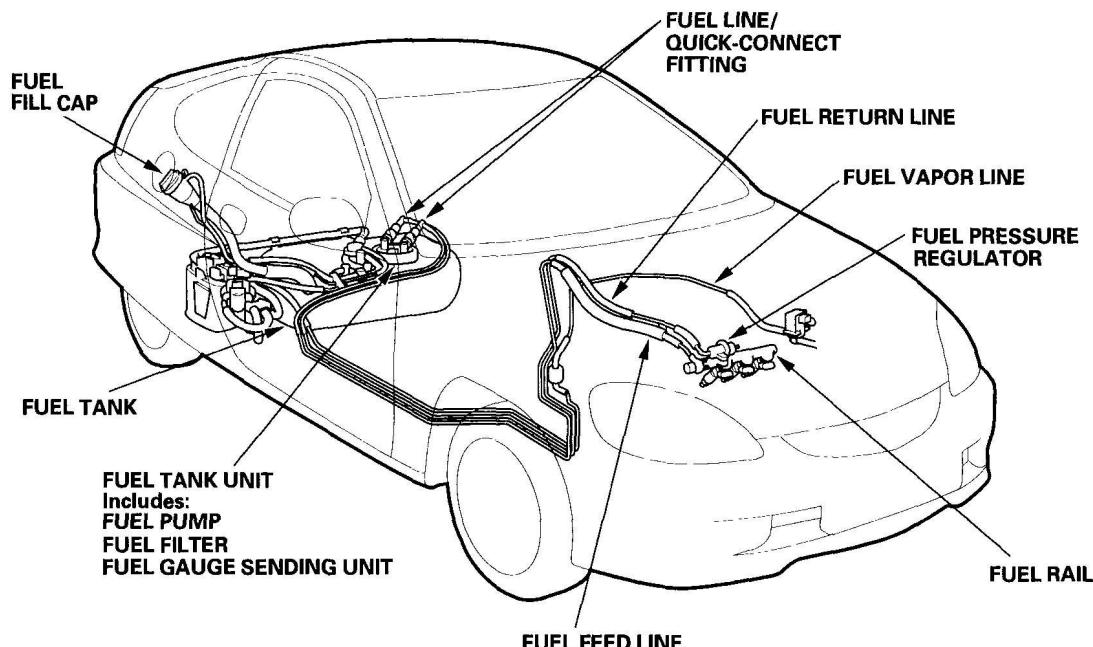


## 2000-06 ENGINE PERFORMANCE

### Fuel Supply System - Insight

## COMPONENT LOCATION INDEX

### 2000-2005 M/T MODELS



This illustration shows 2000-2003 models; 2004-2005 models are similar.

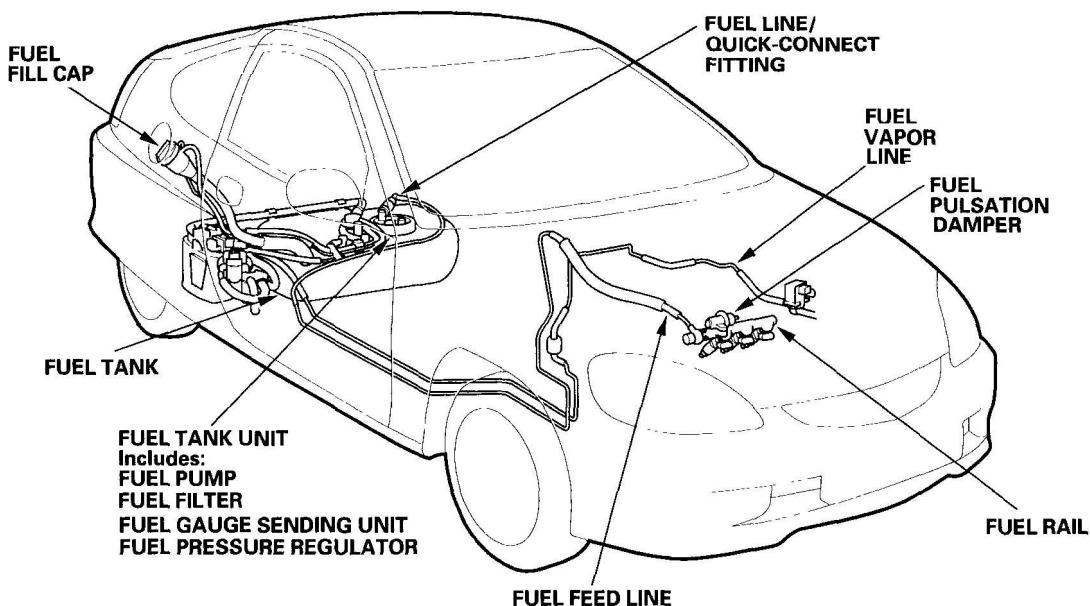
G03681006

**Fig. 1: Identifying Fuel Supply System Component Location Index (2000-2005 M/T Models)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

## 2006 Honda Insight

### 2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight



This illustration shows 2002-2003 models; 2004-2005 models are similar.

G03681007

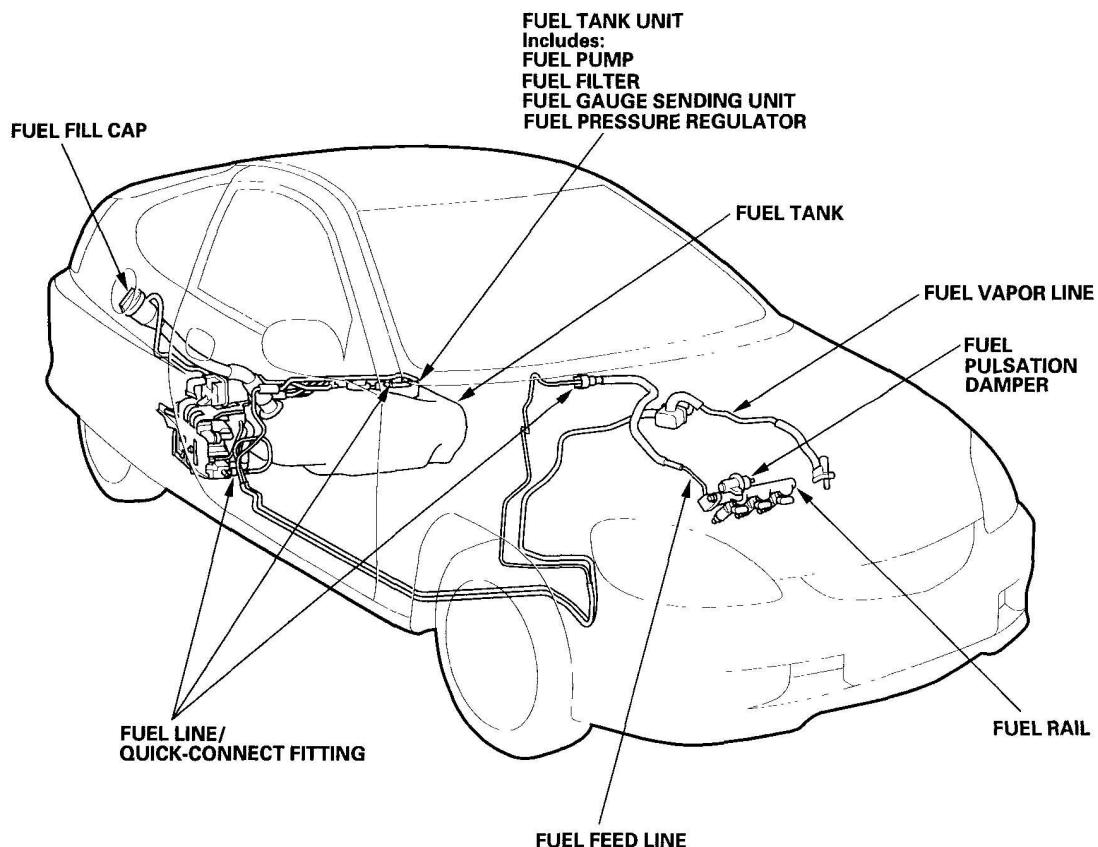
### **Fig. 2: Identifying Fuel Supply System Component Location Index (2000-2005 CVT Models)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

**2006 MODEL**

## 2006 Honda Insight

### 2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight

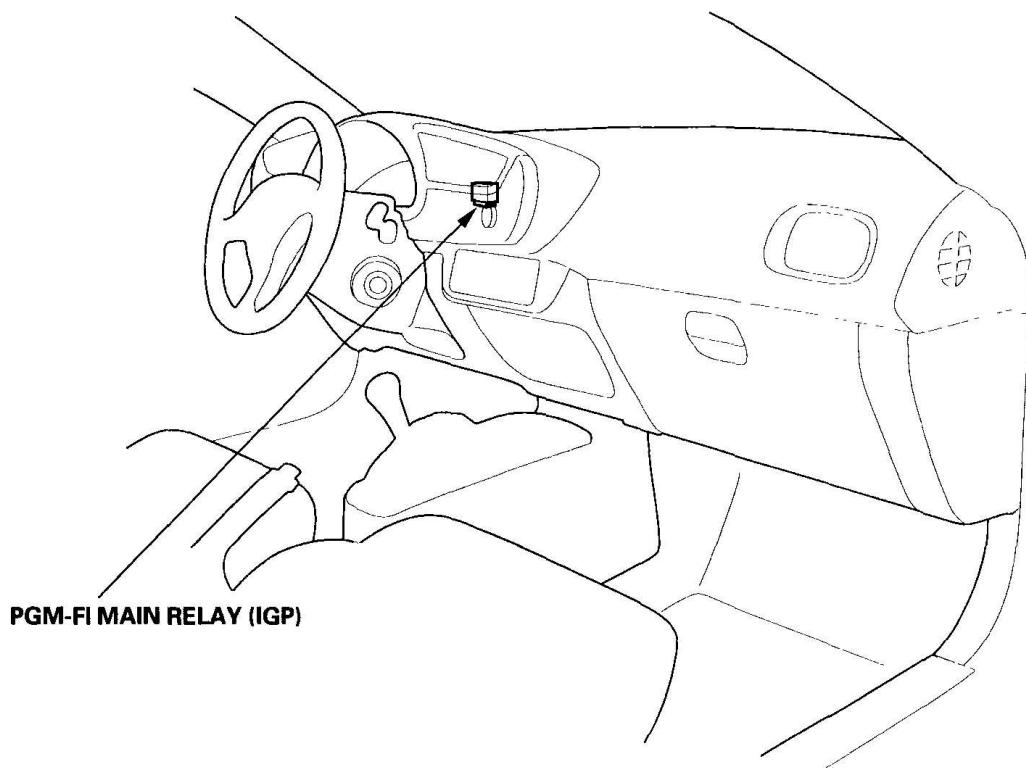
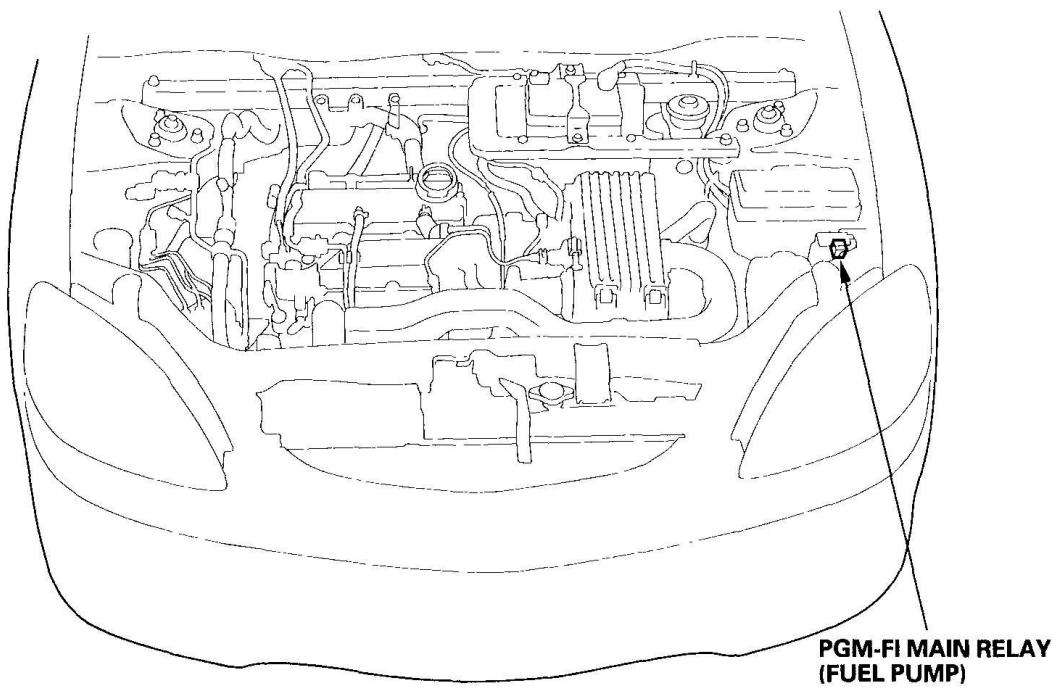


**Fig. 3: Identifying Fuel Supply System Component Location Index - 2006 Models (1 Of 2)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

## 2006 Honda Insight

### 2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight



G03681009

**Fig. 4: Identifying Fuel Supply System Component Location Index - 2006**

## **Models (2 Of 2)**

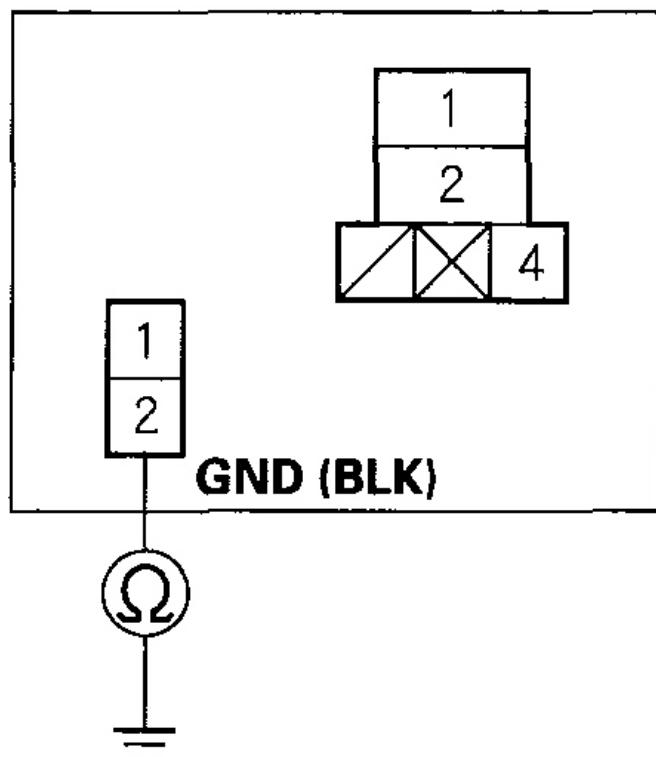
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## **PGM-FI MAIN RELAY CIRCUIT TROUBLESHOOTING**

### **2000-2004 MODELS**

1. Turn the ignition switch OFF, then disconnect the PGM-FI main relay connectors.
2. Check for continuity between body ground and PGM-FI main relay diode 2P connector terminal No. 2.

## **PGM-FI MAIN RELAY DIODE 2P CONNECTOR**



**Wire side of female terminals**

G03681010

**Fig. 5: Checking For Continuity Between Body Ground And PGM-FI Main Relay Diode 2P Connector Terminal No. 2**  
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

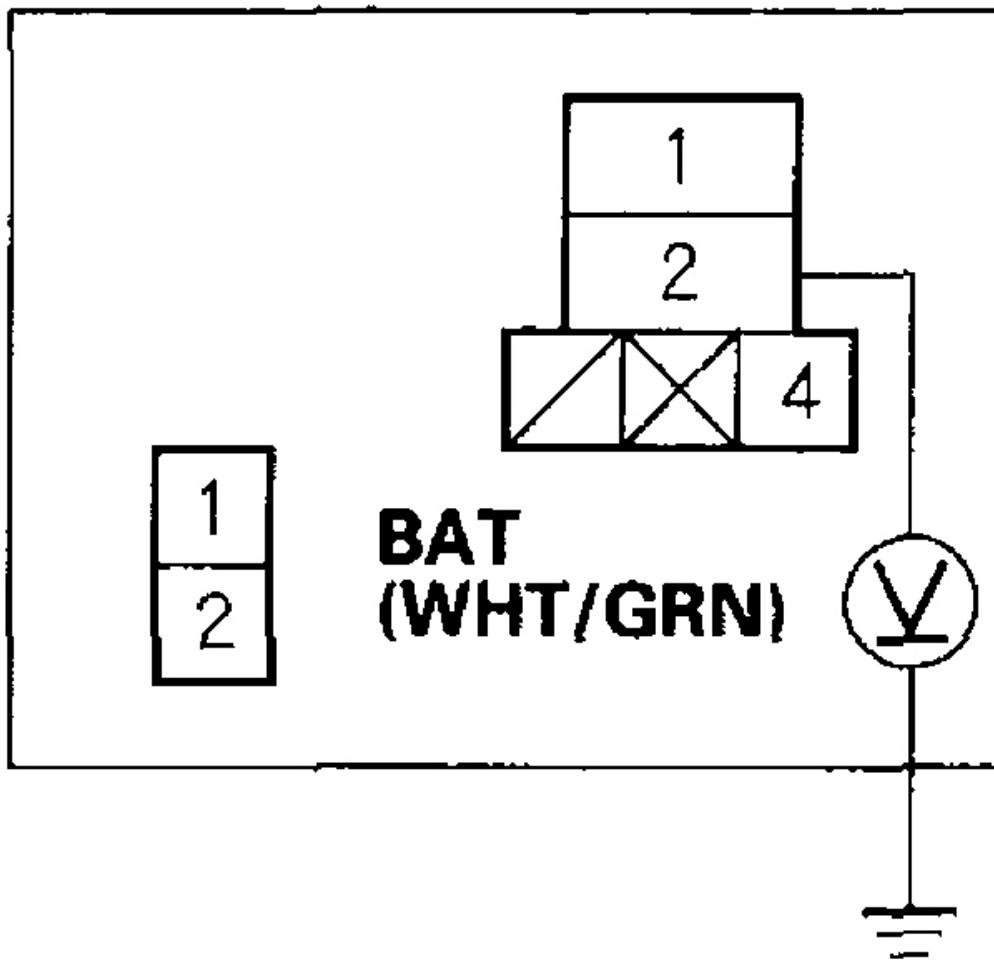
*Is there continuity?*

**YES** -Go to step 3.

**NO** -Repair open in the wire between the PGM-FI main relay and G101.

3. Measure voltage between body ground and PGM-FI main relay (IGP) 4P connector terminal No. 2.

## PGM-FI MAIN RELAY (IGP) 4P CONNECTOR



Wire side of female terminals

G03681011

Fig. 6: Measuring Voltage Between Body Ground And PGM-FI Main

**Relay (IGP) 4P Connector Terminal No. 2**

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

*Is there battery voltage?*

**YES** -Go to step 5 .

**NO** -Go to step 4.

4. Check for a blown No. 7 (15 A) fuse in the under-hood fuse/relay box.

*Is the fuse blown?*

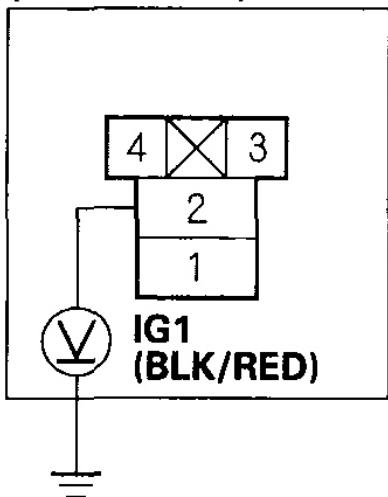
**YES** -Repair short in the wire between the PGM-FI main relay and the No. 7 (15 A) fuse.

**NO** -Repair open in the wire between the PGM-FI main relay and the No. 7 (15 A) fuse.

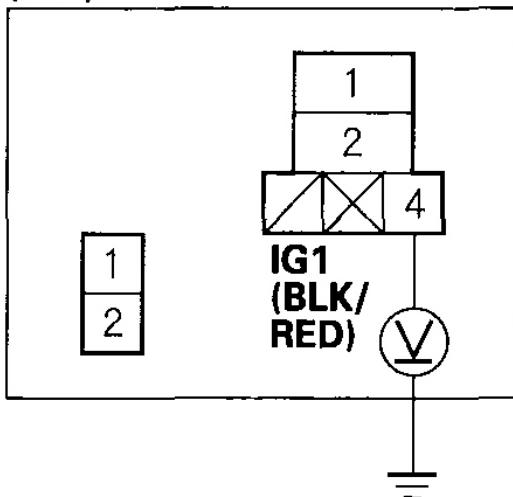
5. Turn the ignition switch ON (II). Measure voltage between body ground and PGM-FI main relay (FUEL PUMP) 4P connector terminal No. 2, and between PGM-FI main relay (IGP) 4P connector terminal No. 4.

## PGM-FI MAIN RELAY CONNECTORS

(FUEL PUMP)



(IGP)



**Wire side of female terminals**

G03681012

**Fig. 7: Measuring Voltage Between Body Ground And PGM-FI Main Relay (Fuel Pump) 4P Connector Terminal No. 2**  
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 7 .

**NO** -Go to step 6.

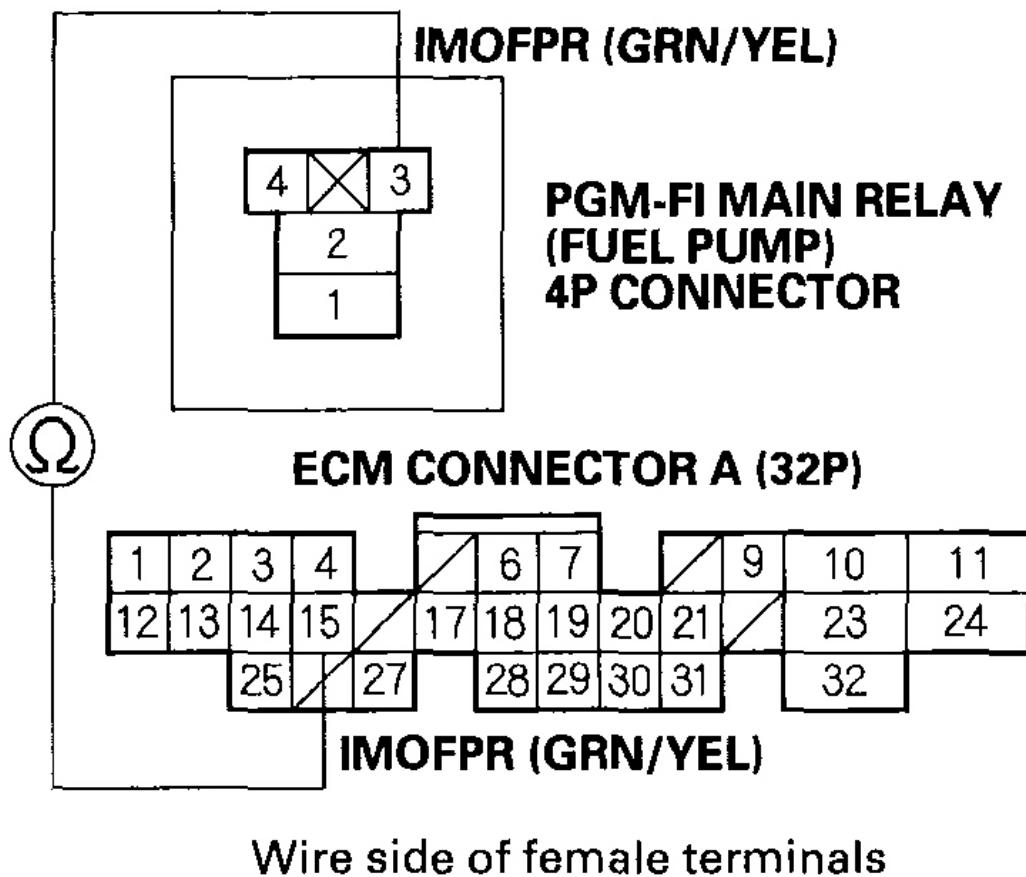
6. Check for a blown No. 2 (15 A) fuse in the under-dash fuse/relay box.

*Is the fuse blown?*

**YES** -Repair short in the wire between the PGM-FI main relay and the No. 2 (15 A)fuse.

**NO** -Repair open in the wire between the PGM-FI main relay and the No. 2 (15 A) fuse.

7. Turn the ignition switch OFF, and disconnect ECM connector A (32P).
8. Check for continuity between PGM-FI main relay (FUEL PUMP) 4P connector terminal No. 3 and ECM connector terminal A15.



G03681013

**Fig. 8: Checking For Continuity Between PGM-FI Main Relay (Fuel Pump) 4P Connector Terminal No. 3 And ECM Connector Terminal A15**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

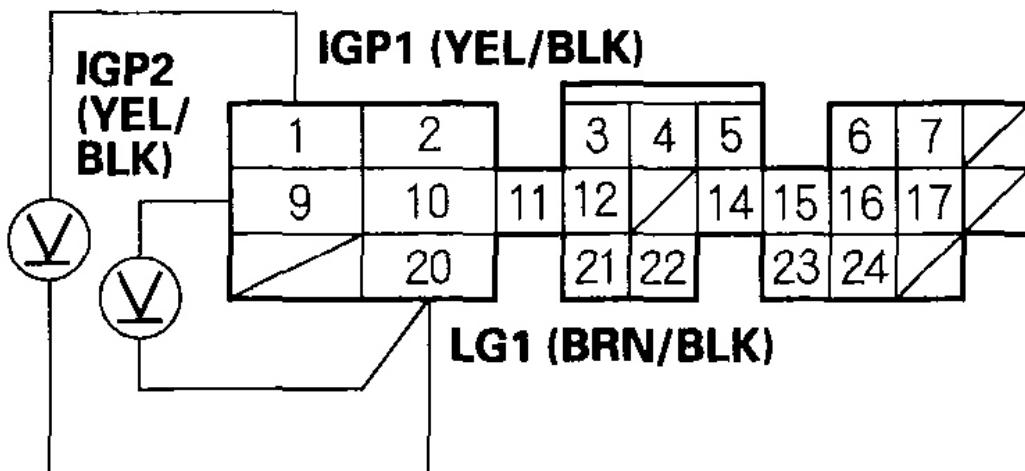
*Is there continuity?*

YES -Go to step 9.

**NO** -Repair open in the wire between the PGM-FI main relay (FUEL PUMP) and the ECM (A15).

9. Reconnect ECM connector A (32P) and the PGM-FI main relay connectors.
10. Turn the ignition switch ON (II), then measure voltage between ECM connector terminals B1 and B20, and between B9 and B20.

### ECM CONNECTOR B (25P)



Wire side of female terminals

G03681014

**Fig. 9: Measuring Voltage Between ECM Connector Terminals B1 And B20**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

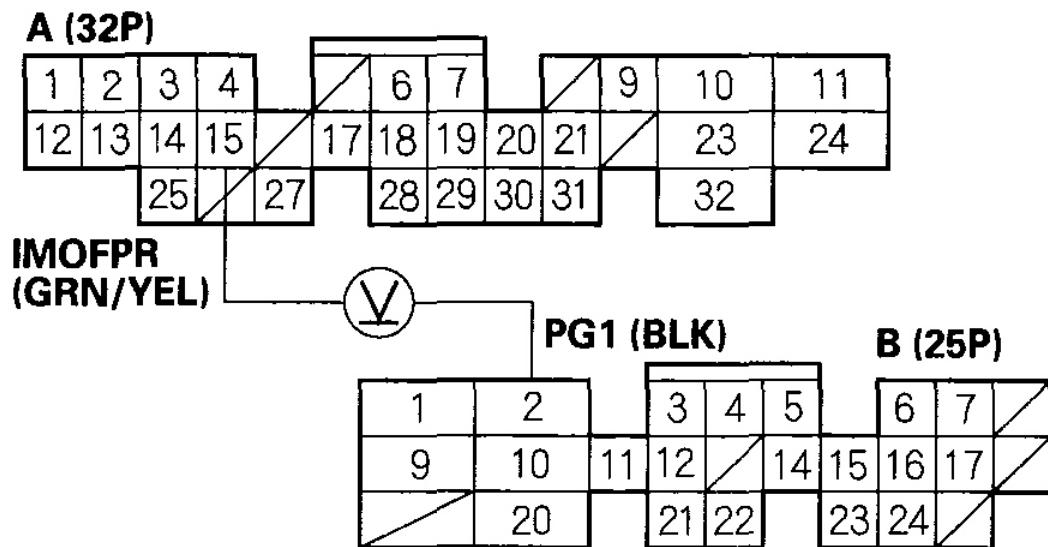
*Is there battery voltage?*

**YES** -Go to step 11.

**NO** -Check for an open in the wires between the PGM-FI main relay and the ECM (B1, B9). If the wires are OK, replace the PGM-FI main relay.

11. Turn the ignition switch OFF, then ON (II) again, and measure voltage between ECM connector terminals A15 and B2 within the first 2 seconds.

### ECM CONNECTORS



Wire side of female terminals

G03681015

**Fig. 10: Measuring Voltage Between ECM Connector Terminals A15 And B2 Within First 2 Seconds**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

*Is there 1.0 V or less?*

**YES** -The PGM-FI main relay may be faulty (see **PGM-FI MAIN RELAY TEST** ).

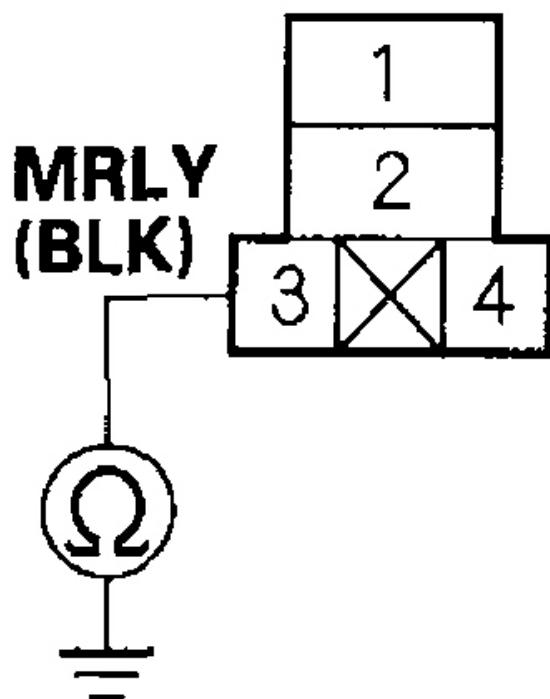
**NO** -Update the ECM if it does not have the latest software, or substitute a known-good ECM; 2000-2001 M/T models (see **HOW TO TROUBLESHOOT CIRCUITS AT THE ECM** ), 2002-2004 M/T models and CVT model (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2002-2006 M/T MODELS AND CVT MODEL** ), then

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

**2005-2006 MODELS**

1. Turn the ignition switch OFF.
2. Disconnect the PGM-FI main relay (IGP) 4P connector.
3. Check for continuity between body ground and PGM-FI main relay (IGP) 4P connector terminal No. 3.

