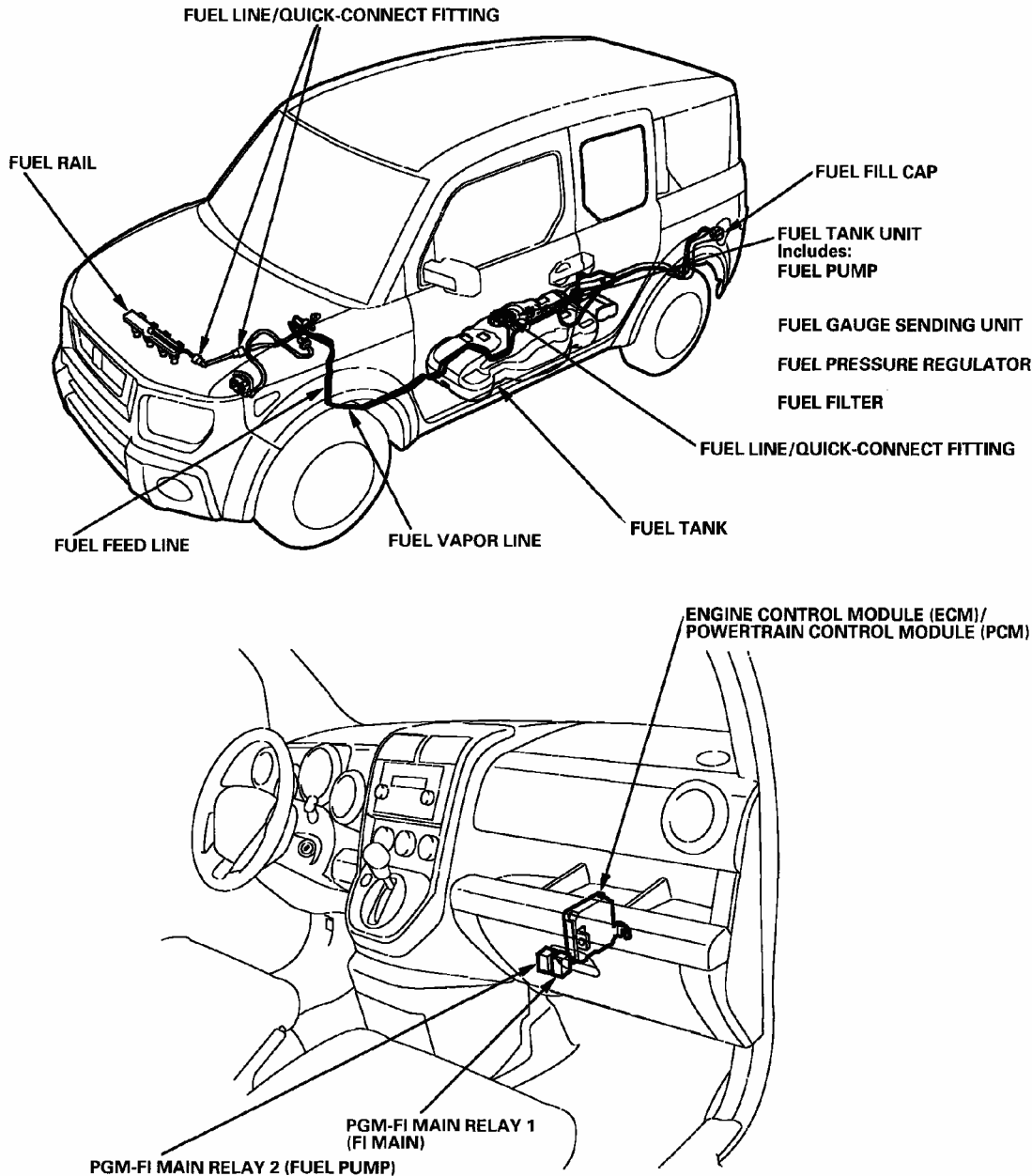


2003-06 ENGINE PERFORMANCE

Fuel Supply System - Element

COMPONENT LOCATION INDEX



G03677713

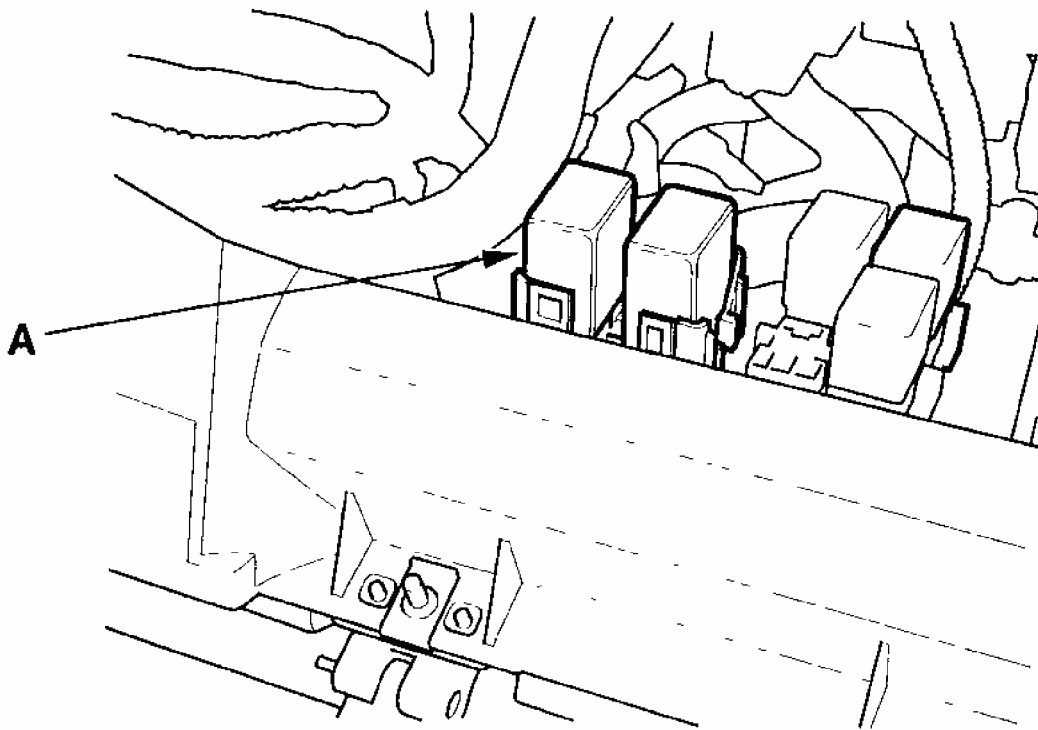
**Fig. 1: Identifying Fuel And Emissions Components**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

**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:

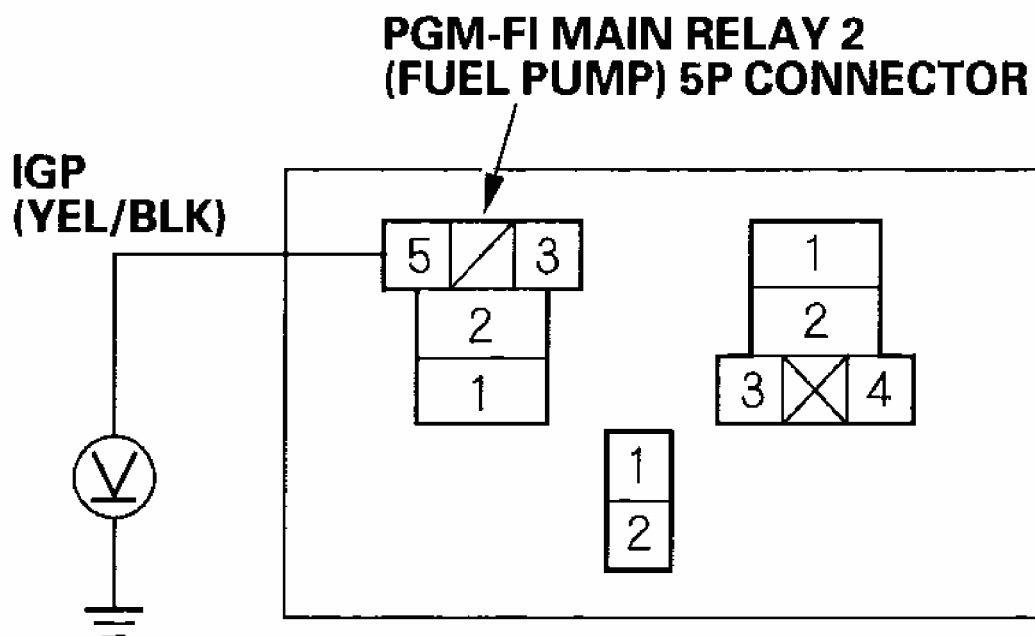
1. Turn the ignition switch OFF.
2. Remove the glove box (see **GLOVE BOX REMOVAL/INSTALLATION** ), then remove PGM-FI main relay 2 (FUEL PUMP) (A).



G03677714

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

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



Wire side of female terminals

G03677715

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

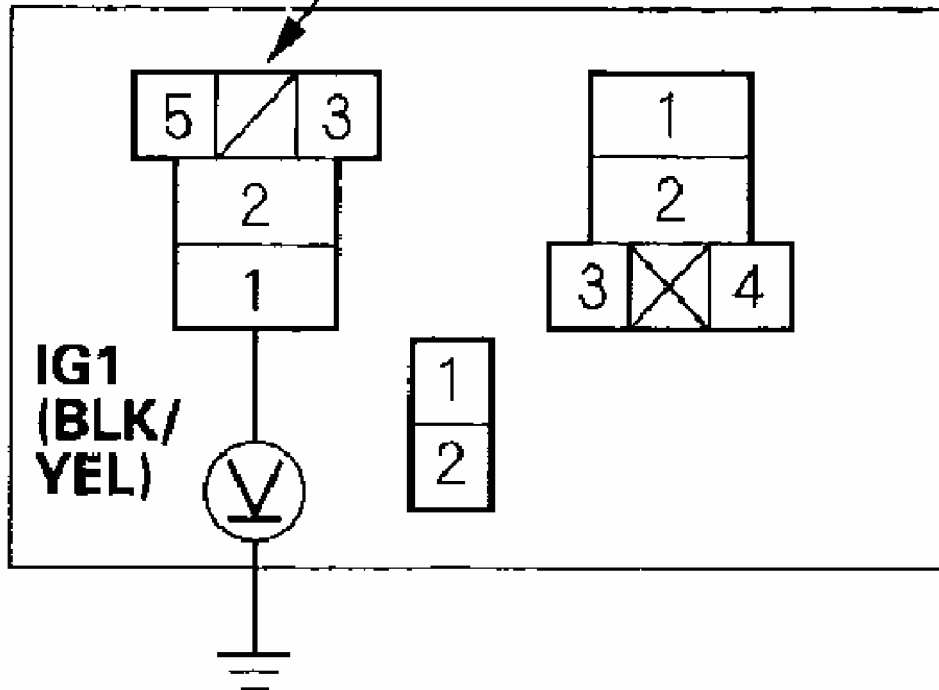
*Is there battery voltage?*

**YES-** Go to step 5.

**NO-** Repair open in the wire between PGM-FI main relay 1 (FI MAIN) and PGM-FI main relay 2 (FUEL PUMP).

5. Measure voltage between PGM-FI main relay 2 (FUEL PUMP) 5P connector terminal No. 1 and body ground.

## PGM-FI MAIN RELAY 2 (FUEL PUMP) 5P CONNECTOR



Wire side of female terminals

G03677716

**Fig. 4: Measuring Voltage Between PGM-FI Main Relay 2 (Fuel Pump) 5P Connector Terminal And Body Ground**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

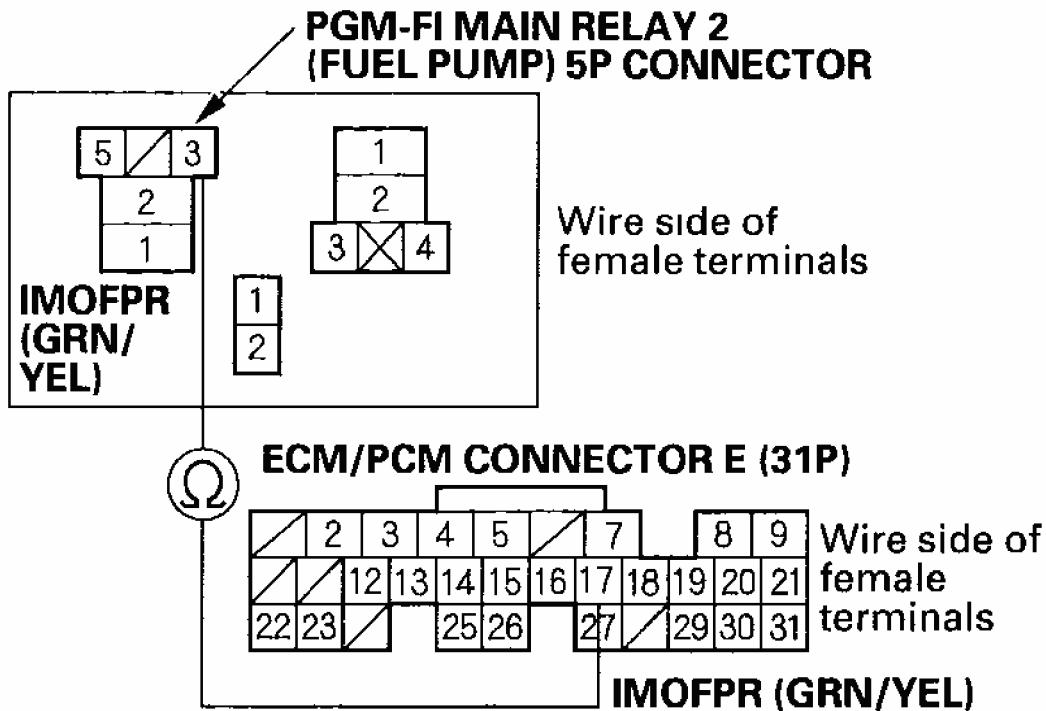
*Is there battery voltage?*

**YES-** Go to step 6.

**NO-** Repair open in the wire between the under-dash fuse/relay box No. 17 FUEL PUMP (15 A) fuse and PGM-FI main relay 2 (FUEL PUMP).

6. Turn the ignition switch OFF.
7. Jump the SCS line with the HDS.

8. Disconnect ECM/PCM connector E (31P).
9. Check for continuity between PGM-FI main relay 2 (FUEL PUMP) 5P connector terminal No. 3 and ECM/PCM connector terminal E17.



G03677717

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

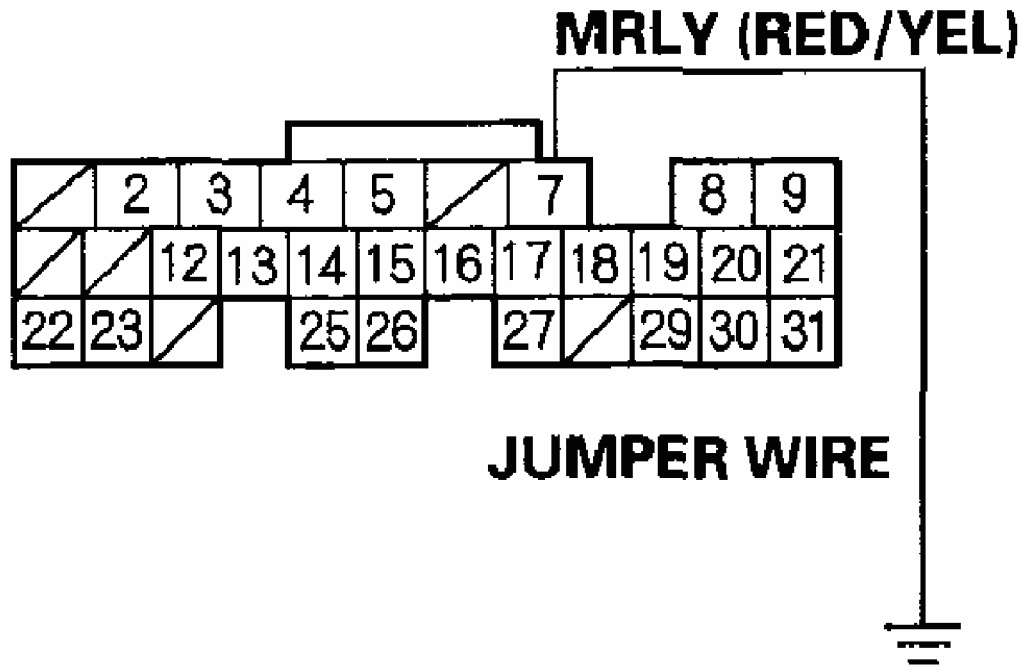
*Is there continuity?*

**YES-** Go to step 10.

**NO-** Repair open in the wire between PGM-FI main relay 2 (FUEL PUMP) and the ECM/PCM (E17).

10. Reinstall PGM-FI main relay 2 (FUEL PUMP).
11. Connect ECM/PCM connector terminal E7 to body ground with a jumper wire.

## ECM/PCM CONNECTOR E (31P)



Wire side of female terminals

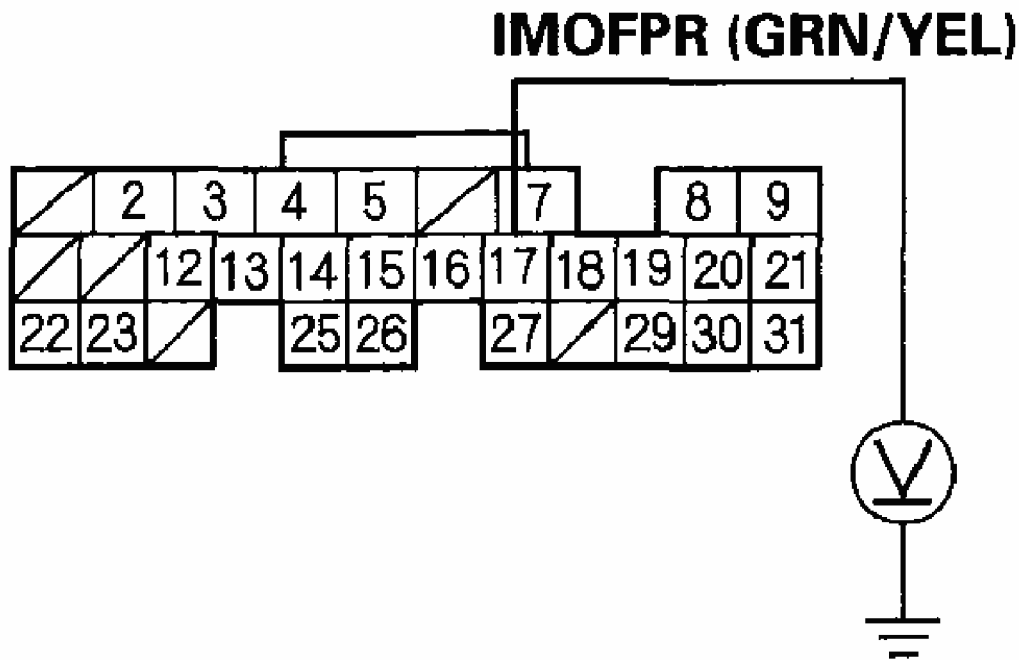
G03677718

**Fig. 6: Connecting ECM/PCM Connector Terminal E7 To Body Ground With Jumper Wire**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. Turn the ignition switch ON (II).
13. Measure voltage between ECM/PCM connector terminal E17 and body ground.

