2003-06 ENGINE PERFORMANCE

Fuel Supply System - MDX

COMPONENT LOCATION INDEX

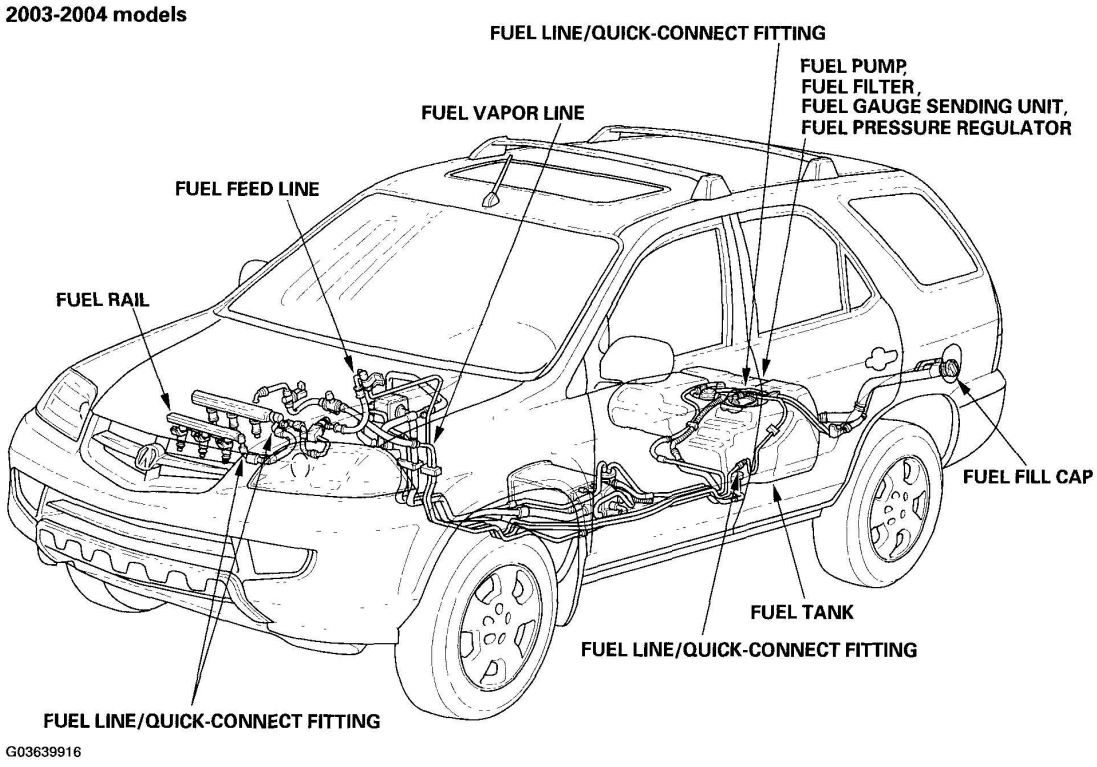


Fig. 1: Identifying Fuel Supply System Components (2003-04 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

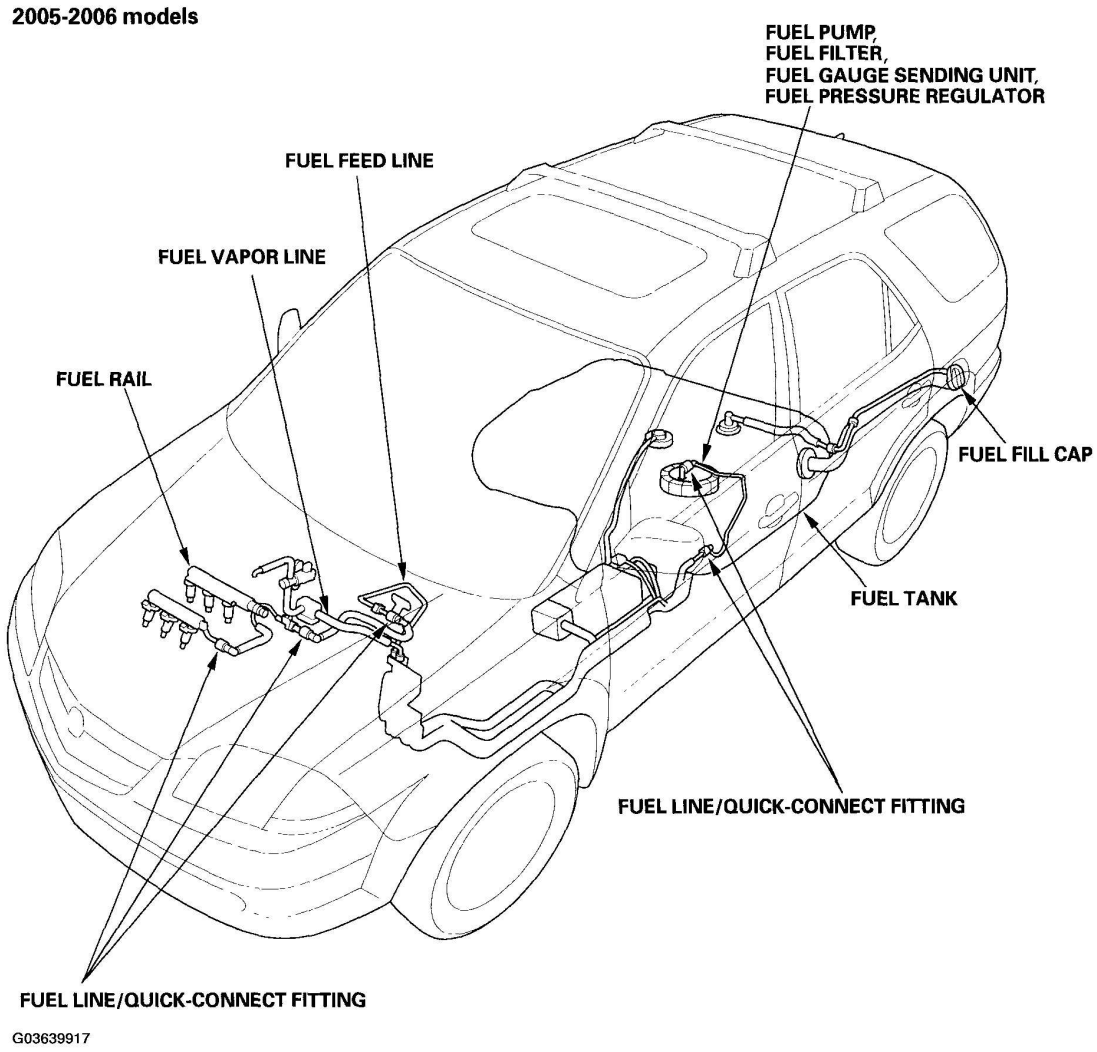
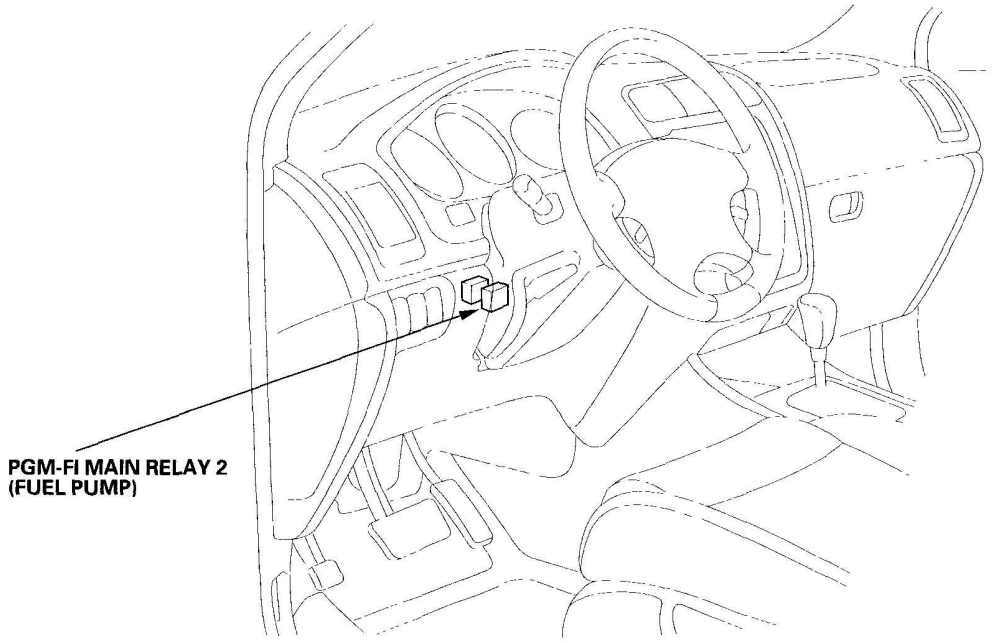
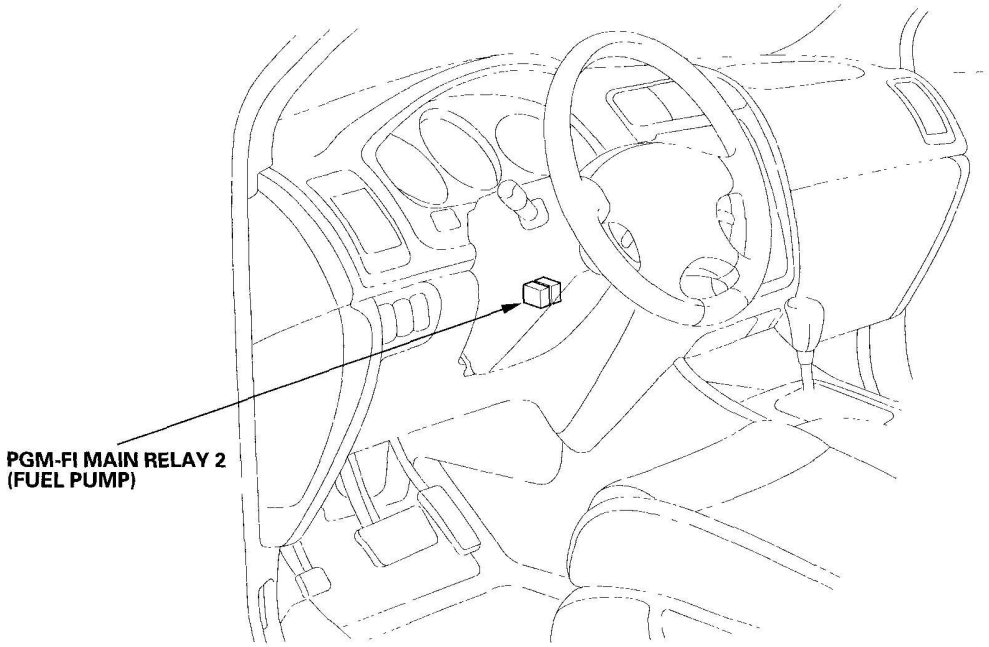


Fig. 2: Identifying Fuel Supply System Components (2005-06 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2003-2004 models



2005-2006 models



G03639918

Fig. 3: Identifying PGM-FI Main Relay 2 (Fuel Pump)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

DTC TROUBLESHOOTING

DTC P0461: FUEL LEVEL SENSOR (FUEL GAUGE SENDING UNIT) RANGE/PERFORMANCE PROBLEM

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **Because it requires 162 miles (260 km) to drive without refueling before completing this diagnosis, this DTC cannot be duplicated during this troubleshooting.**

1. Remove the fuel tank unit from the fuel tank (see **FUEL TANK UNIT REMOVAL/INSTALLATION**).
2. Test the fuel gauge sending unit (see **FUEL GAUGE SENDING UNIT TEST**).

   Is the fuel gauge sending unit OK?

   YES - Check for poor connections or loose terminals at the fuel gauge sending unit and the PCM.

   NO - Replace the fuel gauge sending unit (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT**), then go to step 3.
3. Reset the PCM with the HDS.
4. Do the PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).
5. Check for Temporary DTCs or DTCs with the HDS.

   Are any Temporary DTCs or DTCs indicated?

   YES - If DTC P0461 is indicated, check for poor connections or loose terminals at the fuel gauge sending unit and the gauge assembly, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

   NO - Troubleshooting is complete.

DTC P0462: FUEL LEVEL SENSOR (FUEL GAUGE SENDING UNIT) CIRCUIT LOW VOLTAGE

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **Information marked with an asterisk (*) applies to 2003-2004 models.**
- **Information marked with double asterisk (**) applies to 2005-2006 models.**

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

3. Check the FUEL LVL SENSOR in the DATA LIST with the HDS.

   Is the value 0.05 V* (0.5 V) or less?**

   YES - Go to step 4.

   NO - Intermittent failure, system is OK at this time. Check for poor connections or loose terminals at the fuel gauge sending unit, the gauge assembly, and the PCM.
4. Turn the ignition switch OFF.
5. Disconnect the fuel pump 5P connector.
6. Turn the ignition switch ON (II).
7. Check the FUEL LVL SENSOR in the DATA LIST with the HDS.

   Is the value 0.05 V* (0.5 V) or less?**

   YES - Go to step 8.

   NO - Go to step 19 .
8. Turn the ignition switch OFF.
9. Jump the SCS line with the HDS.
10. Disconnect PCM connector B (56P)
11. Disconnect gauge assembly connector A (30P).
12. Check for continuity between PCM connector terminal B49 and body ground.

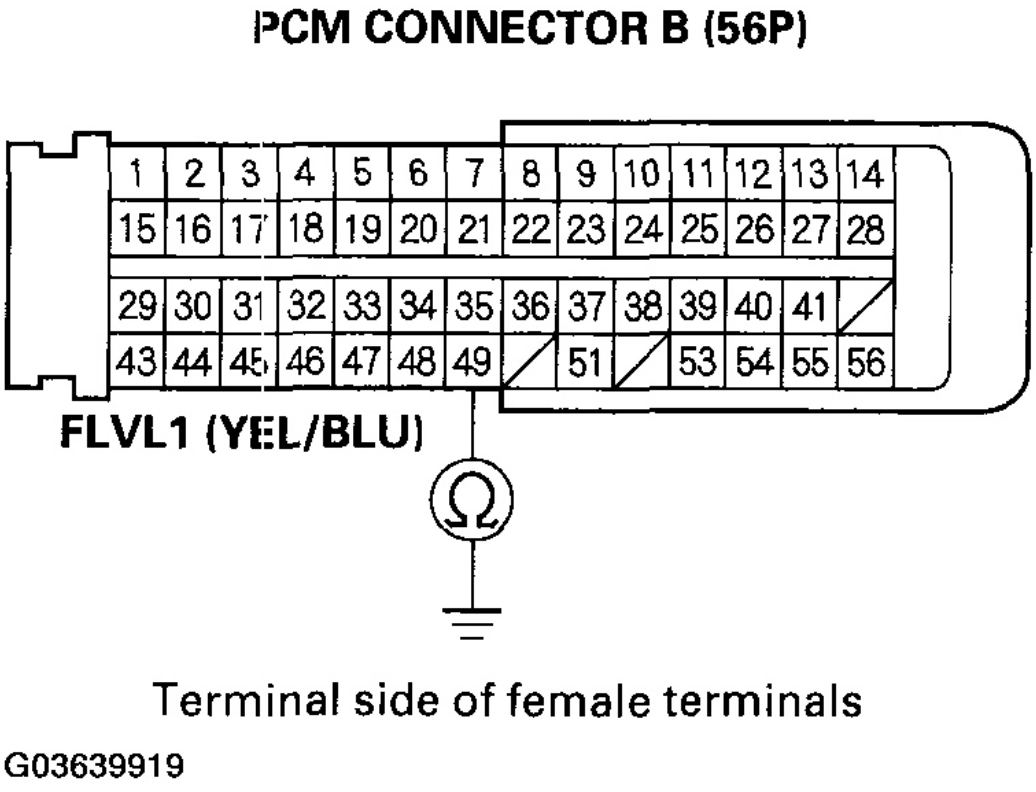


Fig. 4: Checking Continuity Between PCM Connector Terminal B49 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between the PCM, the gauge assembly, and the fuel gauge sending unit, then go to step 21 .

NO - Go to step 13.

13. Connect gauge assembly connector terminal A2 to body ground with a jumper wire.

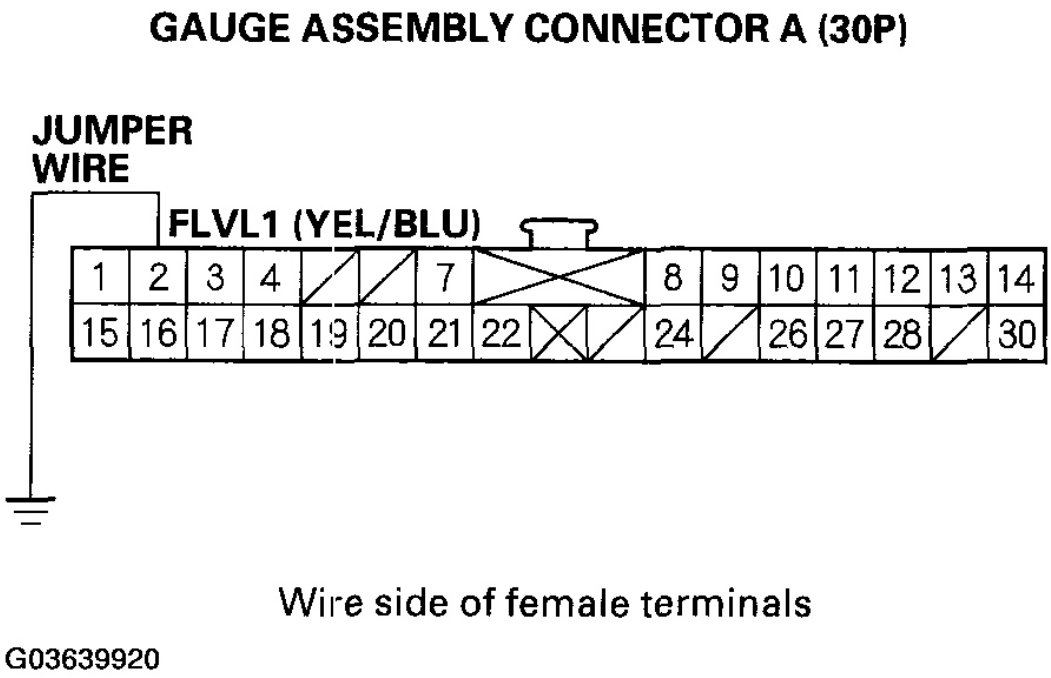


Fig. 5: Connecting Gauge Assembly Connector Terminal A2 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Check for continuity between PCM connector terminal B49 and body ground.

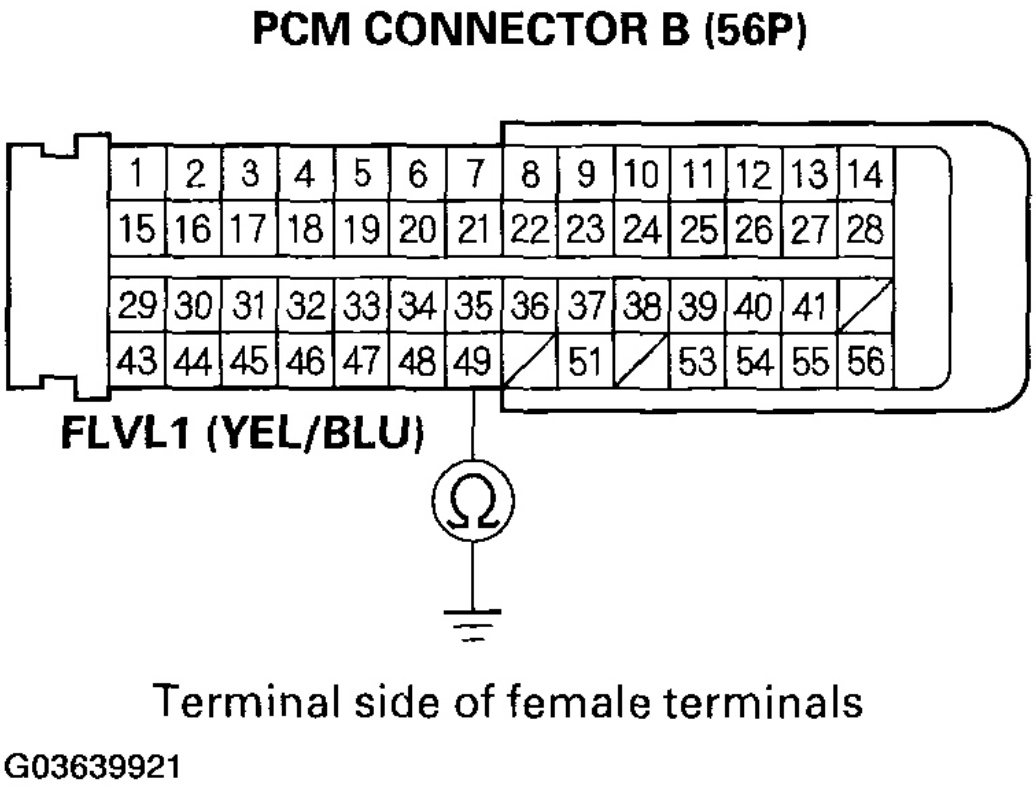


Fig. 6: Checking Continuity Between PCM Connector Terminal B49 Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 15.

NO - Repair open in the wire between the PCM and the gauge assembly, then go to step 21 .

15. Reconnect PCM connector B (56P).
16. Reconnect gauge assembly connector A (30P).
17. Turn the ignition switch ON (II).
18. Measure voltage between gauge assembly connector terminal A2 and body ground.

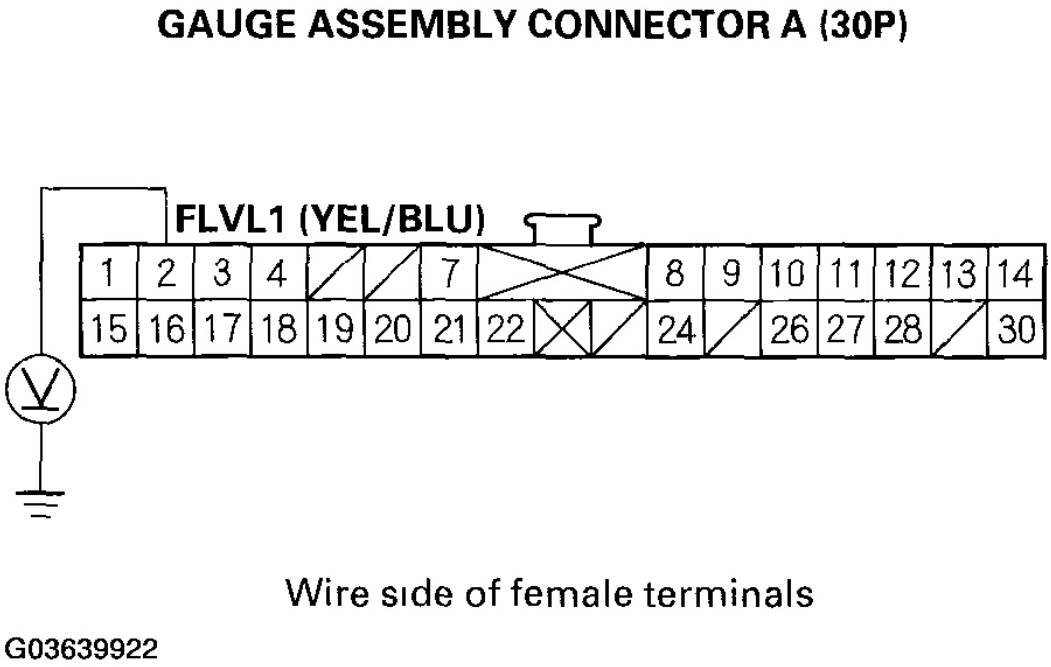


Fig. 7: Measuring Voltage Between Gauge Assembly Connector Terminal A2 Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 25 .

NO - Replace the gauge assembly, then go to step 21 .

19. Turn the ignition switch OFF.
20. Replace the fuel gauge sending unit (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT**).
21. Turn the ignition switch ON (II).
22. Reset the PCM with the HDS.
23. Do the PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).
24. Check for Temporary DTCs or DTCs with the HDS.

Are any Temporary DTCs or DTCs indicated?

YES - If DTC P0462 is indicated, check for poor connectors or loose terminals at the fuel gauge sending unit and the PCM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

NO - Troubleshooting is complete.

25. Update the PCM if it does not have the latest software, or substitute a known-good PCM (see **PCM UPDATING AND SUBSTITUTION FOR TESTING**).
26. Check for Temporary DTCs or DTCs with the HDS.

Are any Temporary DTCs or DTCs indicated?

YES - If DTC P0462 is indicated, check for poor connectors or loose terminals at the fuel gauge sending unit and the PCM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

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

DTC P0463: FUEL LEVEL SENSOR (FUEL GAUGE SENDING UNIT) CIRCUIT HIGH VOLTAGE

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **Information marked with an asterisk (*) applies to 2003-2004 models.**
- **Information marked with double asterisk (**) applies to 2005-2006 models.**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Check the FUEL LVL SENSOR in the DATA LIST with the HDS.

Is the value 4.95 V* (9.0 V) or more?**

YES - Go to step 4.

NO - Intermittent failure, system is OK at this time. Check for poor connections or loose terminals at the fuel gauge sending unit, the gauge assembly, and the PCM.

4. Turn the ignition switch OFF.
5. Remove the driver's side second row seat (see **SECOND ROW SEAT REMOVAL/INSTALLATION**).
6. Cut the carpet at the dotted line (A). Be careful not to cut the wire harness under the carpet.

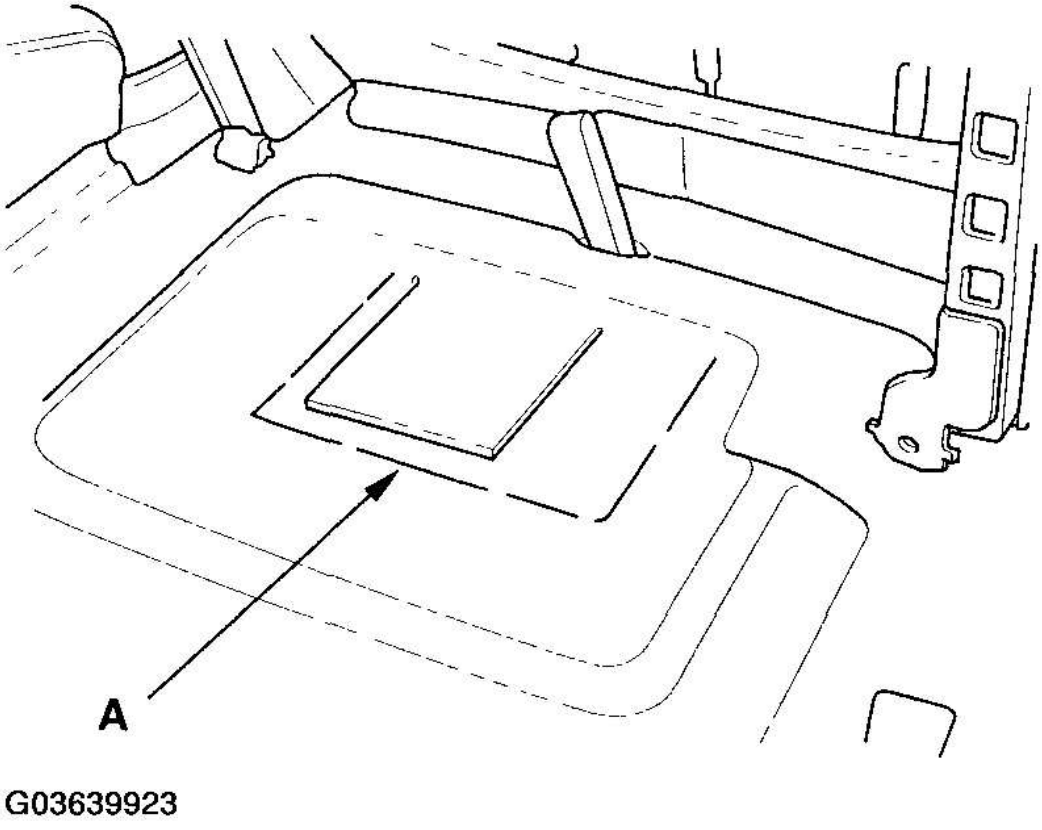


Fig. 8: Cutting Carpet At Dotted Line
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Remove the access panel (A) from the floor, then disconnect the fuel pump 5P connector (B).

