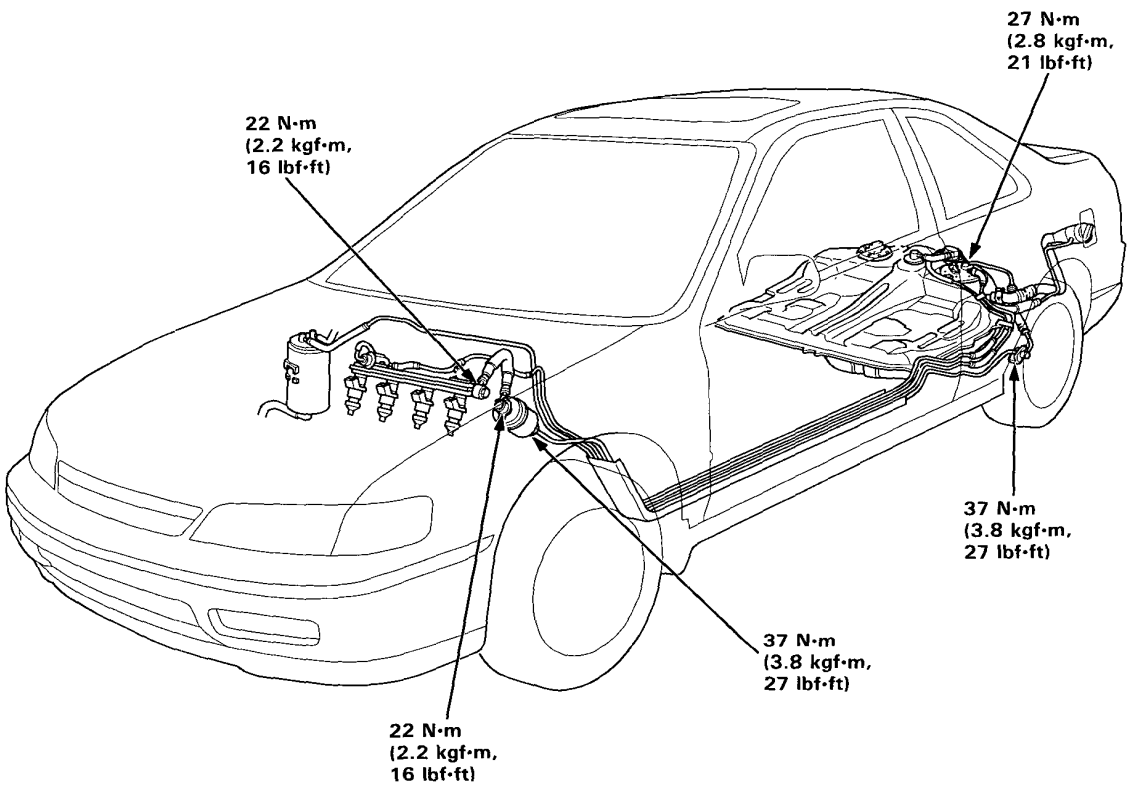
System Troubleshooting Guide

NOTE: Across each row in the chart, the sub-systems that could be sources of a symptom are ranked in the order they should be inspected starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows the system is OK, try the next most likely system ②, etc.

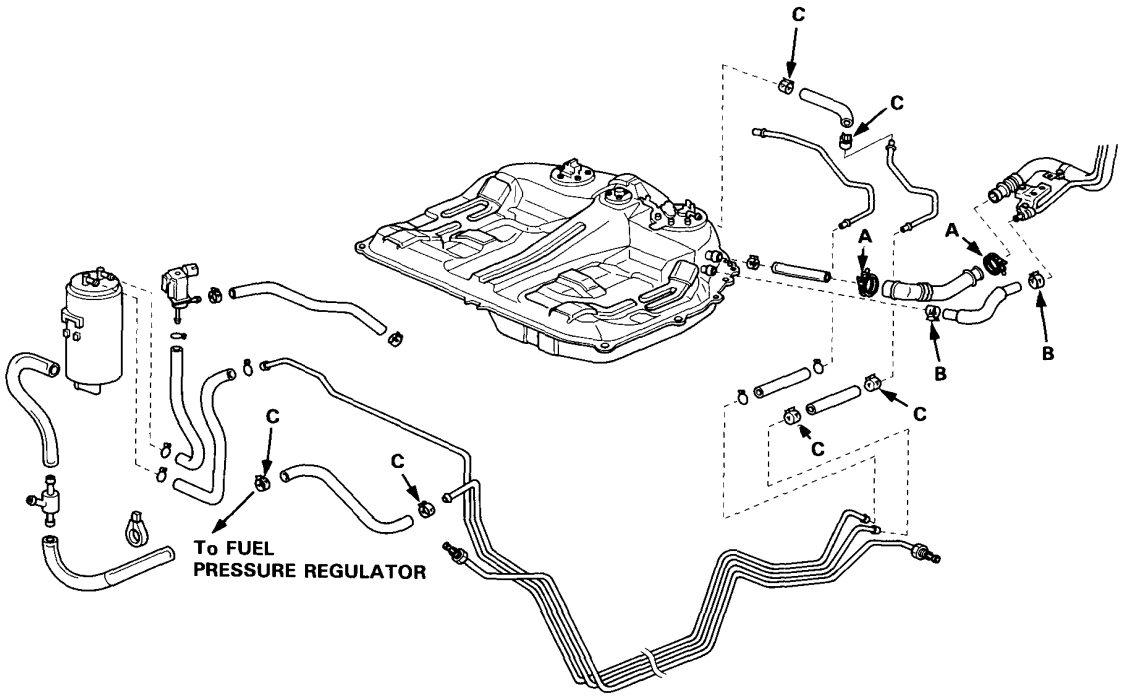
PAGE / SUB-SYSTEM / SYMPTOM		FUEL LINES	FUEL INJECTOR	FIA CONTROL SYSTEM [F22B1 engine]	INJECTOR RESISTOR	FUEL PRESSURE REGULATOR	FUEL FILTER	FUEL PUMP	PGM-FI MAIN RELAY	CONTAM-INATED FUEL
		11-76	11-80, 83	11-86	11-89	11-90	11-92	11-93	11-95	–
ENGINE WON'T START					③		③	①	②	
DIFFICULT TO START ENGINE WHEN COLD OR HOT							①	②		
ROUGH IDLE			①		②					③
POOR PER-FORMANCE	MISFIRE OR ROUGH RUNNING		①		②	③				③
	FAILS EMISSION TEST		②	③	③	①				
	LOSS OF POWER		③		③		②	①		
FREQUENT STALLING	WHILE WARMING UP					①				
	AFTER WARMING UP					①				

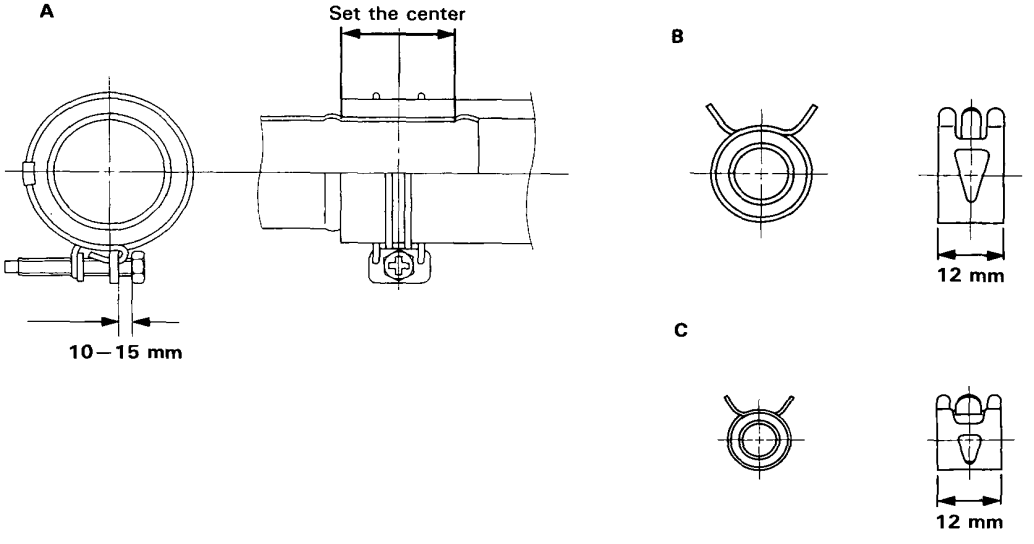
Fuel Lines

NOTE: Check all fuel system lines and hoses for damage, leaks or deterioration, and replace if necessary.