## PGM-FI MAIN RELAY (IGP) 4P CONNECTOR



Wire side of female terminals

G03681016

**Fig. 11: Checking For Continuity Between Body Ground And PGM-FI Main Relay (IGP) 4P Connector Terminal No. 3**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

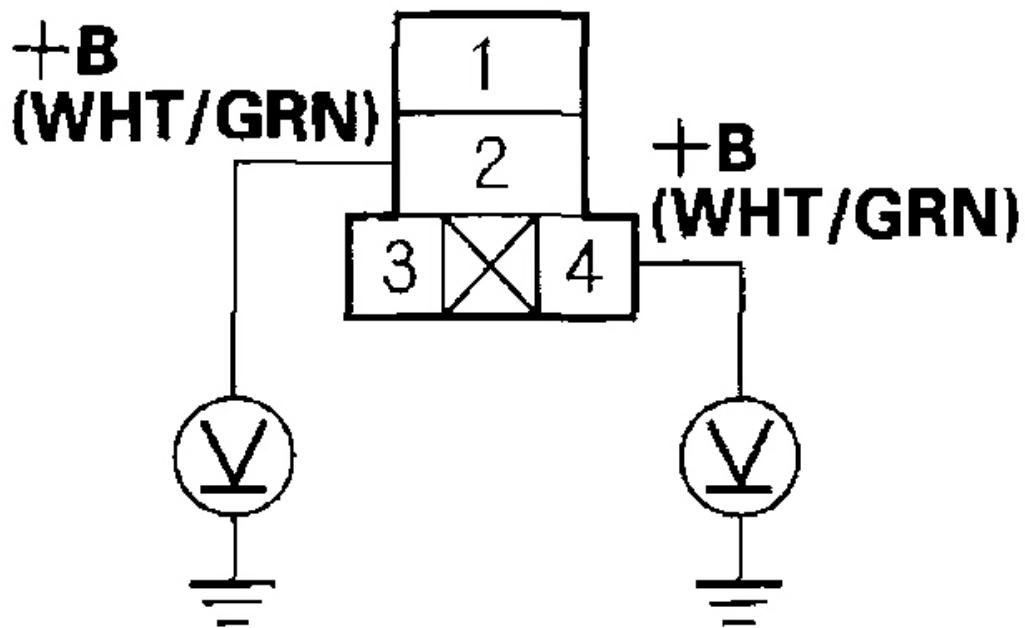
*Is there continuity?*

**YES** -Repair short in the wire between ECM connector terminal A8 and the PGM-FI main relay (IGP).

**NO** -Go to step 4.

4. Measure voltage between body ground and PGM-FI main relay (IGP) 4P connector terminals No. 2 and No. 4 individually.

## PGM-FI MAIN RELAY (IGP) 4P CONNECTOR



Wire side of female terminals

G03681017

**Fig. 12: Measuring Voltage Between Body Ground And PGM-FI Main Relay (IGP) 4P Connector Terminals No. 2 And No. 4**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

*Is there battery voltage?*

**YES** -Go to step 6 .

**NO** -Go to step 5.

5. Check for a blown No. 7 (15 A) fuse in the under-hood fuse/relay box.

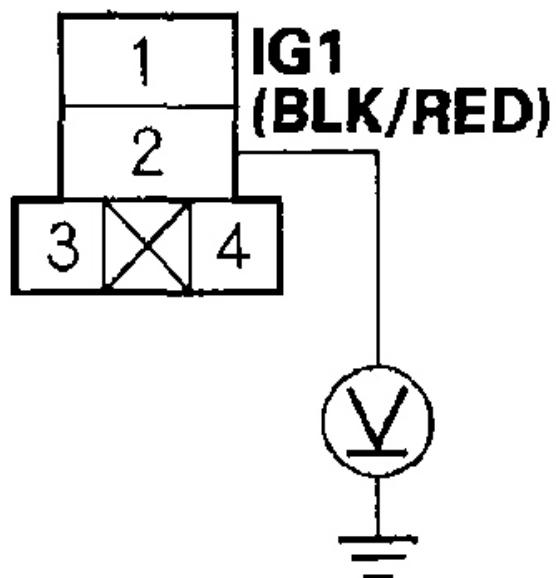
*Is the fuse blown?*

**YES** -Repair short in the wire between the PGM-FI main relay (IGP) and the No. 7 (15 A) fuse.

**NO** -Repair open in the wire between the PGM-FI main relay (IGP) and the No. 7 (15A)fuse.

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

## PGM-FI MAIN RELAY (FUEL PUMP) 4P CONNECTOR



Wire side of female terminals

G03681018

**Fig. 13: Measuring Voltage Between PGM-FI Main Relay (Fuel Pump) 4P Connector Terminal No. 2 And Body Ground**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

*Is there battery voltage?*

**YES** -Go to step 9 .

**NO** -Go to step 8.

8. Check for a blown No. 2 (15 A) fuse in the under-dash fuse/relay box.

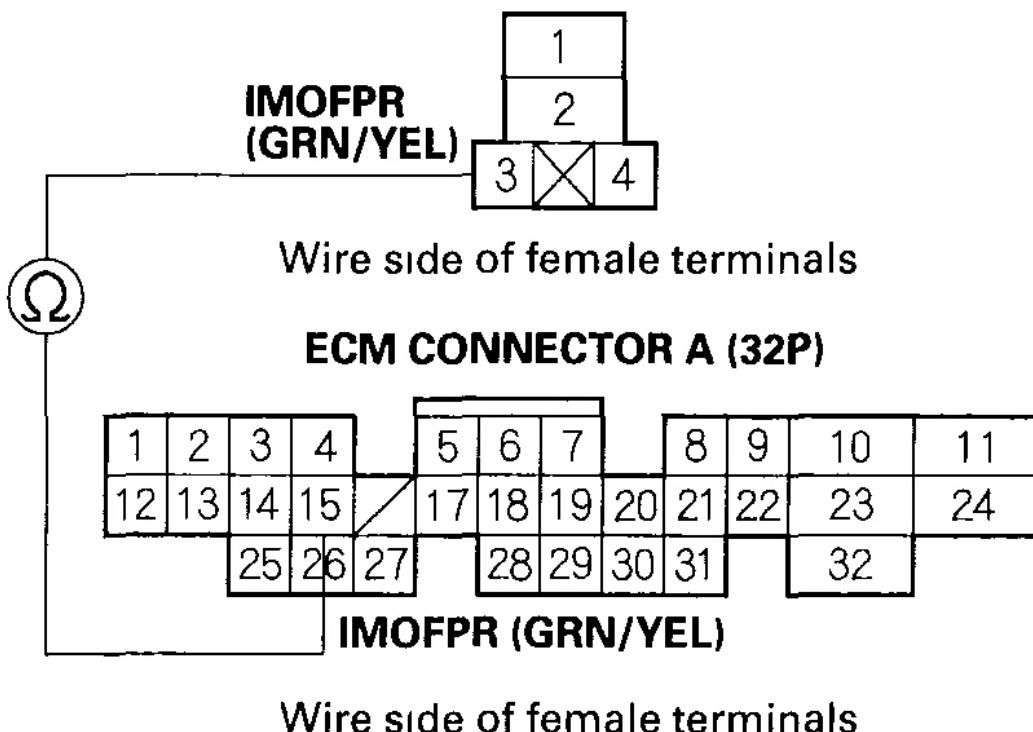
*Is the fuse blown?*

**YES** -Repair short in the wire between the PGM-FI main relay (FUEL PUMP) and the No. 2 (15 A) fuse.

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

9. Turn the ignition switch OFF, and wait for 10 seconds.
10. Disconnect ECM connector A (32P).
11. Check for continuity between PGM-FI main relay (FUEL PUMP) 4P connector terminal No. 3 and ECM connector terminal A15.

## PGM-FI MAIN RELAY (FUEL PUMP) 4P CONNECTOR



G03681019

**Fig. 14: Checking For Continuity Between PGM-FI Main Relay (Fuel Pump) 4P Connector Terminal No. 3 And ECM Connector Terminal A15**  
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

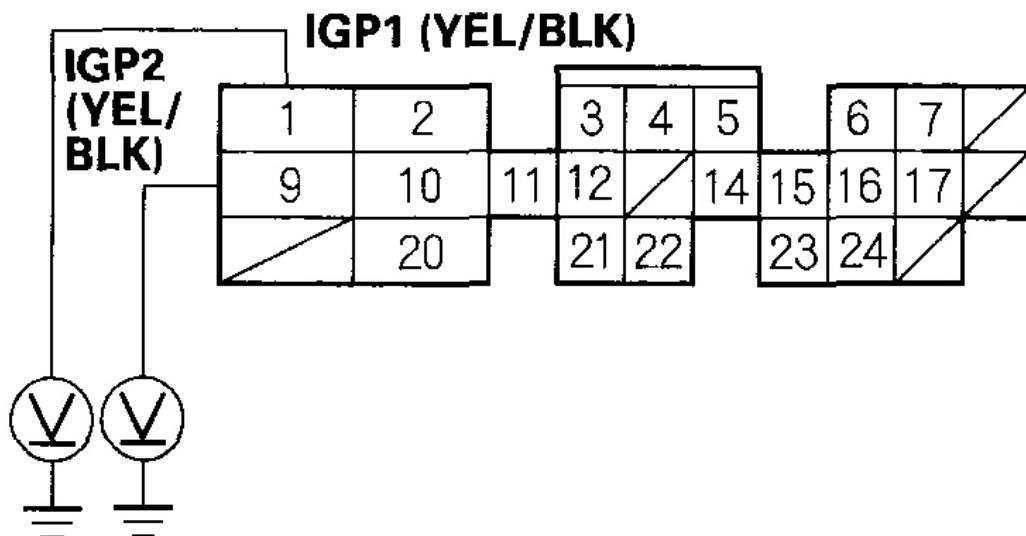
**YES** -Go to step 12.

**NO** -Repair open in the wire between the PGM-FI main relay (FUEL PUMP) and the ECM (A15).

12. Reconnect ECM connector A (32P) and the PGM-FI main relay (FUEL PUMP) connectors.
13. Turn the ignition switch ON (II).

14. Measure voltage between body ground and ECM connector terminals B1 and B9 individually.

### ECM CONNECTOR B (25P)



Wire side of female terminals

G03681020

**Fig. 15: Measuring Voltage Between Body Ground And ECM Connector Terminals B1 And B9**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

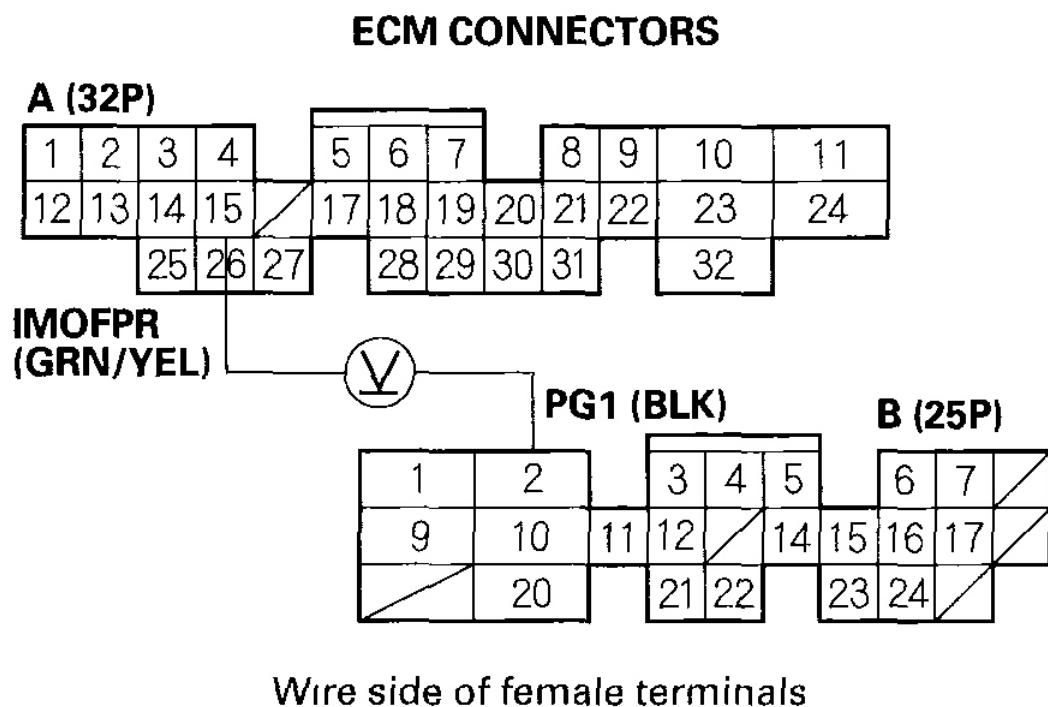
*Is there battery voltage?*

**YES** -Go to step 15.

**NO** -Check for an open in the wires between the PGM-FI main relay (IGP) and the ECM (B1, B9). If the wires are OK, replace the PGM-FI main relay.

15. Turn the ignition switch OFF.

16. Turn the ignition switch ON (II), and measure voltage between ECM connector terminals A15 and B2 within 2 seconds.



G03681021

**Fig. 16: Measuring Voltage Between ECM Connector Terminals A15 And B2 Within 2 Seconds**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

*Is there 1.0 V or less?*

**YES** -The PGM-FI main relay may be faulty (see **PGM-FI MAIN RELAY TEST** ).

**NO** -Update the ECM if it does not have the latest software, or substitute a known-good ECM (see **ECM UPDATING AND SUBSTITUTION FOR TESTING-2002-2006 M/T MODELS AND CVT MODEL** ), then recheck. If the symptom/indication goes away with a known-good ECM, replace the original ECM (see **ECM REPLACEMENT** ).

## PGM-FI MAIN RELAY TEST

Check for continuity between the terminals.

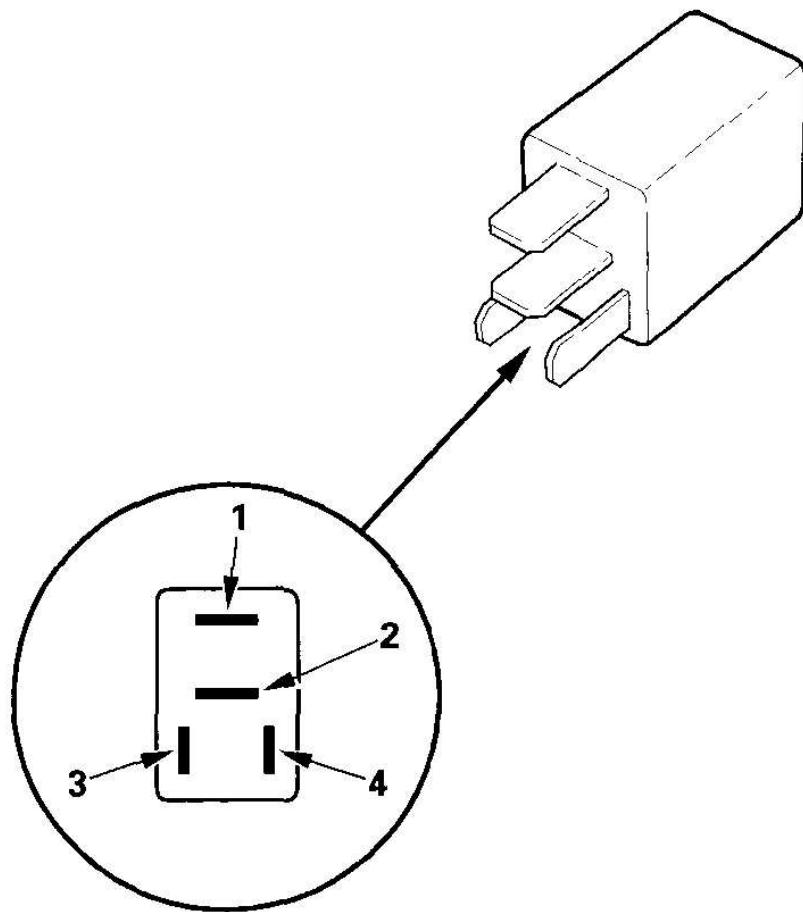
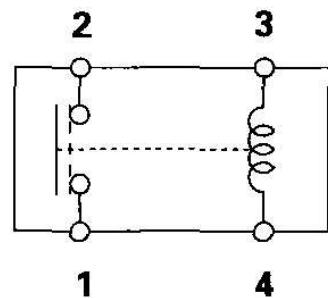
- There should be continuity between the No. 1 and No. 2 terminals when power and ground are connected to the No. 3 and No. 4 terminals.
- There should be no continuity between the No. 1 and No. 2 terminals when power is disconnected.

Terminal	1	2
<b>Power (No. 3—No. 4)</b>		
<b>Disconnected</b>		
<b>Connected</b>	○	○

G03681022

**Fig. 17: Terminals Continuity Table**

Courtesy of AMERICAN HONDA MOTOR CO., INC.



G03681023

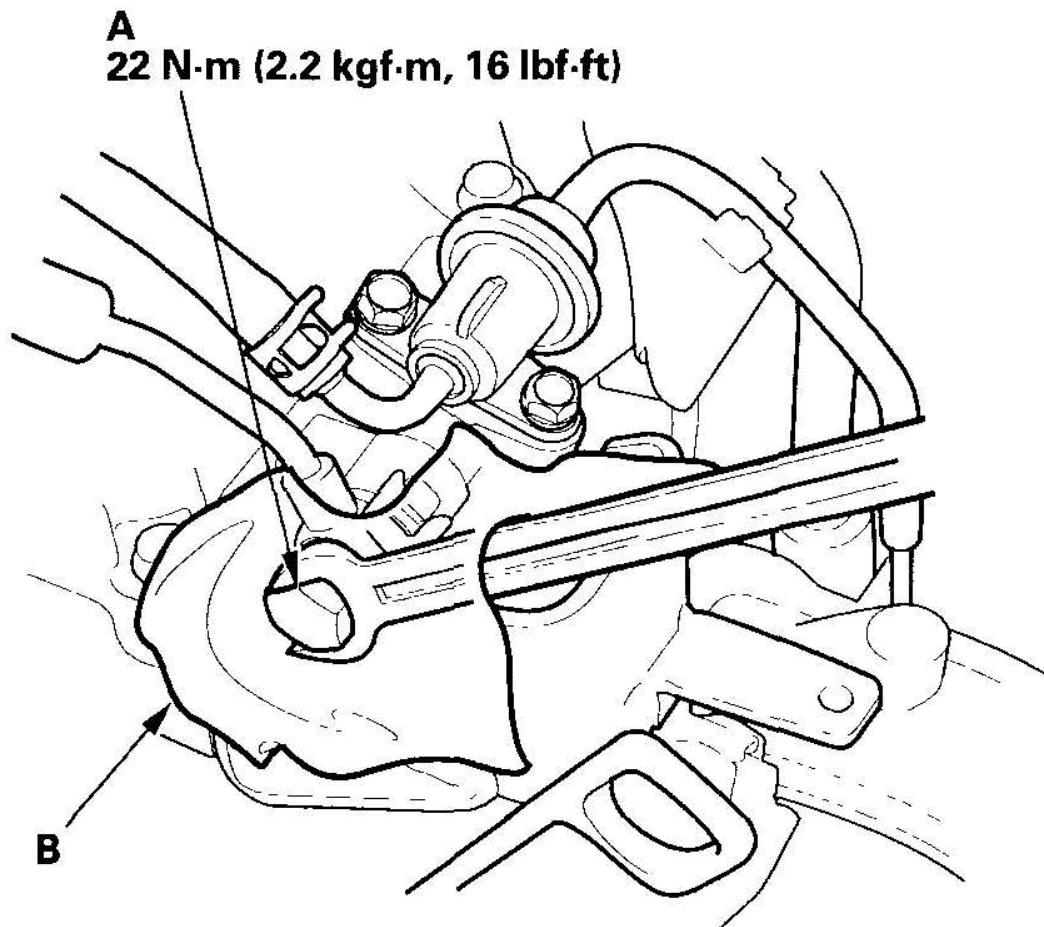
**Fig. 18: Identifying Connector Terminals**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

## **FUEL PRESSURE RELIEVING**

Before disconnecting fuel pipes or hoses, release pressure from the system by loosening the sealing nut on top of the fuel rail.

### **2000-2003 MODELS**

1. Make sure you have the anti-theft code for the radio, then write down the audio presets.
2. Disconnect the negative cable from the battery.
3. Remove the fuel fill cap.
4. Use a wrench on the sealing nut (A) at the fuel rail.



G03681024

**Fig. 19: Loosening Sealing Nut At Fuel Rail**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Place a rag or shop towel (B) over the sealing nut.
6. Slowly loosen the sealing nut one complete turn.

**NOTE:** Replace all washers whenever the sealing nut is loosened or removed.

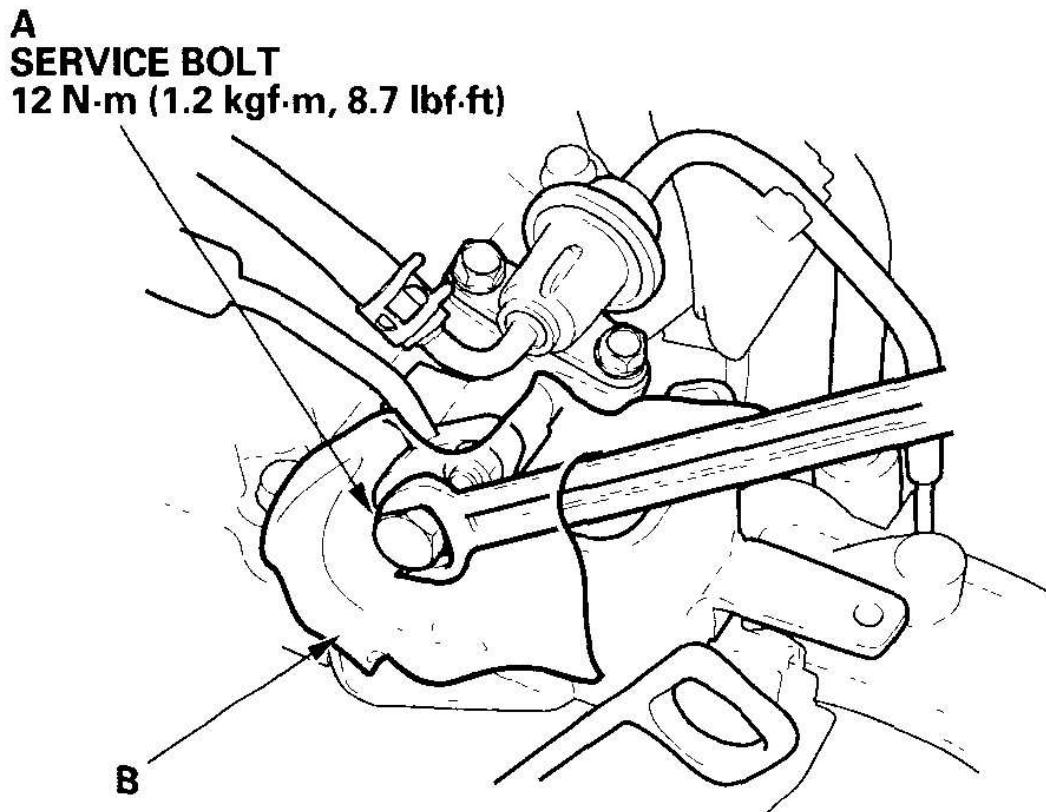
7. Tighten the sealing nut.
8. Reconnect the battery negative cable.

9. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
10. Remove the No. 15 (40 A) fuse from the under-hood fuse/relay box.
11. If the IMA battery level gauge (BAT) displays no segments, start the engine, and hold it between 3,500 RPM and 4,000 RPM without load (in Park or neutral) until the BAT displays at least three segments.
12. Reinstall the No. 15 (40 A) fuse.
13. Do the start clutch calibration procedure (see **START CLUTCH CALIBRATION PROCEDURES** ).
14. Enter the anti-theft code for the radio, then enter the audio presets, and set the clock.

Before disconnecting fuel lines or hoses, release pressure from the system by loosening the 6 mm service bolt sealing nut on top of the fuel rail.

#### **2004-2005 MODELS**

1. Make sure you have the anti-theft code for the radio, then write down the audio presets.
2. Disconnect the negative cable from the battery.
3. Remove the fuel fill cap.
4. Use a wrench on the 6 mm service bolt (A) at the fuel rail.



G03681025

**Fig. 20: Loosening Service Bolt At Fuel Rail**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Place a rag or shop towel (B) over the sealing nut.
6. Slowly loosen the 6 mm service bolt one complete turn.

**NOTE:** Replace all washers whenever the 6 mm service bolt is loosened or removed.

7. Tighten the sealing nut.
8. Reconnect the battery negative cable.
9. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
10. Remove the No. 15 (40 A) fuse from the under-hood fuse/relay box.

11. If the IMA battery level gauge (BAT) displays no segments, start the engine, and hold it between 3,500 RPM and 4,000 RPM without load (in Park or neutral) until the BAT displays at least three segments.
12. Reinstall the No. 15 (40 A) fuse.
13. Do the start clutch calibration procedure (see **START CLUTCH CALIBRATION PROCEDURES** ).
14. Enter the anti-theft code for the radio, then enter the audio presets, and set the clock.

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.

#### **2006 MODEL**

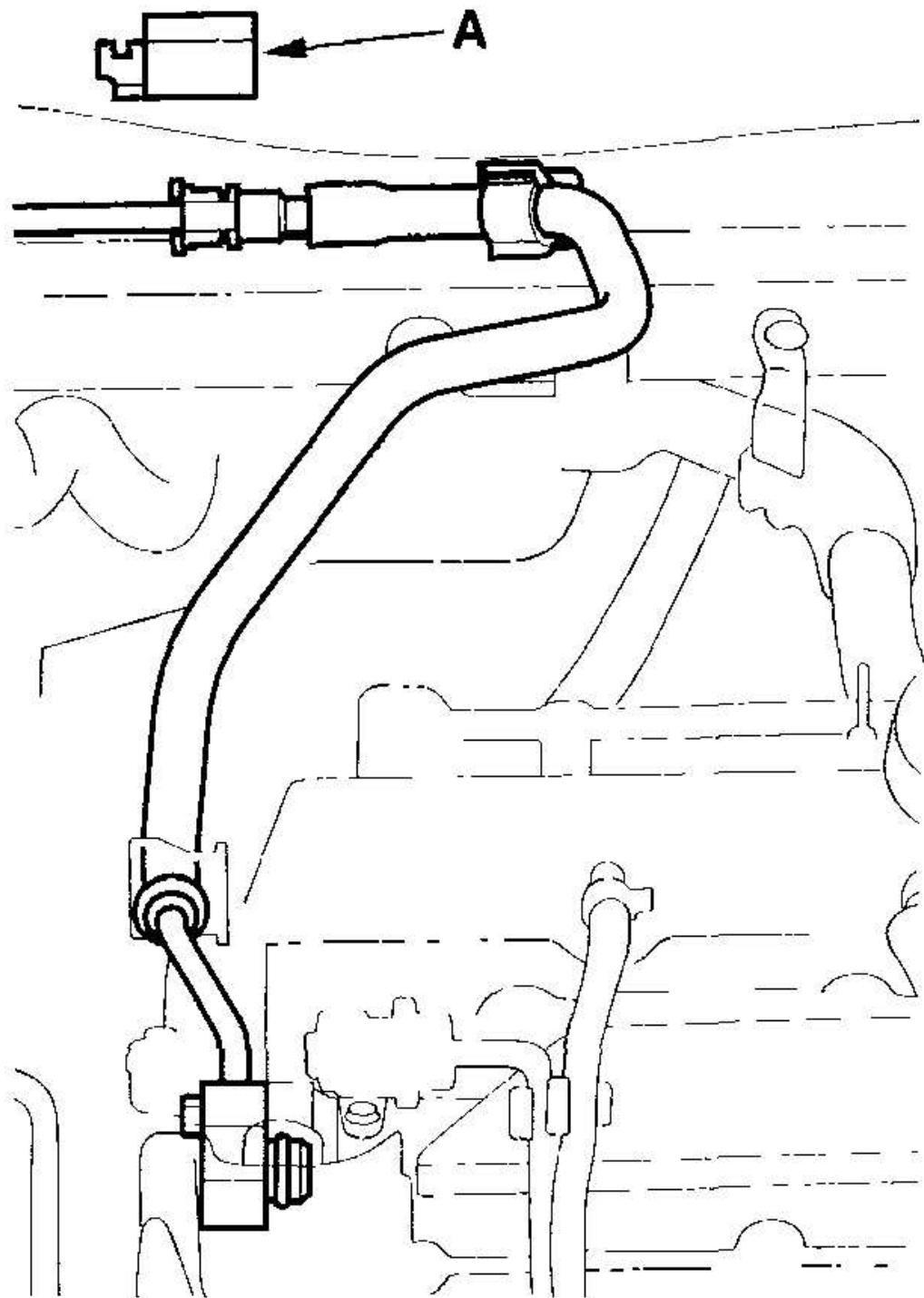
1. Make sure you have the anti-theft code for the radio, then write down the audio presets.
2. Remove the PGM-FI main relay (FUEL PUMP) from the multi relay box.
3. Start the engine, and let it idle until it stalls.

