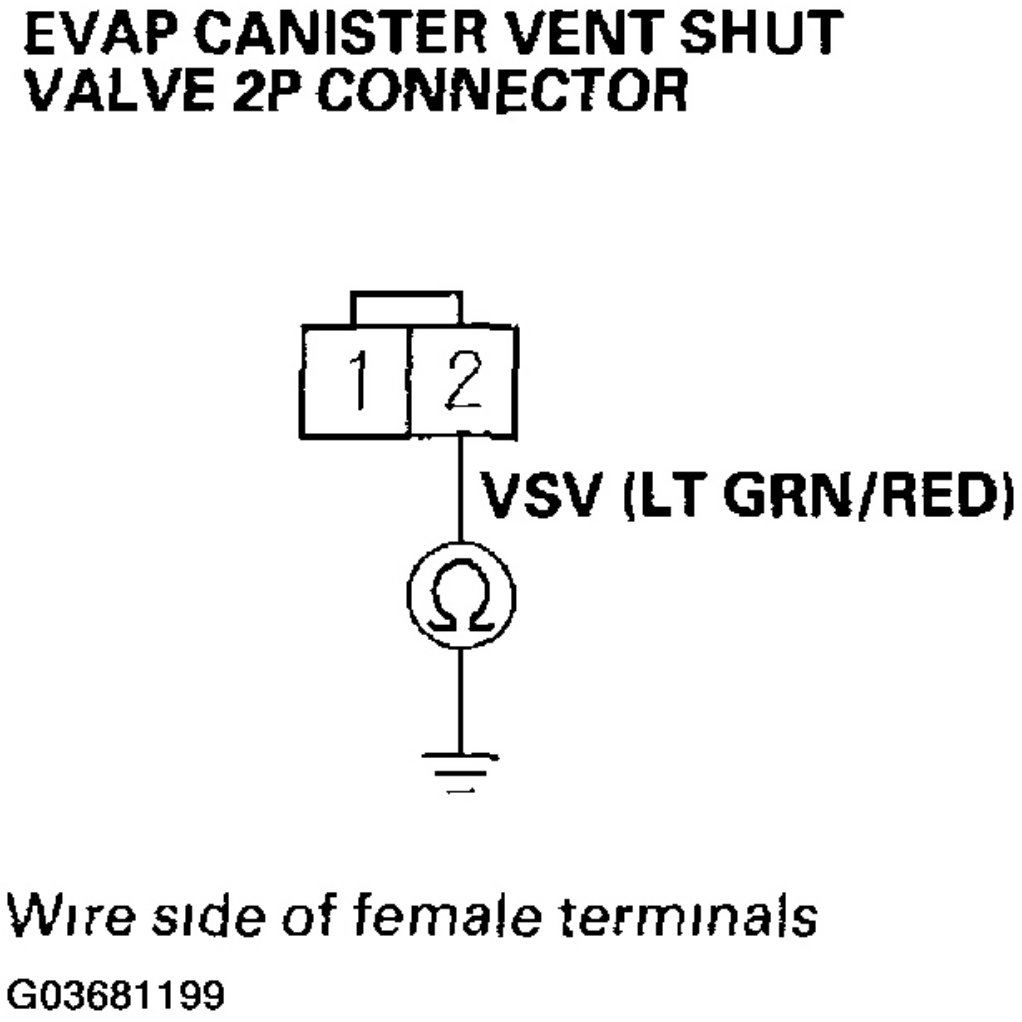

Fig. 87: Checking For Continuity Between EVAP Canister Vent Shut Valve 2P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 25.

NO -Repair open in the wire between the EVAP canister vent shut valve and the ECM (A4).

25. Turn the ignition switch ON (II).
26. Measure voltage between EVAP canister vent shut valve 2P connector terminal No. 1 and body ground.

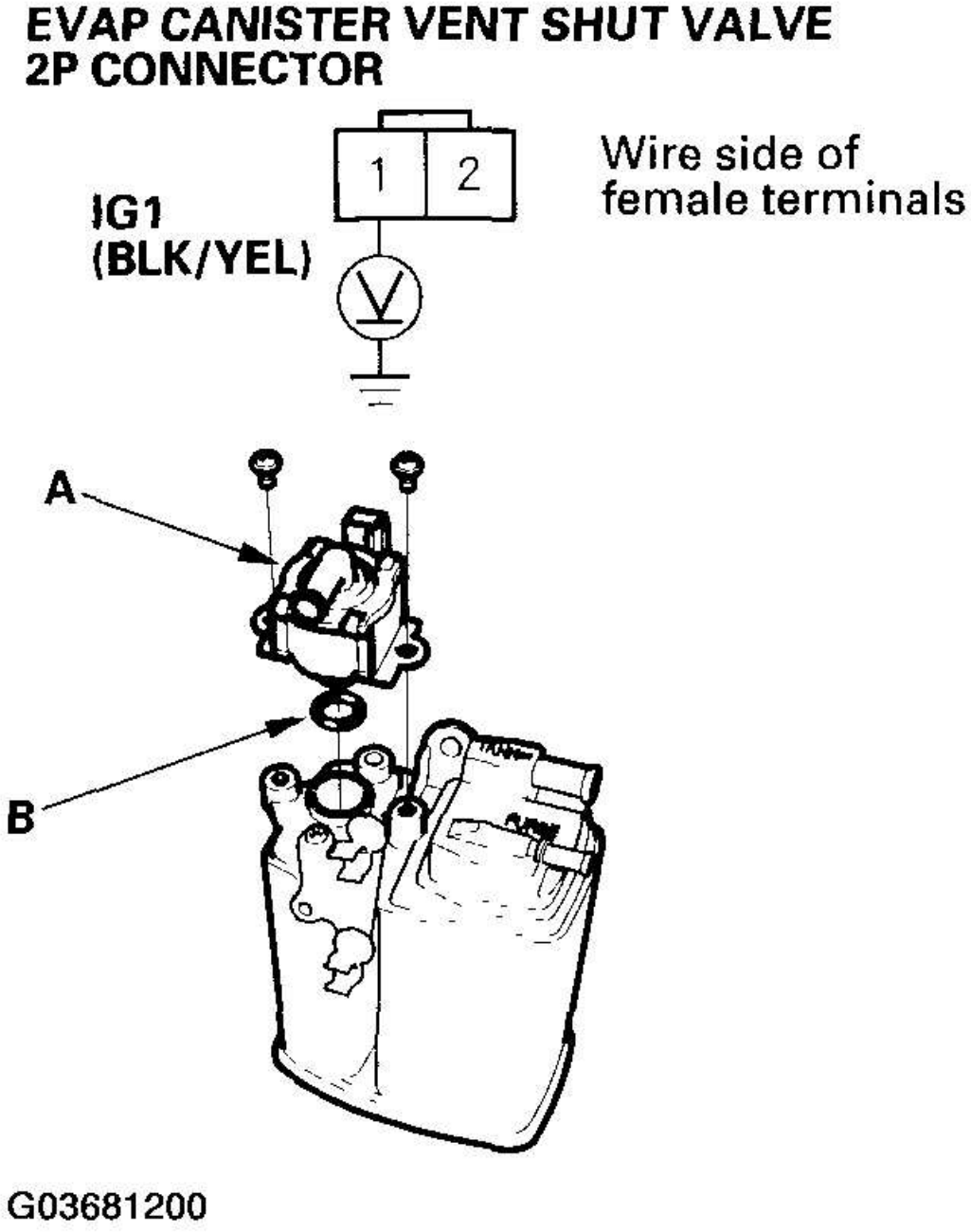

Fig. 88: Measuring Voltage Between EVAP Canister Vent Shut Valve 2P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Replace the EVAP canister vent shut valve (A)and O-ring(B).

NO -Repair open in the wire between the EVAP canister vent shut valve and the No. 4 (7.5 A) fuse.

EVAP canister system leak test

27. Turn the ignition switch OFF.

28. Connect two T-fittings (A) into the hose from the EVAP canister to the EVAP two-way valve. Connect the fuel tank pressure sensor to one of the T-fittings and the vacuum pump/gauge, 0-30 in.Hg, to the other.