## ECM/PCM CONNECTOR E (31P)



### Wire side of female terminals

G03677719

**Fig. 7: Measuring Voltage Between ECM/PCM Connector Terminal E17 And Body Ground**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

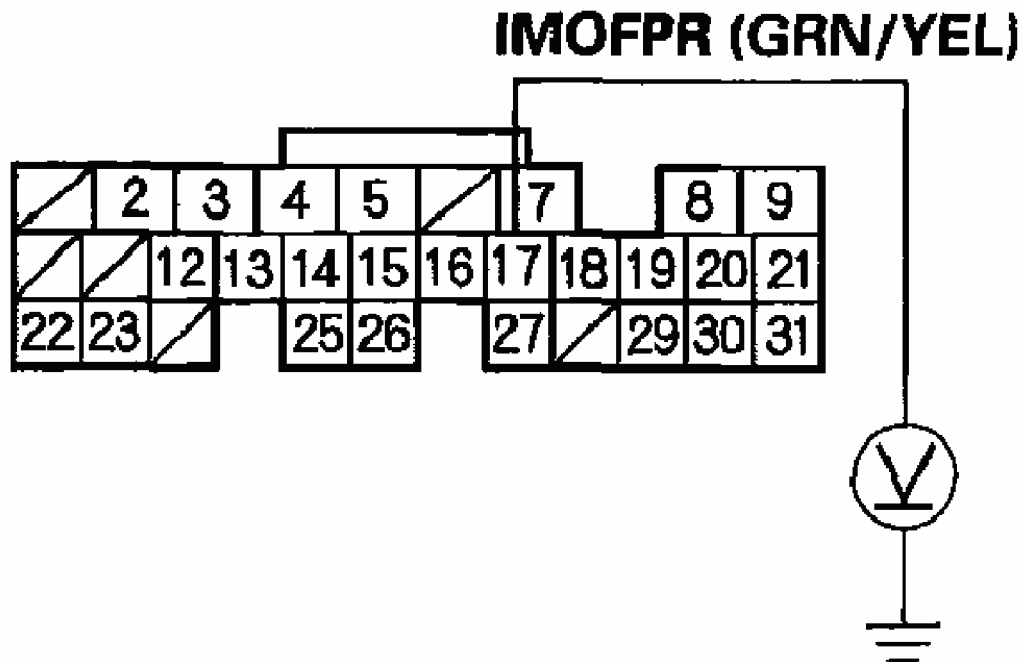
*Is there battery voltage?*

**YES-** Go to step 14.

**NO-** Replace PGM-FI main relay 2 (FUEL PUMP).

14. Turn the ignition switch OFF.
15. Remove the jumper wire, then reconnect ECM/PCM connector E (31P).
16. Open the SCS line with the HDS.
17. Turn the ignition switch ON (II), and measure voltage between ECM/PCM connector terminal E17 and body ground within 2 seconds.

## ECM/PCM CONNECTOR E (31P)



### Wire side of female terminals

G03677720

**Fig. 8: Measuring Voltage Between ECM/PCM Connector Terminal E17 And Body Ground**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

*Is there battery voltage for 2 seconds?*

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

**NO-** Go to step 18.

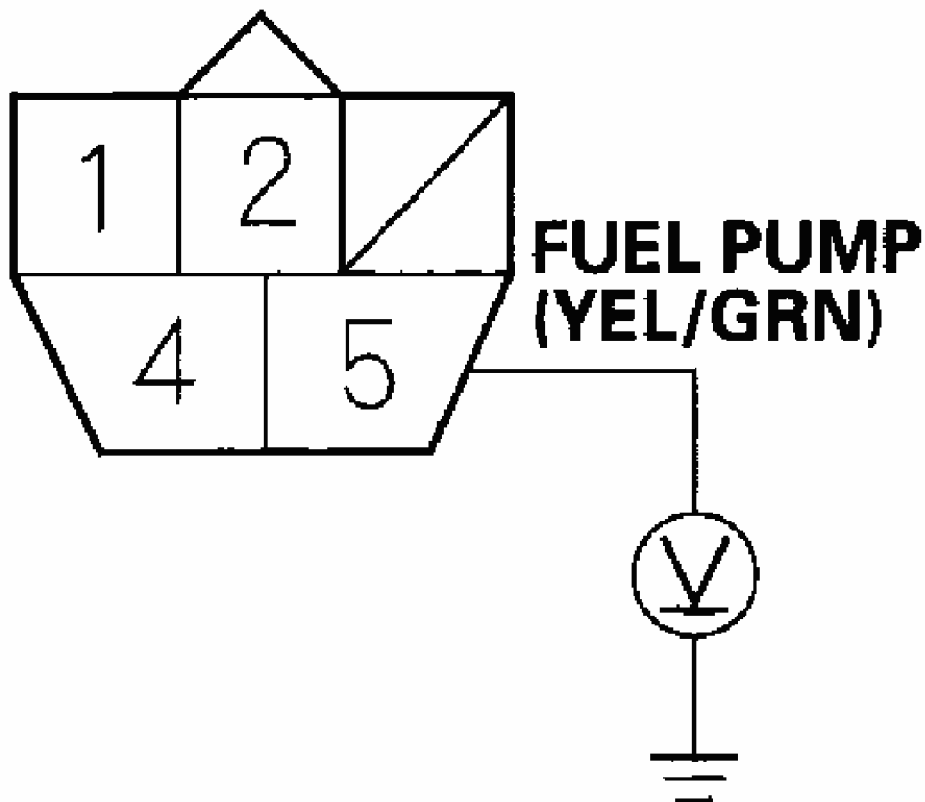
18. Turn the ignition switch OFF.
19. Remove the center console (see CENTER CONSOLE



**REMOVAL/INSTALLATION** ), both track floor coverings (see **FRONT FLOOR COVERING** ), and both door sill trims (see **TRIM REMOVAL/INSTALLATION - DOOR AREAS** ).

20. Fold back the rear floor covering until the access panel is accessible (see **REAR FLOOR COVERING** ). Remove the access panel from the floor.
21. Turn the ignition switch ON (II), and measure voltage between fuel pump 5P connector terminal No. 5 and body ground within 2 seconds.

## FUEL PUMP 5P CONNECTOR



**Wire side of female terminals**

G03677721

**Fig. 9: Measuring Voltage Between Fuel Pump 5P Connector Terminal And Body**

**Ground**

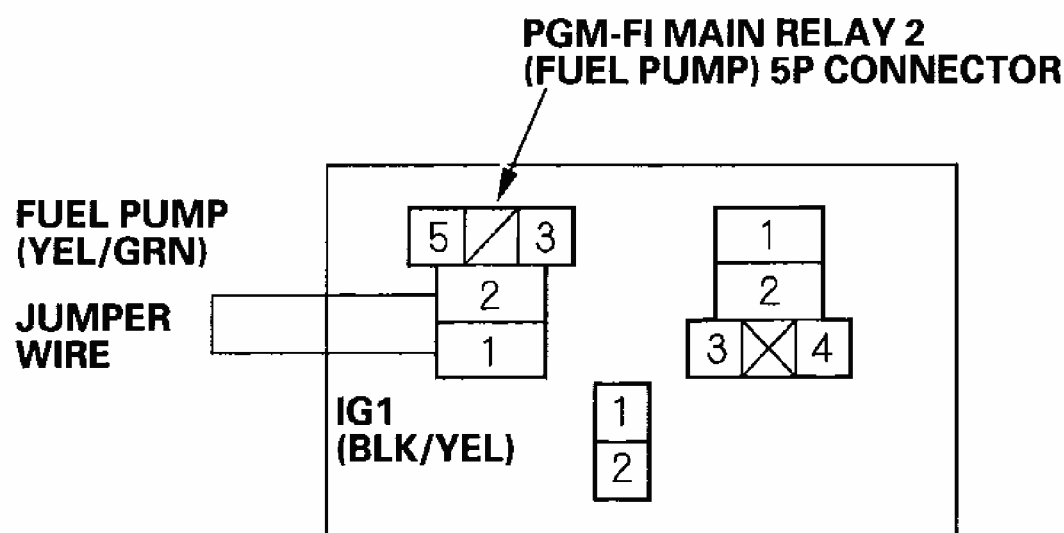
Courtesy of AMERICAN HONDA MOTOR CO., INC.

*Is there battery voltage for 2 seconds?*

**YES-** Go to step 27 .

**NO-** Go to step 22.

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



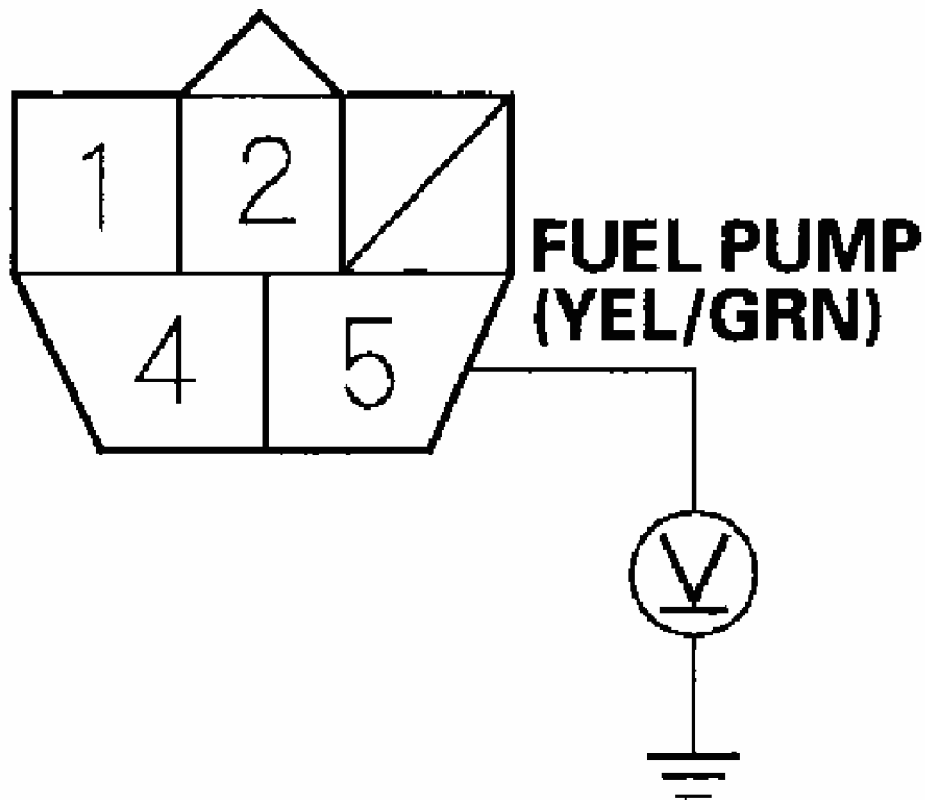
G03677722

**Fig. 10: Connecting PGM-FI Main Relay 2 (Fuel Pump) 5P Connector Terminals With Jumper Wire**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

## FUEL PUMP 5P CONNECTOR



### Wire side of female terminals

G03677723

**Fig. 11: Measuring Voltage Between Fuel Pump 5P Connector Terminal And Body Ground**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

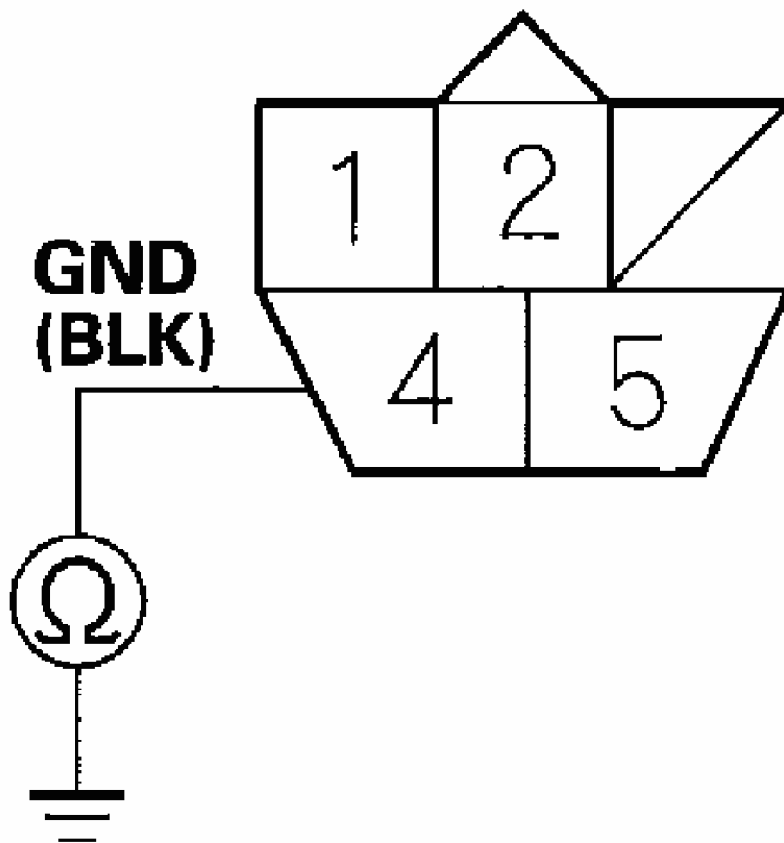
*Is there battery voltage?*

**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.

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

## FUEL PUMP 5P CONNECTOR



### Wire side of female terminals

G03677724

**Fig. 12: Checking Continuity Between Fuel Pump 5P Connector Terminal 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 G552.

## FUEL PRESSURE RELIEVING

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

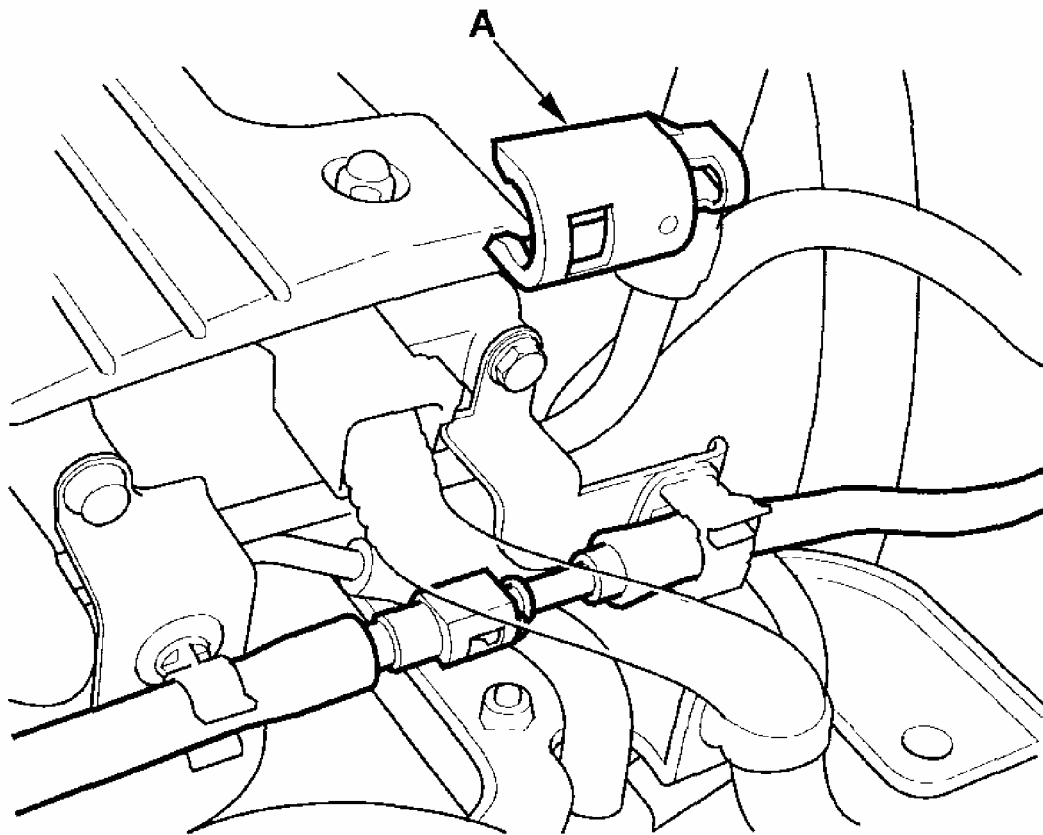
### WITH THE HDS

1. Make sure you have the anti-theft code for the radio, then write down the audio presets.
2. Remove the fuel fill cap, and relieve the pressure in the fuel tank.
3. Turn the ignition switch ON (II).
4. From the INSPECTION MENU of the HDS, select FUEL PUMP OFF, then start the engine, and let it idle until it stalls.

#### NOTE:

- Do not allow the engine to idle above 1,000 RPM or the ECM/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 needed (see GENERAL TROUBLESHOOTING INFORMATION ).

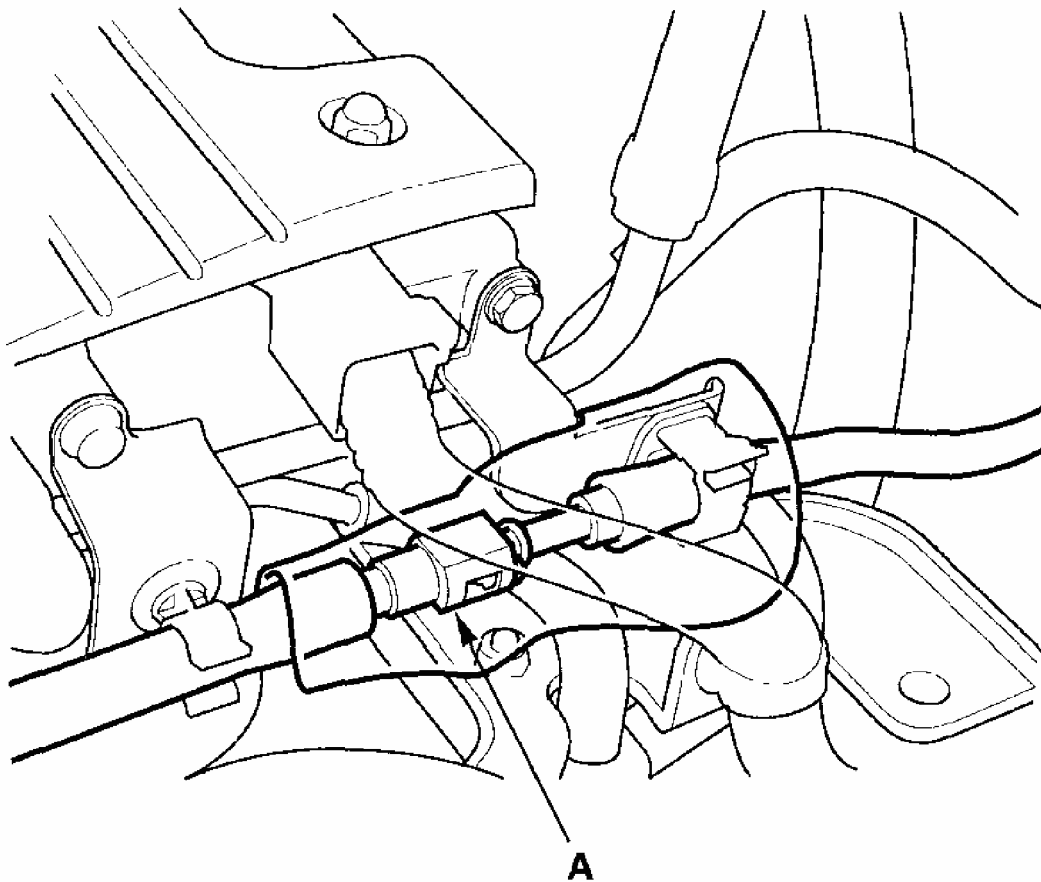
5. Turn the ignition switch OFF.
6. Disconnect the negative cable from the battery.
7. Remove the quick-connect fitting cover (A).