**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).

## 2006 Honda Insight

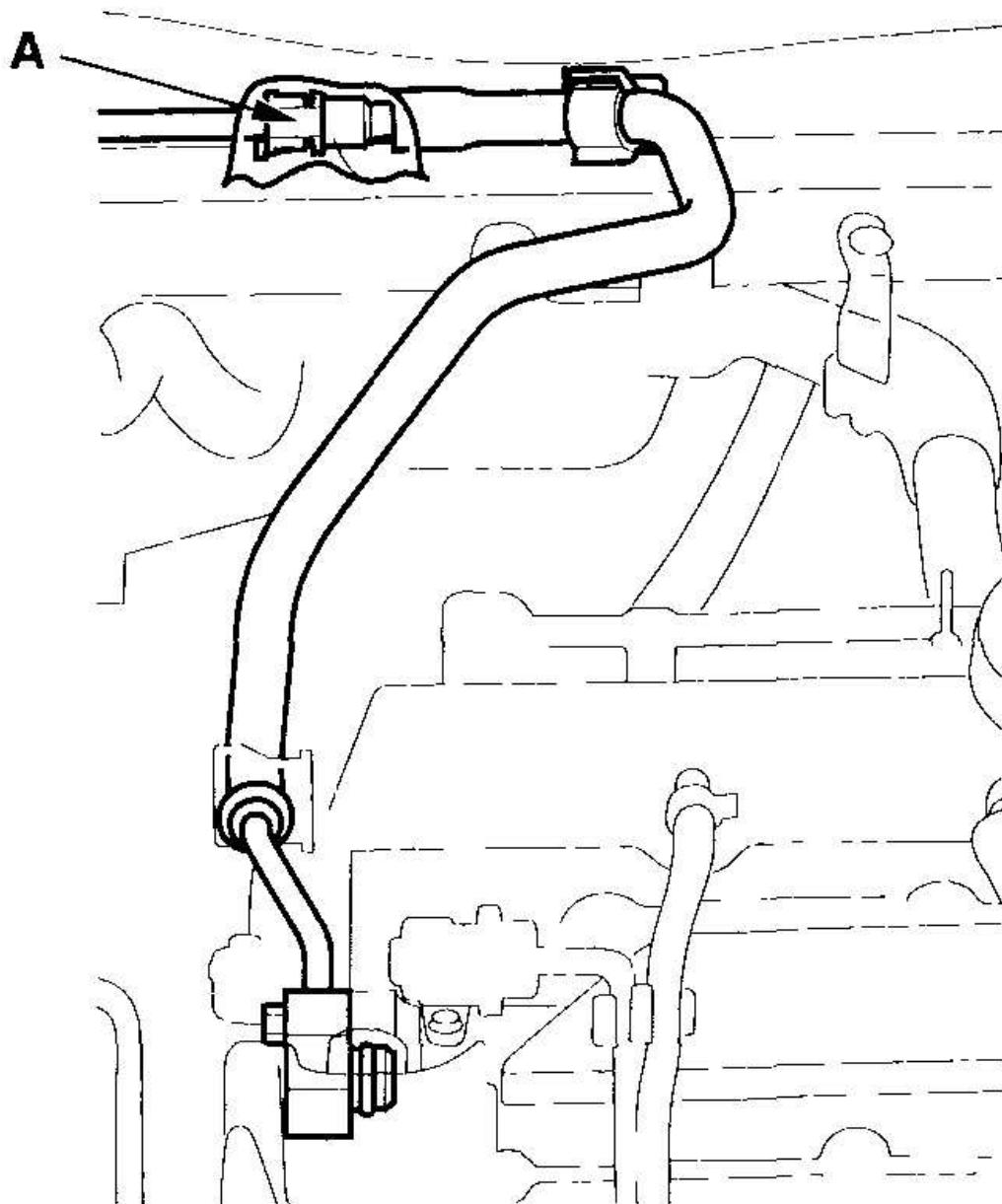
### 2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight



G03681026

**Fig. 21: 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).



G03681027

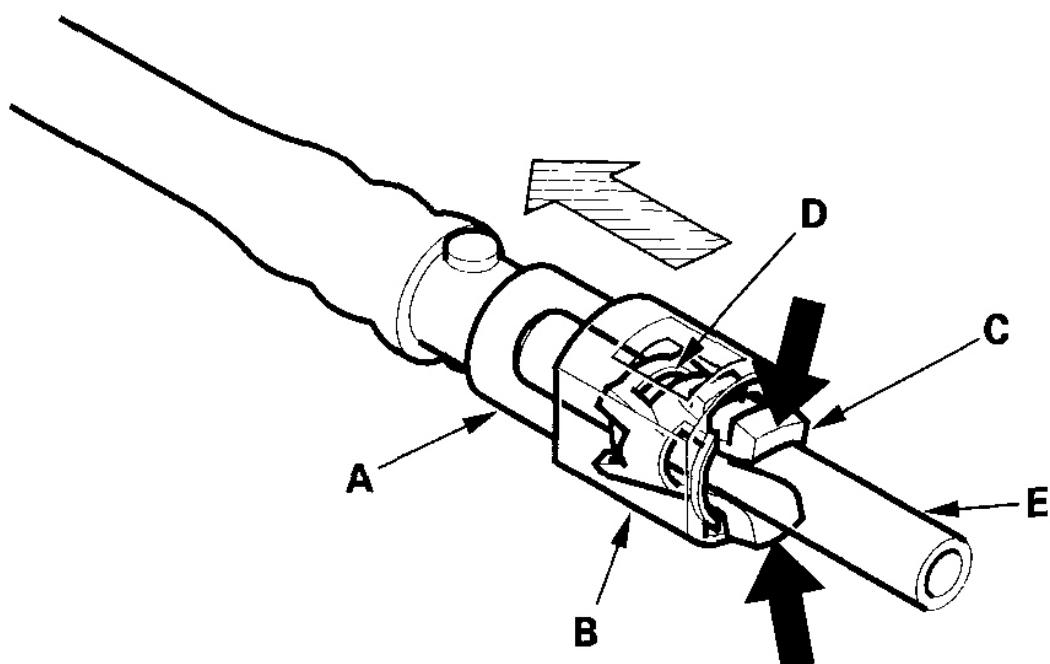
**Fig. 22: Placing Rag Or Shop Towel Over Quick-Connect Fitting**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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.



G03681028

**Fig. 23: 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 battery negative cable.
13. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
14. Remove the No. 15 (40 A) fuse from the under-hood fuse/relay box.
15. If the IMA battery level gauge (BAT) displays no segments, start the engine, and hold it between 3,500 RPM and 4,000 RPM without load (in Park or neutral) until the BAT displays at least three segments.
16. Reinstall the No. 15 (40 A) fuse.
17. Do the start clutch calibration procedure (see **START CLUTCH CALIBRATION PROCEDURES** ).
18. Enter the anti-theft code for the radio, then enter the audio presets, and set the clock.

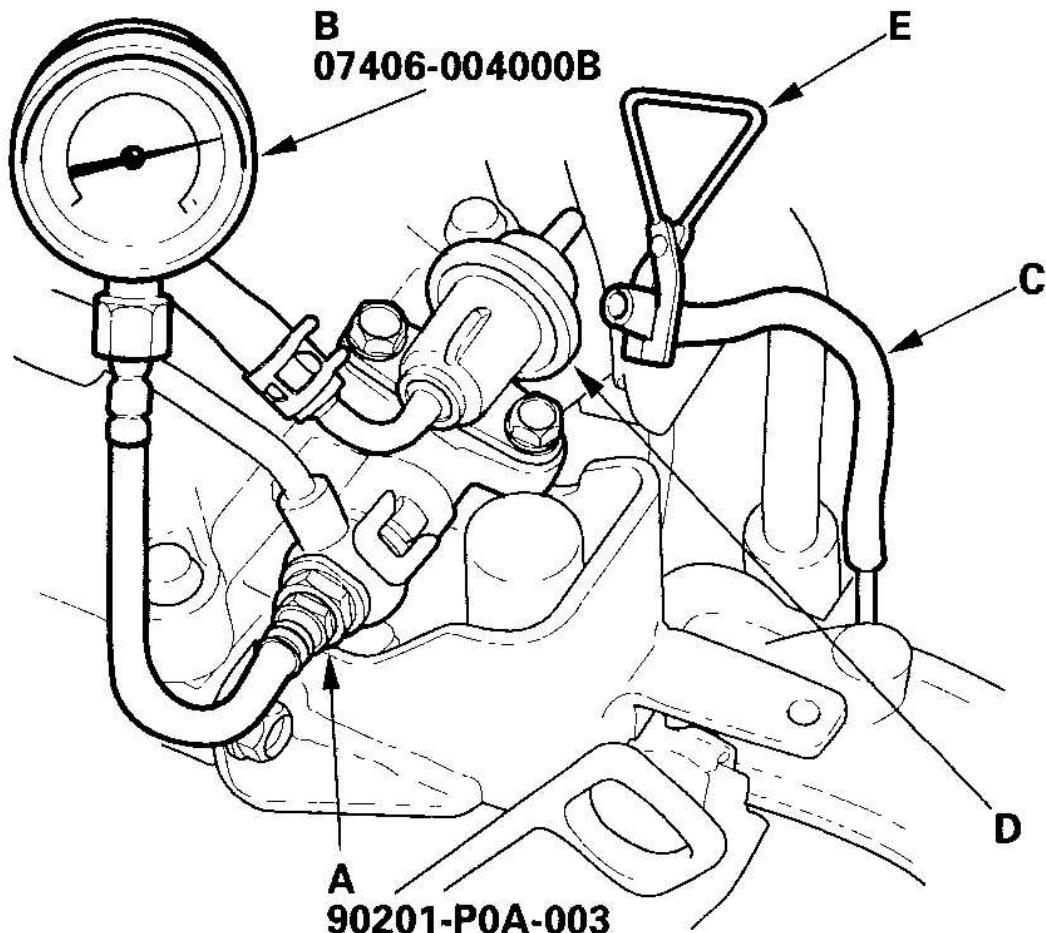
## **FUEL PRESSURE TEST**

### **Special Tools Required**

Fuel pressure gauge 07406-004000B

#### **2000-2003 M/T MODELS**

1. Relieve the fuel pressure (see **FUEL PRESSURE RELIEVING** ).
2. Remove the sealing nut from the fuel rail. Attach the fuel pressure adapter nut, 12 mm (A) and the fuel pressure gauge.



G03681029

**Fig. 24: Attaching Fuel Pressure Adapter Nut And Fuel Pressure Gauge**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Disconnect the vacuum hose (C) from the fuel pressure regulator (D), and pinch it closed with a clamp (E).
4. Start the engine, and let it idle.
  - If the engine starts, go to step 6 .
  - If the engine does not start, go to step 5.
5. Check to see if the fuel pump is running: Remove the fuel fill cap, and hold your ear to the fuel fill port while an assistant turns the ignition switch ON (II).

You should hear the pump run for about 2 seconds when the ignition is turned ON (II).

- If the fuel pump runs, make sure there is sufficient fuel in the tank, then go to step 6.
  - If the fuel pump does not run, test it (see **FUEL PUMP TEST** ).
6. Read the pressure gauge (with the fuel pressure regulator vacuum hose disconnected and clamped). The pressure should be 270-320 kPa (2.8-3.3 kgf/cm<sup>2</sup> , 40-47 psi).
    - If the pressure is OK and engine is running, go to step 8 . If the engine is not running, repair the cause, then continue this test.
    - If the pressure is out of spec, go to step 8 .
  7. With the engine running, un-pinch and reconnect the vacuum hose, and read the gauge again. The pressure should be 210-260 kPa (2.1-2.6 kgf/cm<sup>2</sup> , 30-37 psi).
    - If the fuel pressure is OK, go to step 9 .
    - If the pressure is out of specification, go to step 8 .
  8. Disconnect the vacuum hose from the pressure regulator again while you watch the pressure gauge. The pressure should rise when you disconnect the hose.
    - If the pressure did not rise, replace the fuel pressure regulator (see **FUEL PRESSURE REGULATOR REPLACEMENT** ).
    - If the pressure rose, but all your readings were lower than specified, check for a clogged fuel filter and for leaks in the fuel lines.
    - If the pressure rose, but all your readings were higher than specified, check for a pinched or clogged fuel return hose or line.
  9. Reconnect the vacuum hose, remove the pressure gauge, and reinstall the sealing nut with a new washer. Tighten the sealing nut to 22 N.m (2.2kgf.m, 16 lbf.ft).

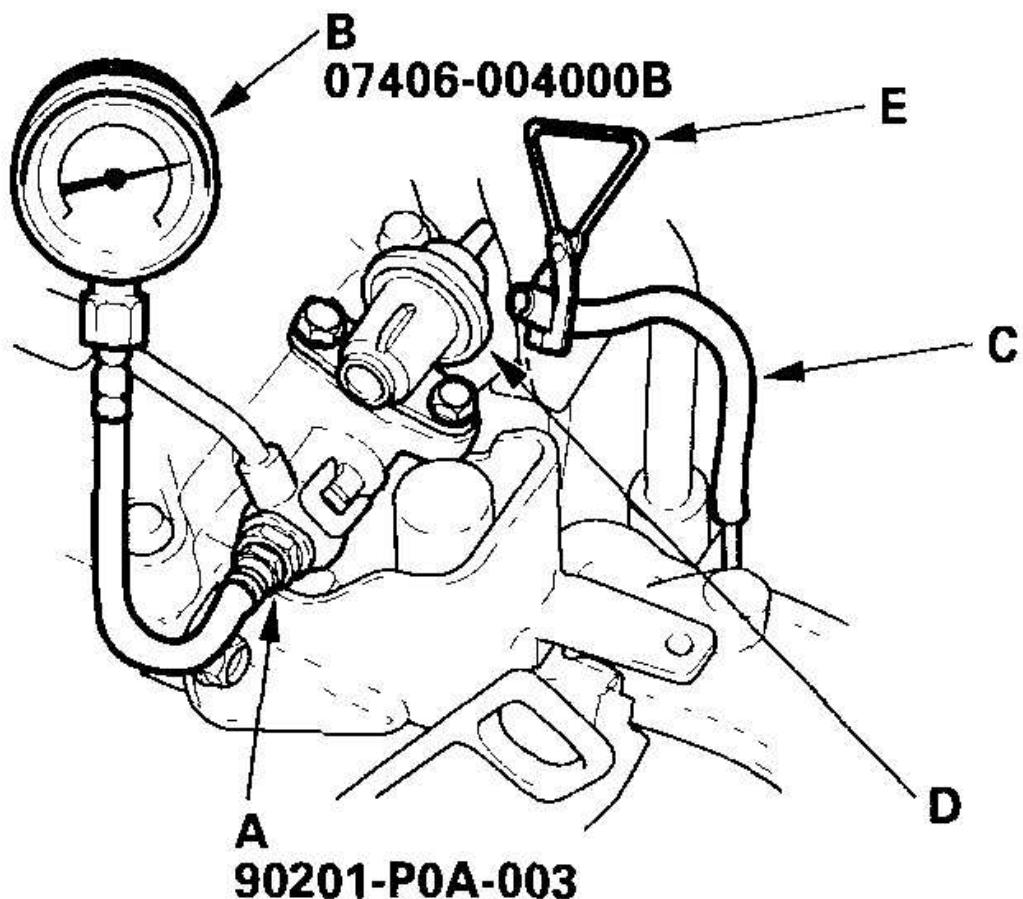
**NOTE: Disassemble and clean the fuel pressure gauge attachment thoroughly after use.**

## Special Tools Required

Fuel pressure gauge 07406-004000B

**2001-2003 CVT MODELS**

1. Relieve the fuel pressure (see **FUEL PRESSURE RELIEVING** ).
2. Remove the sealing nut from the fuel rail. Attach the fuel pressure adapter nut, 12 mm (A) and the fuel pressure gauge (B). Remove the vacuum hose (C) from the fuel pulsation damper (D), and pinch off the hose with a clamp (E).



G03681030

**Fig. 25: Attaching Fuel Pressure Adapter Nut 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. See if the fuel pump is running: 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 (II).
  - If the pump runs, go to step 5.
  - If the fuel pump does not run, perform the fuel pump circuit troubleshooting (see **PGM-FI MAIN RELAY CIRCUIT TROUBLESHOOTING** ).
5. Read the pressure gauge. The pressure should be 270-320 kPa (2.8-3.3 kgf/cm<sup>2</sup> , 40-47 psi).
  - If the pressure is OK, the test is complete.
  - If the pressure is out of specification, replace the fuel pressure regulator and the fuel filter (see **FUEL PRESSURE REGULATOR REPLACEMENT** ), and recheck the fuel pressure.
6. Reconnect the vacuum hose, remove the pressure gauge, and reinstall the sealing nut with a new washer. Tighten the sealing nut to 22 N.m (2.2 kgf.m, 16 lbf.ft).

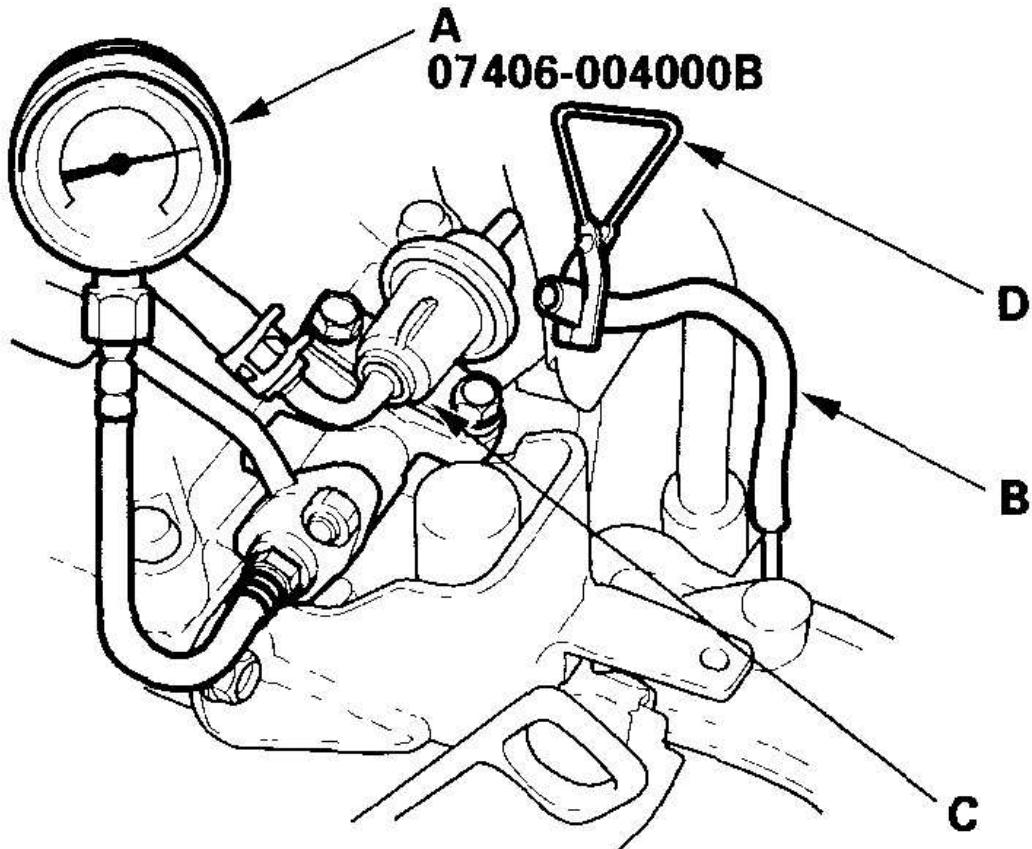
**NOTE:** **Disassemble and clean the fuel pressure gauge attachment thoroughly after use.**

## Special Tools Required

Fuel pressure gauge 07406-004000B

### 2004-2005 M/T MODELS

1. Relieve the fuel pressure (see **2004-2005 MODELS** ).
2. Remove the 6 mm service bolt from the fuel rail. Attach fuel pressure gauge (A).



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**Fig. 26: Attaching Fuel Pressure Gauge****Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the vacuum hose (B) from the fuel pressure regulator (C), and pinch it closed with a clamp (D).
4. Start the engine, and let it idle.
  - If the engine starts, go to step 6 .
  - If the engine does not start, go to step 5.
5. Check to see if the fuel pump is running: Remove the fuel fill cap, and hold your ear to the fuel fill port while an assistant turns the ignition switch ON (II). You should hear the pump run for about 2 seconds when the ignition is turned

ON (II).

- If the fuel pump runs, make sure there is sufficient fuel in the tank, then go to step 6.
  - If the fuel pump does not run, test it (see **FUEL PUMP TEST** ).
6. Read the pressure gauge (with the fuel pressure regulator vacuum hose disconnected and clamped). The pressure should be 270-320 kPa (2.8-3.3 kgf/cm<sup>2</sup> , 40-47 psi).
- If the pressure is OK and engine is running, go to step 8 . If the engine is not running, repair the cause, then continue this test.
  - If the pressure is out of specification, go to step 8 .
7. With the engine running, un-pinched and reconnect the vacuum hose, and read the gauge again. The pressure should be 210-260 kPa (2.1-2.6 kgf/cm<sup>2</sup> , 30-37 psi).
- If the fuel pressure is OK, the test is complete, go to step 9 .
  - If the pressure is out of spec, go to step 8.
8. Disconnect the vacuum hose from the pressure regulator again while you watch the pressure gauge. The pressure should rise when you disconnect the hose.
- If the pressure did not rise, replace the fuel pressure regulator (see **FUEL PRESSURE REGULATOR REPLACEMENT** ).
  - If the pressure rose, but all your readings were lower than specified, check for a clogged fuel filter and for leaks in the fuel lines.
  - If the pressure rose, but all your readings were higher than specified, check for a pinched or clogged fuel return hose or line.
9. Reconnect the vacuum hose, remove the pressure gauge, and reinstall the sealing nut with a new washer. Tighten the sealing nut to 22 N.m (2.2 kgf.m, 16 lbf.ft).

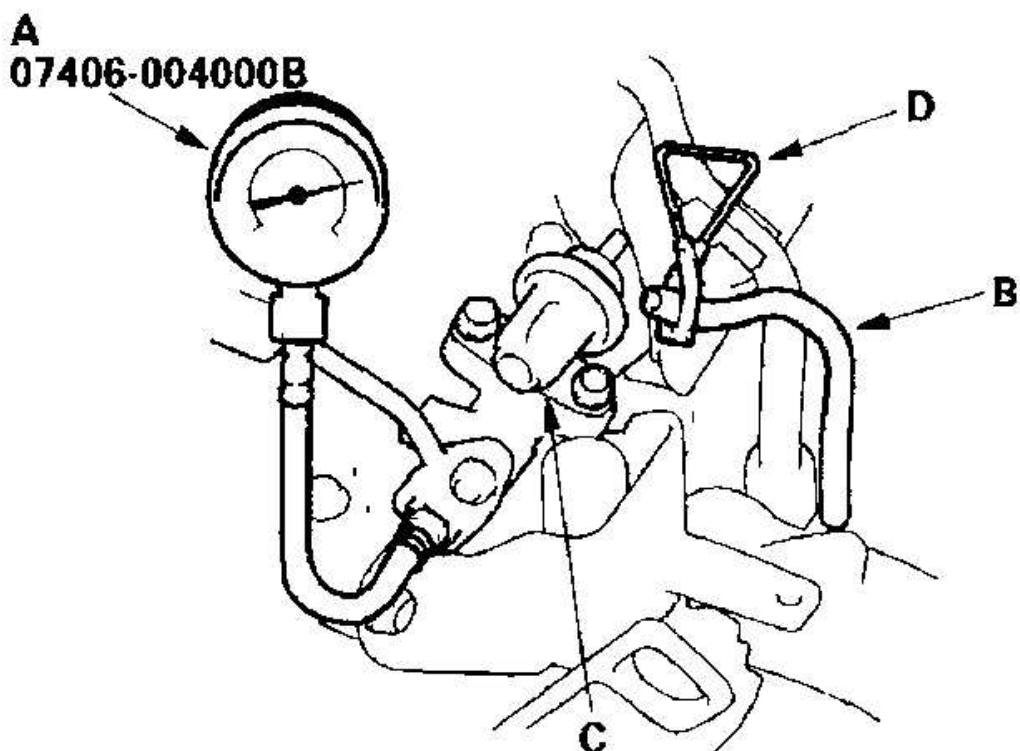
**NOTE:** Disassemble and clean the fuel pressure gauge attachment thoroughly after use.

## Special Tools Required

Fuel pressure gauge 07406-004000B

**2004-2005 CVT MODELS**

1. Relieve the fuel pressure (see **2004-2005 MODELS** ).
2. Remove the 6 mm service bolt from the fuel rail. Attach the fuel pressure gauge (A).



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**Fig. 27: Attaching The Fuel Pressure Gauge**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the vacuum hose (B) from the fuel pulsation damper (C), and pinch off the hose with a clamp (D).
4. Start the engine, and let it idle.

- If the engine starts, go to step 6 .
  - If the engine does not start, go to step 5.
5. Check to see if the fuel pump is running: 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 (II).
- If the fuel pump runs, go to step 6.
  - If the fuel pump does not run, perform the fuel pump circuit troubleshooting; 2004 model (see **2000-2004 MODELS** ), 2005 model (see **2005-2006 MODELS** ).
6. Read the pressure gauge. The pressure should be 270-320 kPa (2.8-3.3 kgf/cm<sup>2</sup> , 40-47 psi).
- If the pressure is OK, the test is complete.
  - If the pressure is out of specification, replace the fuel pressure regulator and the fuel filter (see **FUEL PRESSURE REGULATOR REPLACEMENT** ), and recheck the fuel pressure.
7. Reconnect the vacuum hose, remove the pressure gauge, and reinstall the sealing nut with a new washer. Tighten the sealing nut to 22 N.m (2.2 kgf.m, 16 lbf.ft).

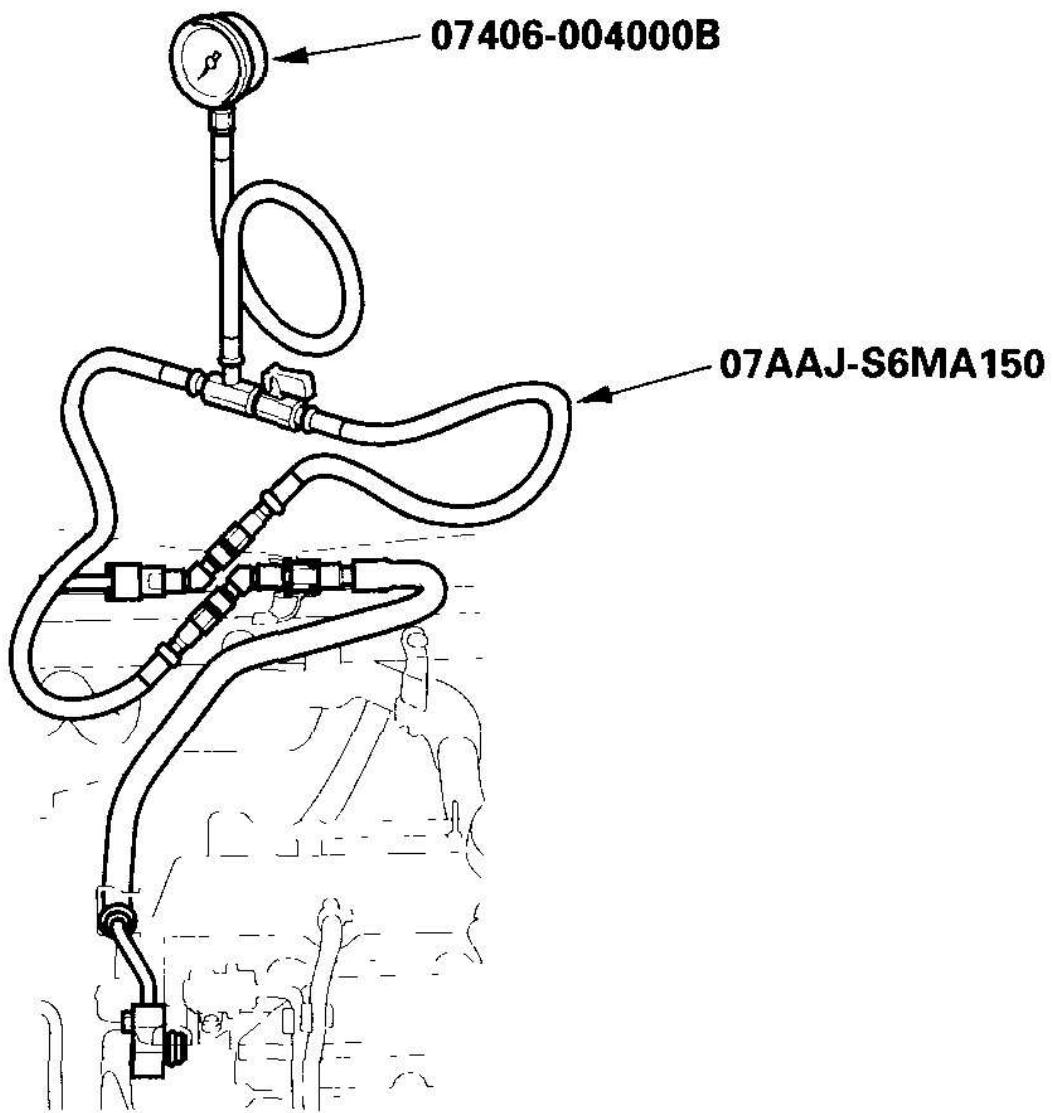
**NOTE:** **Disassemble and clean the fuel pressure gauge attachment thoroughly after use.**

## Special Tools Required

- Fuel pressure gauge 07406-004000B
- Fuel pressure gauge attachment set 07AAJ-S6MA150

### 2006 MODEL

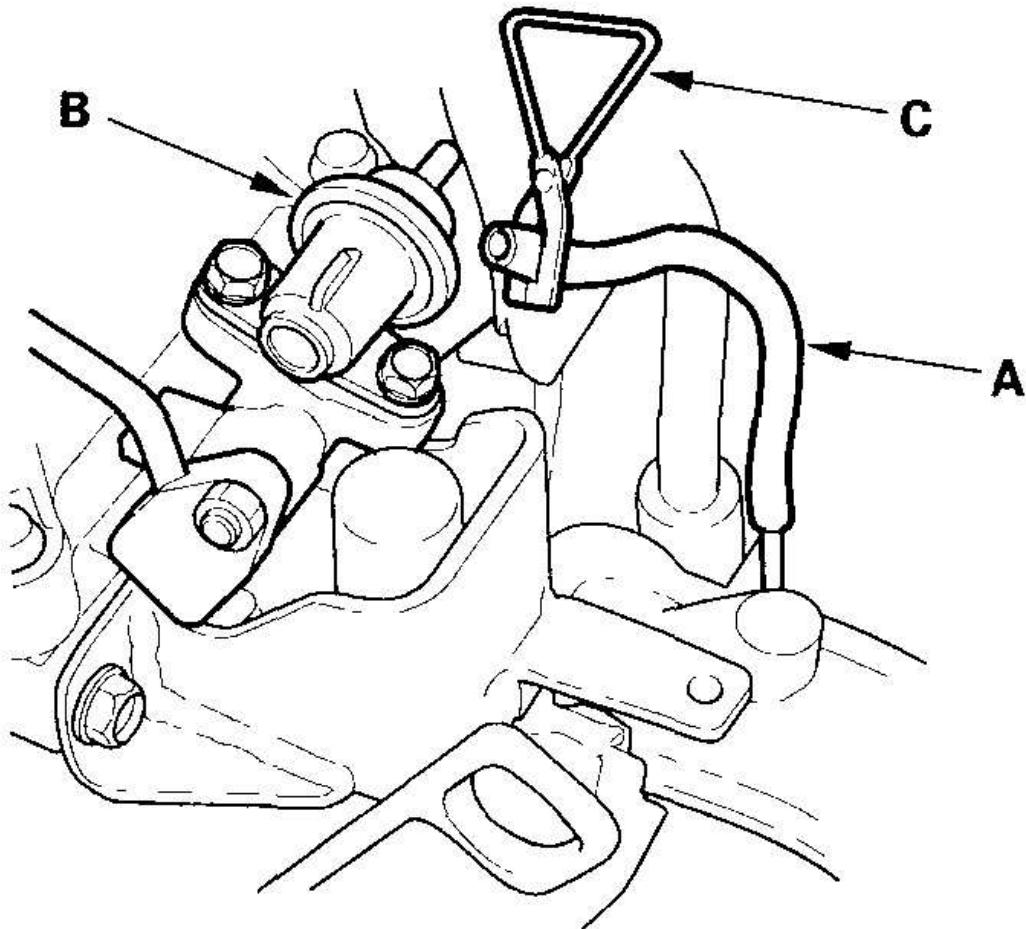
1. Relieve the fuel pressure (see **2006 MODEL** ).
2. Disconnect the quick-connect fitting. Attach the fuel pressure gauge set and the fuel pressure gauge.