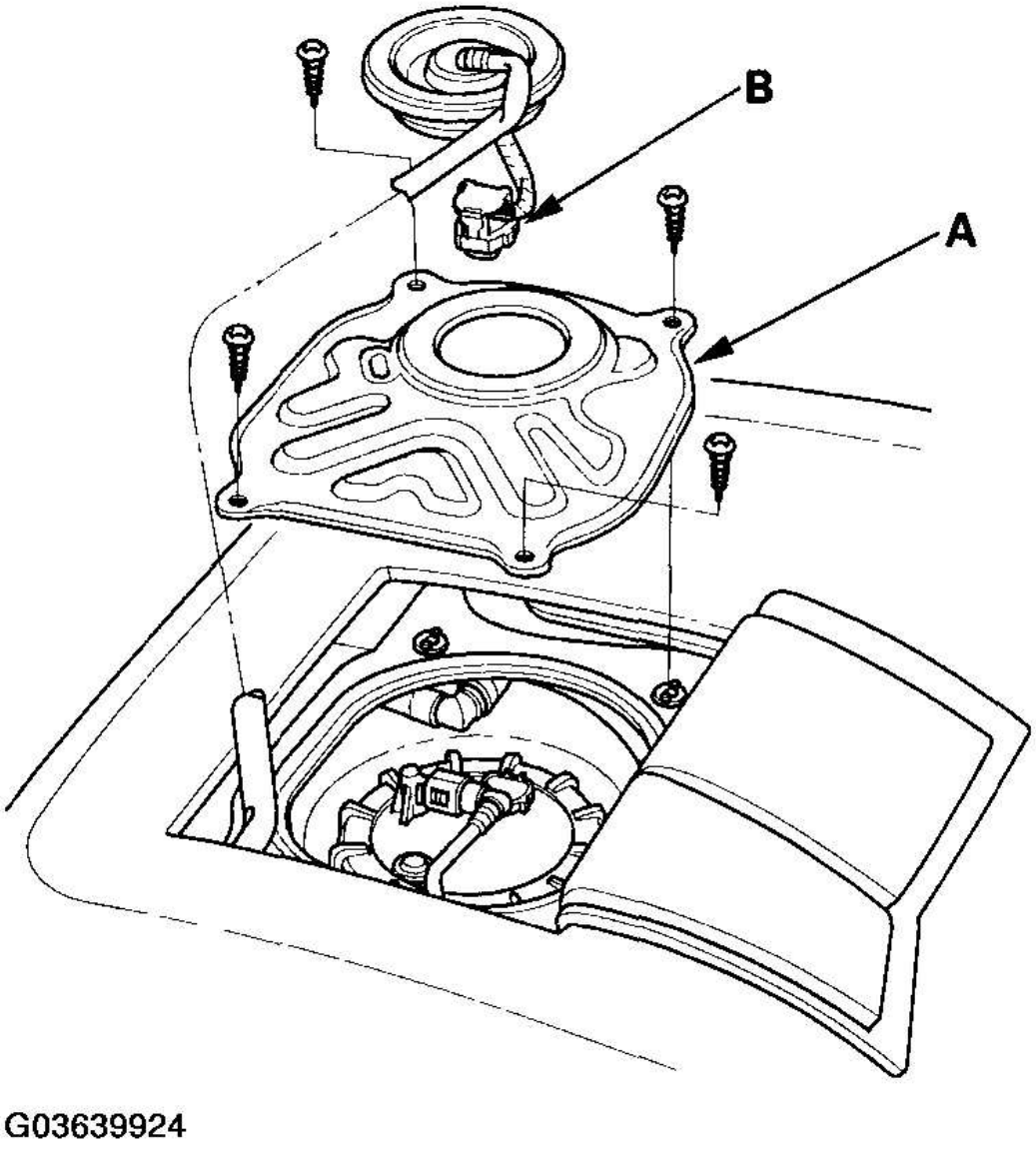


Fig. 9: Removing Access Panel From Floor
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Check for continuity between fuel pump 5P connector terminals No. 1 and No. 2.

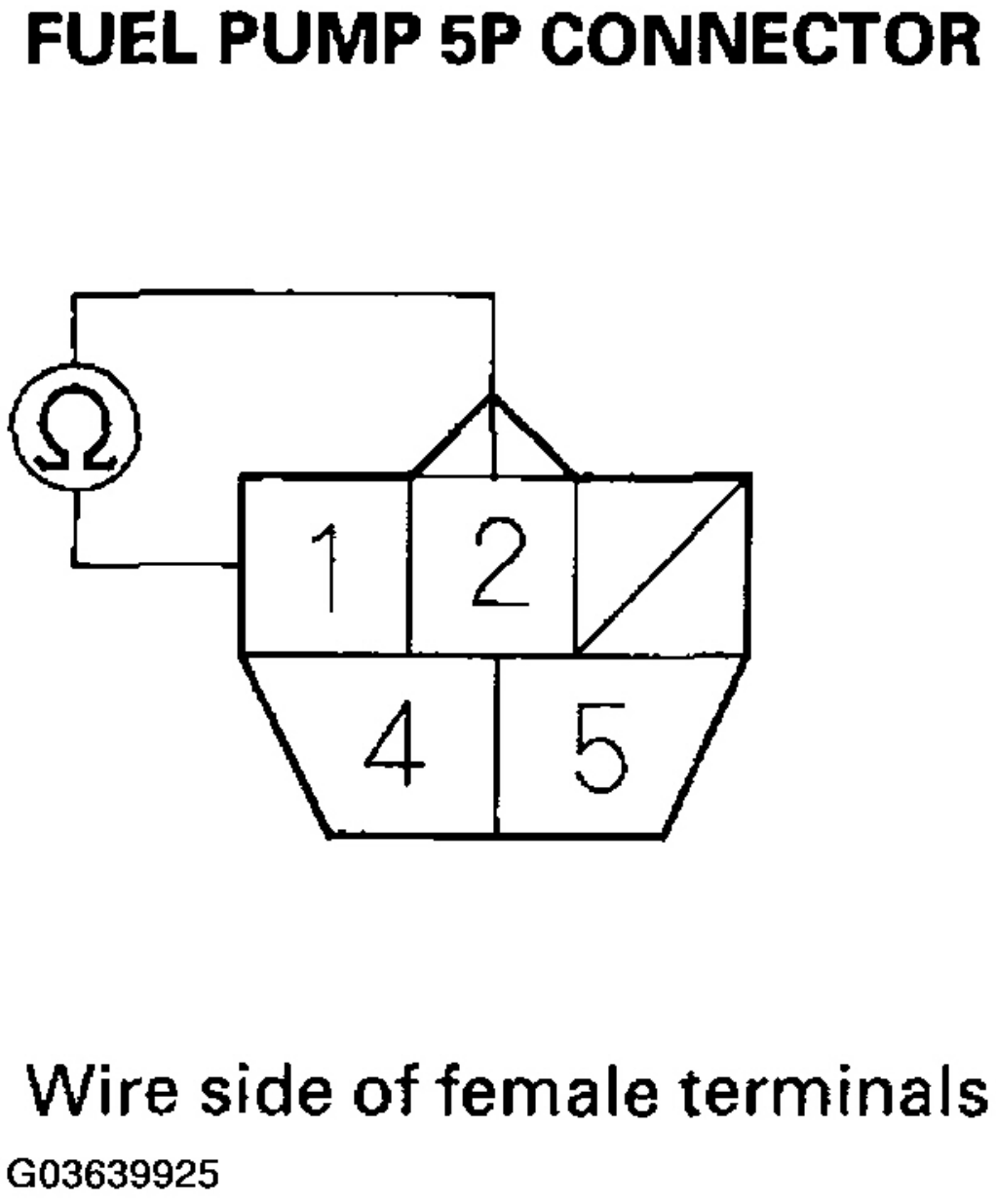


Fig. 10: Checking Continuity Between Fuel Pump 5P Connector Terminals 1 And 2
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there 130 ohm or more?

YES - Replace the fuel gauge sending unit (see **FUEL PUMP/FUEL GAUGE SENDING UNIT**

REPLACEMENT), then go to step 13 .

NO - Go to step 9.

9. Check for continuity between fuel pump 5P connector terminal No. 1 and body ground.

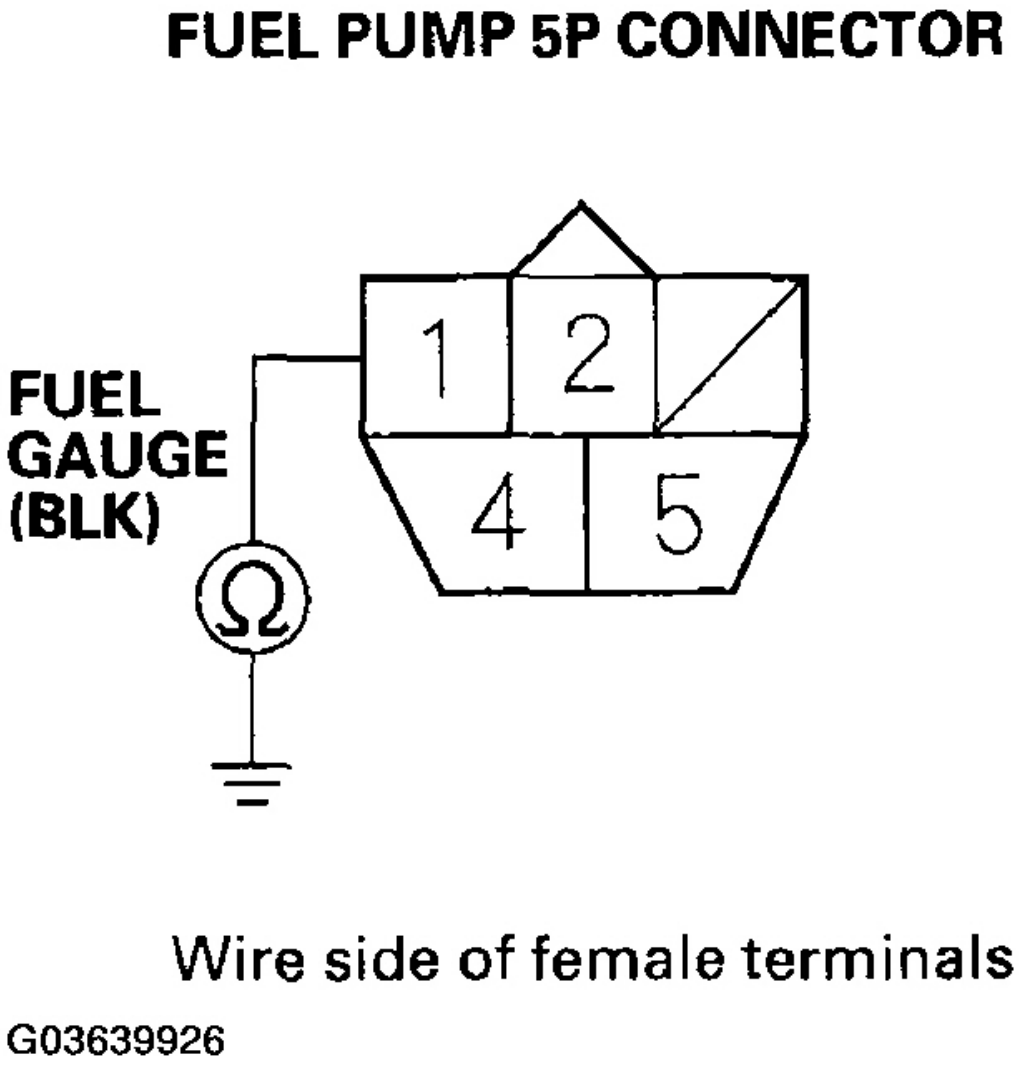


Fig. 11: Checking Continuity Between Fuel Pump 5P Connector Terminal 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair open in the wire (YEL/BLU) between the PCM (B49) and the fuel gauge sending

unit, then go to step 13 .

NO - Go to step 10.

10. Disconnect gauge assembly connector A (30P).
11. Connect gauge assembly connector terminal A4 to body ground with a jumper wire.

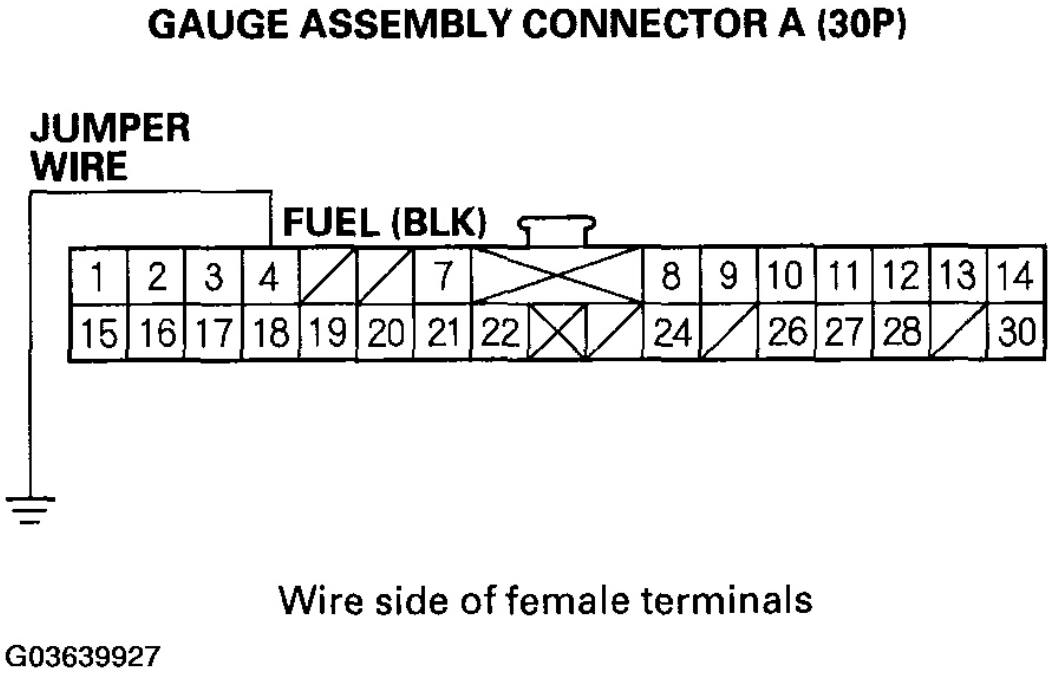


Fig. 12: Connecting Gauge Assembly Connector Terminal A4 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. Check for continuity between fuel pump 5P connector terminal No. 1 and body ground.

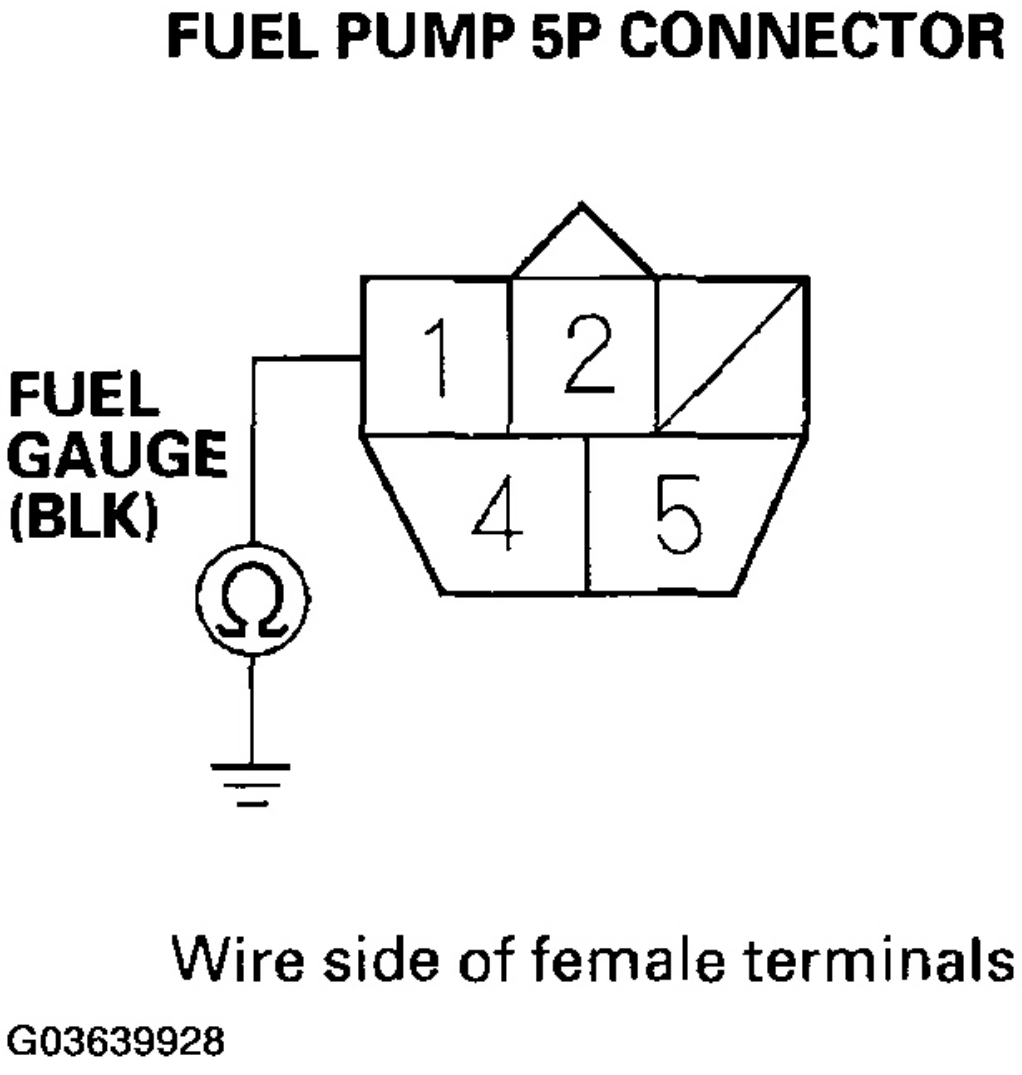


Fig. 13: Checking Continuity Between Fuel Pump 5P Connector Terminal 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Replace the gauge assembly, then go to step 13.

NO - Repair open in the wire between gauge assembly connector terminal No. 4 and the fuel gauge sending unit, then go to step 13.

13. Turn the ignition switch ON (II).
14. Reset the PCM with the HDS.

15. Do the PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).
16. Check for Temporary DTCs or DTCs with the HDS.

Are any Temporary DTCs or DTCs indicated?

YES - If DTC P0463 is indicated, check for poor connectors or loose terminals at the fuel gauge sending unit and the PCM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

NO - Troubleshooting is complete.

DTC P0627: PGM-FI MAIN RELAY 2 (FUEL PUMP) CIRCUIT MALFUNCTION

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, 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 ON (II)
4. Wait for 10 seconds.
5. Check for Temporary DTCs or DTCs with the HDS.

Is P0627 indicated?

YES - Go to step 8 .

NO - Go to step 6.

6. Crank the engine for 5 seconds.
7. Check for Temporary DTCs or DTCs with the HDS.

Is P0627 indicated?

YES - Go to step 8.

NO - Intermittent failure, system is OK at this time. Check for poor connections or loose terminals at PGM-FI main relay 2 (FUEL PUMP) and the PCM.

8. Turn the ignition switch OFF.
9. Jump the SCS line with the HDS.
10. Disconnect PCM connector B (56P).
11. Remove PGM-FI main relay 2 (FUEL PUMP).
12. Check for continuity between PCM connector terminal B13 and PGM-FI main relay 2 (FUEL PUMP) 5P connector terminal No. 5

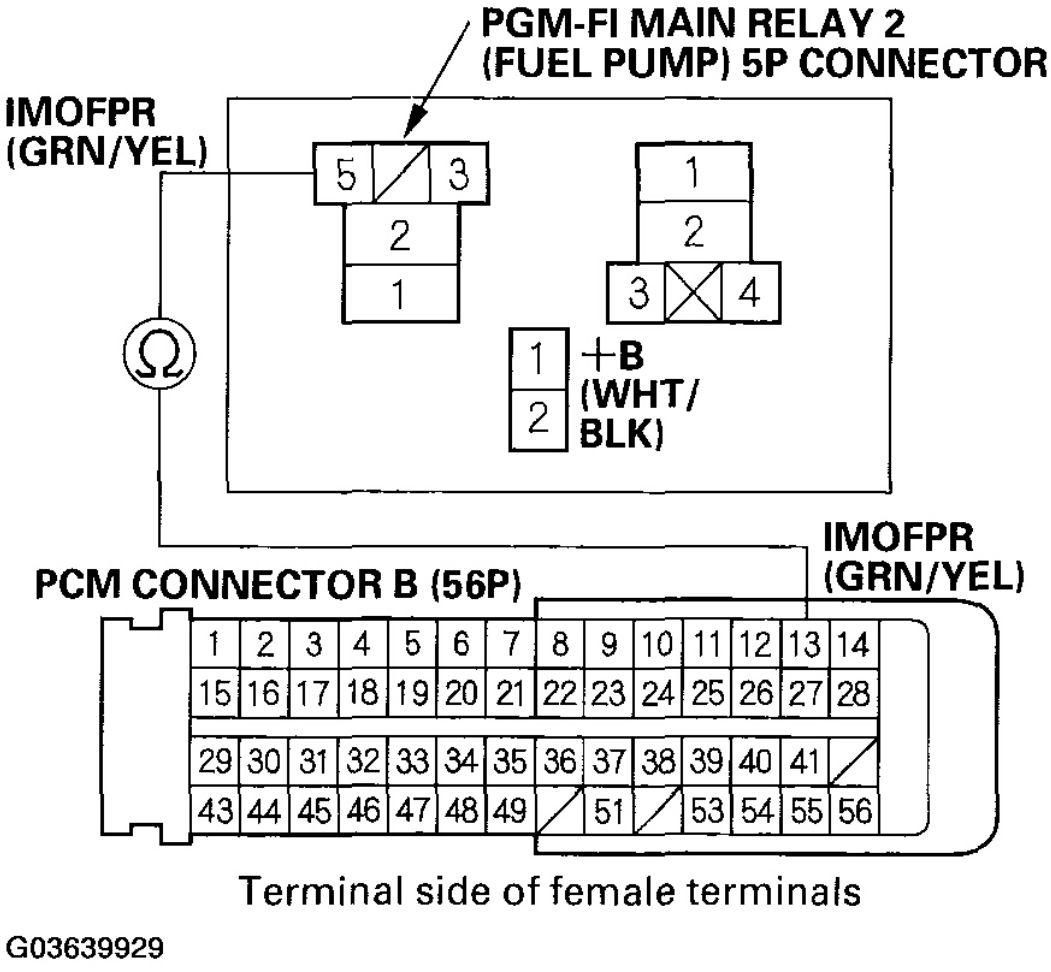


Fig. 14: Checking Continuity Between PCM Connector Terminal B13 And PGM-FI Main Relay 2 (FUEL PUMP) 5P Connector Terminal 5
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 13.

NO - Repair open in the wire between the PCM and PGM-FI main relay 2 (FUEL PUMP) and the PCM.

13. Check for continuity between PGM-FI main relay 2 (FUEL PUMP) 5P connector terminal No. 3 and body ground.

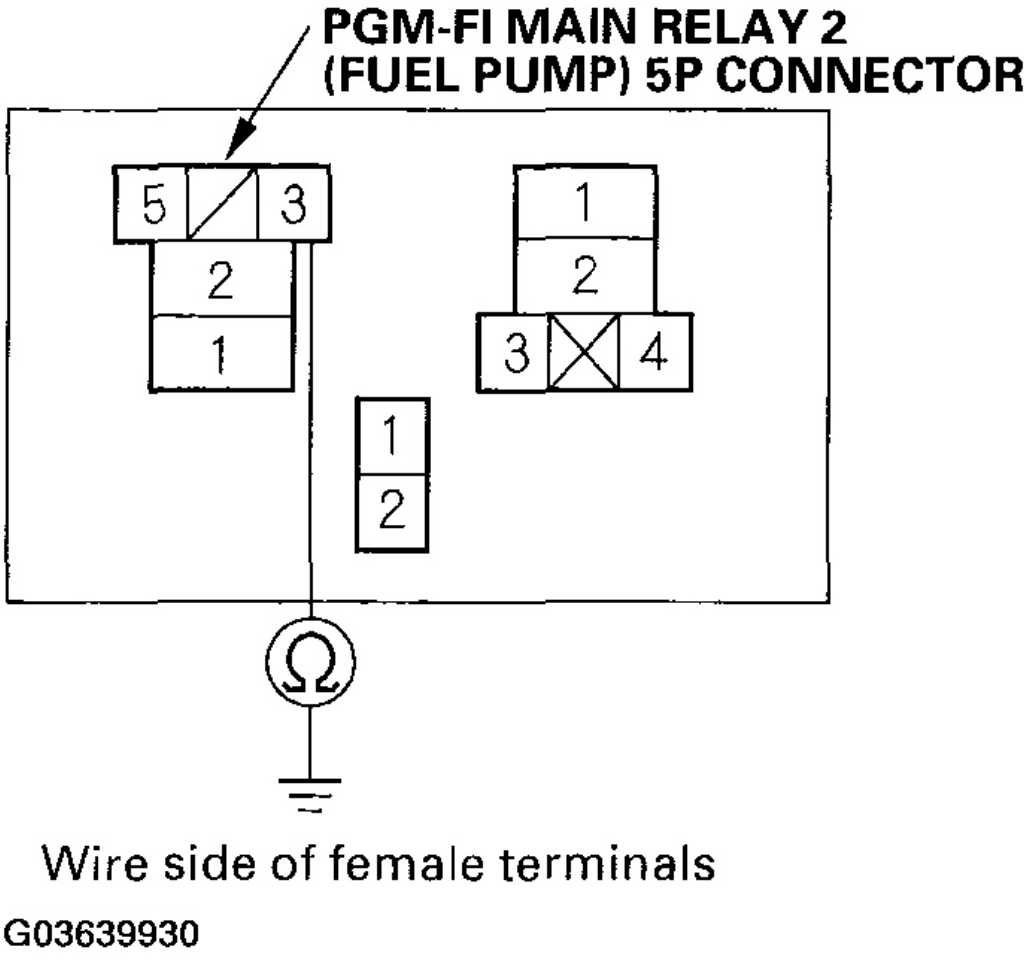


Fig. 15: Checking Continuity Between PGM-FI Main Relay 2 (Fuel Pump) 5P Connector Terminal 3 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 14.

NO - Repair poor ground (G401) or open in the wire between the PCM and PGM-FI main relay 2 (FUEL PUMP), then go to step 19 .

14. Check for continuity between PGM-FI main relay 2 (FUEL PUMP) 5P connector terminal No. 5 and body ground.

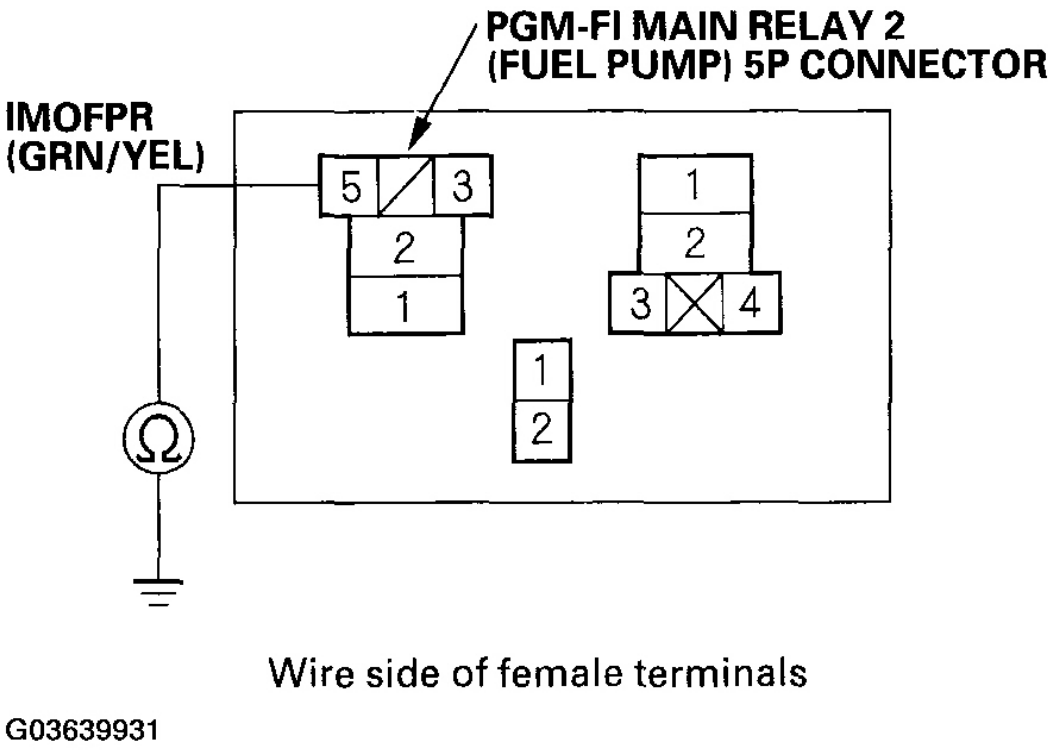


Fig. 16: Checking Continuity Between PGM-FI Main Relay 2 (Fuel Pump) 5P Connector Terminal 5 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between the PCM (B13) and PGM-FI main relay 2 (FUEL PUMP), then go to step 19 .

NO - Go to step 15.

15. Substitute a known-good PGM-FI main relay 2 (FUEL PUMP).
16. Reset the PCM with the HDS.
17. Do the PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).
18. Check for Temporary DTCs or DTCs with the HDS.

Are any Temporary DTCs or DTCs indicated?

YES - Go to step 23 .

NO - Replace the original relay, then go to step 19.

19. Turn the ignition switch ON (II).

20. Reset the PCM with the HDS.
21. Do the PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).
22. Check for Temporary DTCs or DTCs with the HDS.

    Are any Temporary DTCs or DTCs indicated?

    YES - If DTC P0627 is indicated, check for poor connections or loose terminals at PGM-FI main relay 2 (FUEL PUMP) and the PCM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

    NO - Troubleshooting is complete.
23. Update the PCM if it does not have the latest software, or substitute a known-good PCM (see **PCM UPDATING AND SUBSTITUTION FOR TESTING**).
24. Do the PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).
25. Check for Temporary DTCs or DTCs with the HDS.

    Are any Temporary DTCs or DTCs indicated?

    YES - If DTC P0627 is indicated, check for poor connections or loose terminals at PGM-FI main relay 2 (FUEL PUMP) and the PCM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated DTCs troubleshooting.

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

DTC P1460: FUEL LEVEL SENSOR (FUEL GAUGE SENDING UNIT) POWER SUPPLY CIRCUIT

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **Information marked with an asterisk (*) applies to 2003-2004 models.**
- **Information marked with double asterisk (**) applies to 2005-2006 models.**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Check the FUEL REF VOL, FUEL LEVEL SENSOR in the DATA LIST with the HDS.
4. Subtract the voltage of F LEVEL 2 from the voltage of F LEVEL 1.

   Is there 0.195 V* (0.5 V) or more?**

   YES - Go to step 5.

   NO - Intermittent failure, system is OK at this time. Check for poor connections or loose terminals at the gauge assembly and the PCM.
5. Turn the ignition switch OFF.

6. Jump the SCS line with the HDS.
7. Disconnect PCM connector B (56P).
8. Turn the ignition switch ON (II).
9. Measure voltage between PCM connector terminal B51 and body ground.