NOTE: Check all hose clamps and retighten if necessary.





Fuel Supply System

System Description

The fuel supply system consists of a fuel tank, in-tank high presssure fuel pump, PGM-FI main relay, fuel filter, fuel pressure regulator, fuel injectors, injector resistor and Fuel Injection Air (FIA) Control System [F22B1 engine] and fuel delivery and return lines. This system delivers pressure-regulatored fuel to the fuel injectors and cuts the fuel delivery when the engine is not running.

Fuel Pressure

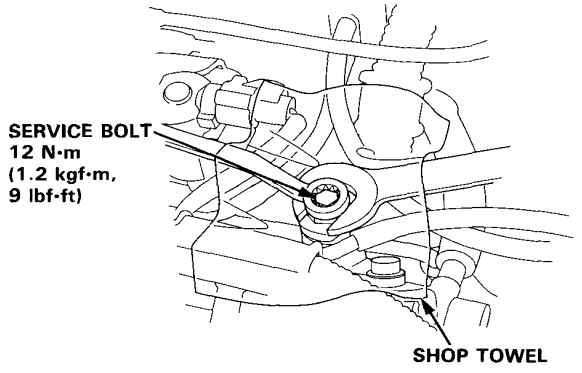
Relieving

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

⚠ WARNING

- **Do not smoke while working on the fuel system. Keep open flames or sparks away from your work area.**
- **Be sure to relieve fuel pressure while the ignition switch is off.**

1. Disconnect the battery negative cable from the battery negative terminal.
2. Remove the fuel fill cap.
3. Use a box end wrench on the 6 mm service bolt at the fuel rail, while holding the special banjo bolt with another wrench.
4. Place a rag or shop towel over the 6 mm service bolt.
5. Slowly loosen the 6 mm service bolt one complete turn.



NOTE:

- A fuel pressure gauge can be attached at the 6 mm service bolt hole.
- Always replace the washer between the service bolt and the special banjo bolt whenever the service bolt is loosened.
- Replace all washers whenever the bolts are removed.

Inspection

1. Relieve fuel pressure (see page 11-78).

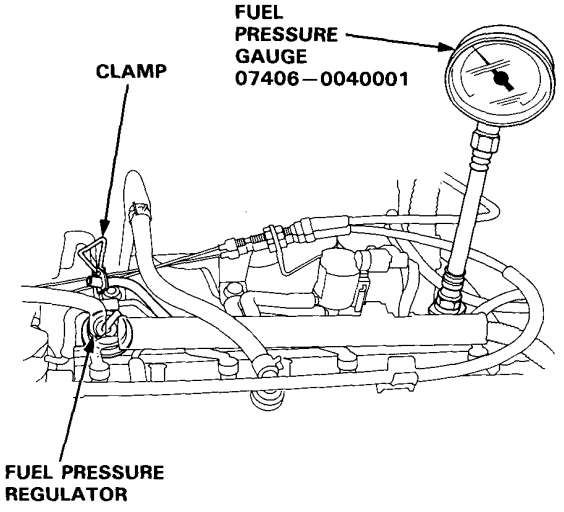
2. Remove the service bolt on the fuel rail while holding the banjo bolt with another wrench. Attach the special tool.

3. Start the engine. * Measure the fuel pressure with the engine idling and the vacuum hose of the fuel pressure regulator disconnected from the fuel pressure regulator and pinched.

   Pressure should be;
   265—314 kPa (2.7—3.2 kgf/cm², 38—46 psi)

4. Reconnect vacuum hose to the fuel pressure regulator.

   Pressure should be;
   206—255 kPa (2.1—2.6 kgf/cm², 30—37 psi)



*: If the engine will not start, turn the ignition switch on, wait for two seconds, turn it off, then back on again and read the fuel pressure.

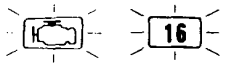
- If the fuel pressure is not as specified, first check the fuel pump (see page 11-94). If the fuel pump is OK, check the following:

— If the fuel pressure is higher than specified, inspect for:
  - Pinched or clogged fuel return hose or line.
  - Faulty fuel pressure regulator (see page 11-90).

— If the fuel pressure is lower than specified, inspect for:
  - Clogged fuel filter.
  - Faulty fuel pressure regulator (see page 11-90).
  - Leakage in the fuel line.

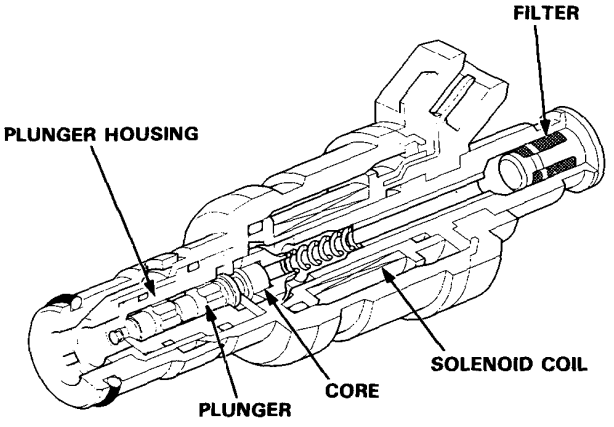
Fuel Injectors

[F22B1, F22B2 engine]
Troubleshooting



The Malfunction Indicator Lamp (MIL) indicates Diagnostic Trouble Code (DTC) 16: A problem in the Fuel Injector circuit.

The Fuel Injectors are a solenoid-actuated constant-stroke pintle type consisting of a solenoid, plunger needle valve and housing. When current is applied to the solenoid coil, the valve lifts up and pressurized fuel is injected. Because the needle valve lift and the fuel pressure are constant, the injection quantity is determined by the length of time that the valve is open (i.e., the duration the current is supplied to the solenoid coil). The Fuel Injector is sealed by an O-ring and seal ring at the top and bottom. These seals also reduce operating noise.



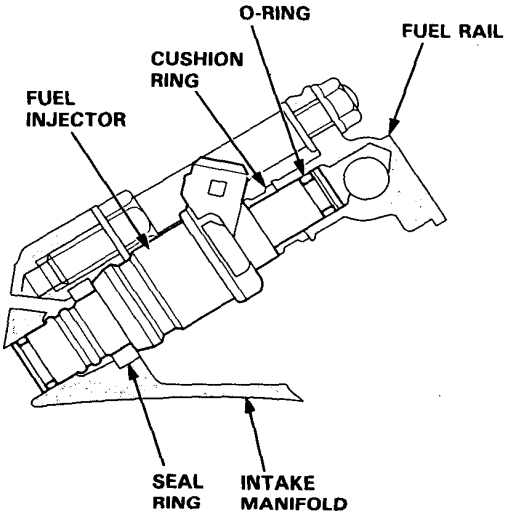
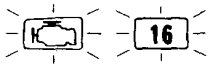


Illustration: F22B1 engine



– The MIL has been reported on.
– With the SCS short connector connected (see page 11-18), code 16 is indicated.

Do the ECM Reset Procedure (see page 11-19).

Start the engine and allow it to idle.

NOTE: If engine will not start, it may take 10 seconds of cranking to set the code.

Is the MIL on and does it indicate code 16?

NO

Intermittent failure, system is OK at this time (test drive may be necessary).
Check for poor connections or loose wires between the fuel injector, the injector resistor and the ECM.