G03677725

**Fig. 13: Removing Quick-Connect Fitting Cover**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Check the fuel quick-connect fitting for dirt, and clean it if needed.
9. Place a rag or shop towel over the quick-connect fitting (A).



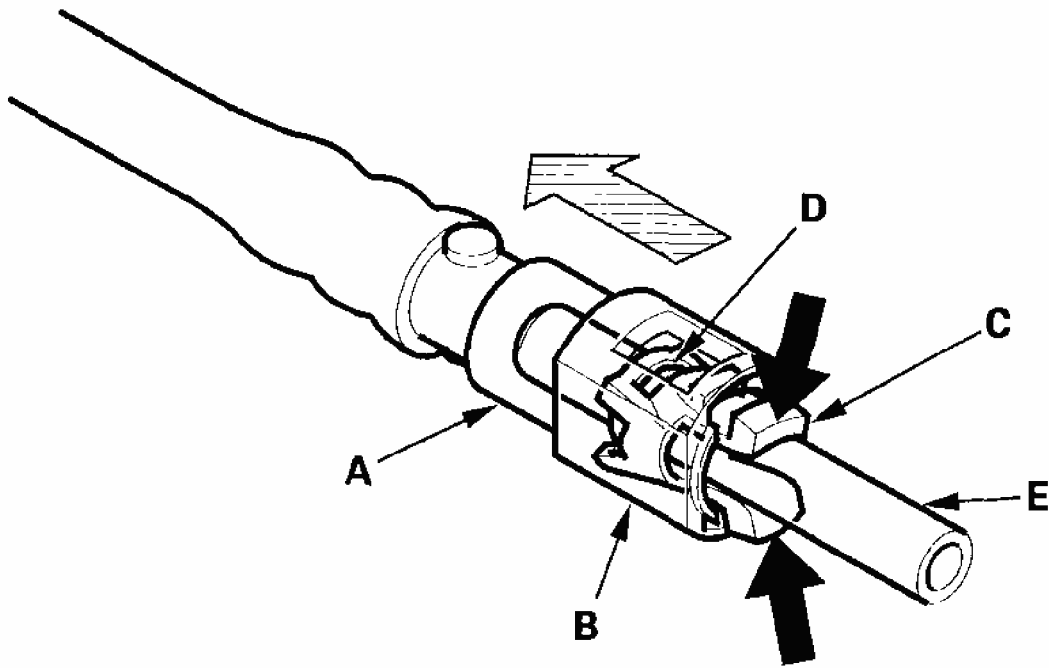
G03677726

**Fig. 14: Placing Rag Or Shop Towel Over Quick-Connect Fitting**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Disconnect the quick-connect fitting (A): Hold the connector (B) with one hand, and squeeze the retainer tabs (C) with the other hand to release them from the locking tabs (D). Pull the connector off.

**NOTE:**

- Be careful not to damage the line (E) 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.



G03677727

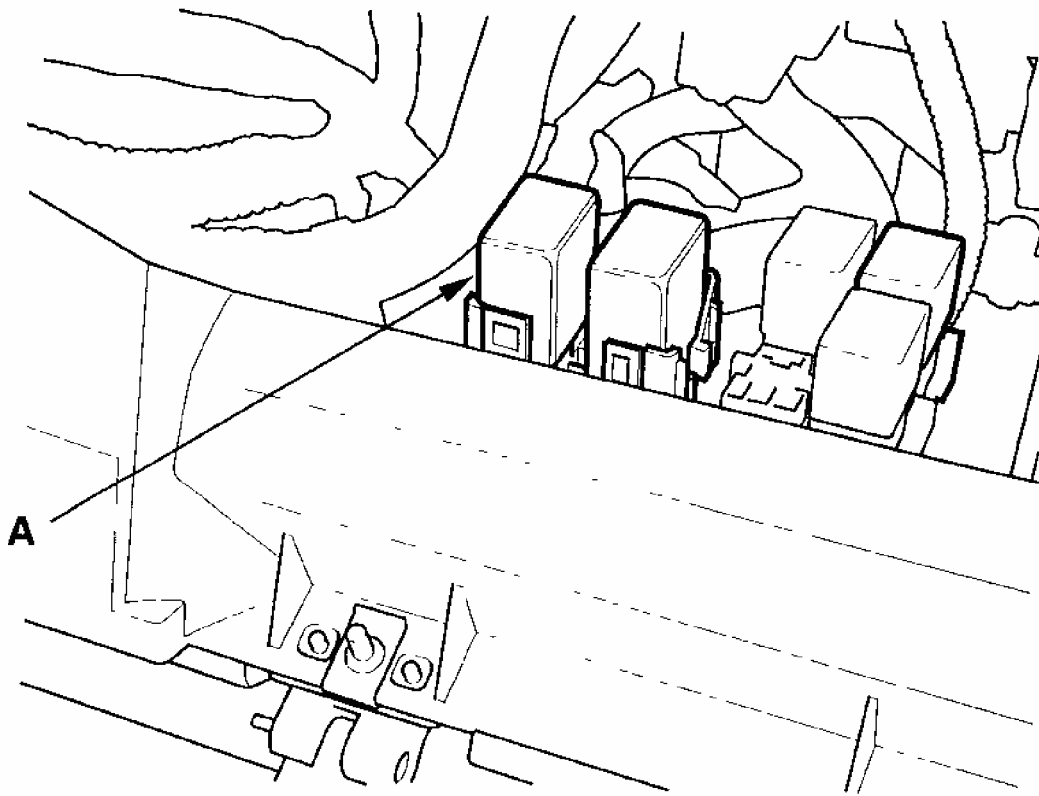
**Fig. 15: Disconnecting Quick-Connect Fitting**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. After disconnecting the quick-connect fitting, check it for dirt or damage (see step 4 ).
12. Reconnect the negative cable to the battery, and do these items:
  - Power window control unit reset procedure (see **RESETTING THE POWER WINDOW CONTROL UNIT** ).
  - Enter the anti-theft code for the radio, then enter the audio presets.
  - Set the clock.

**WITHOUT THE HDS**

1. Make sure you have the anti-theft code for the radio, then write down the radio station and audio presets.
2. Remove the glove box (see **GLOVE BOX REMOVAL/INSTALLATION** ), then remove PGM-FI main relay 2 (FUEL PUMP) (A).





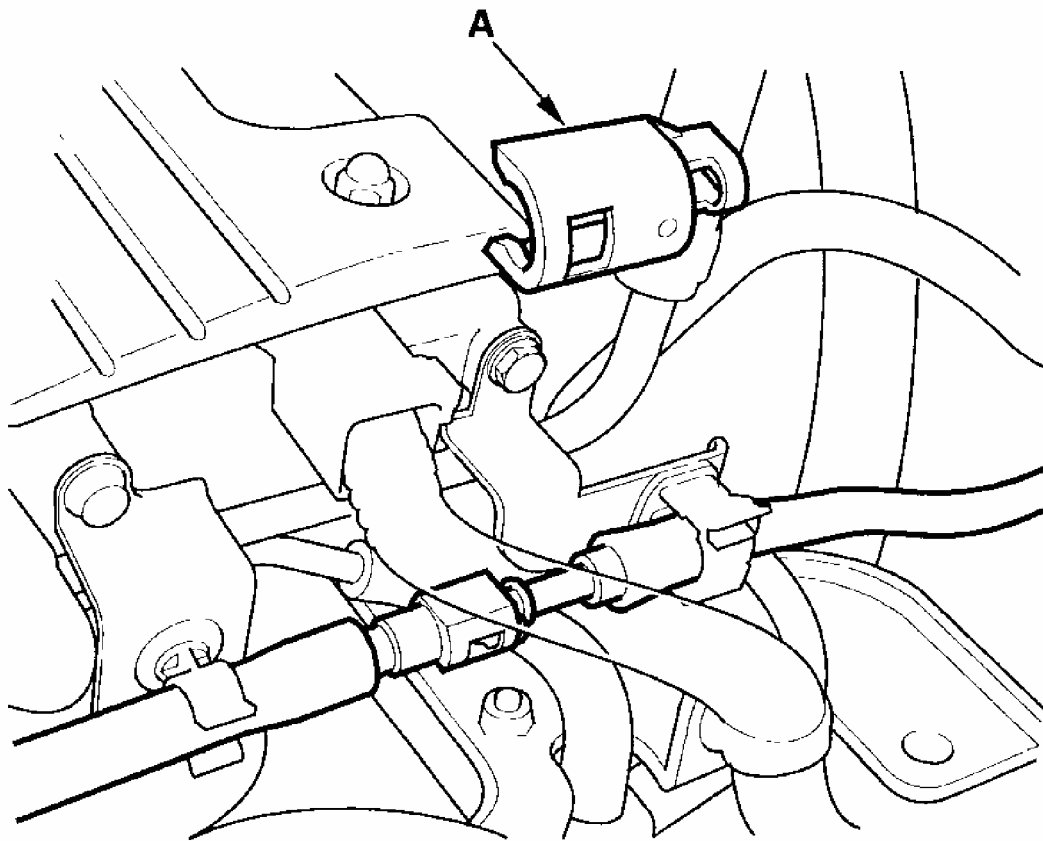
G03677728

**Fig. 16: Removing PGM-FI Main Relay 2 (Fuel Pump)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Start the engine, and let it idle until it stalls.

**NOTE:** If any DTCs are stored, clear and ignore them.

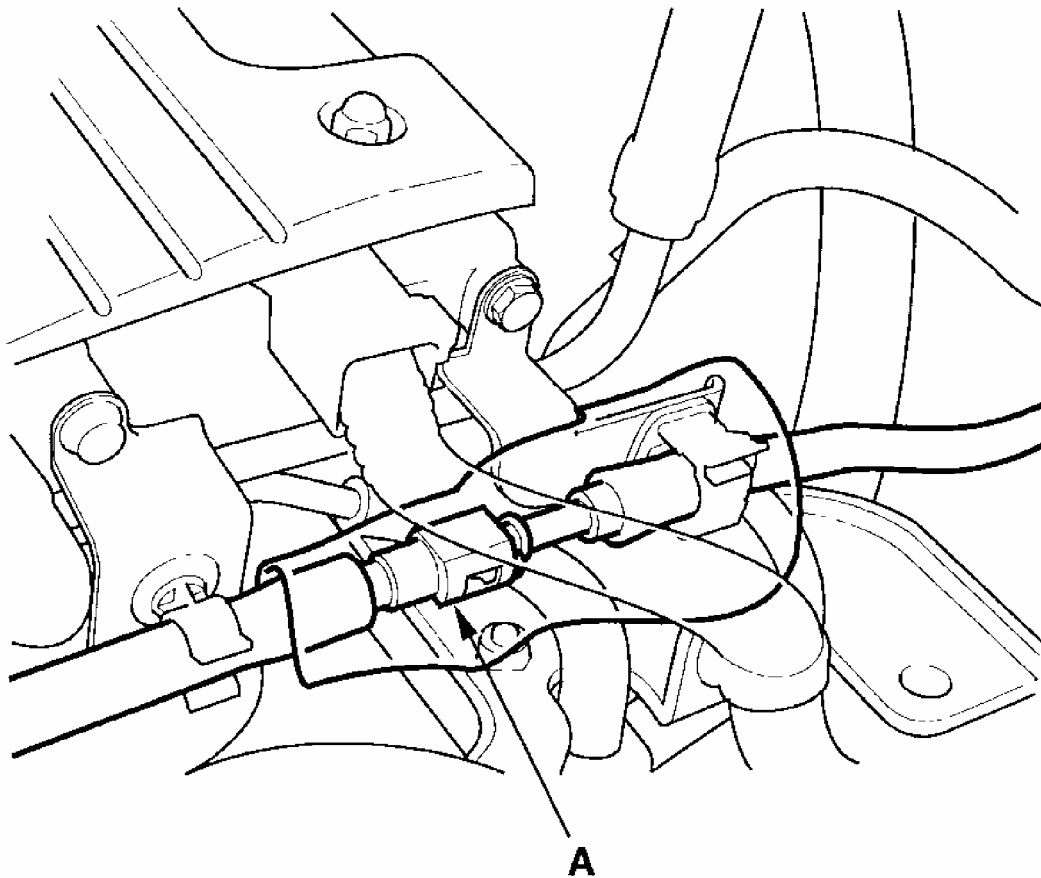
4. Turn the ignition switch OFF.
5. Remove the fuel fill cap.
6. Disconnect the negative cable from the battery.
7. Remove the quick-connect fitting cover (A).



G03677729

**Fig. 17: Removing Quick-Connect Fitting Cover**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Check the fuel quick-connect fitting for dirt, and clean it if needed.
9. Place a rag or shop towel over the quick-connect fitting (A).



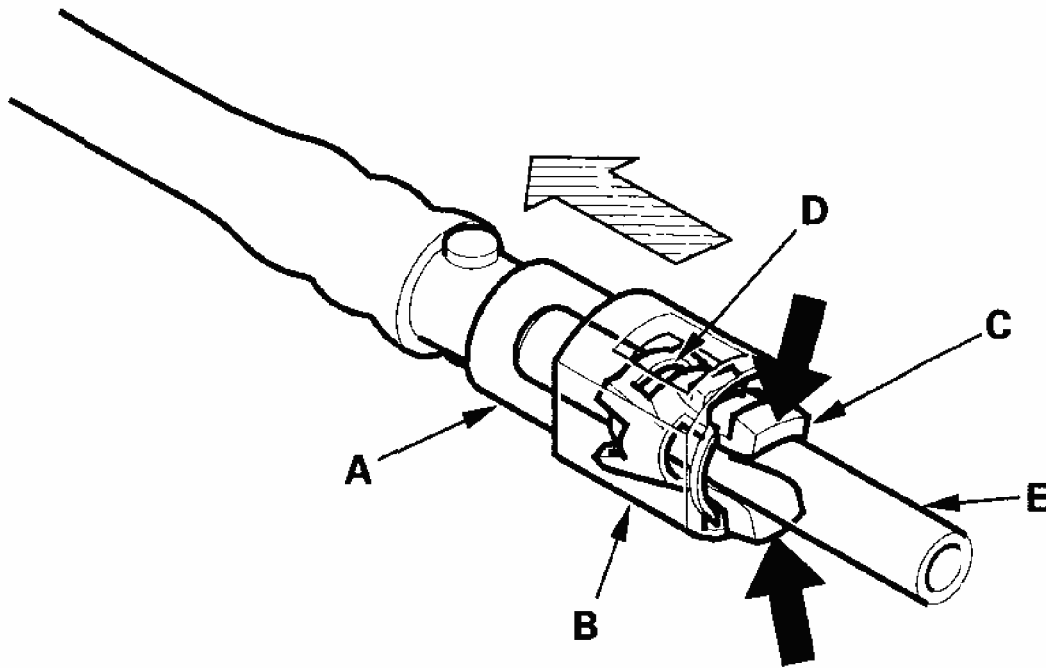
G03677730

**Fig. 18: Placing Rag Or Shop Towel Over Quick-Connect Fitting**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Disconnect the quick-connect fitting (A): Hold the connector (B) with one hand, and squeeze the retainer tabs (C) with the other hand to release them from the locking tabs (D). Pull the connector off.

**NOTE:**

- Be careful not to damage the line (E) 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.



G03677731

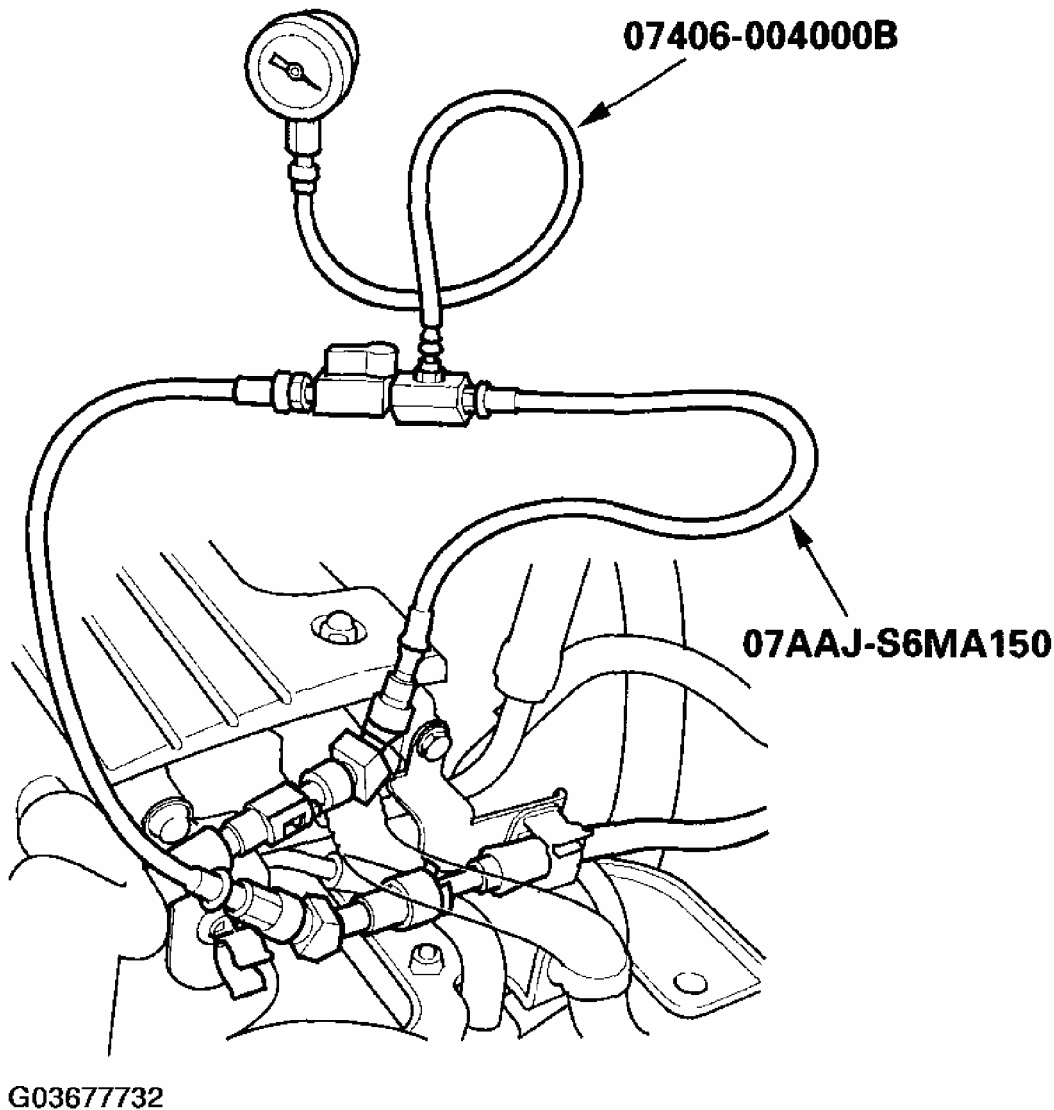
**Fig. 19: Disconnecting Quick-Connect Fitting**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. After disconnecting the quick-connect fitting, check it for dirt or damage (see step 4 ).
12. Reconnect the negative cable to the battery, and do these items:
  - Power window control unit reset procedure (see **RESETTING THE POWER WINDOW CONTROL UNIT** ).
  - Enter the anti-theft code for the radio, then enter the audio presets.
  - Set the clock.