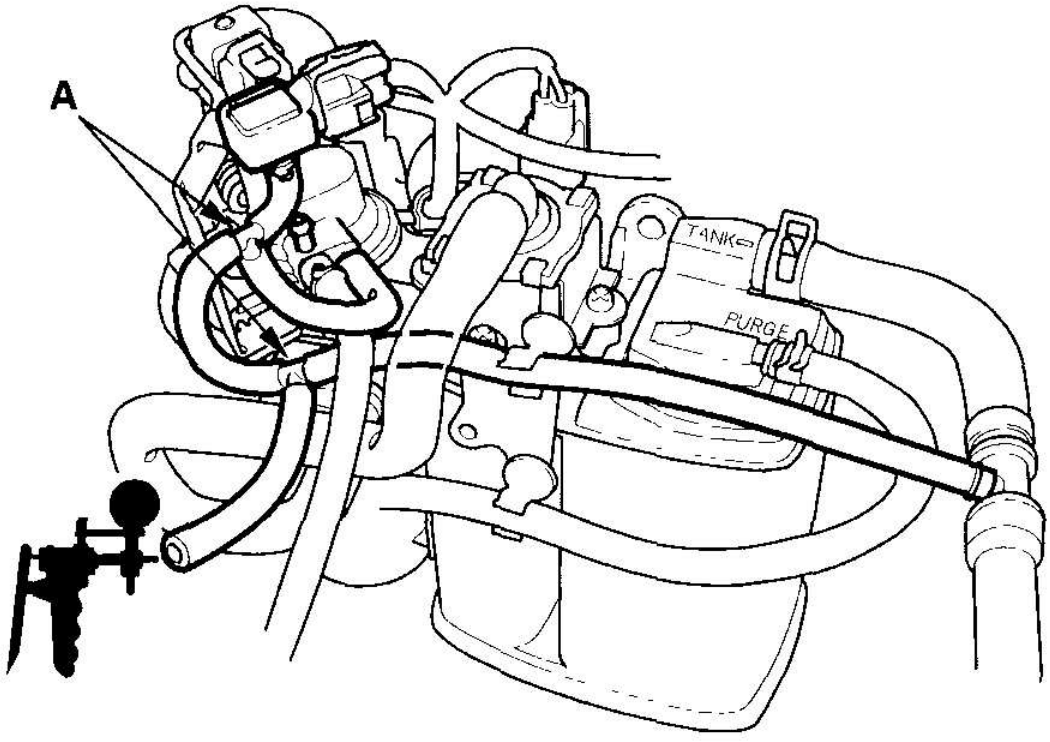

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Fig. 89: Connecting Fuel Tank Pressure Sensor To One Of T-Fittings And Vacuum Pump/Gauge
Courtesy of AMERICAN HONDA MOTOR CO., INC.

29. Remove the vent hose from the EVAP canister vent shut valve (A), and plug the port (B) to seal the fresh air vent.

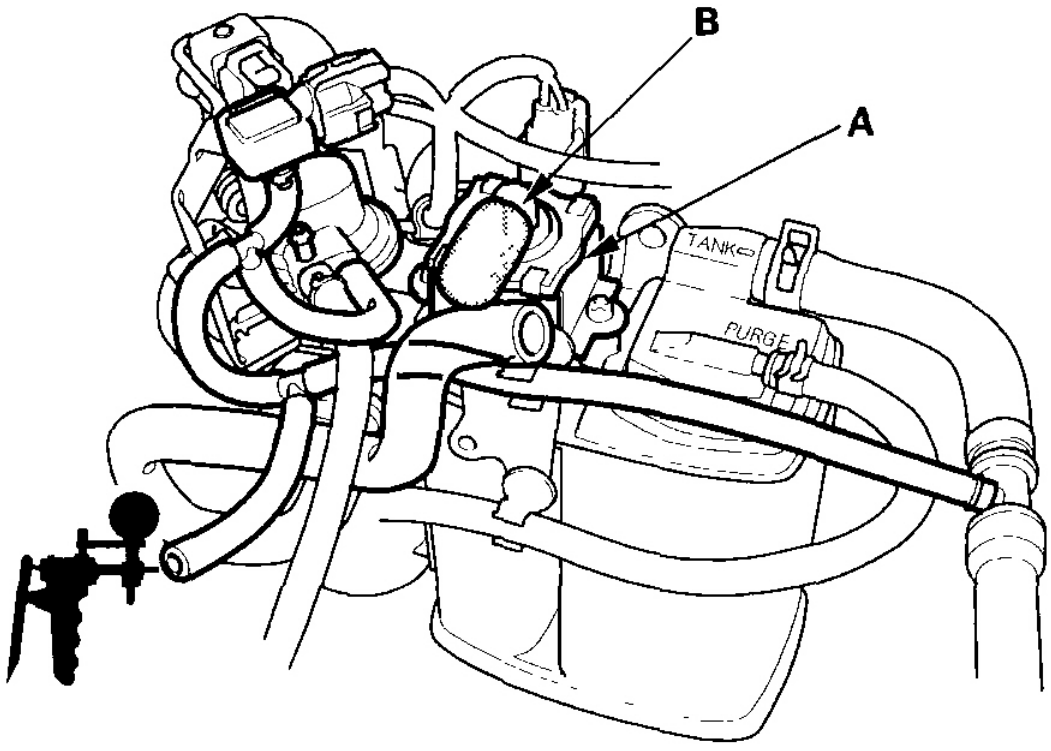

Fig. 90: Plugging Port To Seal Fresh Air Vent
Courtesy of AMERICAN HONDA MOTOR CO., INC.

30. Turn the ignition switch ON (II).

31. While monitoring the FTP sensor voltage with the HDS, or measuring voltage between ECM connector terminals A29 and C18, slowly pump the vacuum pump.

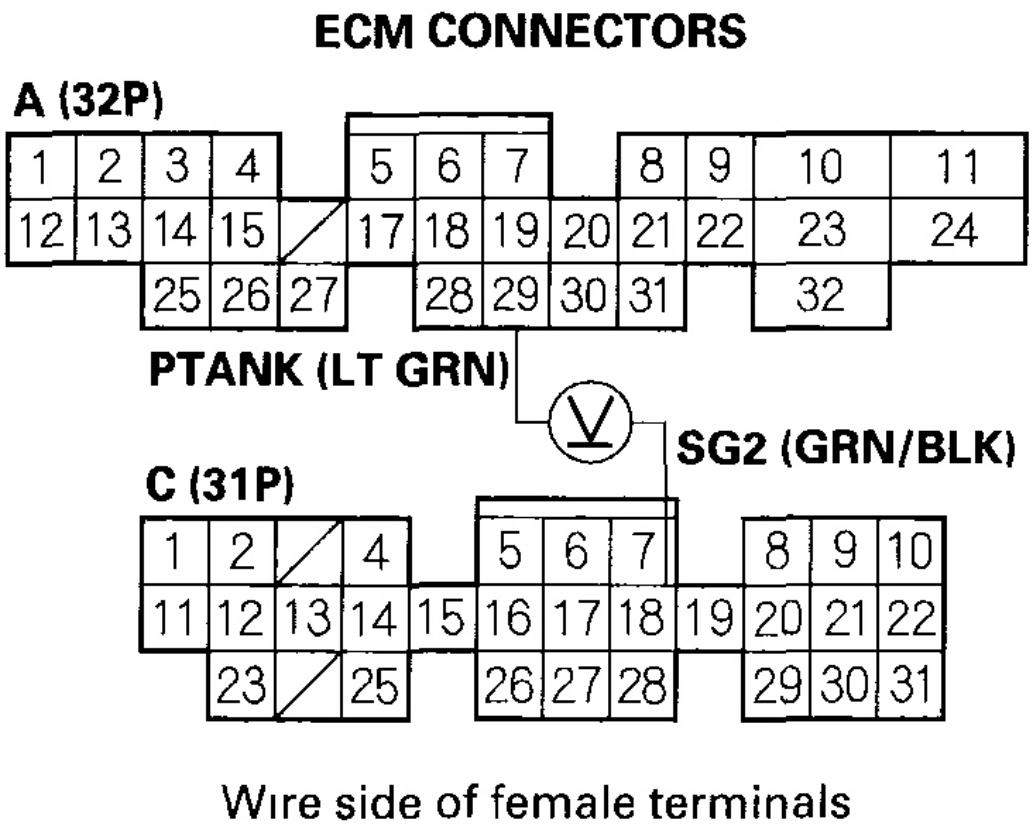

Fig. 91: Measuring Voltage Between ECM Connector Terminals A29 And C18
Courtesy of AMERICAN HONDA MOTOR CO., INC.

32. Continue to pump vacuum until the voltage drops to about 1.5 V. Make sure that the engine coolant temperature is still above 95 °F (35 °C) and your vacuum pump has no leak.
33. Monitor the voltage for 20 seconds.

Does the voltage drop to 1.5 V and hold for at least 20 seconds?

YES -Inspect the EVAP canister vent shut valve line and connections.
NO -Go to step 34.