G03681033

**Fig. 28: Attaching Fuel Pressure Gauge Set And Fuel Pressure Gauge**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the vacuum hose (A) from the fuel pulsation damper (B), and pinch off the hose with a clamp (C).



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**Fig. 29: Pinching Off Hose With Clamp**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Start the engine, and let it idle.
  - If the engine starts, go to step 6 .
  - If the engine does not start, go to step 5.
5. 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 (II).

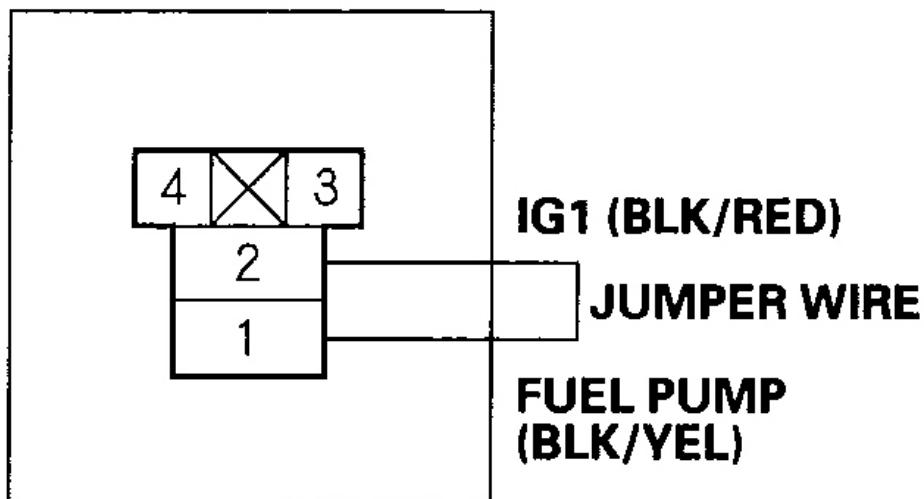
- If the pump runs, go to step 6.
  - If the pump does not run, do the fuel pump circuit troubleshooting (see **2005-2006 MODELS** ).
6. Read the fuel pressure gauge. The pressure should be 270-320 kPa (2.8-3.3 kgf/cm<sup>2</sup>, 40-47 psi).
    - If the pressure is OK, the test is complete.
    - If the pressure is out of specification, replace the fuel pressure regulator (see **FUEL PRESSURE REGULATOR REPLACEMENT** ) and the fuel filter (see **FUEL FILTER REPLACEMENT** ), then recheck the fuel pressure.
  7. Reconnect the vacuum hose, remove the pressure gauge, and reconnect the quick-connect fitting (see **FUEL LINE/QUICK-CONNECT FITTING INSTALLATION** ).

## FUEL PUMP TEST

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 hold your ear to the fuel fill port with the fuel fill cap removed. The fuel pump should run for 2 seconds when ignition switch is first turned on. If the fuel pump does not make noise, check as follows:

1. Remove the middle floor panel (see **MIDDLE FLOOR PANEL REPLACEMENT** ).
2. Remove the access panel from the floor.
3. Turn the ignition switch OFF, then disconnect the fuel pump 5P connector.
4. Connect PGM-FI main relay (FUEL PUMP) 4P connector terminals No. 1 and No. 2 with a jumper wire.

## PGM-FI MAIN RELAY (FUEL PUMP) 4P CONNECTOR



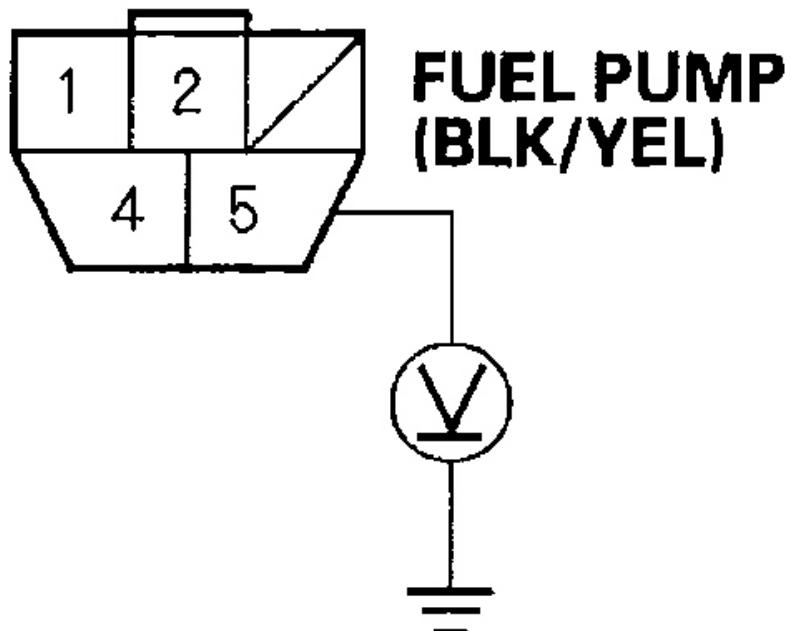
Wire side of female terminals

G03681035

**Fig. 30: Connecting PGM-FI Main Relay (Fuel Pump) 4P Connector  
Terminals No. 1 And No. 2 With Jumper Wire**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Turn the ignition switch ON (II).
6. Check that battery voltage is available between fuel pump 5P connector terminal No. 5 and body ground when the ignition switch is turned ON (II).
  - If battery voltage is available, check the fuel pump ground. If the ground is OK, replace the fuel pump; 2000-2005 M/T models (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT**), **CVT MODEL, 2006 M/T MODEL** (see ).
  - If there is no voltage, check the wire harness; 2000-2004 models (see **2000-2004 MODELS**), 2005-2006 models (see **2005-2006 MODELS** ).

## FUEL PUMP 5P CONNECTOR



**Wire side of female terminals**

G03681036

**Fig. 31: Checking Battery Voltage Is Available Between Fuel Pump 5P Connector Terminal No. 5 And Body Ground**

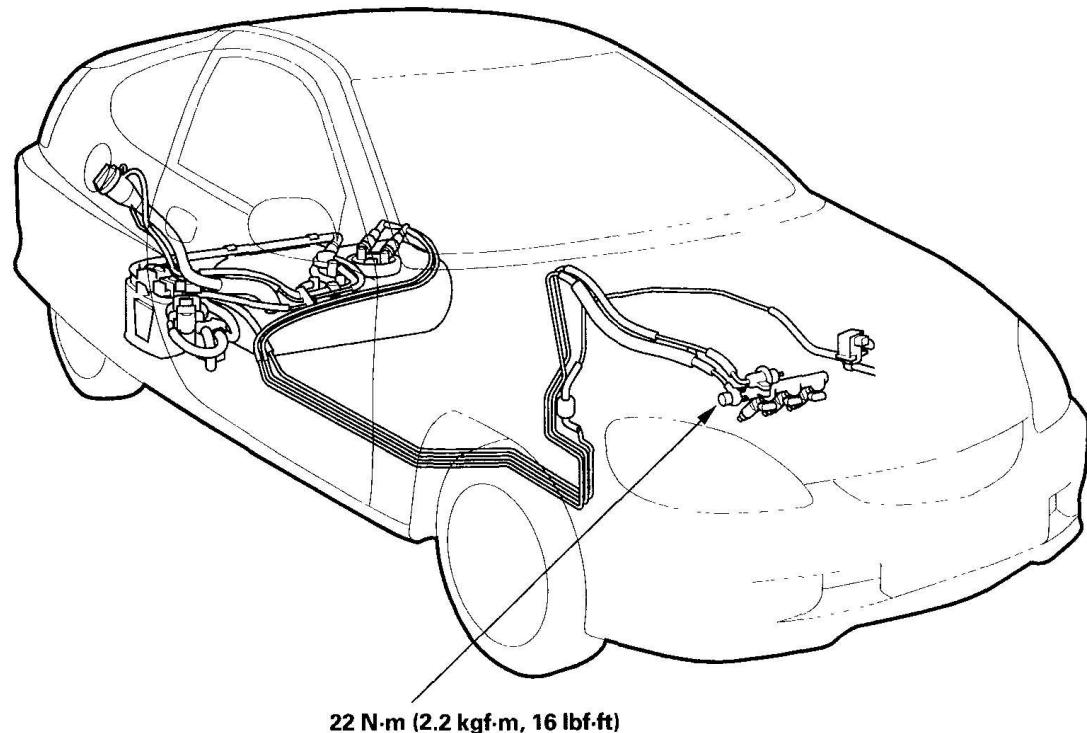
Courtesy of AMERICAN HONDA MOTOR CO., INC.

## FUEL LINE INSPECTION

Check the fuel system lines, the hoses, and the fuel filter for damage, leaks or

deterioration, and replace if necessary.

**2000-2003 M/T MODELS**

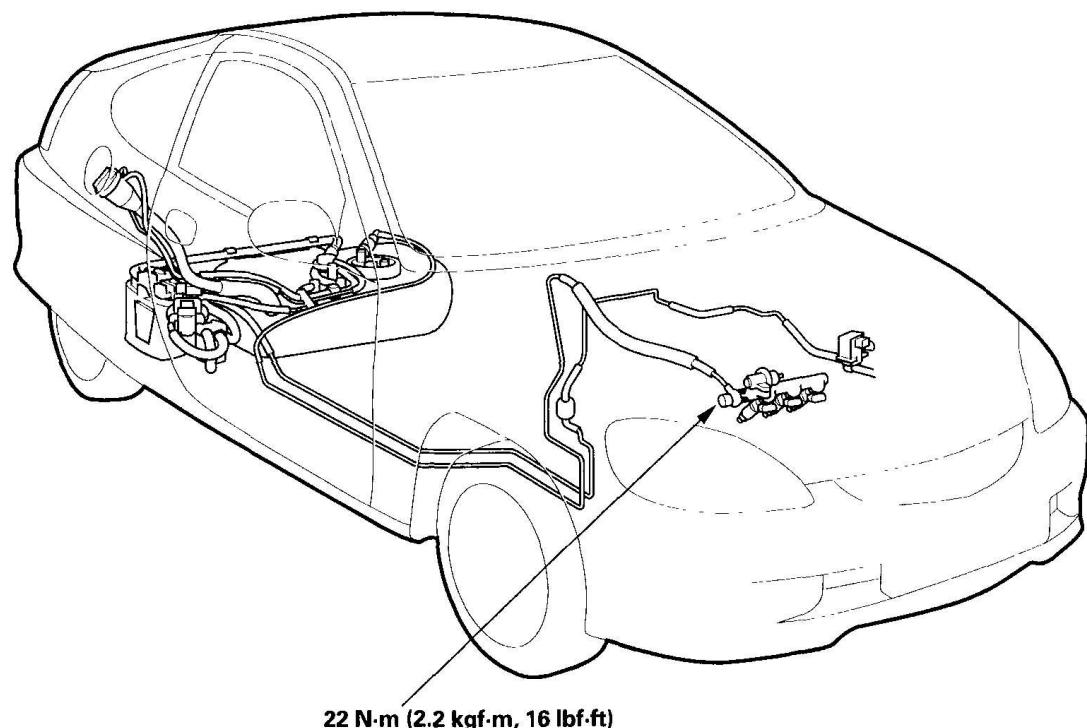


G03681037

**Fig. 32: Checking Fuel System Lines, Hoses And Fuel Filter With Specified Torques (2000-2003 M/T Models)**

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

**2001-2003 CVT MODELS**

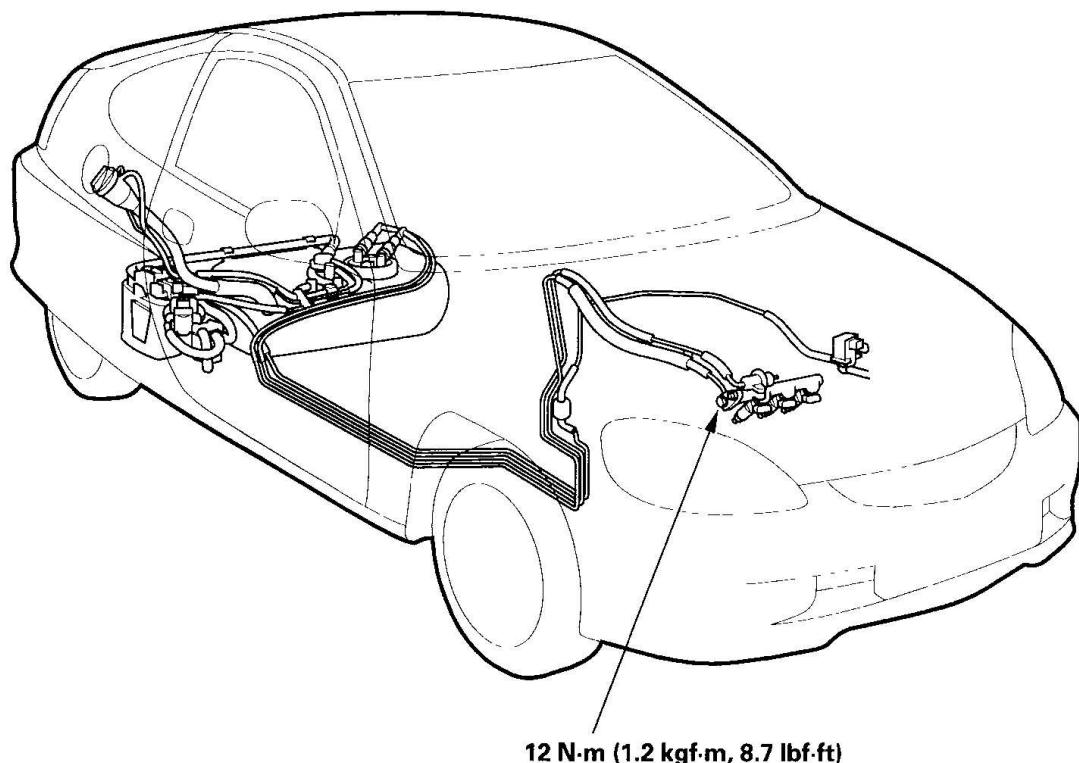


G03681038

**Fig. 33: Checking Fuel System Lines, Hoses And Fuel Filter With Specified Torques (2001-2003 CVT Models)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2004-2005 M/T MODELS

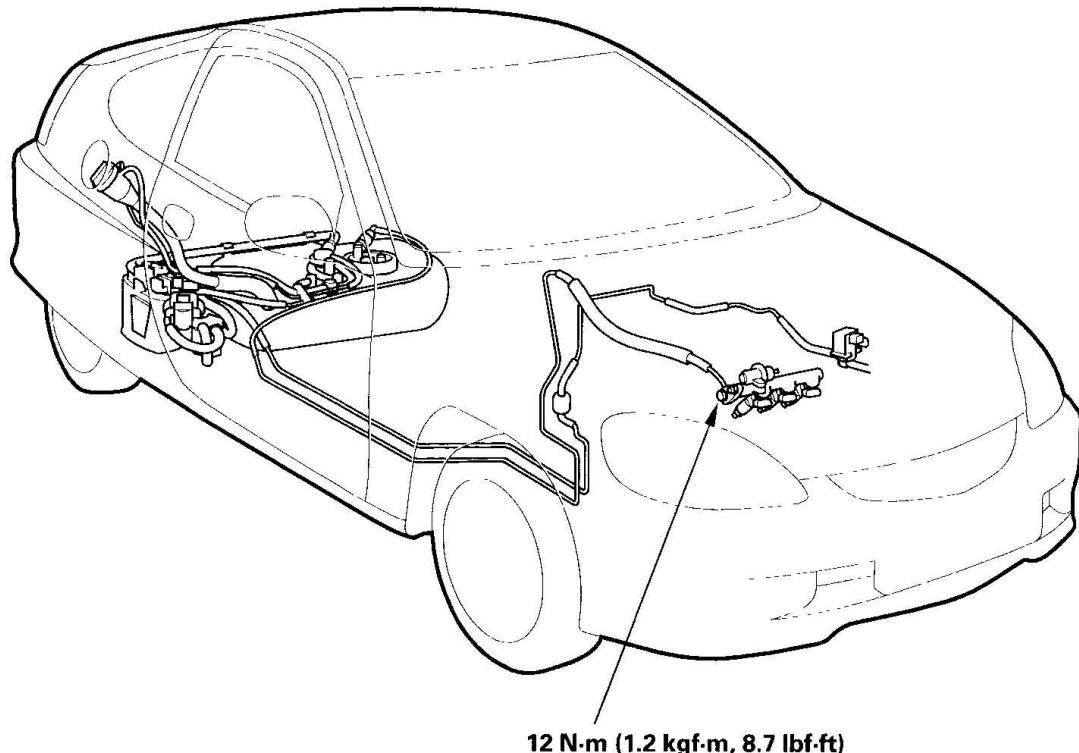


G03681039

**Fig. 34: Checking Fuel System Lines, Hoses And Fuel Filter With Specified Torques (2004-2005 M/T Models)**

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

**2004-2005 CVT MODELS**

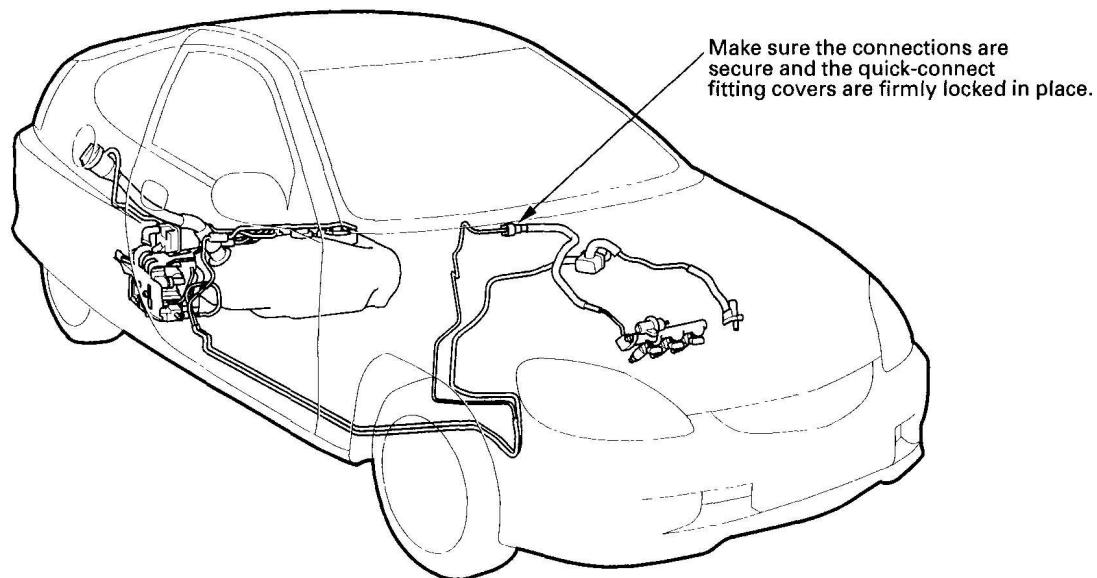


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**Fig. 35: Checking Fuel System Lines, Hoses And Fuel Filter With Specified Torques (2004-2005 CVT Models)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

**2006 MODEL**



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**Fig. 36: Checking Fuel System Lines, Hoses And Fuel Filter (2006 Model)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

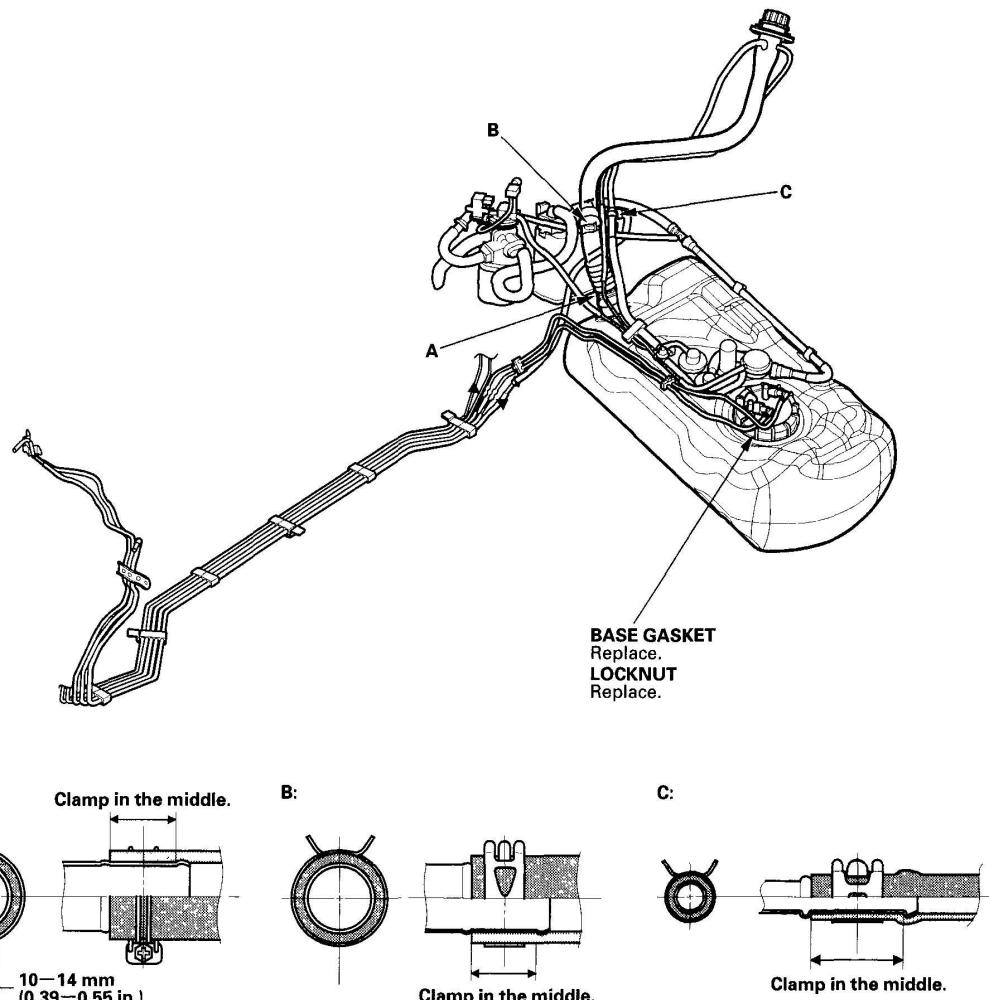
Check all hose clamps and retighten if necessary.

: Do not disconnect the hose from the line at these joints.

**2000-2005 M/T MODELS**

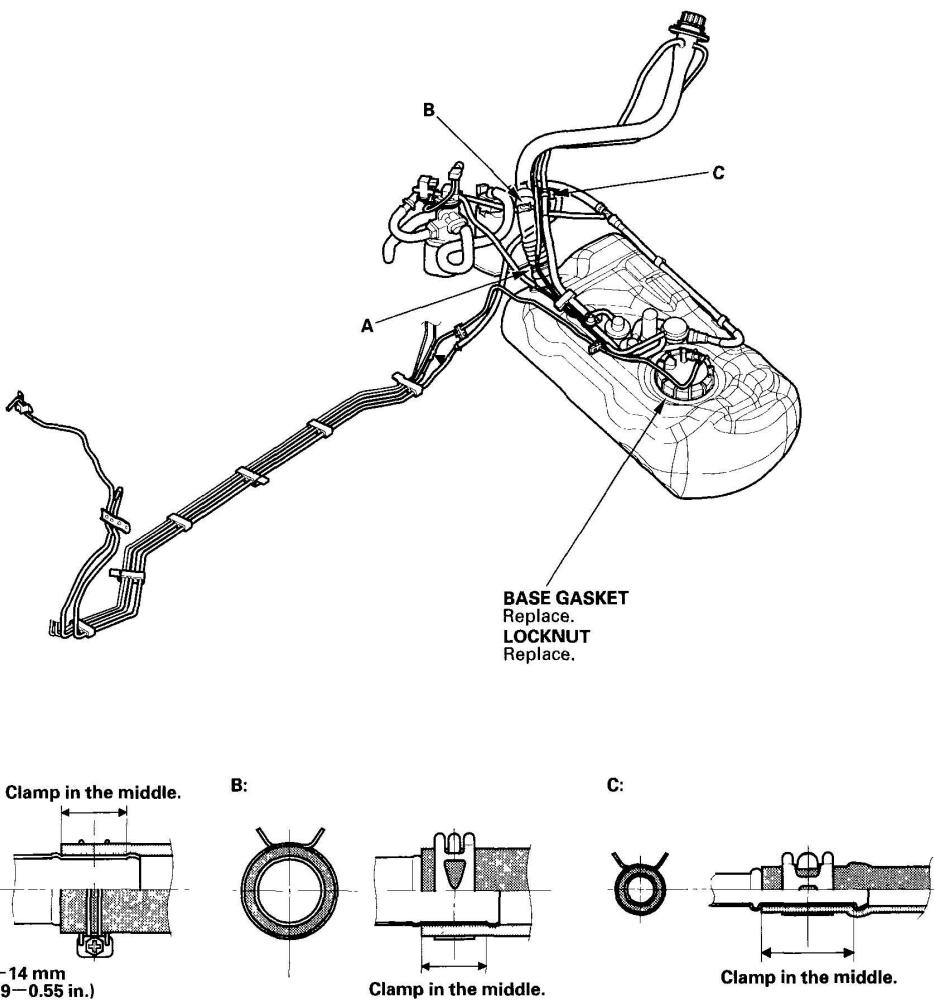
## 2006 Honda Insight

### 2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight



**Fig. 37: Checking Fuel System Lines All Hose Clamps (2000-2005 M/T Models)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

**2000-2005 CVT MODELS**



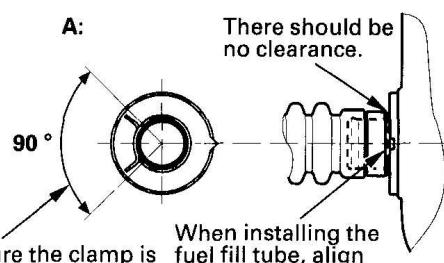
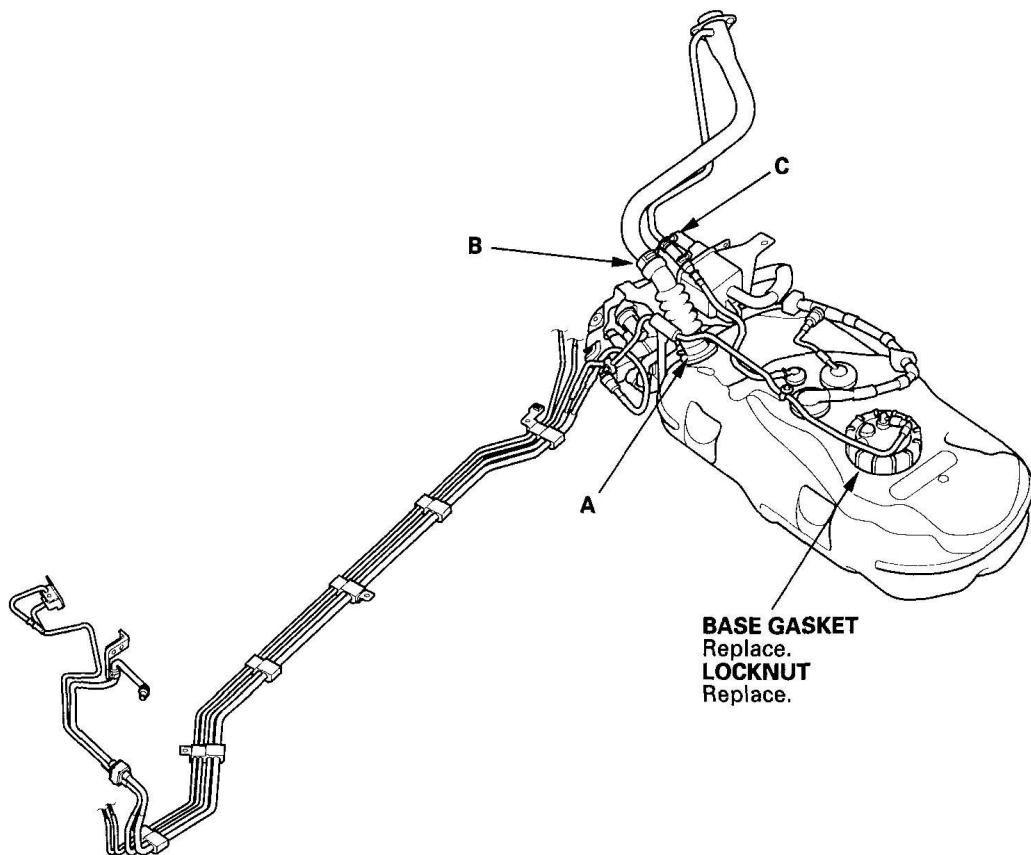
**Fig. 38: Checking Fuel System Lines All Hose Clamps (2000-2005 CVT Models)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

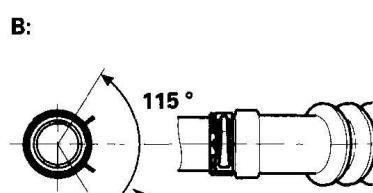
2006 MODEL

# 2006 Honda Insight

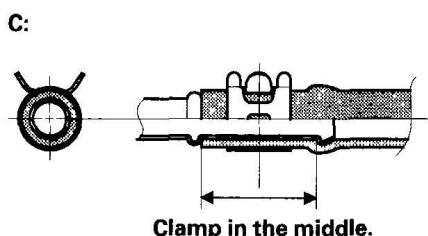
## 2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight



Make sure the clamp is aligned as shown.  
When installing the fuel fill tube, align the marks on the tube and the line.