## FUEL PRESSURE TEST

### Special Tools Required

- Fuel pressure gauge 07406-004000B
  - Fuel pressure gauge attachment set 07AAJ-S6MA150
1. Relieve the fuel pressure (see **FUEL PRESSURE RELIEVING** ).
  2. Disconnect the quick-connect fitting. Attach the fuel pressure gauge set and the fuel pressure gauge.



**Fig. 20: Attaching Fuel Pressure Gauge Set And Fuel Pressure Gauge**  
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 filler 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 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 fuel pressure gauge. The pressure should be:

**330-380 kPa (3.4-3.9 kgf/cm<sup>2</sup> , 48-55 psi)**

- If the pressure is OK, the test is complete.
- If the pressure is out of specification, replace the fuel pressure regulator (see **FUEL PRESSURE REGULATOR REPLACEMENT** ) and the fuel filter (see **FUEL PRESSURE REGULATOR REPLACEMENT** ), then recheck the fuel pressure.

## **FUEL TANK DRAINING**

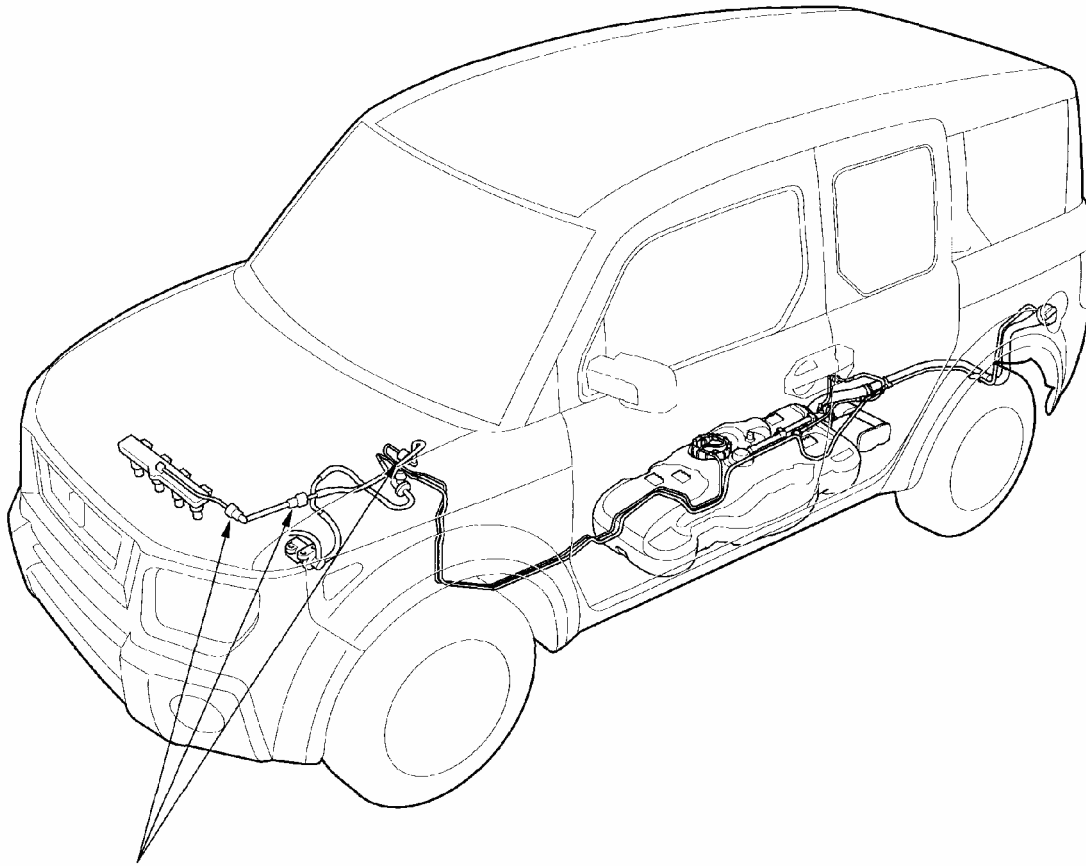
1. Remove the fuel tank unit (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT** ).
2. Using a hand pump, a hose, and a container suitable for fuel, draw the fuel from the fuel tank.

## **FUEL LINE INSPECTION**

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

## 2004 Honda Element DX

2003-06 ENGINE PERFORMANCE Fuel Supply System - Element

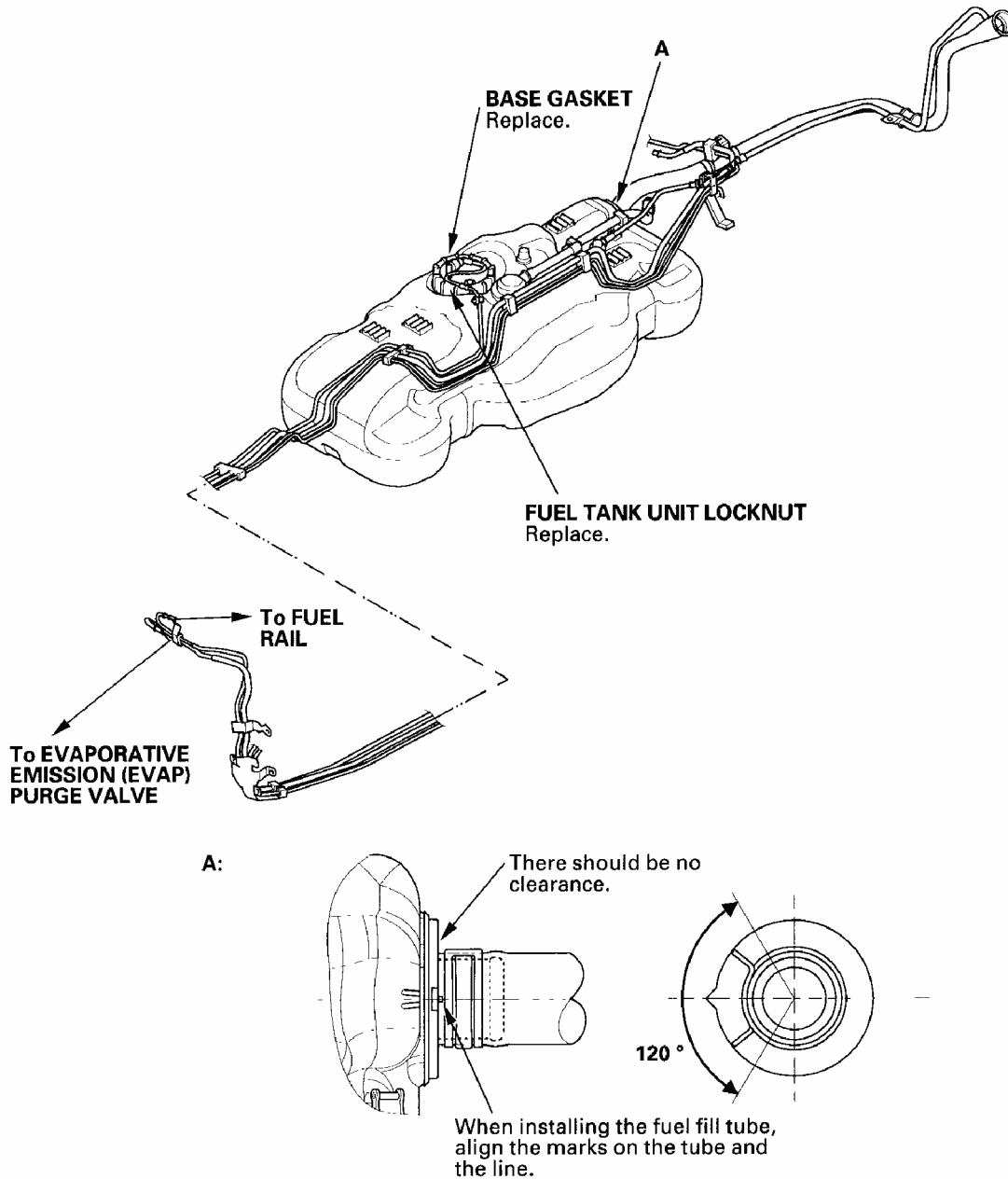


Make sure the connections are secure and the quick-connect fitting covers are firmly locked in place.

G03677733

**Fig. 21: Checking Fuel System Lines And Hoses Damage, Leaks, And Deterioration**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Check all clamps, and retighten any if necessary.



G03677734

**Fig. 22: Checking All Clamps, And Retighten**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

### FUEL LINE/QUICK-CONNECT FITTING PRECAUTIONS

The fuel line/quick-connect fittings (A), (B), (C), (D), connect the fuel rail (E) to the fuel feed hose (F), the fuel feed hose to the fuel feed hose (G), the fuel feed hose to the fuel line (H), the fuel line (I) to the fuel tank unit (J), and the fuel vapor line (K) to the EVAP canister (L). When removing or installing the fuel feed hose, the fuel tank unit, or the fuel tank, it is necessary to disconnect or connect the quick-connect fittings.

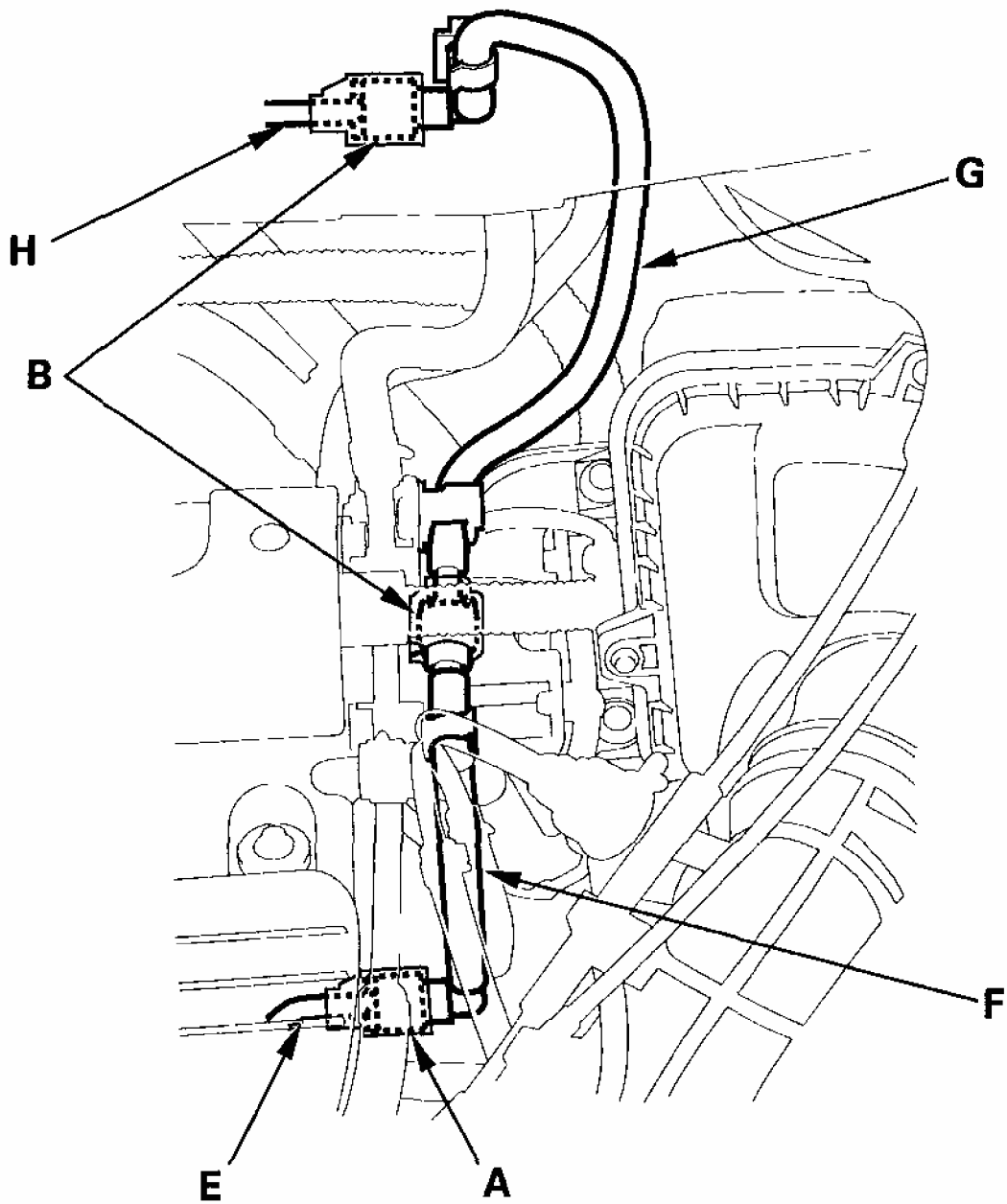


## 2004 Honda Element DX

2003-06 ENGINE PERFORMANCE Fuel Supply System - Element

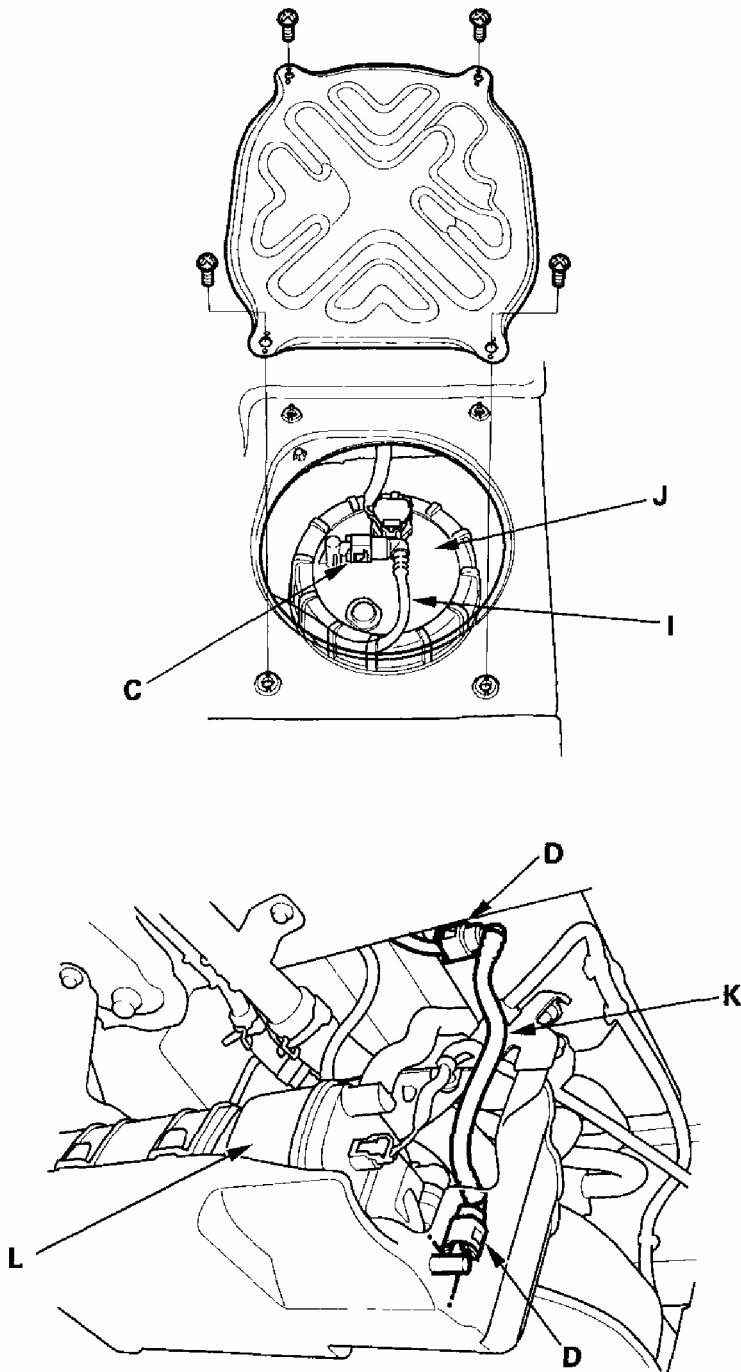
Pay attention to the following:

- The fuel feed hoses, the fuel line, the fuel vapor line, and quick-connect fittings are not heat-resistant; be careful not to damage them during welding or other heat-generating procedures.
- The fuel feed hoses, fuel line, fuel vapor line, and the quick-connect fittings are not acid-proof; do not touch them with a shop towel that was used for wiping battery electrolyte. Replace them if they come in contact with electrolyte or something similar.
- When connecting or disconnecting the fuel feed hose, the fuel line, the fuel vapor line, and the quick-connect fittings, be careful not to bend or twist them excessively. Replace them if they are damaged.



G03677735

**Fig. 23: Fittings Fuel Line/Quick-Connect**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.



G03677736

**Fig. 24: Connecting Fuel Rail To Fuel Feed Hose**  
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 rail.

## 2004 Honda Element DX

2003-06 ENGINE PERFORMANCE Fuel Supply System - Element

- replacing the fuel line.
- replacing the fuel pump.
- replacing the fuel filter.
- replacing the fuel gauge sending unit.
- replacing the EVAP purge line.
- replacing the EVAP canister.
- it has been removed from the line.
- it is damaged.