34. Turn the ignition switch OFF.

35. Disconnect the vacuum hose (A) from the EVAP canister, and plug the canister port (B).

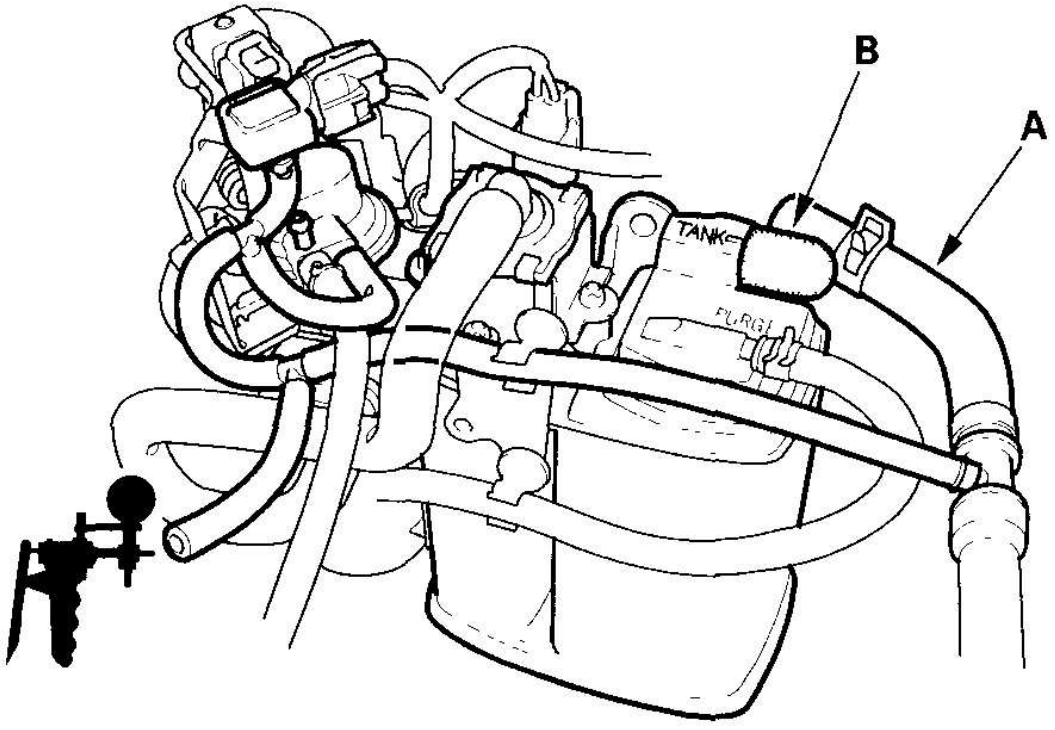

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Fig. 92: Disconnecting Vacuum Hose From EVAP Canister And Plug Canister Port
Courtesy of AMERICAN HONDA MOTOR CO., INC.

36. Turn the ignition switch ON (II).

37. While monitoring FTP sensor voltage with the HDS, or measuring voltage between ECM connector terminals A29 and C18, slowly pump the vacuum pump.

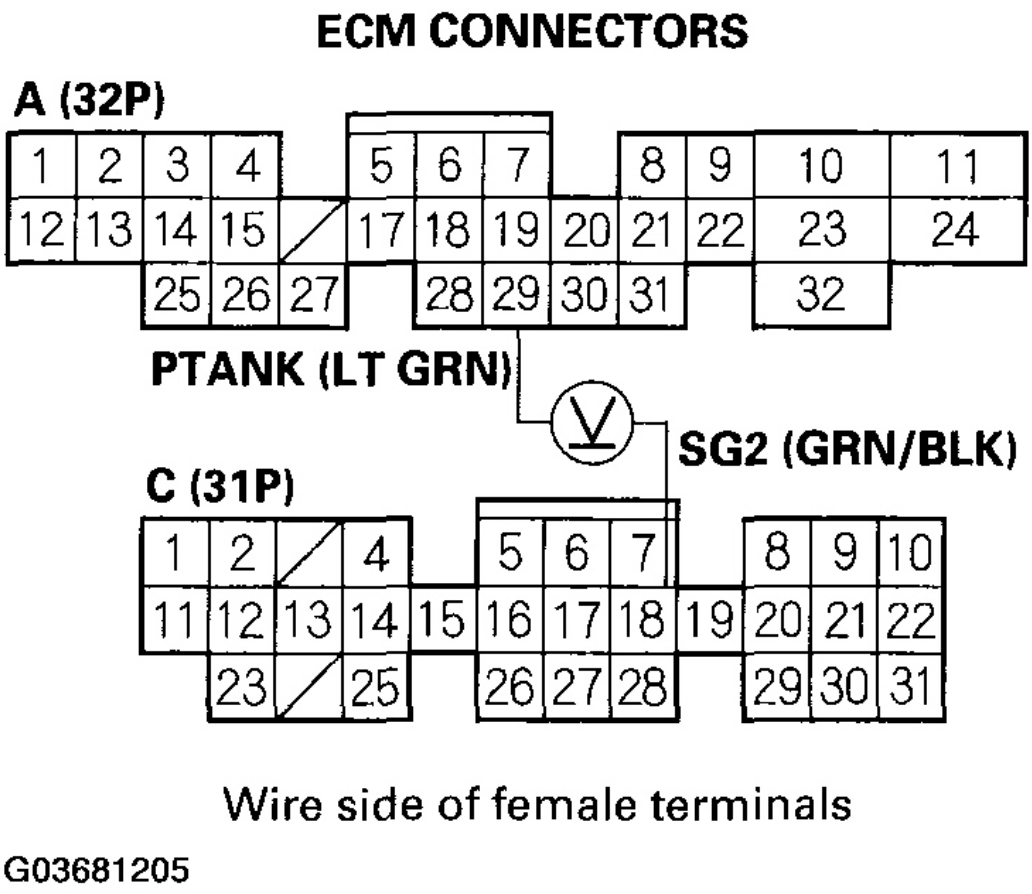

Fig. 93: Measuring Voltage Between ECM Connector Terminals A29 And C18
Courtesy of AMERICAN HONDA MOTOR CO., INC.

38. Continue to pump vacuum until the voltage drops to about 1.5 V. Make sure the engine coolant temperature is still above 95 °F (35 °C) and your vacuum pump has no leak.
39. Check the voltage for 20 seconds.

Does the voltage drop to about 1.5 V and hold for at least 20 seconds?

YES -Inspect the fuel tank vapor line and connections for vacuum leaks.
NO -Go to step 40.

40. Turn the ignition switch OFF.

41. Disconnect the purge line hose (A) from the canister at the metal line, and plug the canister port(B).

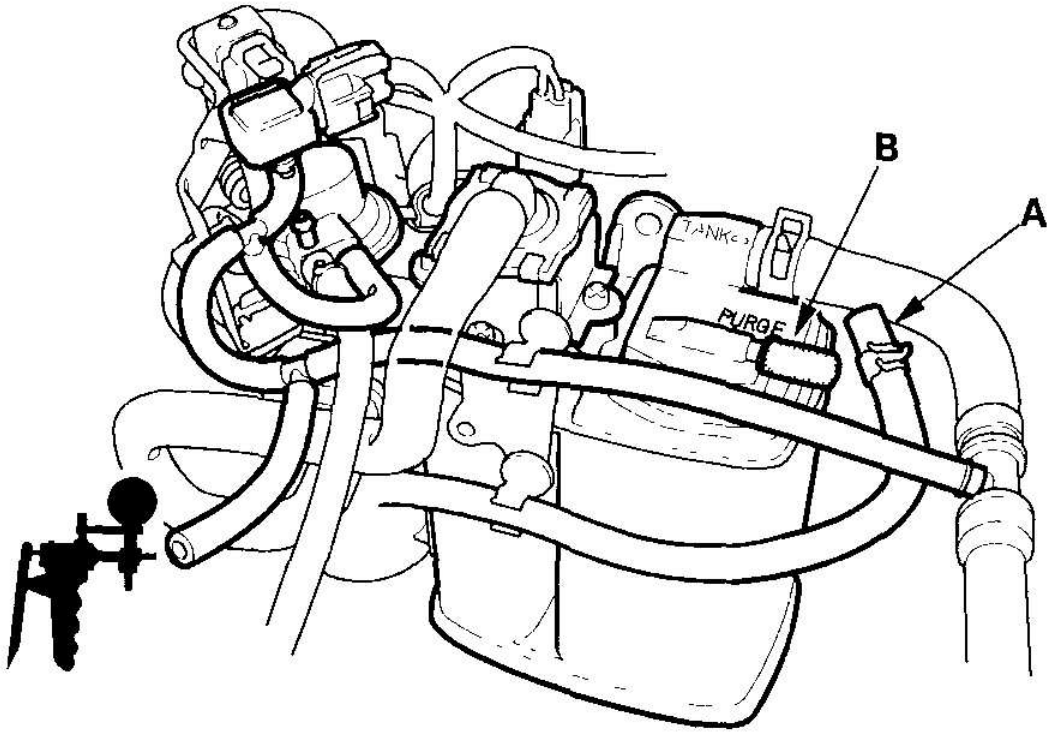

Fig. 94: Disconnecting Purge Line Hose From Canister At Metal Line And Plug Canister Port
Courtesy of AMERICAN HONDA MOTOR CO., INC.

