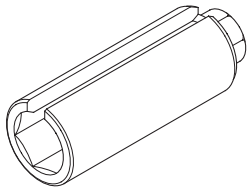
11

Fuel and Emissions

Fuel and Emissions Systems

Special Tools

Ref. No.	Tool Number	Description	Qty
1	07LAA-PT50101	O_2 Sensor Socket Wrench	1
2	07NAJ-P070100	Oil Pressure Gauge Attachment	1
3	07VAJ-0040100	Fuel Pressure Gauge Attachment	1
4	07WAA-0010100	Adjustable Ring Wrench	1
5	07ZAJ-S5A0100	Fuel Pressure Gauge Set	1
6	07ZAJ-S7C0100	Fuel Hose Attachment	1
7	07ZAJ-S7C0200	Fuel Joint Attachment	1
8	07ZAJ-S5A0200	Hose, Oil Pressure	1
9	07406-0070001	Low Pressure Gauge	1
10	07406-0040002	Fuel Pressure Gauge	1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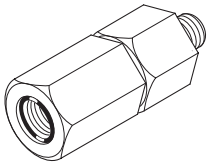
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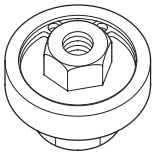
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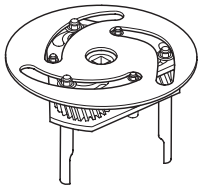
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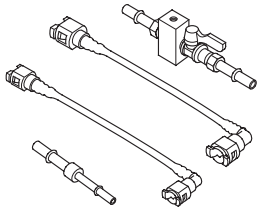
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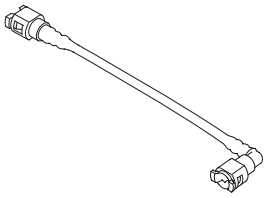
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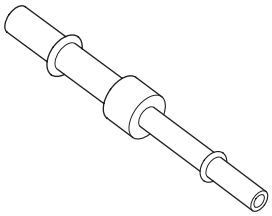
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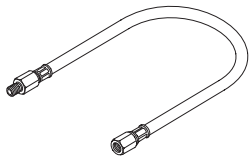
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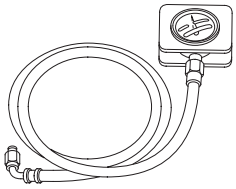
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General Troubleshooting Information

Intermittent Failures

The term ”intermittent failure” means a system may have had a failure, but it checks OK now. If the Malfunction Indicator Lamp (MIL) on the dash does not come on, check for poor connections or loose wires at all connectors related to the circuit that you are troubleshooting.

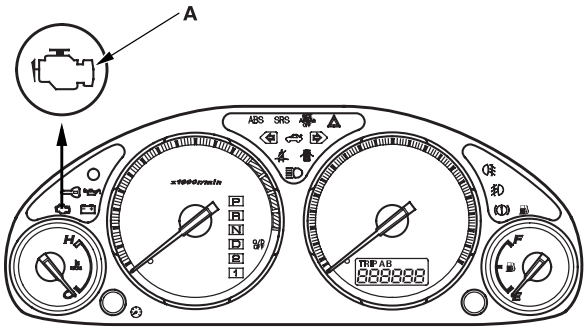
Opens and Shorts

”Open” and ”Short” are common electrical terms. An open is a break in a wire or at a connection. A short is an accidental connection of a wire to ground or to another wire. In simple electronics, this usually means something won’t work at all. In complex electronics (like ECM’s/PCM’s) this can sometimes mean something works, but not the way it’s supposed to.

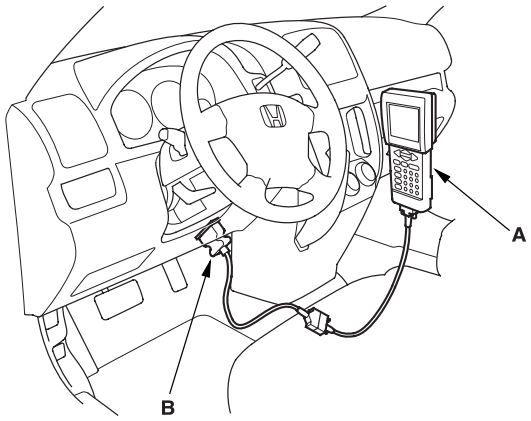
How to Use the Honda PGM Tester or a Scan Tool

If the MIL has come on

1. Start the engine and check the MIL.



2. If the MIL stays on, connect the Honda PGM Tester (A) or a scan tool to the Data Link Connector (DLC) (B) located under the driver’s side of the dashboard.



*: The illustration shows LHD model.

3. Turn the ignition switch ON (II).
4. Check the Diagnostic Trouble Code (DTC) and note it. Also check the freeze frame data. Refer to the DTC Troubleshooting Index and begin the appropriate troubleshooting procedure.

NOTE:
- Freeze frame data indicates the engine conditions when the first malfunction, misfire or fuel trim malfunction was detected.
- The scan tool and the Honda PGM Tester can read the DTC, freeze frame data, current data, and other Engine Control Module (ECM)/Powertrain Control Module (PCM) data.
- For specific operations, refer to the user’s manual that came with the scan tool or Honda PGM Tester.

If the MIL did not come on

If the MIL did not come on but there is a driveability problem, refer to the Symptom Troubleshooting Index in this section (see page 11-8).

If you can't duplicate the DTC

Some of the troubleshooting in this section requires you to reset the ECM/PCM and try to duplicate the DTC. If the problem is intermittent and you can’t duplicate the code, do not continue through the procedure. To do so will only result in confusion and, possibly, a needlessly replaced ECM/PCM.

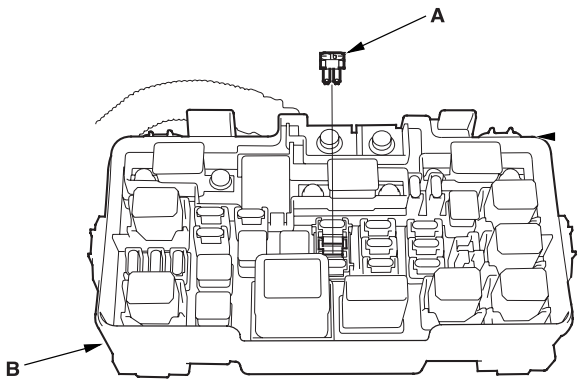
(cont’d)

General Troubleshooting Information (cont'd)

How to Reset the ECM/PCM

You can reset the ECM/PCM in either of 2 ways:

- Use the scan tool or Honda PGM Tester to clear the ECM's/PCM's memory.
  See the scan tool or Honda PGM Tester user's manuals for specific instructions.
- Turn the ignition switch OFF, and remove the No. 6 ECU (ECM/PCM) (15A) fuse (A) from the under-hood fuse/relay box (B) for 10 seconds.



How to End a Troubleshooting Session (required after any troubleshooting)

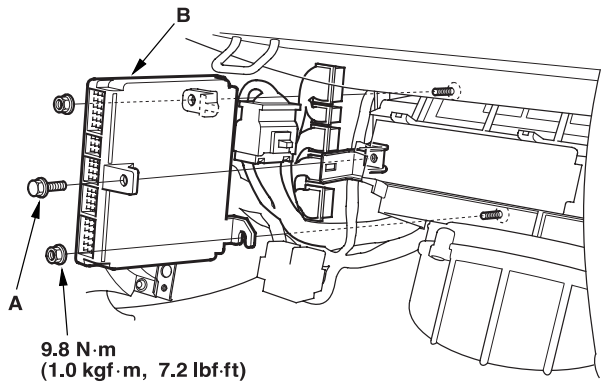
1. Reset the ECM/PCM as described above.
2. Turn the ignition switch OFF.
3. Disconnect the scan tool or Honda PGM Tester from the DLC.

   NOTE: The ECM/PCM is part of the immobilizer system. If you replace the ECM/PCM, it will have a different immobilizer code. In order for the engine to start, you must rewrite the immobilizer code with the Honda PGM Tester.

How to Remove the ECM/PCM for Testing

If the inspection for a trouble code requires voltage or resistance checks at the ECM/PCM connectors, remove the ECM/PCM and test it:

1. Make sure you have the anti-theft code for the radio, then write down the radio station presets.
2. Disconnect the negative cable from the battery.
3. Remove the glove box (see page 20-95).
4. Remove the gray 20P ECM/PCM wire harness connector from the ECM/PCM mounting bracket. Remove the ECM/PCM mounting bolt (A) and the bracket.

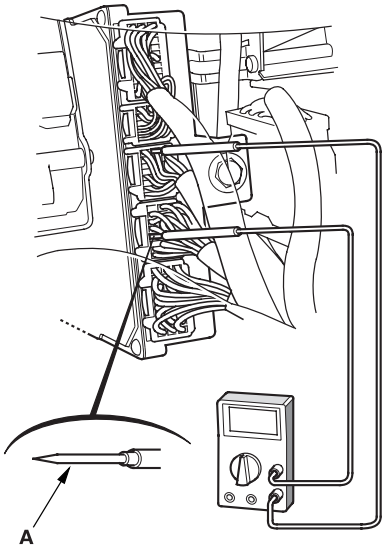


*: The illustration shows LHD model.

5. Remove the nuts, then remove the ECM/PCM (B).
6. Install the ECM/PCM in the reverse order of removal.
7. Reconnect the negative cable to the battery.
8. Enter the radio anti-theft code and the radio station preset then set the clock.

How to Troubleshoot Circuits at the ECM/PCM

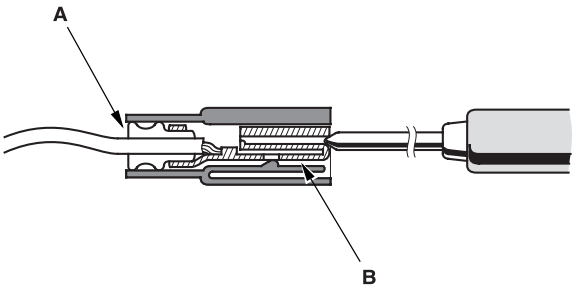
1. Gently slide the sharp tester probe (A) into the connector from wire side until it touches the end of the wire terminal.



2. If you cannot get to the wire side of the connector or the wire side is sealed (A), disconnect the connector and probe the terminals (B) from the terminal side. Do not force the probe into the connector.

NOTICE

Do not puncture the insulation on a wire.Punctures can cause poor or intermittent electrical connections.



How to Substitute the ECM/PCM

1. Disconnect the negative cable from the battery.
2. Remove the ECM/PCM from the vehicle.
3. Install a known-good ECM/PCM in the vehicle.
4. Reconnect the negative cable to the battery.
5. Rewrite the immobilizer code with the ECM/PCM replacement procedure on the Honda PGM Tester. It allows you to start the engine.
6. After completing your tests, reinstall the original ECM/PCM and rewrite the immobilizer code with the ECM/PCM replacement procedure on the Honda PGM Tester again.

DTC Troubleshooting Index

Scan tool DTC (Honda DTC)	Detection Item	Page
P0010 (56-1)	VTC Oil Control Solenoid Valve Malfunction	(see page 11-124)
P0011 (56-2)	VTC System Malfunction	(see page 11-126)
P0107 (3-1)	Manifold Absolute Pressure (MAP) Sensor Circuit Low Voltage	(see page 11-62))
P0108 (3-2)	Manifold Absolute Pressure (MAP) Sensor Circuit High Voltage	(see page 11-63)
P0112 (10-1)	Intake Air Temperature (IAT) Sensor Circuit Low Voltage	(see page 11-64)
P0113 (10-2)	Intake Air Temperature (IAT) Sensor Circuit High Voltage	(see page 11-65)
P0117 (6-1)	Engine Coolant Temperature (ECT) Sensor Circuit Low Voltage	(see page 11-66)
P0118 (6-2)	Engine Coolant Temperature (ECT) Sensor Circuit High Voltage	(see page 11-67)
P0122 (7-1)	Throttle Position (TP) Sensor Circuit Low Voltage	(see page 11-68)
P0123 (7-2)	Throttle Position (TP) Sensor Circuit High Voltage	(see page 11-70)
P0131 (1-1)* [4]	Primary Heated Oxygen Sensor (Primary HO2S) (Sensor 1) Circuit Low Voltage	(see page 11-71)
P0132 (1-2)* [4]	Primary Heated Oxygen Sensor (Primary HO2S) (Sensor 1) Circuit High Voltage	(see page 11-72)
P0133 (61-1)* [3] *	Primary Heated Oxygen Sensor (Primary HO2S) (Sensor 1) Slow Response	(see page 11-73)
P0135 (41-2)* [4]	Primary Heated Oxygen Sensor (Primary HO2S) (Sensor 1) Heater Circuit Malfunction	(see page 11-74)
P0137 (63-1)* [5] *	Secondary Heated Oxygen Sensor (Secondary HO2S) (Sensor 2) Circuit Low Voltage	(see page 11-76)
P0138 (63-2)* [5] *	Secondary Heated Oxygen Sensor (Secondary HO2S) (Sensor 2) Circuit High Voltage	(see page 11-77)
P0141 (65-2)* [5]	Secondary Heated Oxygen Sensor (Secondary HO2S) (Sensor 2) Heater Circuit Malfunction	(see page 11-78)
P0171 (45-2)* [3] *	Fuel system Too Lean	(see page 11-80)
P0172 (45-1)* [3] *	Fuel system Too Rich	(see page 11-80)
P0300 (7x-1)* [3] *	Random Misfire	(see page 11-81)
P0301 (71-1)* [3] *	No. 1 Cylinder Misfire	(see page 11-81)
P0302 (72-1)* [3] *	No. 2 Cylinder Misfire	(see page 11-81)
P0303 (73-1)* [3] *	No. 3 Cylinder Misfire	(see page 11-81)
P0304 (74-1)* [3] *	No. 4 Cylinder Misfire	(see page 11-81)