YES

(To page 11-81)

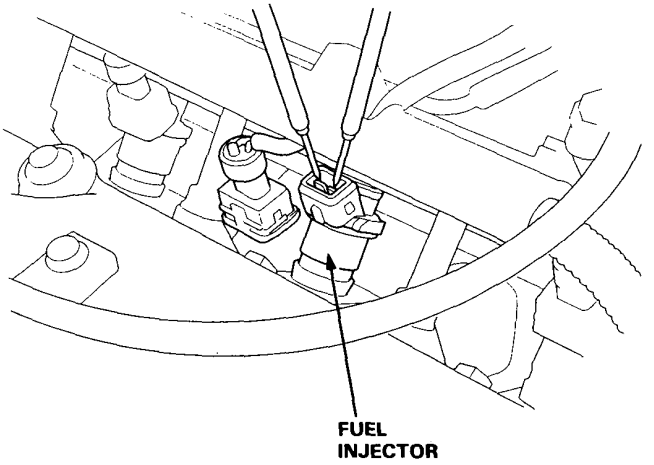
(From page 11-80)

Start the engine and listen at each fuel injector for a clicking sound.

Turn the ignition switch OFF.

Disconnect the 2P connector from the fuel injector that does not click.

Measure resistance between the 2 terminals of fuel injector.



Is there 1.5—2.5 Ω?

NO → **Replace the fuel injector/injectors that are not 1.5—2.5 Ω.**

YES

Turn the ignition switch ON.

Measure voltage between RED/BLK (+) terminal in the 2P connector and body ground.

Is there battery voltage?

NO → Turn the ignition switch OFF.

Disconnect 6P connector from the injector resistor.

Turn the ignition switch ON.

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

YES

Ⓐ

(To page 11-82)

Ⓑ

(To page 11-82)

(cont'd)

Fuel Injectors (cont'd)

(From page 11-81)
Ⓐ

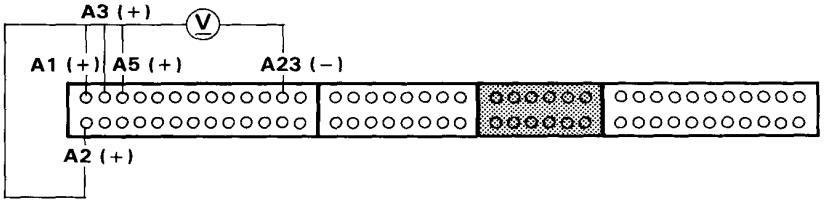
Turn the ignition switch OFF.

Reconnect the 2P connector to the fuel injector.

Connect the test harness between the ECM and connectors (see page 11-21).

Turn the ignition switch ON.

Measure voltage between A23 (−) terminal and following terminal:
- No. 1 fuel injector: A1 (+) terminal.
- No. 2 fuel injector: A3 (+) terminal.
- No. 3 fuel injector: A5 (+) terminal.
- No. 4 fuel injector: A2 (+) terminal.



Is there battery voltage?

NO → **Repair open in the wire between the ECM (A1, A3, A5 or A2) and the fuel injector.**

YES

Substitute a known-good ECM and recheck. If symptom/indication goes away, replace the original ECM.

(From page 11-81)
Ⓑ

Is there battery voltage?

NO → **Repair open in the YEL/BLK wire between the injector resistor and the PGM-FI main relay.**

YES

Test the injector resistor (see page 11-89).

Does the injector resistor test OK?

NO → **Replace the injector resistor.**

YES

Repair open RED/BLK wire between 2P connector and injector resistor.

[F22B5, F20B3 engine]

Testing

NOTE: Check the following items before testing: idle speed, ignition timing and idle CO%

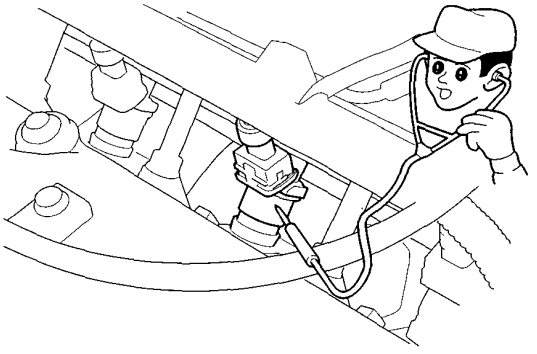
If the engine runs:

1. With the engine idling, disconnect each fuel injector connector individually and inspect the change in the idle speed.

   - If the idle speed drop is almost the same for each cylinder, the fuel injectors are normal.

   - If the idle speed or quality remains the same when you disconnect a particular fuel injector, replace the fuel injector and retest.

2. Check the clicking sound of each fuel injector by means of a stethoscope when the engine is idling.



   - If any fuel injector fails to make the typical clicking sound, check the sound again after replacing the fuel injector.

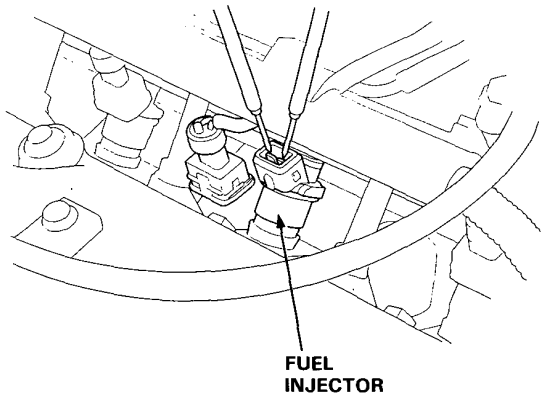
   — If clicking sound is still absent, check the following.
     - Whether there is any short-circuiting, wire breakage or poor connection in the YEL/BLK wire between the PGM-FI main relay and the injector resistor.
     - Whether the injector resistor is open or corroded (page 11-89).
     - Whether there is any short-circuiting, wire breakage or poor connection in the RED/BLK wire between the injector resister and the fuel injector.
     - Whether there is any short-circuiting, wire breakage or poor connection in the wire between the fuel injector and the ECM.

     If all is OK, check the ECM (see page 11-26) and PGM-FI main relay (see page 11-95).

If the engine cannot be started:

1. Remove the connector of the fuel injector, and measure the resistance between the 2 terminals of the fuel injector.

   Resistance should be: 1.5—2.5 Ω



   - If the resistance is not as specified, replace the fuel injector.

   - If the resistance is as specified, check the pressure (see page 11-79).

   — If the fuel pressure is as specified, check the following:
     - Whether there is any short-circuiting, wire breakage or poor connection in the YEL/BLK wire between the PGM-FI main relay and the injector resistor.
     - Whether the injector resistor is open or corroded (page 11-89).
     - Whether there is any short-circuiting, wire breakage, or poor connection in the RED/BLK wire between the injector resistor and the fuel injector.
     - Whether there is any short-circuiting, wire breakage or poor connection in the wire betwen the fuel injector and the ECM.

     If all is OK, check the ECM (see page 11-26).

(cont'd)