42. Turn the ignition switch ON (II).

43. While monitoring FTP sensor voltage with the HDS, or measuring voltage between ECM connector terminals A29 and C18, slowly pump the vacuum pump.

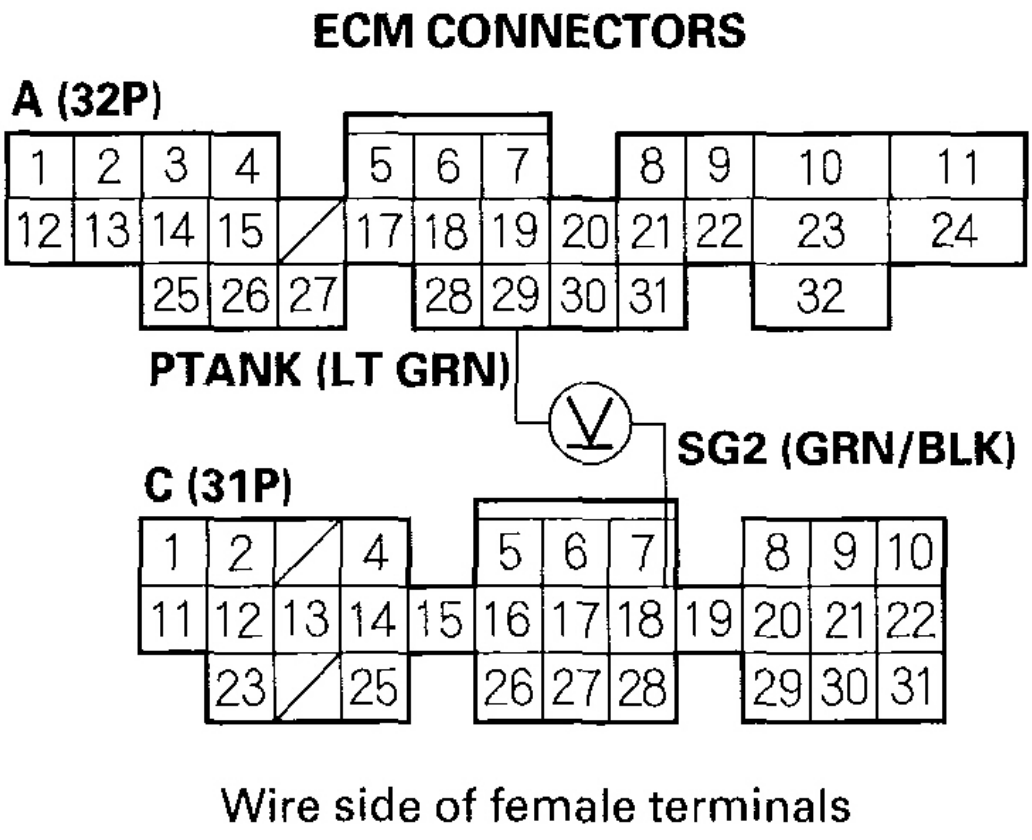

Fig. 95: Measuring Voltage Between ECM Connector Terminals A29 And C18
Courtesy of AMERICAN HONDA MOTOR CO., INC.

44. Continue to pump vacuum until the voltage drops to about 1.5 V. Make sure that the engine coolant temperature is still above 95 °F (35 °C) and your vacuum pump has no leak.
45. Monitor the voltage for 20 seconds.

Does the voltage drop to about 1.5 V and hold for at least 20 seconds?

YES -Inspect the EVAP canister purge valve line and connections for vacuum leaks. If they are OK, do the EVAP two-way valve test (see

EVAP TWO WAY VALVE TEST), and fuel tank vapor control valve test (see **FUEL TANK VAPOR CONTROL VALVE TEST**).

NO -Replace the EVAP canister.

EVAP TWO WAY VALVE TEST

Special Tools Required

- Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available
- Vacuum/pressure gauge, 0-4 in.Hg 07JAZ-001000B

2000-2005 MODELS

1. Remove the fuel fill cap.
2. Disconnect the vapor line from the EVAP two-way valve (A), and connect a T-fitting (B) from the vacuum gauge and the vacuum pump/gauge, 0-30 in.Hg, to the hose as shown.

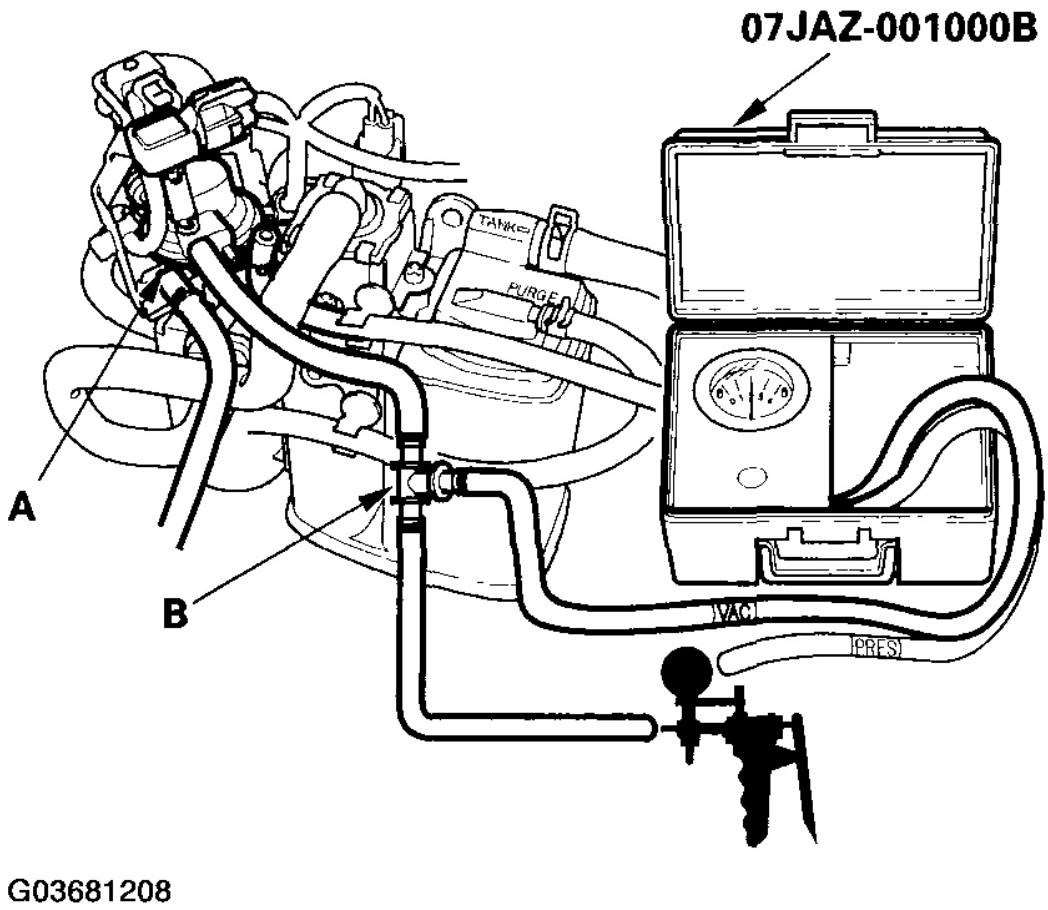

Fig. 96: Connecting T-Fitting From Vacuum Gauge And Vacuum Pump/Gauge To Hose
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Apply vacuum slowly and continuously while watching the gauge.

   The vacuum should stabilize momentarily at 0.8-2.1 kPa (0.2-0.6 in.Hg, 6-16 mmHg).

   If the vacuum stabilizes (valve opens) below 0.8 kPa (0.2 in.Hg, 6 mmHg) or above 2.1 kPa (0.6 in.Hg, 16 mmHg), install a new valve, and retest.

4. Move the vacuum pump hose from the vacuum fitting to the pressure fitting,

and move the vacuum gauge hose from the vacuum side to the pressure side (A) as shown.