### MANUFACTURER SPECIFICATION

Location	Manufacturer	Retainer color	Line diameter
A	Tokai	Blue green	0.31 in. (8.0 mm)
B	Tokai	Green	0.25 in. (6.35 mm)
C	Sanoh	White	0.37 in. (9.5 mm)
D	Tokai	Orange	0.37 in. (9.5 mm)

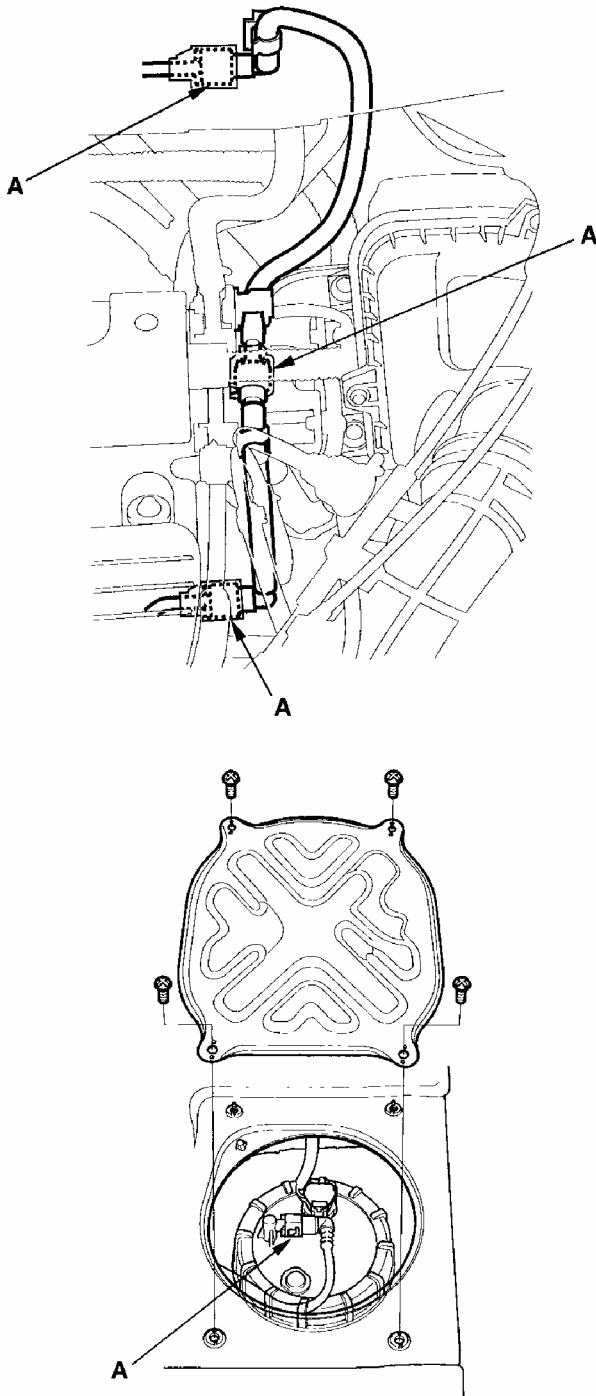
### FUEL LINE/QUICK-CONNECT FITTING REMOVAL

**NOTE:** Before you work on the fuel lines and fittings, read the "Fuel Line/Quick-Connect Fitting Precautions" (see FUEL LINE/QUICK-CONNECT FITTING PRECAUTIONS ).

1. Relieve the fuel pressure (see FUEL PRESSURE RELIEVING ).
2. Check the fuel quick-connect fittings (A) for dirt, and clean it if needed.

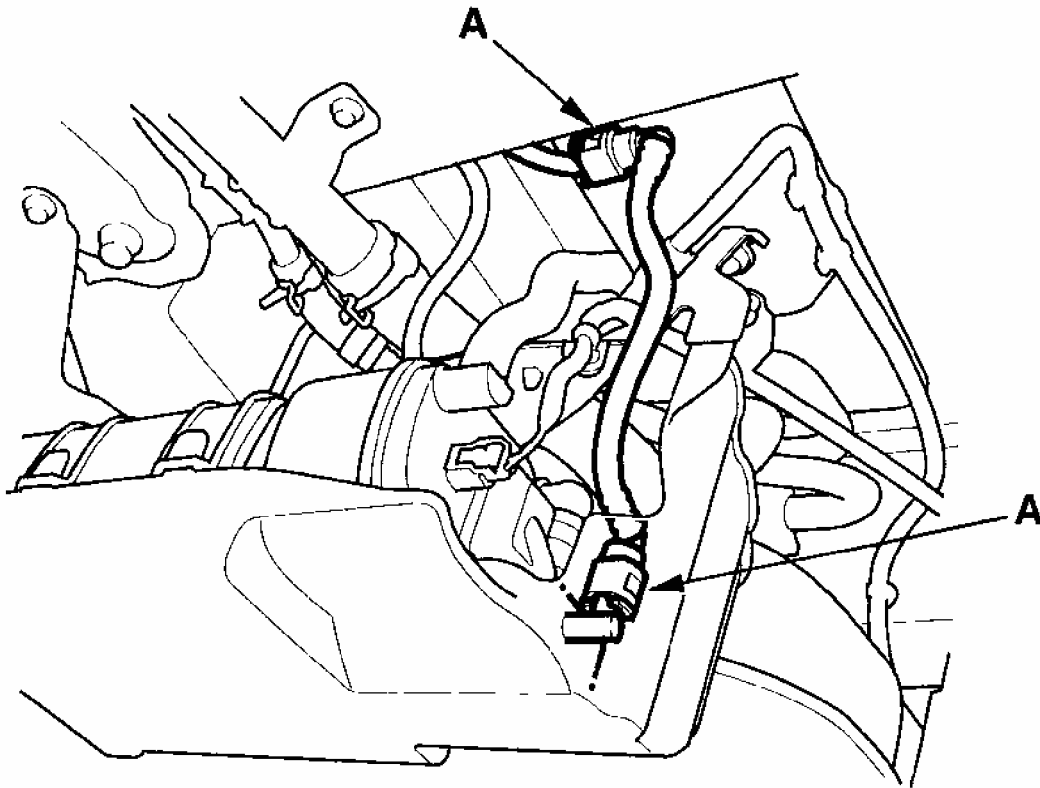
2004 Honda Element DX

2003-06 ENGINE PERFORMANCE Fuel Supply System - Element



G03677737

**Fig. 25: Checking Fuel Quick-Connect Fittings**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.



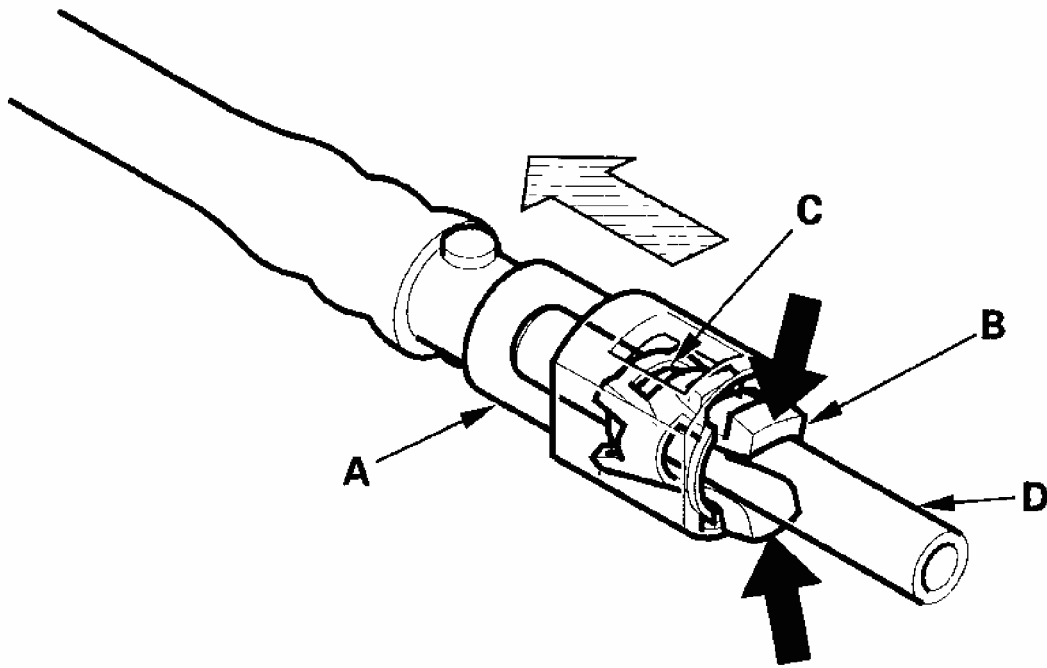
G03677738

**Fig. 26: Checking Fuel Quick-Connect Fittings**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Place a rag or shop towel over the quick-connect fitting. Hold the connector (A) with one hand, and squeeze the retainer tabs (B) with the other hand to release them from the locking tabs (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.

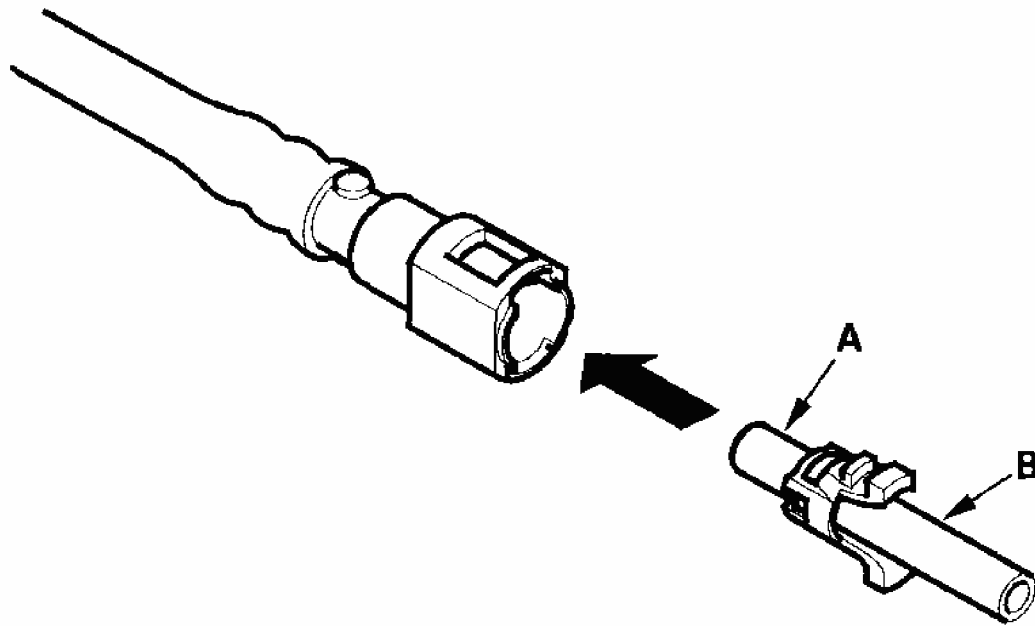


G03677739

**Fig. 27: Pulling Connector Off**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

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



G03677740

**Fig. 28: Checking Contact Area Of Line Dirt Or Damage**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

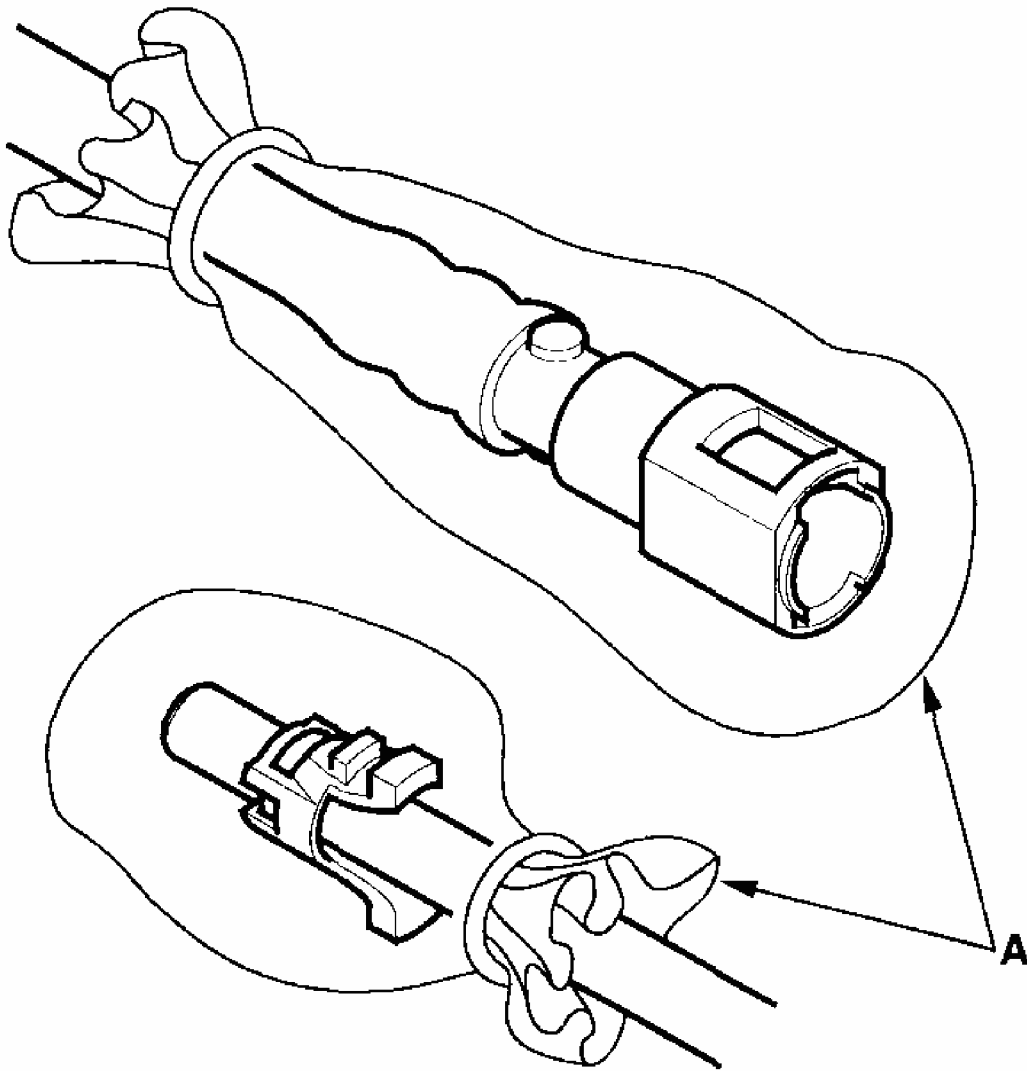
5. To prevent damage and keep foreign matter out, cover the disconnected connector and line ends with plastic bags (A).

**NOTE:** The retainer cannot be reused once it has been removed from the line.

Replace the retainer when:

- replacing the fuel rail.
- replacing the fuel feed line.
- replacing the fuel pump.
- replacing the fuel filter.
- replacing the fuel gauge sending unit.
- replacing the EVAP purge line.
- replacing the EVAP canister.
- it has been removed from the line.
- it is damaged.





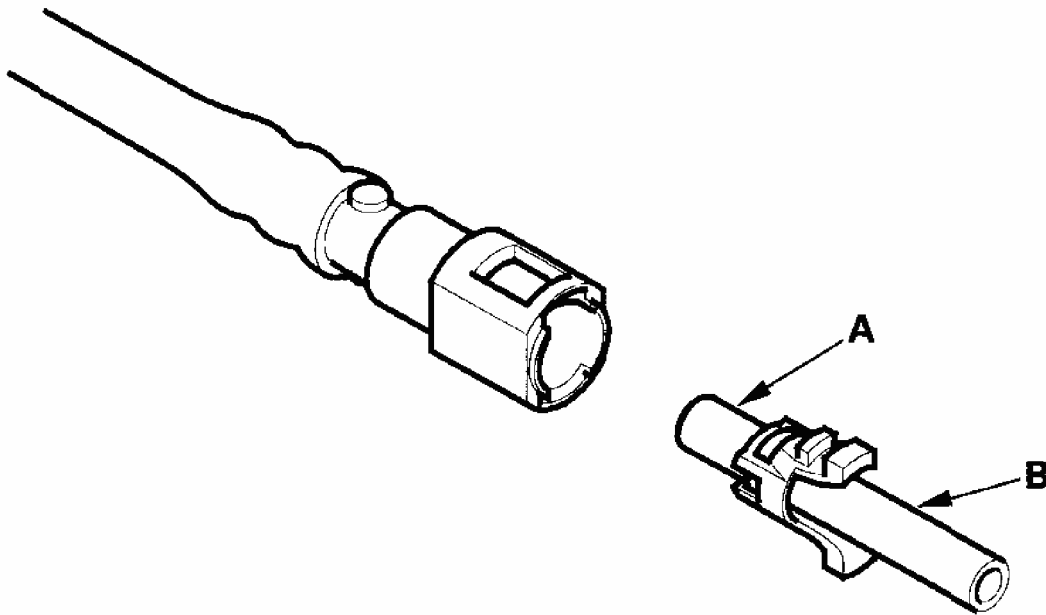
G03677741

**Fig. 29: Disconnecting Connector And Line Ends With Plastic Bags**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

## FUEL LINE/QUICK-CONNECT FITTING INSTALLATION

**NOTE:** Before you work on the fuel lines and fittings, read the "Fuel Line/Quick-Connect Fitting Precautions" (see FUEL LINE/QUICK-CONNECT FITTING PRECAUTIONS ).

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

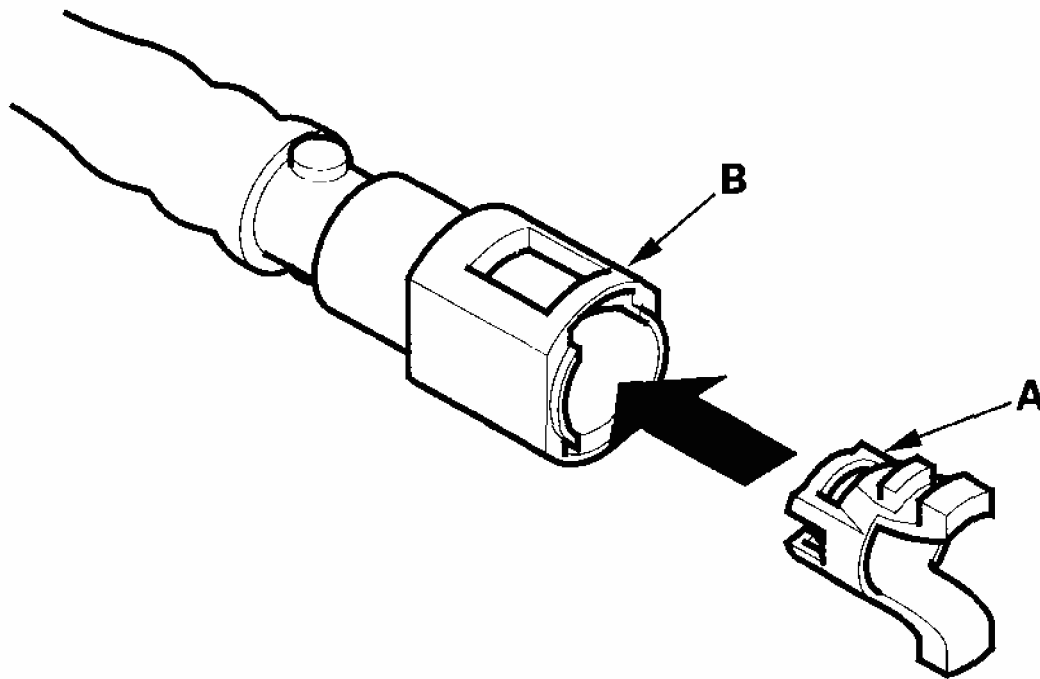


G03677742

**Fig. 30: Checking Contact Area Of Line Dirt Or Damage**  
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 rail.
  - 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.
  - replacing the EVAP purge line.
  - replacing the EVAP canister.

**NOTE:** When you replace a retainer, make sure the new one is the same size and from the same manufacturer as the old one (see MANUFACTURER SPECIFICATION table ).