* :These DTCs have Temporary DTC code.
*1: A/T
*2: M/T
*3: KG, KS, KE, KR, KU (Hong Kong) models
*4: with TWC model
*5: KG, KS, KE, KR, KU, KZ, FO, KQ models
*6: KG, KS, KE, KR, KU, KZ, FO, KQ, KK, KM models
*7: except KG, KS, KE, KR, KU (Hong Kong) models
*8: without TWC model

Scan tool DTC (Honda DTC)	Detection Item	Page
P0325 (23-1)	Knock Sensor Circuit Malfunction	(see page 11-87)
P0335 (4-1)	Crankshaft Position (CKP) Sensor No Signal	(see page 11-88)
P0336 (4-2)	Crankshaft Position (CKP) Sensor Intermittent Interruption	(see page 11-88)
P0340 (57-1)	Camshaft Position (CMP) Sensor No Signal	(see page 11-128)
P0341 (57-3)	VTC Phase Gap	(see page 11-129)
P0344 (57-2)	Camshaft Position (CMP) Sensor Intermittent Interruption	(see page 11-128)
P0420 (67-1)* [3] *	Catalyst System Efficiency Below Threshold	(see page 11-188)
P0443 (92-4)* [3]	Evaporative Emission (EVAP) Canister Purge Valve Circuit Malfunction	(see page 11-193)
P0500 (17-1)* [2]	Vehicle Speed Sensor (VSS) Circuit Malfunction	(see page 11-90)
P0563 (34-2)	Engine Control Module (ECM)/Powertrain Control Module (PCM) Power Source Circuit Unexpected Voltage	(see page 11-91)
P0600 (39-1)	Serial Communication Link Malfunction	Refer to the Multiplex Control System Troubleshooting (see page 22A-231)
P07xx, P08xx* [1] (70-2, 70-3)* [1] *	Automatic Transaxle System Malfunction	Refer to the Automatic Transmission DTC Troubleshooting Index (see page 14-7)
P1107 (13-1)	Barometric Pressure (BARO) Sensor Circuit Low Voltage	(see page 11-93)
P1108 (13-2)	Barometric Pressure (BARO) Sensor Circuit High Voltage	(see page 11-93)
P1213 (11-1)* [8]	Idle Mixture Adjuster (IMA) Circuit Low Voltage	(see page 11-94)
P1214 (11-2)* [8]	Idle Mixture Adjuster (IMA) Circuit High Voltage	(see page 11-95)
P1253 (21-1)* [7]	VTEC System Malfunction	(see page 11-130)
P1259 (22-4)* [3]	VTEC System Malfunction	(see page 11-133)
P1297 (20-1)* [6]	Electrical Load Detector (ELD) Circuit Low Voltage	(see page 11-97)
P1298 (20-2)* [6]	Electrical Load Detector (ELD) Circuit High Voltage	(see page 11-98)
P1361 (8-2)	Top Dead Center (TDC) Sensor Intermittent Interruption	(see page 11-100)
P1362 (8-1)	Top Dead Center (TDC) Sensor No Signal	(see page 11-100)
P1519 (14-3)	Idle Air Control (IAC) Valve Circuit Malfunction	(see page 11-140)
P1607 (0-2)	Engine Control Module (ECM)/Powertrain Control Module (PCM) Internal Circuit Malfunction	(see page 11-101)
P17xx (70-2, 70-3)* [1] *	Automatic Transaxle System Malfunction	Refer to the Automatic Transmission DTC Troubleshooting Index (see page 14-7)

* : These DTCs have Temporary DTC code.
*1: A/T
*2: M/T
*3: KG, KS, KE, KR, KU (Hong Kong) models
*4: with TWC model
*5: KG, KS, KE, KR, KU, KZ, FO, KQ models
*6: KG, KS, KE, KR, KU, KZ, FO, KQ, KK, KM models
*7: except KG, KS, KE, KR, KU (Hong Kong) models
*8: without TWC model

Symptom Troubleshooting Index

When the vehicle has one of these symptoms, check the Diagnostic Trouble Code (DTC) with the scan tool. If there is no DTC, do the diagnostic procedure for the symptom, in the sequence listed, until you find the cause.

Symptom	Diagnostic procedure	Also check for
Engine will not start (MIL works OK, no DTCs set)	1. Test the battery (see page 22A-59). 2. Test the starter (see page 04-5). 3. Troubleshoot the fuel pump circuit (see page 11-151).	• Low compression • No ignition spark • Intake air leaks • Locked up engine • Slipped/ broken timing belt • Contaminated fuel
Engine will not start (MIL comes on and stays on, or never comes on at all, no DTCs set)	Troubleshoot the MIL circuit (see page 11-102).	
Engine will not start (immobilizer indicator light stays on or flashes)	Troubleshoot the immobilizer system (see page 22A-190).	
Hard starting (MIL works OK, no DTCs set)	1. Test the battery (see page 22A-59). 2. Check the fuel pressure (see page 11-154).	• Low compression • Intake air leaks • Contaminated fuel • Weak spark
Cold fast idle too low (MIL works OK, no DTCs set)	Check the idle speed (see page 11-148).	
Cold fast idle too high (MIL works OK, no DTCs set)	1. Check the idle speed (see page 11-148). 2. Inspect/adjust the throttle cable (see page 11-183). 3. Inspect and test the throttle body (see page 11-180).	
Idle speed fluctuates (MIL works OK, no DTCs set)	1. Check the idle speed (see page 11-148). 2. Inspect/adjust the throttle cable (see page 11-183). 3. Inspect and test the throttle body (see page 11-180).	Intake air leaks
After warming up idle speed is below specifications with no load (MIL works OK, no DTCs set)	1. Troubleshoot the ALT FR signal circuit (see page 11-143).* 1 2. Inspect and test the throttle body (see page 11-180).	Vacuum hose clogged/ cracked/poor connection
After warming up idle speed is above specifications with no load*1 (MIL works OK, no DTCs set)	Troubleshoot the ALT FR signal circuit (see page 11-143).	
After warming up idle speed drops when steering wheel is turning (MIL works OK, no DTCs set)	1. Troubleshoot the PSP switch signal circuit (see page 11-145). 2. Inspect and test the throttle body (see page 11-180).	Power steering system
Idle speed fluctuates (MIL works OK, no DTCs set)	1. Test the fuel pressure (see page 11-154). 2. Test the injectors (see page 11-116).* 2 3. Troubleshoot the ALT FR signal circuit (see page 11-143). 4. Inspect and test the PCV valve (see page 11-190).	Contaminated fuel

Symptom	Diagnostic procedure	Also check for
Misfire or rough running (MIL works OK, no DTCs set)	1. Check the spark plugs (see page 04-23).* 2 2. Test the fuel pressure (see page 11-154). 3. Test the injectors (see page 11-116).* 2 4. Troubleshoot the fuel pump circuit (see page 11-151).	• Low compression • Valve clearance • Contaminated fuel
Fails emission test* 2 (MIL works OK, no DTCs set)	1. Inspect the three way catalytic converter (TWC) (see page 11-188). 2. Check the spark plugs (see page 04-23). 3. Test the fuel pressure (see page 11-154). 4. Test the injectors (see page 11-116). 5. Check the EVAP emission control system (see page 11-195).	• Contaminated fuel • Low compression • Slipped/broken timing belt
Low power (MIL works OK, no DTCs set)	1. Test the fuel pressure (see page 11-154). 2. Check the air cleaner element (see page 11-182). 3. Inspect/adjust the throttle cable (see page 11-183). 4. Inspect and the test the throttle body (see page 11-180). 5. Inspect the three way catalytic converter (TWC) (see page 11-188).* 2 6. Test the injectors (see page 11-116).* 2	• Contaminated fuel • Low compression • Camshaft timing • Engine oil level
Engine stalls (MIL works OK, no DTCs)	1. Test the fuel pressure (see page 11-154). 2. Check the idle speed (see page 11-148). 3. Troubleshoot the brake pedal position switch signal circuit (see page 11-146). 4. Check the spark plugs (see page 04-23).* 2	• Intake air leaks • Faulty harness and sensor connections

*1: except KG, KS, KE, KR, KU, KZ, FO, KQ, KK, KM models
*2: except KG, KS, KE, KR, KU (Hong Kong) models

System Descriptions

Electronic Control System

The functions of the fuel and emission control systems are managed by the Engine Control Module (ECM) on vehicles with manual transmissions or the Powertrain Control Module (PCM) on vehicles with automatic transmissions.

Fail-safe Function
When an abnormality occurs in a signal from a sensor, the ECM/PCM ignores that signal and assumes a pre-programmed value for that sensor that allows the engine to continue to run.

Back-up Function
When an abnormality occurs in the ECM/PCM, the injectors are controlled by a back-up circuit independent of the system to permit minimal driving.

Self-diagnosis
When an abnormality occurs in the signal from a sensor, the ECM/PCM supplies ground for the Malfunction Indicator Lamp (MIL) and stores the Diagnostic Trouble Code (DTC) in erasable memory. When the ignition is first turned on, the ECM/PCM supplies ground for the MIL for 2 seconds to check the MIL bulb condition.

Two Driving Cycle Detection Method
To prevent false indications, the ”two driving cycle detection method” is used for some self-diagnostic functions. When an abnormality occurs, the ECM/PCM stores it in its memory. When the same abnormality recurs after the ignition switch is turned OFF and ON (II) again, the ECM/PCM informs the driver by turning on the MIL.

ECM/PCM Data

You can retrieve data from the ECM/PCM by connecting the scan tool or the Honda PGM Tester to the Data Link Connector (DLC). The items listed in the table below conform to SAE recommended practice. The Honda PGM Tester also reads data beyond that recommended by SAE so that this data may help you find the causes of intermittent problems.

NOTE:
- The ''operating values'' listed are approximate and may vary depending on the environment and the individual vehicle.
- Unless noted otherwise, ''at idle speed'' means idling with the engine completely warmed up, A/T in Park or neutral, M/T in neutral position, and the A/C and all accessories turned off.

Data	Description	Operating Value	Freeze Data
Diagnostic Trouble Code (DTC)	If the ECM/PCM detects a problem, it will store it as a code consisting of one letter and four numbers. Depending on the problem, an SAE-defined code (P0xxx) or a Honda-defined code (P1xxx) will be output to the tester.	If no problem is detected, there is no output.	YES
Engine Speed	The ECM/PCM computes engine speed from the signals sent from the Crankshaft Position (CKP) sensor. This data is used for determining the time and amount of injected fuel.	Nearly the same as tachometer indication At idle speed: 650±50 rpm (min^{-1})	YES
Vehicle Speed	The ECM/PCM converts pulse signals from the Vehicle Speed Sensor (VSS).	Nearly the same as speedometer indication	YES
Manifold Absolute Pressure (MAP)	The absolute pressure caused in the intake manifold by engine load and speed.	With engine stopped: Nearly the same as atmospheric pressure At idle speed: about 20 - 34 kPa (150 - 260 mmHg, 6 - 10 in.Hg), 0.7 - 1.1 V	YES
Engine Coolant Temperature (ECT)	The ECT sensor converts coolant temperature into voltage and signals the ECM/PCM. The sensor is a thermistor whose internal resistance changes with coolant temperature. The ECM/PCM uses the voltage signals from the ECT sensor to determine the amount of injected fuel.	With cold engine: Same as ambient temperature and IAT With engine warmed up: about 80 - 100°C (176 - 212°F), 0.5 - 0.8 V	YES
Heated Oxygen Sensor (HO2S), Secondary Heated Oxygen Sensor (Secondary HO2S) (Sensor 2)	The HO2S detects the oxygen content in the exhaust gas and sends voltage signals to the ECM/PCM. Based on these signals, the ECM/PCM controls the air fuel ratio. When the oxygen content is high (that is, when the ratio is leaner than the stoichiometric ratio), the voltage signal is lower. When the oxygen content is low (that is, when the radio is richer than the stoichiometric ratio), the voltage signal is higher.	0.0 - 1.25 V At idle speed: about 0.1 - 0.9 V	NO

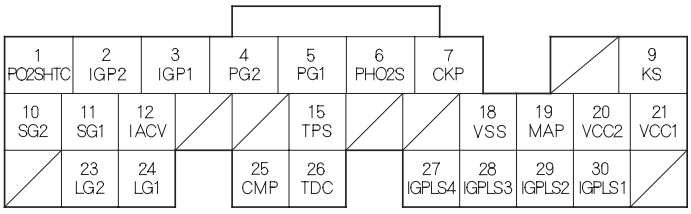
(cont'd)

System Descriptions (cont'd)

ECM/PCM Data (cont'd)

Data	Description	Operating Value	Freeze Data
Fuel System Status	Fuel system status is indicated as "open" or "closed". Closed: Based on the HO2S output, the ECM/PCM determines the air/fuel ratio and controls the amount of injected fuel. Open: ignoring the HO2S output, the ECM/PCM refers to signals from the Throttle Position (TP), Manifold Absolute Pressure (MAP), Intake Air Temperature (IAT), Barometric Pressure (BARO) and Engine Coolant Temperature (ECT) sensors to control the amount of injected fuel.	At idle speed: closed	YES
Short Term Fuel Trim	The air/fuel ratio correction coefficient for correcting the amount of injected fuel when the Fuel System Status is "closed." When the ratio is leaner than the stoichiometric ratio, the ECM/PCM increases short term fuel trim gradually, and the amount of injected fuel increases. The air/fuel ratio gradually gets richer, causing a lower oxygen content in the exhaust gas. Consequently, the short term fuel trim is lowered, and the ECM/PCM reduces the amount of injected fuel. This cycle keeps the air/fuel ratio close to the stoichiometric ratio when in closed loop status.	0.73 - 1.47	YES
Long Term Fuel Trim	Long term fuel trim is computed from short term fuel trim and indicates changes occurring in the fuel supply system over a long period. If long term fuel trim is higher than 1.00, the amount of injected fuel must be increased. If it is lower than 1.00, the amount of injected fuel must be reduced.	0.82 - 1.47	YES
Intake Air Temperature (IAT)	The IAT sensor converts intake air temperature into voltage and signals the ECM/PCM. When intake air temperature is low, the internal resistance of the sensor increases, and the voltage signal is higher.	With cold engine: Same as ambient temperature and ECT	YES
Throttle Position	Based on the accelerator pedal position, the opening angle of the throttle valve is indicated.	At idle speed: about 10 %, 0.5 V	YES
Ignition Timing	Ignition timing is the ignition advance angle set by the ECM/PCM. The ECM/PCM matches ignition timing to the driving conditions.	At idle speed: 8° ± 2° BTDC when the SCS service signal line is jumped with the Honda PGM tester	NO

ECM/PCM Inputs and Outputs at Connector A (31P)



NOTE: Standard battery voltage is 12 V.