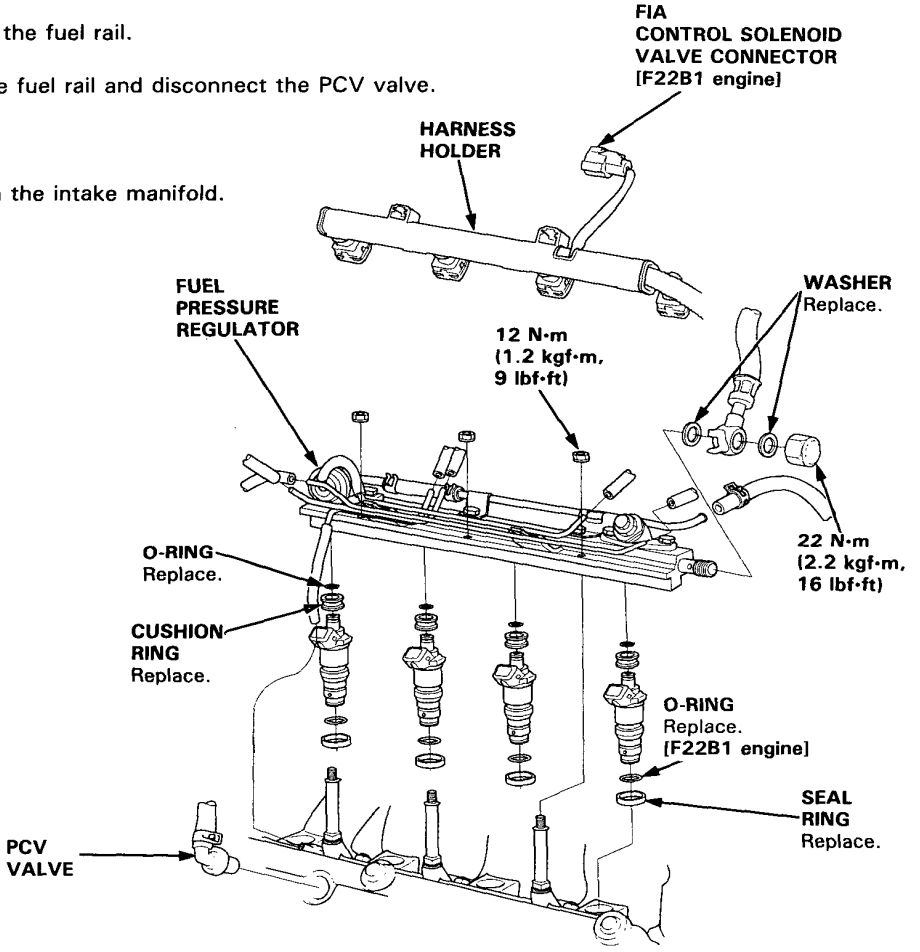
Fuel Injectors (cont'd)

Replacement

⚠ WARNING Do not smoke when working on the fuel system. Keep open flames away from your work area.

1. Relieve the fuel pressure (see page 11-78).
2. Disconnect the connectors from the fuel injectors and the FIA control solenoid valve [F22B1 engine].
3. Disconnect the vacuum hoses and fuel return hose from the fuel pressure regulator.

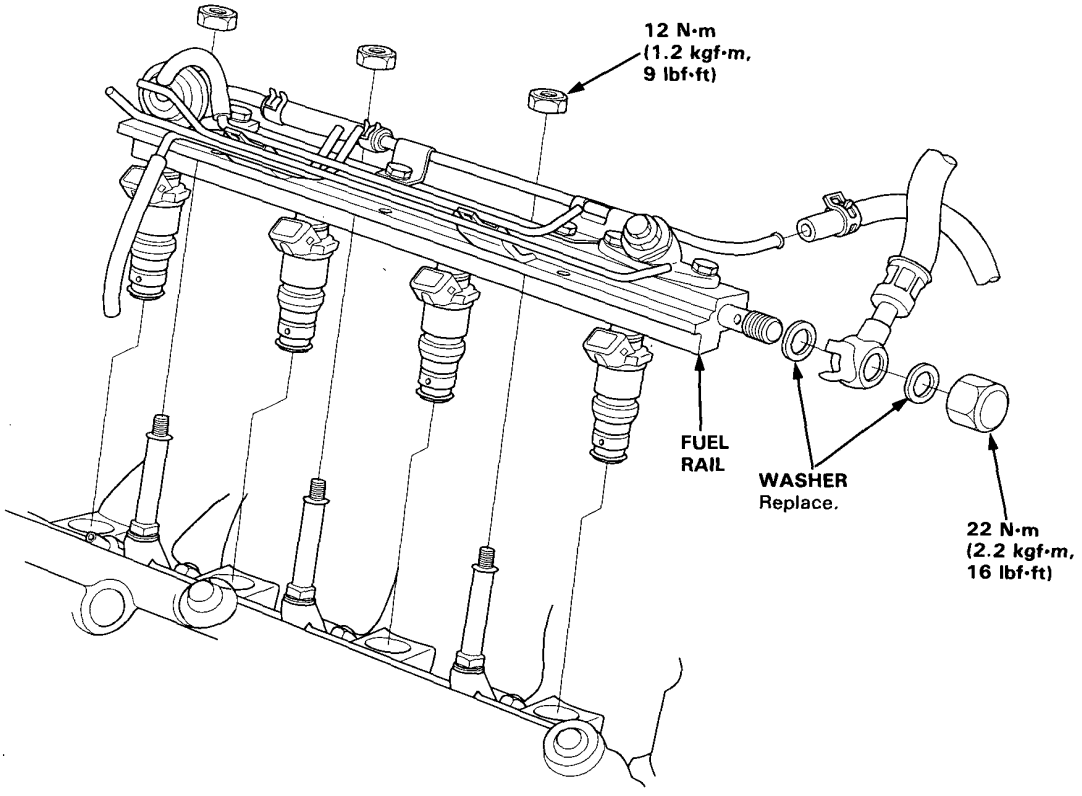
   NOTE: Place a rag or shop towel over the hoses before disconnecting them.
4. Disconnect the fuel hose from the fuel rail.
5. Loosen the retainer nuts on the fuel rail and disconnect the PCV valve.
6. Disconnect the fuel rail.
7. Remove the fuel injectors from the intake manifold.



8. Slide new cushion rings onto the fuel injectors.
9. Coat new O-rings with clean engine oil, and put them on the fuel injectors.
10. Insert the fuel injectors into the fuel rail first.
11. Coat new seal rings with clean engine oil, and press them into the intake manifold.

12. Install the fuel injectors and fuel rail assembly in the intake manifold.

CAUTION: To prevent damage to the O-rings, install the fuel injectors in the fuel rail first, then install them in the intake manifold.



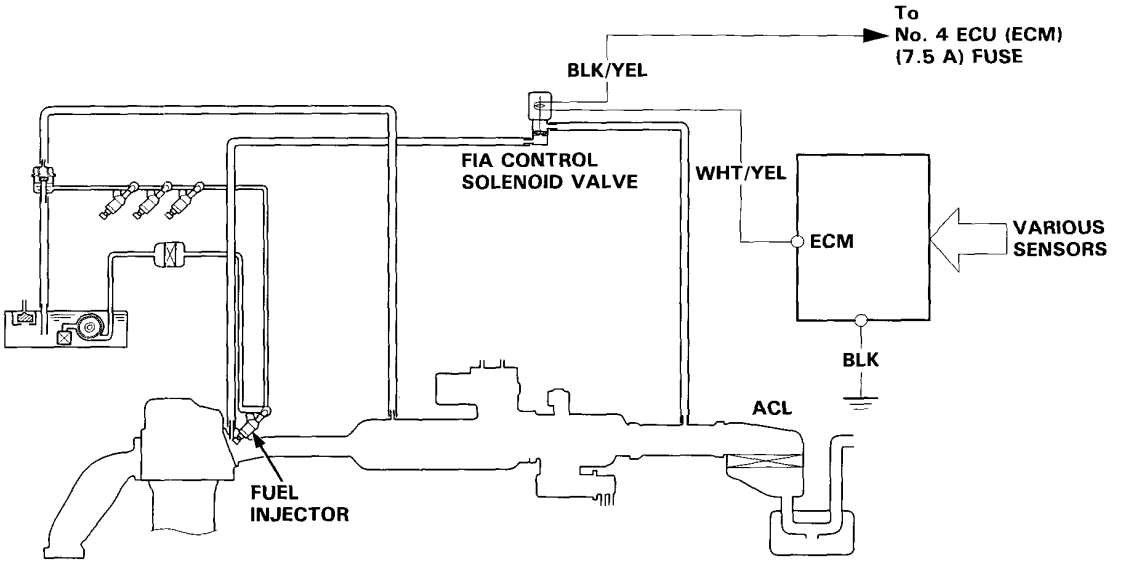
13. Install and tighten the retainer nuts.
14. Connect the fuel hose to the fuel rail with new washers.
15. Connect the vacuum hoses and fuel return hose to the fuel pressure regulator.
16. Install the connectors on the fuel injectors and the FIA control solenoid valve (F22B1 engine).
17. Replace the 6 mm service bolt washer and tighten the bolt.
18. Connect the PCV valve.
19. Turn the ignition switch ON, but do not operate the starter. After the fuel pump runs for approximately two seconds, the fuel pressure in the fuel line rises. Repeat this two or three times, then check whether there is any fuel leakage.