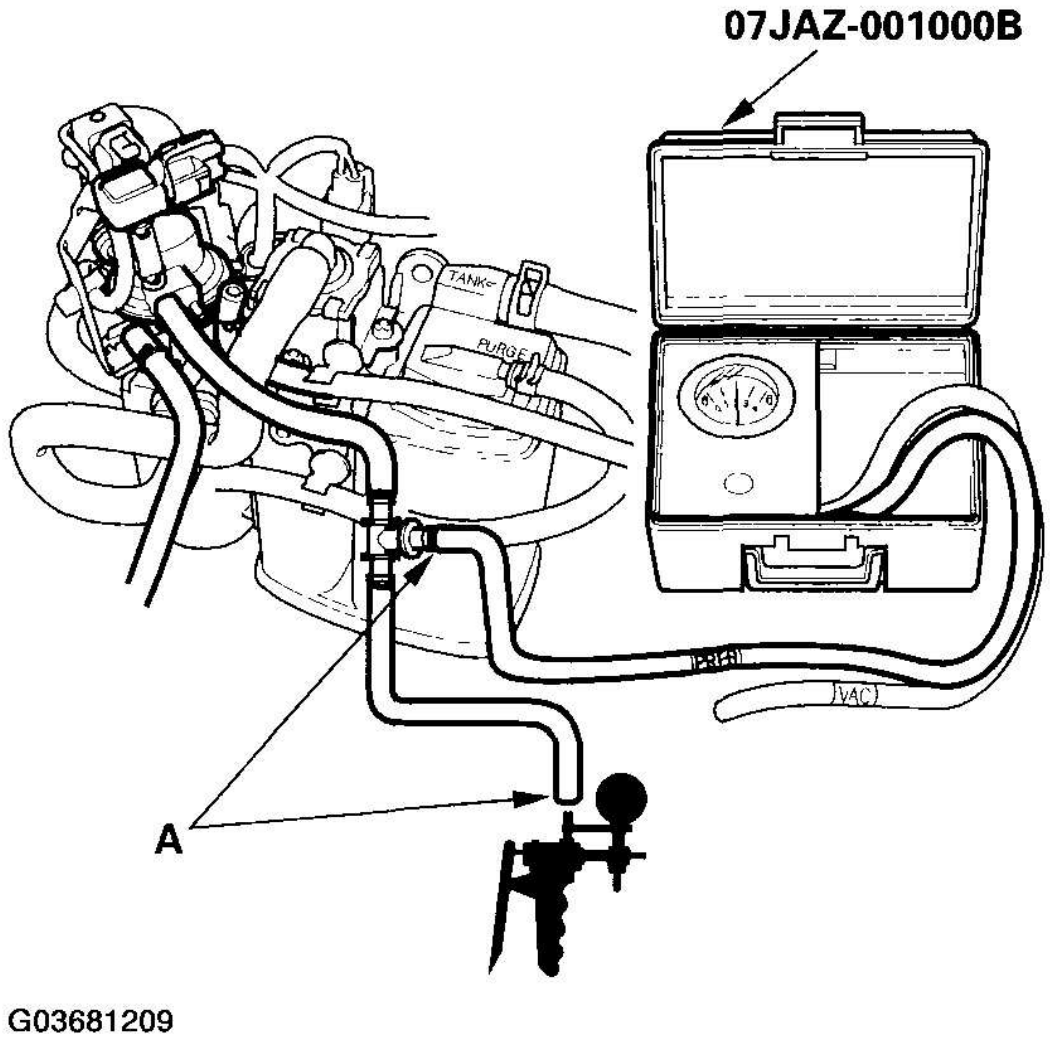

Fig. 97: Moving Vacuum Gauge Hose From Vacuum Side To Pressure Side
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Slowly pressurize the vapor line while watching the gauge. The pressure should stabilize momentarily above 1.0 kPa (0.3 in.Hg, 8 mmHg).
   - If the pressure momentarily stabilizes (valve opens) above 1.0 kPa (0.3

in.Hg, 8 mmHg), the valve is OK.

- If the pressure stabilizes below 1.0 kPa (0.3 in.Hg, 8 mmHg), install a new valve, and retest.

FUEL TANK VAPOR CONTROL VALVE TEST

Special Tools Required

Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available

2000-2005 MODELS

Float Test

1. Make sure the fuel tank is less than half full.
2. Remove the fuel fill cap to relieve the fuel tank pressure, then reinstall the cap.
3. Remove the fuel pipe cover. Disconnect the fuel tank vapor recirculation tube (A), and connect a vacuum pump/gauge, 0-30 in.Hg, to the tube.

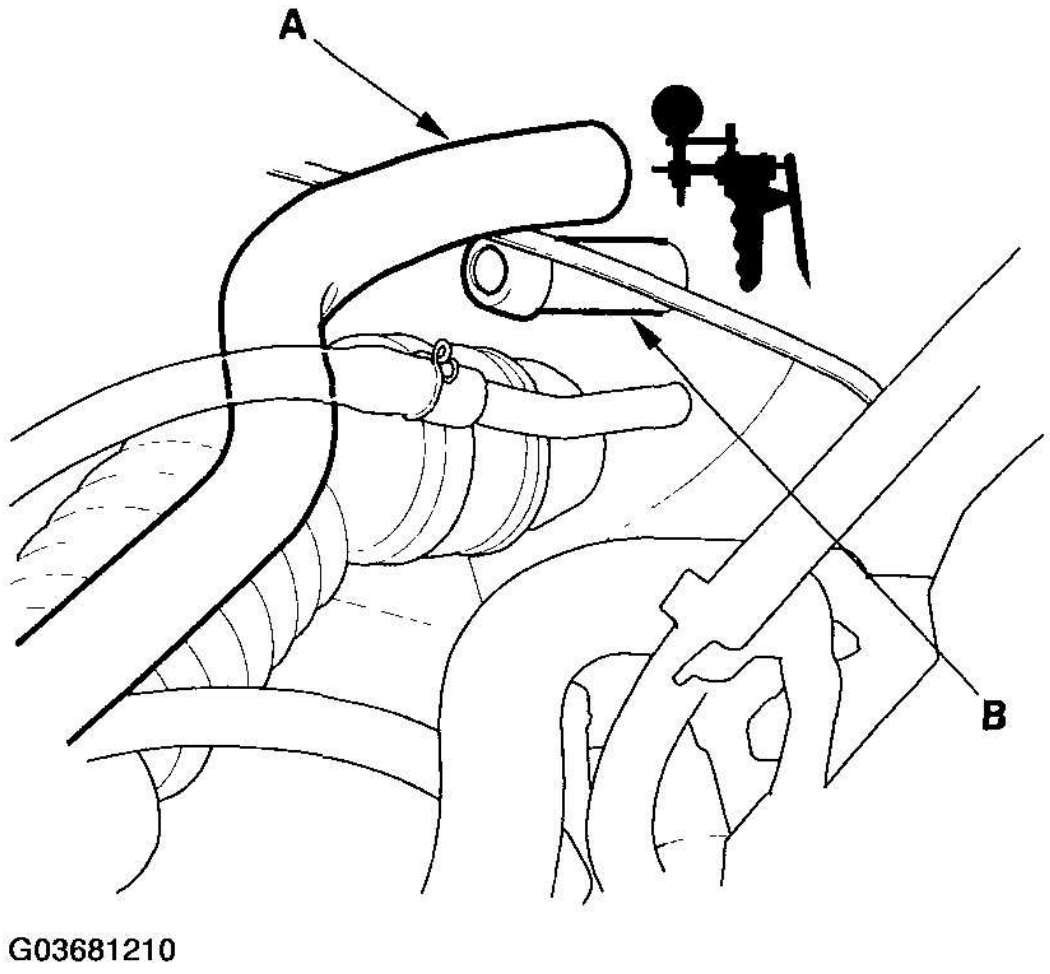

Fig. 98: Connecting Vacuum Pump/Gauge To Tube
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Plug the line (B).
5. Apply vacuum to the fuel tank vapor recirculation tube (A).
   - If the vacuum holds, replace the fuel tank vapor control valve (see **FUEL TANK VAPOR CONTROL VALVE REPLACEMENT**).
   - If the vacuum does not hold, the float is OK. Do the valve test.