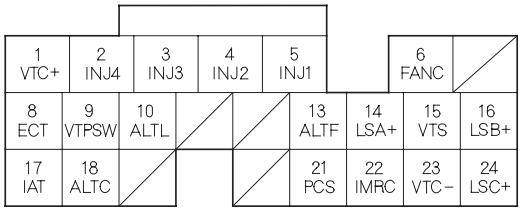
Terminal number	Wire color	Terminal name	Description	Signal
1* [3]	BLK/WHT	PO2SHTC (PRIMARY HEATED OXYGEN SENSOR HEATER CONTROL)	Drives Primary HO2S heater	With ignition switch ON (II): battery voltage With fully warmed up engine running: duty controlled
2	YEL/BLK	IGP2 (POWER SOURCE)	Power source for the ECM/ PCM circuit	With the ignition switch ON (II): battery voltage With the ignition switch OFF: about 0 V
3	YEL/BLK	IGP1 (POWER SOURCE)	Power source for the ECM/ PCM circuit	With the ignition switch ON (II): battery voltage With the ignition switch OFF: about 0 V
4	BLK	PG2 (POWER GROUND)	Ground for the ECM/PCM circuit	Less than 1.0 V at all times
5	BLK	PG1 (POWER GROUND)	Ground for the ECM/PCM circuit	Less than 1.0 V at all times
6* [3]	RED	PHO2S (PRIMARY HEATED OXYGEN SENSOR, Sensor 1)	Detects Primary HO2S sensor (Sensor 1) signal	With throttle fully opened from idle with fully warmed up engine: about 0.6 V With throttle quickly closed: below 0.4 V
7	BLU	CKP (CRANKSHAFT POSITION SENSOR)	Detects CKP sensor signal	With engine running: pulses
9	RED/BLU	KS (KNOCK SENSOR)	Detects knock sensor signal	With ignition ON (II): about 0 V With engine knocking: pulses
10	GRN/YEL	SG2 (SENSOR GROUND)	Sensor ground	Less than 1.0 V at all times
11	GRN/WHT	SG1 (SENSOR GROUND)	Sensor ground	Less than 1.0 V at all times
12	BLK/RED	IACV (IDLE AIR CONTROL (IAC) VALVE)	Drives IAC valve	With engine running: duty controlled
15	RED/BLK	TPS (THROTTLE POSITION SENSOR)	Detects TP sensor signal	With throttle fully open: about 4.8 V With throttle fully closed: about 0.5 V
18* [2]	WHT/GRN	VSS (VEHICLE SPEED SENSOR)	Detects VSS signal	With ignition switch ON (II) and front wheels rotating: cycles about 0 V-about 5 V or battery voltage
19	GRN/RED	MAP (MANIFOLD ABSOLUTE PRESSURE SENSOR)	Detects MAP sensor signal	With ignition switch ON (II): about 3 V At idle: about 1.0 V (depending on engine speed)
20	YEL/BLU	VCC2 (SENSOR VOLTAGE)	Provides sensor voltage	With ignition switch ON (II): about 5 V With ignition switch OFF: about 0 V
21	YEL/RED	VCC1 (SENSOR VOLTAGE)	Provides sensor voltage	With ignition switch ON (II): about 5 V With ignition switch OFF: about 0 V
23	BRN/YEL	LG2 (LOGIC GROUND)	Ground for the ECM/PCM circuit	Less than 1.0 V at all times
24	BRN/YEL	LG1 (LOGIC GROUND)	Ground for the ECM/PCM circuit	Less than 1.0 V at all times
25	BLU/WHT	CMP (CAMSHAFT POSITION SENSOR)	Detects CMP sensor signal	With engine running: pulses
26	GRN	TDC (TOP DEAD CENTER SENSOR)	Detects TDC sensor	With engine running: pulses
27	BRN	IGPLS4 (No.4 IGNITION COIL PULSE)	Drives No.4 ignition coil	With ignition switch ON (II): about 0 V With engine running: pulses
28	WHT/BLU	IGPLS3 (No.3 IGNITION COIL PULSE)	Drives No.3 ignition coil	
29	BLU/RED	IGPLS2 (No.2 IGNITION COIL PULSE)	Drives No.2 ignition coil	
30	YEL/GRN	IGPLS1 (No.1 IGNITION COIL PULSE)	Drives No.1 ignition coil	

*1: A/T
*2: M/T
*3: with TWC model
*4: KG, KS, KE, KR, KU, KZ, FO, KQ, KK, KM models
*5: KG, KS, KE, KR, KU (Hong Kong) models
*6: KG, KS, KE, KR, KU, KZ, FO, KQ models
*7: KG, KS, KE, KR, KU, KN, KH, KY, KZ, FO, KQ, KK, KM models
*8: except KG, KS, KE, KR, KU, KN, KH, KY, KZ, FO, KQ, KK, KM models
*9: except TWC model
*10: with cruise control

(cont'd)

System Descriptions (cont'd)

ECM/PCM Inputs and Outputs at Connector B (24P)



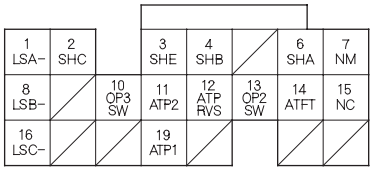
Wire side of female terminals

NOTE: Standard battery voltage is 12 V.

Terminal number	Wire color	Terminal name	Description	Signal
1	BLU/WHT	VTC+ (VTC OIL CONTROL SOLENOID VALVE +SIDE)	Drives VTC oil control solenoid valve	With ignition switch ON (II): 0 V
2	YEL	INJ4 (No. 4 INJECTOR)	Drives No. 4 injector	At idle: duty controlled With ignition switch ON (II): battery voltage
3	BLU	INJ3 (No. 3 INJECTOR)	Drives No. 3 injector	
4	RED	INJ2 (No. 2 INJECTOR)	Drives No. 2 injector	
5	BRN	INJ1 (No. 1 INJECTOR)	Drives No. 1 injector	
6	GRN	FANC (RADIATOR FAN CONTROL)	Drives radiator fan relay	With radiator fan running: about 0 V With radiator fan stopped: battery voltage
8	RED/WHT	ECT (ENGINE COOLANT TEMPERATURE SENSOR)	Detects ECT sensor signal	With the ignition switch ON (II): about 0.1 - 4.8 V (depending on engine coolant temperature)
9* [5]	BLU/BLK	VTPSW (VTEC OIL PRESSURE SWITCH)	Detects VTEC oil pressure switch signal	At idle: about 0 V
10	WHT/BLU	ALTL (ALTERNATOR L SIGNAL)	Detects alternator L signal	With ignition switch ON (II): about 0 V With engine running: battery voltage
13	WHT/RED	ALTF (ALTERNATOR FR SIGNAL)	Detects alternator FR signal	With engine running: about 0 V - 5 V (depending on electrical load)
14* [1]	RED/BLK	LSA+ (A/T PRESSURE CONTROL SOLENOID VALVE A +SIDE)	Drives A/T pressure control solenoid valve A	With the ignition switch ON (II): duty controlled
15	GRN/YEL	VTS (VTEC SOLENOID VALVE)	Drives VTEC solenoid valve	At idle: about 0 V
16* [1]	BRN/WHT	LSB+ (A/T PRESSURE CONTROL SOLENOID VALVE B +SIDE)	Drives A/T pressure control solenoid valve B	With the ignition switch ON (II): duty controlled
17	RED/YEL	IAT (INTAKE AIR TEMPERATURE SENSOR)	Detects IAT sensor signal	With ignition switch ON (II): about 0.1 V - 4.8 V (depending on intake air temperature)
18* [4]	WHT/GRN	ALTC (ALTERNATOR CONTROL)	Sends alternator control signal	With engine running: about 0 V - 5 V (depending on electrical load)
21	YEL/BLU	PCS (EVAPORATIVE EMISSION CANISTER PURGE VALVE)	Drives EVAP canister purge valve	With engine running, engine coolant below 65°C (149°F): about 0 V With engine running, engine coolant above 65°C (149°F): duty controlled
22	RED/BLU	IMRC (INTAKE MANIFOLD RUNNER CONTROL SOLENOID VALVE)	Drives IMRC solenoid valve	With engine speed below 4,700 rpm (min^{-1}) (K24A1 engine: 4,300 rpm (min^{-1})): battery voltage With engine speed above 4,700 rpm (min^{-1}) (K24A1 engine: 4,300 rpm (min^{-1})): 0 V
23	BLK/WHT	VTC- (VTC OIL CONTROL SOLENOID VALVE -SIDE)	Drives VTC oil control solenoid valve	With the ignition switch ON (II): 0 V
24* [1]	BLU/YEL	LSC+ (A/T PRESSURE CONTROL SOLENOID VALVE C +SIDE)	Drives A/T pressure control solenoid valve C	With the ignition switch ON (II): duty controlled

*1: A/T
*2: M/T
*3: with TWC model
*4: KG, KS, KE, KR, KU, KZ, FO, KQ, KK, KM models
*5: KG, KS, KE, KR, KU (Hong Kong) models
*6: KG, KS, KE, KR, KU, KZ, FO, KQ models
*7: KG, KS, KE, KR, KU, KN, KH, KY, KZ, FO, KQ, KK, KM models
*8: except KG, KS, KE, KR, KU, KN, KH, KY, KZ, FO, KQ, KK, KM models
*9: except TWC model
*10: with cruise control

PCM Inputs and Outputs at Connector C (22P)* [1]



Wire side of female terminals

NOTE: Standard battery voltage is 12 V.

Terminal number	Wire color	Terminal name	Description	Signal
1	WHT/BLK	LSA- (A/T PRESSURE CONTROL SOLENOID VALVE A -SIDE)	Ground for A/T pressure control solenoid valve A	
2	GRN	SHC (SHIFT SOLENOID VALVE C)	Drives shift solenoid valve C	With engine running in Neutral position, or in D, M position (in 1st, 3rd, 5th gears): battery voltage With engine running in Park, R position, or in D, M position (in 2nd, 4th gears): about 0 V
3	YEL	SHE (SHIFT SOLENOID VALVE E)	Drives shift solenoid valve E	With engine running in Park, R position: battery voltage With engine running in Neutral position, or in D, M position (in 1st, 2nd, 3rd, 4th, 5th gears): about 0 V
4	GRN/WHT	SHB (SHIFT SOLENOID VALVE B)	Drives shift solenoid valve B	With engine running in Park, R, Neutral position, or D, M position (in 1st, 2nd gears): battery voltage With engine running in D, M position (in 3rd, 4th, 5th gears): about 0 V
6	BLU/BLK	SHA (SHIFT SOLENOID VALVE A)	Drives shift solenoid valve A	With engine running in R position, or D, M position (in 1st, 4th, 5th gears): battery voltage With engine running in Park, Neutral position, or D, M position (in 2nd, 3rd gears): about 0V
7	WHT/RED	NM (MAINSHAFT SPEED SENSOR)	Detects mainshaft speed sensor signals	With engine running: pulses
8	BLK/RED	LSB- (A/T PRESSURE CONTROL SOLENOID VALVE B -SIDE)	Ground for A/T pressure control solenoid valve B	
10	BLU/WHT	OP3SW (3RD OIL PRESSURE SWITCH)	Detects 3rd oil pressure switch	With the ignition switch ON (II): about 5 V With engine running in 3rd gear: about 0 V
11	GRN/RED	ATP2 (TRANSMISSION RANGE SWITCH 2ND POSITION)	Detects transmission range switch 2nd position signal	In 2nd position: about 0 V In any other position: battery voltage
12	RED/WHT	ATPRVS (TRANSMISSION RANGE SWITCH R POSITION)	Detects transmission range switch R position signal	In R position: about 0 V In any other position: about 5 V or battery voltage
13	BLU/RED	OP2SW (2ND OIL PRESSURE SWITCH)	Detects 2nd oil pressure switch	With the ignition switch ON (II): about 5 V With engine running in 2nd gear: about 0 V
14	RED/YEL	ATFT (ATF TEMPERATURE SENSOR)	Detects ATF temperature sensor signal	With the ignition switch ON (II): about 0.1 V - 4.2 V (depending on ATF temperature)
15	BLU	NC (COUNTERSHAFT SPEED SENSOR)	Detects countershaft speed sensor signals	With ignition switch ON (II), and front wheels rotating: pulses
16	WHT/BLU	LSC- (A/T PRESSURE CONTROL SOLENOID VALVE C -SIDE)	Ground for A/T pressure control solenoid valve C	With the ignition switch ON (II): duty controlled
19	BRN	ATP1 (TRANSMISSION RANGE SWITCH 1ST POSITION)	Detects transmission range switch 1st position signal	In 1st position: about 0 V In any other position: battery voltage

*1: A/T
*2: M/T
*3: with TWC model
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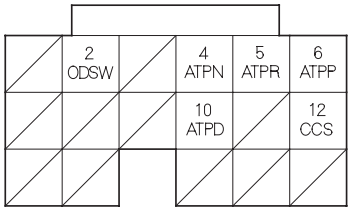
*5: KG, KS, KE, KR, KU (Hong Kong) models
*6: KG, KS, KE, KR, KU, KZ, FO, KQ models
*7: KG, KS, KE, KR, KU, KN, KH, KY, KZ, FO, KQ, KK, KM models
*8: except KG, KS, KE, KR, KU, KN, KH, KY, KZ, FO, KQ, KK, KM models
*9: except TWC model
*10: with cruise control

(cont'd)

System Descriptions (cont'd)

PCM Inputs and Outputs at Connector D (17P)



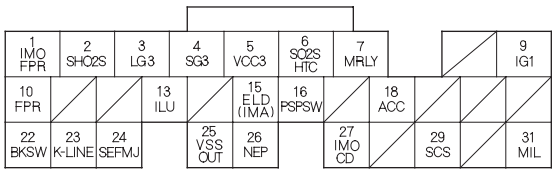
Wire side of female terminals

NOTE: Standard battery voltage is 12 V.