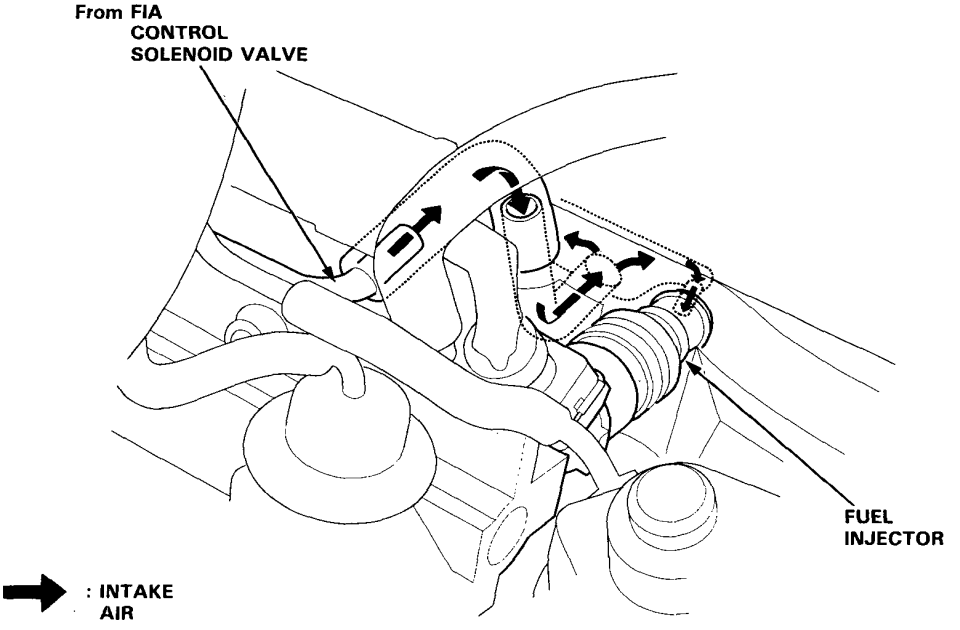
Fuel Supply System

Fuel Injection Air (FIA) Control System [F22B1 engine]

Description

When the engine speed is between 1,300 rpm (min^{-1}) and 4,500 rpm (min^{-1}), the ECM supplies ground to the FIA control solenoid valve sending intake air to the fuel injectors.





Troubleshooting

Inspection of the FIA control system

Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (A/T in [N] or [P] position until the radiator fan comes on, then let it idle.

Remove the vacuum hose from the install pipe and connect a vacuum gauge to the hose.

Is there vacuum?

YES → Disconnect the 2P connector from the FIA control solenoid valve.

Is there vacuum?

YES → **Replace the FIA control solenoid valve.**

NO → Turn the ignition switch OFF.

Disconnect "A" connector from ECM.

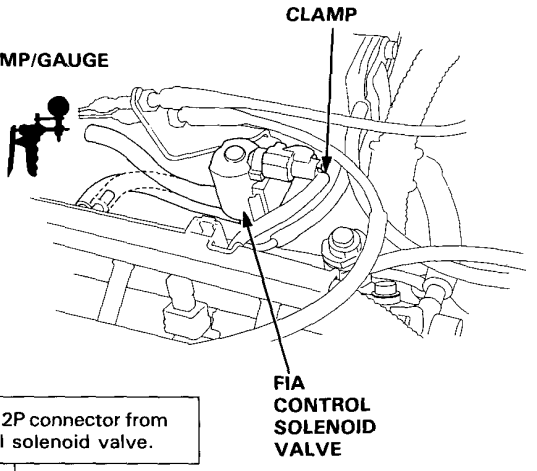
Check for continuity to ground on the WHT/YEL wire.

Is there continuity to ground?

YES → **Repair short to ground in WHT/YEL wire between ECM (A14) and the 2P connector.**

NO → **Substitute a known-good ECM and recheck. If symptom goes away, replace the original ECM.**

NO → (To page 11-88)



(cont'd)

Fuel Injection Air (FIA) Control System (cont'd)

(From page 11-87)

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

Check for vacuum at vacuum hose.

Is there vacuum?

NO

Disconnect the 2P connector from the FIA control solenoid valve.

Keep engine speed at 1,500 rpm (min^{-1}).

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

Is there battery voltage?

YES

Replace the FIA control solenoid valve.

NO

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

Is there battery voltage?

NO

Repair open in BLK/YEL wire between 2P connector and No. 4 ECU (ECM) (7.5 A) fuse in the under-dash fuse/relay box.

YES

Turn the ignition switch OFF.

Connect the test harness between the ECM and connectors (see page 11-21).

Turn the ignition switch ON and connect a jumper wire between ECM (A14) terminal and ECM (A26) terminal.

Does the solenoid valve click when the jumper is connected?

NO

Repair open in WHT/YEL wire between ECM (A14) and the 2P connector.

YES

Substitute a known-good ECM and recheck. If symptom/indication goes away, replace the original ECM.

YES

Raise engine speed to 5,000 rpm (min^{-1}).

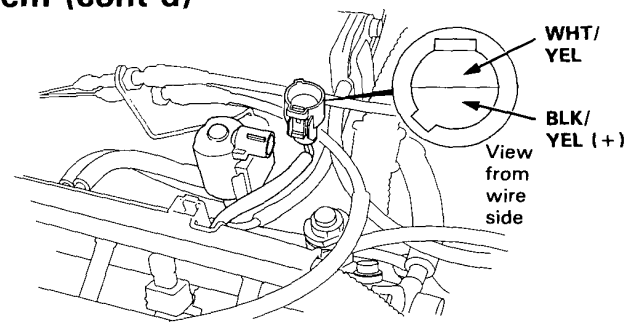
Is there vacuum?

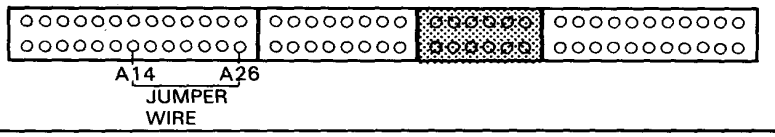
YES

Substitute a known-good ECM and recheck. If symptom/indication goes away, replace the original ECM.

NO

FIA control system is OK.

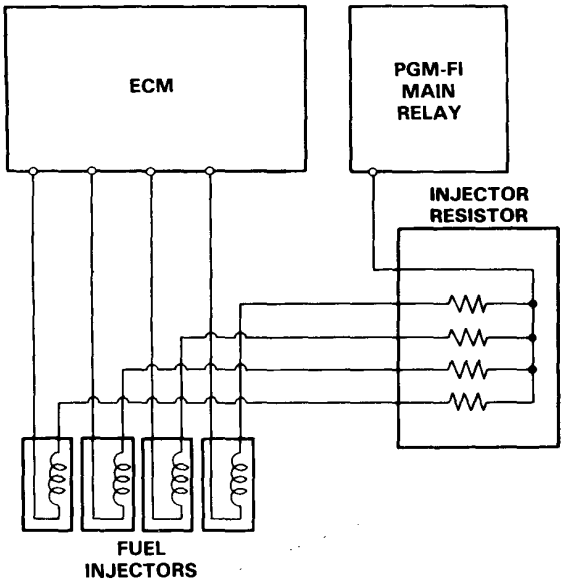




Injector Resistor

Description

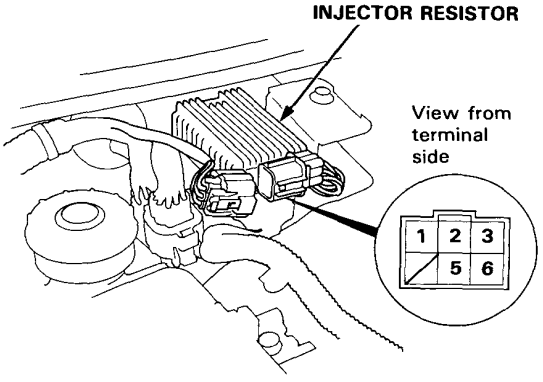
The injector resistor lowers the current supplied to the fuel injectors to prevent damage to the fuel injector coils. This allows a faster response time of the fuel injectors.