115°  
Make sure the clamp is aligned as shown.



**Fig. 39: Checking Fuel System Lines All Hose Clamps (2006 Models)**  
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## **FUEL LINE/QUICK-CONNECT FITTING PRECAUTIONS**

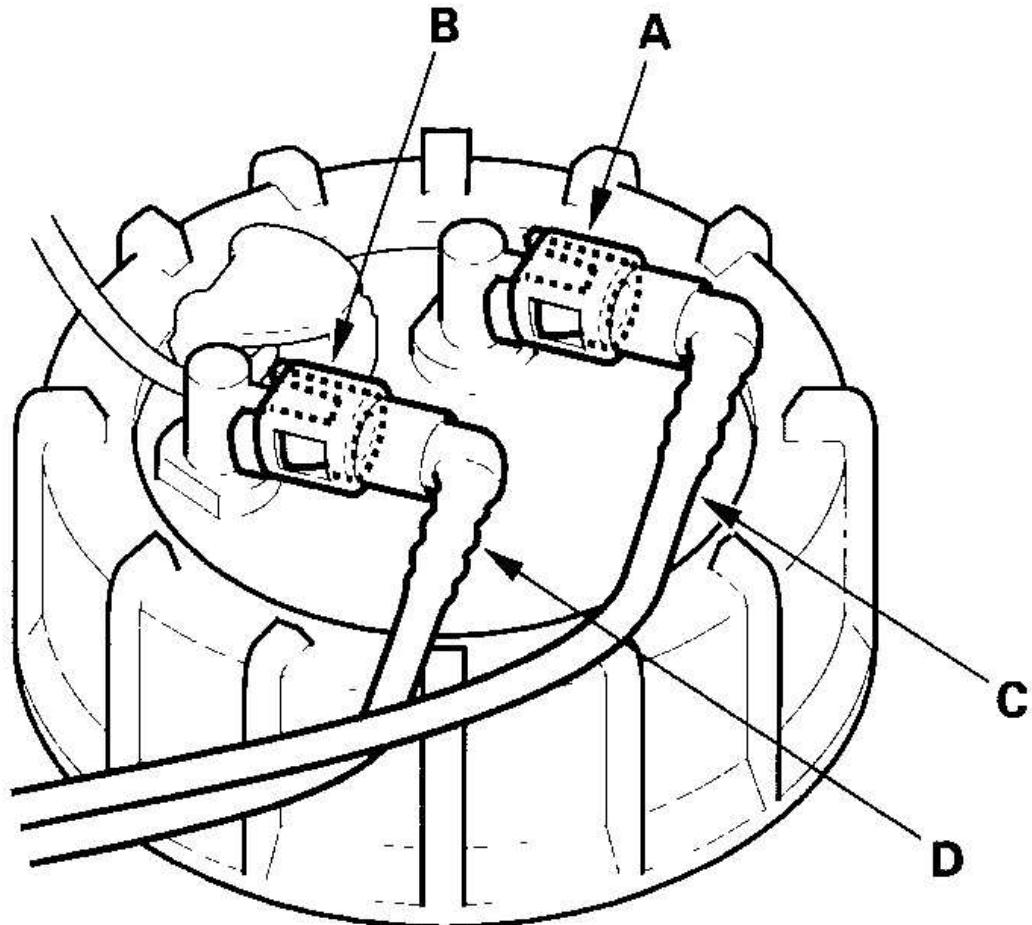
### **2000-2005 MODELS**

The fuel line/quick-connect fittings (A), (B) connect the fuel tank unit to the fuel feed line and the fuel return line. 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 feed hose (C), fuel return hose (D), and quick-connect fittings are not heat-resistant; be careful not to damage them during welding or other heat-generating procedures.
- The fuel feed hose, fuel return hose, and 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, fuel return hose, and quick-connect fittings, be careful not to bend or twist them excessively. Replace them if they are damaged.

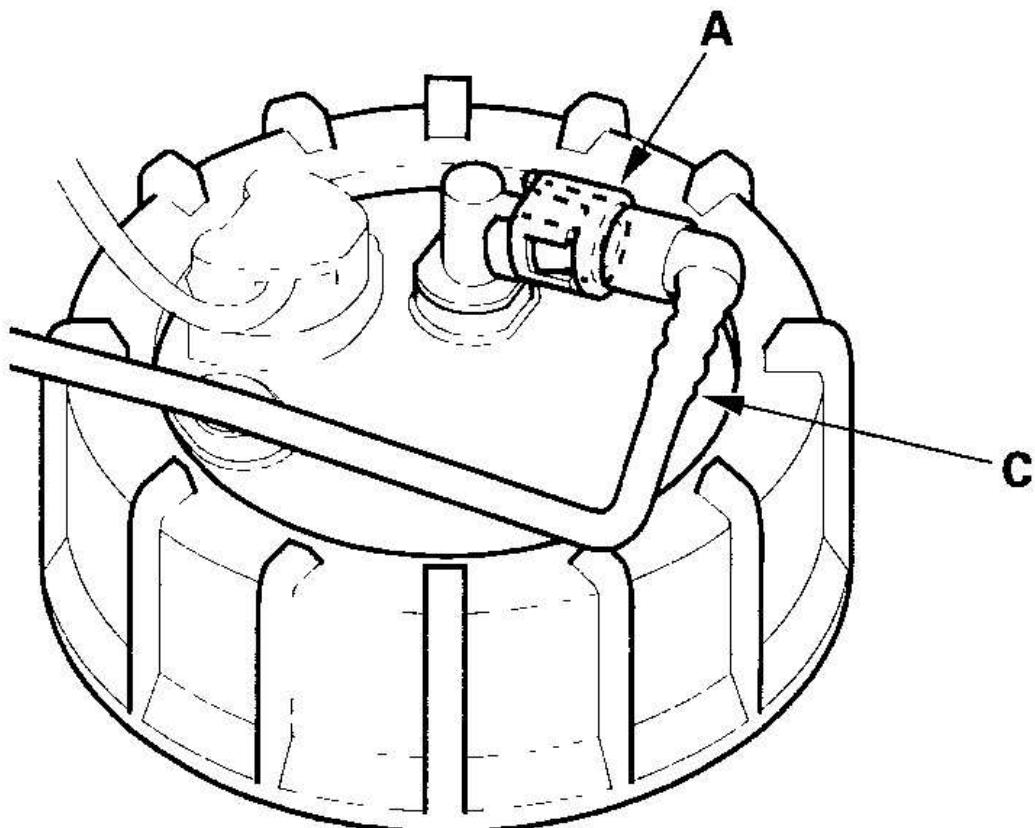
### **M/T model**



G03681045

**Fig. 40: Identifying Fuel Line/Quick-Connect Fittings (M/T Model)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

**CVT model**



G03681046

**Fig. 41: Identifying Fuel Line/Quick-Connect Fittings (CVT Model)**  
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 tank.
- replacing the fuel pump.
- replacing the fuel filter.
- replacing the fuel gauge sending unit.
- replacing the fuel feed line.

- replacing the fuel return line.
- it has been removed from the line.
- it is damaged.

### QUICK-CONNECT FITTING SPECIFICATIONS

Location	Manufacturer	Retainer color	Line diameter
A	Sanoh	White	0.4 in. (9.5 mm)
B	Sanoh	White	0.3 in. (8 mm)

#### 2006 MODEL

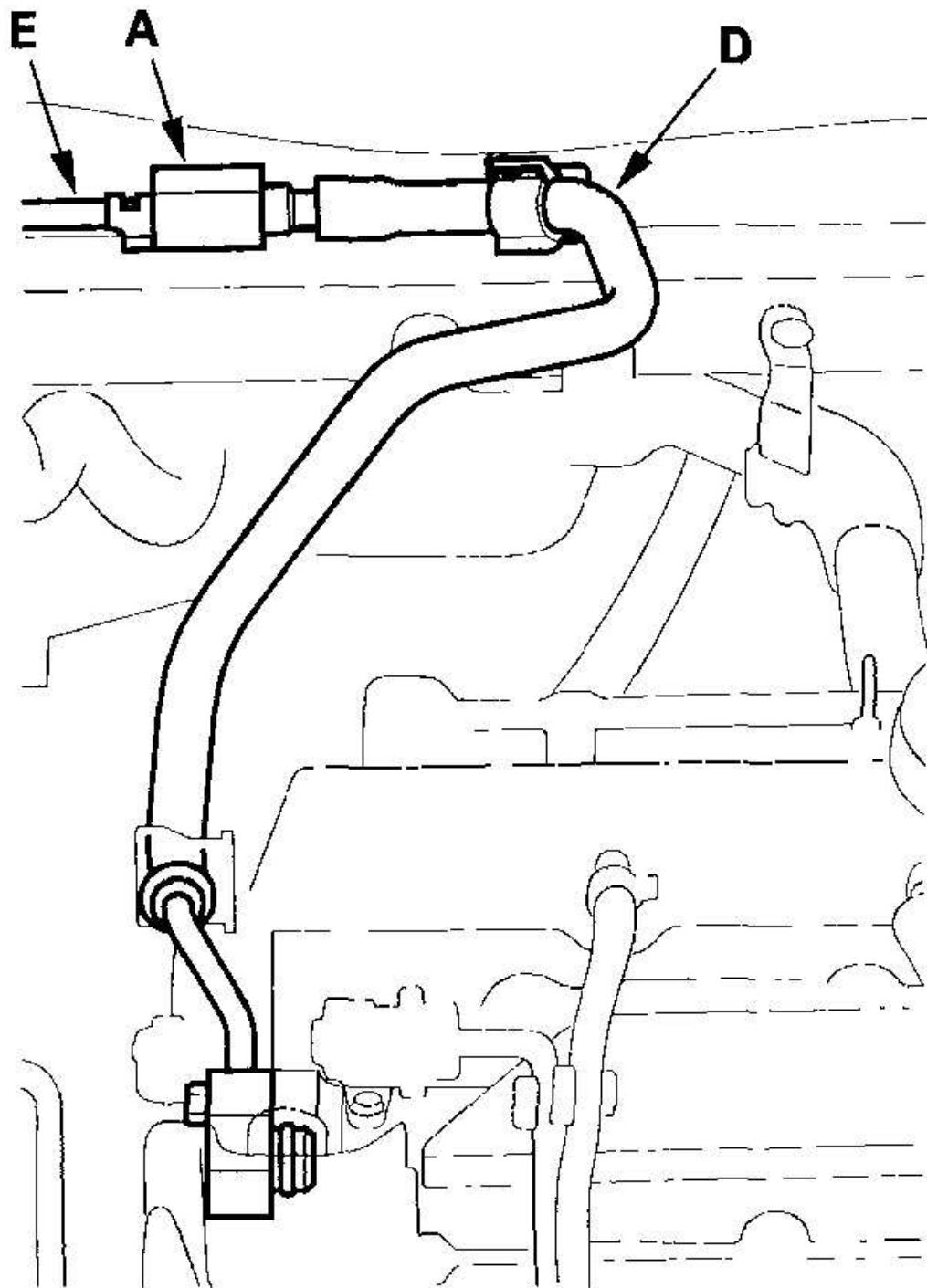
The fuel line/quick-connect fittings (A), (B), (C) connect the fuel feed hose (D) to the fuel line (E), the fuel line (F) to the fuel tank unit (G), and fuel vapor line (H) to the EVAP canister (I). When removing or installing the fuel feed hose, fuel tank unit or fuel tank, it is necessary to disconnect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

Pay attention to the following:

- The fuel feed hose, fuel 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 hose, fuel line and 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, fuel line and quick-connect fittings, be careful not to bend or twist them excessively. Replace them if they are damaged.

## 2006 Honda Insight

### 2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight



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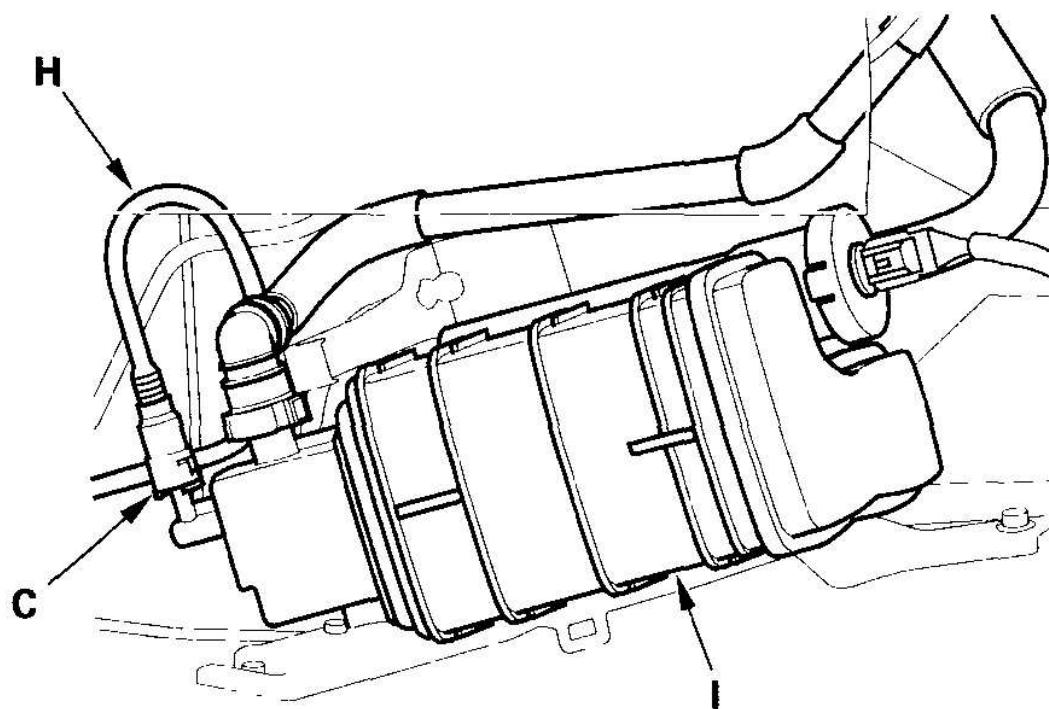
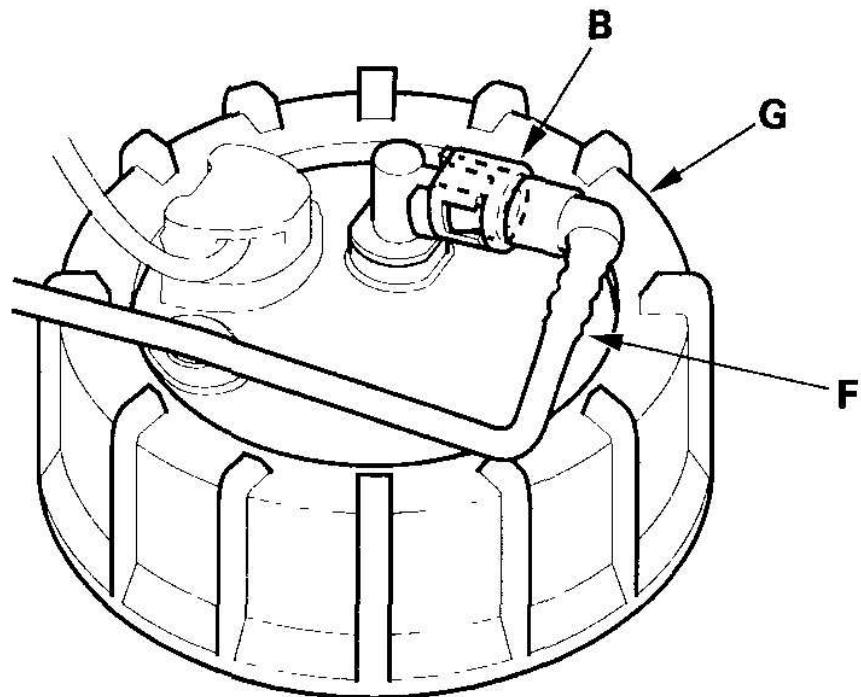
**2006 Honda Insight**

2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight

**Fig. 42: Connecting Fuel Feed Hose To Fuel Line - 2006 Model (1 Of 2)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

## 2006 Honda Insight

### 2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight



G03681048

**Fig. 43: Connecting Fuel Feed Hose To Fuel Line - 2006 Model (2 Of 2)**  
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 tank.
- 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.

**QUICK-CONNECT FITTING SPECIFICATIONS**

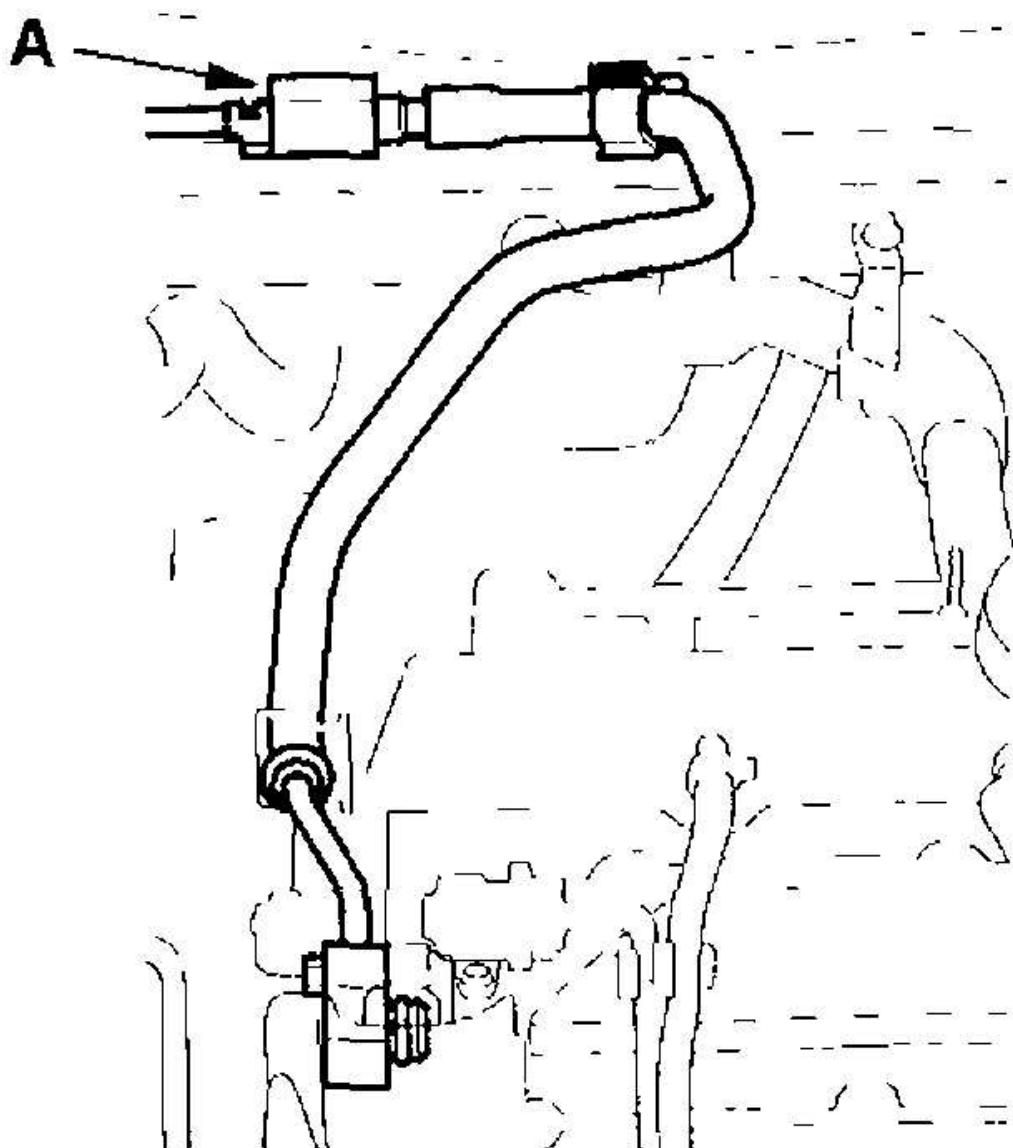
Location	Manufacturer	Retainer color	Line diameter
A, B, C	Sanoh	White	0.4 in. (9.5 mm)

**FUEL LINE/QUICK-CONNECT FITTING REMOVAL**

**NOTE:** Before you work on the fuel lines and fittings, read the "Fuel Line/Quick-Connect Fitting Precautions"; 2000-2005 models (see 2000-2005 MODELS), 2006 model (see 2006 MODEL).

1. Relieve the fuel pressure; 2000-2003 models (see 2000-2003 MODELS), 2004-2005 models (see 2004-2005 MODELS), 2006 model (see 2006 MODEL).
2. Check the fuel quick-connect fittings (A) for dirt, and clean if needed.

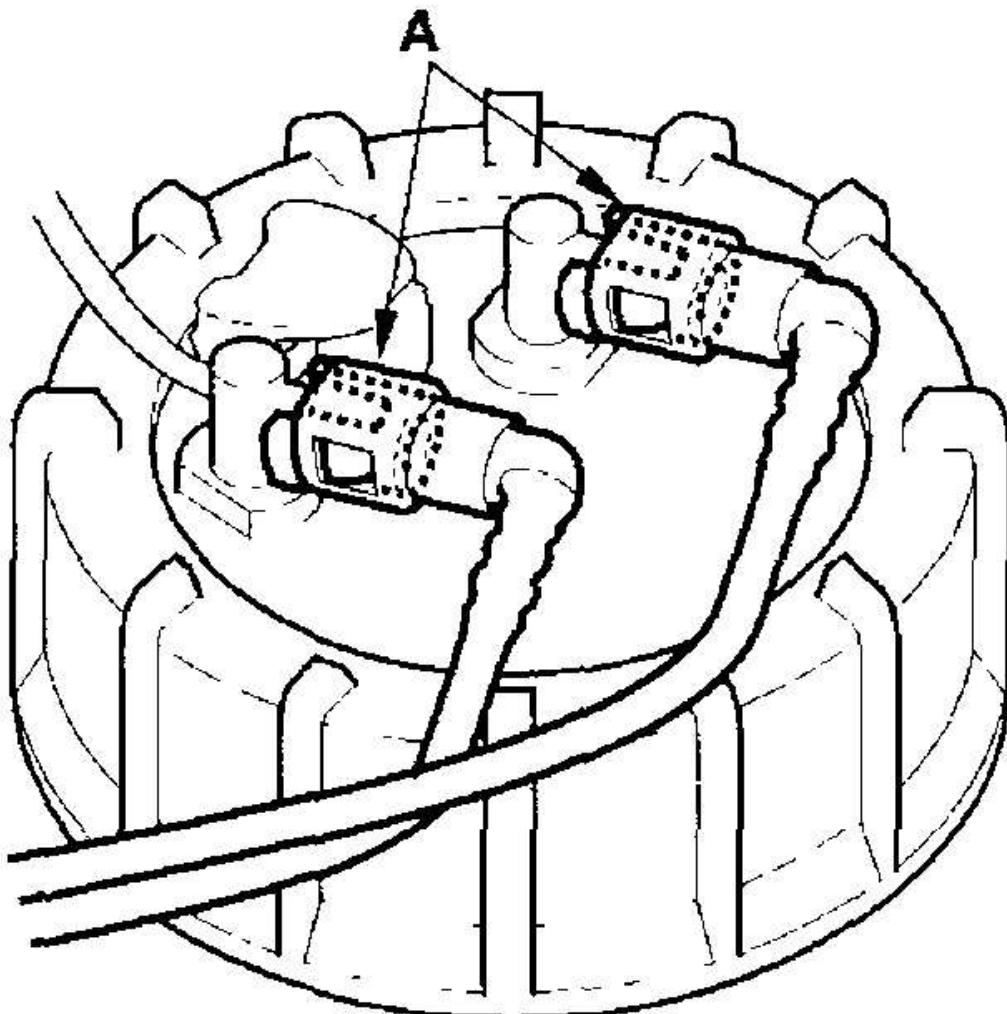
2006 model



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**Fig. 44: Checking Fuel Quick-Connect Fittings (2006 Model)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

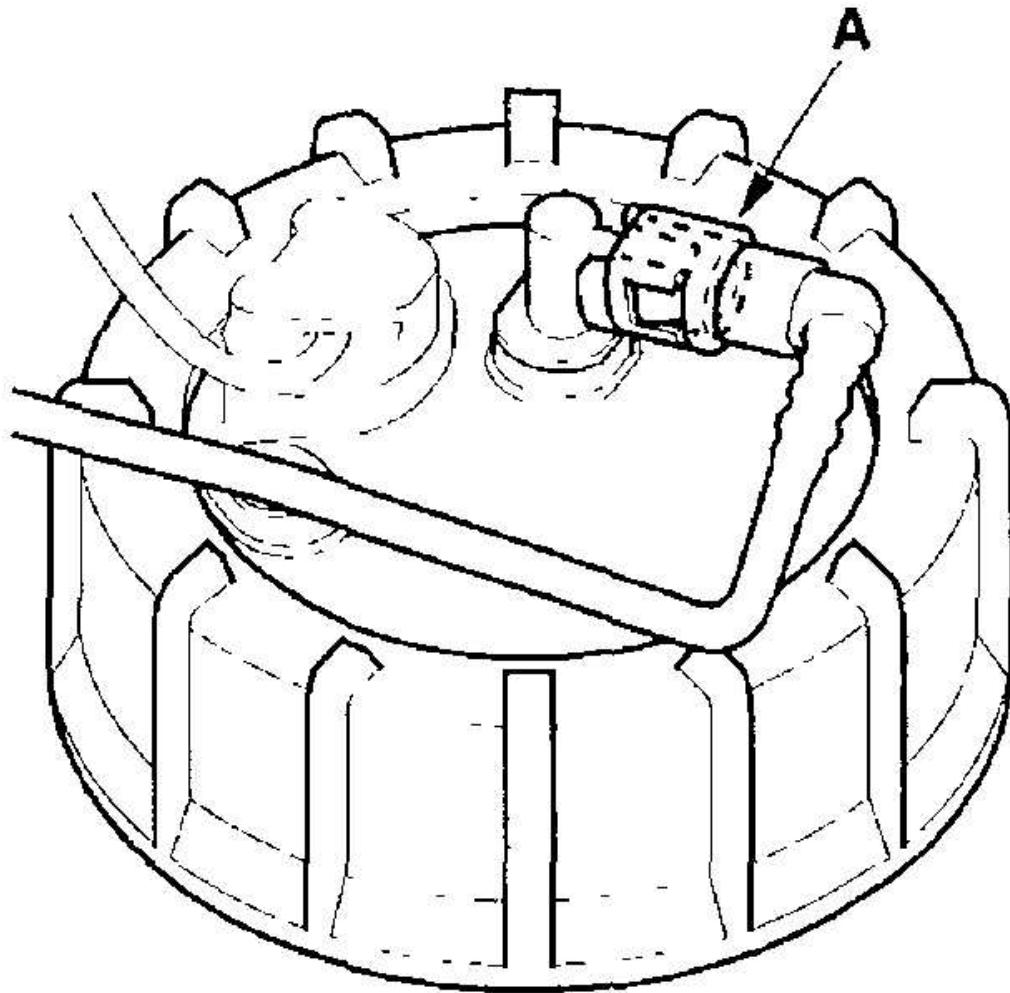
**2000-2005 M/T models**



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**Fig. 45: Checking Fuel Quick-Connect Fittings (2000-2005 M/T Model)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CVT model, 2006 M/T model

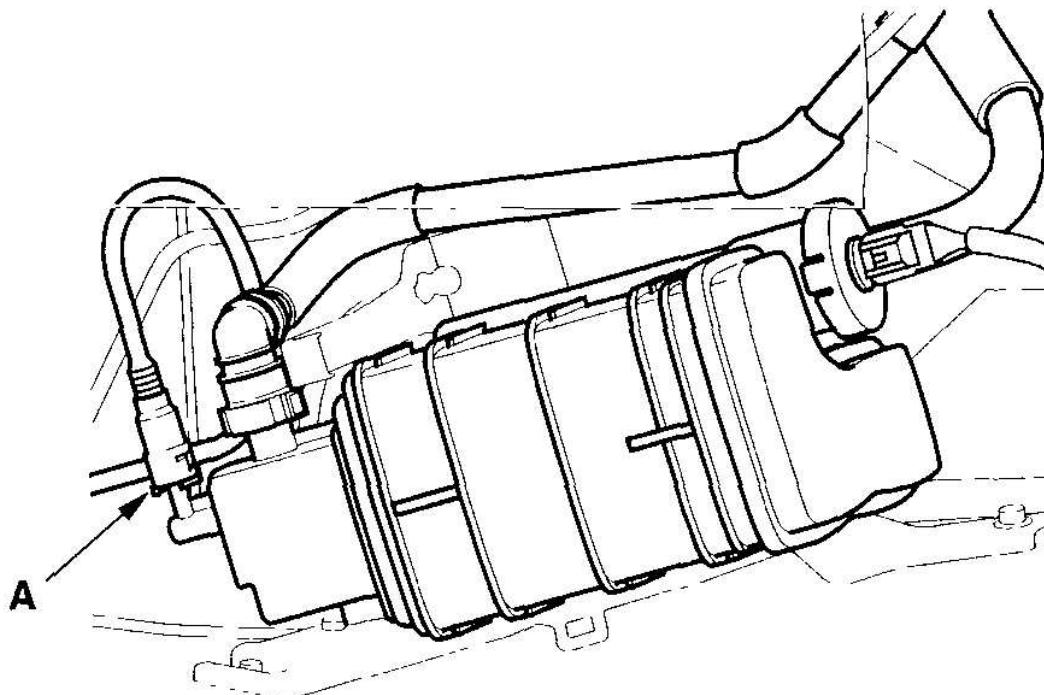


G03681051

**Fig. 46: Checking Fuel Quick-Connect Fittings (CVT model, 2006 M/T Model)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2006 model

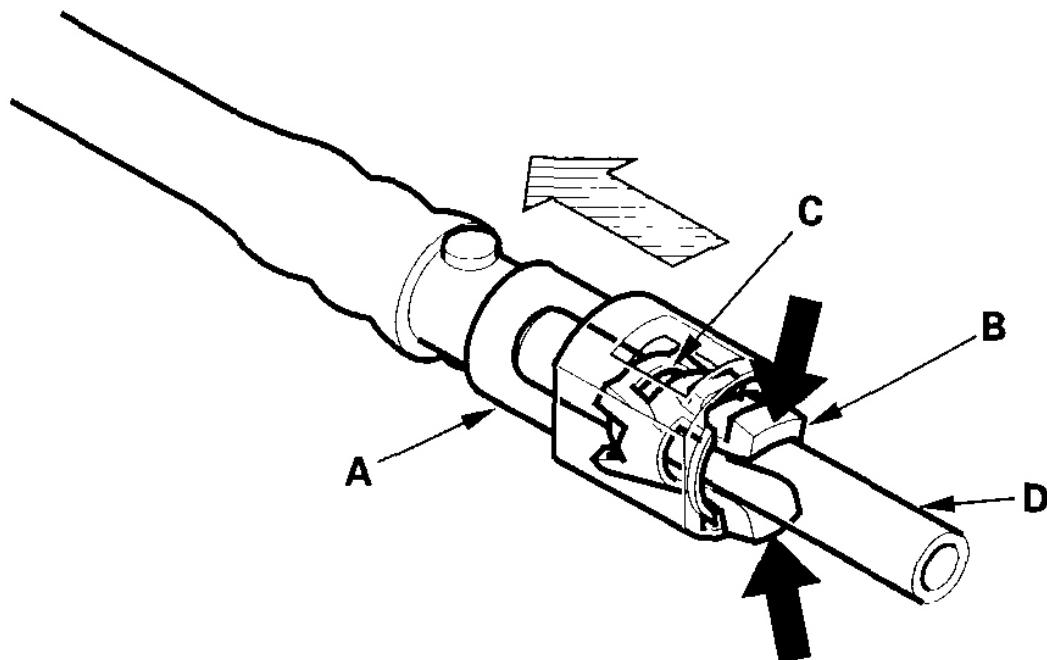


G03681052

**Fig. 47: Checking Fuel Quick-Connect Fittings (2006 Model)**  
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.

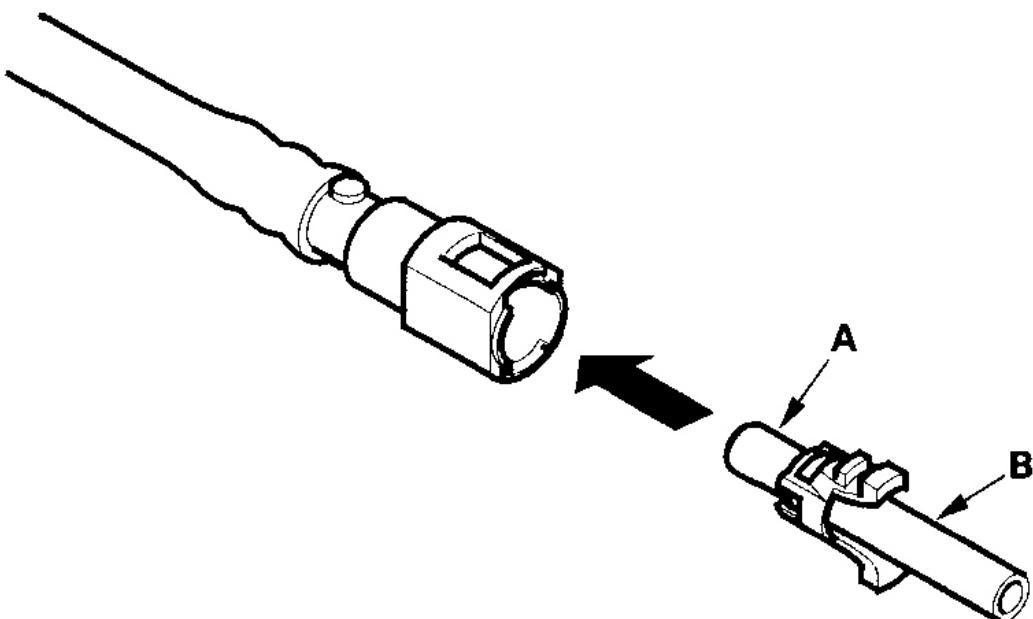
- NOTE:**
- Be careful not to damage the line (D) or other parts.  
Do not use tools.
  - If the connector does not move, keep the retainer tabs pressed down, and alternately pull and push the connector until it comes off easily.
  - Do not remove the retainer from the pipe; once removed, the retainer must be replaced with a new one.