Terminal number	Wire color	Terminal name	Description	Signal
2	GRN	ODSW (OVER-DRIVE SWITCH)	Detects over-drive switch signal	With Over-Drive OFF (O/D OFF indicator light turned ON): about 0 V With Over-Drive ON (O/D OFF indicator light turned OFF): about 5 V
4	BLK/RED	ATPN (TRANSMISSION RANGE SWITCH NEUTRAL POSITION)	Detects transmission range switch Neutral position signal	In Neutral position: about 0 V In any other position: about 5 V or battery voltage
5	WHT	ATPR (TRANSMISSION RANGE SWITCH R POSITION)	Detects transmission range switch R position signal	In R position: about 0 V In any other position: about 5 V or battery voltage
6	BLU/BLK	ATPP (TRANSMISSION RANGE SWITCH PARK POSITION)	Detects transmission range switch Park position signal	In Park position: about 0 V In any other position: about 5 V or battery voltage
10	LT BLU	ATPD (TRANSMISSION RANGE SWITCH D POSITION)	Detects transmission range switch D position signal	In D position: about 0 V In any other position: about 5 V or battery voltage
12* [10]	BLU/ORN	CCS (CRUISE CONTROL SIGNAL	Detects cruise control signal	With ignition switch ON (II): pulses

*1: A/T
*2: M/T
*3: with TWC model
*4: KG, KS, KE, KR, KU, KZ, FO, KQ, KK, KM models
*5: KG, KS, KE, KR, KU (Hong Kong) models
*6: KG, KS, KE, KR, KU, KZ, FO, KQ models
*7: KG, KS, KE, KR, KU, KN, KH, KY, KZ, FO, KQ, KK, KM models
*8: except KG, KS, KE, KR, KU, KN, KH, KY, KZ, FO, KQ, KK, KM models
*9: except TWC model
*10: with cruise control

ECM/PCM Inputs and Outputs at Connector E (31P)



Wire side of female terminals

NOTE: Standard battery voltage is 12 V.

Terminal number	Wire color	Terminal name	Description	Signal
1* [7]	GRN/YEL	IMO FPR (IMMOBILIZER FUEL PUMP RELAY)	Drives PGM-FI main ralay 2	0 V for 2 seconds after turning ignition switch ON (II), then battery voltage
2* [6]	WHT/RED	SHO2S (SECONDARY HEATED OXYGEN SENSOR, SENSOR 2)	Detects Secondary HO2S (sensor 2) signal	With throttle fully opened from idle with fully warmed up engine: above 0.6 V With throttle quickly closed: below 0.4 V
3	BRN/YEL	LG3 (LOGIC GROUND)	Ground for the ECM/PCM control circuit	Less than 1.0 V at all times
4	PNK	SG3 (SENSOR GROUND)	Sensor ground	Less than 1.0 V at all times
5	YEL/BLU	VCC3 (SENSOR VOLTAGE)	Provides sensor voltage	With ignition switch ON (II): about 5 V With ignition switch OFF: about 0 V
6* [6]	BLK/WHT	SO2SHTC (SECONDARY HEATED OXYGEN SENSOR HEATER CONTROL)	Drives Secondary HO2S heater	With ignition switch ON (II): battery voltage With fully warmed up engine running: duty controlled
7	RED/YEL	MRLY (PGM-FI MAIN RELAY)	Drives PGM-FI main relay 1 Power source for the DTC memory	With ignition switch ON (II): battery voltage With ignition switch OFF: about 0 V
9	YEL/BLK	IG1 (IGNITION SIGNAL)	Detects ignition signal	With ignition switch ON (II): battery voltage With ignition switch OFF: about 0 V
10* [8]	GRN/YEL	FPR (FUEL PUMP RELAY)	Drives PGM-FI main relay 2	0 V for 2 seconds after turning ignition switch ON (II), then battery voltage
13* [1]	WHT/BLU	ILU (INTERLOCK CONTROL UNIT)	Drives interlock control unit	With ignition switch ON (II) and brake pedal depressed: about 8.5 V
15* [4]	GRN/RED	ELD (ELECTRICAL LOAD DETECTOR)	Drives ELD signal	With ignition switch ON (II): about 0.1 V - 4.8 V (depending on electrical load)
15* [9]	ORN	IMA (IDLE MIXTURE ADJUSTER (IMA))	Detects IMA signal	With ignition switch ON (II): about 0.5-4.5 V (depending on idle mixture)
16	LT GRN/BLK	PSPSW (POWER STEERING PRESSURE SWITCH SIGNAL)	Detects PSP switch signal	At idle steering wheel in straight ahead position: about 0 V At idle with steering wheel at full lock: battery voltage
18	RED	ACC (A/C CLUTCH RELAY)	Drives A/C clutch relay	With compressor ON: about 0 V With compressor OFF: battery voltage
22	WHT/BLK	BKSW (BRAKE PEDAL POSITION SWITCH)	Detects BPP switch signal	With brake pedal released: about 0 V With brake pedal pressed: battery voltage
23	LT BLU	K-LINE	Sends and receives scan tool signal	With ignition switch ON (II): pulses or battery voltage
24	YEL	SEFMJ	Communicates with multiplex control unit	With ignition switch ON (II): about 5 V With engine running with load: pulses
25* [1]	BLU/WHT	VSSOUT (VEHICLE SPEED SENSOR OUTPUT SIGNAL)	Sends vehicle speed sensor signal	Depending on vehicle speed: pulses
26	BLU	NEP (ENGINE SPEED PULSE)	Outputs engine speed pulse	With engine running: pulses
27* [7]	RED/BLU	IMOCD (IMMOBILIZER CODE)	Detects immobilizer signal	
29	BRN	SCS (SERVICE CHECK SIGNAL)	Detects service check signal	With the service check signal shorted with the PGM Tester: about 0 V With the service check signal opened: about 5 V battery voltage
31	GRN/WHT	MIL (MALFUNCTION INDICATOR LAMP)	Drives MIL	With MIL turned ON: about 0 V With MIL turned OFF: battery voltage

1: A/T
*2: M/T
*3: with TWC model
*4: KG, KS, KE, KR, KU, KZ, FO, KQ, KK, KM models

*5: KG, KS, KE, KR, KU (Hong Kong) model

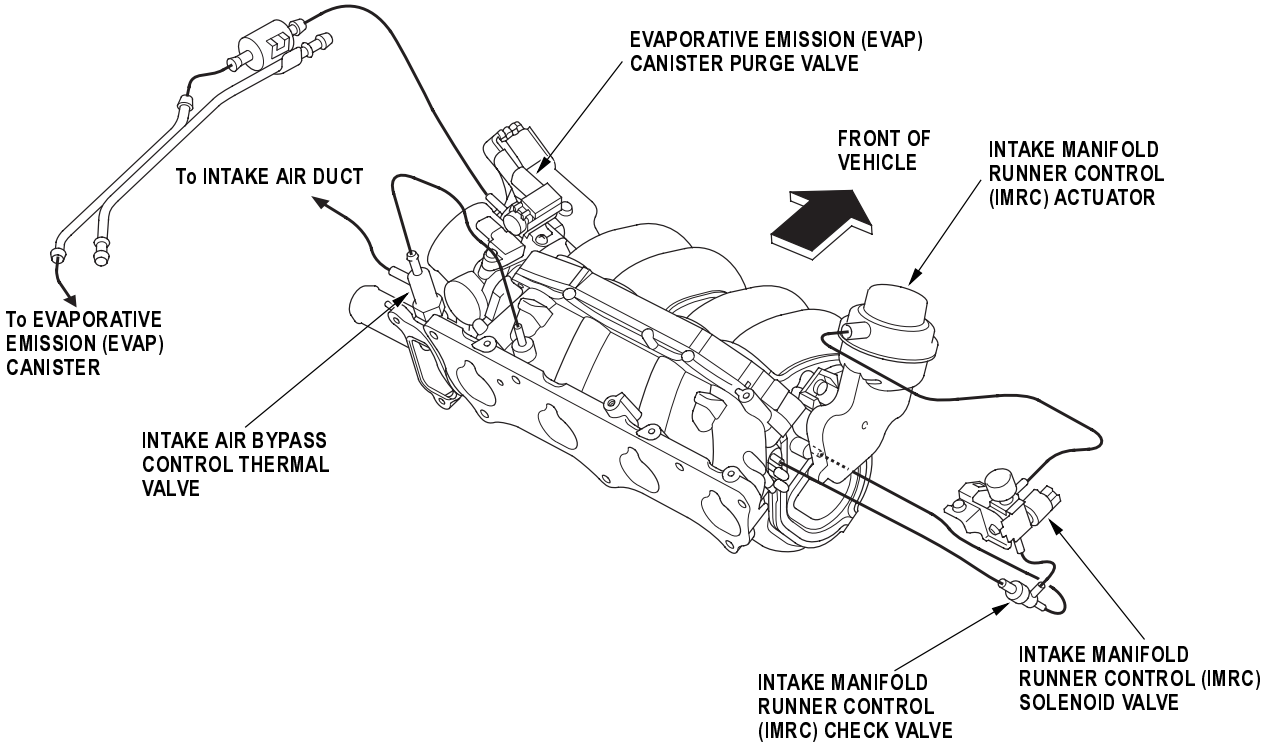
*6: KG, KS, KE, KR, KU, KZ, FO, KQ models
*7: KG, KS, KE, KR, KU, KN, KH, KY, KZ, FO, KQ, KK, KM models
*8: except KG, KS, KE, KR, KU, KN, KH, KY, KZ, FO, KQ, KK, KM models
*9: except TWC model

*10: with cruise control

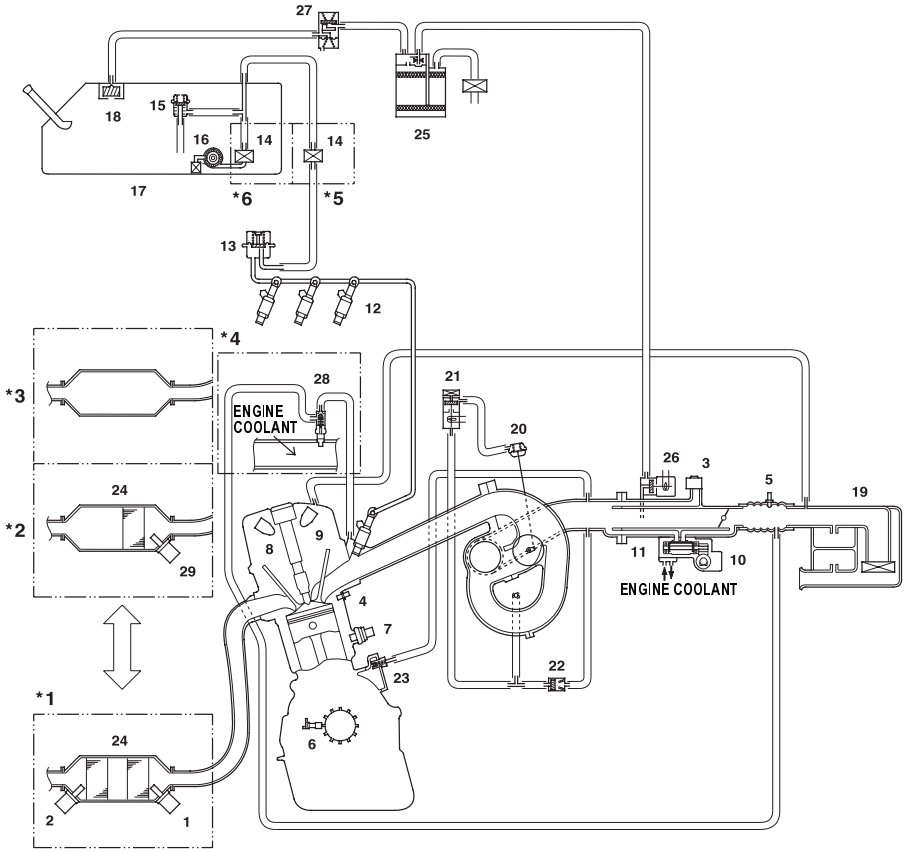
(cont'd)

System Descriptions (cont'd)

Vacuum Hose Routing



Vacuum Distribution



*1: KG, Ks, KE, KR, KU, KZ, FO, KQ models
*2: KN, KM, KY, MA, PH, IN, KK models
*3: without TWC model
*4: with TWC model
*5: except KZ, PH, FO, IN, MA models
*6: KZ, PH, FO, IN, MA models

1 PRIMARY HEATED OXYGEN SENSOR (PRIMARY HO2S) (SENSOR 1)
2 SECONDARY HEATED OXYGEN SENSOR SECONDARY HO2S) (SENSOR 2)
3 MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR
4 ENGINE COOLANT TEMPERATURE (ECT) SENSOR
5 INTAKE AIR TEMPERATURE (IAT) SENSOR
6 CRANKSHAFT POSITION (CKP) SENSOR
7 KNOCK SENSOR
8 TOP DEAD CENTER (TDC) SENSOR
9 CAMSHAFT POSITION (CMP) SENSOR
10 IDLE AIR CONTROL (IAC) VALVE
11 THROTTLE BODY
12 INJECTOR
13 FUEL PULSATION DAMPER
14 FUEL FILTER
15 FUEL PRESSURE REGULATOR
16 FUEL PUMP
17 FUEL TANK
18 FUEL TANK VAPOR/LIQUID SEPARATION VALVE
19 AIR CLEANER
20 INTAKE MANIFOLD RUNER CONTROL (IMRC) CONTROL VALVE
21 INTAKE MANIFOLD RUNNER CONTROL (IMRC) SOLENOID VALVE
22 INTAKE MANIFOLD RUNNER CONTROL (IMRC) CHECK VALVE
23 POSITIVE CRANKCASE VENTILATION (PCV) VALVE
24 THREE WAY CATALYTIC CONVERTER
25 EVAPORATIVE EMISSION (EVAP) CONTROL CANISTER
26 EVAPORATIVE EMISSION (EVAP) CANISTER PURGE VALVE
27 EVAPORATIVE EMISSION (EVAP) TWO WAY VALVE
28 INTAKE AIR BYPASS CONTROL THERMAL VALVE
29 HEATED OXYGEN SENSOR (HO2S)

(cont'd)

System Descriptions (cont'd)

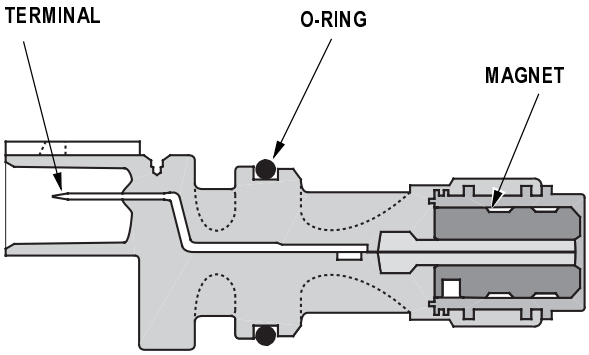
PGM-FI System
The Programmed Fuel Injection (PGM-FI) system is a sequential multiport fuel injection system.