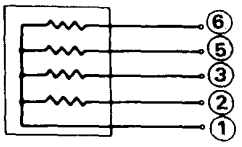


Testing

1. Disconnect the injector resistor connector.
2. Check for resistance between each of the injector resistor terminals (6, 5, 3 and 2) and the power terminal (1).

   Resistance should be: 5—7 Ω





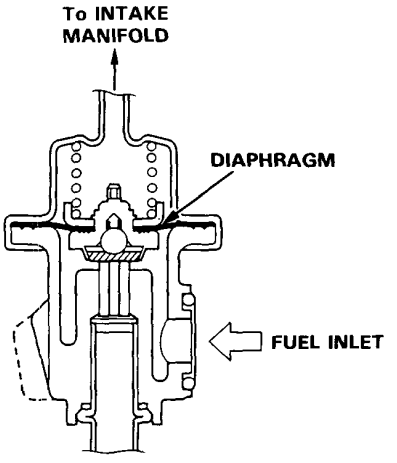
- Replace the injector resistor if any of the resistances are outside of the specification.

Fuel Pressure Regulator

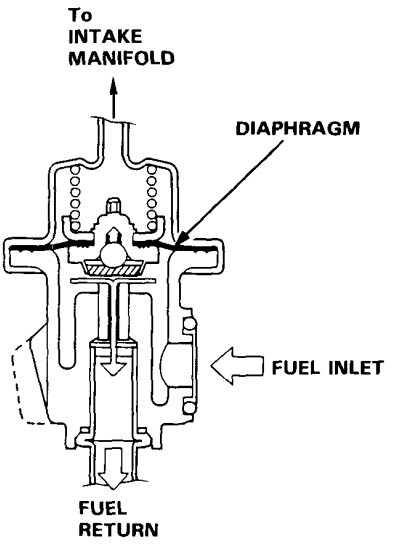
Description

The fuel pressure regulator maintains a constant fuel pressure to the fuel injectors. When the difference between the fuel pressure and manifold pressure exceeds 3.0 kgf/cm² (294 kPa, 43 psi), the diaphragm is pushed upward, and the excess fuel is fed back into the fuel tank through the return line.

CLOSE:



OPEN:

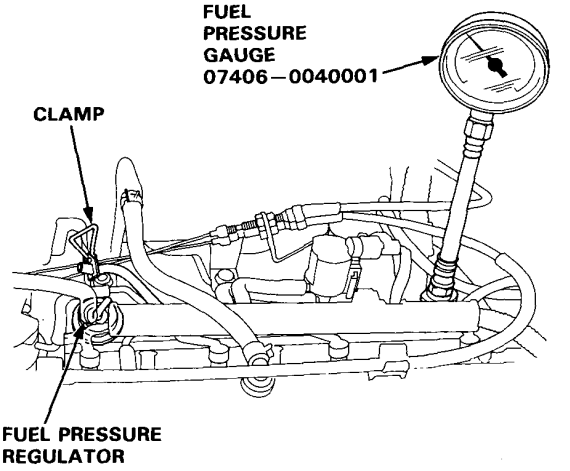


Testing

⚠ WARNING Do not smoke during the test. Keep open flames away from your work area.

1. Attach a fuel pressure gauge to the service port of the fuel filter (see page 11-79).

   Pressure should be;
   265–314 kPa (2.7–3.2 kgf/cm², 38–46 psi)
   (with the fuel pressure regulator vacuum hose disconnected and pinched)



2. Reconnect the vacuum hose to the fuel pressure regulator.

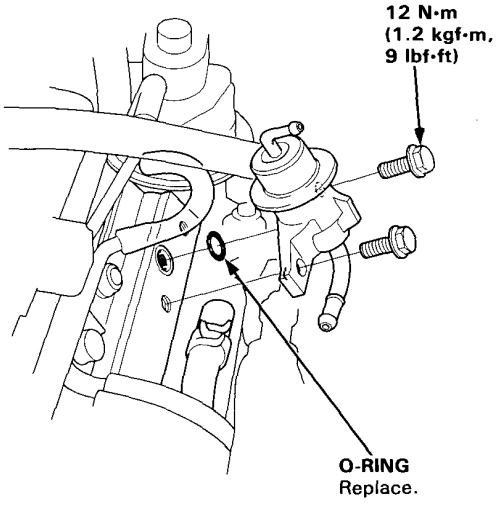
3. Check that the fuel pressure rises when the vacuum hose from the fuel pressure regulator is disconnected again.

   - If the fuel pressure did not rise, replace the fuel pressure regulator.

Replacement

⚠ WARNING Do not smoke while working on fuel system. Keep open flame away from your work area.

1. Place a shop towel under the fuel pressure regulator, then relieve fuel pressure (see page 11-78).
2. Disconnect the vacuum hose and fuel return hose.
3. Remove the two 6 mm retainer bolts.



NOTE:
- Replace the O-ring.
- When assembling the fuel pressure regulator, apply clean engine oil to the O-ring and assemble it into its proper position, taking care not to damage the O-ring.

Fuel Filter

Replacement

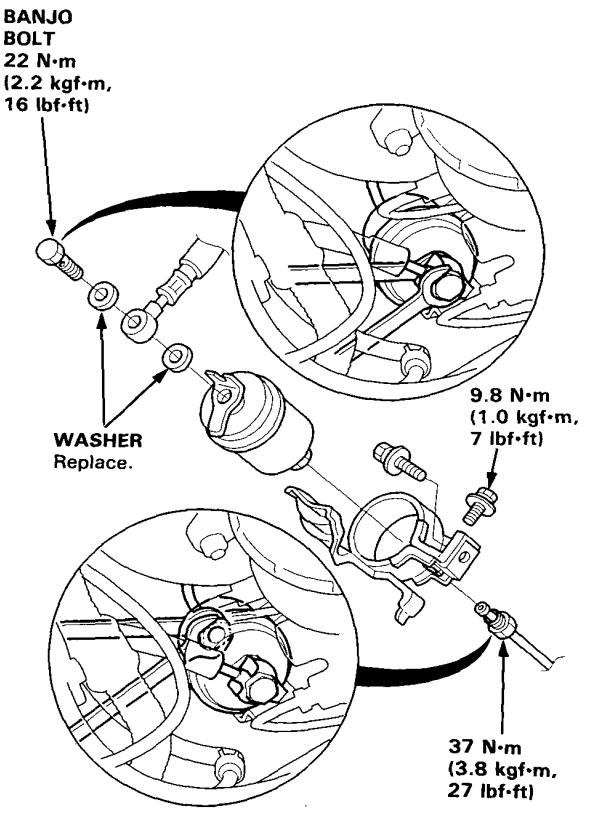
⚠ WARNING

- **Do not smoke while working on fuel system. Keep open flame away from your work area.**
- **While replacing the fuel filter, be careful to keep a safe distance between battery terminals and any tools.**

The fuel filter should be replaced every 2 years or 40,000 km (24,000 miles), whichever comes first, or whenever the fuel pressure drops below the specified value [265-314 kPa, 2.7—3.2 kgf/cm², 38—46 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.

1. Disconnect the battery negative cable from the battery negative terminal.
2. Place a shop towel under and around the fuel filter.
3. Relieve fuel pressure (see page 11-78).
4. Remove the banjo bolt, and the fuel feed pipe from the fuel filter, then support with the other wrench, as shown.
5. Remove the fuel filter clamp and fuel filter.
6. When assembling, use new washers, as shown.