G03677743

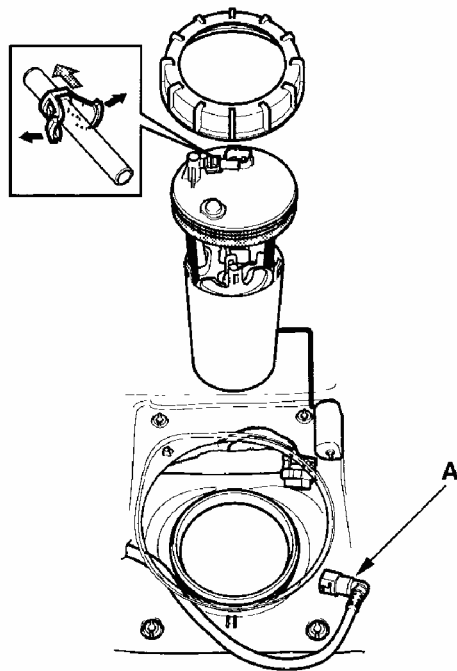
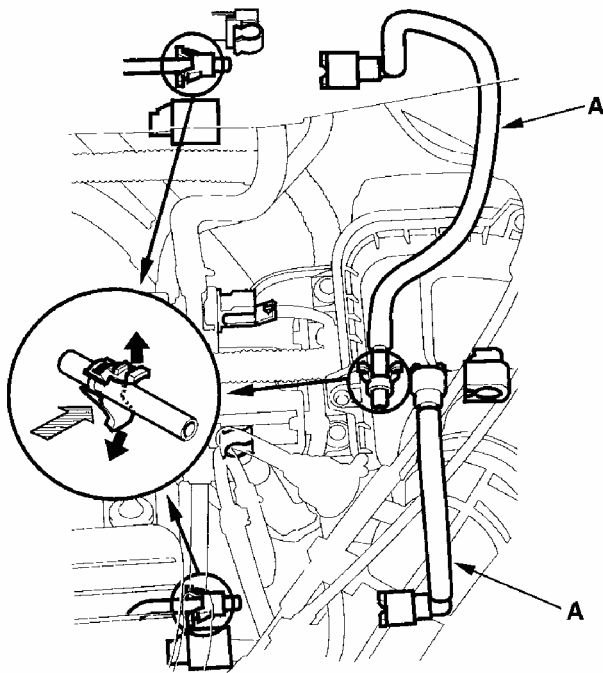
**Fig. 31: Inserting Retainer Into Connector**

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.

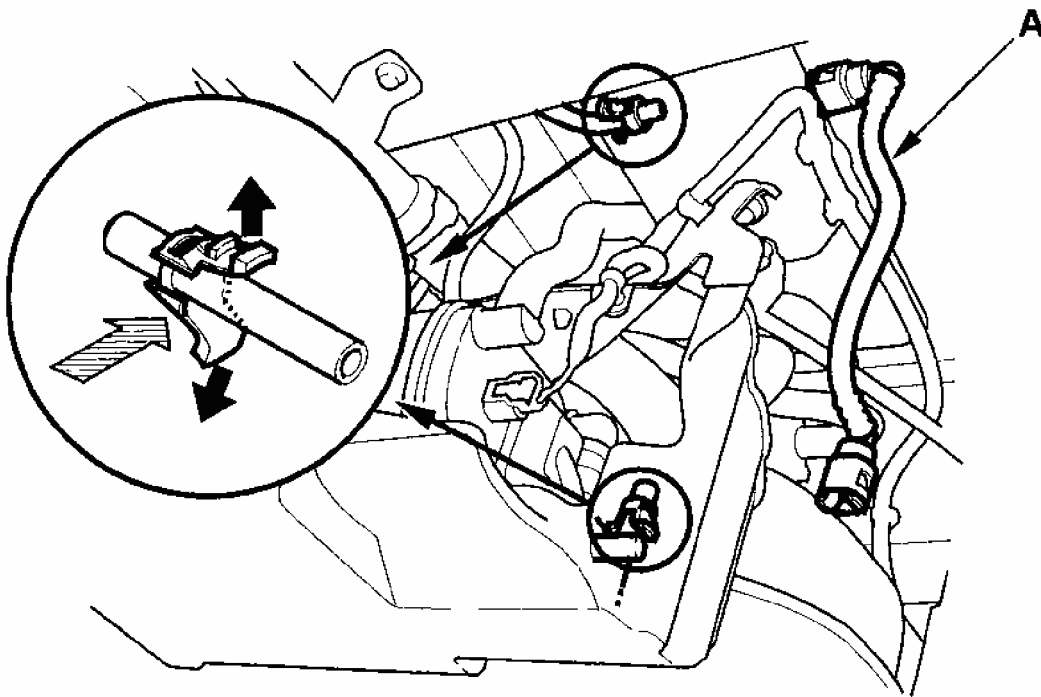
2004 Honda Element DX

2003-06 ENGINE PERFORMANCE Fuel Supply System - Element



G03677744

**Fig. 32: Connecting Fuel Line/Quick-Connect Fitting Assembly**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

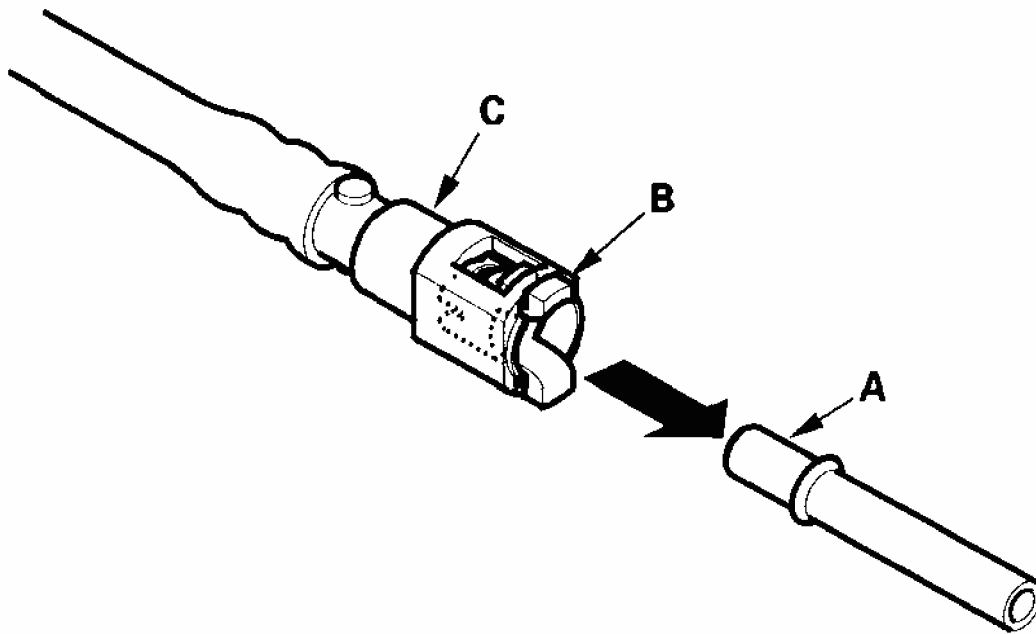


G03677745

**Fig. 33: Removing Retainer From Mating Line**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

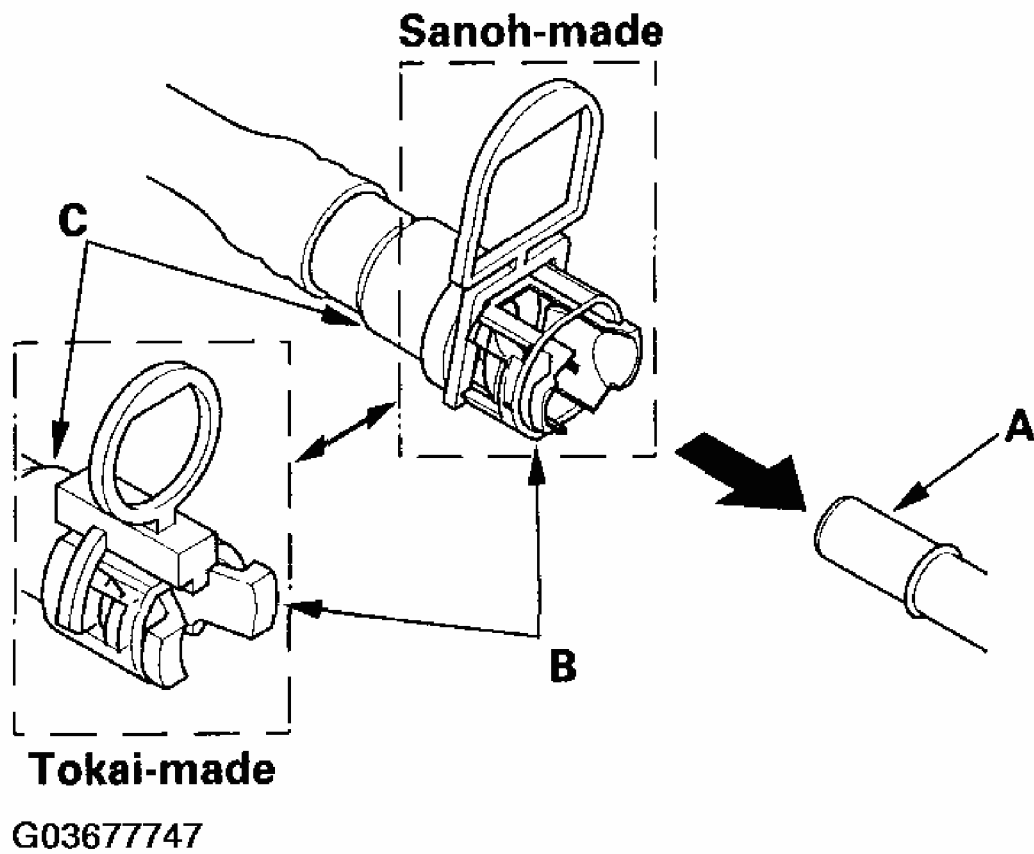
4. Align the quick-connect fittings with the line (A), and align the retainer locking tabs (B) with the connector (C) grooves. Then press the quick-connect fittings onto the line until both retainer tabs lock with a clicking sound.

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

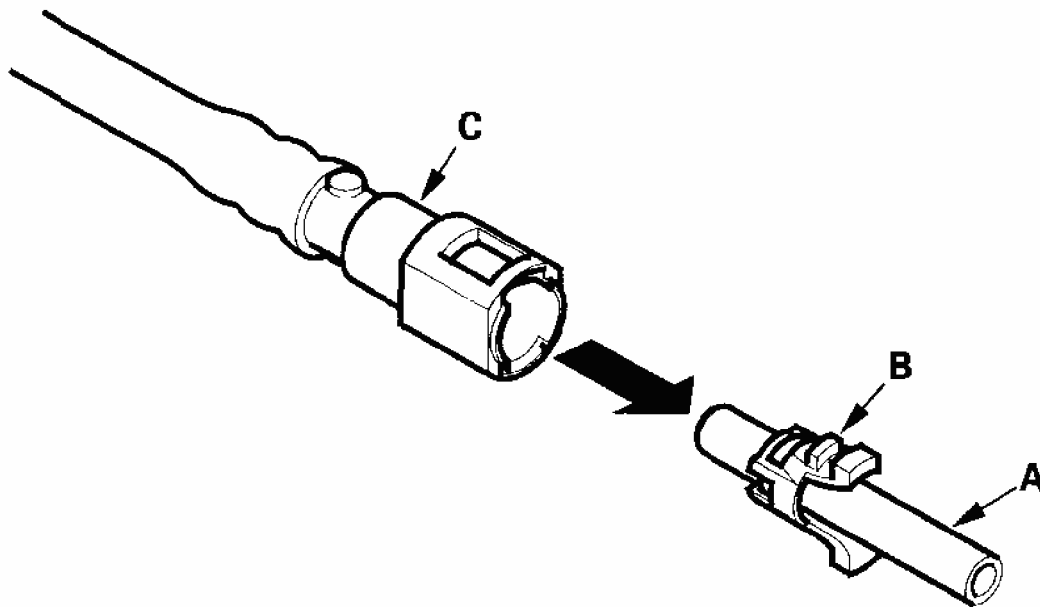


G03677746

**Fig. 34: Aligning Quick-Connect Fittings With Line (Connection With Retainer)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.



**Fig. 35: Aligning Retainer Locking Tabs (Connection To Fuel Line)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.



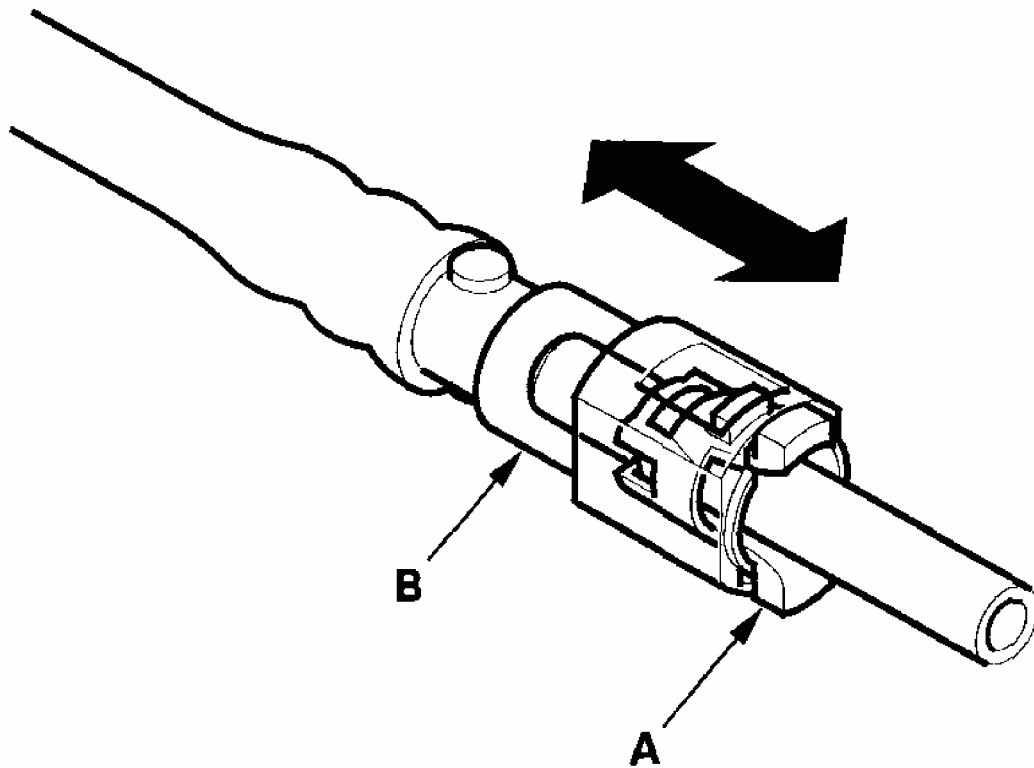
G03677748

**Fig. 36: Aligning Retainer Locking Tabs (Reconnection To Existing Retainer)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. When you are reconnecting 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 are replacing 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.

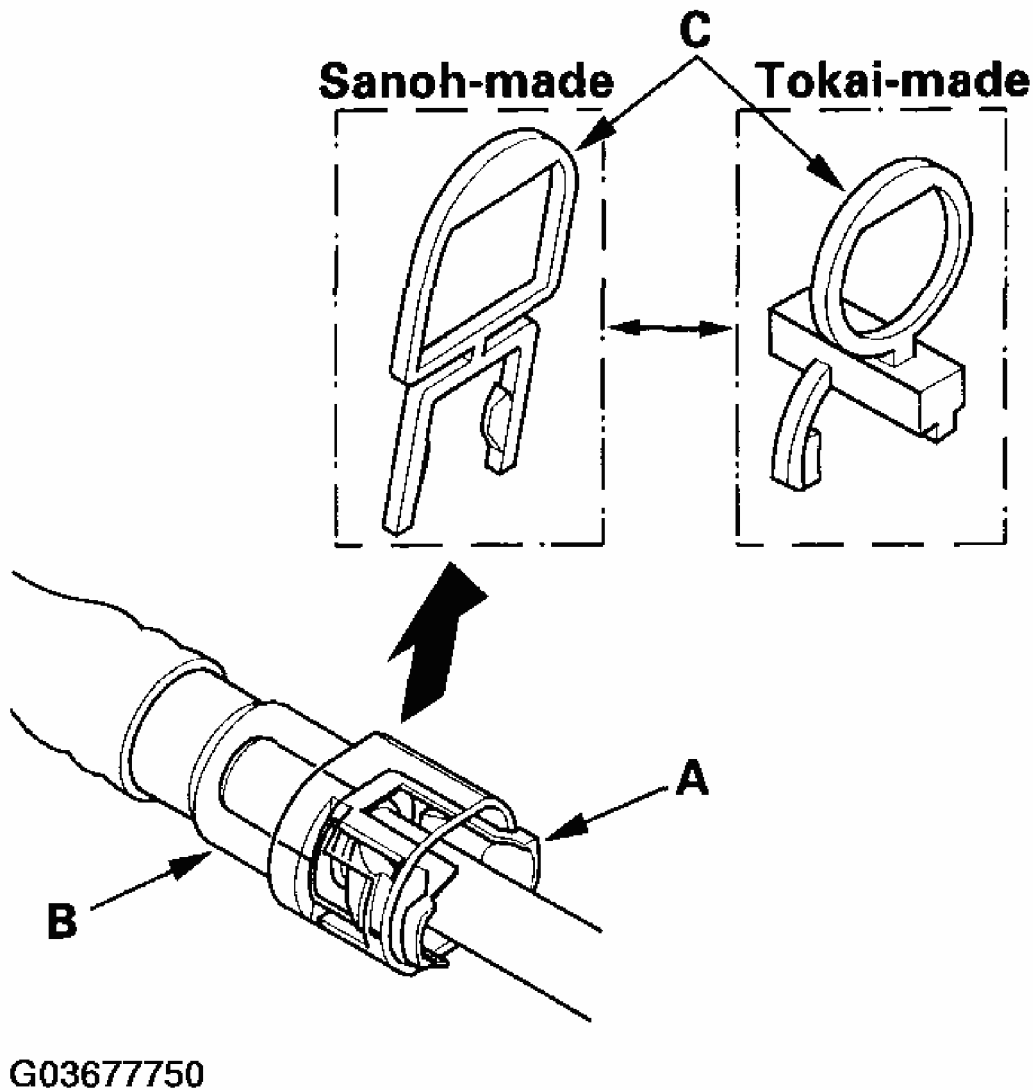




G03677749

**Fig. 37: Making Sure Connection Is Secure And The Tabs (Reconnection To Existing Retainer)**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**



G03677750

**Fig. 38: Checking Visually And Also By Pulling Connector (Connection To New Fuel Line)**

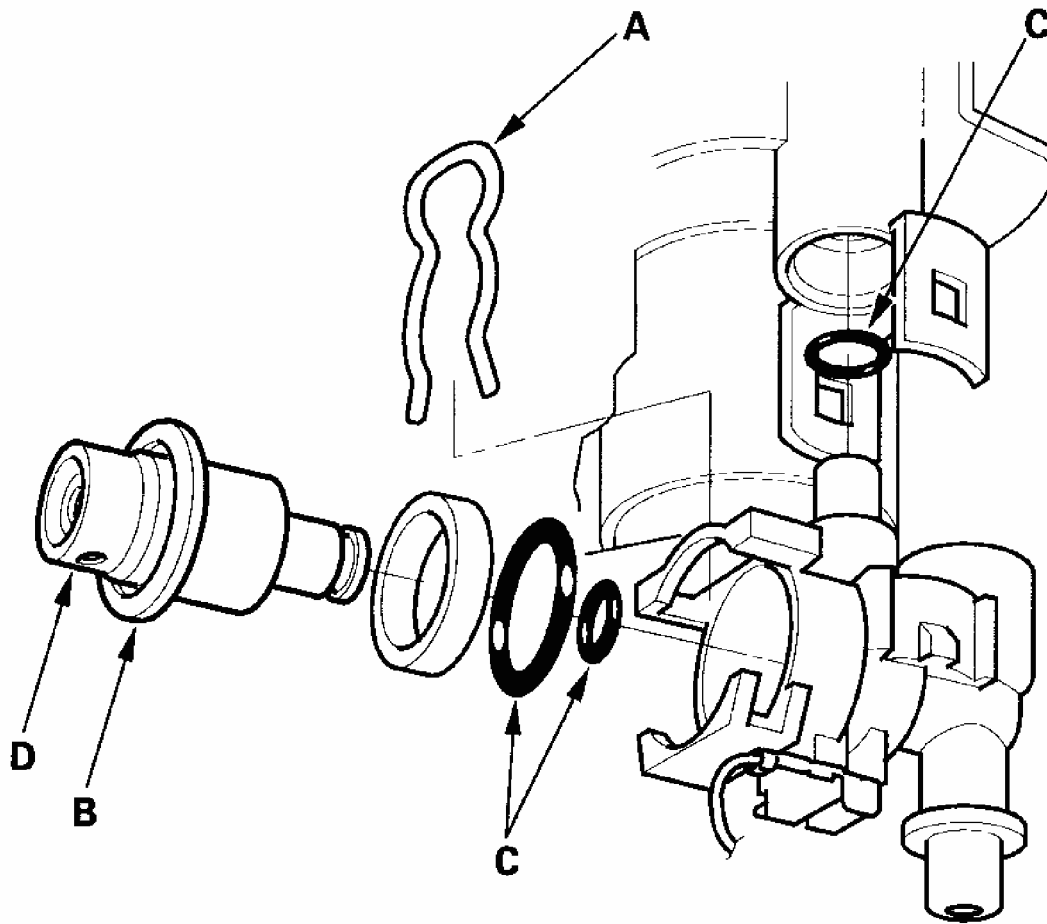
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Reconnect the negative cable to the battery, and turn the ignition switch ON (II) (but do not operate the starter motor). 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 PRESSURE REGULATOR REPLACEMENT

1. Remove the fuel pump (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT** ).

2. Remove the clip (A).



G03677751

**Fig. 39: Removing Clip And Fuel Pressure Regulator**  
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).

Make sure the regulator is installed with the drain hole (D) facing down.