Air Conditioning (A/C) Compressor Clutch Relay
When the ECM/PCM receives a demand for cooling from the A/C system, it delays the compressor from being energized, and enriches the mixture to assure smooth transition to the A/C mode.

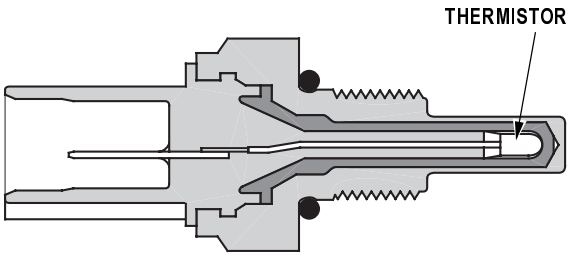
Alternator Control
The alternator signals the Engine Control Module (ECM)/ Powertrain Control Module (PCM) during charging.

Barometric Pressure (BARO) Sensor
The BARO sensor is inside the ECM/PCM. It converts atmospheric pressure into a voltage signal that modifies the basic duration of the fuel injection discharge.

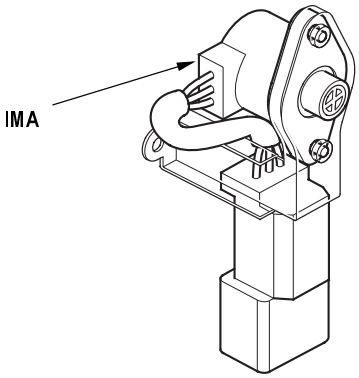
Crankshaft Position (CKP) Sensor
The CKP sensor detects crankshaft speed and determines ignition timing and timing for fuel injection of each cylinder, as well as detecting engine misfire.



Engine Coolant Temperature (ECT) Sensor
The ECT sensor is a temperature dependent resistor (thermistor). The resistor of the thermistor decreases as the engine coolant temperature increases.



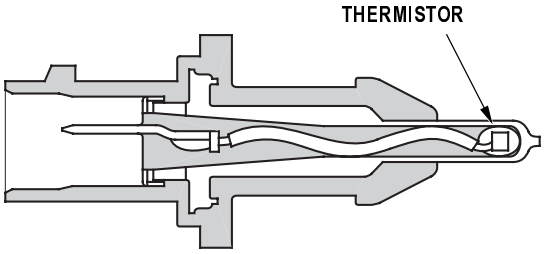
Idle Mixture Adjuster (IMA) (without TWA model)
The idle mixture adjuster (IMA) is selected resistance device used to control idle mixture.



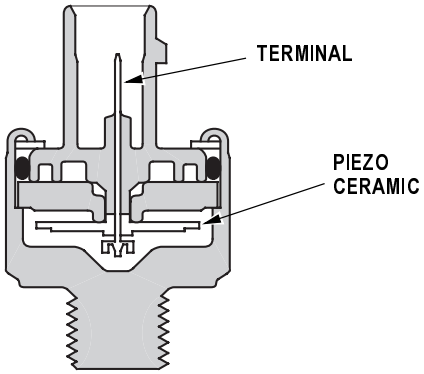
Ignition Timing Control
The ECM/PCM contains the memory for basic ignition timing at various engine speeds and manifold absolute pressure. It also adjusts the timing according to engine coolant temperature.

Injector Timing and Duration
The ECM/PCM contains the memory for basic discharge duration at various engine speeds and manifold pressures. The basic discharge duration, after being read out from the memory, is further modified by signals sent from various sensors to obtain the final discharge duration.
By monitoring long term fuel trim, the ECM/PCM detects long term malfunctions in the fuel system, and will set a Diagnostic Trouble Code (DTC).

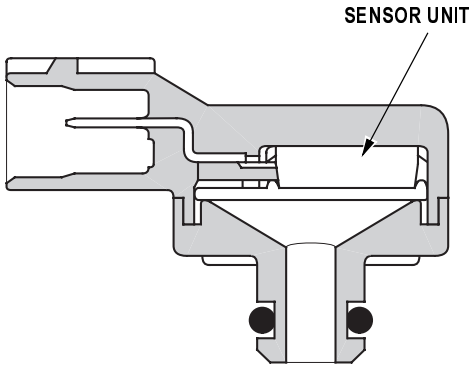
Intake Air Temperature (IAT) Sensor
The IAT sensor is a temperature dependent resistor (thermistor). The resistance of the thermistor decreases as the intake air temperature increases.



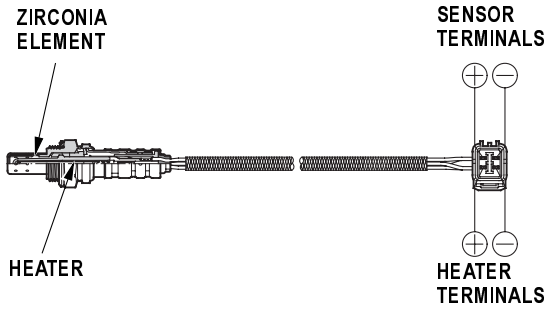
Knock Sensor
The knock control system adjusts the ignition timing to minimize knock.



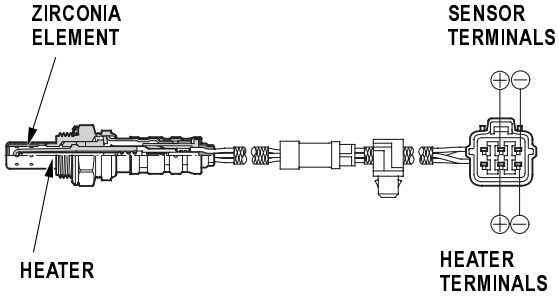
Manifold Absolute Pressure (MAP) Sensor
The MAP sensor converts manifold absolute pressure into electrical signals to the ECM/PCM.



Primary Heated Oxygen Sensor (Primary HO2S)
The primary HO2S detects the oxygen content in the exhaust gas and sends signals to the ECM/PCM which varies the duration of fuel injection accordingly. To stabilize its output, the sensor has an internal heater. The primary HO2S is installed in the Three Way Catalytic Converter (TWC). By controlling the air fuel ratio with primary HO2S and secondary HO2S, the deterioration of the primary HO2S can be evaluated by its feedback period. When the feedback period exceeds a certain value during stable driving conditions, the sensor is considered deteriorated and the ECM/PCM sets a DTC.



Secondary Heated Oxygen Sensor (Secondary HO2S)
The secondary HO2S detects the oxygen content in the exhaust gas downstream of the Three Way Catalytic Converter (TWC) and sends signals to the ECM/PCM which varies the duration of fuel injection accordingly. To stabilize its output, the sensor has an internal heater. The secondary HO2S is installed in the TWC.



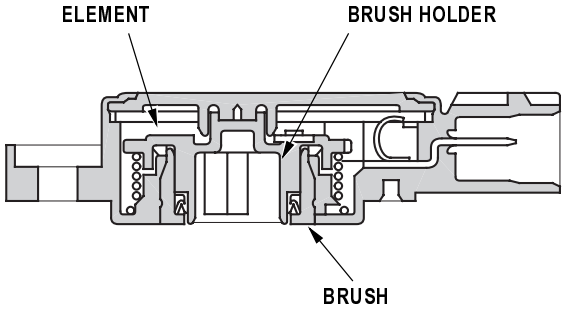
Starting Control
When the engine is started, the ECM/PCM provides a rich mixture by increasing injector duration.

(cont'd)

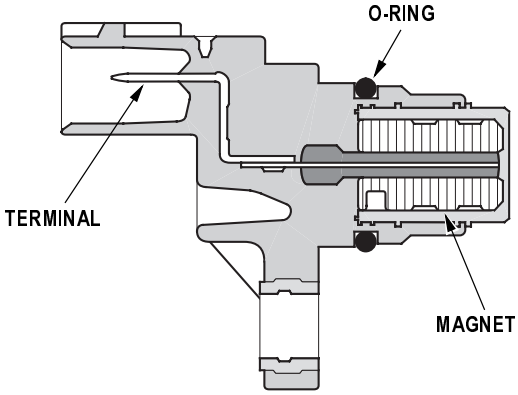
System Descriptions (cont'd)

PGM-FI System (cont'd)

Throttle Position (TP) Sensor
The TP sensor is a potentiometer connected to the throttle valve shaft. As the throttle position changes, the sensor varies the signal voltage to the ECM/PCM. The TP sensor is not replaceable apart from the throttle body.



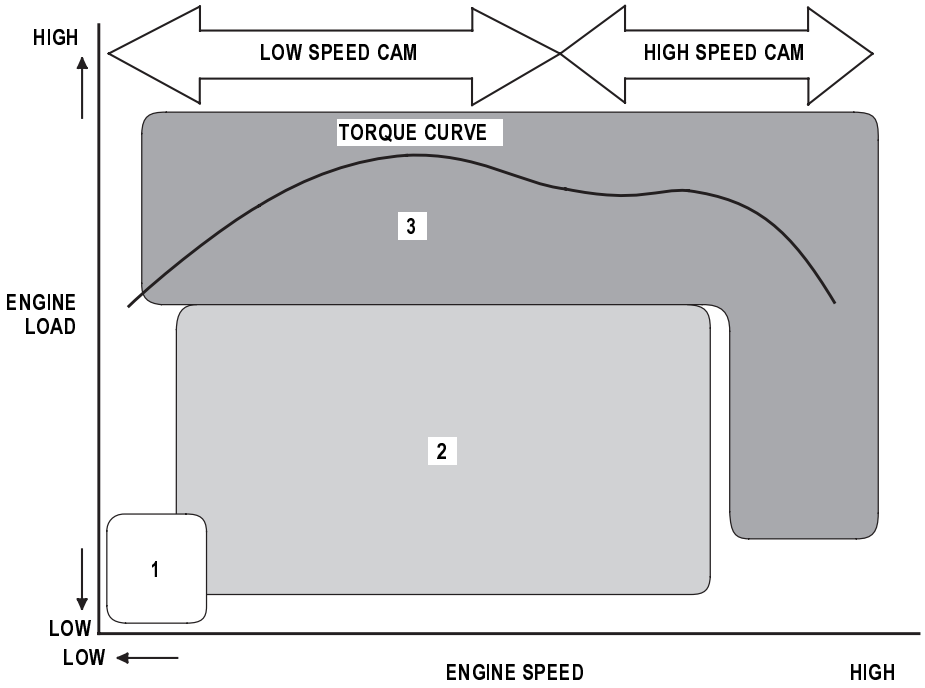
Top Dead Center (TDC) Sensor
The TDC sensor detects the position of the No. 1 cylinder as a reference for sequential fuel injection to each cylinder.



Vehicle Speed Sensor (VSS)
The VSS is driven by the differential. It generates a pulsed signal from an input of 5 volts. The number of pulses per minute increases/decreases with the speed of the vehicle.

VTEC/VTC

- The i-VTEC has a VTC (Variable Valve Timing Control) mechanism on the intake camshaft in addition to the usual VTEC. This mechanism improves fuel efficiency and reduces exhaust emissions at all levels of engine speed, vehicle speed, and engine load.
- The VTEC mechanism changes the valve lift and timing by using more than one cam profile.
- The VTC changes the phase of the intake camshaft via oil pressure. It changes the intake valve timing continuously.



Driving Condition	VTC Control	Description
1 light-load	Base Position	Cam angle is retarded to reduce the entry of exhaust gas into the intake port and to achieve stable fuel consumption during lean burn.
2 medium/high-load	Advance Control	Cam angle is advanced for EGR effect and to reduce this pumping loss. The intake valve is closed quickly to help reduce the entry of air/fuel mixture into the intake port and improve the charging effect.
3 high speed	Advance-Base Position	Cam phase angle is controlled for optimum valve timing and maximum engine power.