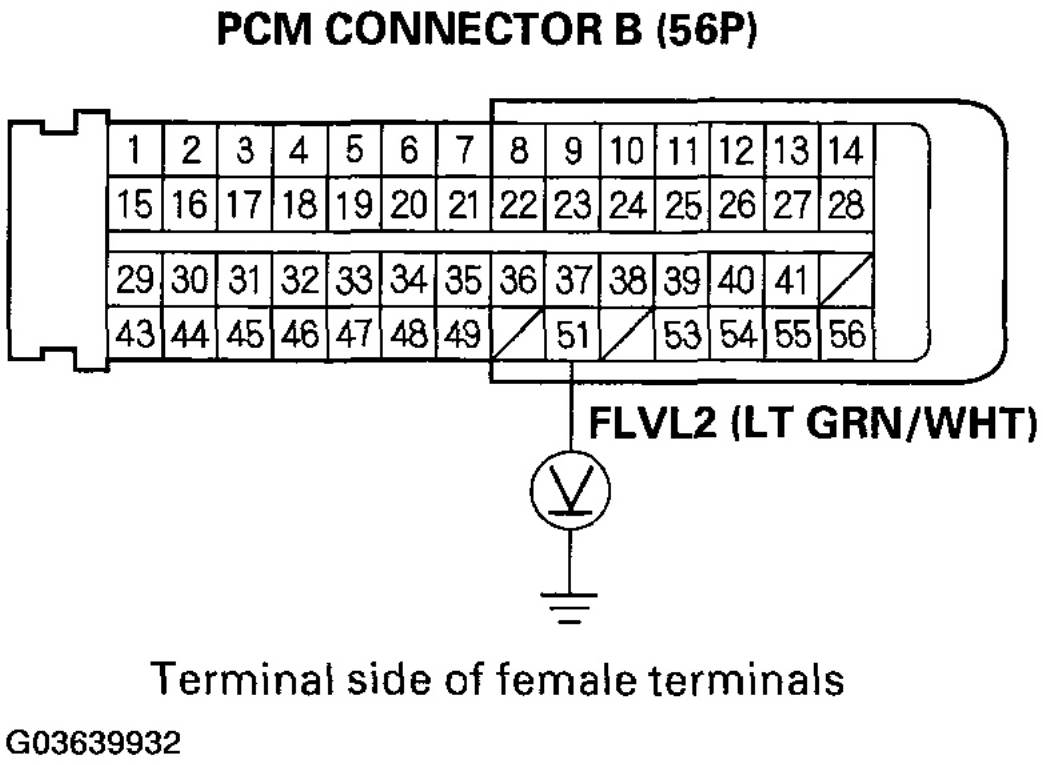


Fig. 17: Measuring Voltage Between PCM Connector Terminal B51 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 18 .
NO - Go to step 10.

10. Turn the ignition switch OFF.
11. Disconnect gauge assembly connector C.
12. Connect gauge assembly connector terminal C6 (C7***) to body ground with a jumper wire.

***: 2004-2006 models

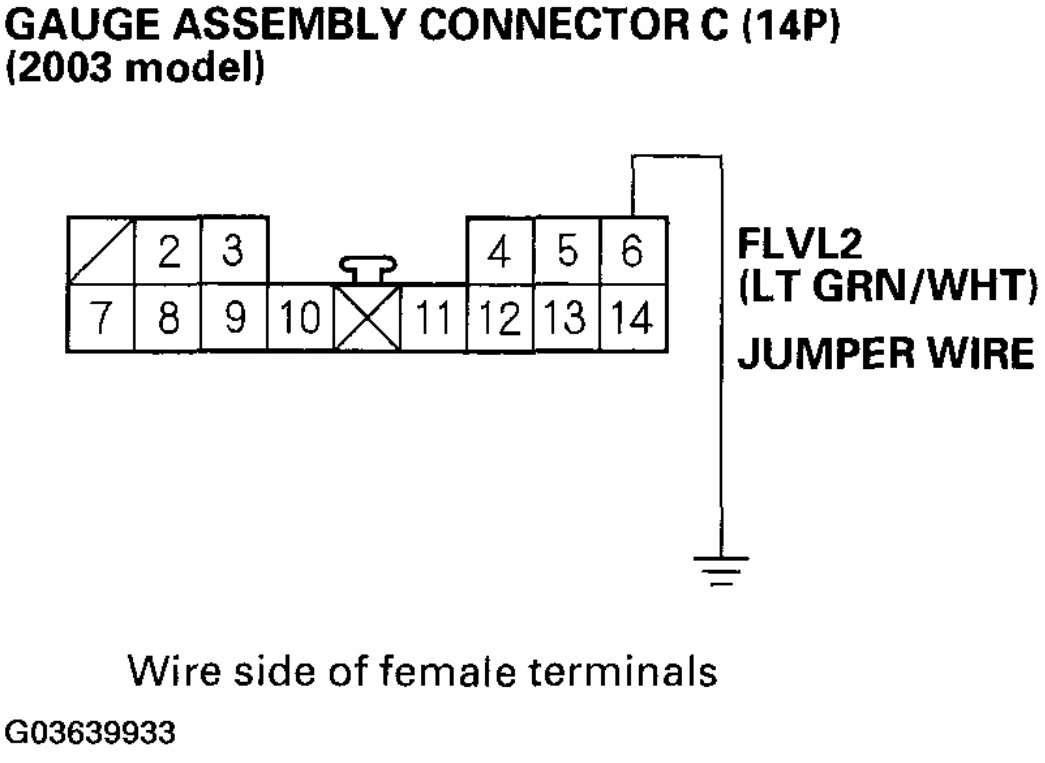


Fig. 18: Connecting Gauge Assembly Connector Terminal C6 To Body Ground With Jumper Wire (2003 Model)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

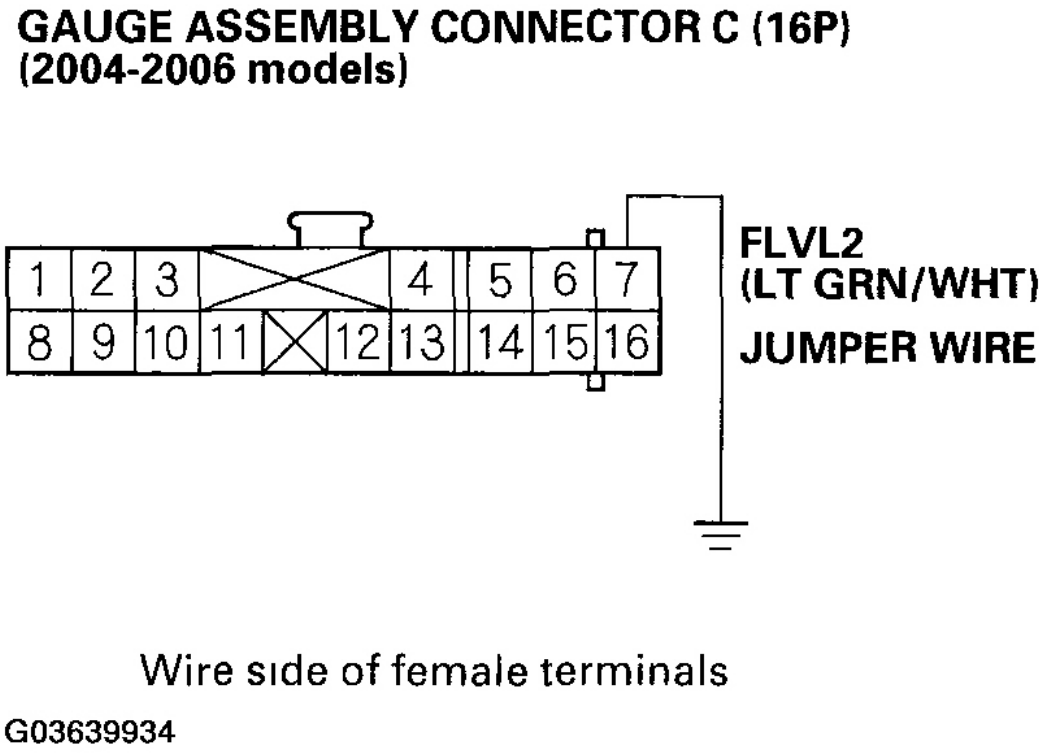


Fig. 19: Connecting Gauge Assembly Connector Terminal C7 To Body Ground With Jumper Wire (2004-06 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Check for continuity between PCM connector terminal B51 and body ground.

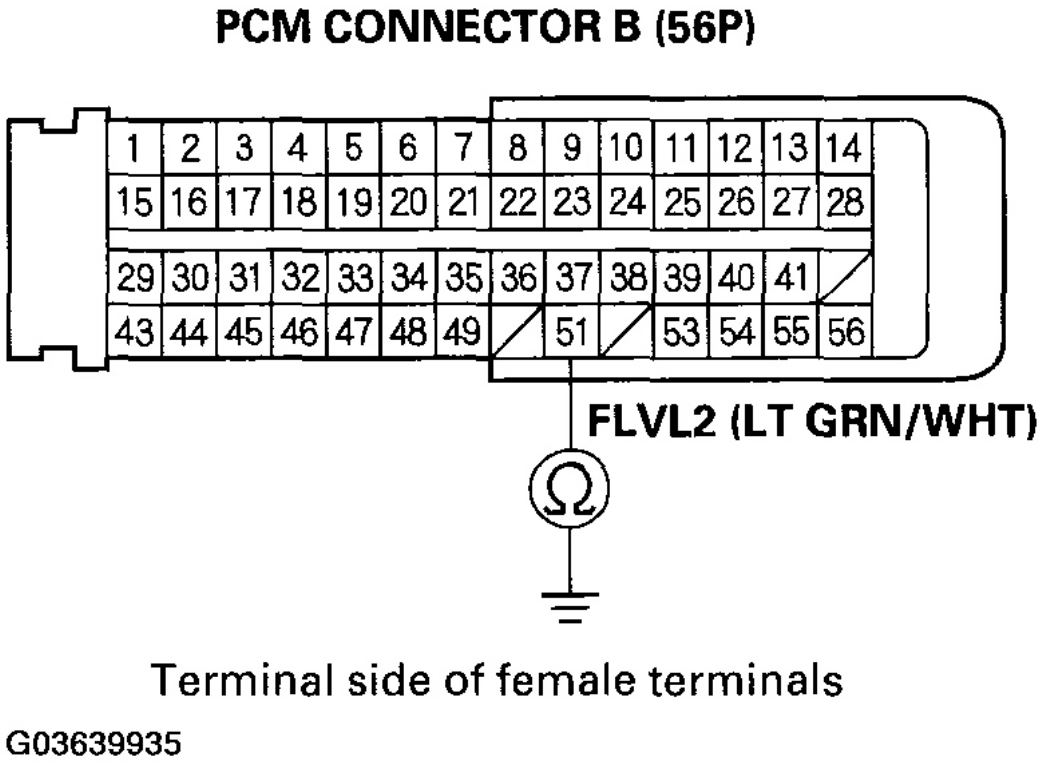


Fig. 20: Checking Continuity Between PCM Connector Terminal B51 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Replace the gauge assembly, then go to step 14.

NO - Repair open in the wire between the PCM (B51) and the gauge assembly, then go to step 14.

14. Turn the ignition switch ON (II).
15. Reset the PCM with the HDS.
16. Do the PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).
17. Check for Temporary DTCs or DTCs with the HDS.

Are any Temporary DTCs or DTCs indicated?

YES - If DTC P1460 is indicated, check for poor connections or loose terminals at the gauge assembly and the PCM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated DTCs troubleshooting.

NO - Troubleshooting is complete.

18. Update the PCM if it does not have the latest software, or substitute a known-good PCM (see **PCM UPDATING AND SUBSTITUTION FOR TESTING**).
19. Check for Temporary DTCs or DTCs with the HDS.

    Are any Temporary DTCs or DTCs indicated?

    YES - If DTC P1460 is indicated, check for poor connections or loose terminals at the gauge assembly and the PCM, then go to step 1 . If any other Temporary DTCs or DTCs are indicated, go to the indicated DTCs troubleshooting.

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

FUEL PUMP CIRCUIT TROUBLESHOOTING

If you suspect a problem with the fuel pump, check that the fuel pump actually runs; when it is on, you will hear some noise if you listen to the fuel fill port with the fuel fill cap removed. The fuel pump should run for 2 seconds when the ignition switch is first turned on. If the fuel pump does not make noise, check as follows:

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine.
4. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P0657 indicated?

   YES - Go to the indicated DTCs troubleshooting first, then recheck.

   NO - Go to step 5.
5. Turn the ignition switch OFF.
6. Remove the driver's dashboard lower cover (see **DASHBOARD LOWER COVER REMOVAL/INSTALLATION**), then remove PGM-FI main relay 2 (FUEL PUMP) (A) from the multi-relay box.

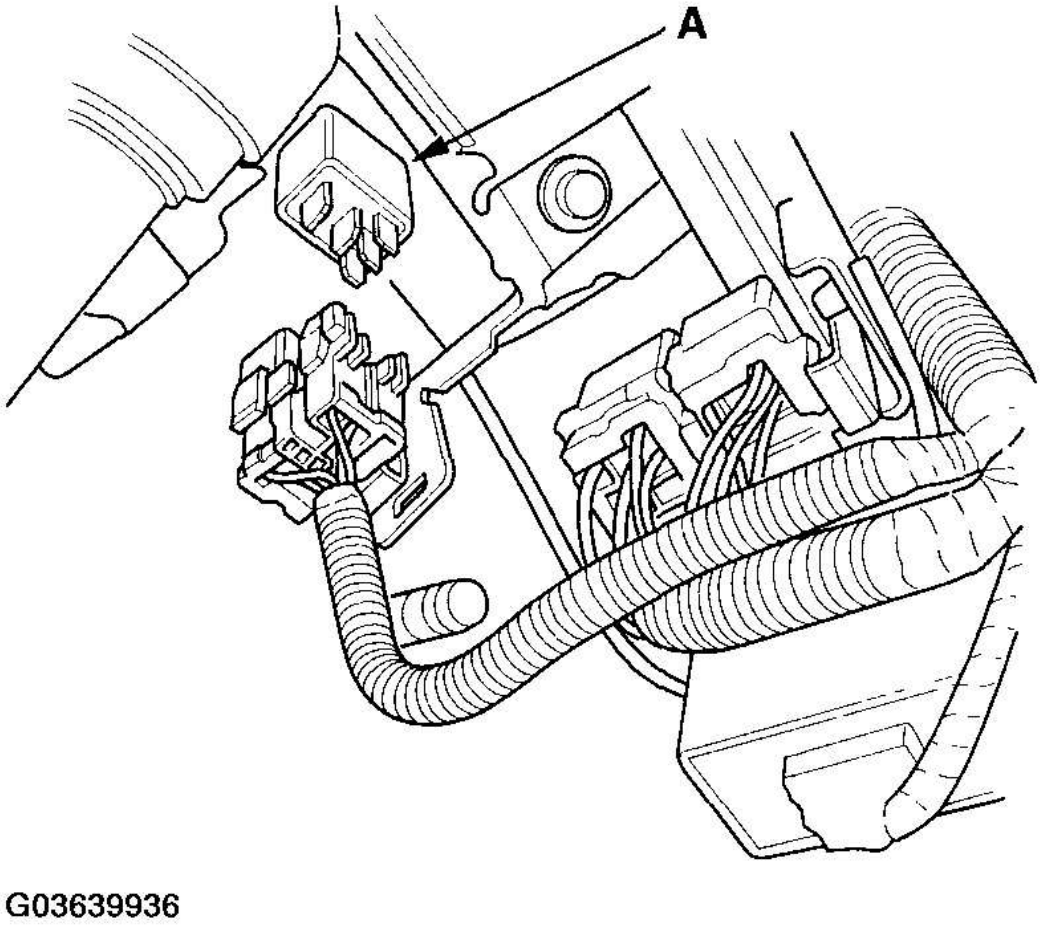


Fig. 21: Removing PGM-FI Main Relay 2 (FUEL PUMP)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Turn the ignition switch ON (II).
8. Measure voltage between PGM-FI main relay 2 (FUEL PUMP) 5P connector terminal No. 1 and body ground.

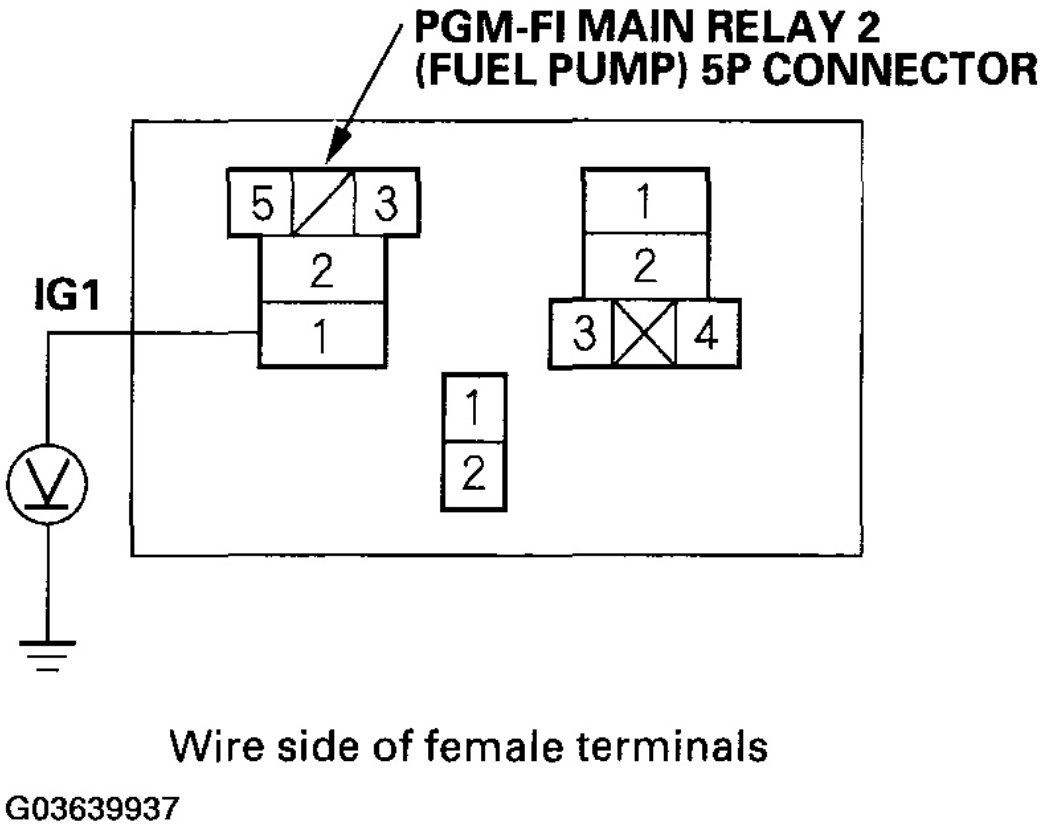


Fig. 22: Measuring Voltage Between PGM-FI Main Relay 2 (FUEL PUMP) 5P Connector Terminal 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 9.

NO -

- Check the No. 1 FUEL PUMP (15 A) fuse in the under-dash fuse/relay box.
- Replace the under-dash fuse/relay box.

9. Turn the ignition switch OFF.
10. Remove the driver's second row seat (see **SECOND ROW SEAT REMOVAL/INSTALLATION**).
11. Cut the carpet at the dotted line (A). Be careful not to cut the wire harness under the carpet.

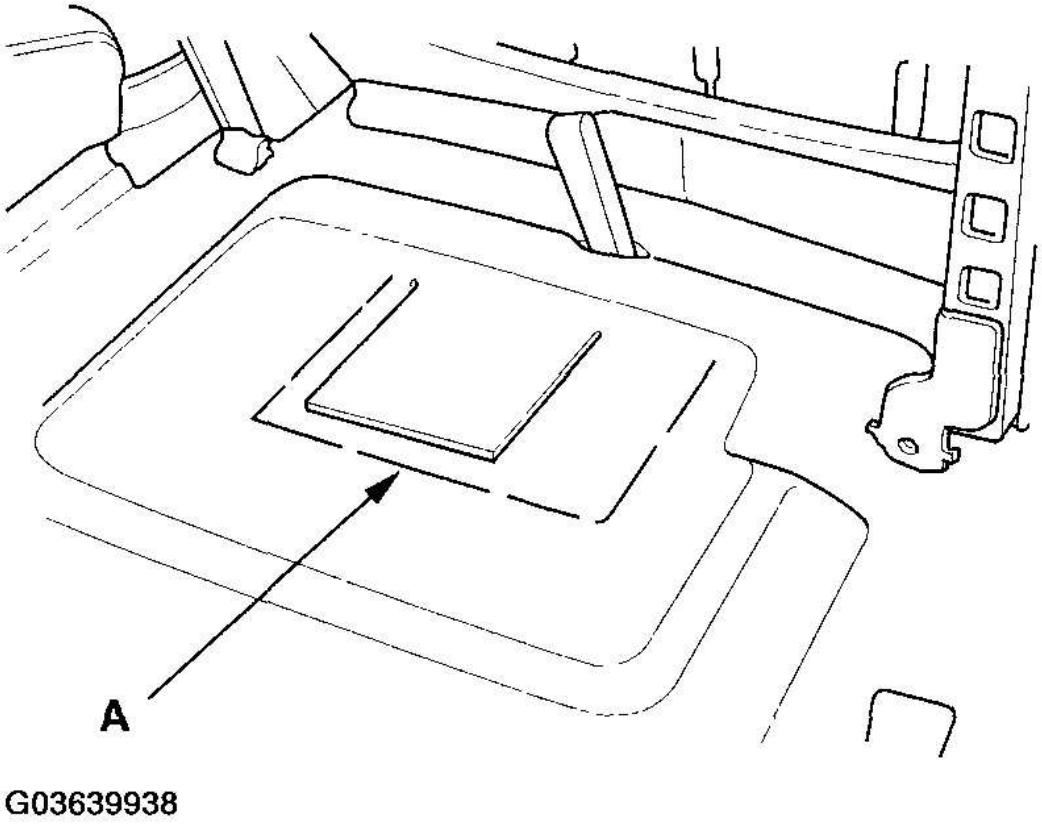


Fig. 23: Cutting Carpet At Dotted Line
Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. Remove the access panel from the floor (see **FUEL TANK UNIT REMOVAL/INSTALLATION**).
13. Measure voltage between fuel pump 5P connector terminal No. 5 and body ground within the first 2 seconds after the ignition switch is turned on.

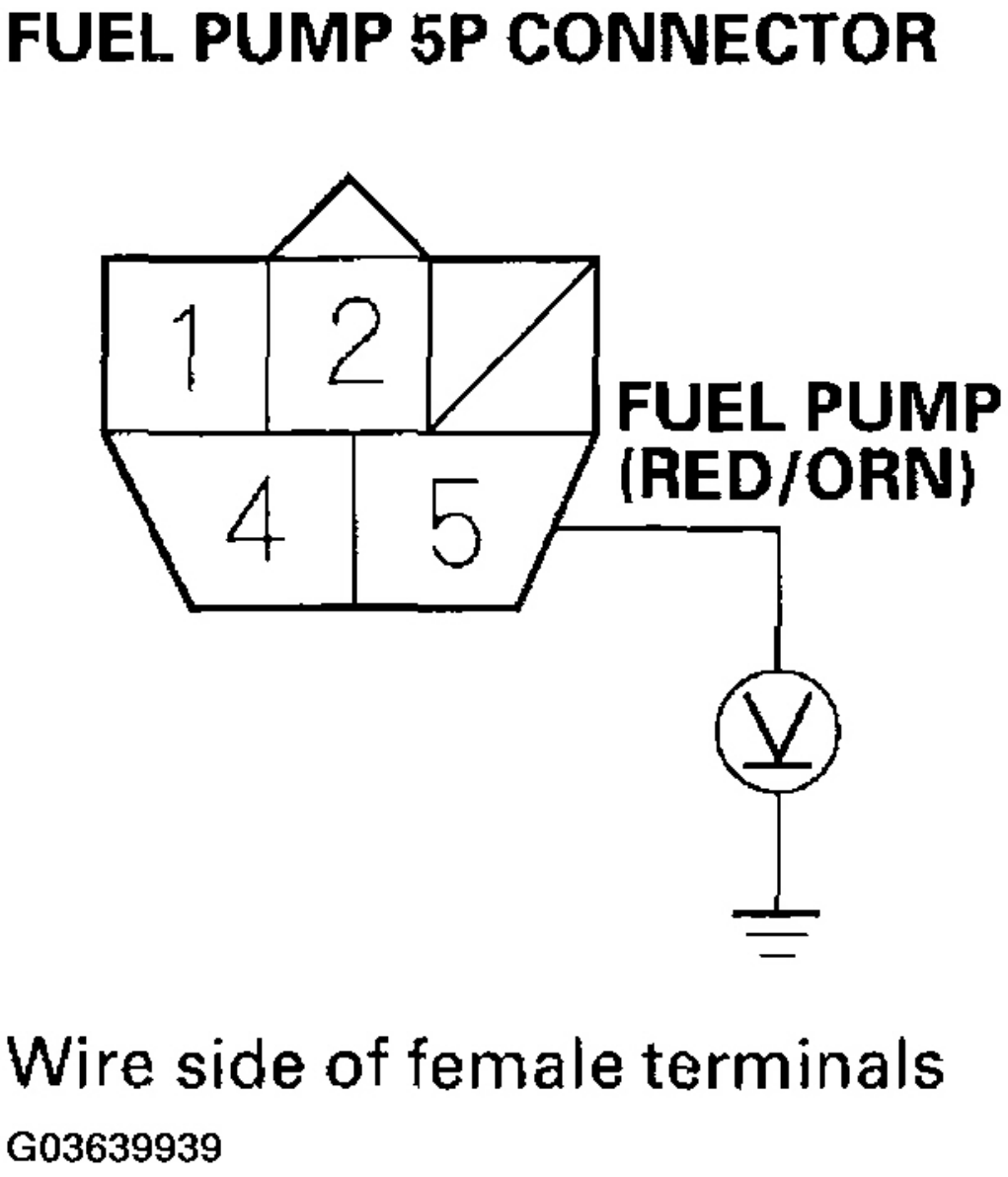


Fig. 24: Measuring Voltage Between Fuel Pump 5P Connector Terminal 5 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 19 .
NO - Go to step 14.

14. Turn the ignition switch OFF.
15. Remove PGM-FI main relay 2 (FUEL PUMP).
16. Connect PGM-FI main relay 2 (FUEL PUMP) 5P connector terminals No. 1 and No. 2 with a jumper wire.

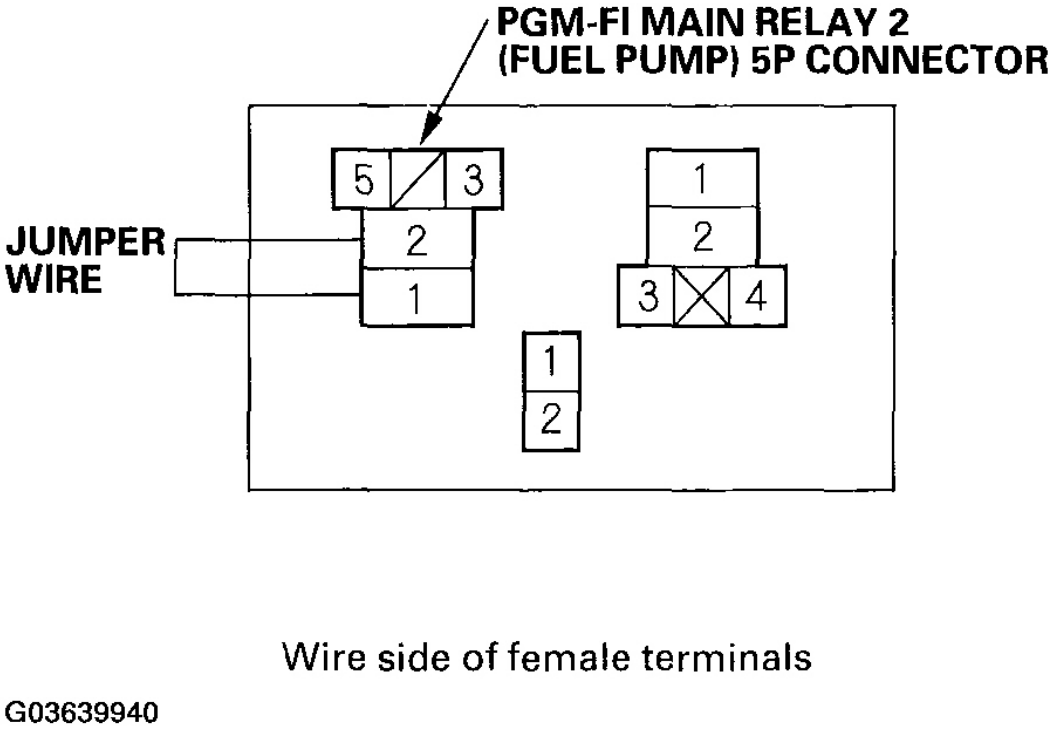


Fig. 25: Connecting PGM-FI Main Relay 2 (FUEL PUMP) 5P Connector Terminals 1 And 2 With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Turn the ignition switch ON (II)
18. Measure voltage between fuel pump 5P connector terminal No. 5 and body ground.