Valve Test

1. Make sure the fuel tank is less than half full.

2. Remove the fuel fill cap.
3. Remove the fuel pipe cover. Disconnect the fuel tank vapor signal tube (A).

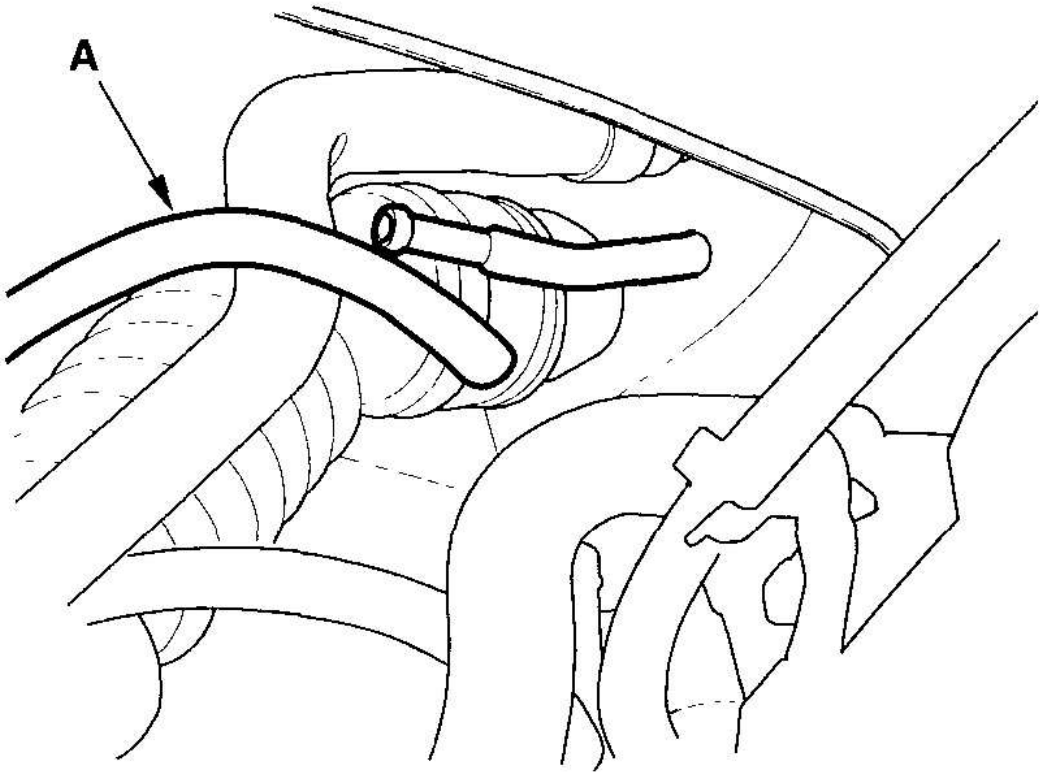

Fig. 99: Disconnecting Fuel Tank Vapor Signal Tube
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Disconnect the vacuum hoses (A) from the EVAP canister (B), then plug the ports with caps (C).

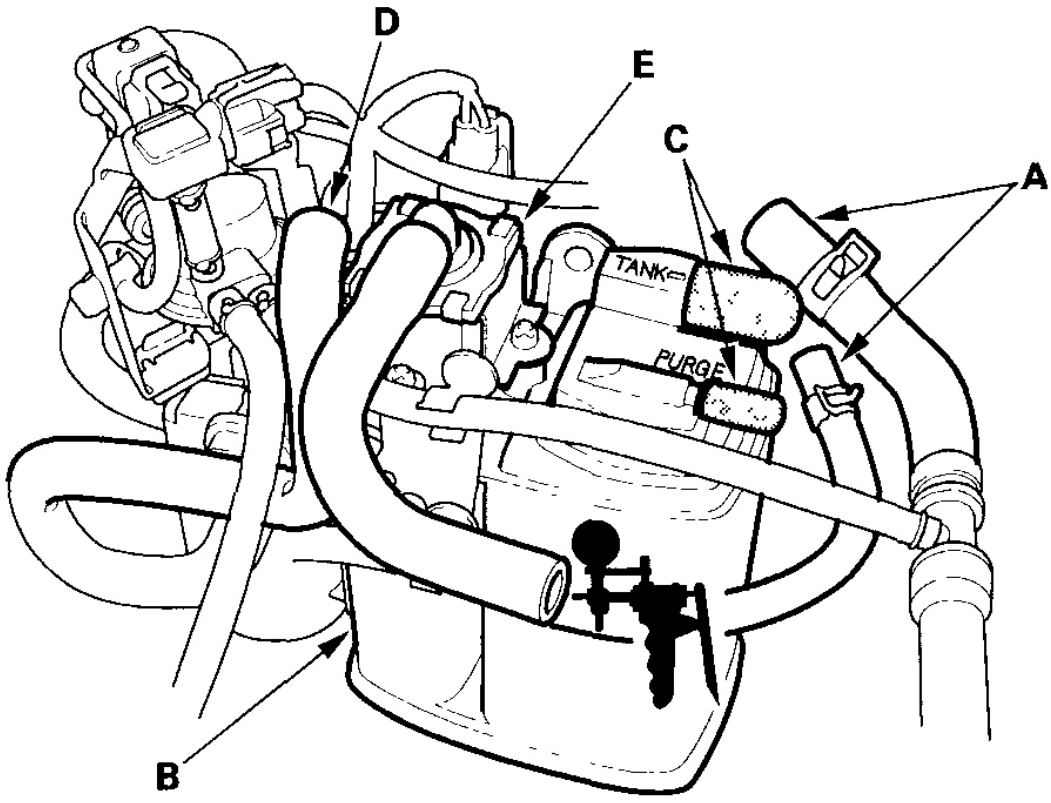

Fig. 100: Disconnecting Vacuum Hoses From EVAP Canister
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Disconnect the vacuum hose (D) from the EVAP canister vent shut valve (E), and connect a vacuum pump/gauge, 0-30 in.Hg, to the vacuum hose.
6. Pump the vacuum pump 80 times.
   - If the vacuum holds, go to step 7.
   - If the vacuum does not hold, go to step 9 .
7. Connect a second vacuum pump/gauge, 0-30 in.Hg, to the fuel tank vapor signal tube (A).

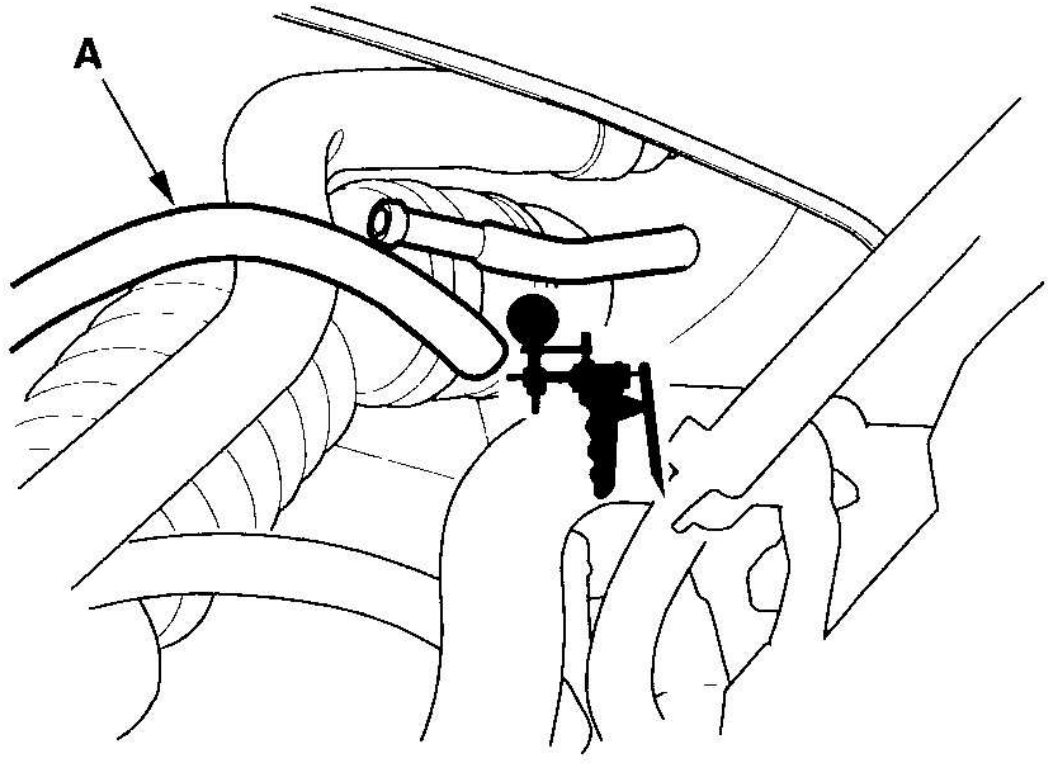

Fig. 101: Connecting Second Vacuum Pump/Gauge To Fuel Tank Vapor Signal Tube
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Apply vacuum (1 pump) to the fuel tank vapor signal tube (A), then check the vacuum on the pump in step 6.
   - If the vacuum holds, replace the fuel tank vapor control valve (see **FUEL TANK VAPOR CONTROL VALVE REPLACEMENT**).
   - If the vacuum is released, the fuel tank vapor control valve is OK.
9. Disconnect the fuel tank vapor recirculation tube from the EVAP canister, then cap the port on the canister. Reapply vacuum (80 pumps).
   - If the vacuum holds, replace the fuel tank vapor control valve (see **FUEL TANK VAPOR CONTROL VALVE REPLACEMENT**).
   - If the vacuum does not hold, inspect the EVAP canister vent shut valve O-

ring. If the O-ring is OK, replace the EVAP canister, and repeat step 4.