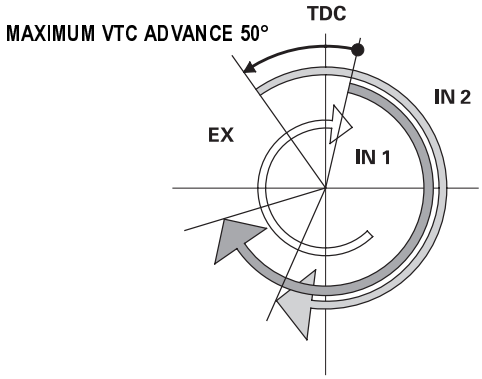
(cont'd)

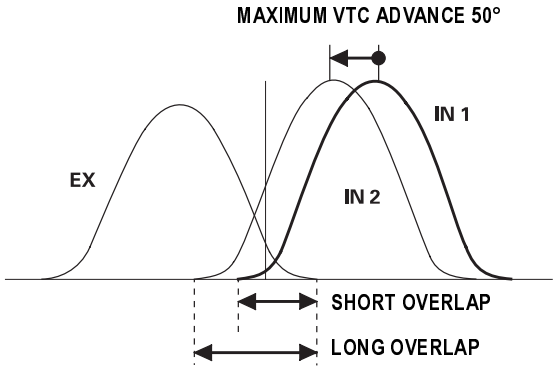
System Descriptions (cont'd)

VTEC/VTC

VTC system

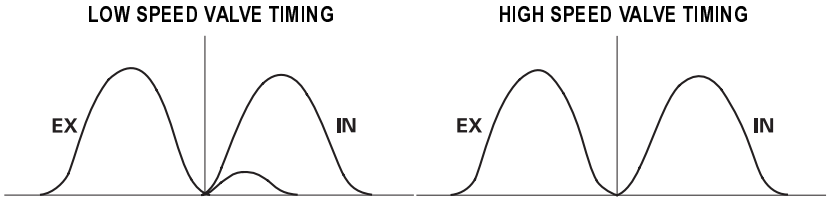
- The VTC system makes continuous intake valve timing changes based on operating conditions.
- Intake valve timing to allow the engine to produce maximum power.
- Cam angle is advanced to obtain the EGR effect and reduce the pumping loss. The intake valve is closed quickly to reduce the entry of the air/fuel mixture into the intake port and improve the charging effect.
- Reduces the cam advance at idle, stabilizes combustion, and reduces engine speed.
- If a malfunction occurs, the VTC system control is disabled and the valve timing is fixed at the fully retarded position.



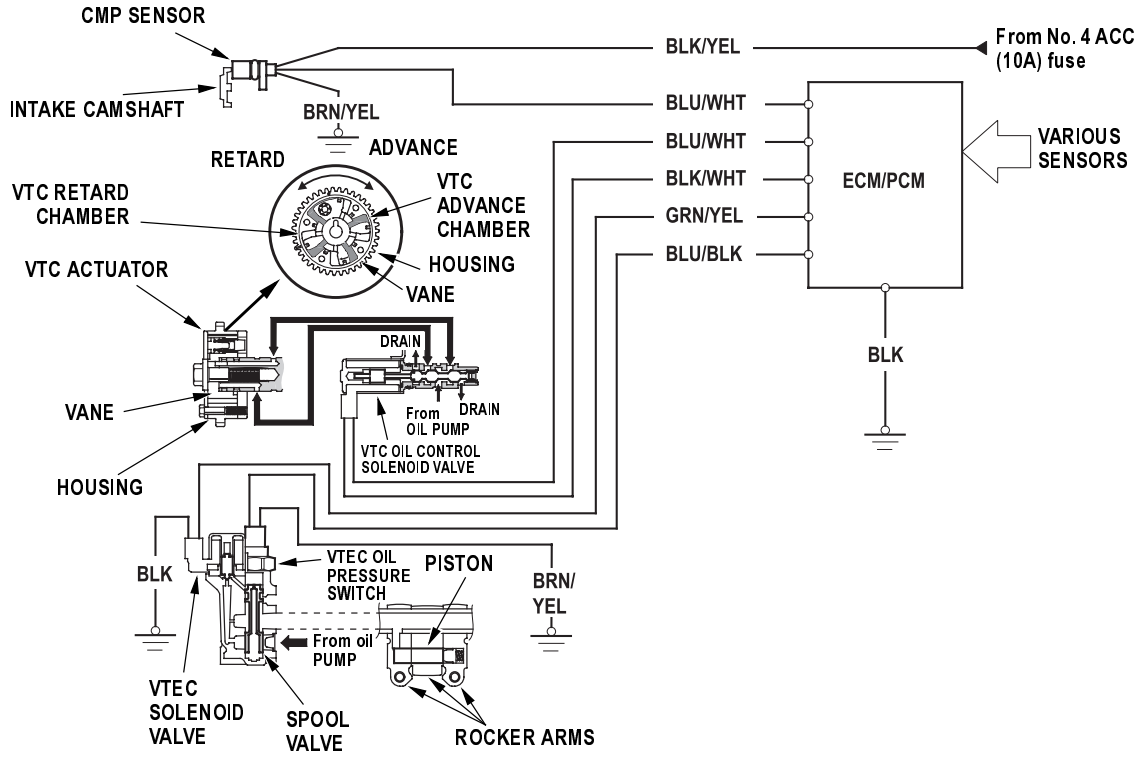


VTEC system

- The VTEC system changes the cam profile to correspond to the engine speed. It maximizes torque at low engine speed and output at high engine speed.
- The low lift cam is used at low engine speeds, and the high lift cam is used at high engine speeds.

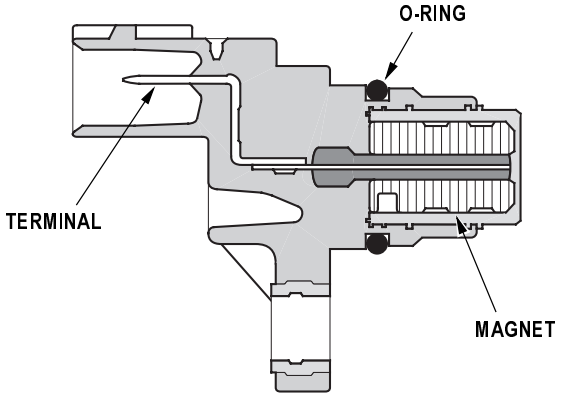


System Diagram



Camshaft Position (CMP) Sensor

The CMP sensor detects camshaft angle position for the VTC system.



(cont'd)

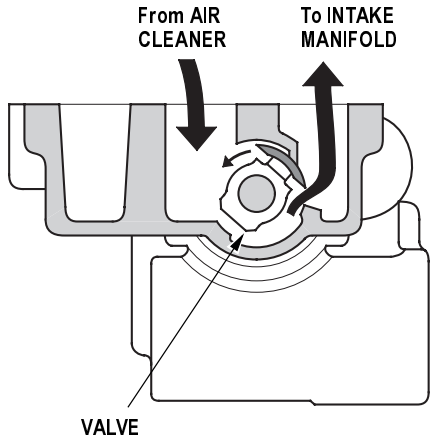
System Descriptions (cont'd)

Idle Control System

When the engine is cold, the A/C compressor is on, the transmission is in gear, the brake pedal is pressed, the power steering load is high, or the alternator is charging, the ECM/PCM controls current to the Idle Air Control (IAC) valve to maintain the correct idle speed. Refer to the System Diagram to see the functional layout of the system.

Brake Pedal Position Switch
The brake pedal position switch signals the ECM/PCM when the brake pedal is pressed.

Idle Air Control (IAC) Valve
To maintain the proper idle speed, the IAC valve changes the amount of air bypassing the throttle body in response to an electrical signal from the ECM/PCM.



Power Steering Pressure (PSP) Switch
The PSP switch signals the ECM/PCM when the power steering load is high.

Fuel Supply System

Fuel Cut-off Control
During deceleration with the throttle valve closed, current to the injectors is cut off to improve fuel economy at speeds over 850 rpm (min^{-1}) (KY, KH, PH, KP, IN models: 900 rpm (min^{-1})). Fuel cut-off action also occurs when engine speed exceeds 6,900 rpm (min^{-1}) (K24A1 engine: 6,700 rpm (min^{-1})), regardless of the position of the throttle valve, to protect the engine from over-revving. When the vehicle is stopped, the ECM/PCM cuts the fuel at engine speeds over 6,500 rpm (min^{-1}) (A/T: 5,000 rpm (min^{-1})).

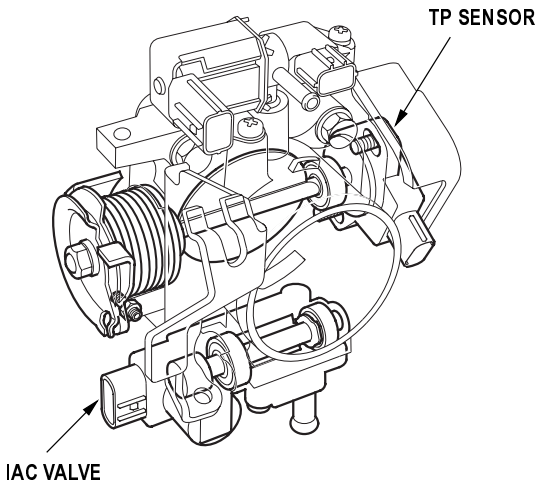
Fuel Pump Control
When the ignition is turned on, the ECM/PCM grounds the PGM-FI main relay which feeds current to the fuel pump for 2 seconds to pressurize the fuel system. With the engine running, the ECM/PCM grounds the PGM-FI main relay and feeds current to the fuel pump. When the engine is not running and the ignition is on, the ECM/PCM cuts ground to the PGM-FI main relay which cuts current to the fuel pump.

PGM-FI Main Relay 1 and 2
The PGM-FI relay consists of two separate relays. PGM-FI main relay 1 is energized whenever the ignition switch is ON (II) which supplies battery voltage to the ECM/PCM, power to the injectors, and power for the PGM-FI main relay 2. PGM-FI main relay 2 is energized to supply power to the fuel pump for 2 seconds when the ignition switch is turned ON (II), and when the engine is running.

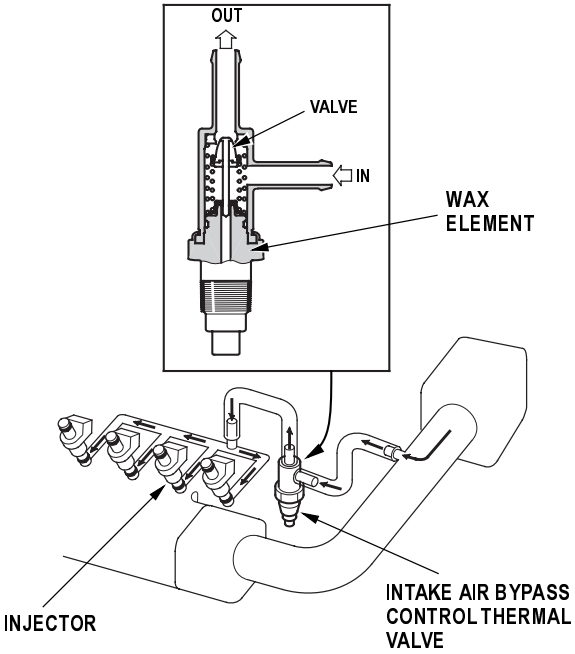
Intake Air System

Refer to the System Diagram to see the functional layout of the system.

Throttle Body
The throttle body is a single-barrel side draft type. The lower portion of the IAC valve is heated by engine coolant from the cylinder head.



Intake Air Bypass Control Thermal Valve
When the engine is running, the intake air bypass control thermal valve sends air to the injector.



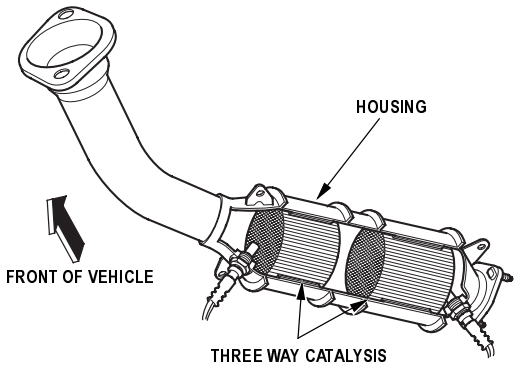
(cont'd)

System Descriptions (cont'd)

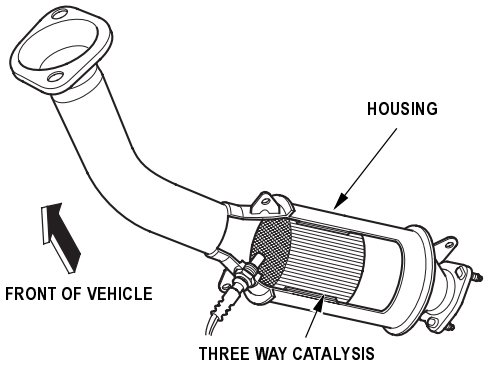
Catalytic Converter System

Three Way Catalytic Converter (TWC)
The TWC converts hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NOx) in the exhaust gas to carbon dioxide (CO2), dinitrogen (N2), and water vapor.

KG, KS, KE, KR, KU, KZ, FO, KQ, models:

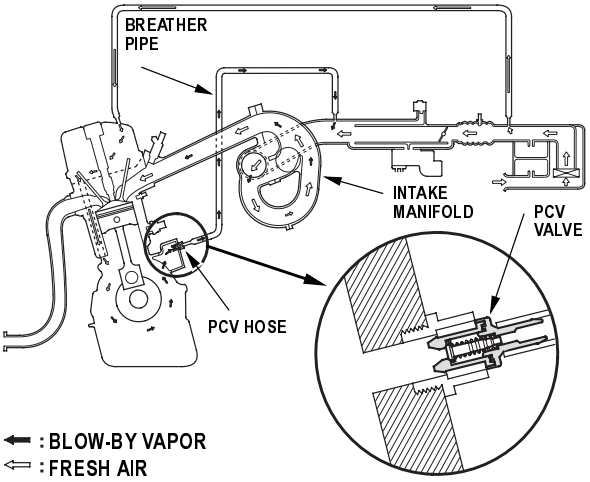


KN, KM, KY, MA, PH, IN, KK models:



Positive Crankcase Ventilation (PCV) System

The PCV valve prevents blow-by gasses from escaping into the atmosphere by venting them into the intake manifold.