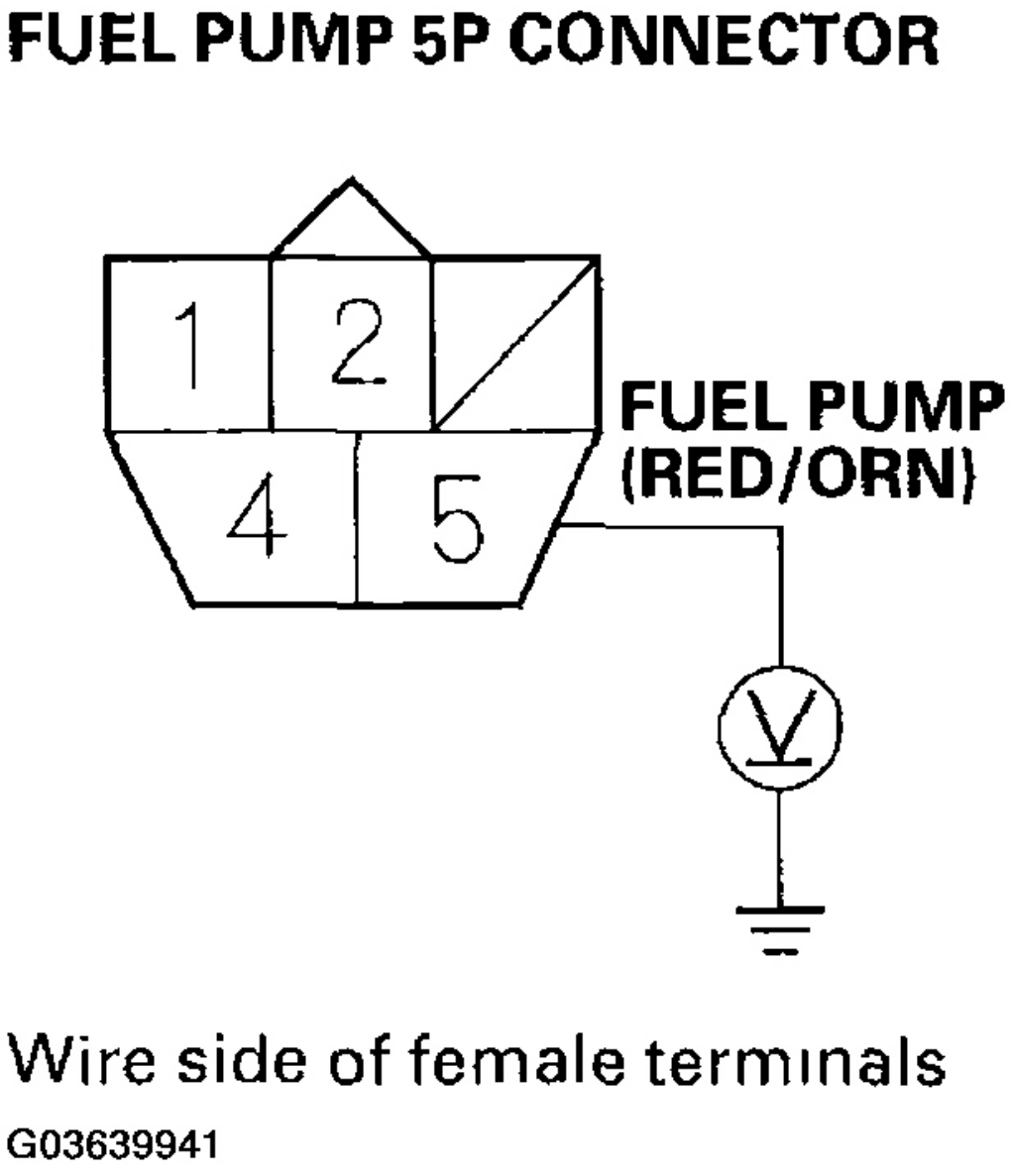


Fig. 26: Measuring Voltage Between FUEL PUMP 5P Connector Terminal 5 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Replace PGM-FI main relay 2 (FUEL PUMP).
NO - Repair open in the wire between PGM-FI main relay 2 (FUEL PUMP) and the fuel pump 5P

connector.

19. Turn the ignition switch OFF.
20. Check for continuity between fuel pump 5P connector terminal No. 4 and body ground.

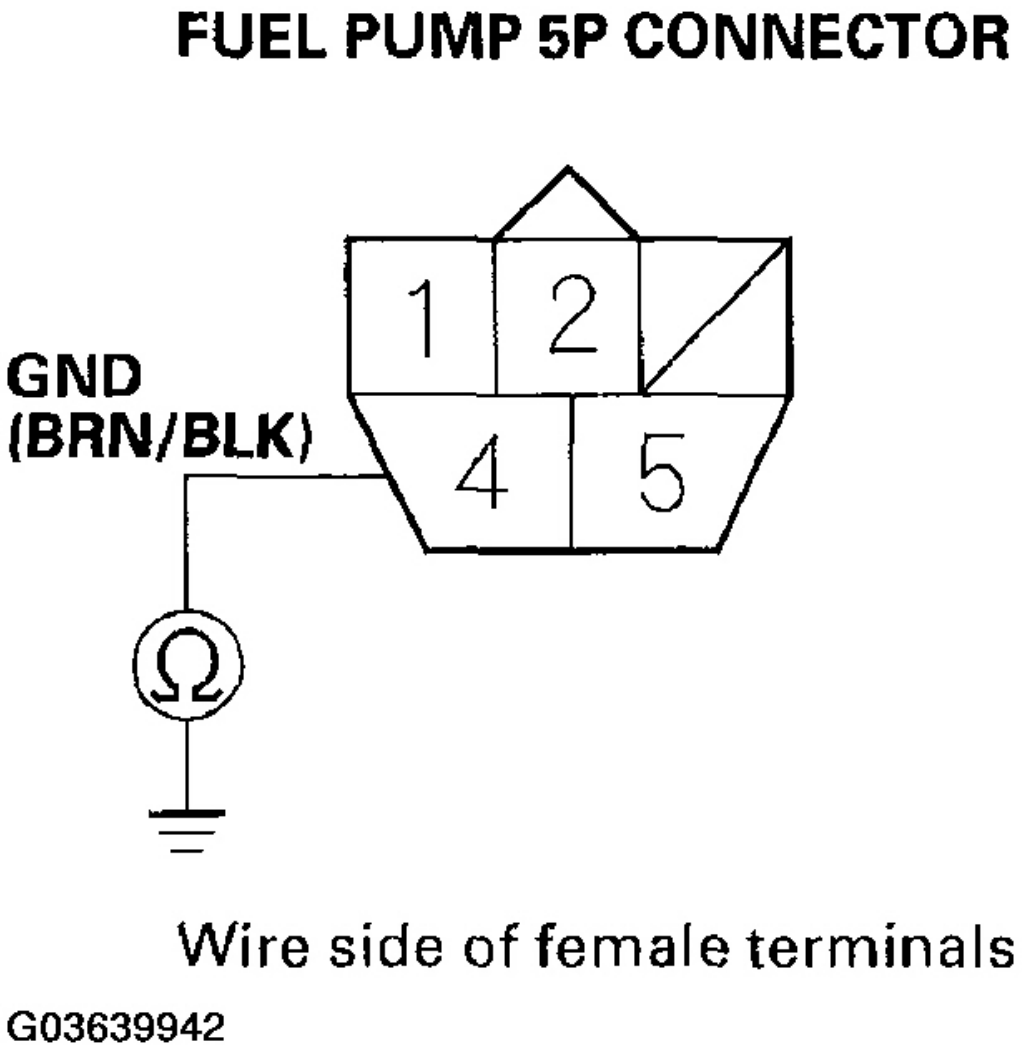


Fig. 27: Checking Continuity Between Fuel Pump 5P Connector Terminal 4 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Replace the fuel pump (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT**).

NO - Repair open in the wire between the fuel pump 5P connector and G601.

FUEL PRESSURE RELIEVING

Before disconnecting fuel lines or hoses, relieve pressure from the system by stopping the fuel pump and then disconnecting the fuel tube/quick connect fitting in the engine compartment.

WITH THE HDS

1. Make sure you have the anti-theft code for the radio and navigation system, then write down the frequencies for the radio's station presets.
2. Remove the fuel filler cap.
3. Start the engine and let it idle.
4. From the INSPECTION MENU of the HDS, select FUEL PUMP OFF, then start the engine and let it idle until it stalls.
5. Turn the ignition switch OFF.

NOTE:

- **Do not allow the engine to idle above 1,000 rpm or the PCM will continue to operate the fuel pump.**
- **A DTC or a Temporary DTC may be set during this procedure. Check for DTCs, and clear them as necessary (see GENERAL TROUBLESHOOTING INFORMATION).**

6. Turn the ignition switch OFF.
7. Disconnect the negative cable from the battery.
8. Remove the quick-connect fitting cover (A).

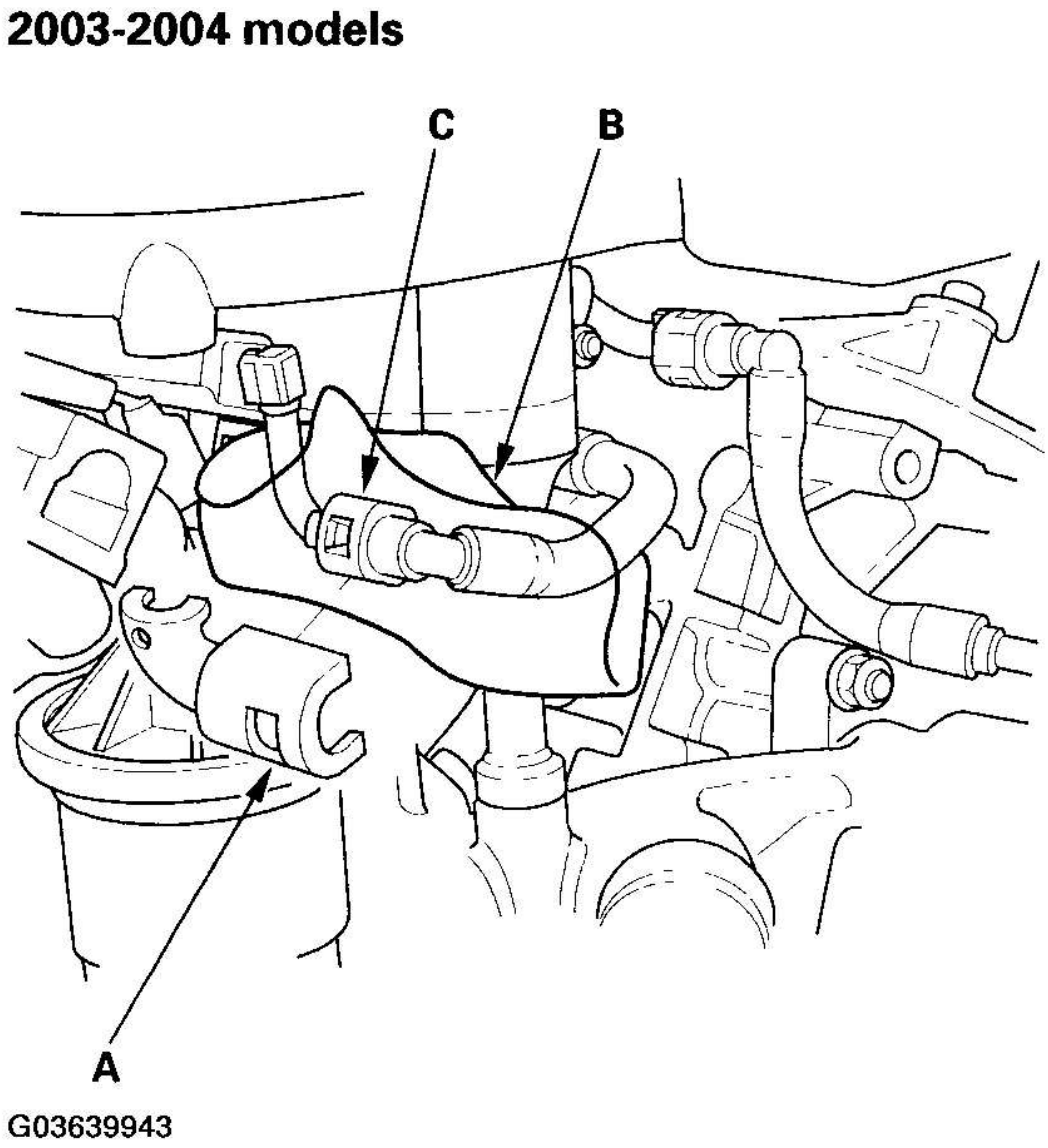


Fig. 28: Removing Quick-Connect Fitting Cover (2003-04 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

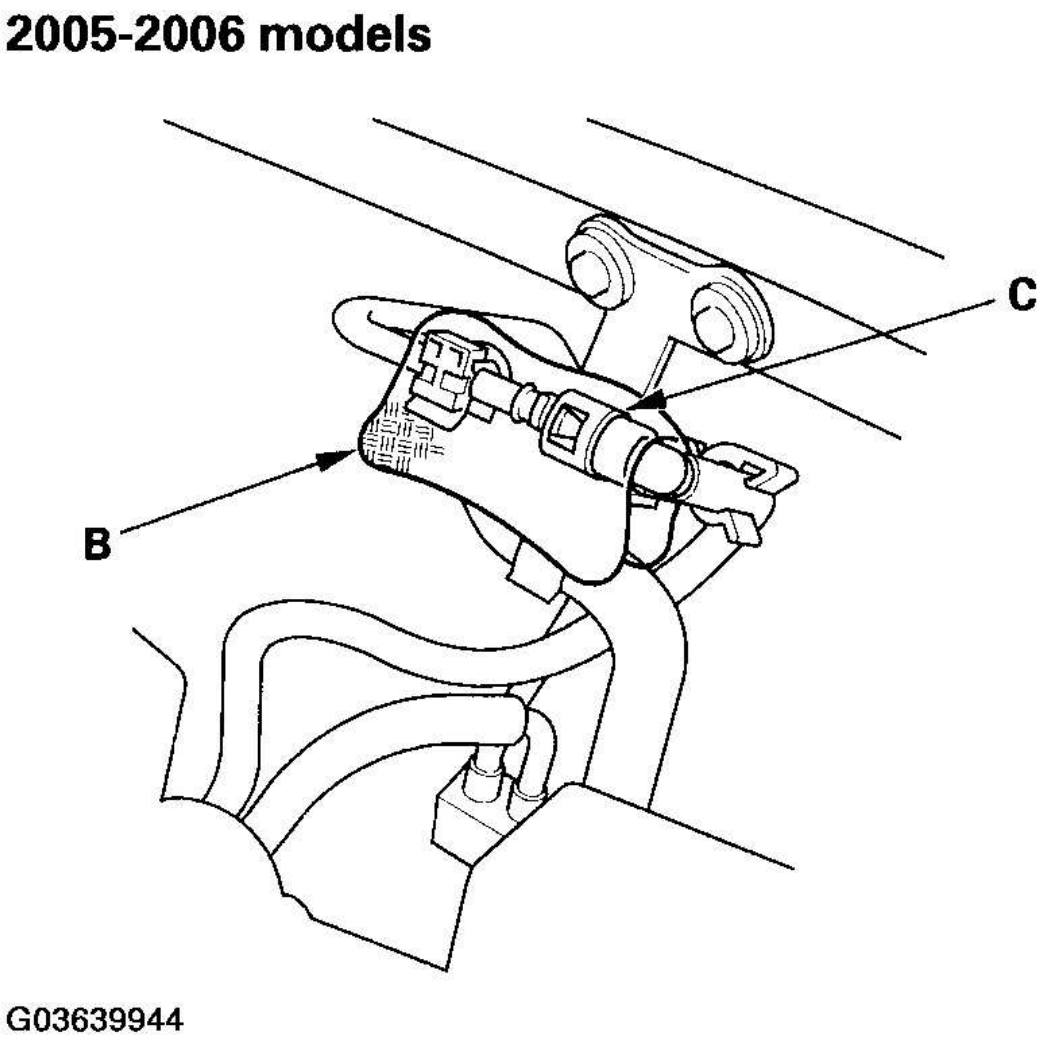


Fig. 29: Removing Quick-Connect Fitting Cover (2005-06 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Place a rag or shop towel (B) over the quick-connect fitting (C).
10. Disconnect the quick-connect fitting (see **FUEL LINE/QUICK-CONNECT FITTING PRECAUTIONS**).
11. After relieving fuel pressure, install the quick-connect fitting (see **FUEL LINE/QUICK-CONNECT FITTING INSTALLATION**).
12. Reconnect the negative cable to the battery, and do these items:
    - PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).
    - Power window control unit reset procedure (see **RESETTING THE POWER WINDOW CONTROL UNIT**).

- Enter the anti-theft codes for the radio and the navigation system, then enter the customer's radio station presets.
- Reset the clock.

WITHOUT THE HDS

1. Make sure you have the anti-theft code for the radio and navigation system, then write down the frequencies for the radio's station presets.
2. Turn the ignition switch OFF.
3. Remove the driver's dashboard lower cover (see **DASHBOARD LOWER COVER REMOVAL/INSTALLATION**).
4. Remove PGM-FI main relay 2 (FUEL PUMP) (A).

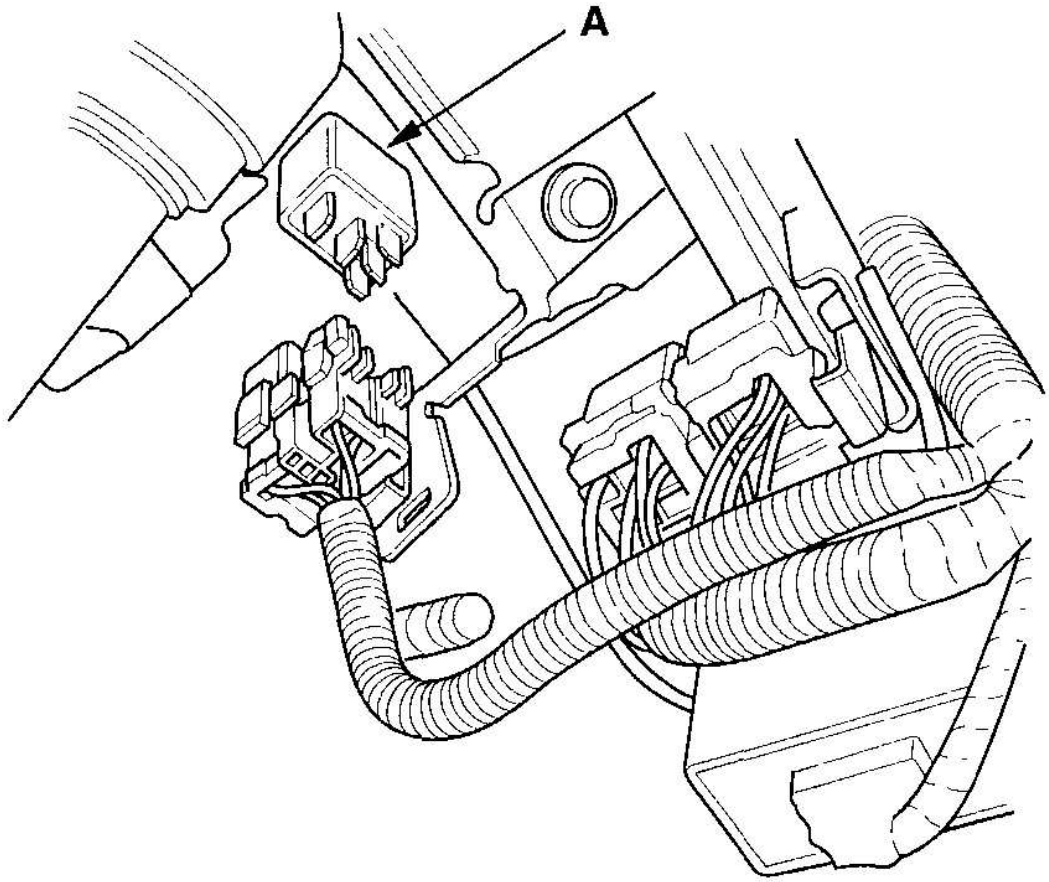


Fig. 30: Removing PGM-FI Main Relay 2 (Fuel Pump)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Remove the fuel fill cap, and relieve fuel pressure in the fuel tank.
6. Start the engine, and let it idle until it stalls.

NOTE: A DTC or a Temporary DTC may be set during this procedure. Check for DTCs, and clear them as necessary (see GENERAL TROUBLESHOOTING INFORMATION).

7. Turn the ignition switch OFF.
8. Disconnect the negative cable from the battery.
9. Remove the quick-connect fitting cover (A).

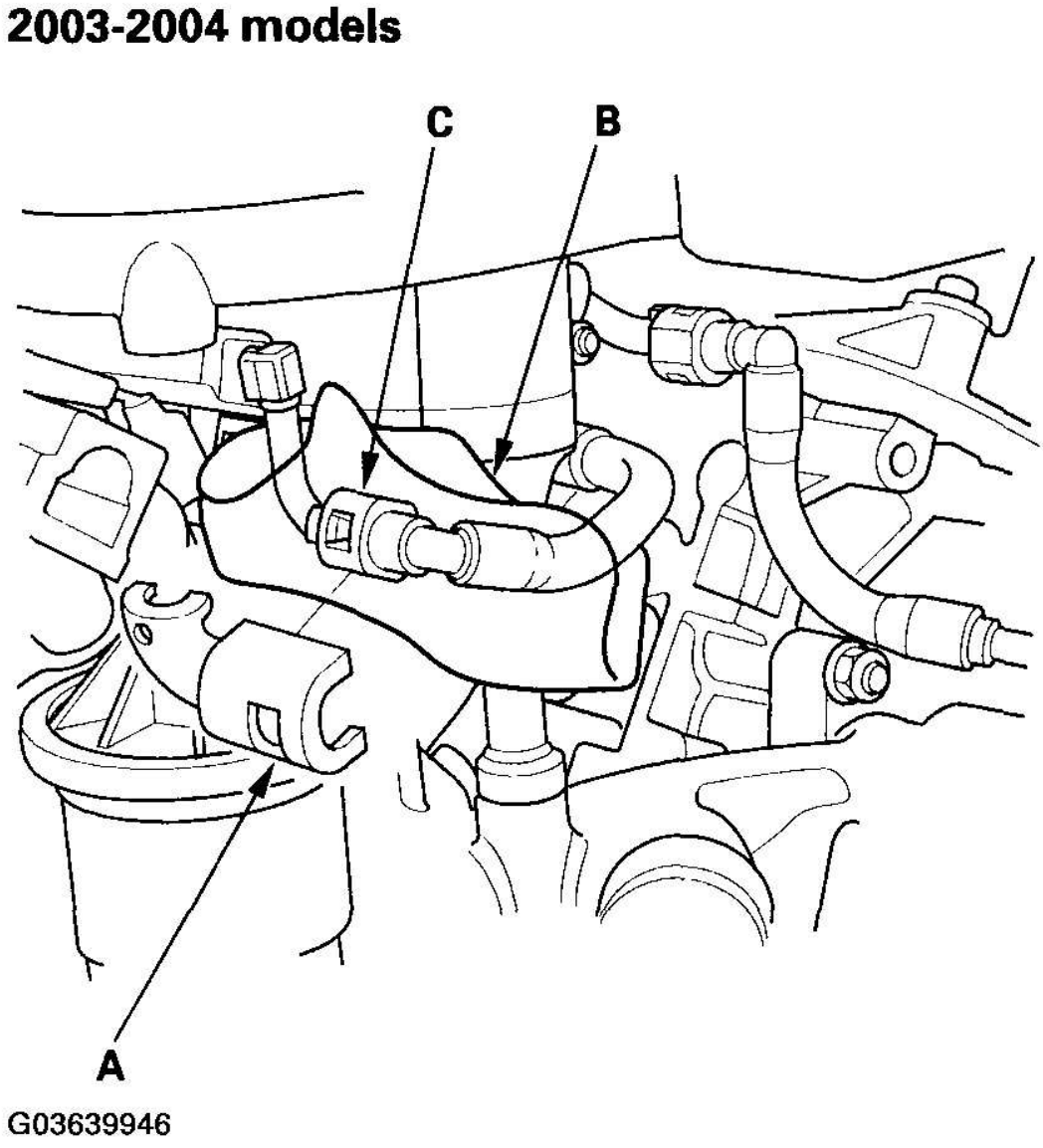


Fig. 31: Removing Quick-Connect Fitting Cover (2003-04 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

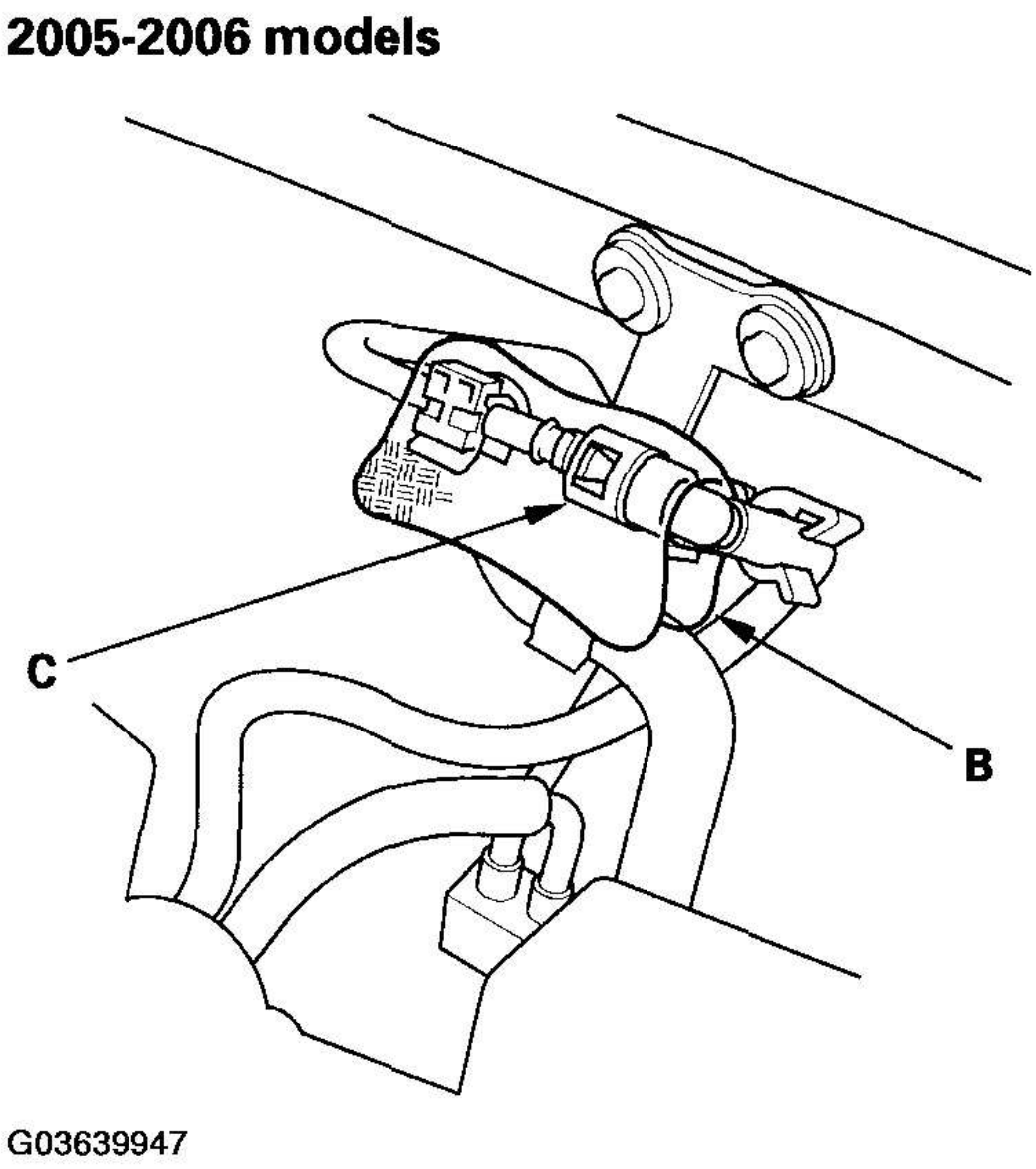


Fig. 32: Removing Quick-Connect Fitting Cover (2005-06 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Place a rag or shop towel (B) over the quick-connect fitting (C).
11. Disconnect the quick-connect fitting (see **FUEL LINE/QUICK-CONNECT FITTING PRECAUTIONS**).
12. After relieving fuel pressure, install the quick-connect fitting (see **FUEL LINE/QUICK-CONNECT FITTING INSTALLATION**).

13. Reconnect the negative cable to the battery, and do these items:
    - PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).
    - Power window control unit reset procedure (see **RESETTING THE POWER WINDOW CONTROL UNIT**).
    - Enter the anti-theft codes for the radio and the navigation system, then enter the customer's radio station presets.
    - Reset the clock.

FUEL PRESSURE TEST

Special Tools Required

- Fuel pressure gauge 07406-004000A
- Fuel pressure gauge set 07AAJ-S6MA150

1. Relieve the fuel pressure (see **FUEL PRESSURE RELIEVING**).
2. Disconnect the quick-connect fitting (A). Attach the fuel pressure gauge set and the fuel pressure gauge.