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**Fig. 48: Placing Rag Or Shop Towel Over Quick-Connect Fitting**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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



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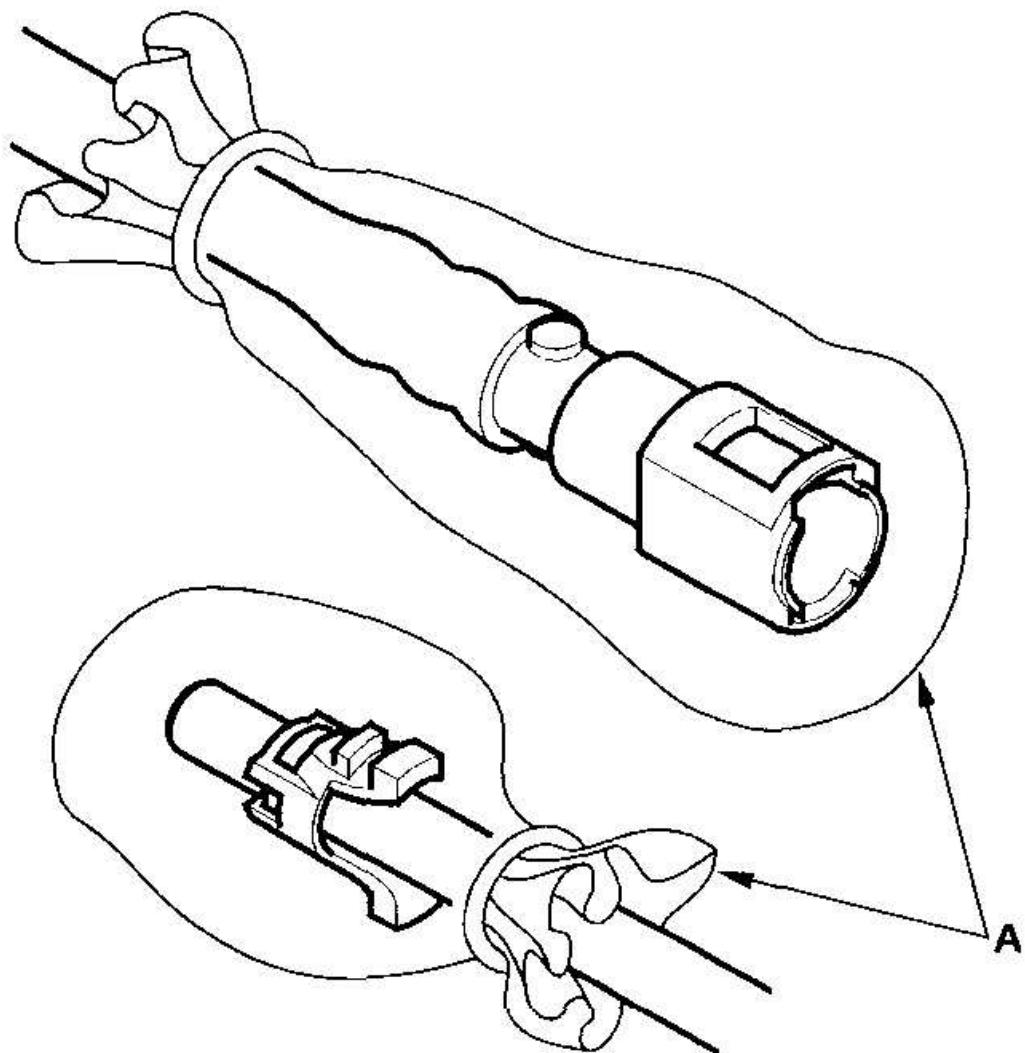
**Fig. 49: Checking Contact Area Of Line For Dirt Or Damage**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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 tank.
- replacing the fuel feed line.
- replacing the fuel return 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.



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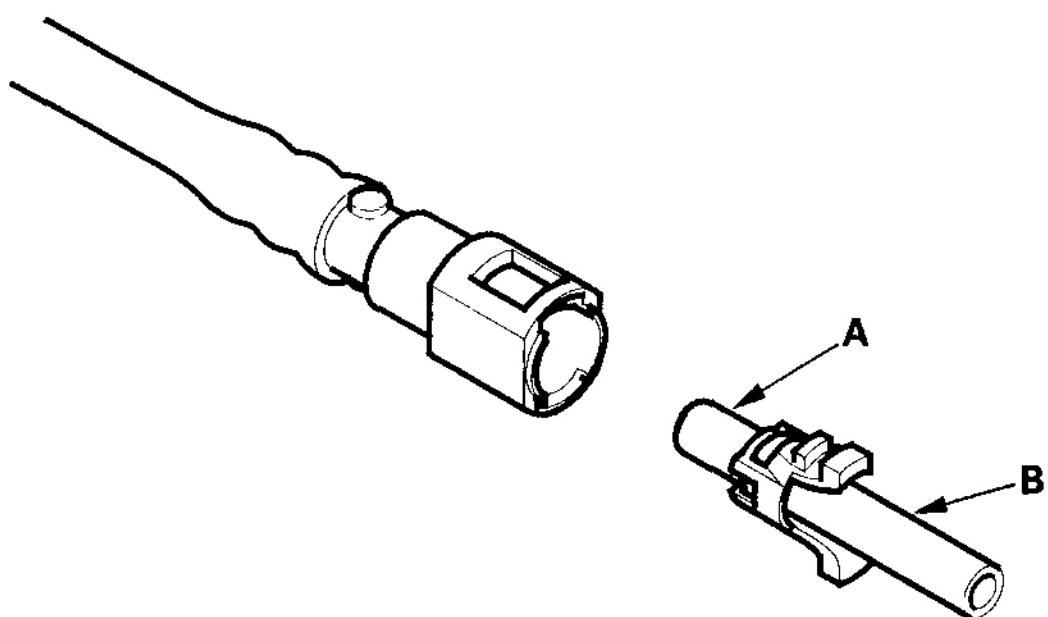
**Fig. 50: Covering Disconnected Connector And Line Ends With Plastic Bags**

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"; 2000-2005 models (see 2000-2005 MODELS ), 2006 model (see 2006 MODEL ).

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



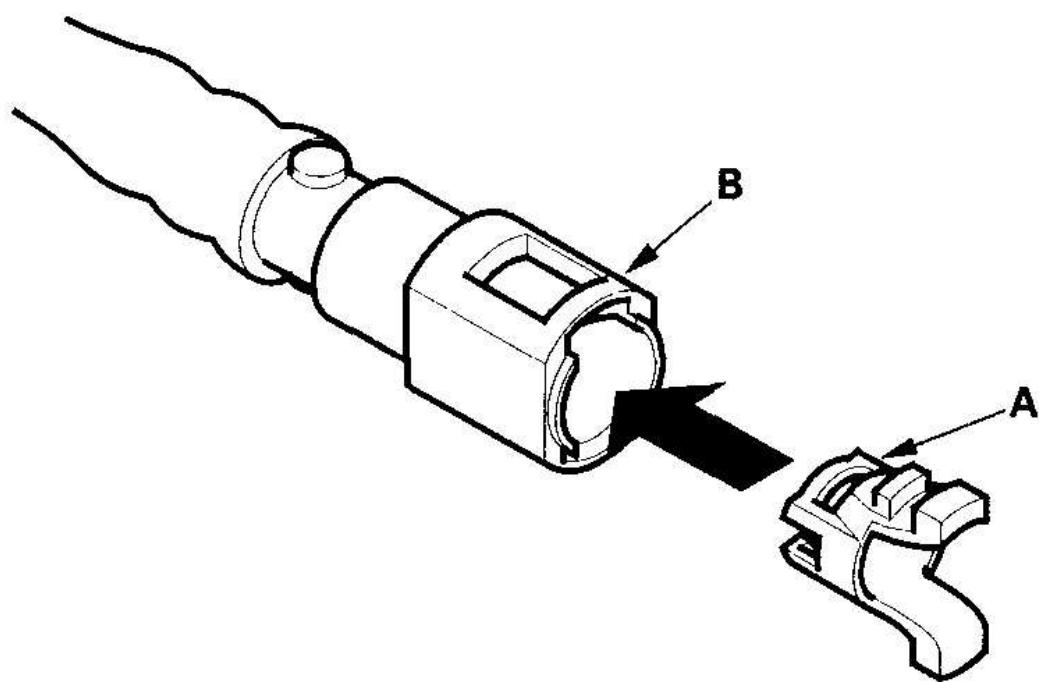
G03681056

**Fig. 51: Checking Contact Area Of Line For 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 tank.

- replacing the fuel feed line.
- replacing the fuel return line.
- replacing the fuel pump.
- replacing the fuel filter.
- replacing the fuel gauge sending unit.
- replacing the EVAP purge line.
- replacing the EVAP canister.
- removing the retainer from the line.

**NOTE:** When you replace a retainer, make sure the new one is the same size and from the same manufacturer as the old one; 2000-2005 model (see 2000-2005 MODELS ), 2006 model (see 2006 MODEL ).



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**Fig. 52: Inserting Retainer Into Connector**

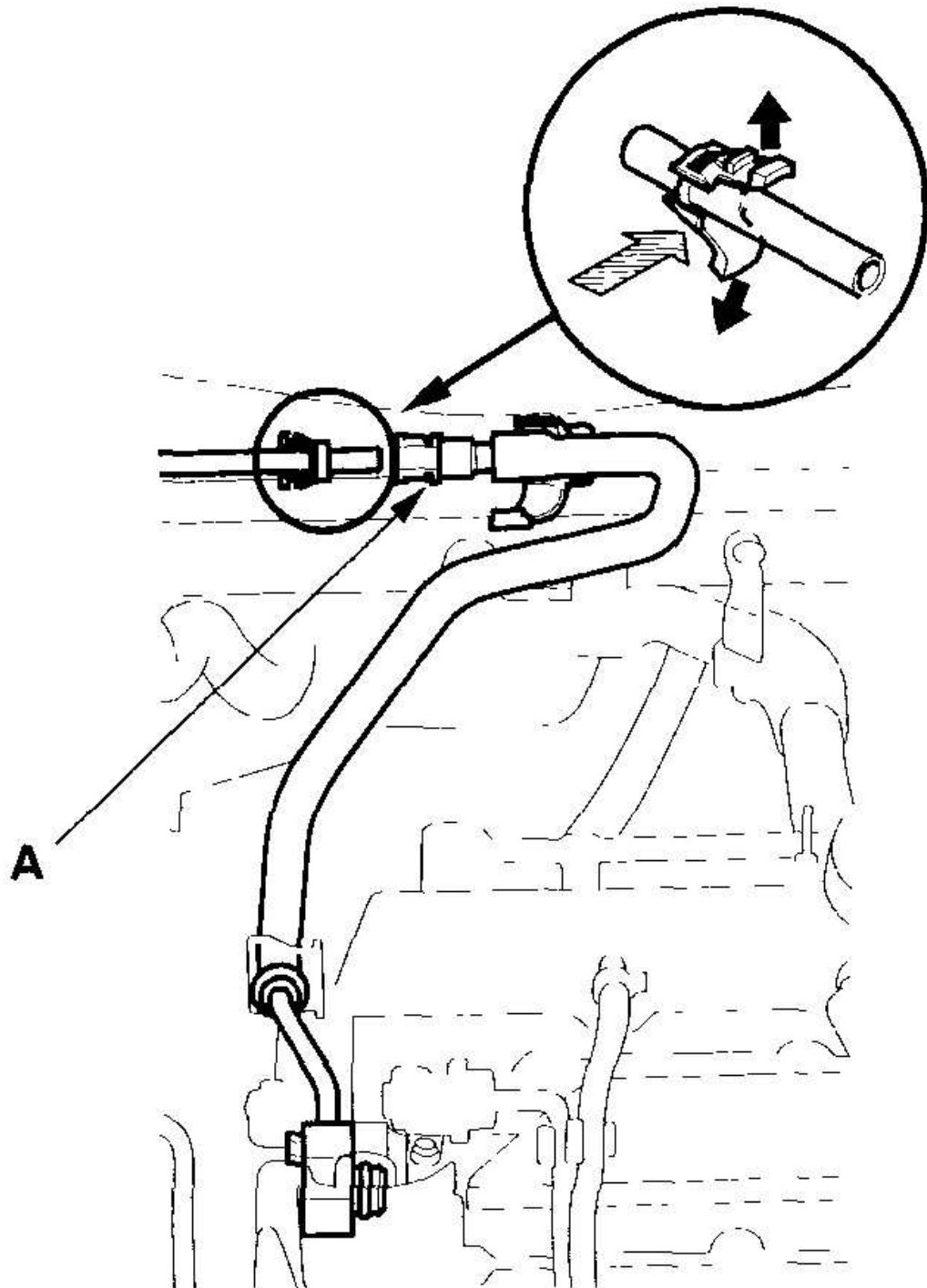
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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

**2006 model**

## 2006 Honda Insight

### 2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight



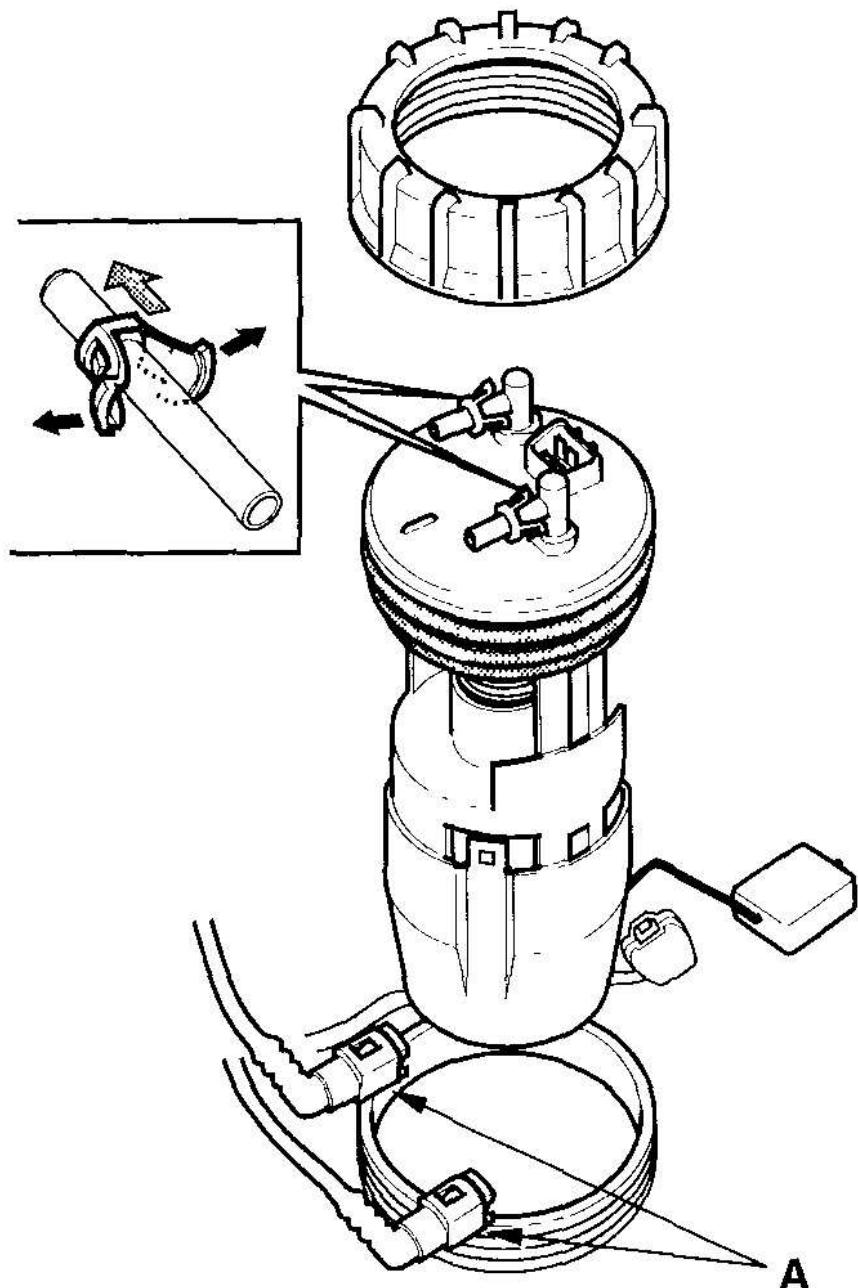
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**2006 Honda Insight**

2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight

**Fig. 53: Removing Retainer From Mating Line (2006 Model)**  
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**2000-2005 M/T models**



G03681059

**Fig. 54: Removing Retainer From Mating Line (2000-2005 M/T Model)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

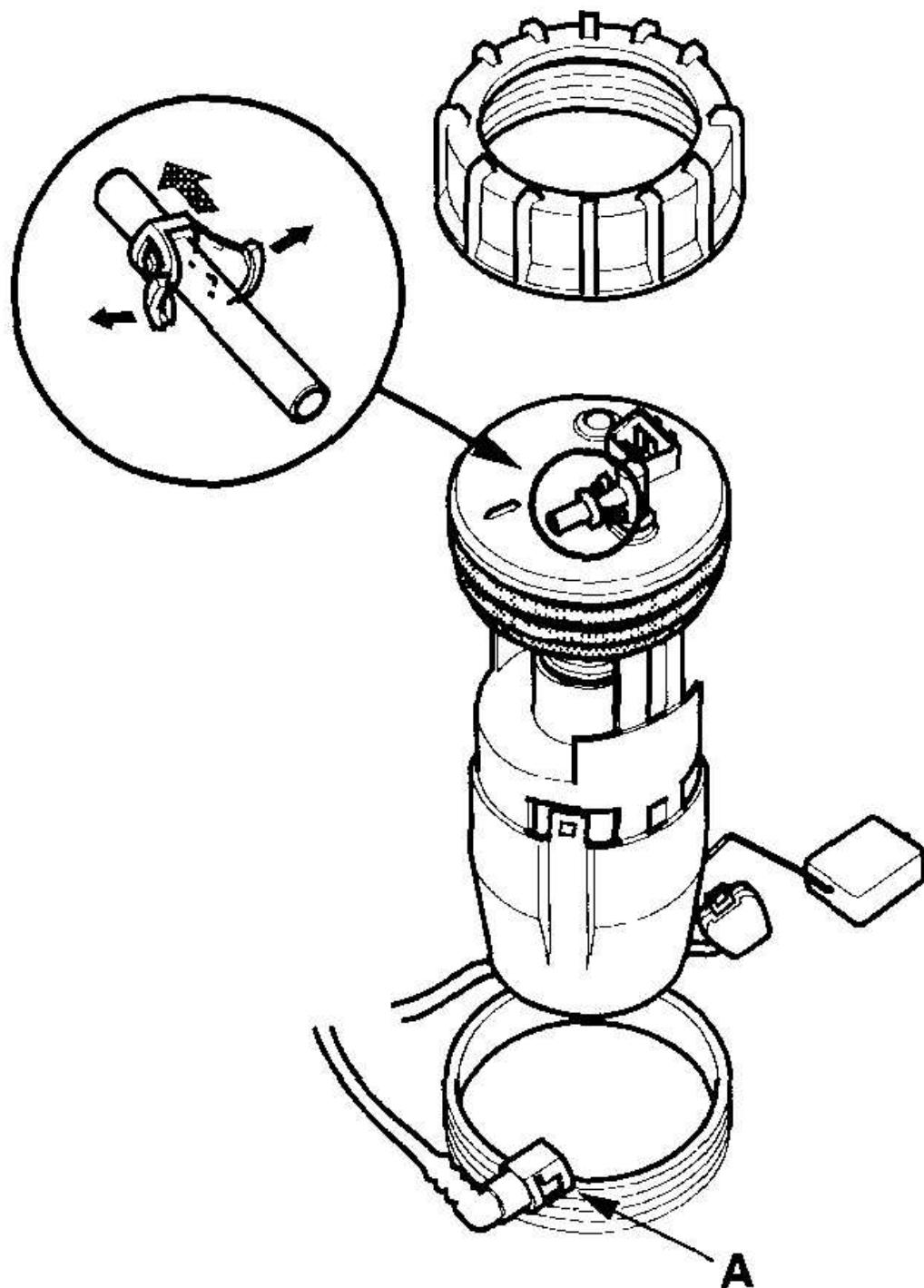
## **2006 Honda Insight**

2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight

**CVT model, 2006 M/T model**

## 2006 Honda Insight

### 2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight

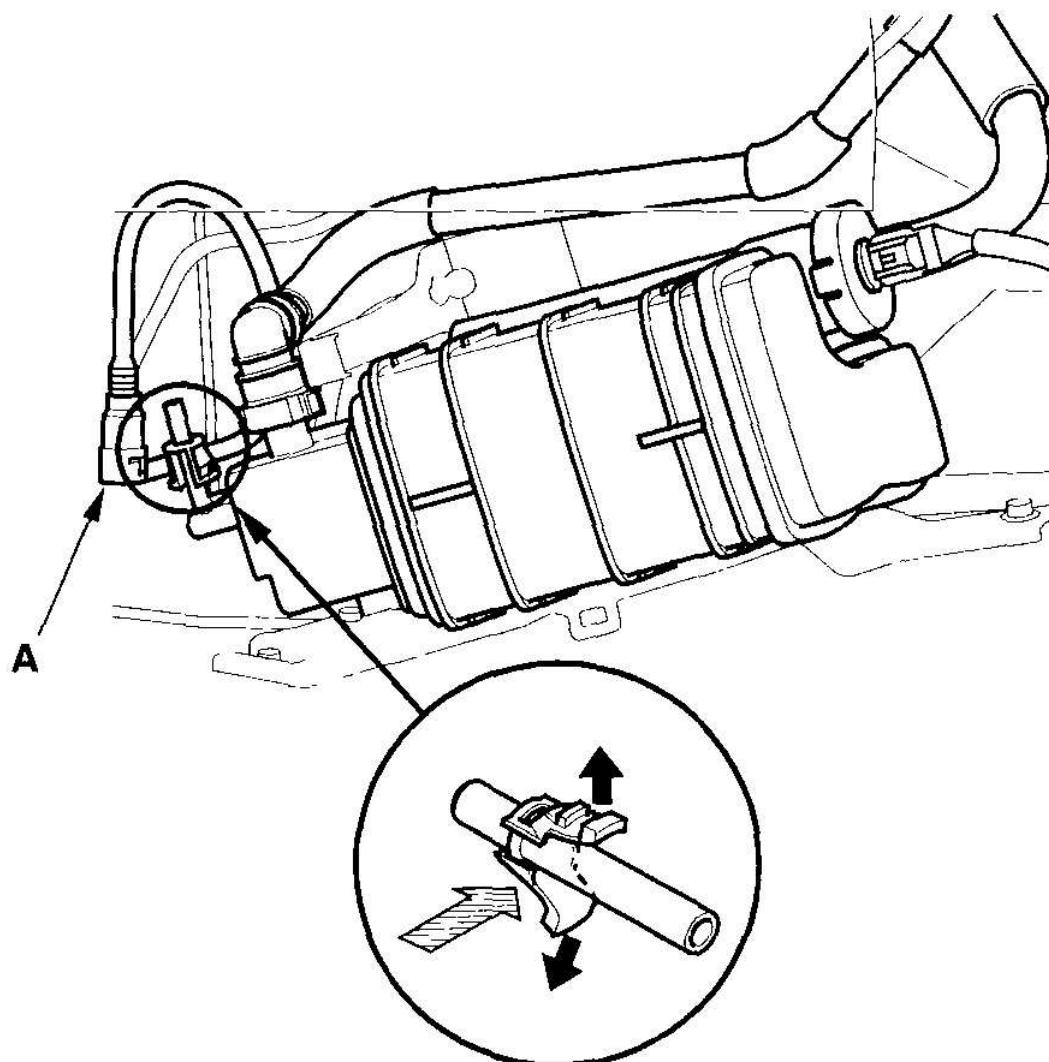


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**Fig. 55: Removing Retainer From Mating Line (CVT Model, 2006 M/T Model)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2006 model



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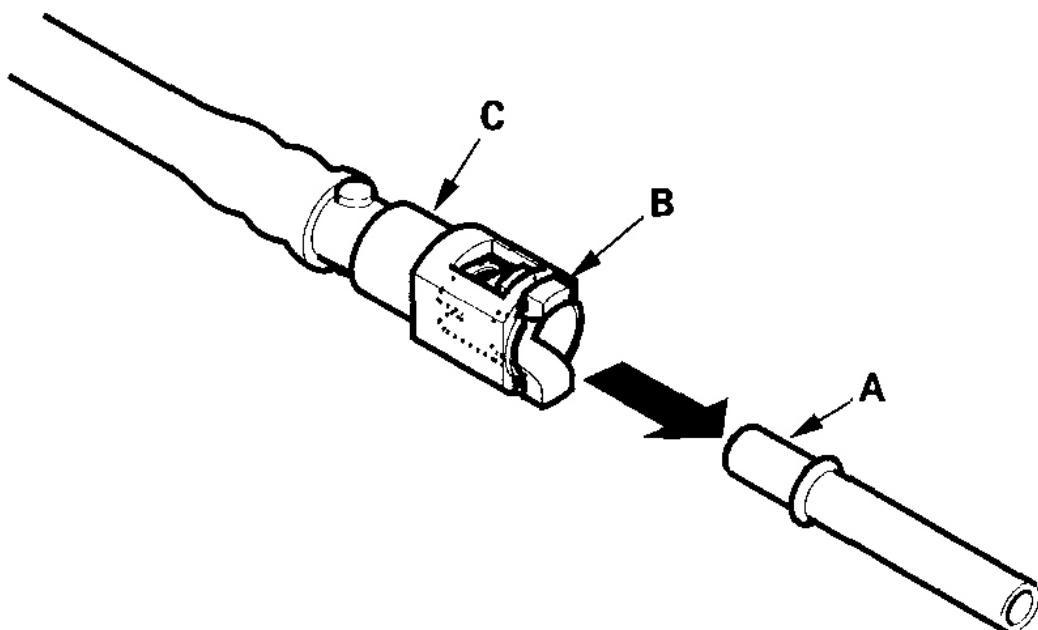
**Fig. 56: Removing Retainer From Mating Line (2006 Model)**

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 grooves (C). 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.