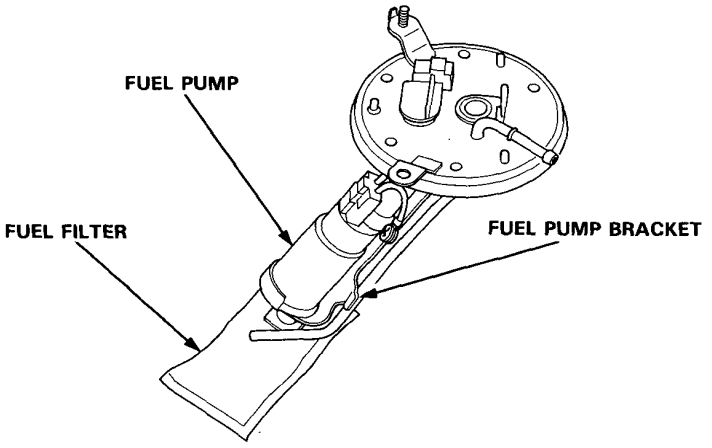
   NOTE: Clean the flared joint of high pressure hoses thoroughly before reconnecting them.



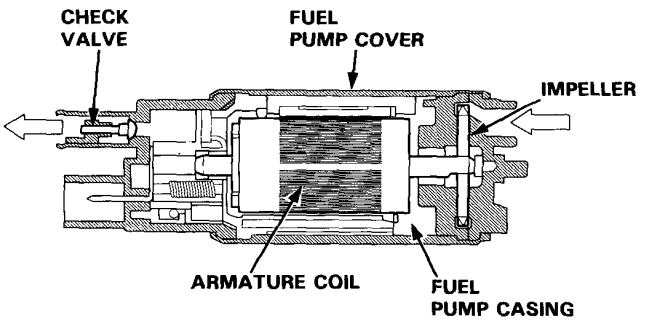
Fuel Pump

Description

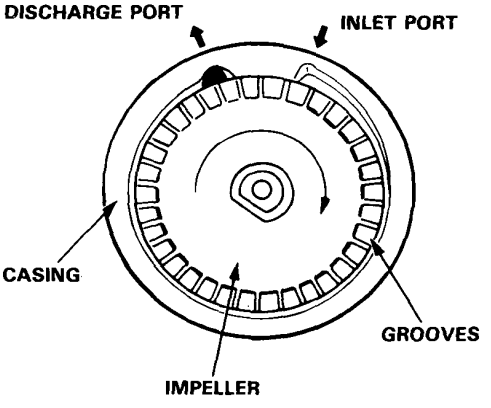
Because of its compact impeller design, the fuel pump is installed inside the fuel tank, thereby saving space and simplifying the fuel line system.



FUEL PUMP CROSS SECTION (Side view)



FUEL PUMP ASSEMBLY CROSS SECTION (Top view)



The fuel pump consists of a DC motor, a circumference flow pump, a relief valve for protecting the fuel line systems, a check valve for retaining residual pressure, an inlet port, and a discharge port. The fuel pump assembly consists of the impeller (driven by the motor), the fuel pump casing (which forms the pumping chamber), and the fuel pump cover.

OPERATION

(1) When the engine is started, the PGM-FI main relay actuates the fuel pump, and the motor turns together with the impeller.
Differential pressure is generated by the numerous grooves around the impeller.

(2) Fuel entering the inlet port flows inside the motor from the pumping chamber and is forced through the discharge port via the check valve.
If fuel flow is obstructed at the discharge side of the fuel line, the relief valve will open to bypass the fuel to the inlet port and prevent excessive fuel pressure.

(3) When the engine stops, the fuel pump stops automatically. However, a check valve closes by gravity to retain the residual pressure in the line, helping the engine to restart more easily.

(cont'd)

Fuel Pump (cont'd)

Testing

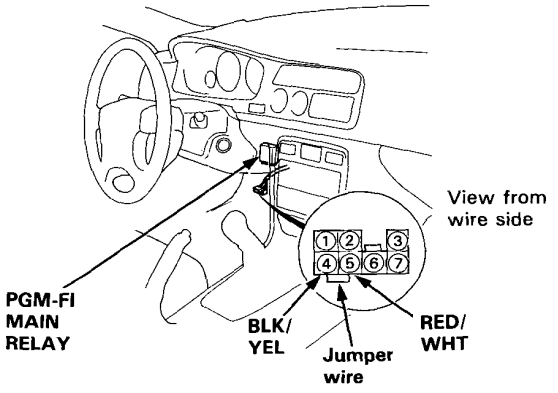
⚠ WARNING Do not smoke during the test. Keep open flame away from your work area.

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 two seconds, when ignition switch is first turned on. If the fuel pump does not make noise, check as follows:

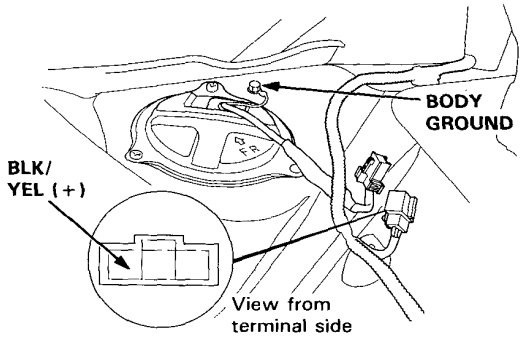
1. Raise the front section of the spare tire lid.
2. Disconnect the 3P connector.

   CAUTION: Be sure to turn the ignition switch OFF before disconnecting the wires.

3. Connect the RED/WHT ⑤ wire and BLK/YEL ④ wire with a jumper wire at the PGM-FI main relay connector.



4. Check that battery voltage is available at the fuel pump connector when the ignition switch is turned ON (positive probe to the BLK/YEL wire, negative probe to the body ground).

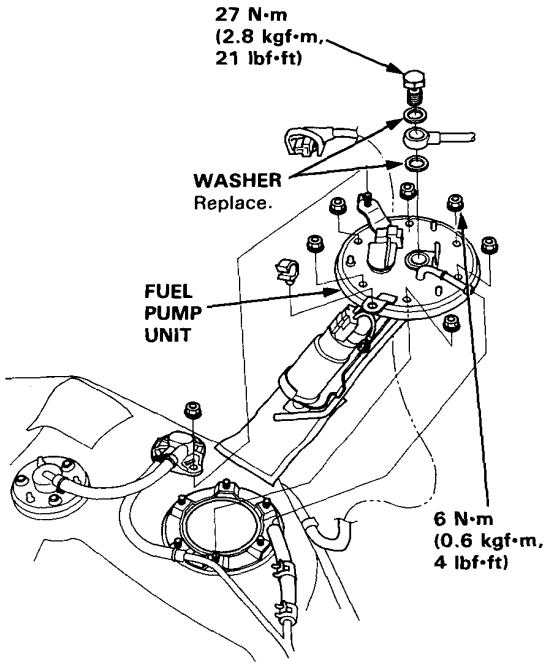


- If battery voltage is available, replace the fuel pump.
- If there is no voltage, check the fuel pump ground and wire harness (see page 11-96).

Replacement

⚠ WARNING Do not smoke while working on fuel system. Keep open flames away from your work area.

1. Remove the fuel tank (see page 11-98).
2. Disconnect the 2P connector from the fuel pump.
3. Remove the fuel pump mounting nuts.
4. Remove the fuel pump from the fuel tank.
5. Install a new washer on the banjo bolt, then install parts in the reverse order of removal.



PGM-FI Main Relay

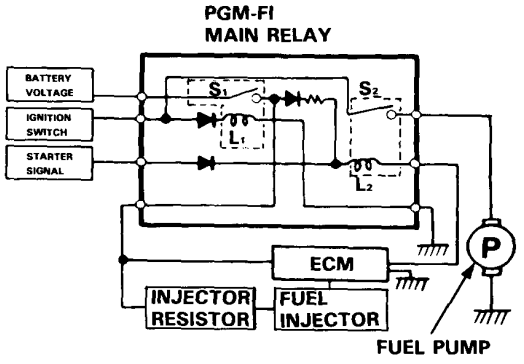
Description

The PGM-FI main relay actually contains two individual relays.

This relay is located at the left side of the cowl.

One relay is energized whenever the ignition is on which supplies the battery voltage to the ECM, power to the fuel injectors, and power for the second relay.