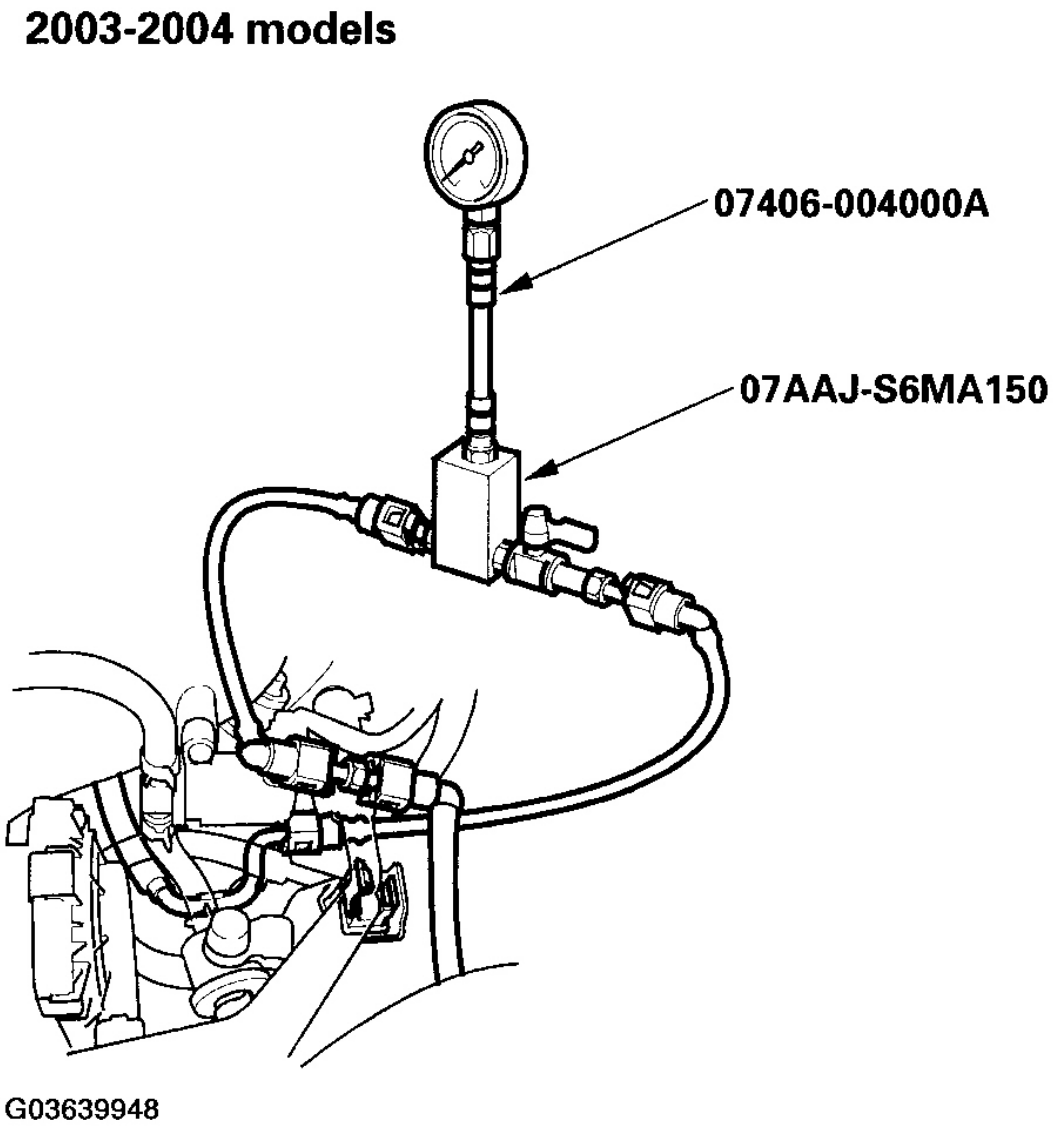


Fig. 33: Disconnecting Quick-Connect Fitting (2003-04 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

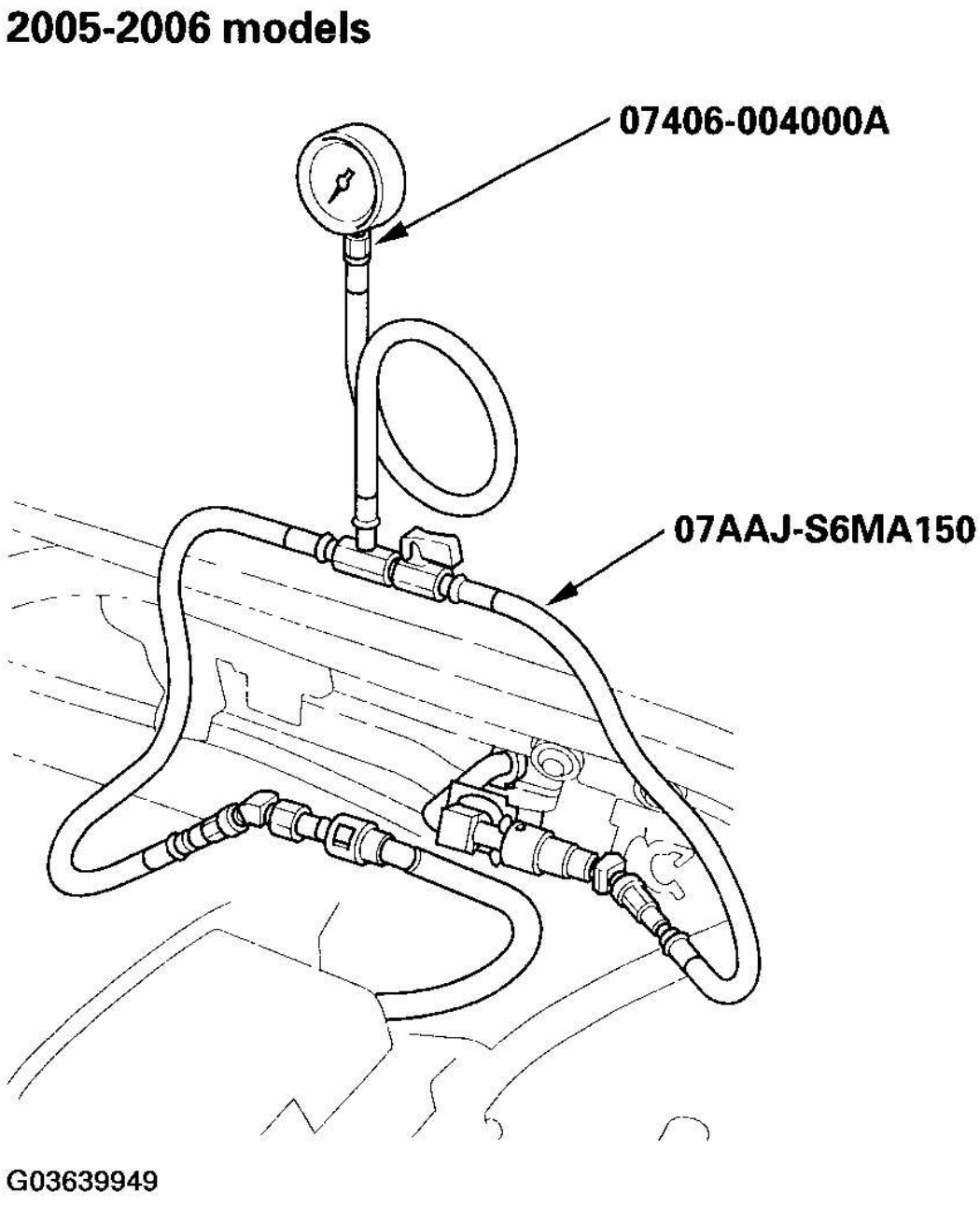


Fig. 34: Disconnecting Quick-Connect Fitting (2005-06 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Start the engine, and let it idle.
   - If the engine starts, go to step 5 .
   - If the engine does not start, go to step 4.

4. Check to see if the fuel pump is running: listen to the fuel fill port with the fuel cap removed. The fuel pump should run for 2 seconds when the ignition switch is first turned on.
   - If the pump runs, go to step 5.
   - If the pump does not run, do the fuel pump circuit troubleshooting (see **FUEL PUMP CIRCUIT TROUBLESHOOTING**).
5. Read the pressure gauge. The pressure should be 390-440 kPa (4.0-4.5 kg/cm^2 , 57-64 psi).
   - If the pressure is OK and the engine is running, the test is complete. If the engine is not running, repair the cause, then continue this test.
   - If the pressure is out of specification and the fuel lines are OK, replace the pressure regulator (see **FUEL PRESSURE REGULATOR REPLACEMENT**).

FUEL TANK DRAINING

1. Remove the fuel tank unit (see **FUEL TANK UNIT REMOVAL/INSTALLATION**).
2. Using a hand pump, hoses, and a container suitable for fuel, draw the fuel from the fuel tank.

FUEL LINE INSPECTION

Check the fuel system lines, hoses, and fuel filter for damage, leaks, and deterioration. Replace any damaged parts.

2003-2004 models

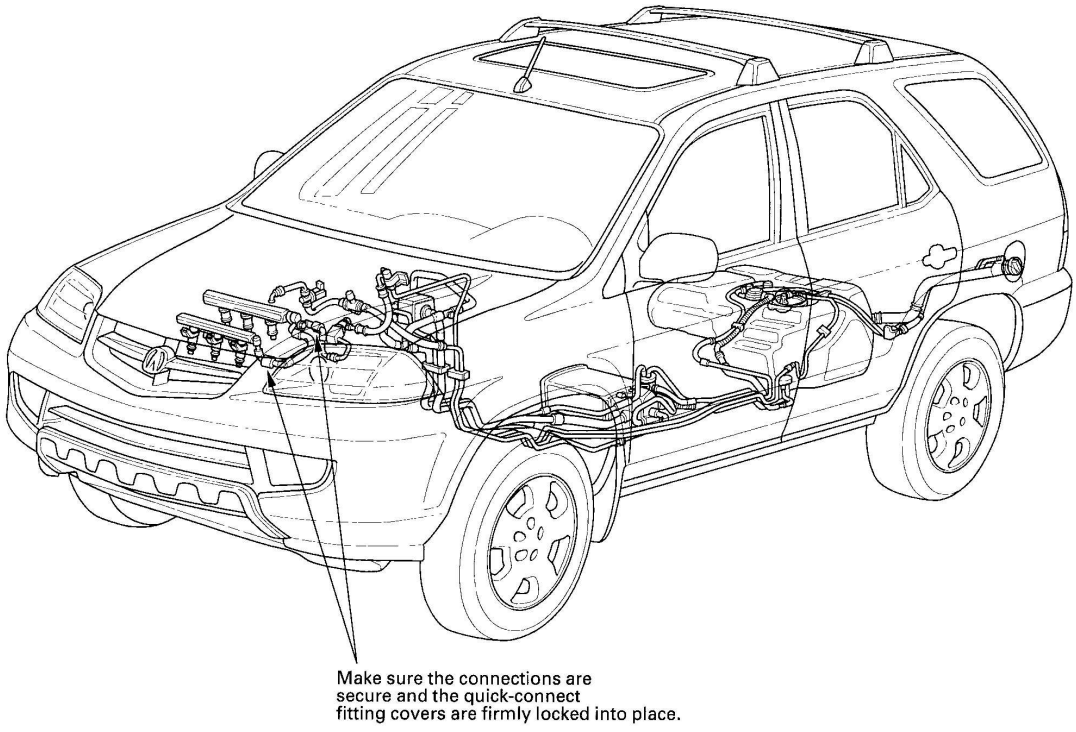


Fig. 35: Inspecting Fuel Line (2003-04 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2005-2006 models

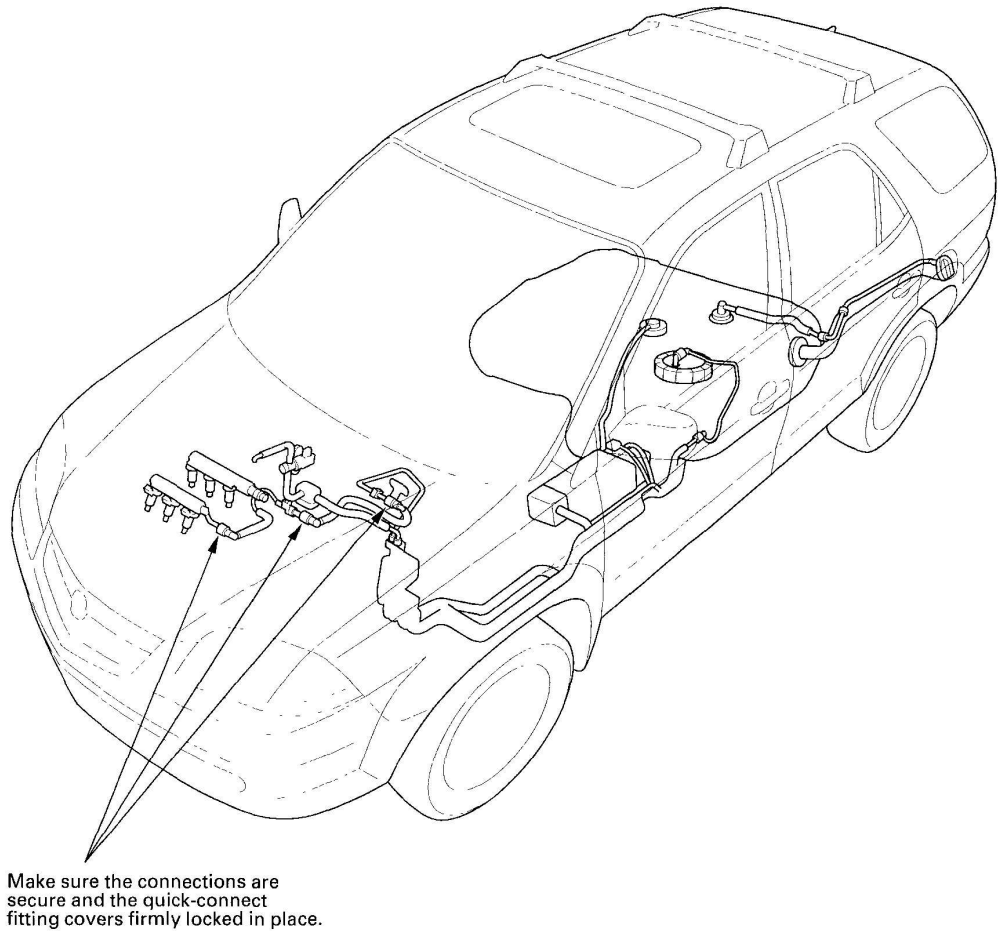


Fig. 36: Inspecting Fuel Line (2005-06 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Check all clamps and retighten if necessary.

TRIANGLE(S): Do not disconnect the hose from the line at these joints.

2003-2004 models

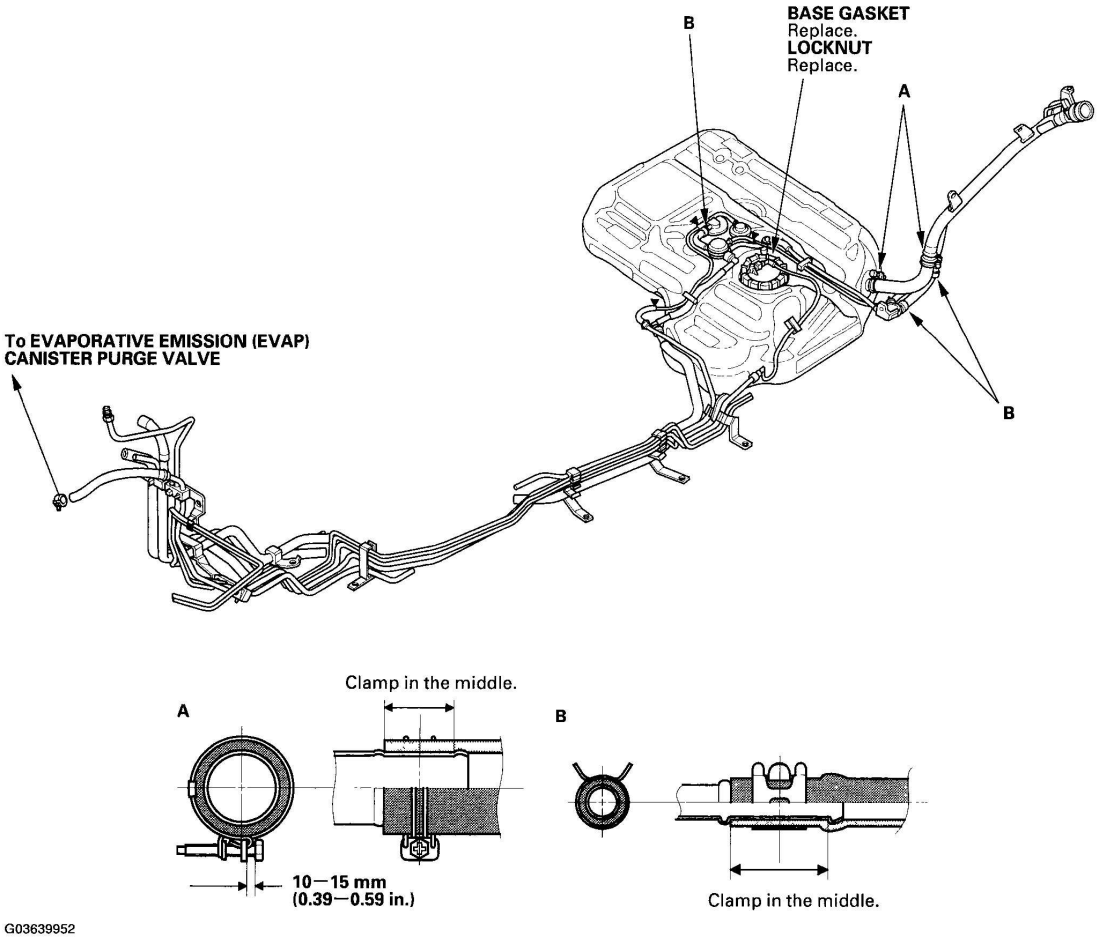


Fig. 37: Checking Clamps (2003-04 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

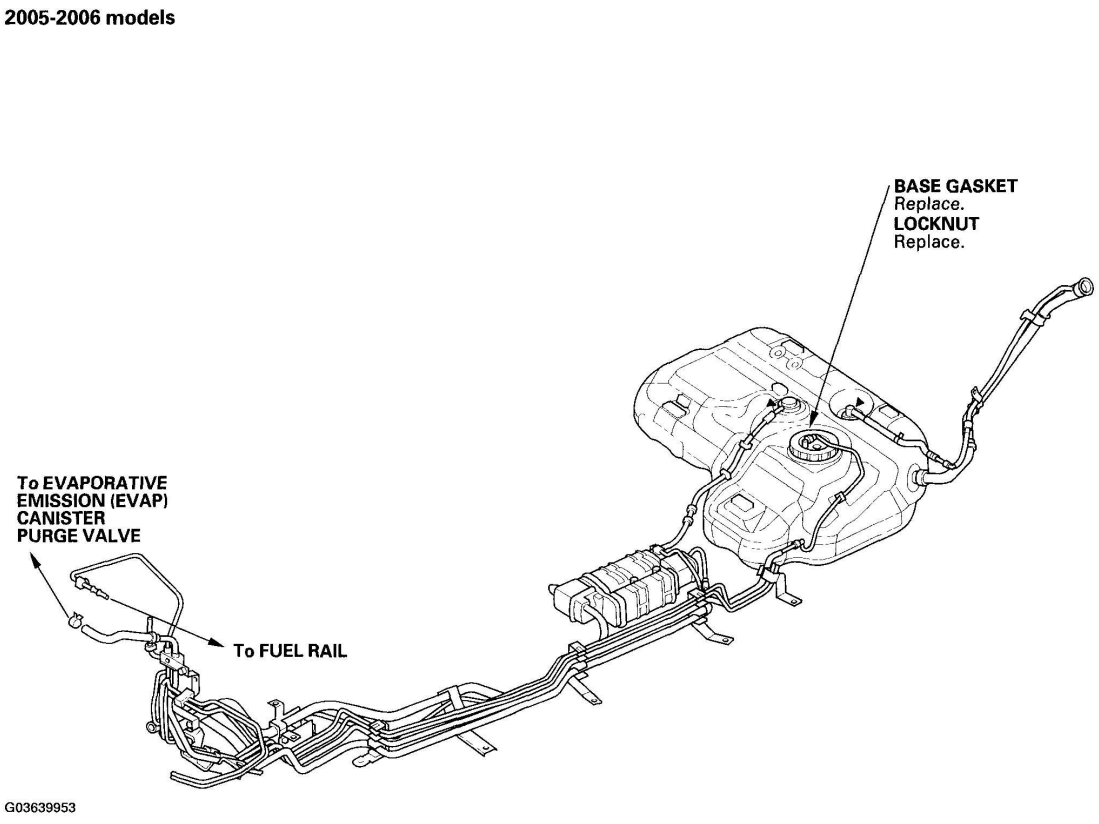


Fig. 38: Checking Clamps (2005-06 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

FUEL LINE/QUICK-CONNECT FITTING PRECAUTIONS

2003-2004 models: The fuel line/quick-connect fittings assembly connects the fuel rail (A) to the fuel joint hose (B), the fuel joint hose to the fuel joint stay (C), and the fuel line (D) to the fuel feed hose (E), and the fuel feed hose to the fuel tank unit (F).

2005-2006 models: The fuel line/quick-connect fittings assembly connects the fuel rail (A) to the fuel joint hose (B), the fuel joint hose to the fuel feed hose (C), and the fuel feed hose to the fuel line (D), and the fuel line (D) to the fuel feed hose (E), and the fuel feed hose to the fuel tank unit (F).

When removing or installing the fuel pump and fuel tank, it is necessary to disconnect or connect the quick-connect fittings.

Pay attention to the following:

- The fuel joint hose (B), fuel joint stay (C), and fuel feed line (D), quick-connect fittings (G) are not heat-resistant; be careful not to damage them during welding or other heat-generating procedures.
- The fuel joint hose (B), fuel joint stay (C), and fuel feed line (D), quick-connect fittings (G) are not acid-proof; do not touch them with a shop towel that was used for wiping battery electrolyte. Replace them if

they came into contact with electrolyte or something similar.

When connecting or disconnecting the fuel joint hose (B), fuel joint stay (C), fuel line (D), fuel feed hose (E), and quick-connect fittings (G), be careful not to bend or twist them excessively. Replace them if they are damaged.

2003-2004 models

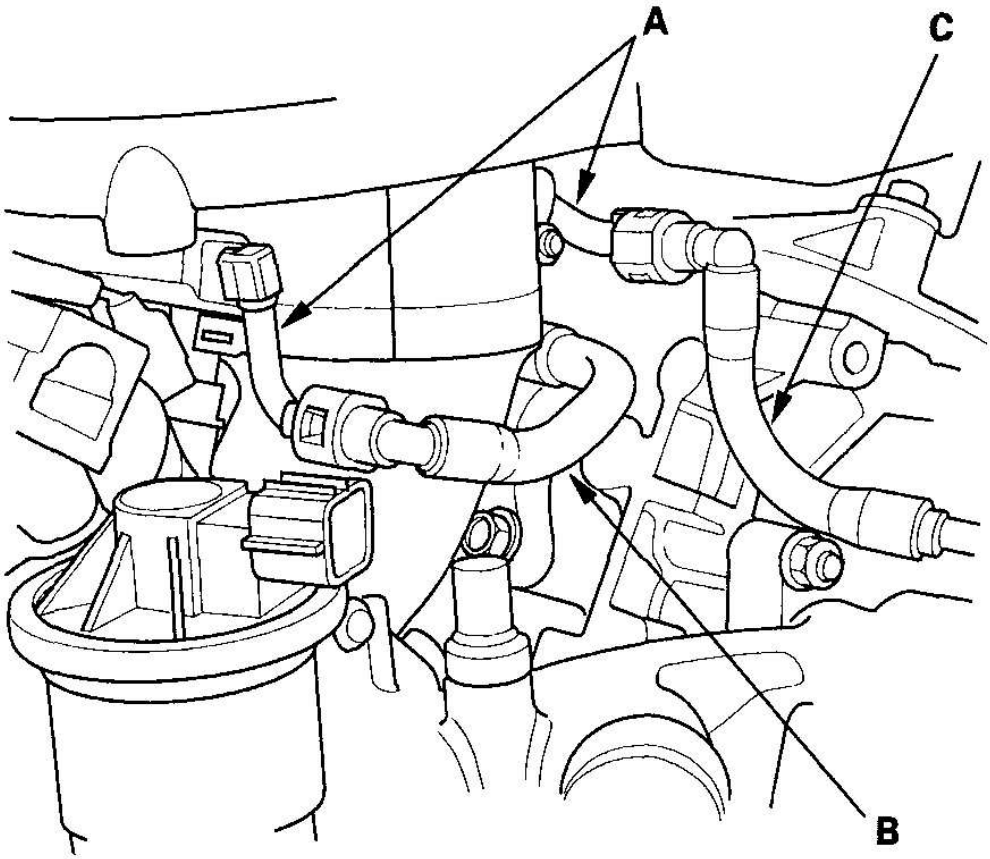


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Fig. 39: Precautions Of Fuel Line/Quick-Connect Fitting (2003-04 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2005-2006 models

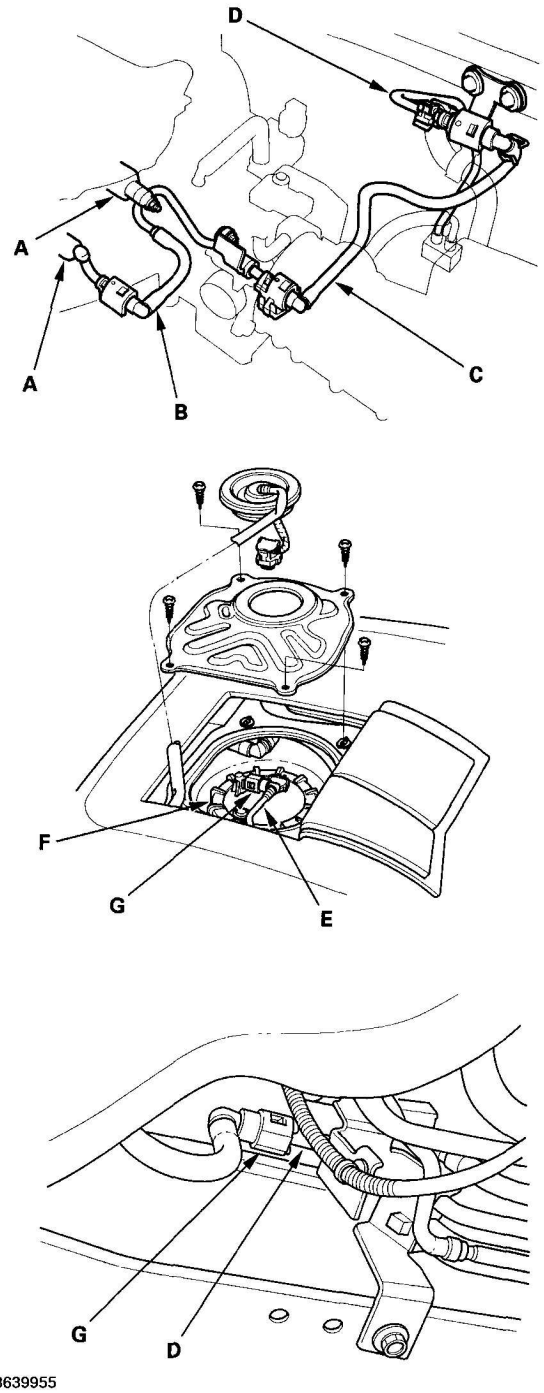

Fig. 40: Precautions Of Fuel Line/Quick-Connect Fitting (2005-06 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

A disconnected quick-connect fitting can be reconnected, but the retainer on the mating line cannot be reused

once it has been removed from the line. Replace the retainer when:

- replacing the fuel rails.
- replacing the fuel pump.
- replacing the fuel filter.
- replacing the fuel feed line.
- it has been removed from the line.
- it is damaged.

FUEL RAILS SPECIFICATIONS

Retainer location	Manufacturer	Retainer color	Piping diameter
Engine compartment	Tokai	Blue green	0.31 in. (8.0 mm)
Fuel tank unit: fuel feed line, fuel tank unit side	Tokai	Orange	0.37 in. (9.5 mm)
Fuel tank unit: fuel feed line, fuel line side	Tokai	Blue green	0.31 in. (8.0 mm)

FUEL LINE/QUICK-CONNECT FITTING REMOVAL

NOTE: Read the FUEL LINE/QUICK-CONNECT FITTING PRECAUTIONS before doing this procedure.

1. Relieve fuel pressure (see **FUEL PRESSURE RELIEVING**).
2. Check the fuel quick-connect fittings for dirt, and clean if necessary.
3. Hold the connector (A) with one hand, and squeeze the retainer tabs (B) with the other hand to release them from the locking pawls (C). Pull the connector off.

NOTE:

- **Be careful not to damage the line (D) or other parts.**

  Do not use tools.

- **If the connector does not move, keep the retainer tabs pressed down, and alternately pull and push the connector until it comes off easily.**
- **Do not remove the retainer from the line; once removed, the retainer must be replaced with a new one.**

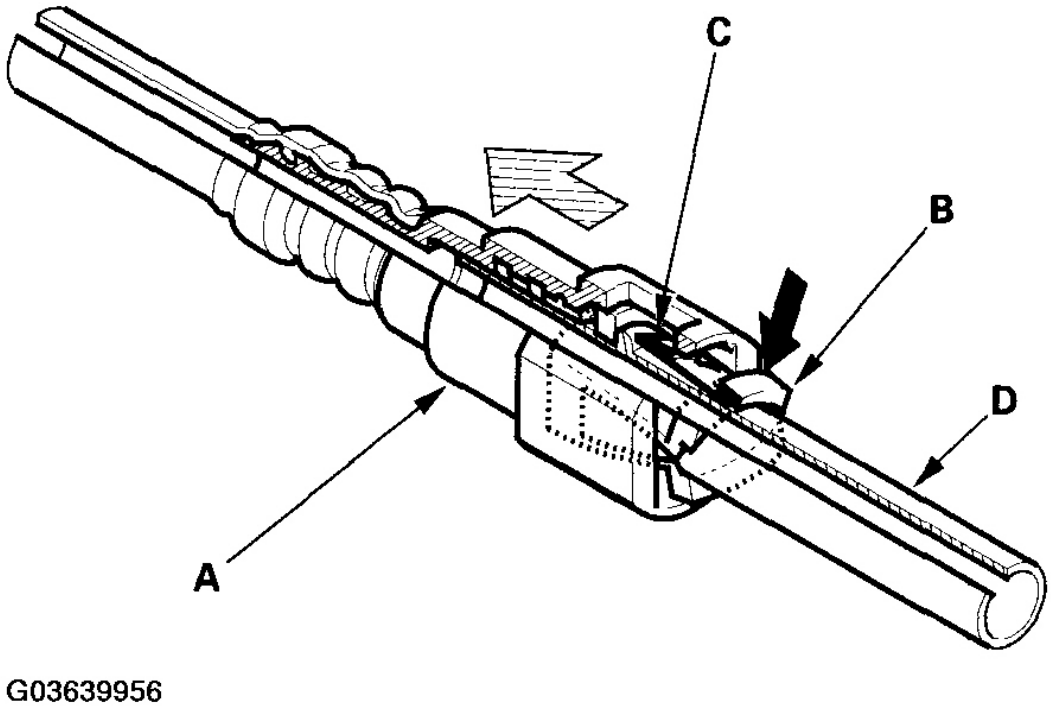

Fig. 41: Holding Connector And Squeezing Retainer Tabs To Release From Locking Pawls
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Check the contact area (A) of the line (B) for dirt and damage.
    - If the surface is dirty, clean it.
    - If the surface is rusty or damaged, replace the fuel pump, fuel filter, or fuel feed line.