#### Connection with new retainer

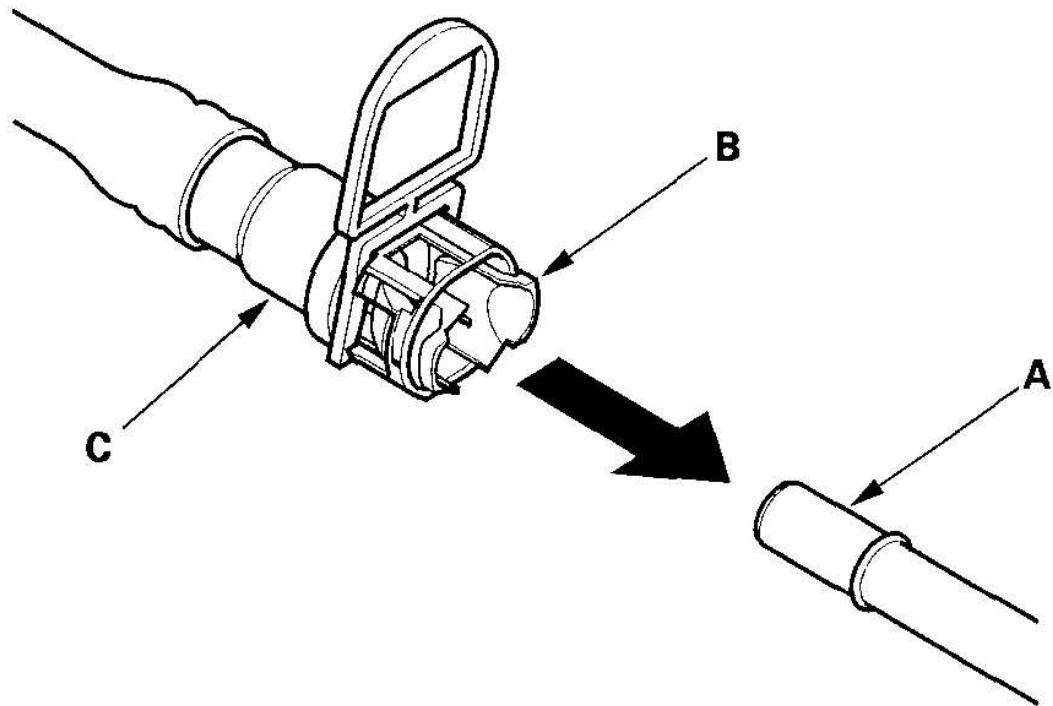


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**Fig. 57: Aligning Quick-Connect Fittings With Line (Connection With New Retainer)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

#### Connection to new fuel line

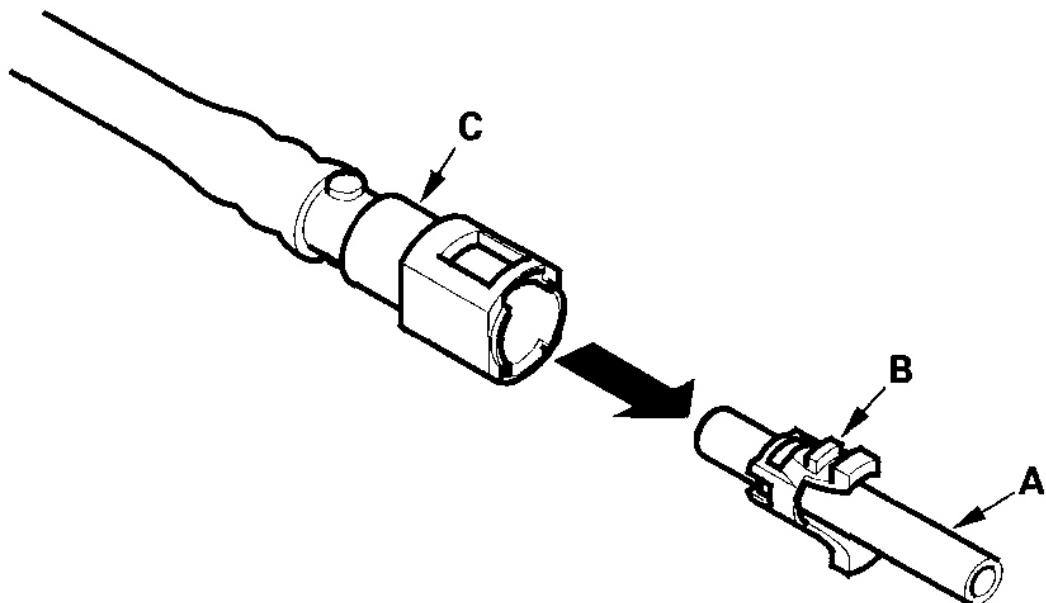


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**Fig. 58: Aligning Quick-Connect Fittings With Line (Connection With New Fuel Line)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Reconnection to existing retainer



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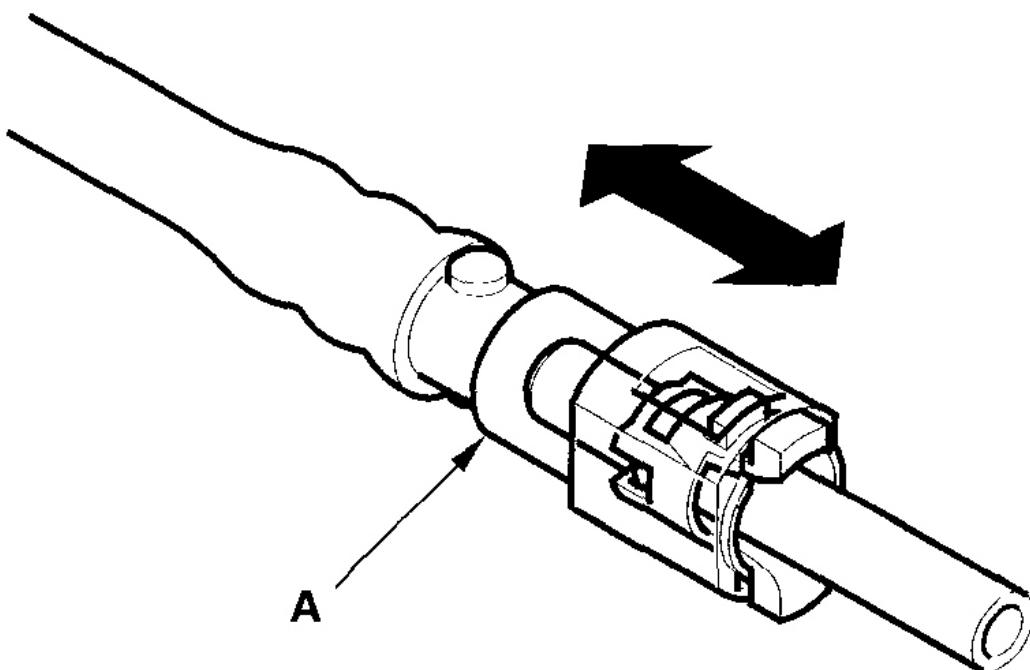
**Fig. 59: Aligning Quick-Connect Fittings With Line (Reconnection To Existing Retainer)**

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 are firmly locked into place; check visually and also by pulling the connector (A). When you are replacing the fuel line with a new one, make sure you remove the ring pull (B) 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.

**Reconnection to existing retainer**

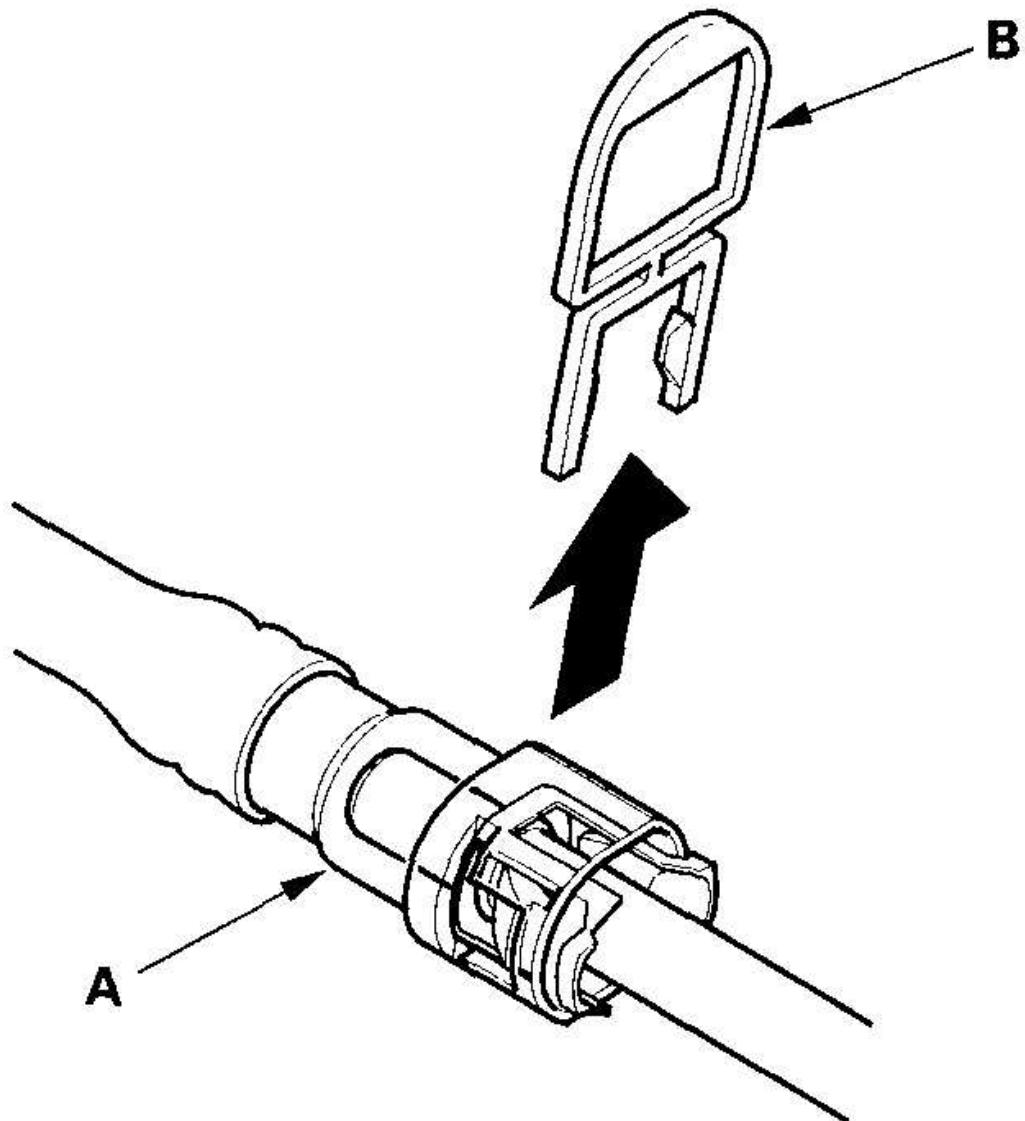


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**Fig. 60: Checking Connector Connection Locked (Reconnection To Existing Retainer)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Connection to new fuel line



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**Fig. 61: Checking Connector Connection Locked (Connection To New Fuel Line)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

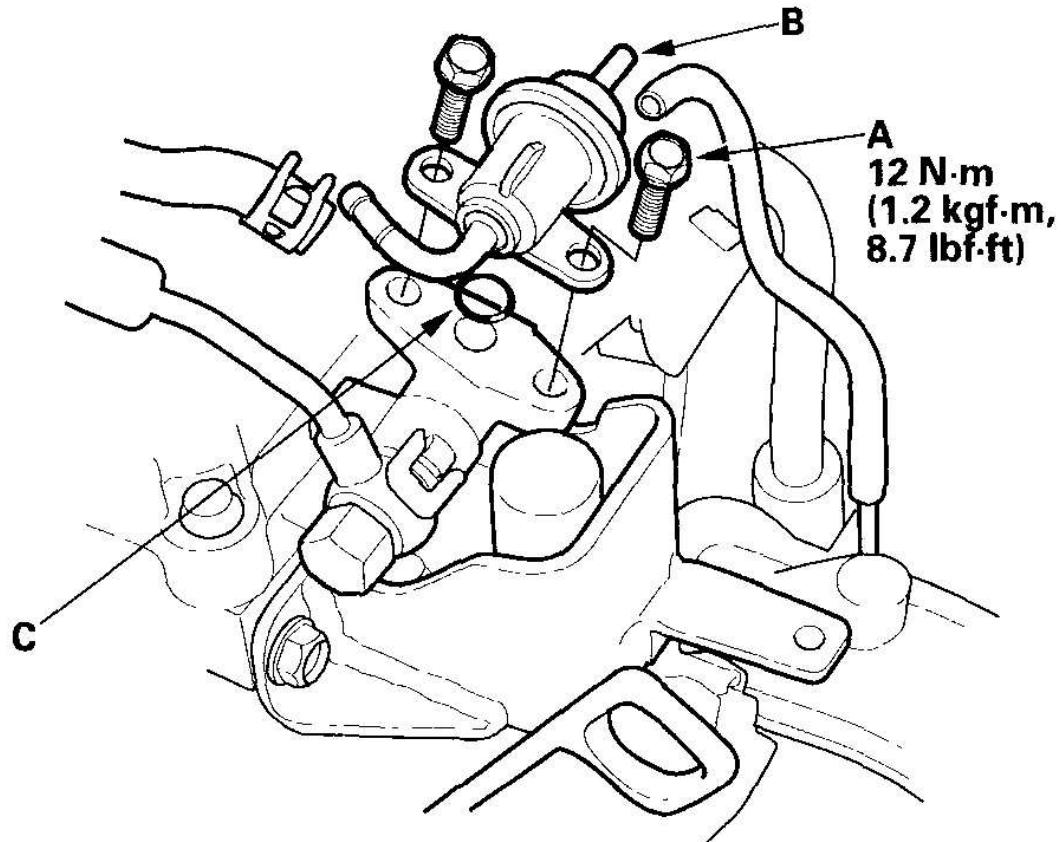
6. Reconnect the negative cable to the battery, and turn the ignition switch ON

(II) (but do not operate the starter motor). The fuel pump will run for about 2 seconds, and fuel pressure will rise. Repeat this two or three times, and check that there is no leakage in the fuel supply system.

## FUEL PRESSURE REGULATOR REPLACEMENT

### 2000-2005 M/T MODELS

1. Relieve the fuel pressure; 2000-2003 models (see [2000-2003 MODELS](#) ), 2004-2005 models (see [2004-2005 MODELS](#) ).
2. Disconnect the vacuum hose and fuel return hose.
3. Remove the two 6 mm retainer bolts (A) and the fuel pressure regulator (B).



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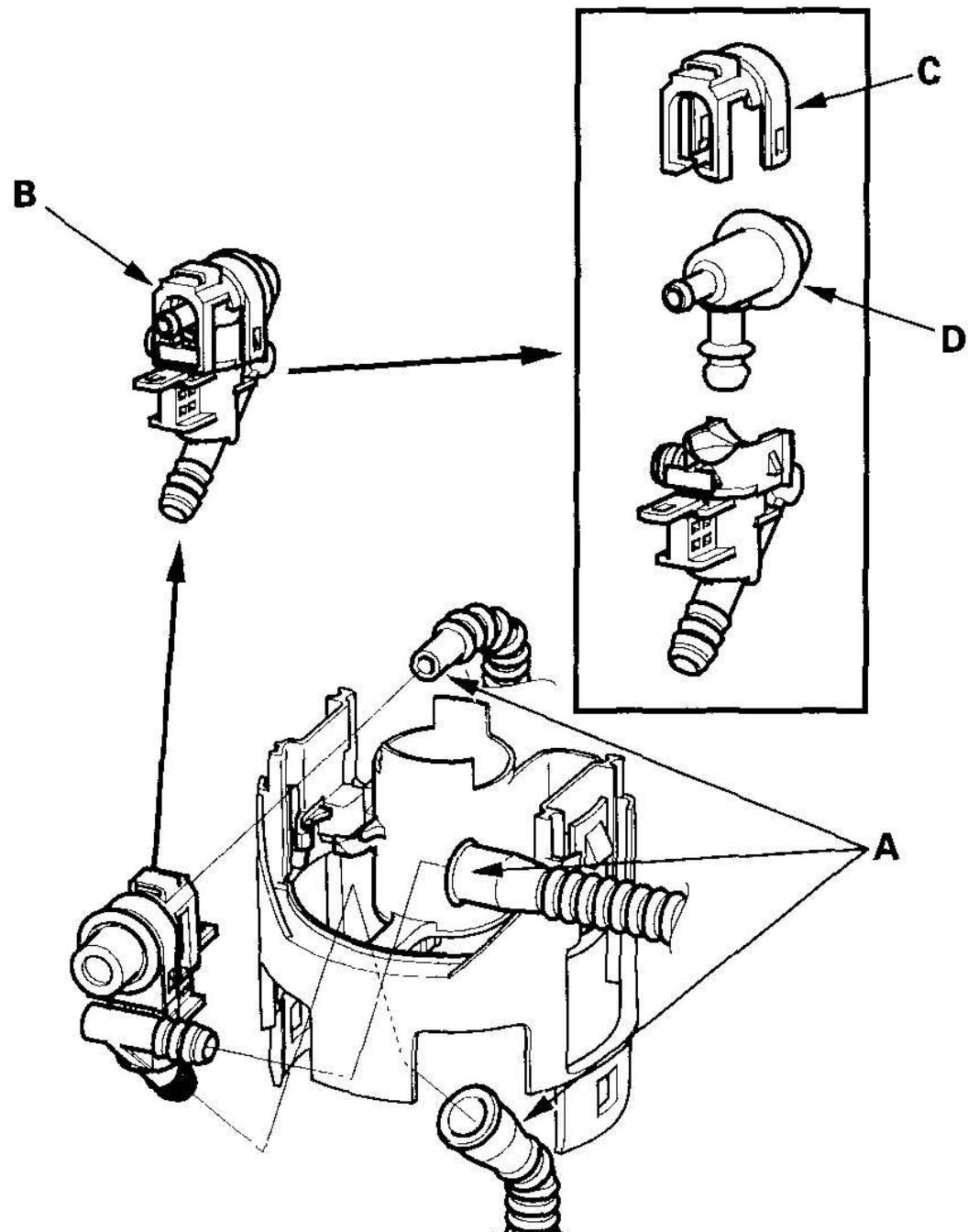
**Fig. 62: Removing Fuel Pressure Regulator And Torque Specifications**

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

4. Apply clean engine oil to a new O-ring (C), and carefully install it into its proper position.
5. Install the fuel pressure regulator and the 6 mm retainer bolts.
6. Reconnect the vacuum hose and fuel return hose.
7. Turn the ignition switch ON (II), but do not operate the starter. After the fuel pump runs for about 2 seconds, the fuel pressure in the fuel line rises. Repeat this two or three times, then check for fuel leakage.

**CVT MODEL, 2006 M/T MODEL**

1. Remove the fuel tank unit (see **CVT MODEL, 2006 M/T MODEL** ).
2. Disconnect the tubes (A) from the fuel pressure regulator assembly (B).



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**Fig. 63: Disconnecting Tubes From Fuel Pressure Regulator Assembly**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

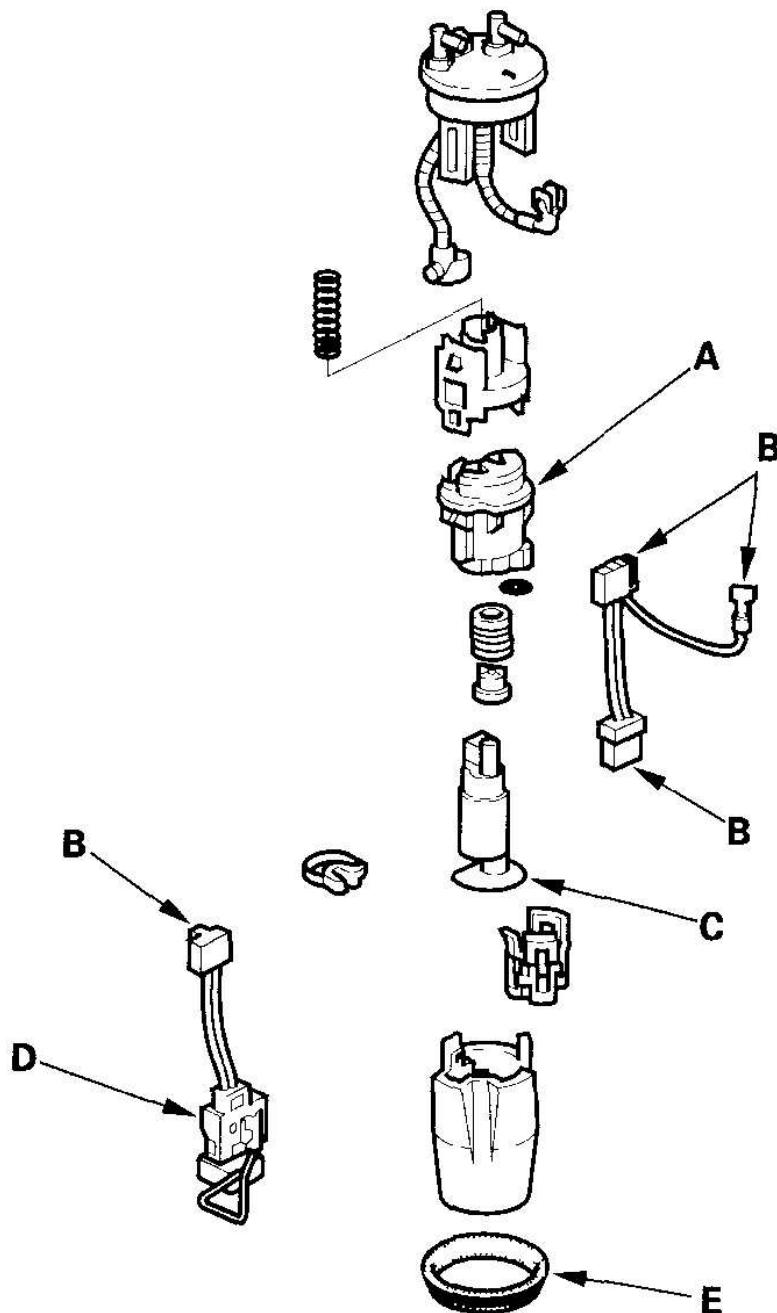
3. Remove the pressure regulator bracket (C) and the fuel pressure regulator (D).
4. Install the parts in the reverse order of removal.

## **FUEL FILTER REPLACEMENT**

The fuel filter should be replaced whenever the fuel pressure drops below the specified value (270-320 kPa, 2.8-3.3 kgf/cm<sup>2</sup>, 40-47 psi with the fuel pressure regulator vacuum hose disconnected and pinched) after making sure that the fuel pump and the fuel pressure regulator are OK.

### **2000-2005 M/T MODELS**

1. Remove the fuel tank unit (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT** ).
2. Remove the fuel filter (A).



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**Fig. 64: Exploded View Of Fuel Filter (2000-2005 M/T Models)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the parts in the reverse order of removal with a new base gasket (E), then check these items:
  - When connecting the wire harness, make sure the connection is secure and the connectors (B) are firmly locked into place.
  - Do not push the lower part of the suction filter (C).
  - When installing the fuel gauge sending unit (D), make sure the connection is secure and the connector is firmly locked into place. Be careful not to bend or twist it excessively.

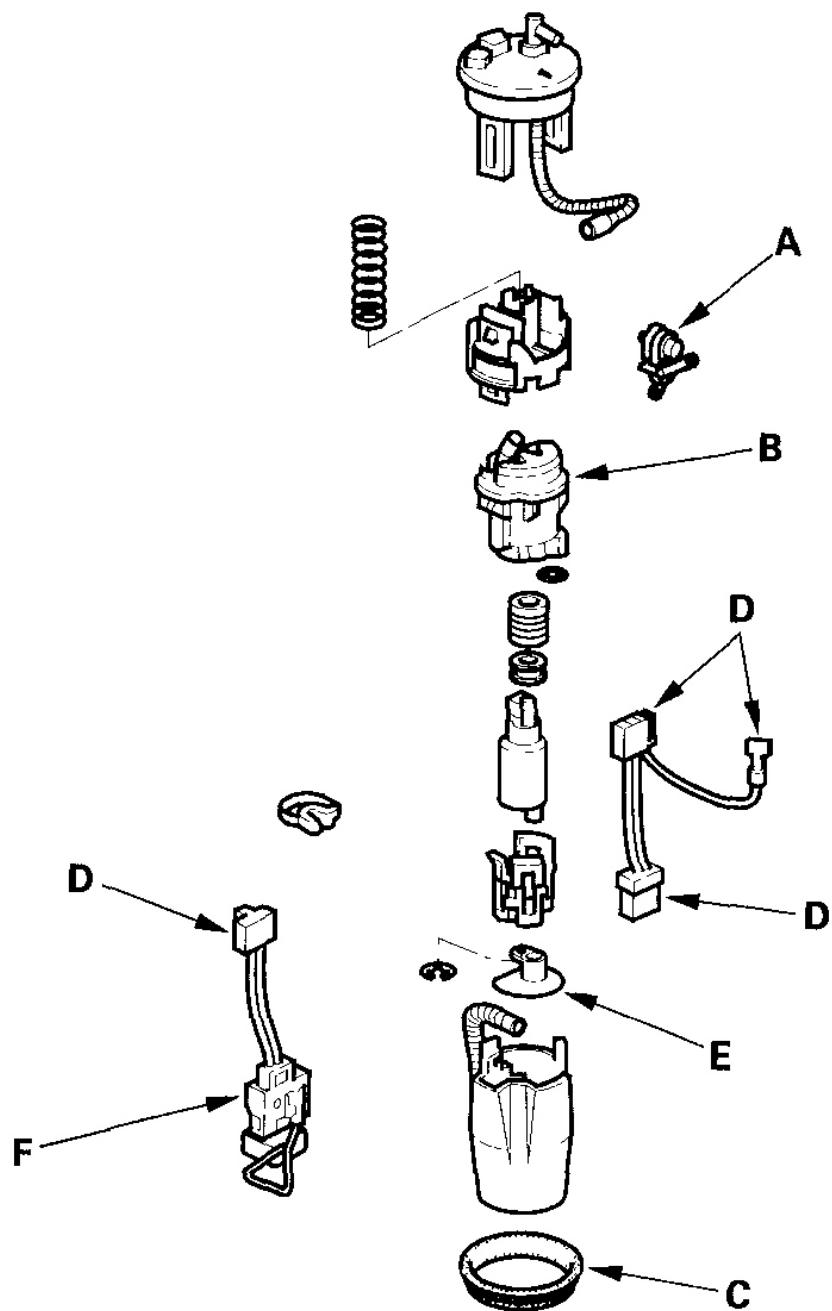
After making sure that the fuel pump and the fuel pressure regulator are OK, replace the fuel filter whenever fuel pressure drops below the specified value (270-320 kPa, 2.8-3.3 kgf/cm<sup>2</sup>, 40-47 psi) after making sure that the fuel pump and the fuel pressure regulator are OK.

**CVT MODEL, 2006 M/T MODEL**

1. Remove the fuel tank unit (see **CVT MODEL, 2006 M/T MODEL** ).
2. Remove the fuel pressure regulator assembly (A).
3. Remove the fuel filter (B).

## 2006 Honda Insight

### 2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight



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**Fig. 65: Exploded View Of Fuel Filter (CVT Model, 2006 M/T Model)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Install the parts in the reverse order of removal with a new base gasket (C), then check these items:
  - When connecting the wire harness, make sure the connection is secure and the connectors (D) are firmly locked into place.
  - Do not push the lower part of the suction filter (E).
  - When installing the fuel gauge sending unit (F), make sure the connection is secure and the connector is firmly locked into place. Be careful not to bend or twist it excessively.

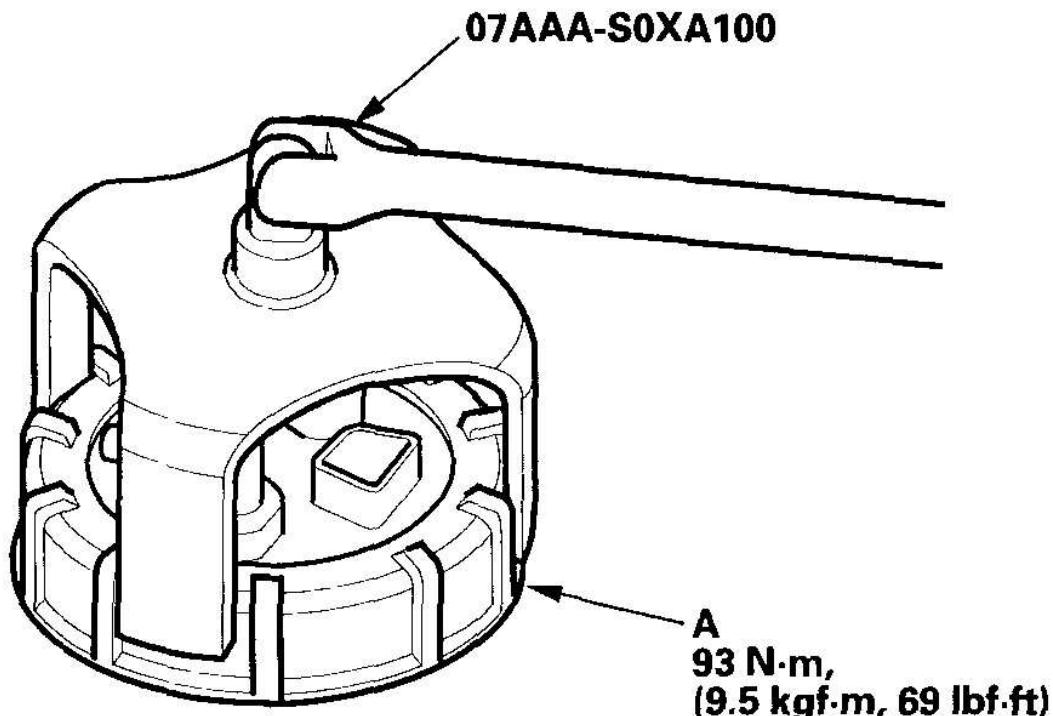
## **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT**

### **Special Tools Required**

Fuel sender wrench 07AAA-S0XA100

#### **2000-2005 M/T MODELS**

1. Remove the fuel tank (see **FUEL TANK REPLACEMENT** ).
2. Disconnect the quick-connect fittings from the fuel tank unit.
3. Using the special tool, loosen the fuel tank unit locknut (A).