Evaporative Emission (EVAP) Control System

Refer to the System Diagram to see the functional layout of the system.

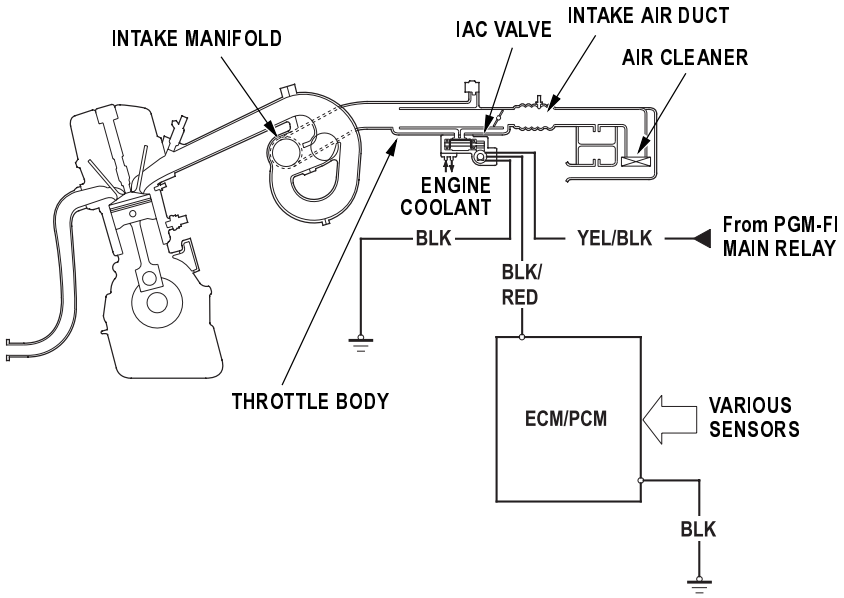
EVAP Canister
The EVAP canister temporarily stores fuel vapor from the fuel tank until it can be purged back into the engine and burned (refer to the System Diagram to see the functional layout of the system).

EVAP Canister Purge Valve
When the engine coolant temperature is below 65°C (149°F), the ECM/PCM turns off the EVAP canister purge valve which cuts vacuum to the EVAP canister.

Idle Control System Diagram

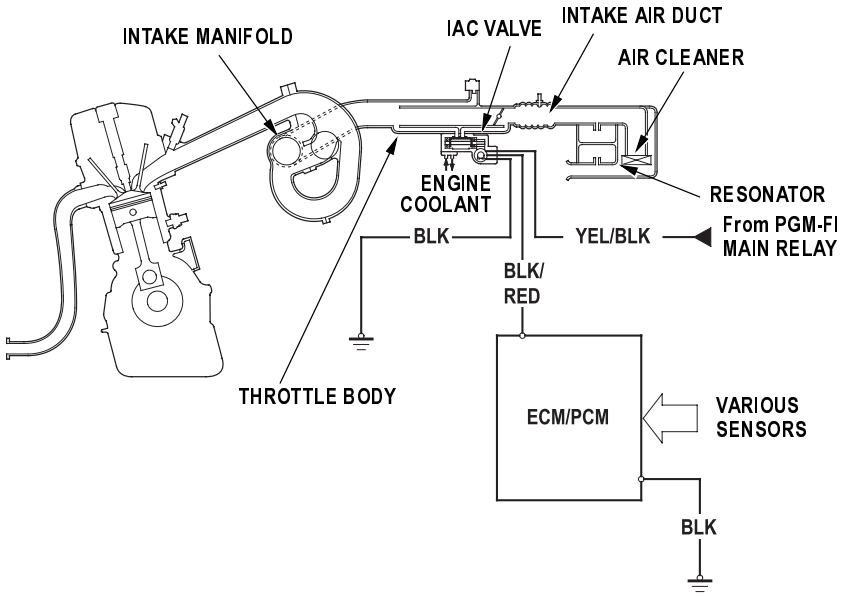
The idle speed of the engine is controlled by the Idle Air Control (IAC) valve:

- After the engine starts, the IAC valve opens for a certain amount of time. The amount of air is increased to raise the idle speed.
- When the engine coolant temperature is low, the IAC valve is opened to obtain the proper fast idle speed. The amount of bypassed air is thus controlled in relation to engine coolant temperature.



Intake Air System Diagram

This system supplies air for engine needs. A resonator in the intake air pipe provides additional silencing as air is drawn into the system.

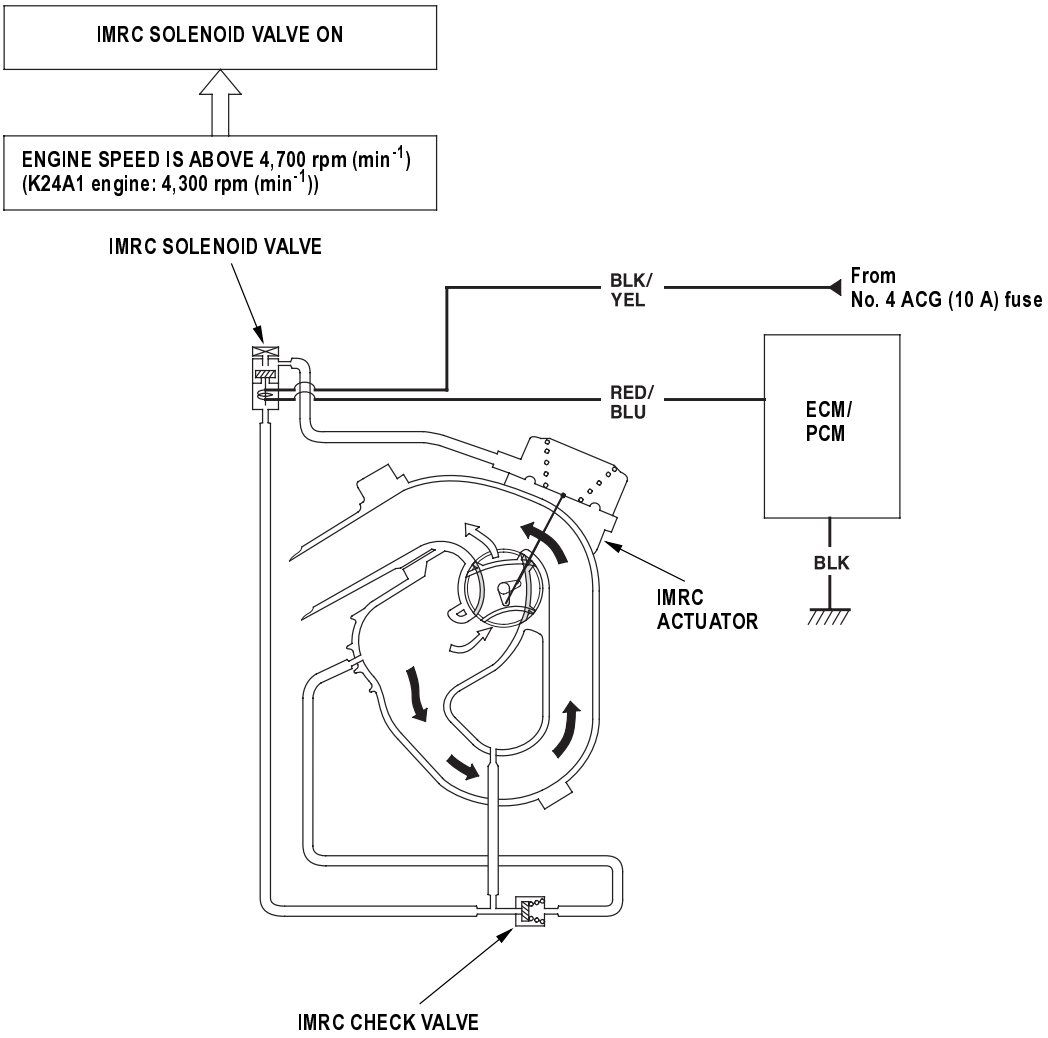


(cont'd)

System Descriptions (cont'd)

Intake Manifold Runner Control (IMRC) System

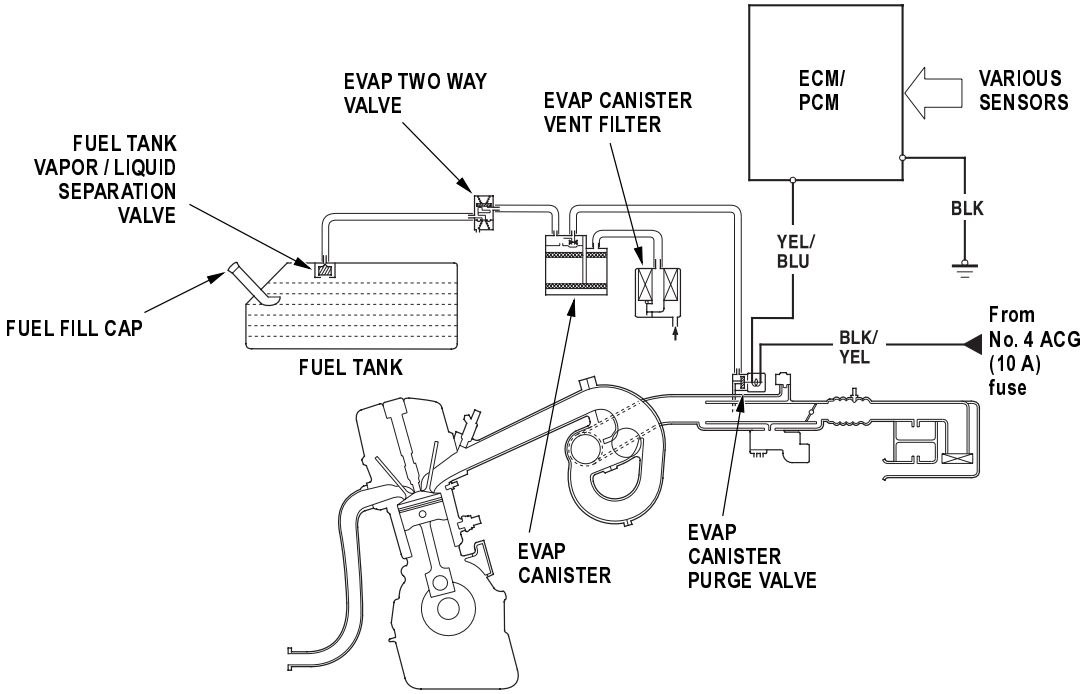
Satisfactory power performance is achieved by closing and opening the Intake Manifold Runner Control (IMRC) valve. High torque at low engine speed is achieved when the valve is closed, whereas high power at high engine is achieved when the valve is opened.



Evaporative Emission (EVAP) Control Diagram

The EVAP controls minimize the amount of fuel vapor escaping to the atmosphere. Vapor from the fuel tank is temporarily stored in the EVAP canister until it can be purged from the EVAP canister into the engine and burned.

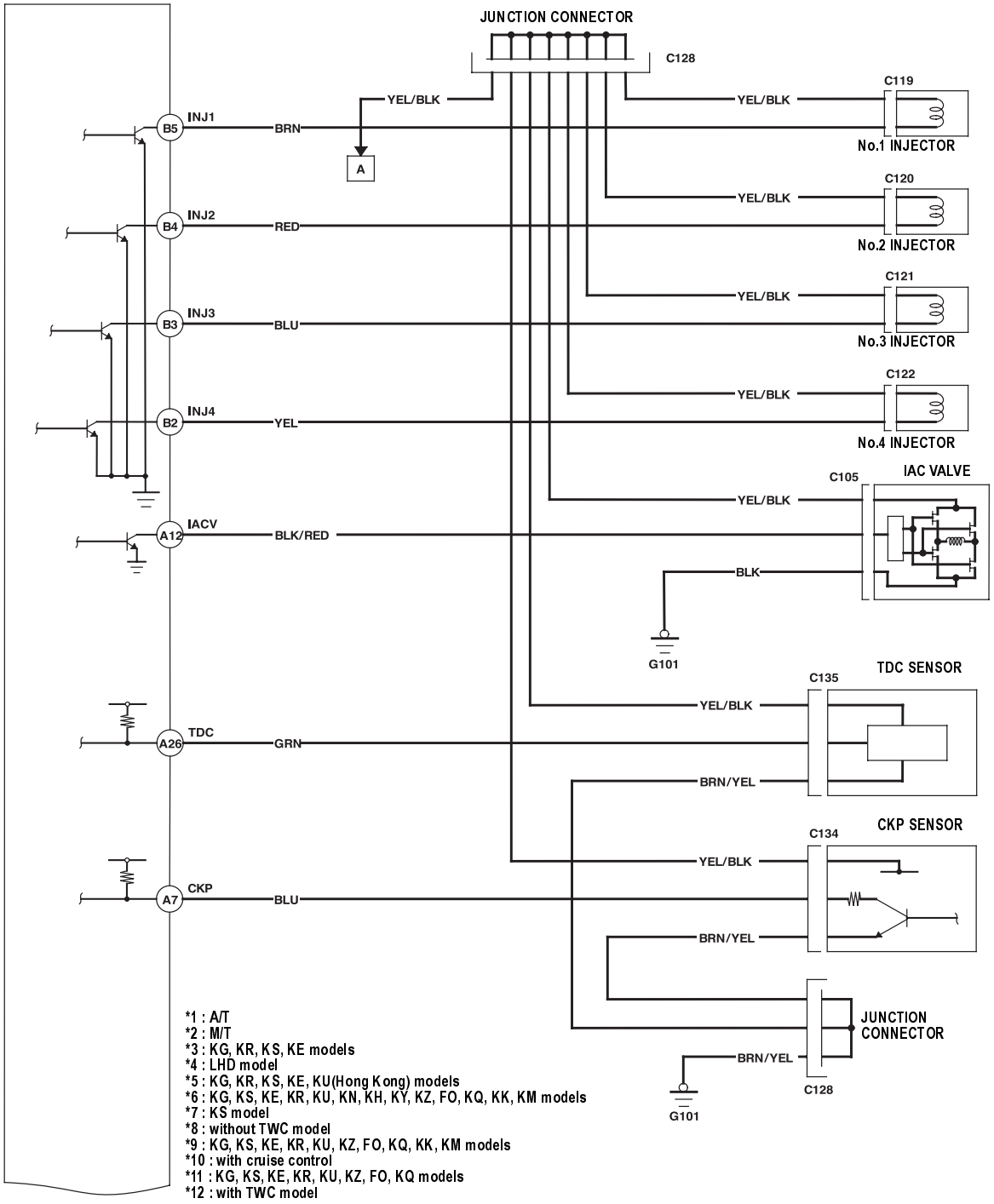
- The EVAP canister is purged by drawing fresh air through it and into a port on the intake manifold.
- The purging vacuum is controlled by the EVAP canister purge valve, which is open whenever engine coolant temperature is above 65°C (149°F).
- When vapor pressure in the fuel tank is higher than the set value of the EVAP two way valve, the valve opens and regulates the flow of fuel vapor to the EVAP canister.