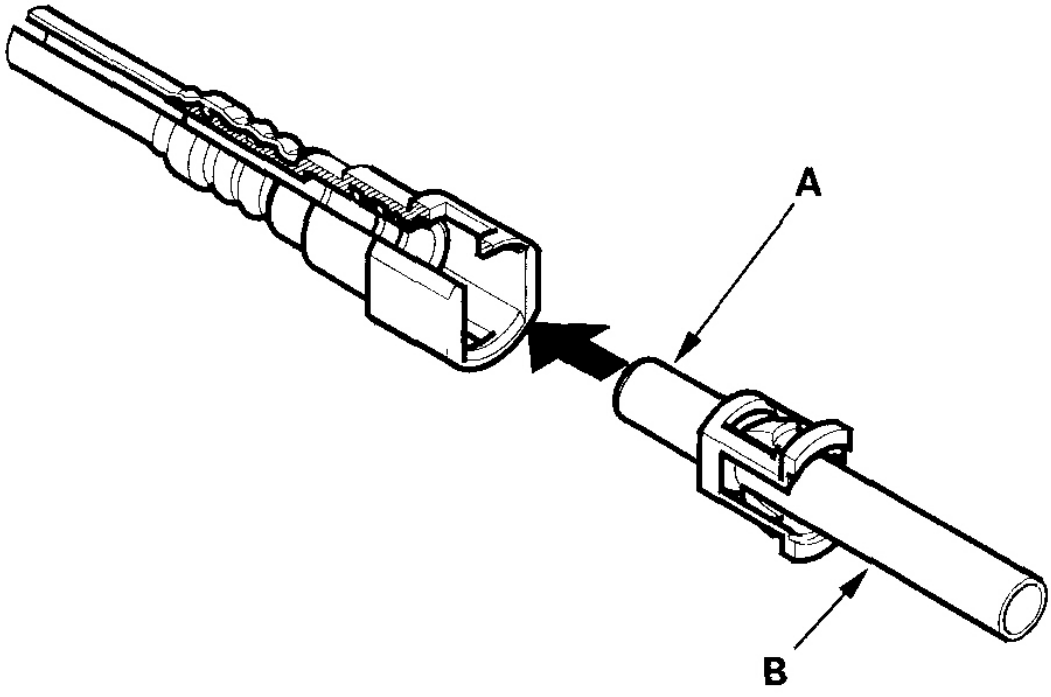

Fig. 42: Checking Contact Area Line
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. To prevent damage and keep foreign matter out, cover the disconnected connector and line end with plastic bags (A).

NOTE:

- **The retainer cannot be reused once it has been removed from the line.**
- **Replace the retainer when:**
  - **replacing the fuel rails.**
  - **replacing the fuel pump.**
  - **replacing the fuel filter.**
  - **replacing the fuel feed line.**
  - **it has been removed from the line.**
  - **it is damaged.**

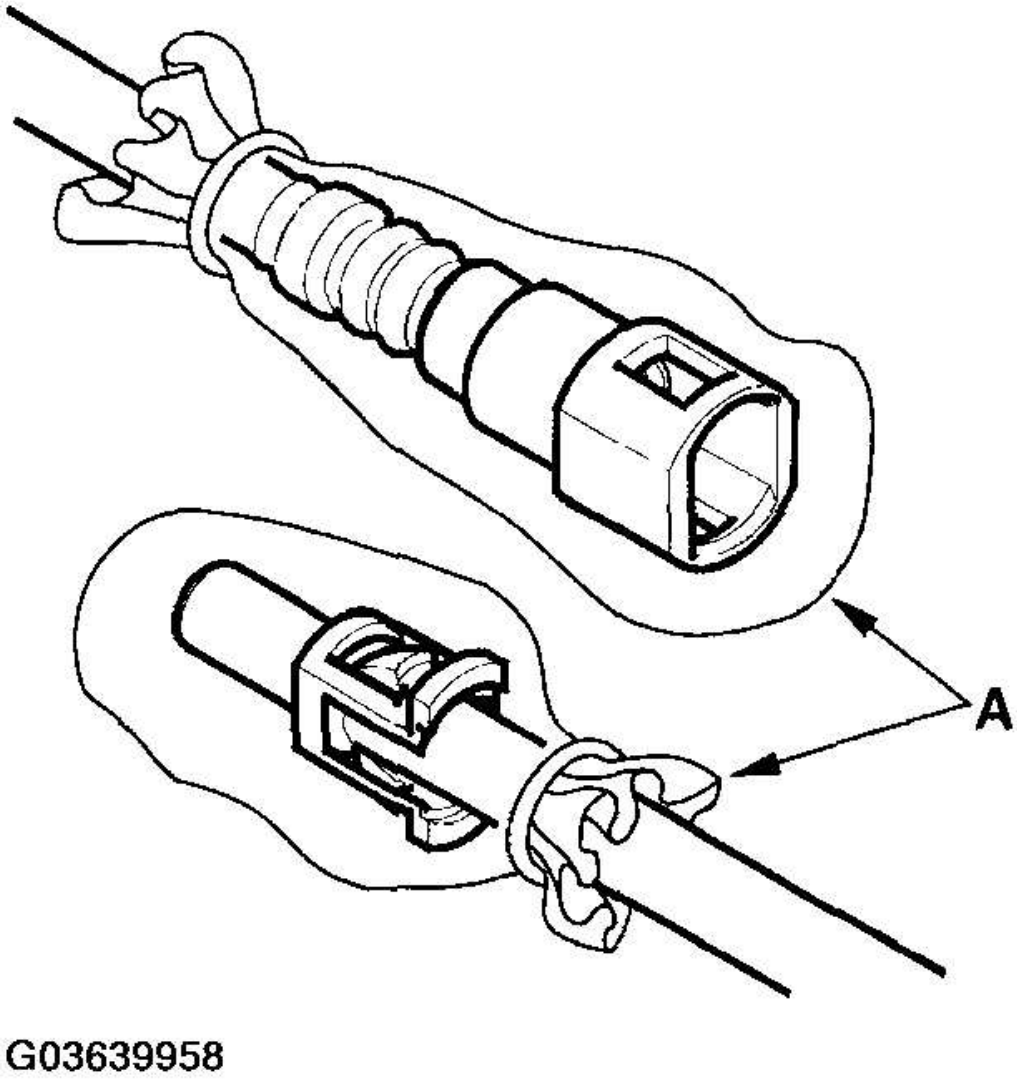

Fig. 43: Covering Disconnected Connector And Line End With Plastic Bags
Courtesy of AMERICAN HONDA MOTOR CO., INC.

FUEL LINE/QUICK-CONNECT FITTING INSTALLATION

NOTE: Read the FUEL LINE/QUICK-CONNECT FITTING PRECAUTIONS before doing this procedure.

1. Check the contact area (A) of the line (B) for dirt or damage, and clean it if necessary.

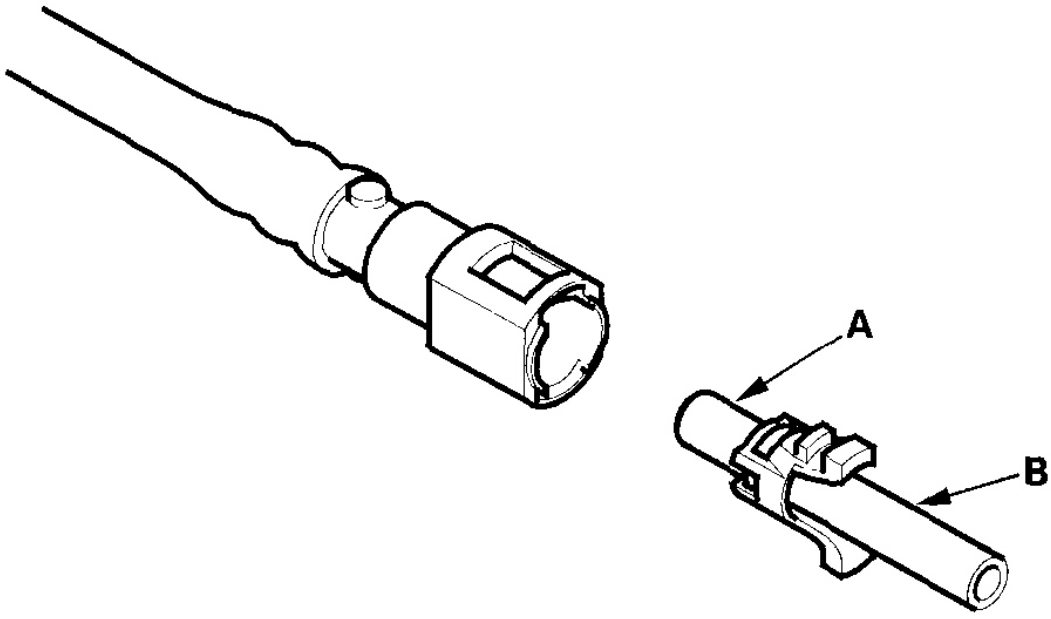

Fig. 44: Checking Contact Area
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Insert a new retainer (A) into the connector (B) if the retainer is damaged, or after:
   - replacing the fuel rails.
   - replacing the fuel feed line.
   - replacing the fuel pump.
   - replacing the fuel filter.
   - replacing the fuel gauge sending unit.
   - removing the retainer from the line.

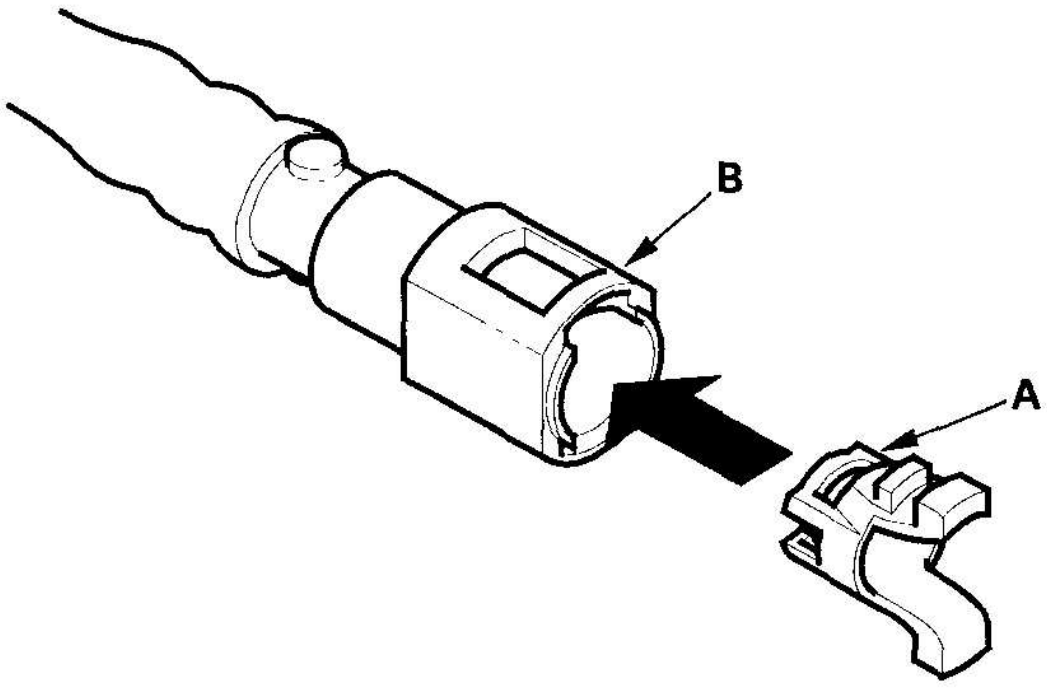

Fig. 45: Inserting Retainer Connector Into Connector
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Before connecting a new fuel line/quick-connect fitting assembly (A), remove the old retainer from the mating line.

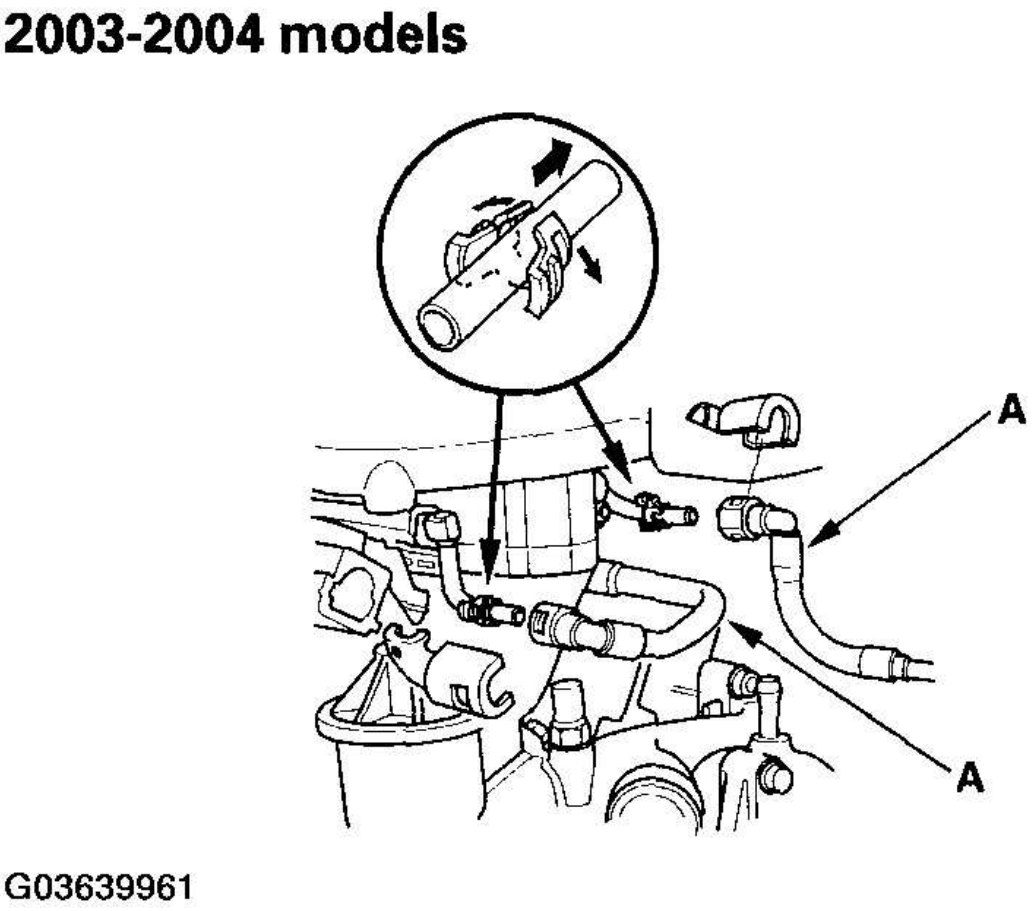

Fig. 46: Connecting Fuel Line/Quick-Connect Fitting Assembly (2003-04 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2005-2006 models

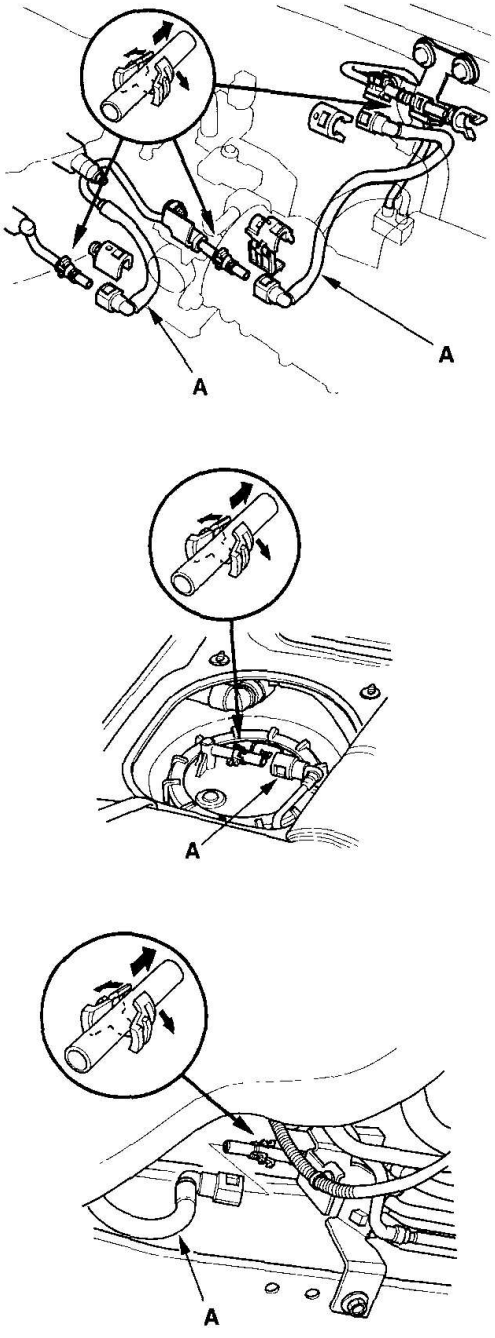

Fig. 47: Connecting Fuel Line/Quick-Connect Fitting Assembly (2005-06 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Align the quick-connect fittings with the line (A), and align the retainer (B) locking pawls with the

connector (C) grooves. Then press the quick-connect fittings onto the line until both retainer pawls lock with a clicking sound.

NOTE: If it is hard to connect, put a small amount of new engine oil on the line end.

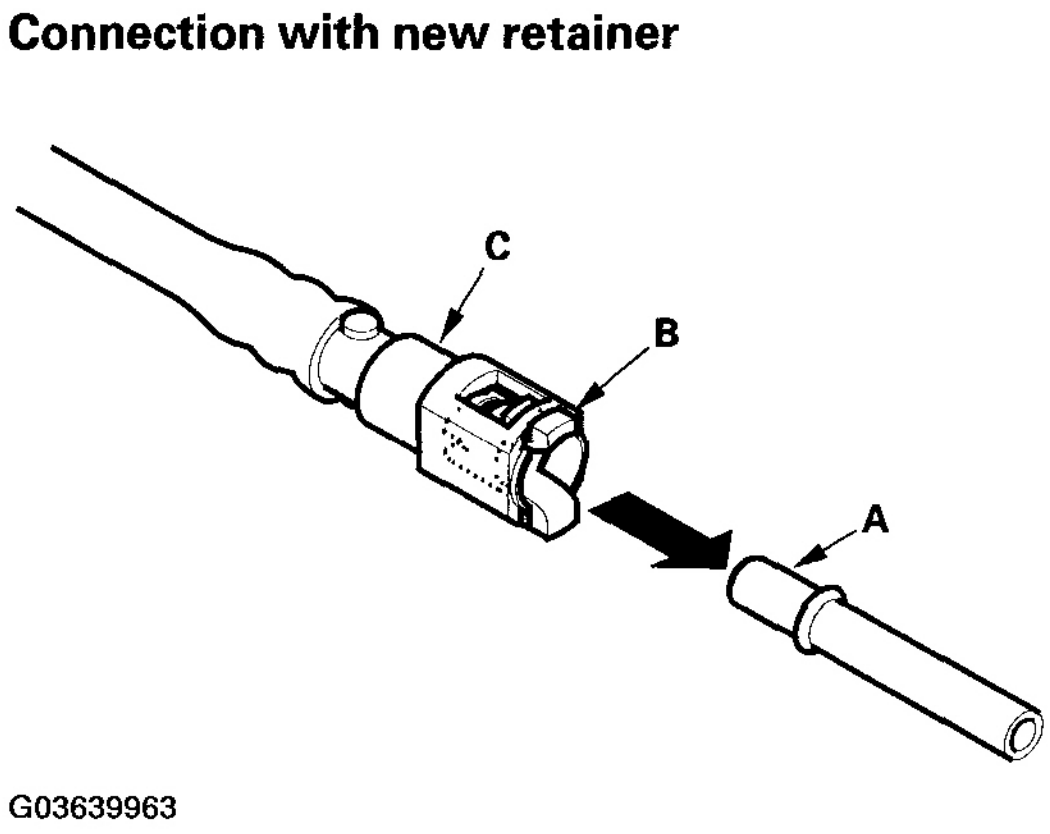

Fig. 48: Aligning Quick-Connect Fittings With Line (Connection With New Retainer)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

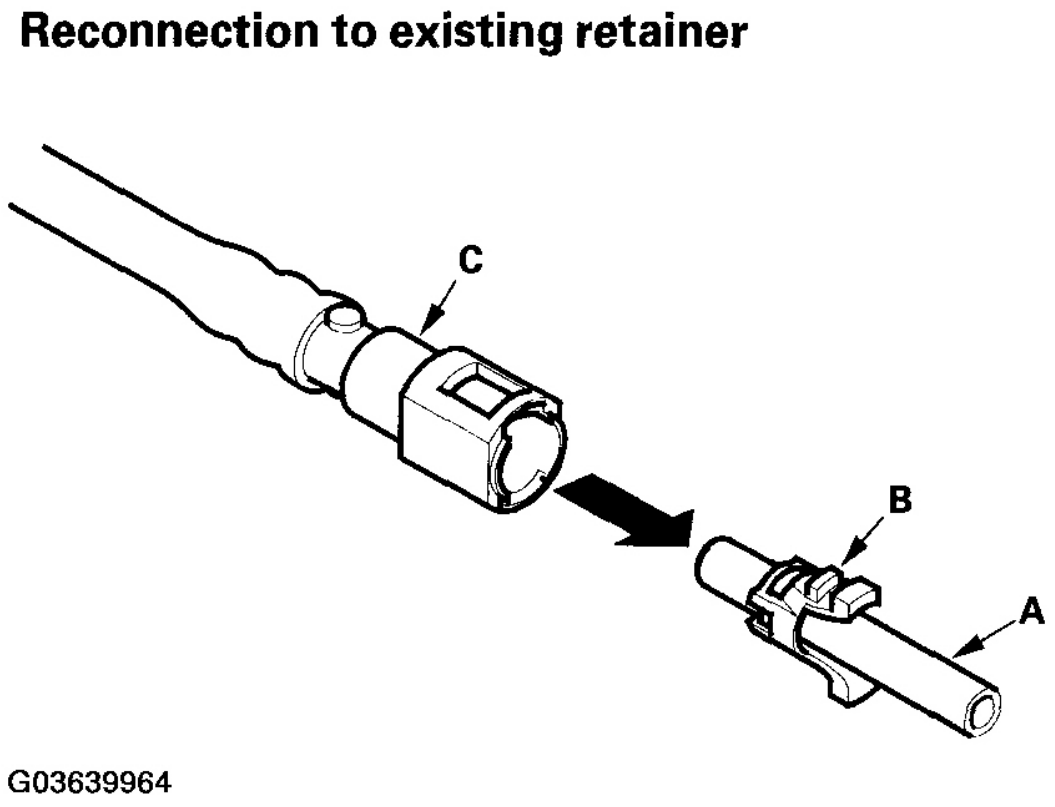

Fig. 49: Aligning Quick-Connect Fittings With Line (Reconnection To Existing Retainer)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

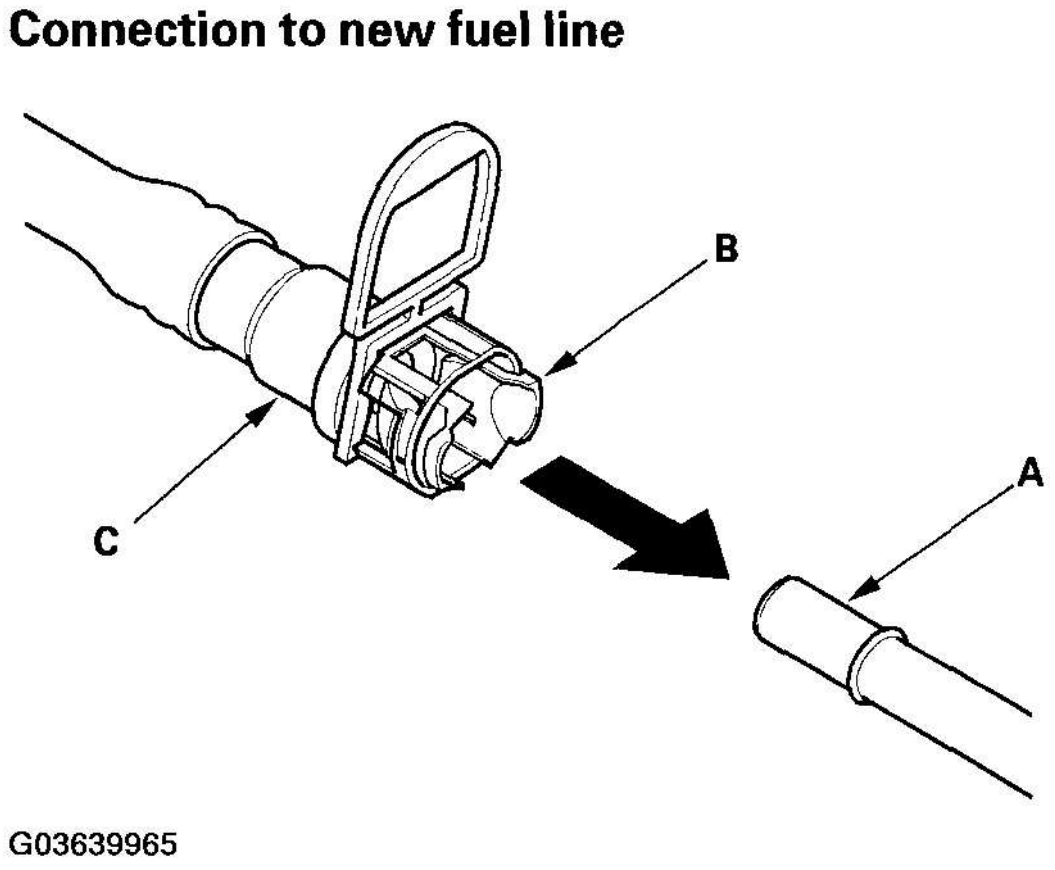

Fig. 50: Aligning Quick-Connect Fittings With Line (Connection To New Fuel Line)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. When you reconnect the connector with the old retainer, make sure the connection is secure and the tabs (A) are firmly locked into place; check visually and also by pulling the connector (B). When you replace the fuel line with a new one, make sure you remove the ring pull (C) upwards after you confirm the connection is secure.

NOTE: Before you remove the ring pull, make sure the fuel line connection is secure. If the connection is not secure, the ring pull could break when you try to remove it.

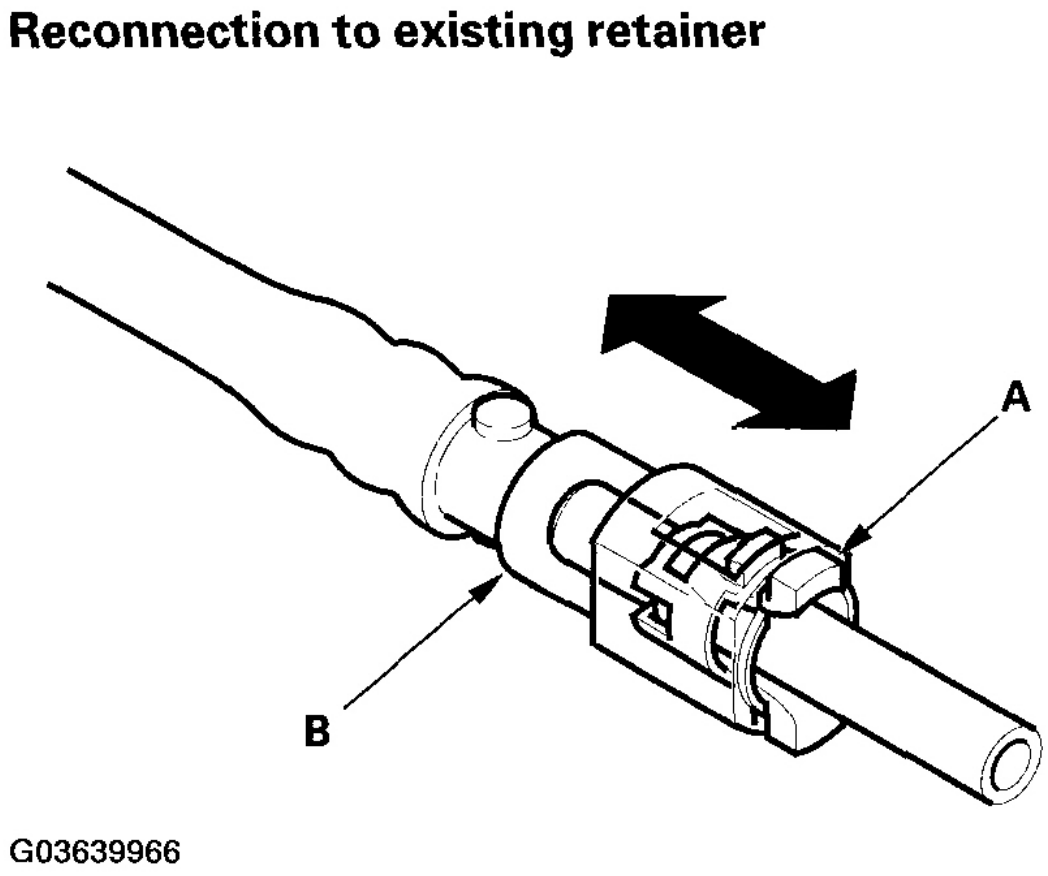

Fig. 51: Making Sure Connection Is Secure And Tabs Firmly Locked Into Place (Reconnection To Existing Retainer)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

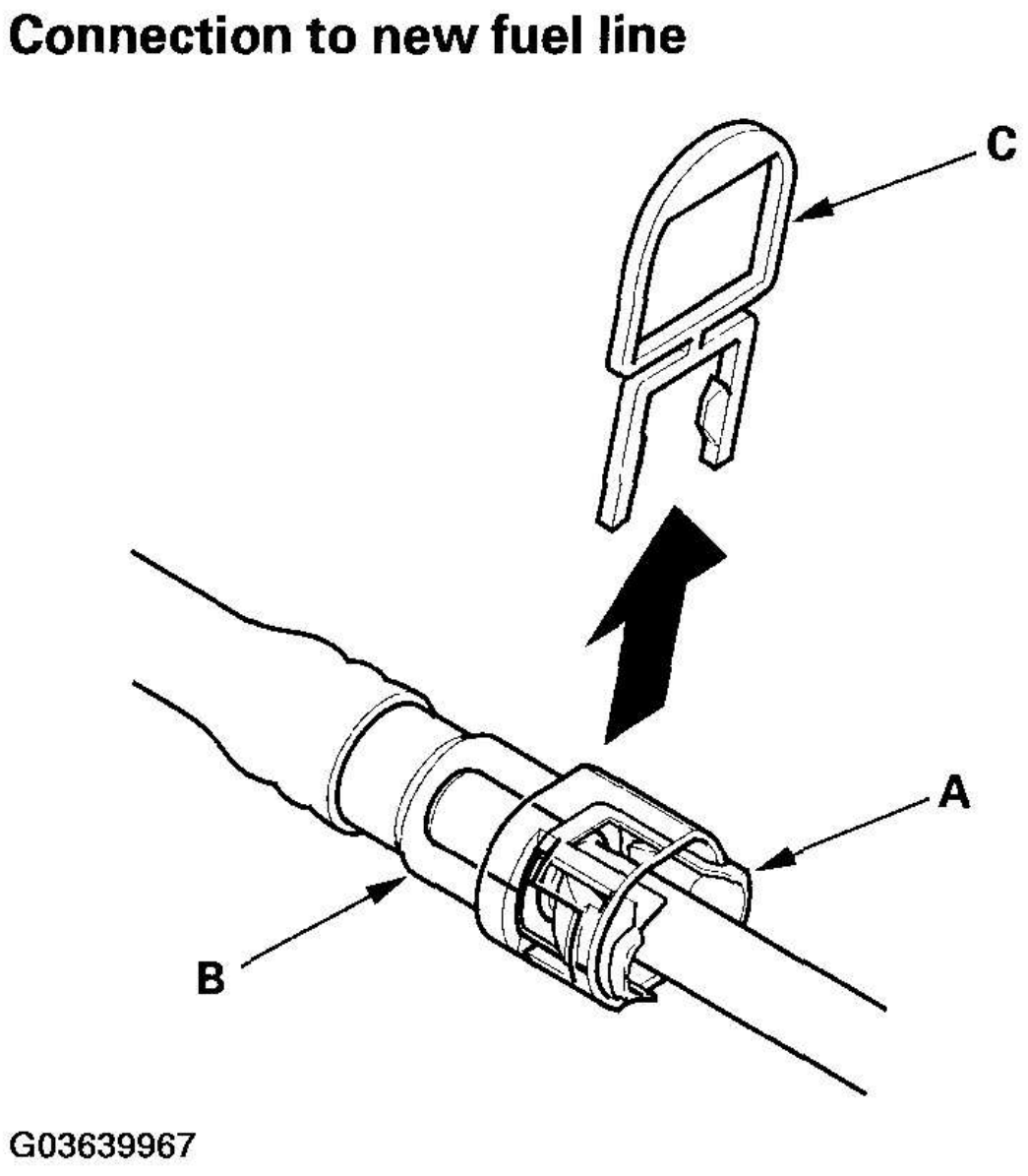

Fig. 52: Making Sure Connection Is Secure And Tabs Firmly Locked Into Place (Connection To New Fuel Line)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Turn the ignition switch ON (II). The fuel pump will run for about 2 seconds, and fuel pressure will rise. Repeat two or three times, and check that there is no leakage in the fuel supply system.