The second relay is energized for two seconds when the ignition is switched on, and when the engine is running, to supply power to the fuel pump.



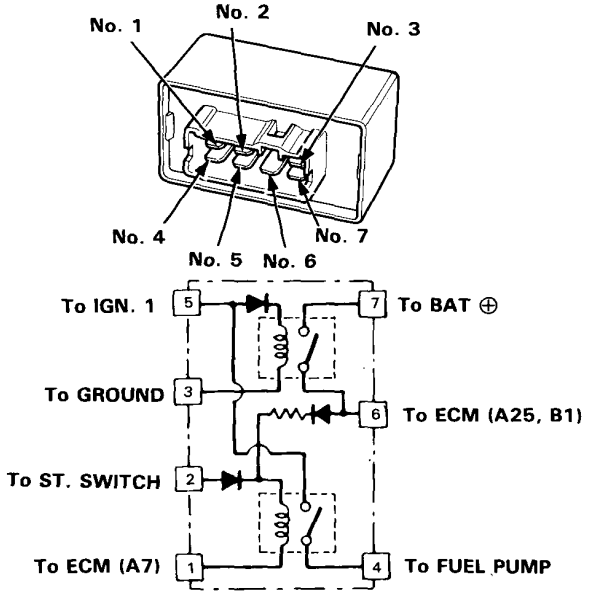
Relay Testing

NOTE: If the car starts and continues to run, the PGM-FI main relay is OK.

1. Remove the PGM-FI main relay.

2. Attach the battery positive terminal to the No. 2 terminal and the battery negative terminal to the No. 1 terminal of the PGM-FI main relay. Then check for continuity between the No. 5 terminal and No. 4 terminal of the PGM-FI main relay.

   - If there is continuity, go on to step 3.
   - If there is no continuity, replace the PGM-FI main relay and retest.



3. Attach the battery positive terminal to the No. 5 terminal and the battery negative terminal to the No. 3 terminal of the PGM-FI main relay. Then check that there is continuity between the No. 7 terminal and No.6 terminal of the PGM-FI main relay.

   - If there is continuity, go on to step 4.
   - If there is no continuity, replace the PGM-FI main relay and retest.

4. Attach the battery positive terminal to the No. 6 terminal and the battery negative terminal to the No. 1 terminal of the PGM-FI main relay. Then check that there is continuity between the No. 5 terminal and No. 4 terminal of the PGM-FI main relay.

   - If there is continuity, the PGM-FI main relay is OK.
   - If there is no continuity, replace the PGM-FI main relay and retest.

(cont'd)

PGM-FI Main Relay (cont'd)

Troubleshooting

– Engine will not start.
– Inspection of PGM-FI main relay and relay harness.

Disconnect the PGM-FI main relay connector.

Check for continuity between BLK terminal ③ and body ground.

Is there continuity?

NO → **Repair open in BLK wire between PGM-FI main relay and G101 located at intake manifold.**

YES

Measure the voltage between WHT/GRN terminal ⑦ and body ground.

Is there battery voltage?

NO → **– Replace the ECU (ECM) (15 A) fuse in the under-hood fuse/relay box.**
– Repair open or short in the WHT/GRN wire between the PGM-FI main relay and the ECU (ECM) (15 A) fuse.

YES

Turn the ignition switch ON.

Measure the voltage between RED/WHT terminal ⑤ and body ground.

Is there battery voltage?

NO → **– Replace the No. 2 FUEL PUMP (15 A) fuse in the under-dash fuse/relay box.**
– Repair open or short in the RED/WHT wire between the PGM-FI main relay and the No. 2 FUEL PUMP (15 A) fuse.

YES

Turn the ignition switch to the START position.

NOTE:
- M/T: Clutch pedal must be depressed.
- A/T: Transmission in [N] or [P] position.

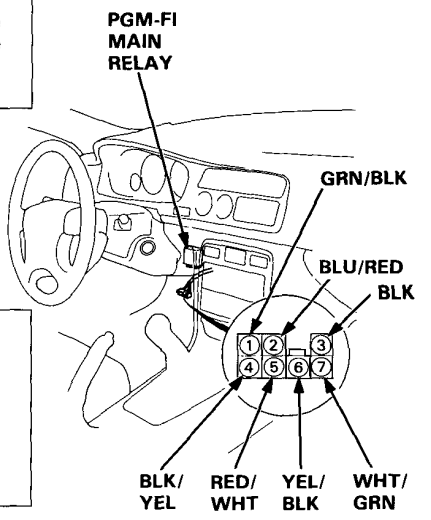
Measure the voltage between BLU/RED terminal ② and body ground.

Is there battery voltage?

NO → **– Replace the No. 9 STARTER SIGNAL (7.5 A) fuse in the under-dash fuse/relay box.**
– Repair open or short in the BLU/RED wire between the PGM-FI main relay and the No. 9 STARTER SIGNAL (7.5 A) fuse, ECM (B9).

YES

(To page 11-97)

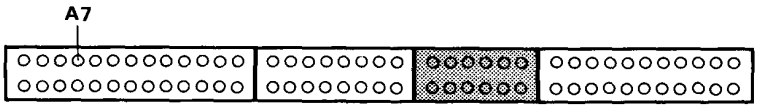


View from wire side

(From page 11-96)

Turn the ignition switch off.

Connect the test harness between the ECM and connectors. Disconnect "A" connector from the ECM only, not the main wire harness (see page 11-21).



Check for continuity between GRN/BLK terminal ① and A7 terminal.

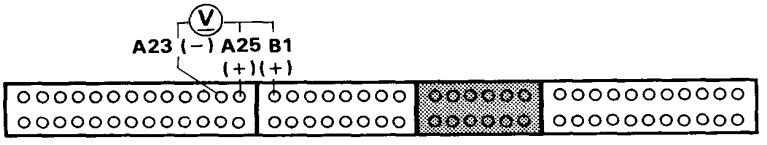
Is there continuity?

NO — **Repair open in GRN/BLK wire between ECM (A7) and PGM-FI main relay.**

YES

Reconnect "A" connector to the ECM.

Connect the PGM-FI main relay connector.



Turn the ignition switch ON.

Measure the voltage between A23 (−) terminal and the following terminals; A25 (+) B1 (+).

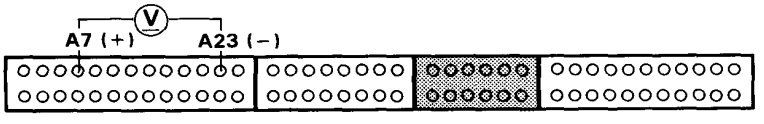
Is there battery voltage?

NO — **— Repair open in the YEL/BLK wire ⑥ between the ECM (A25, B1) and PGM-FI main relay.**
— Replace the PGM-FI main relay.

YES

Turn the ignition switch OFF.

Measure the voltage between A7 (+) terminal and A23 (−) terminal when the ignition switch is first turned ON for two seconds.



Is there 1.0 V or less?

NO — **Substitute a known-good ECM and recheck. If pescribed voltage is now available, replace the original ECM.**

YES

Check the PGM-FI main relay (see page 11-95).

Fuel Supply System

Fuel Tank

Replacement

⚠ WARNING Do not smoke while working on fuel system. Keep open flame away from your work area.

1. Relieve the fuel pressure (see page 11-78).
2. Jack up the car and support with jackstands.
3. Remove the drain bolt, and drain the fuel into an approved container.
4. Remove the fuel pipe cover and fuel hose protector.
5. Disconnect the hoses.
   CAUTION:
   - **When disconnecting the hoses, slide back the clamps, then twist hoses as you pull, to avoid damaging them.**
   - **Clean the flared joint of high pressure hoses thoroughly before reconnecting them.**
6. Place a jack, or other support, under the tank.
7. Remove the strap nuts and let the straps fall free.
8. Disconnect the 2P and 3P connectors.
9. Remove the fuel tank.
   NOTE: The tank may stick on the undercoat applied to its mount. To remove, carefully pry it off the mount.
10. Install a new washer on the drain bolt, then install parts in the reverse order of removal.