**NOTE:** Coat the O-rings with the clean engine oil. Do not pinch the O-rings during installation. Never apply brake fluid, vegetable oil, or alcohol-based oil to the O-rings.

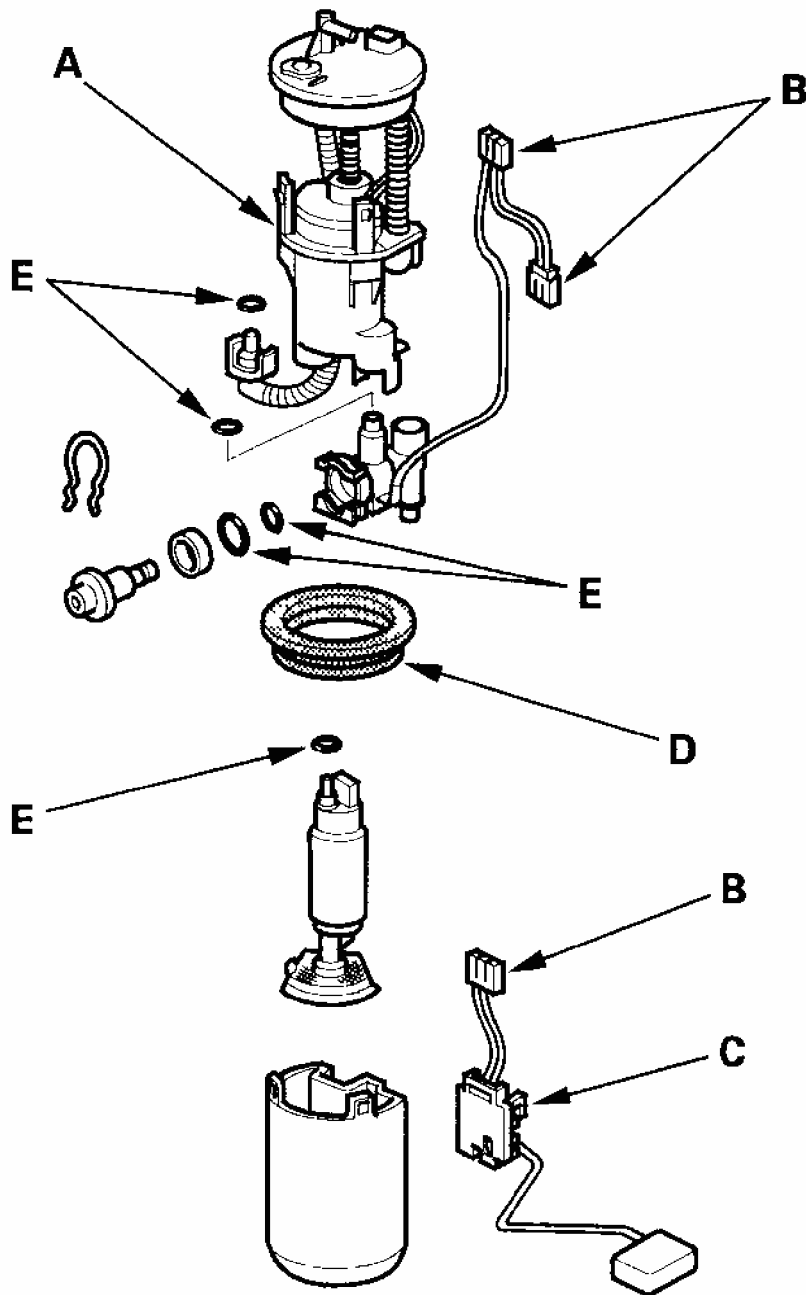
## FUEL FILTER REPLACEMENT

## 2004 Honda Element DX

2003-06 ENGINE PERFORMANCE Fuel Supply System - Element

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 PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT** ).
2. Remove the fuel filter set (A).



G03677752

**Fig. 40: 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.

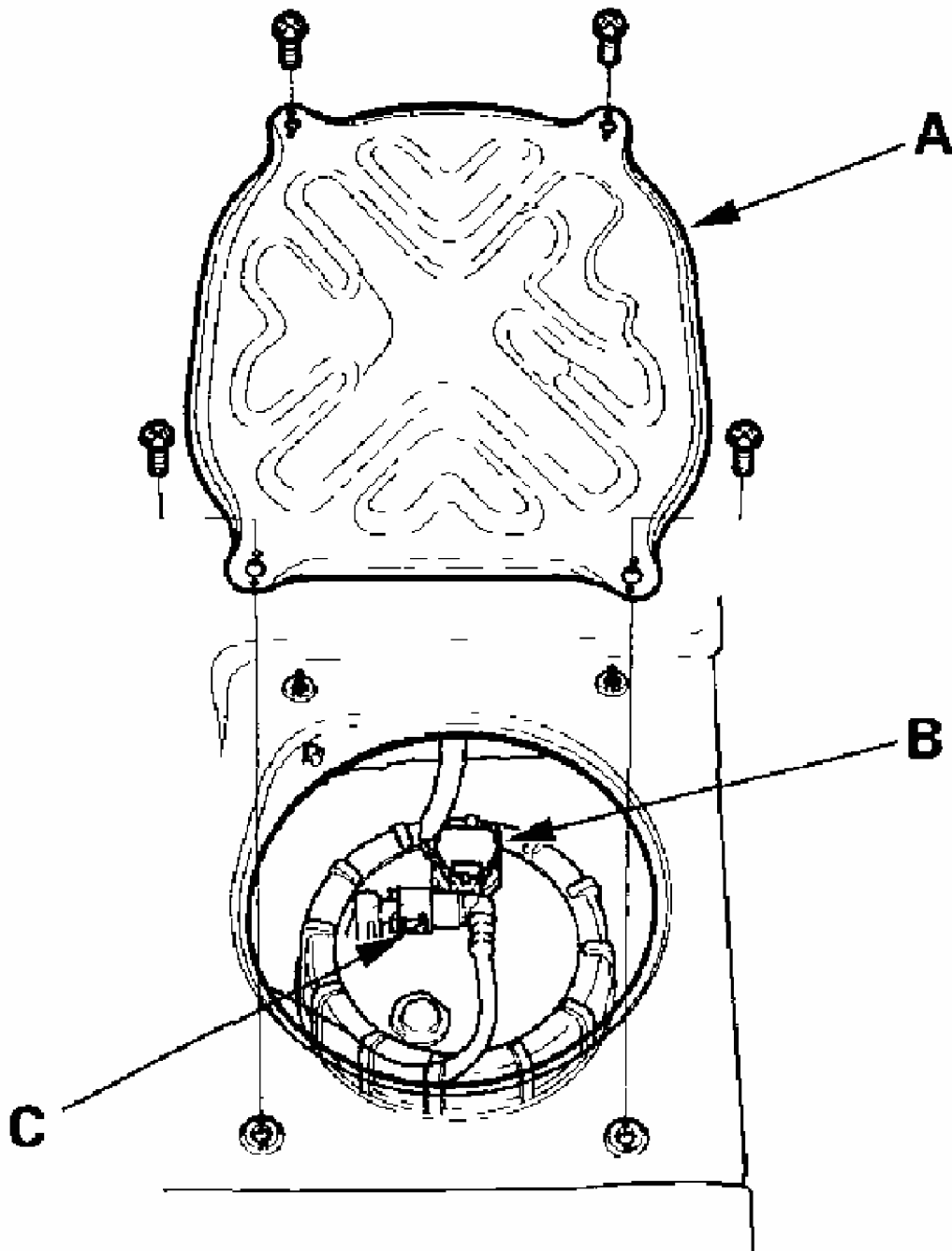
- When installing the fuel gauge sending unit (C), make sure the connection is secure and the connectors is firmly locked into place. Be careful not to bend or twist it excessively.
4. Install the parts in the reverse order of removal with a new base gasket (D) and new O-rings (E). When installing the fuel tank unit, align the marks on the unit and the fuel tank (see step 11 ).

## **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT**

### **Special Tools Required**

Fuel sender wrench 07AAA-S0XA100

1. Relieve the fuel pressure (see **FUEL PRESSURE RELIEVING** ).
2. Remove the fuel fill cap.
3. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ), both track floor coverings (see **FRONT FLOOR COVERING** ), and both sill trims (see **TRIM REMOVAL/INSTALLATION - DOOR AREAS** ).
4. Fold back the floor mat until the access panel is accessible. Remove the access panel (A) from the floor.

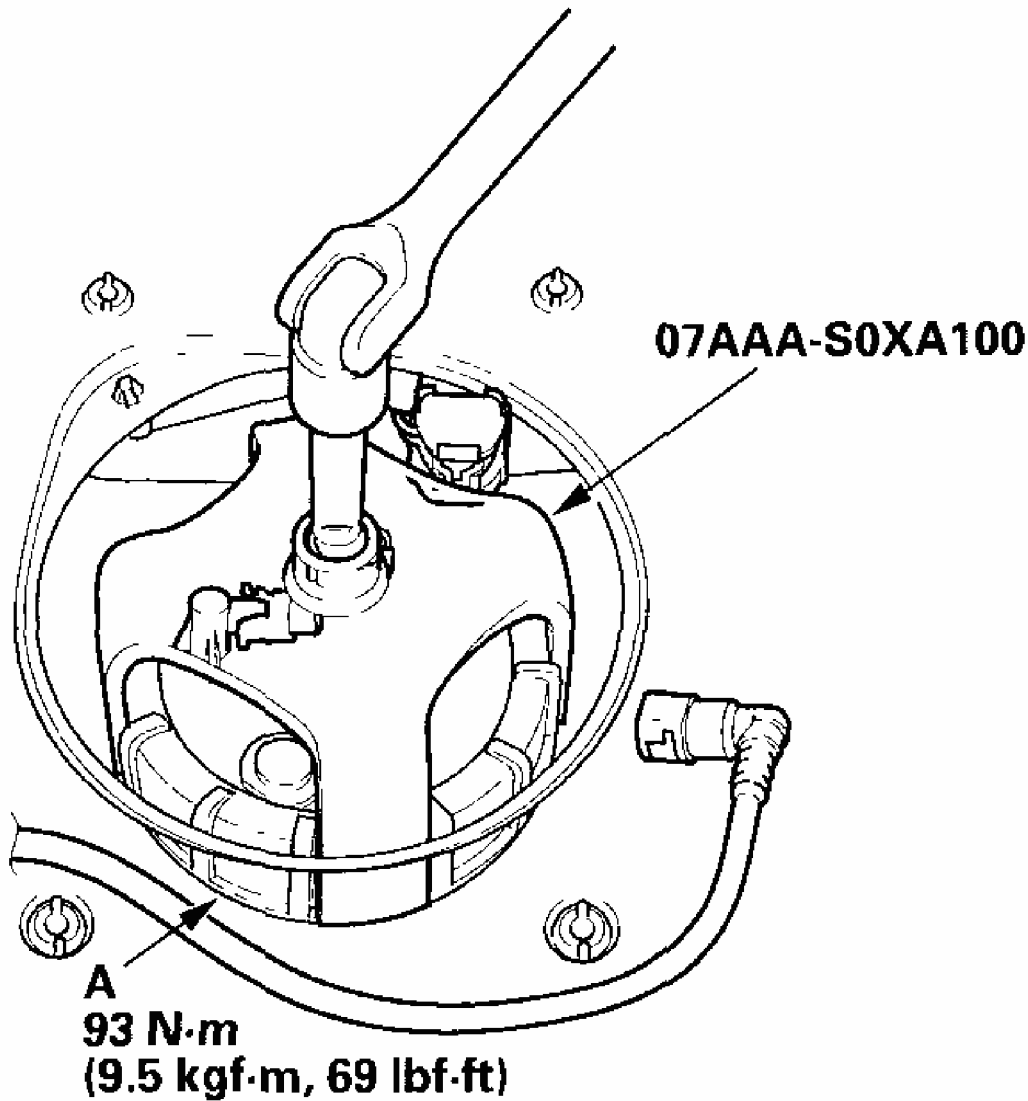


G03677753

**Fig. 41: Removing Access Panel From Floor**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Disconnect the fuel pump 5P connector (B).

6. Disconnect the quick-connect fitting (C) from the fuel tank unit.
7. Using the special tool, loosen the fuel tank unit locknut (A).

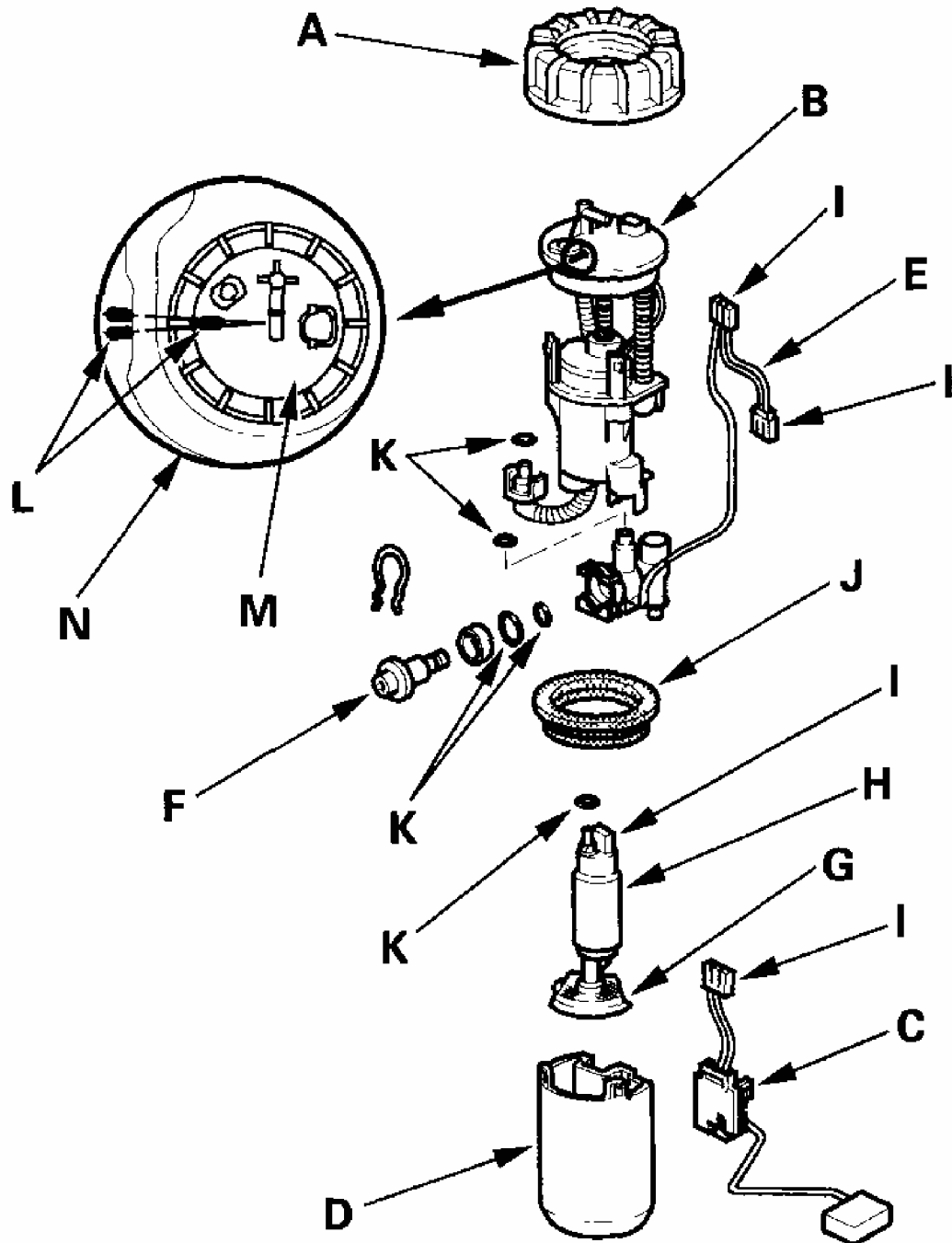


G03677754

**Fig. 42: Loosening Fuel Tank Unit Locknut Using Special Tool And Torque Specifications**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Remove the locknut (A) and the fuel tank unit.





G03677755

**Fig. 43: Removing Locknut And The Fuel Tank Unit**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Remove the fuel filter (B), the fuel gauge sending unit (C), the case (D), the wire harness (E), and the fuel pressure regulator (F).