FUEL TANK VAPOR CONTROL VALVE REPLACEMENT

2000-2005 MODELS

1. Remove the fuel tank (see **FUEL TANK REPLACEMENT**).
2. Remove the fuel tank vapor control valve (A) from the fuel tank (B).

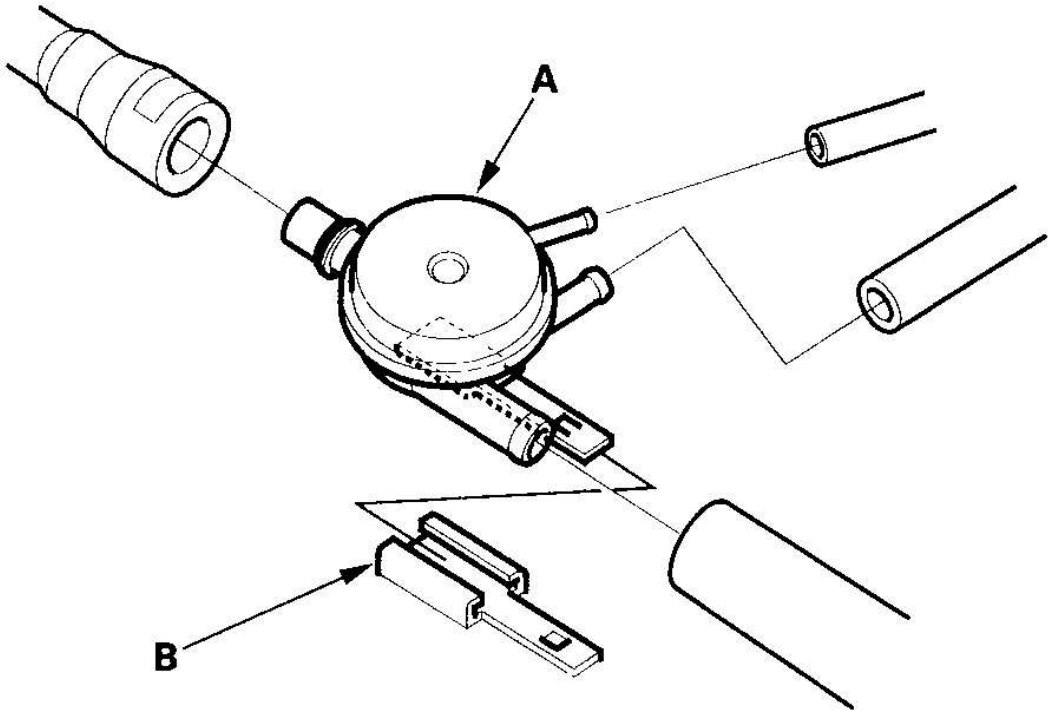

Fig. 102: Removing Fuel Tank Vapor Control Valve From Fuel Tank
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the fuel tank vapor control valve (A).
4. Install the fuel tank (see **FUEL TANK REPLACEMENT**).

FTP SENSOR REPLACEMENT

1. Remove the EVAP canister.
2. 2000-2005 models: Remove the EVAP bypass solenoid valve (A) from the stay, then remove the FTP sensor (B).

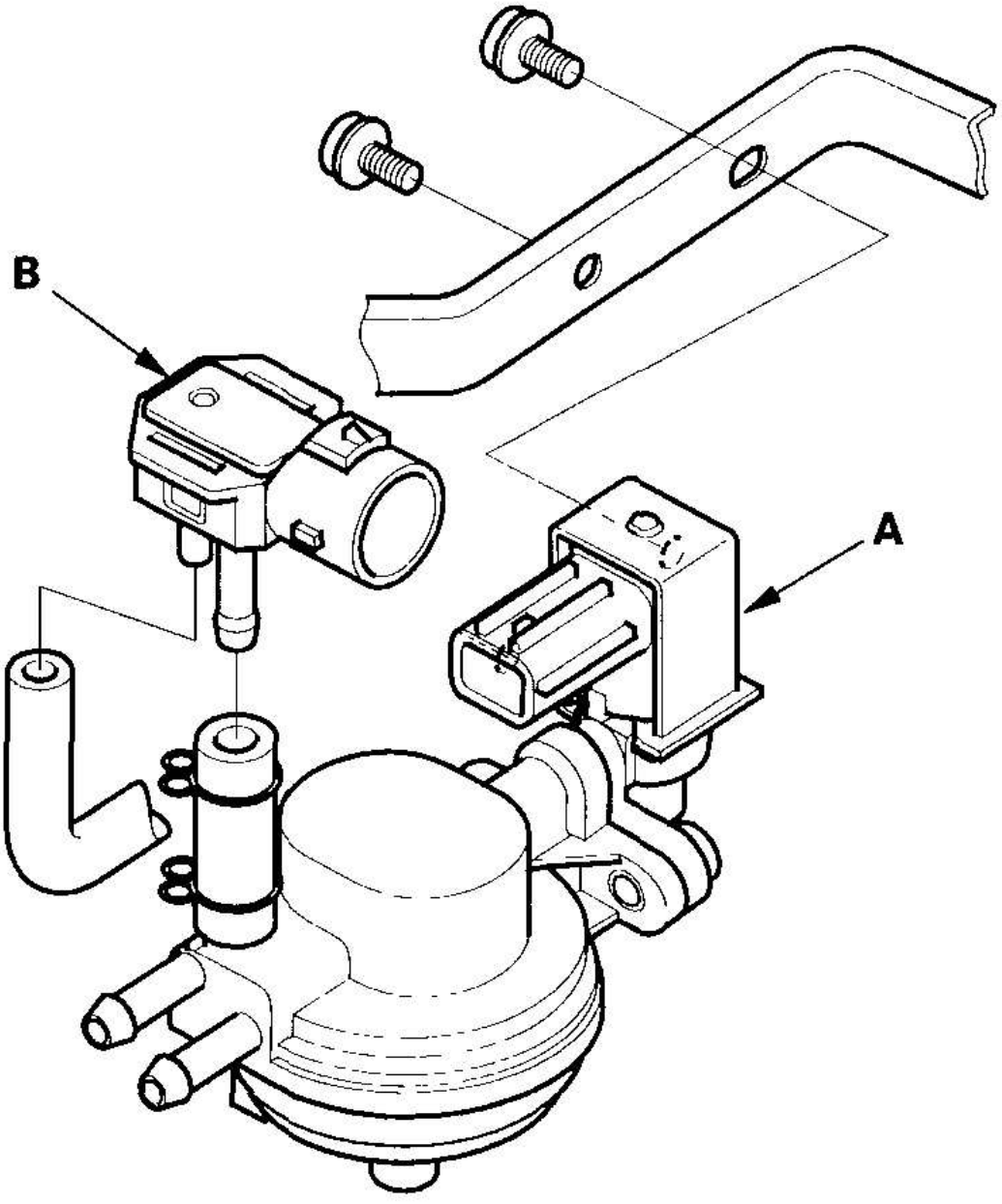

Fig. 103: Removing FTP Sensor (2000-2005 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. 2006 model: Remove the clip (A) from the EVAP canister, then remove the FTP sensor (B).