FUEL TANK UNIT REMOVAL/INSTALLATION

Special Tools Required

Fuel sender wrench 07AAA-S0XA100

1. Turn the ignition switch OFF.
2. Remove the driver's side second row seat (see **SECOND ROW SEAT REMOVAL/INSTALLATION**).
3. Cut the carpet at the dotted line (A). Be careful not to cut the wire harness under the carpet.

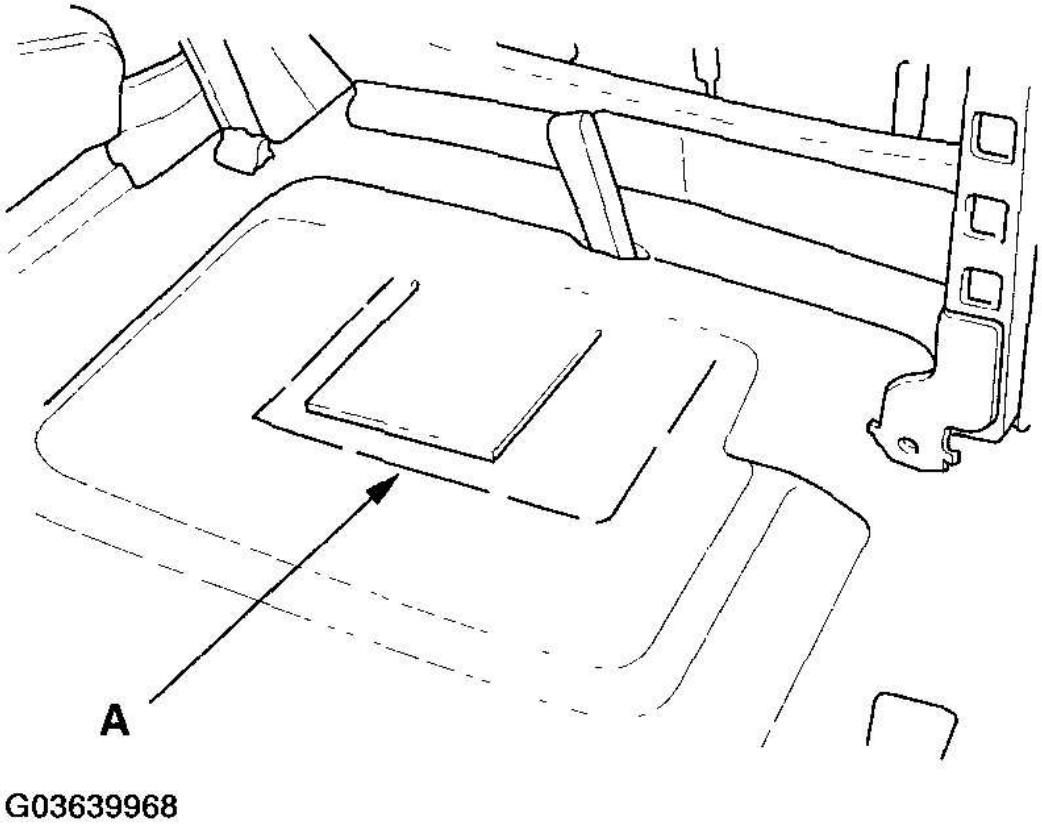

Fig. 53: Cutting Carpet At Dotted Line
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the access panel (A) from the floor, then disconnect the fuel pump 5P connector (B).

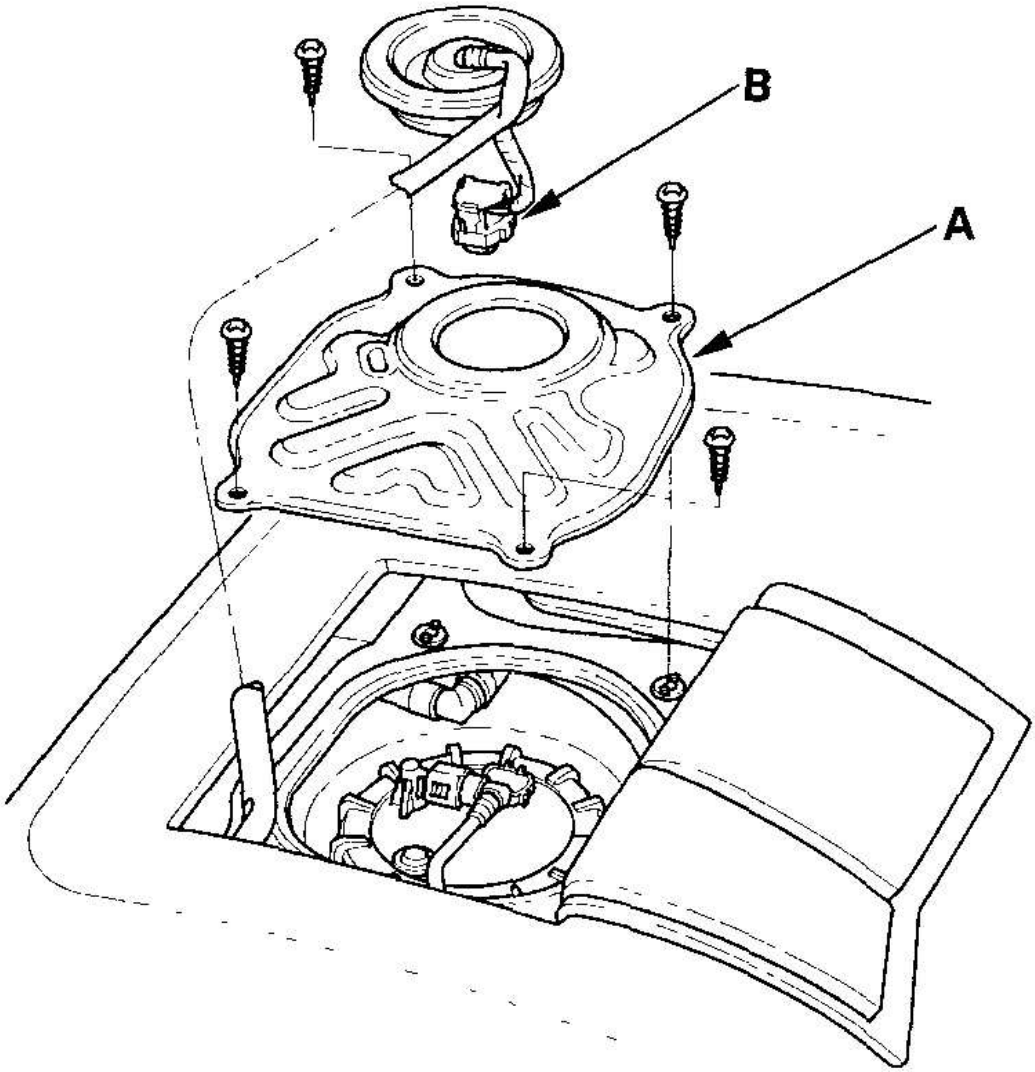

Fig. 54: Removing Access Panel From Floor
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Remove the fuel fill cap.
6. Relieve fuel pressure (see **FUEL PRESSURE RELIEVING**).
7. Disconnect the quick-connect fitting from the fuel tank unit.
8. Using the special tool, loosen the fuel tank unit locknut (A).

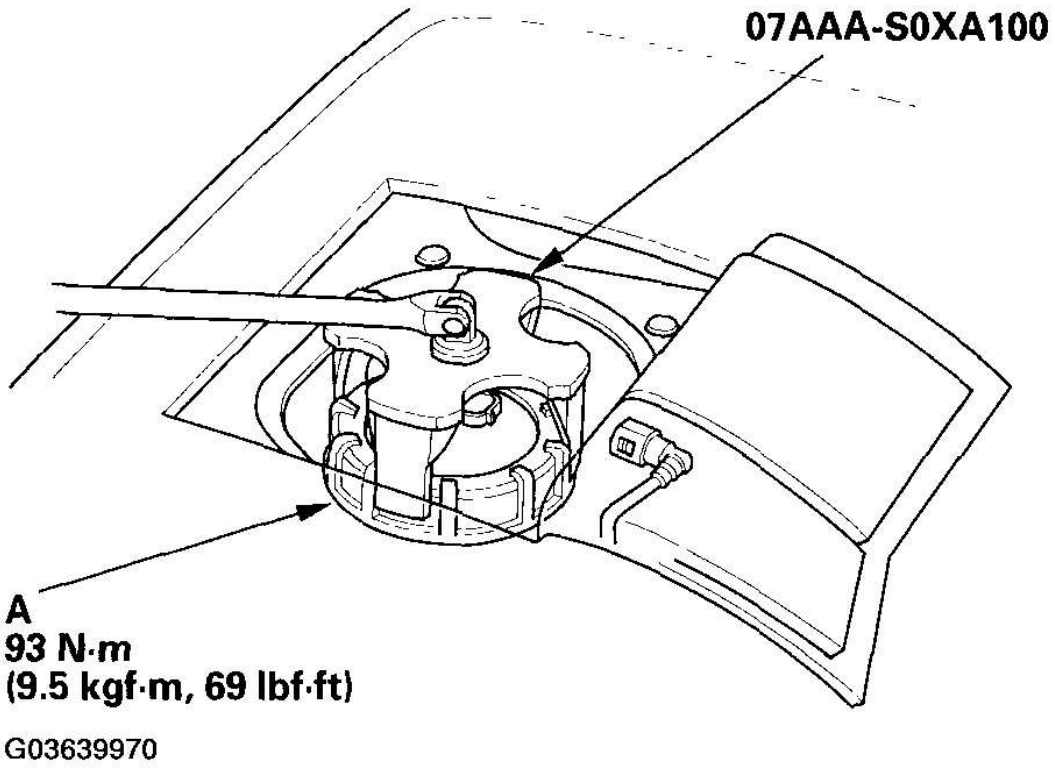

Fig. 55: Loosening Fuel Tank Unit Locknut Using Special Tool
Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Remove the locknut (A) and fuel tank unit (B).

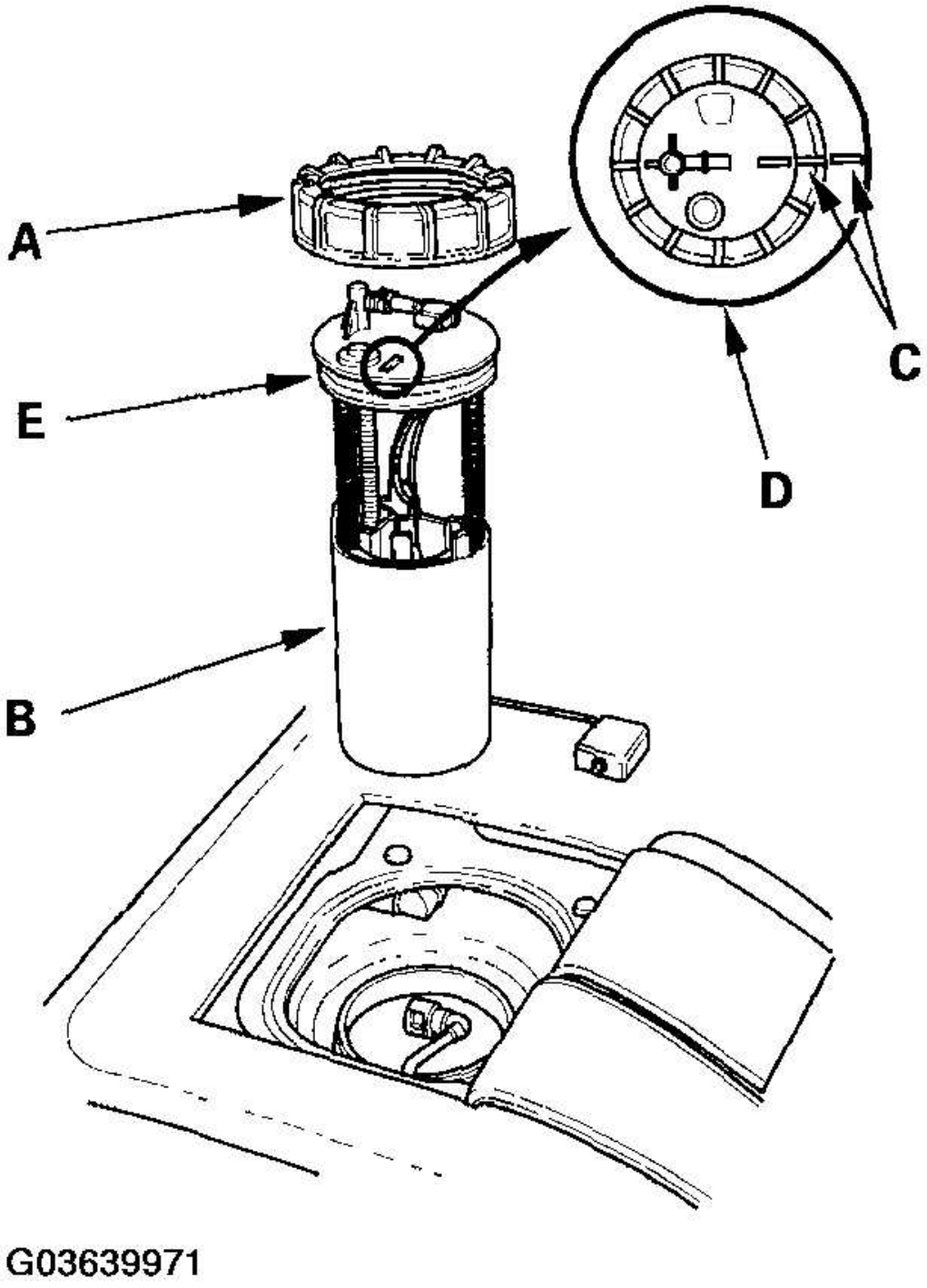

Fig. 56: Removing Locknut And Fuel Tank Unit

Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Align the marks (C) on the fuel tank (D) and the fuel tank unit, then install the fuel tank unit in the reverse order of removal with a new gasket (E).

FUEL GAUGE SENDING UNIT TEST

Special Tools Required

Fuel sender wrench 07AAA-S0XA100

NOTE: For the fuel gauge sending system circuit diagram, refer to CIRCUIT DIAGRAM .

1. Check the No. 9 BACK UP LIGHT INSTRUMENT LIGHT (10 A) fuse in the driver's under-dash fuse/ relay box before testing.
2. Turn the ignition switch OFF.
3. Remove the driver's side second row seat (see **SECOND ROW SEAT REMOVAL/INSTALLATION**).
4. Cut the carpet, then remove the access panel from the floor (see **FUEL TANK UNIT REMOVAL/INSTALLATION**).
5. Disconnect the fuel pump 5P connector (A).

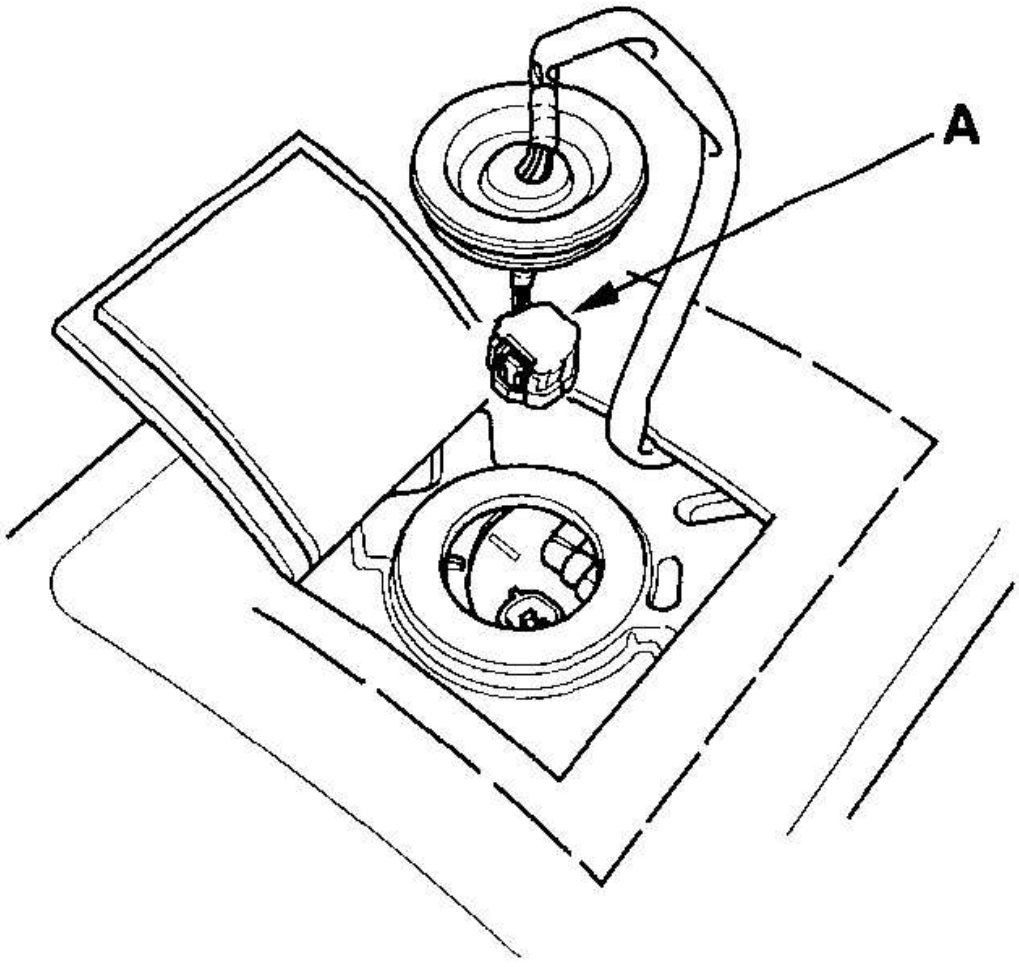

Fig. 57: Disconnecting Fuel Pump 5P Connector
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Measure voltage between fuel pump 5P connector terminals No. 1 and No. 2 with the ignition switch ON (II). There should be between 5 and 8 V.
   - If the voltage is as specified, go to step 7.
   - If the voltage is not as specified, check for:
     - an open in the YEL/BLU or BLK wire.
     - poor ground (G501).

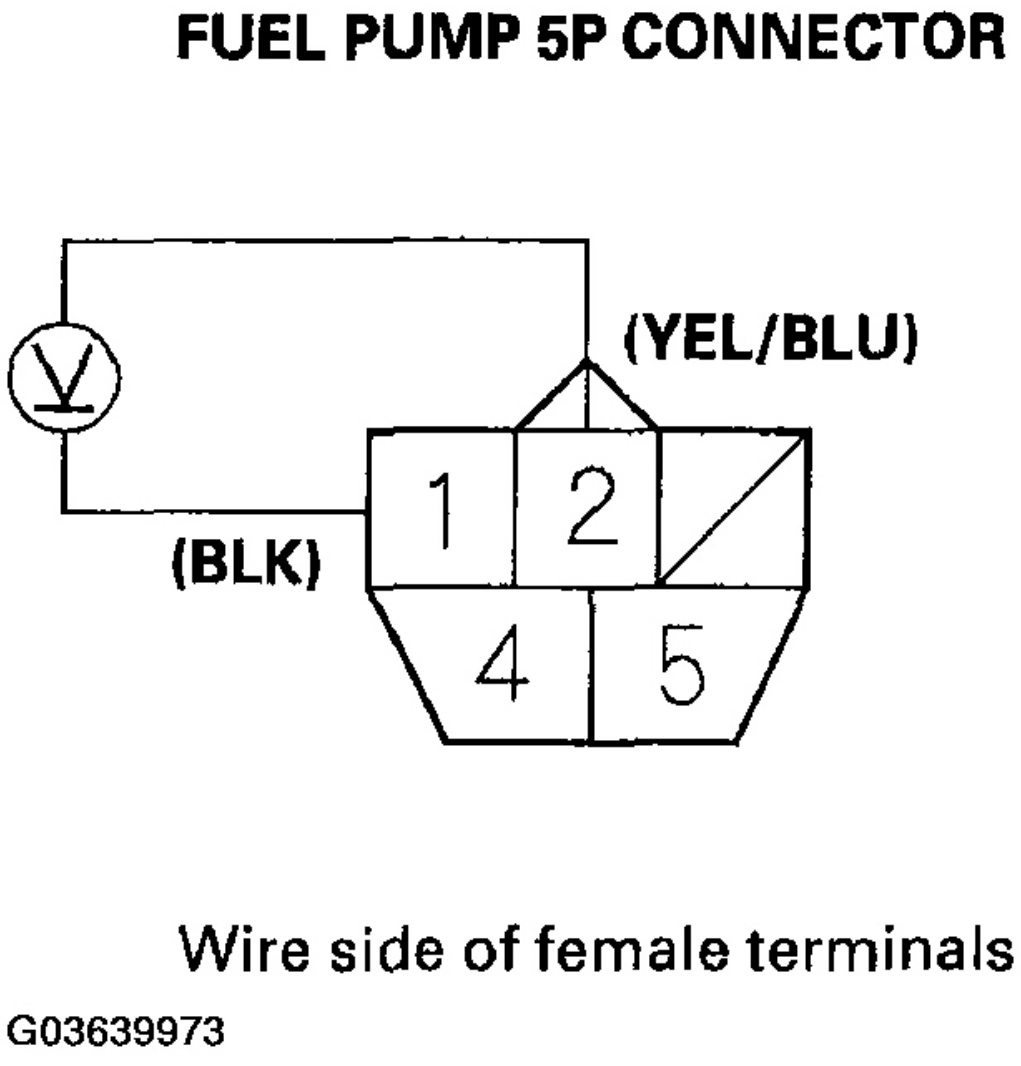

Fig. 58: Measuring Voltage Between Fuel Pump 5P Connector Terminals 1 And 2 With Ignition Switch ON (II)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Turn the ignition switch OFF.
8. Install a 2 ohm resistor between fuel pump 5P connector terminals No. 1 and No. 2.

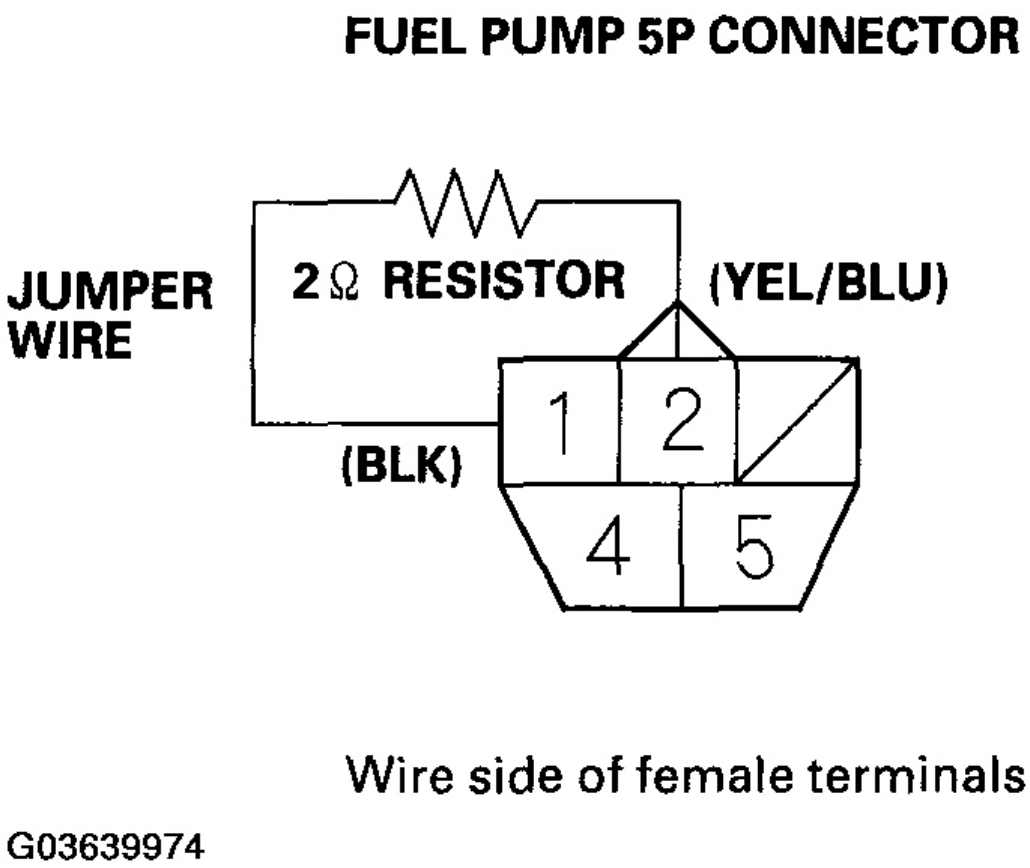

Fig. 59: Installing A 2 ohm Resistor Between Fuel Pump 5P Connector Terminals 1 And 2
Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Turn the ignition switch ON (II).
10. Check that the pointer of the fuel gauge indicates "F".
    - If the pointer of the fuel gauge does not indicate "F", replace the gauge.
    - If the gauge is OK, inspect the fuel gauge sending unit.

NOTE: The pointer of the fuel gauge returns to the bottom on the gauge dial when the ignition switch is OFF, regardless of the fuel level.

11. Turn the ignition switch OFF.
12. Remove the driver's side second row seat (see **SECOND ROW SEAT REMOVAL/INSTALLATION**).
13. Cut the carpet (be careful not to cut the wire harness), then remove the access panel from the floor (see

FUEL TANK UNIT REMOVAL/INSTALLATION).

14. Disconnect the fuel pump 5P connector.
15. Remove the fuel fill cap.
16. Relieve the fuel pressure (see **FUEL PRESSURE RELIEVING**).
17. Disconnect the quick-connect fittings from the fuel tank unit.
18. Using the special tool, loosen the fuel tank unit locknut (A). Remove the fuel tank unit.