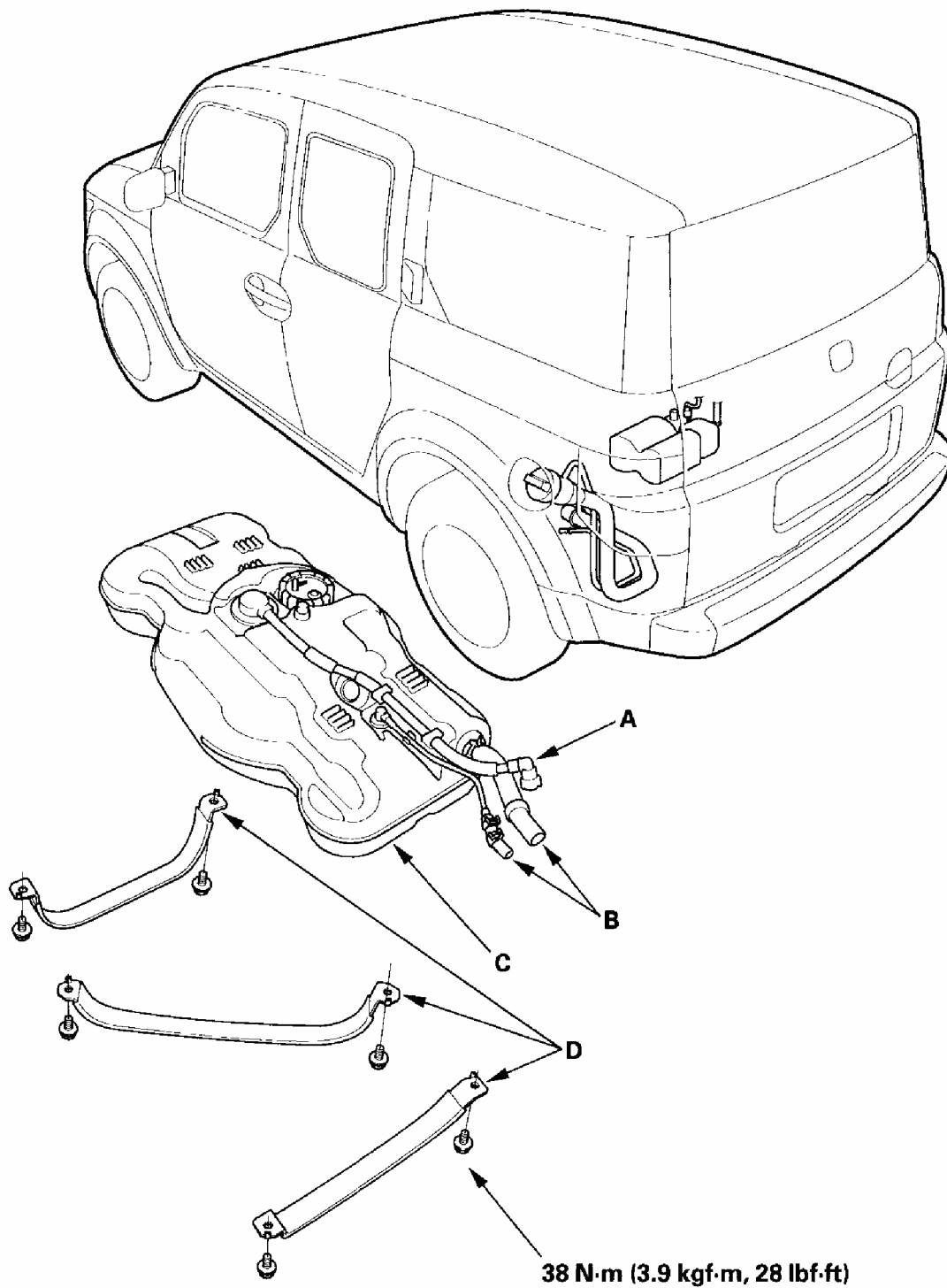
10. Check these items before installing the fuel tank unit:
  - Make sure the connection is secure and the suction filter (G) is firmly connected to the fuel pump (H).
  - When connecting the wire harness, make sure the connection is secure and the connectors (I) are firmly locked into place.
  - When installing the fuel gauge sending unit, make sure the connection is secure and the connector is firmly locked into place. Be careful not to bend or twist it excessively.
11. Install the parts in the reverse order of removal with a new base gasket (J), new locknut (A), and new O-rings (K). When installing the fuel tank unit, align the marks (L) on the unit (M) and the fuel tank (N).

## **FUEL TANK REPLACEMENT**

1. Drain the fuel tank (see **FUEL TANK DRAINING** ).
2. Reinstall the fuel tank unit.
3. Raise the vehicle, and support it with jackstands.
4. Disconnect the filler neck, the fuel vapor hose (A), and hoses (B). Slide back the clamps, then twist the hoses as you pull to avoid damaging them.

## 2004 Honda Element DX

2003-06 ENGINE PERFORMANCE Fuel Supply System - Element



G03677756

**Fig. 44: Disconnecting Filler Neck And Fuel Vapor Hose With Specified Torques**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

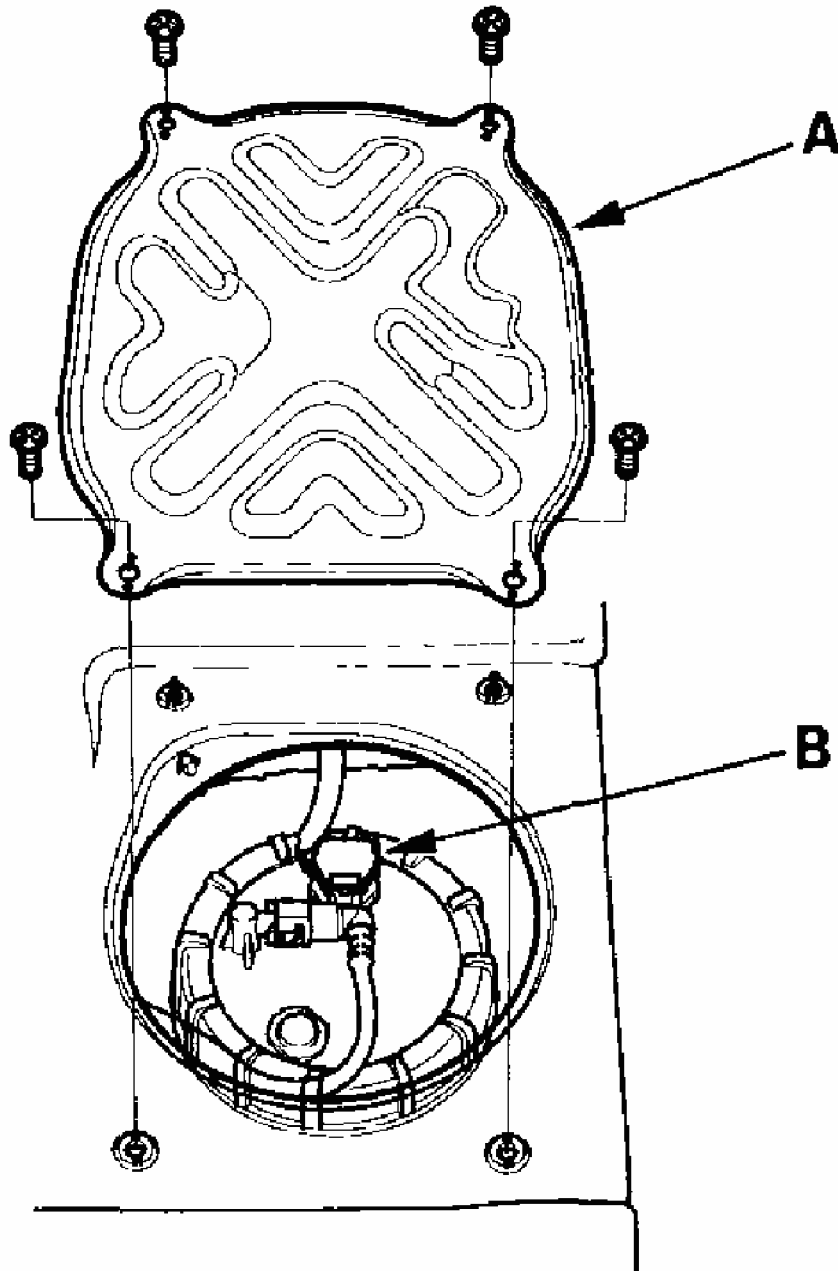
5. Place a jack or other support under the tank (C).
6. Remove the strap bolts and the straps (D).

7. Remove the fuel tank.
8. Install the parts in the reverse order of removal.

## FUEL GAUGE SENDING UNIT TEST

**NOTE:** For the fuel gauge system circuit diagram, refer to the **Gauges Circuit Diagram (see CIRCUIT DIAGRAM )**.

1. Check the No. 10 METER (7.5 A) fuse in the under-dash fuse/relay box before testing.
2. Do the gauge drive circuit check (see **THE BEEPER DRIVE CIRCUIT CHECK** ).
  - If the fuel gauge needle moves from the minimum to maximum position and then returns to the minimum position, the gauge is OK. Go to step 3.
  - If the fuel gauge needle does not move as stated above, replace the gauge assembly and retest.
3. Turn the ignition switch OFF.
4. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ), both track floor coverings (see **FRONT FLOOR COVERING** ), and both door sill trims (see **TRIM REMOVAL/INSTALLATION - DOOR AREAS** ).
5. Fold back the floor mat until the access panel is accessible. Remove the access panel (A) from the floor.



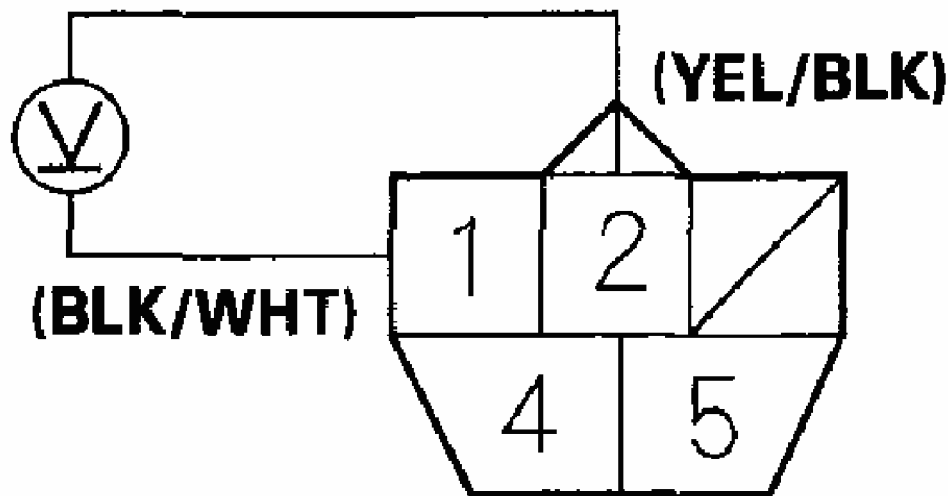
G03677757

**Fig. 45: Removing Access Panel From Floor**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Disconnect the fuel tank unit 5P connector (B).
7. Measure voltage between fuel tank unit 5P connector terminals No. 1 and No. 2 with the ignition switch ON (II). There should be battery voltage.

- If the voltage is OK, go to step 8.
- If the voltage is not as specified, check for:
  - a short in the YEL/BLK wire to ground.
  - an open in the YEL/BLK or BLK/WHT wire.
  - poor ground (G 552).

## FUEL TANK UNIT 5P CONNECTOR



### Wire side of female terminals

G03677758

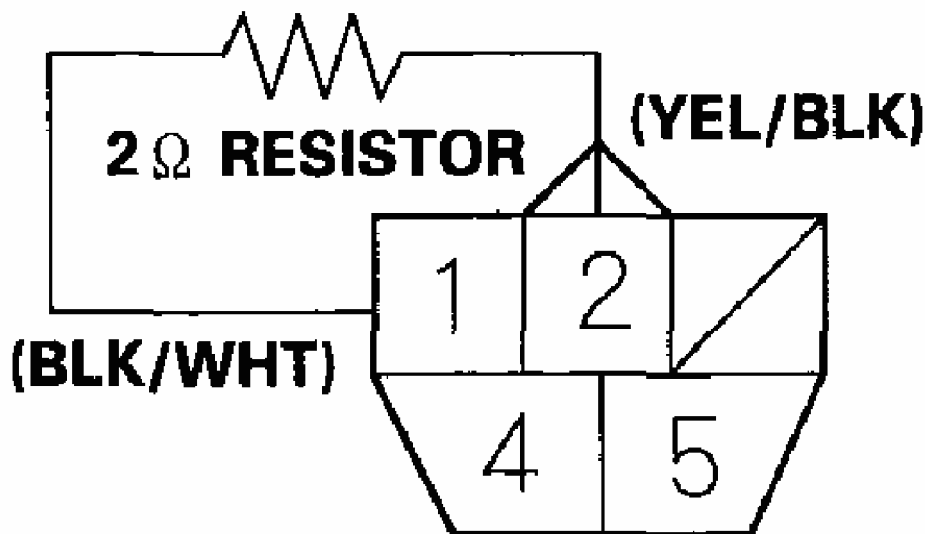
**Fig. 46: Measuring Voltage Between Fuel Tank Unit 5P Connector Terminals With Ignition Switch**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Turn the ignition switch OFF. Remove the No. 9 BACK UP (10 A) fuse from the

under-hood fuse/relay box for at least 30 seconds, then reinstall it.

9. Install a 2 ohm resistor between fuel pump 5P connector terminals No. 1 and No. 2, then turn the ignition switch ON (II).

## FUEL TANK UNIT 5P CONNECTOR



### Wire side of female terminals

G03677759

**Fig. 47: Installing 2 ohm Resistor Between Fuel Pump 5P Connector Terminals**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Check that the needle of the fuel gauge indicates "F".
  - If the pointer of the fuel gauge does not indicate "F", replace the gauge.
  - If the pointer points to "F", the fuel gauge is OK; go to step 11.

**NOTE:** The needle of the fuel gauge returns to the bottom of the

## 2004 Honda Element DX

2003-06 ENGINE PERFORMANCE Fuel Supply System - Element

**gauge dial when the ignition switch is OFF, regardless of the fuel level.**

11. Remove the fuel tank unit from the fuel tank (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT** ).
12. Measure the resistance between the No. 1 and No. 2 terminals of the fuel gauge sending unit with the float at E (EMPTY), LOW (LOW FUEL INDICATOR), 1/2 (HALF FULL), and F (FULL) positions.

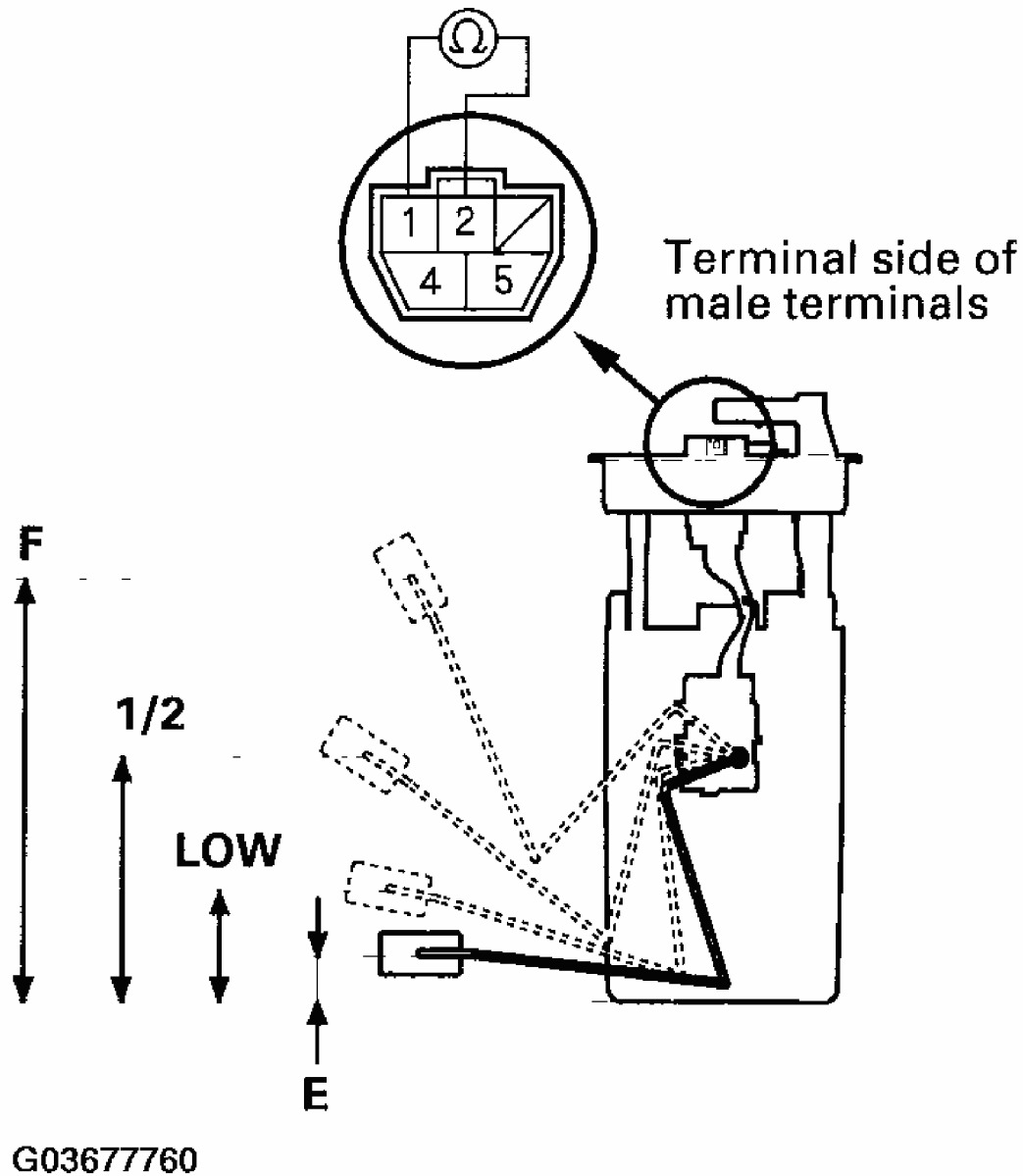
If you do not get these readings, replace the sending unit (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT** ).

### FLOAT POSITION

Float Position	F 5.8 in. (148.4 mm)	1/2 3.2 in. (80.4 mm)	LOW 1.2 in. (30.4 mm)	E 0.5 in. (13.7 mm)
Resistance (ohm)	19 to 20	233.1 to 243.1	526.9 to 692.6	770 to 790

**NOTE:** Remove the No. 9 BACK UP (10 A) fuse from the under-hood fuse/relay box for at least 10 seconds after completing troubleshooting, otherwise it may take up to 20 minutes for the fuel gauge to indicate the correct fuel level.





**Fig. 48: Measuring Resistance Between Terminals Of Fuel Gauge Sending Unit**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

### 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 OFF. Remove the No. 9 BACK UP (10 A) fuse from the

## 2004 Honda Element DX

2003-06 ENGINE PERFORMANCE Fuel Supply System - Element

under-hood fuse/relay box for at least 30 seconds, then reinstall it.

3. Turn the ignition switch ON (II) with the float at the E (EMPTY) position.
  - If the low fuel indicator is on, go to step 4.
  - If the low fuel indicator is not on, refer to the low fuel indicator circuit diagram (see **CIRCUIT DIAGRAM** ) and check the circuit.
4. Turn the ignition switch OFF. Remove the No. 9 BACK UP (10 A) fuse from the under-hood fuse/relay box for at least 30 seconds, then reinstall it.
5. 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 the low fuel indicator circuit diagram (see **CIRCUIT DIAGRAM** ), and check the circuit.