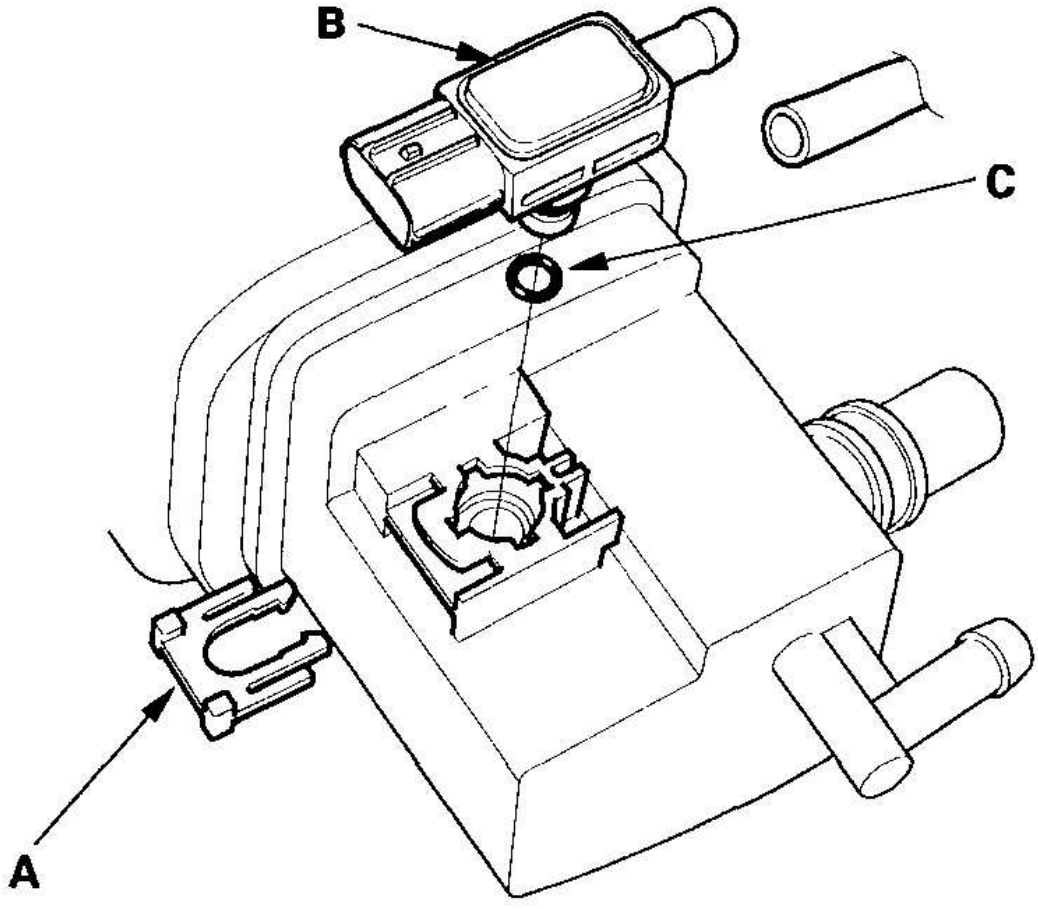

Fig. 104: Removing FTP Sensor (2006 Model)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. 2006 model: Install the new O-ring (C) in the sensor.
5. Install the sensor in the reverse order of removal.

EVAP CANISTER VENT SHUT VALVE REPLACEMENT

1. Remove the EVAP canister.
2. 2000-2005 models: Remove the EVAP canister vent shut valve (A).

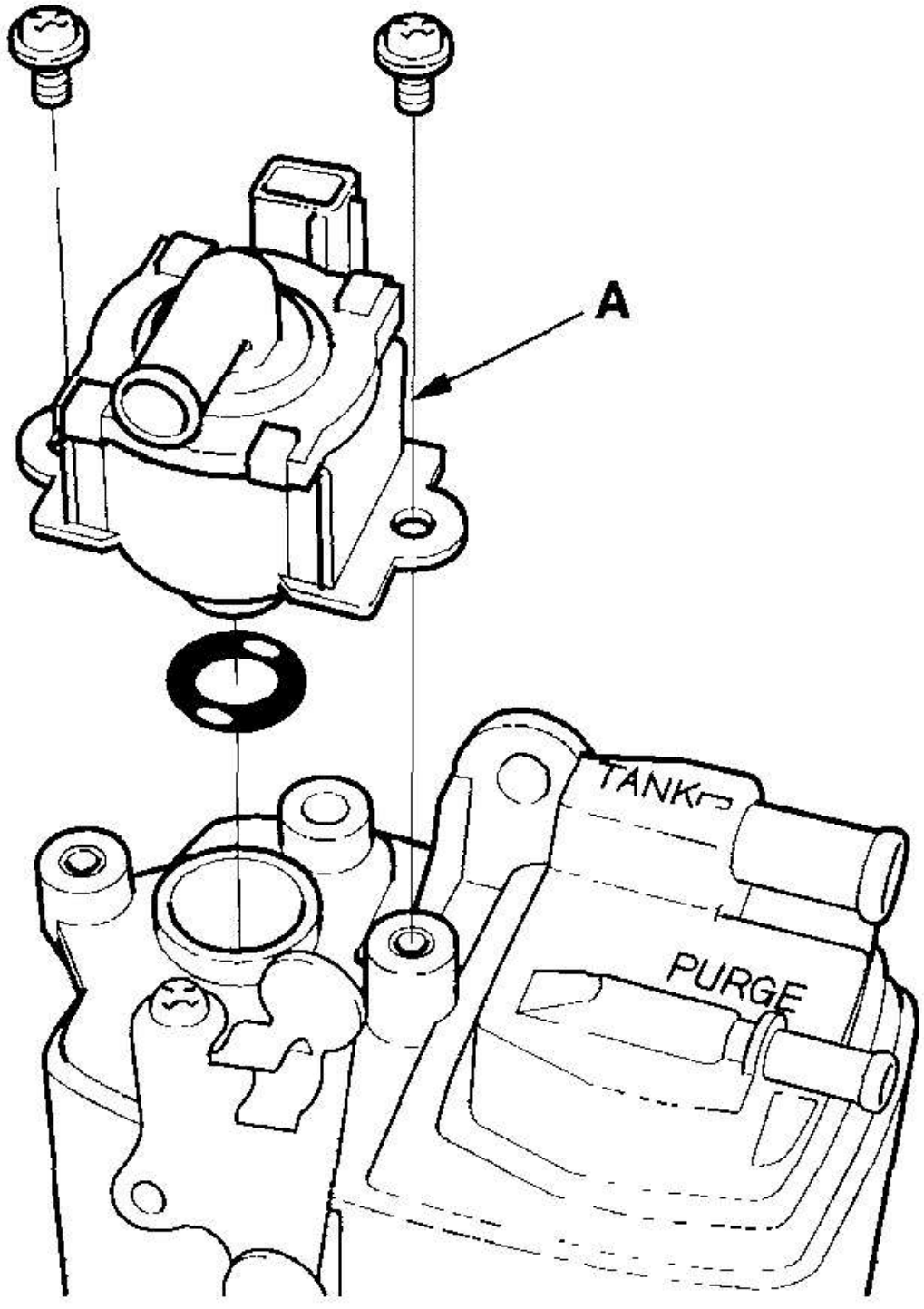

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Fig. 105: Removing EVAP Canister Vent Shut Valve (2000-2005 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. 2006 model: Remove the cap (A), then remove the EVAP canister vent shut valve (B).

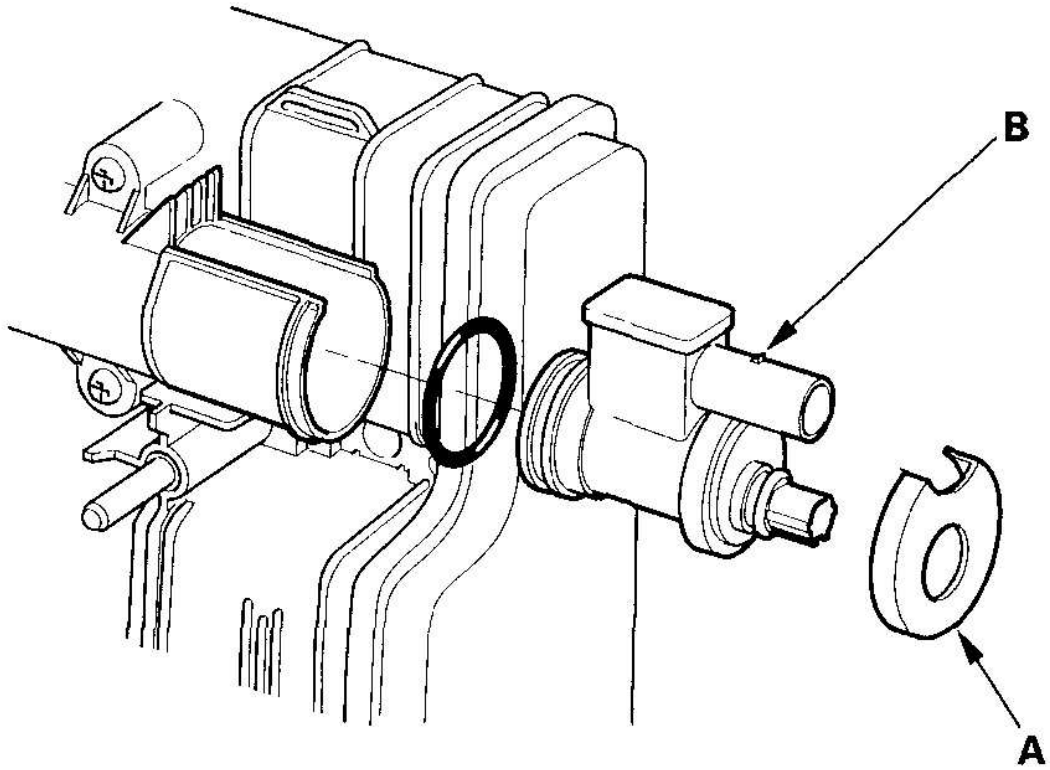

Fig. 106: Removing EVAP Canister Vent Shut Valve (2006 Model)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Install the valve in the reverse order of removal with a new O-ring.

NOTE: Do not coat the O-ring with engine oil, etc.