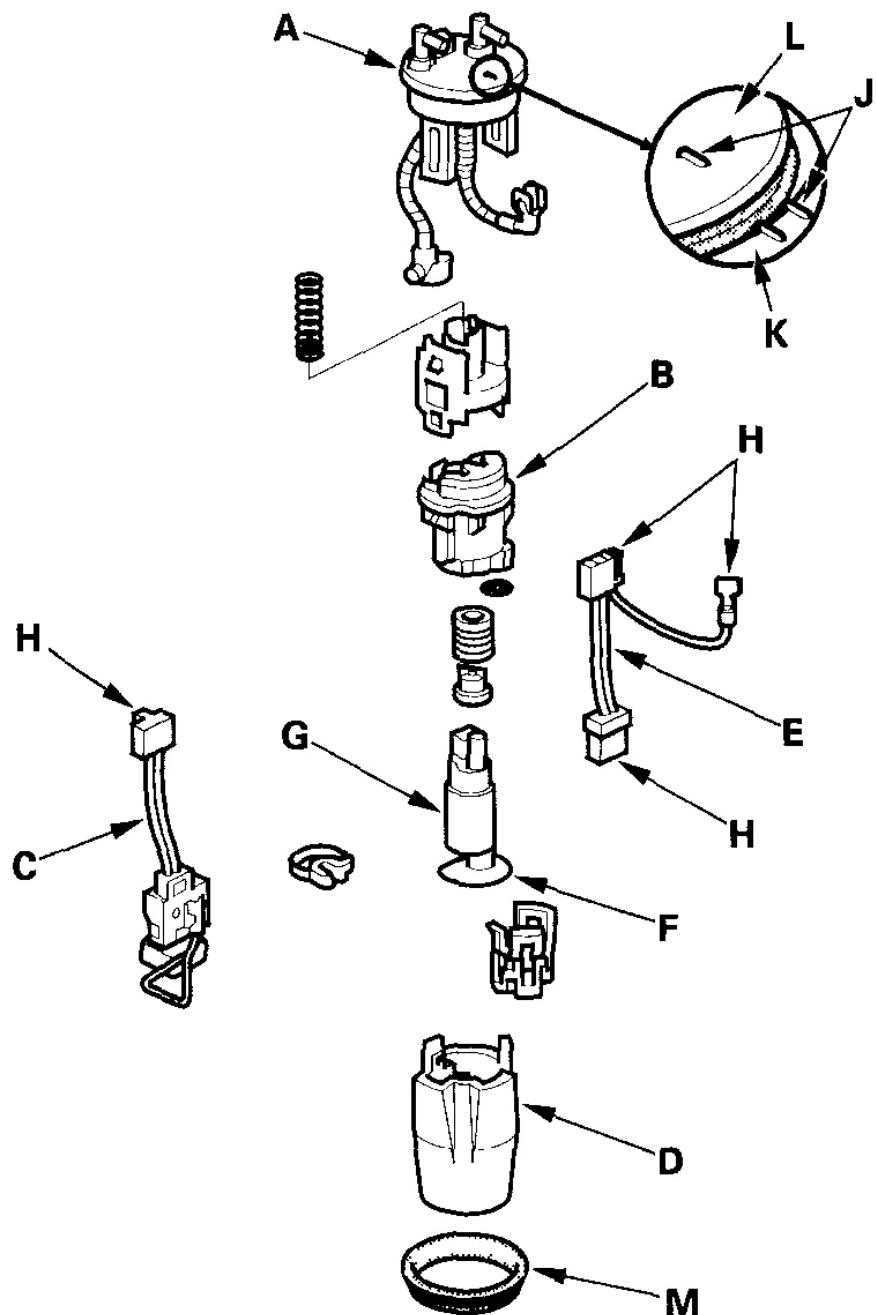


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**Fig. 66: Loosening Fuel Tank Unit Locknut And Torque Specifications  
(2000-2005 M/T Models)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the bracket (A), the fuel filter (B), the fuel gauge sending unit (C), the case (D), and the wire harness (E).



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**Fig. 67: Removing Bracket, Fuel Filter, Fuel Gauge Sending Unit, Case And Wire Harness (2000-2005 M/T Models)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

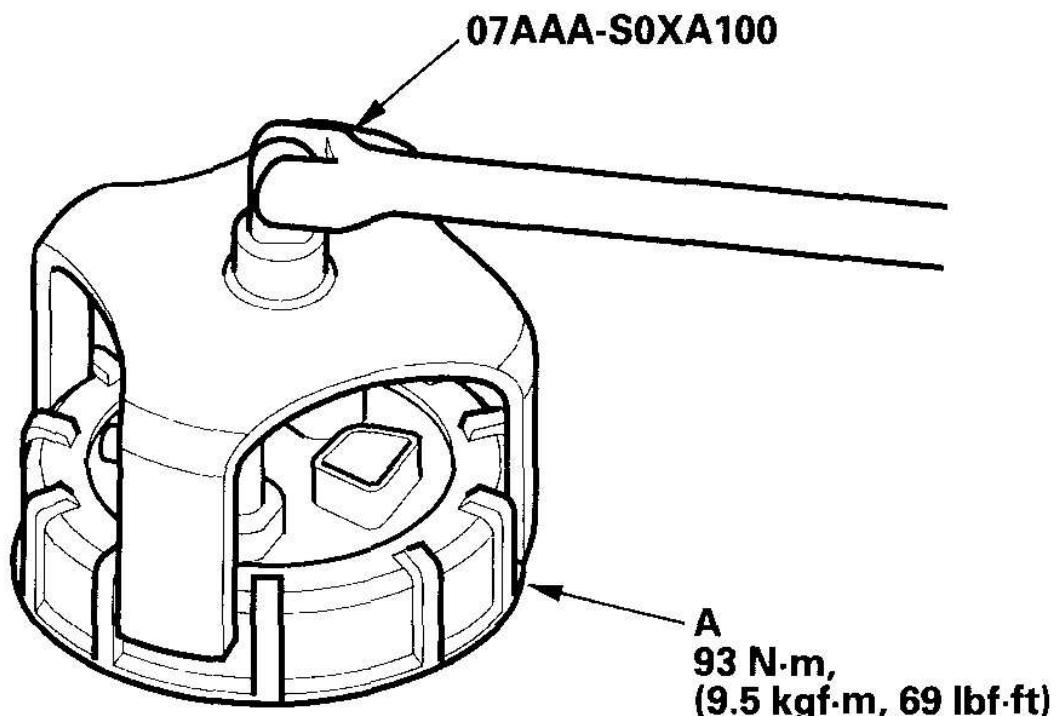
5. When connecting the fuel pump, make sure the connection is secure and the suction filter (F) is firmly connected to the fuel pump (G).
6. Install the parts in the reverse order of removal with a new base gasket (M), then check these items:
  - When connecting the wire harness, make sure the connection is secure and the connectors (H) are firmly locked into place.
  - Do not push the lower part of the suction filter.
  - 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.
  - When installing the fuel pump assembly, align the marks (J) on the fuel tank (K) and the fuel tank unit (L).

## **Special Tools Required**

Fuel sender wrench 07AAA-S0XA100

### **CVT MODEL, 2006 M/T MODEL**

1. Remove the fuel tank; 2000-2005 models (see **2000-2005 MODELS** ), 2006 model (see **2006 MODEL** ).
2. Disconnect the quick-connect fittings from the fuel tank unit.
3. Using the special tool, loosen the fuel tank unit locknut (A).



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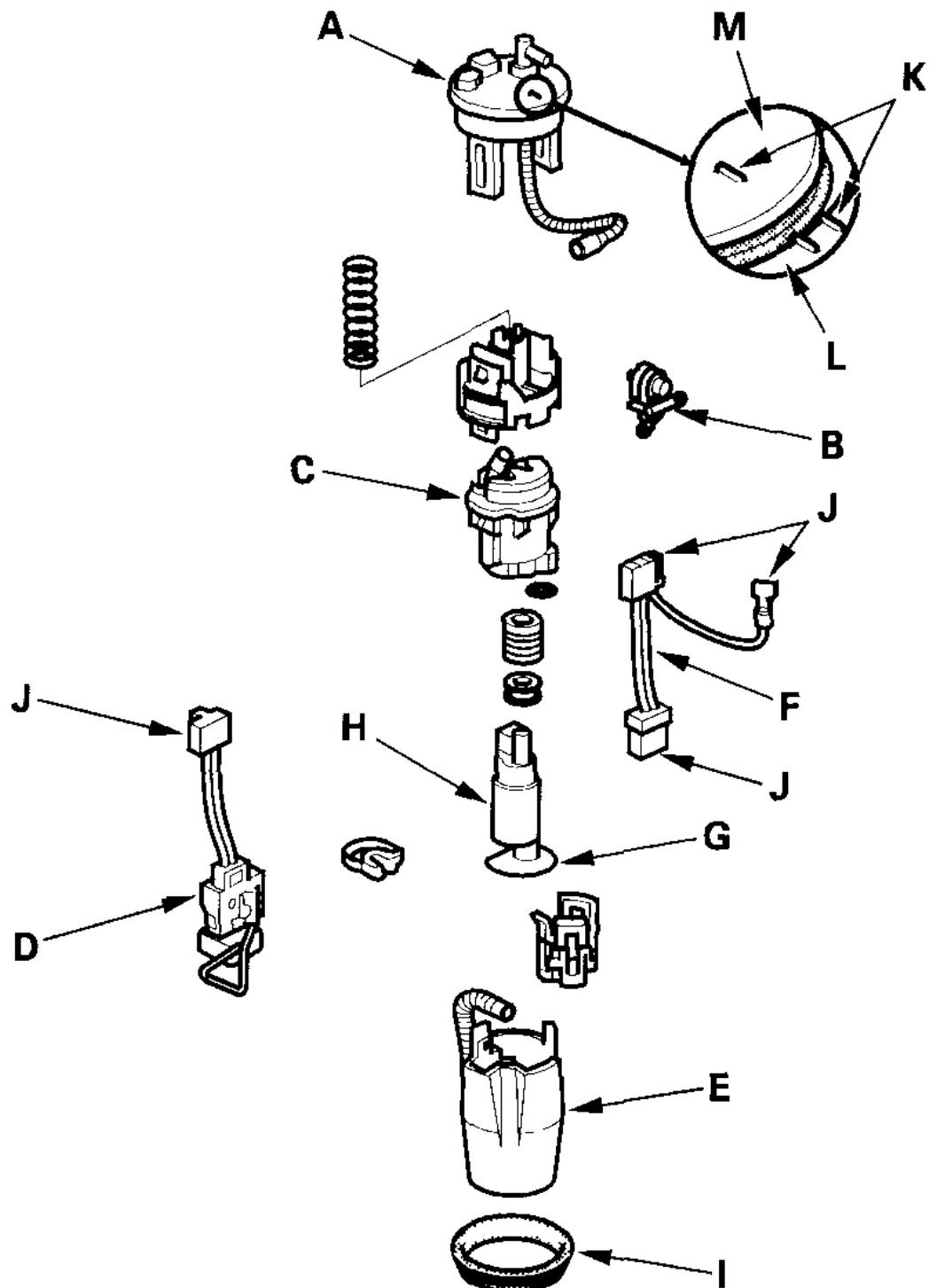
**Fig. 68: Loosening Fuel Tank Unit Locknut And Torque Specifications  
(CVT Model, 2006 M/T Model)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

# 2006 Honda Insight

## 2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight



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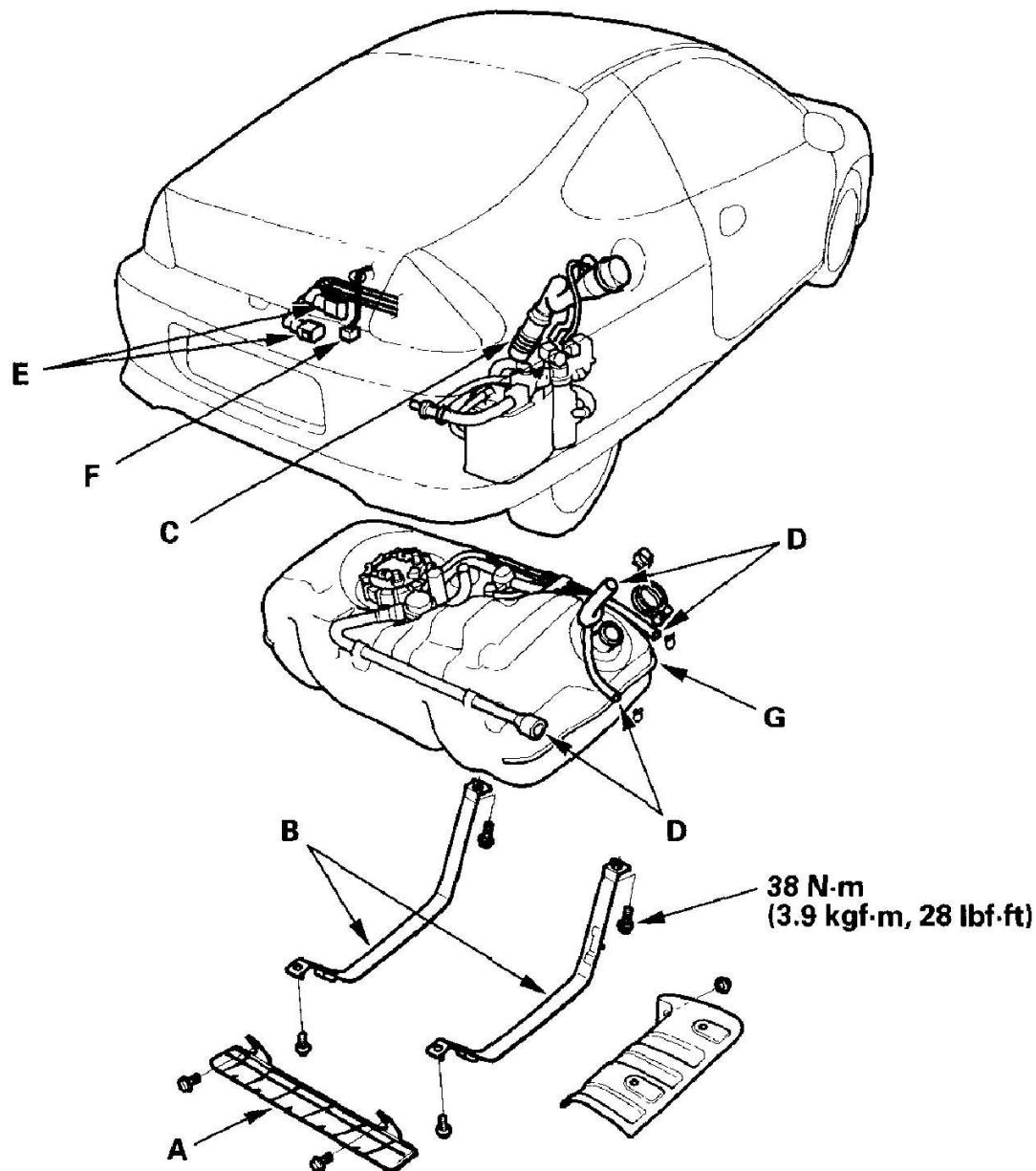
**Fig. 69: Removing Bracket, Fuel Pressure Regulator Assembly, Fuel Filter, Fuel Gauge Sending Unit, Case, And Wire Harness**  
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. When connecting the fuel pump, make sure the connection is secure and the suction filter (G) is firmly connected to the fuel pump (H).
6. Install the parts in the reverse order of removal with a new base gasket (I), then check these items:
  - When connecting the wire harness, make sure the connection is secure and the connectors (J) are firmly locked into place.
  - Do not push the lower part of the suction filter.
  - 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.
  - When installing the fuel pump assembly, align the marks (K) on the fuel tank (L) and the fuel tank unit (M).

## **FUEL TANK REPLACEMENT**

### **2000-2005 MODELS**

1. Relieve the fuel pressure; 2000-2003 models (see **2000-2003 MODELS** ), 2004-2005 models (see **2004-2005 MODELS** ).
2. Raise the vehicle, and support it with jackstands.
3. Remove the muffler (see **COMPONENT LOCATION INDEX** ).
4. Place a jack, or other support, under the tank.
5. Remove the shield (A), remove the strap bolts, and let the straps (B) fall free.



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**Fig. 70: Removing Fuel Tank And Torque Specifications (2000-2005 Models)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

This illustration shows the 2000-2005 M/T models.

6. Disconnect the fuel fill neck tube (C), fuel vapor hoses (D) and quick-connect

fittings (E). Disconnect the hoses. Slide back the clamps, then twist the hoses as you pull to avoid damaging them.

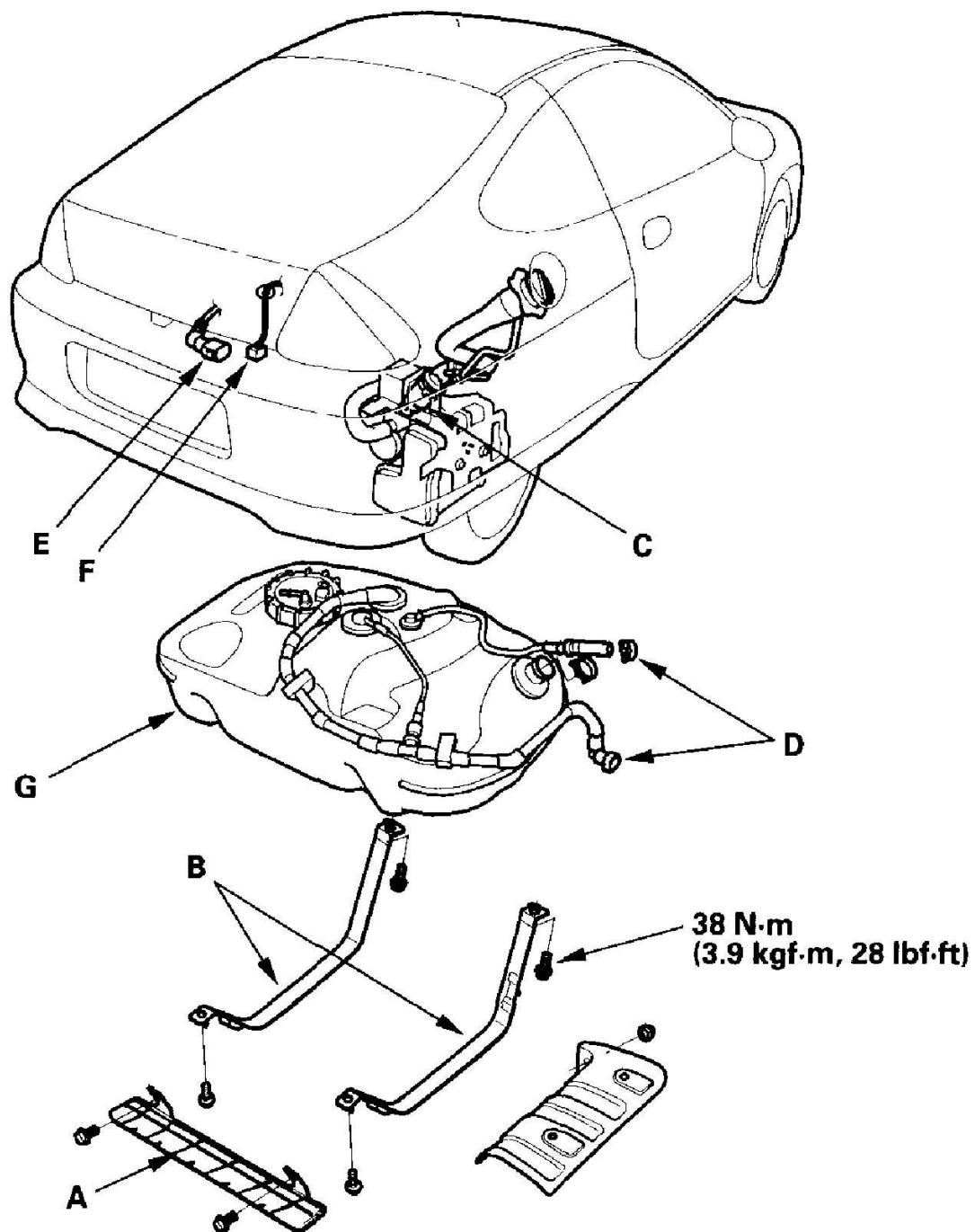
7. Drain the fuel tank: Using a hand pump, hose, and container suitable for fuel, draw the fuel from the fuel tank.
8. Disconnect the fuel tank unit 5P connector (F).
9. Remove the fuel tank (G). If it sticks to the undercoat on its mount, carefully pry it off the mount.
10. Install the parts in the reverse order of removal.

#### **2006 MODEL**

1. Relieve the fuel pressure (see **2006 MODEL** ).
2. Raise the vehicle, and support it with jackstands.
3. Remove the muffler (see **COMPONENT LOCATION INDEX** ).
4. Place a jack, or other support, under the tank.
5. Remove the shield (A), remove the strap bolts, and let the straps (B) fall free.

## 2006 Honda Insight

### 2000-06 ENGINE PERFORMANCE Fuel Supply System - Insight



G03681076

**Fig. 71: Removing Fuel Tank And Torque Specifications (2006 Models)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Disconnect the fuel fill neck tube (C), fuel vapor lines (D) and quick-connect fitting (E).

Disconnect the hoses. Slide back the clamps, then twist the hoses as you pull to avoid damaging them.

7. Drain the fuel tank: Using a hand pump, hose, and container suitable for fuel, draw the fuel from the fuel tank.
8. Disconnect the fuel tank unit 5P connector (F).
9. Remove the fuel tank (G). If it sticks to the undercoat on its mount, carefully pry it off the mount.
10. Install the parts in the reverse order of removal.

## FUEL GAUGE SENDING UNIT TEST

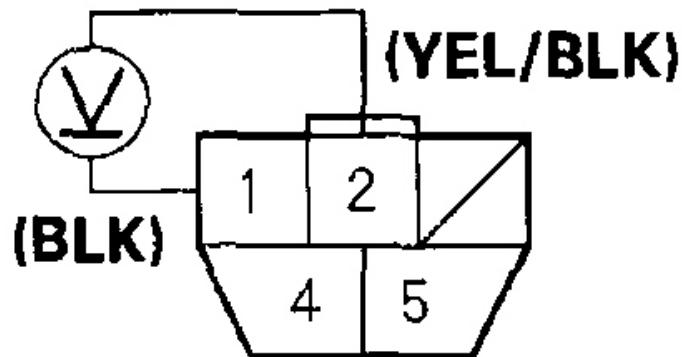
### Special Tools Required

Fuel sender wrench 07AAA-S0XA100

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

1. Check the No. 6 fuse in the under-dash fuse/relay box before testing.
2. Remove the middle floor panel (see MIDDLE FLOOR PANEL REPLACEMENT ).
3. Remove the access panel from the floor.
4. Turn the ignition switch OFF, then disconnect the fuel pump 5P connector.
5. 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 6.
  - If the voltage is not OK, check for:
    - an open in the YEL/BLK or BLK wire.
    - poor ground (G 502).

## FUEL TANK UNIT 5P CONNECTOR



Wire side of female terminals

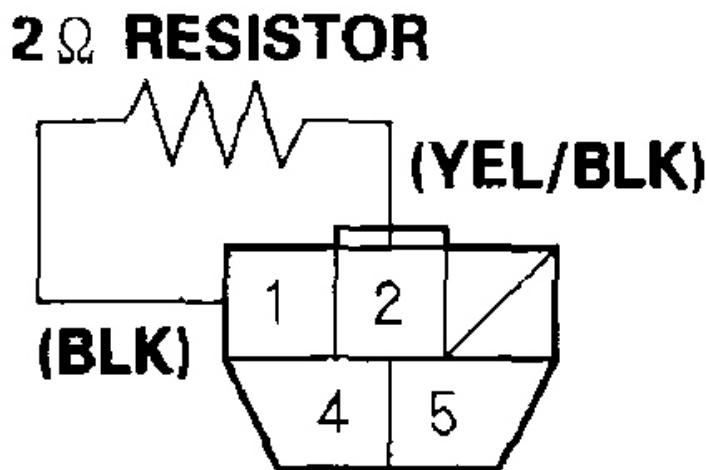
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**Fig. 72: Measuring Voltage Between Fuel Tank Unit 5P Connector  
Terminals No. 1 And No. 2**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Turn the ignition switch OFF. Remove the No. 18 (7.5 A) fuse from the under-dash fuse/relay box for at least 10 seconds, then reinstall it.
7. Install a 2 ohm, resistor between fuel tank unit 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**

G03681078

**Fig. 73: Installing 2 ohm, Resistor Between Fuel Tank Unit 5P Connector Terminals No. 1 And No. 2**

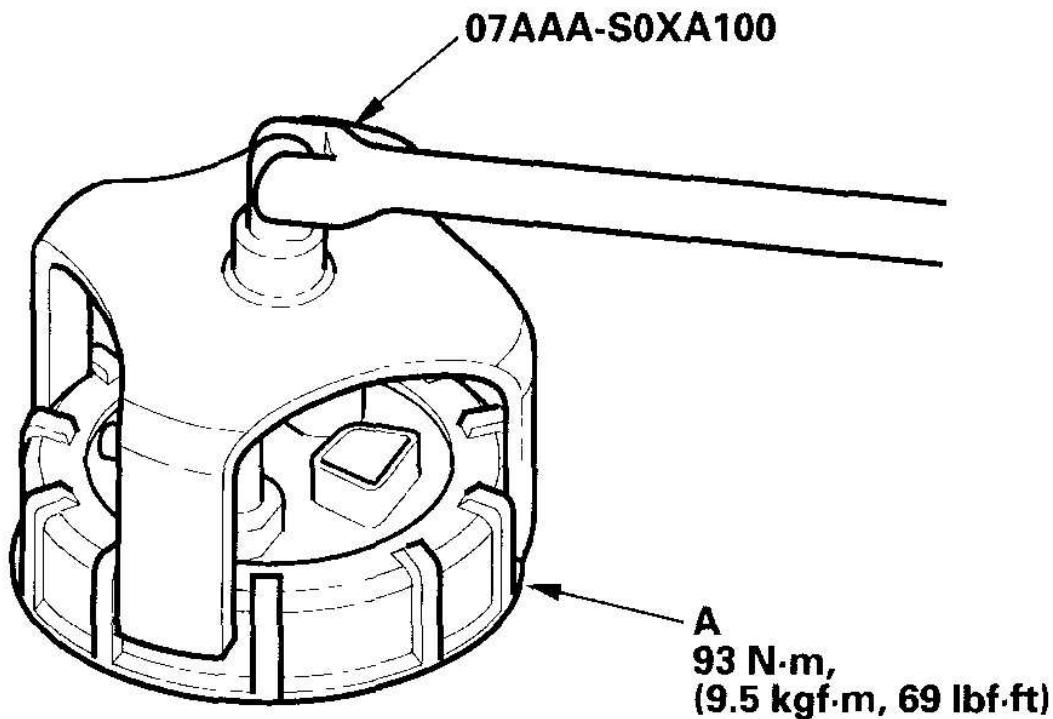
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Check that the pointer of the fuel gauge starts moving toward the "F" mark.
  - If the pointer does not move, replace the gauge.
  - If the gauge is OK, inspect the fuel gauge sending unit.

**NOTE:**

- Turn the ignition switch OFF before the pointer reaches "F" on the gauge dial. Failure to do so may damage the fuel gauge.
- The fuel gauge is a bobbin (cross-coil) type; the fuel level is continuously indicated even when the ignition switch is OFF, and the pointer moves more slowly than on other gauges.

9. Turn the ignition switch OFF.
10. Remove the fuel tank; 2000-2005 models (see **2000-2005 MODELS** ), 2006 model (see **2006 MODEL** ),
11. Disconnect the quick-connect fittings from the fuel tank unit.
12. Using the special tool, loosen the locknut (A), and remove the fuel tank unit from the fuel tank.



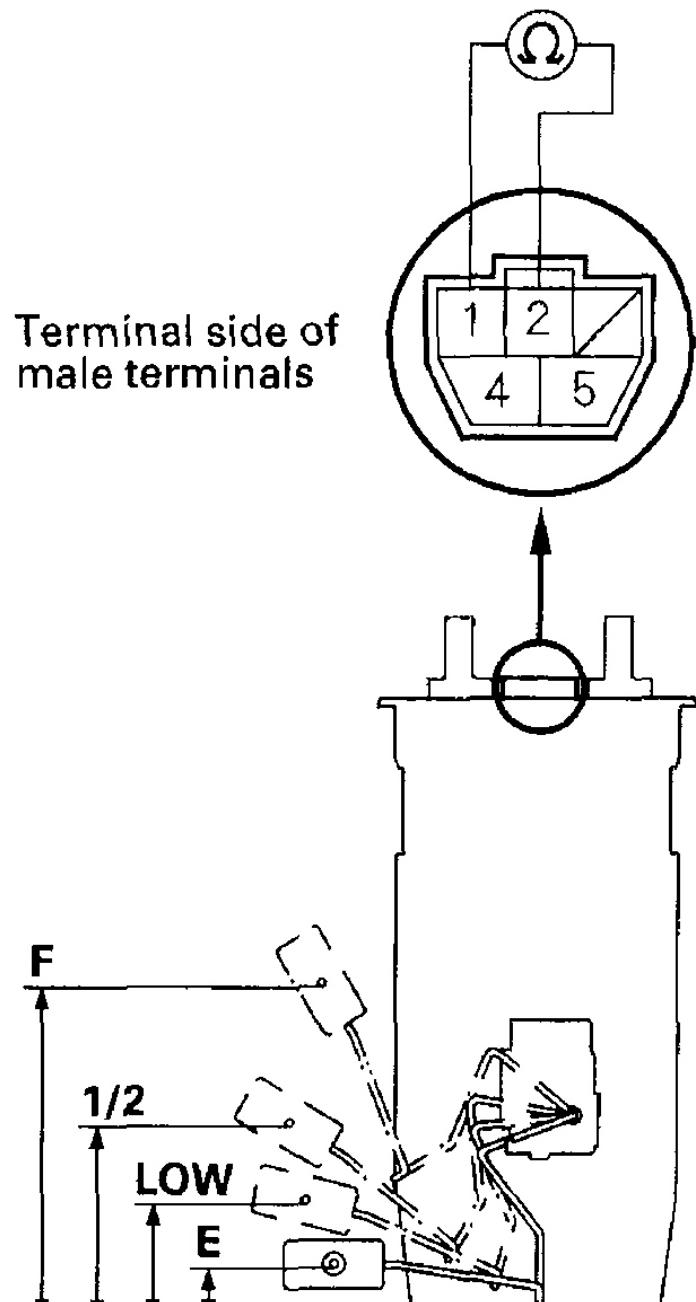
**Fig. 74: Loosening Locknut And Removing Fuel Tank Unit With Specified Torques****Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Measure resistance between fuel tank unit 5P connector terminals No. land No. 2 with the float at E (EMPTY), LOW (LOW FUEL INDICATOR), 1/2 (HALF FULL), and F (FULL) positions.

If you do not get the following readings, replace the fuel gauge sending unit; 2000-2005 M/T models (see **2000-2005 M/T MODELS** ), CVT model, 2006 M/T model (see **CVT MODEL, 2006 M/T MODEL** ).

**TERMINALS RESISTANCE**

<b>Float Position</b>	<b>E</b>	<b>1/2</b>	<b>LOW</b>	<b>F</b>
Resistance ohm	130 to 132	65 to 71	118 to 124	11 to 13



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**Fig. 75: Measuring Resistance Between Fuel Tank Unit 5P Connector Terminals No. 1 And No. 2**

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 a malfunction, replace the fuel gauge sending unit.
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 the Gauges Circuit Diagram (see **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 the Gauges Circuit Diagram (see **CIRCUIT DIAGRAM** ), and check the circuit.