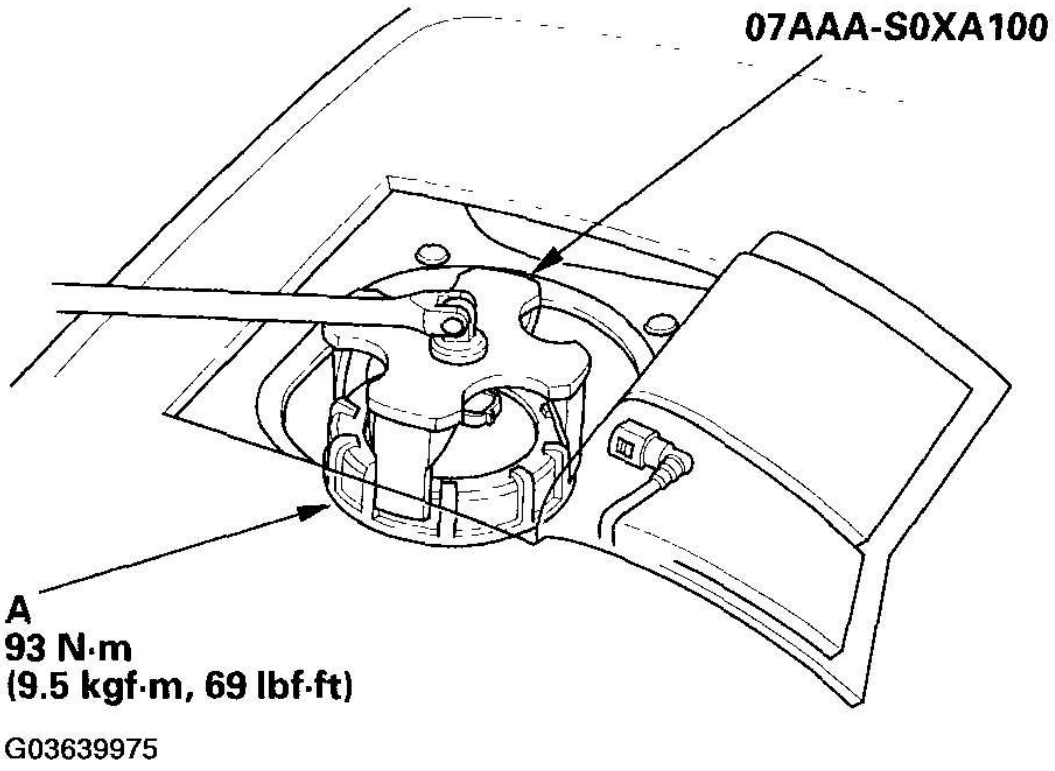

Fig. 60: Loosening Fuel Tank Unit Locknut Using Special Tool
Courtesy of AMERICAN HONDA MOTOR CO., INC.

19. Measure resistance between the No. 1 and No. 2 terminals with the float at E (EMPTY), L (LOW), 1/2 (HALF FULL), and F (FULL) positions. If you do not get the following readings, replace the fuel gauge sending unit.

FUEL LEVEL RESISTANCE REFERENCE

Float Position	Resistance (ohm)	
	2003-2004 models	2005-2006 models
F	11-13	19-21
1/2	51.1-51.7	185-195

LOW	101-116	484-613
E	130-132	770-790

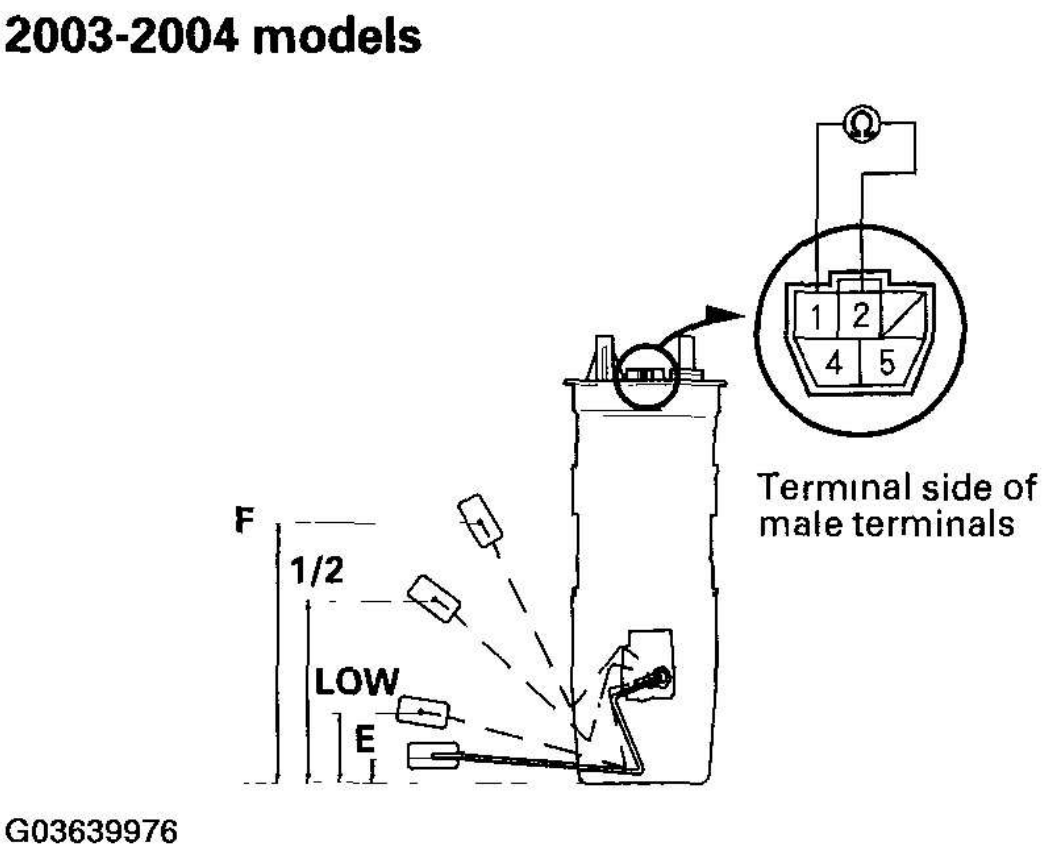

Fig. 61: Measuring Resistance Between Terminals 1 And 2 With Float At E (EMPTY), L (LOW), 1/2 (HALF FULL), And F (FULL) Positions (2003-04 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2005-2006 models

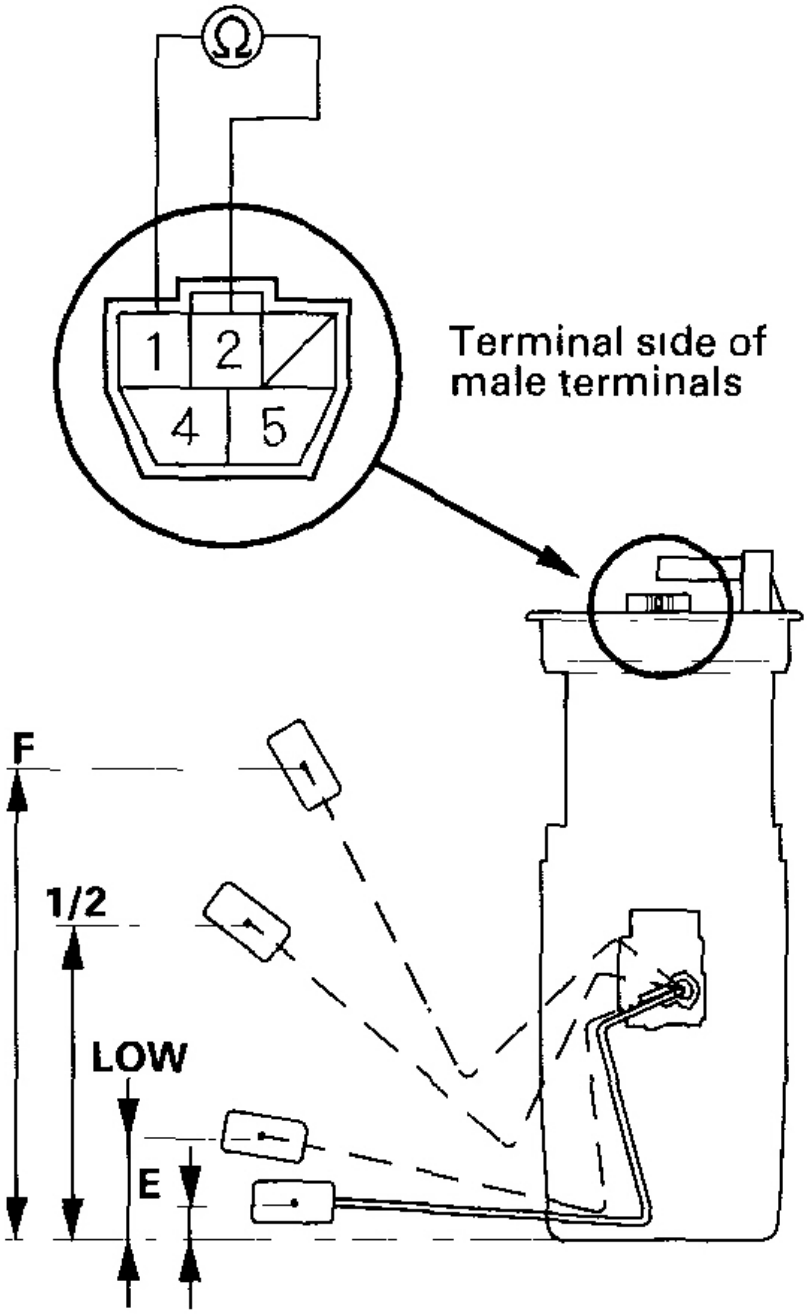

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Fig. 62: Measuring Resistance Between Terminals 1 And 2 With Float At E (EMPTY), L (LOW), 1/2 (HALF FULL), And F (FULL) Positions (2005-06 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. If the resistance is not as specified, replace the fuel gauge sending unit (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT**).

FUEL PRESSURE REGULATOR REPLACEMENT

1. Remove the fuel tank unit (see **FUEL TANK UNIT REMOVAL/INSTALLATION**).
2. Remove the clip (A).

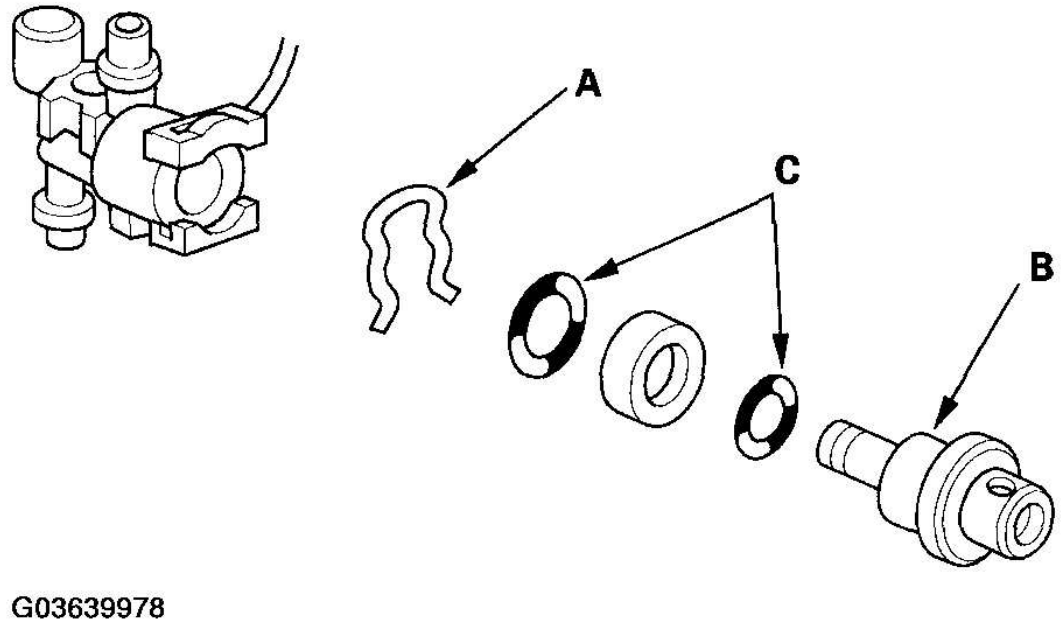

Fig. 63: Removing Clip
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the fuel pressure regulator (B).
4. Install the regulator in the reverse order of removal with new O-rings (C).

FUEL FILTER REPLACEMENT

The fuel filter should be replaced whenever the fuel pressure drops below the specified value (see **FUEL PRESSURE TEST**), after making sure that the fuel pump and the fuel pressure regulator are OK.

1. Remove the fuel tank unit (see **FUEL TANK UNIT REMOVAL/INSTALLATION**).

2. Remove the fuel filter set (A).

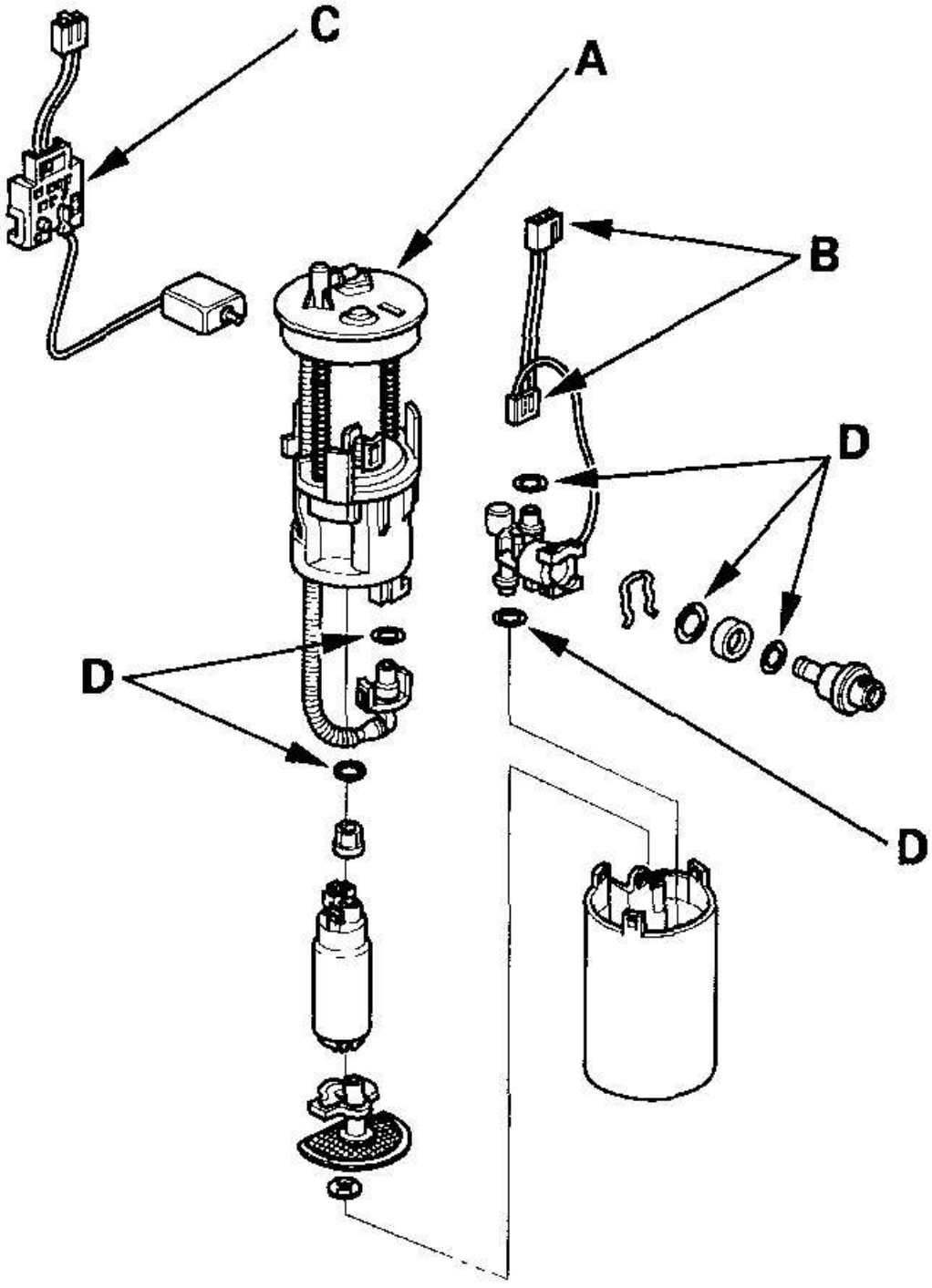

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Fig. 64: Removing Fuel Filter Set
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Check these items before installing the fuel tank unit:
   - When connecting the wire harness, make sure the connection is secure and the connectors (B) are firmly locked into place.
   - When installing the fuel gauge sending unit (C), make sure the connection is secure and the connector is firmly locked into place. Be careful not to bend or twist it excessively.
4. Install the part in the reverse order of removal with new O-rings (D). When installing the fuel tank unit, align the marks on the unit and the fuel tank (see **FUEL TANK UNIT REMOVAL/INSTALLATION**).

FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT

1. Remove the fuel tank unit (see **FUEL TANK UNIT REMOVAL/INSTALLATION**).
2. Remove the fuel filter (A), the fuel level sensor (fuel gauge sending unit) (B), the case (C), the wire harness (D), and the fuel pressure regulator (E).

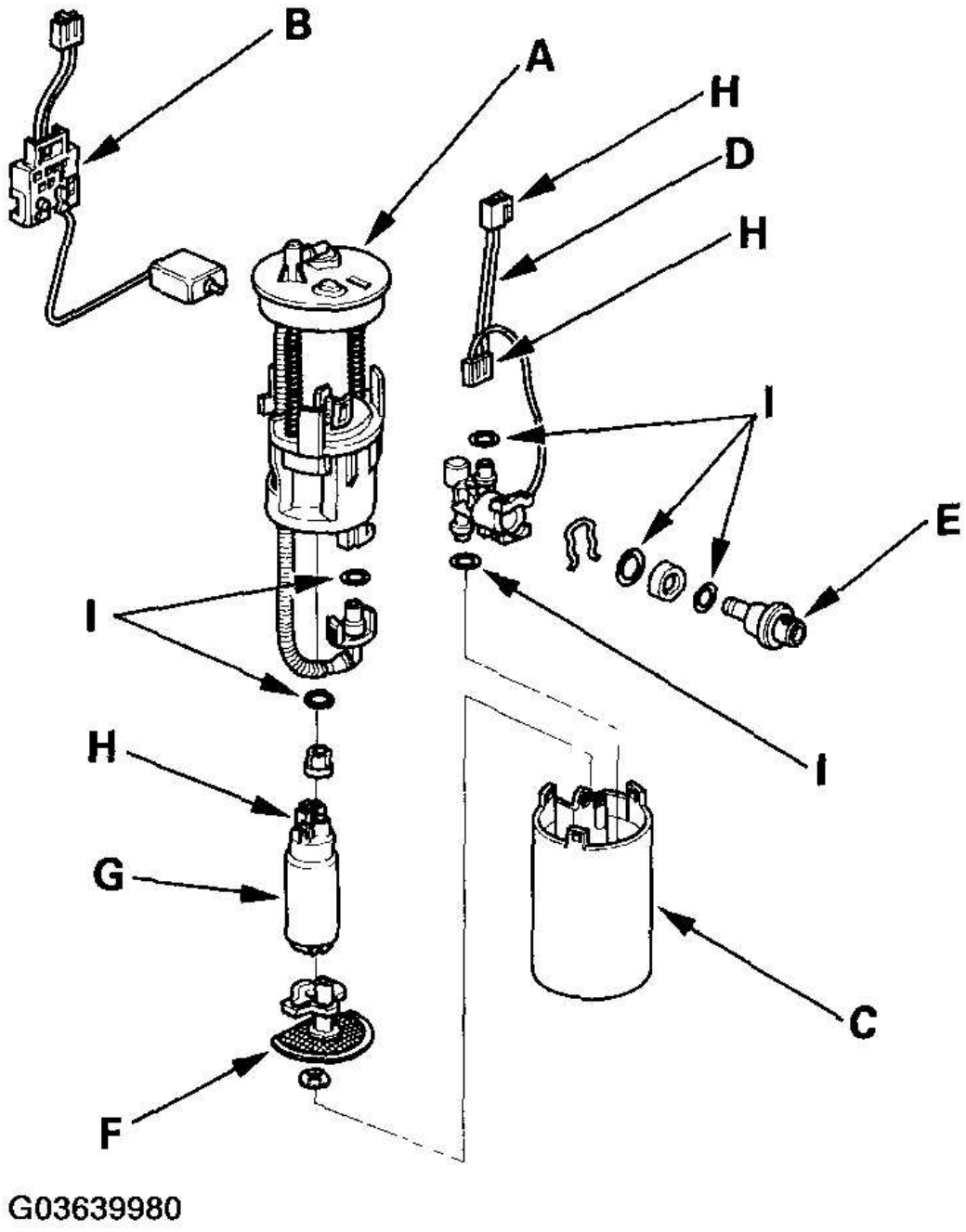

Fig. 65: Removing Fuel Filter, Fuel Level Sensor (Fuel Gauge Sending Unit), Case, Wire Harness And Fuel Pressure Regulator
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. When connecting the fuel pump assembly, make sure the connection is secure and the suction filter (F) is

firmly connected to the fuel pump (G).

4. Check these items before installing the fuel tank unit:
   - When connecting the wire harness, make sure the connection is secure and the connectors (H) are firmly locked into place.
   - When installing the fuel gauge sending unit (B), make sure the connection is secure and the connector is firmly locked into place. Be careful not to bend or twist it excessively.
5. Install the part in the reverse order of removal with new O-rings (I). When installing the fuel tank unit, align the marks on the unit and the fuel tank (see **FUEL TANK UNIT REMOVAL/INSTALLATION**).

LOW FUEL INDICATOR TEST

1. Do the fuel gauge sending unit test (see **FUEL GAUGE SENDING UNIT TEST**).
   - If the system is OK, go to step 2.
   - If the system has any malfunction, repair it.
2. Turn the ignition switch ON (II) with the float at the E (EMPTY) position.
   - If the low fuel indicator is on, go to step 3.
   - If the low fuel indicator is not on, refer to **CIRCUIT DIAGRAM** , and check the circuit.
3. Lift the float above the LOW position.
   - If the low fuel indicator goes off, the system is OK.
   - If the low fuel indicator is still on, refer to **CIRCUIT DIAGRAM** , and check the circuit.

FUEL TANK REPLACEMENT

EXPLODED VIEW

2003-2004 models

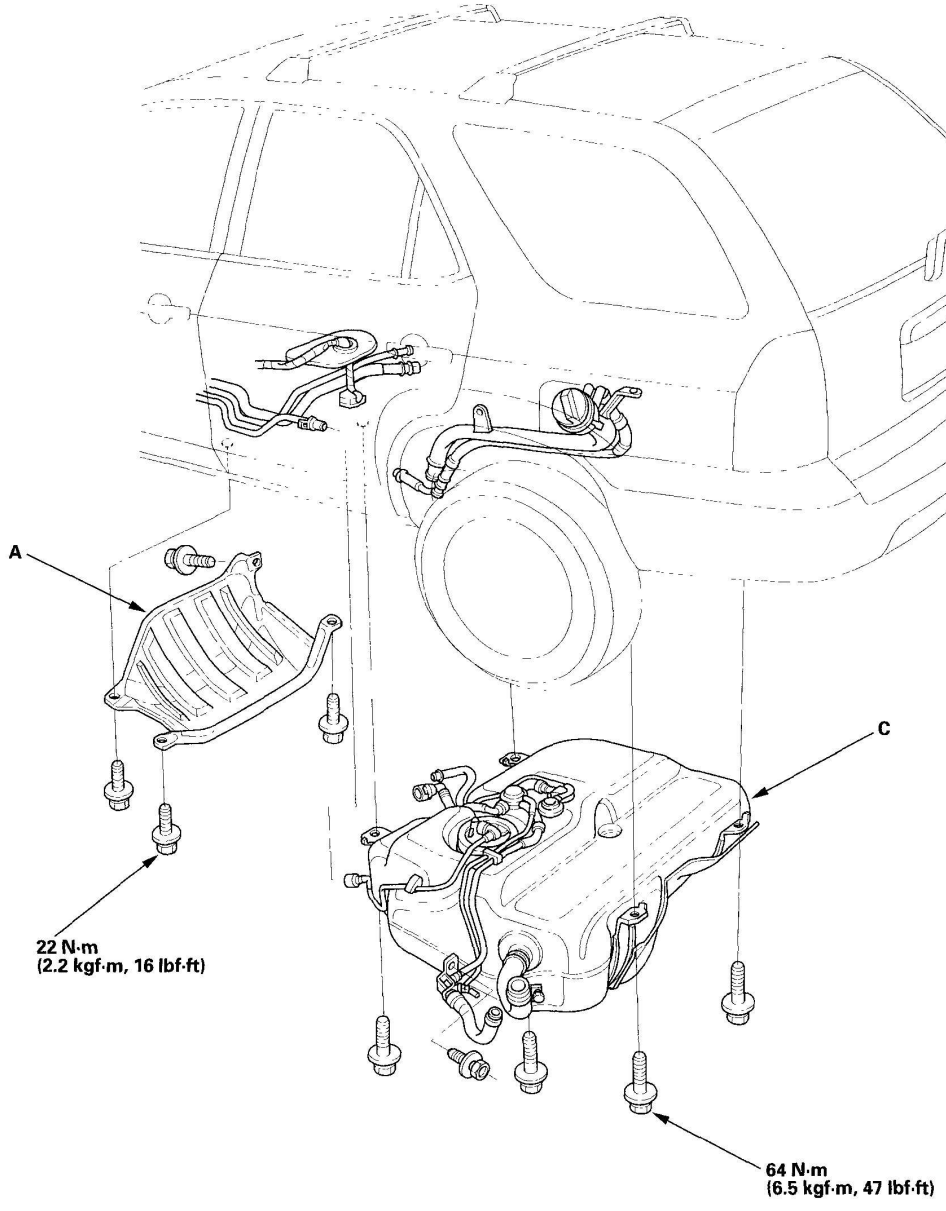

Fig. 66: Exploded View Of Fuel Tank (2003-04 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2005-2006 models

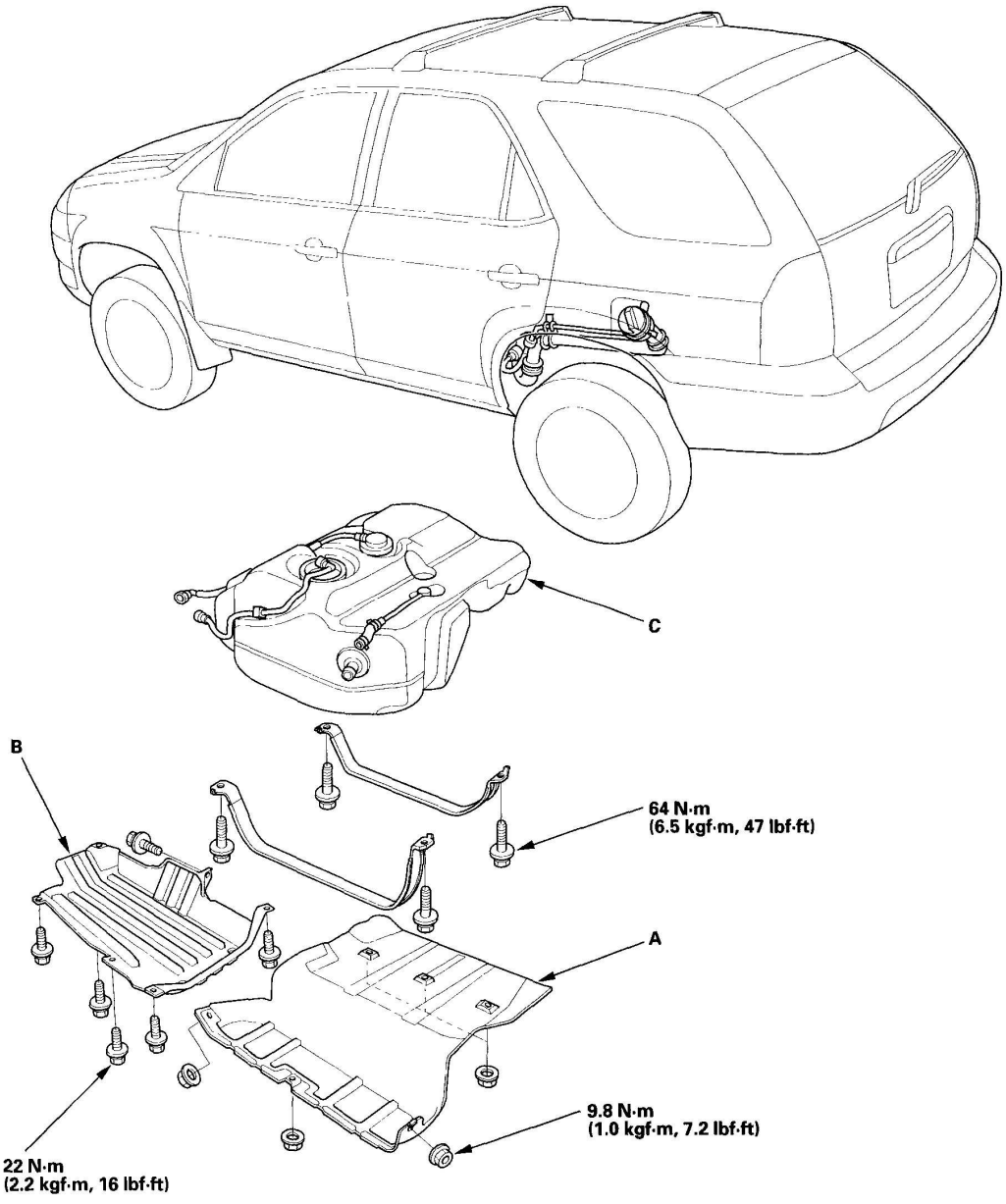

Fig. 67: Exploded View Of Fuel Tank (2005-06 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

1. Relieve the fuel pressure (see **FUEL PRESSURE RELIEVING**).
2. Remove the fuel fill cap.
3. Remove the driver's side second row seat (see **SECOND ROW SEAT REMOVAL/INSTALLATION**)

and cut the carpet (see **FUEL TANK UNIT REMOVAL/INSTALLATION**).

4. Remove the access panel from the floor, and disconnect the fuel tank 5P connector.
5. Remove the fuel tank unit (see **FUEL TANK UNIT REMOVAL/INSTALLATION**).
6. Siphon the fuel from the fuel tank into a suitable container with a hand pump.
7. Reinstall the fuel tank unit (see **FUEL TANK UNIT REMOVAL/INSTALLATION**).
8. Jack up the vehicle, and support it with jackstands.
9. Remove the propeller shaft (see **PROPELLER SHAFT REMOVAL**).
10. Remove the fuel tank shield (A).
11. Remove the canister cover (B). (2005-2006 models)
12. Disconnect the fuel vapor hose and quick-connect fitting. Disconnect the hoses. Slide back the clamps, then twist the hoses as you pull to avoid damaging them.
13. Place a jack, or other support, under the tank.
14. Remove the strap bolts.
15. Remove the fuel tank (C). If it sticks to the undercoat on its mount, carefully pry it off the mount.
16. Install the remaining parts in the reverse order of removal.