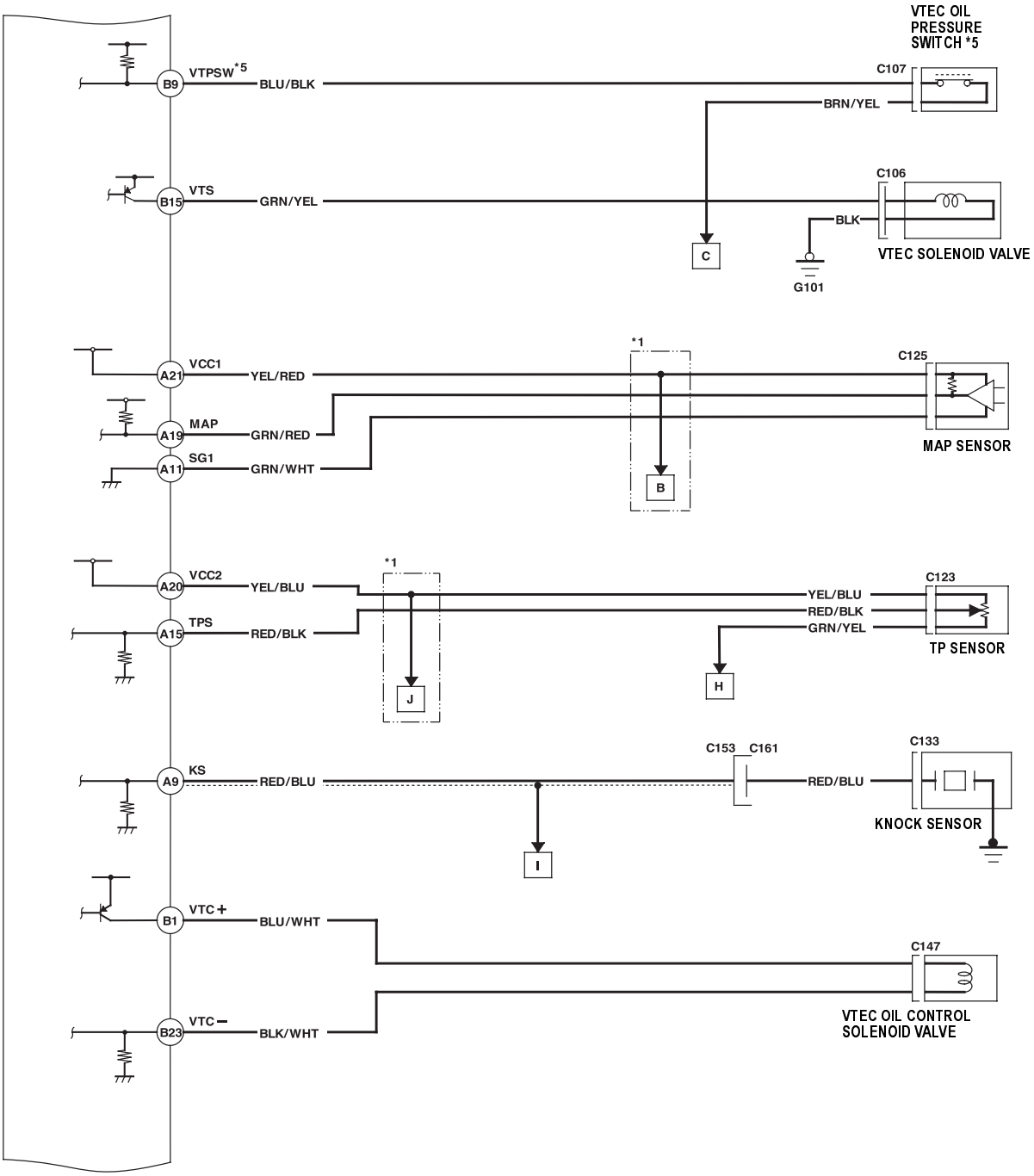


(cont'd)

System Descriptions (cont'd)

ECM/PCM Circuit Diagram

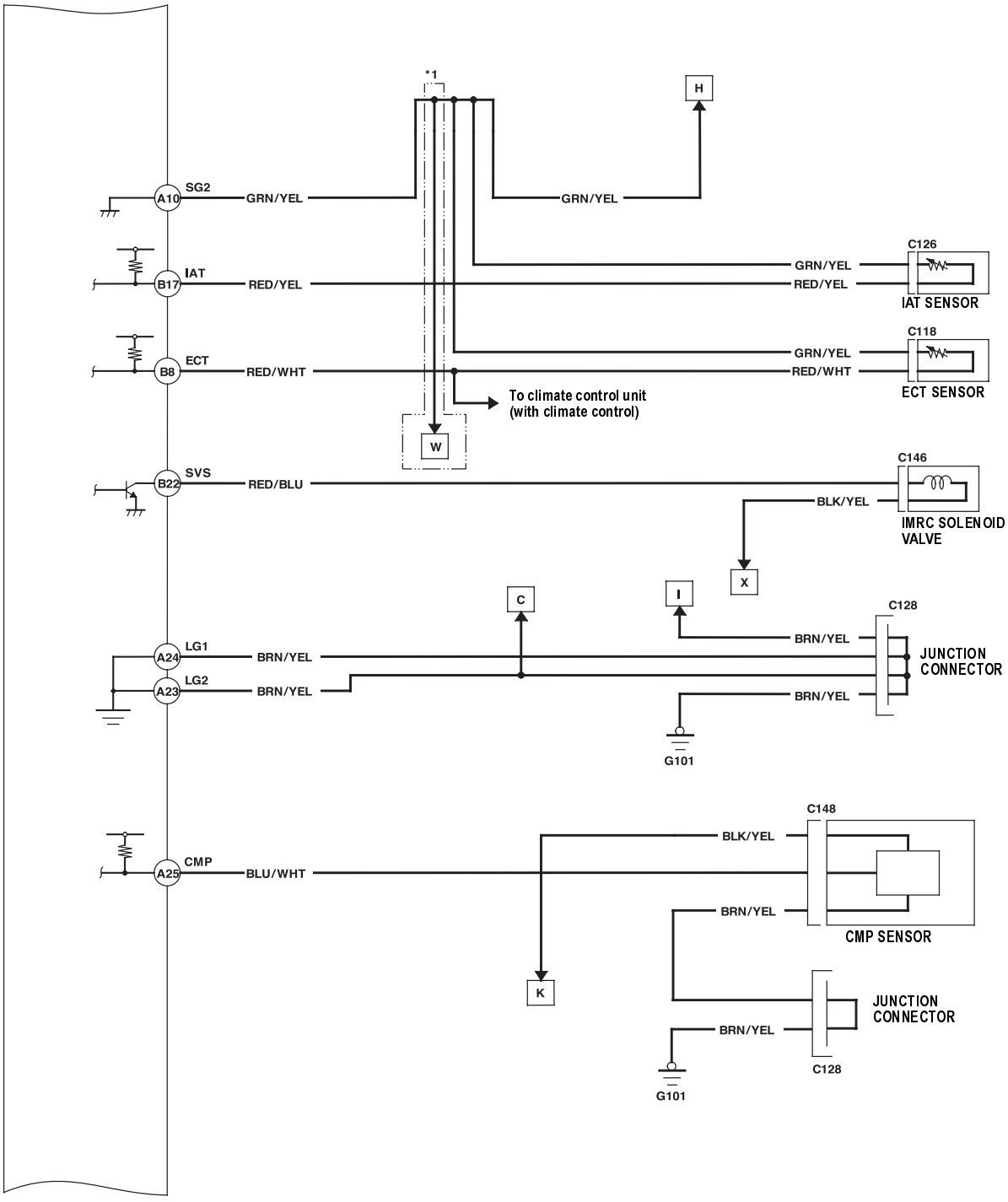


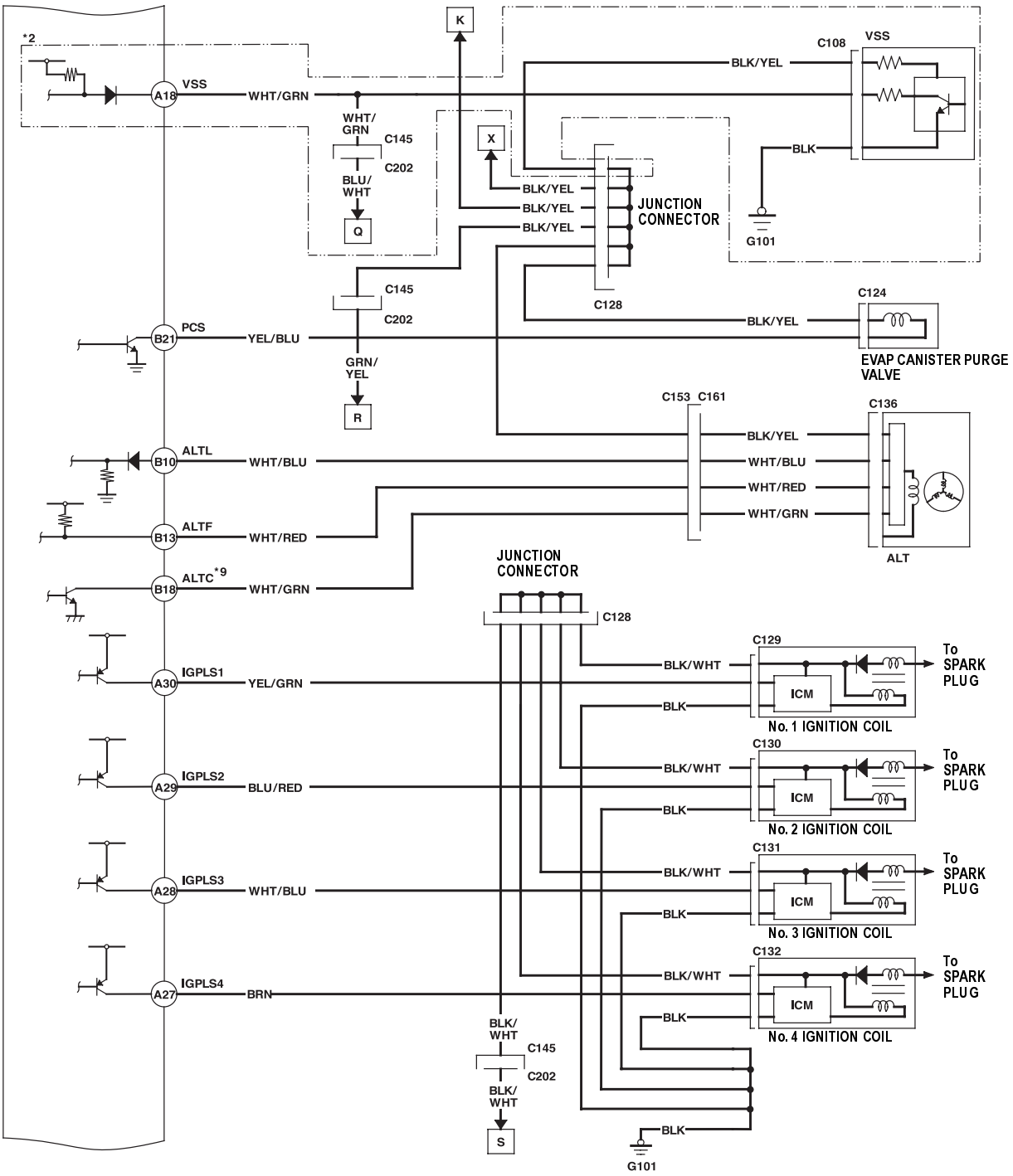

VTEC OIL PRESSURE SWITCH *5
C107
VTPSW*5
B9
BLU/BLK
BRN/YEL
C106
VTS
B15
GRN/YEL
BLK
C
G101
VTEC SOLENOID VALVE
*1
C125
VCC1
A21
YEL/RED
MAP
A19
GRN/RED
SG1
A11
GRN/WHT
B
MAP SENSOR
VCC2
A20
YEL/BLU
TPS
A15
RED/BLK
*1
C123
YEL/BLU
RED/BLK
GRN/YEL
J
H
TP SENSOR
C153
C161
C133
KS
A9
RED/BLU
RED/BLU
I
KNOCK SENSOR
VTC+
B1
BLU/WHT
C147
VTC−
B23
BLK/WHT
VTEC OIL CONTROL SOLENOID VALVE

(cont'd)

System Descriptions (cont'd)

ECM/PCM Circuit Diagram (cont'd)

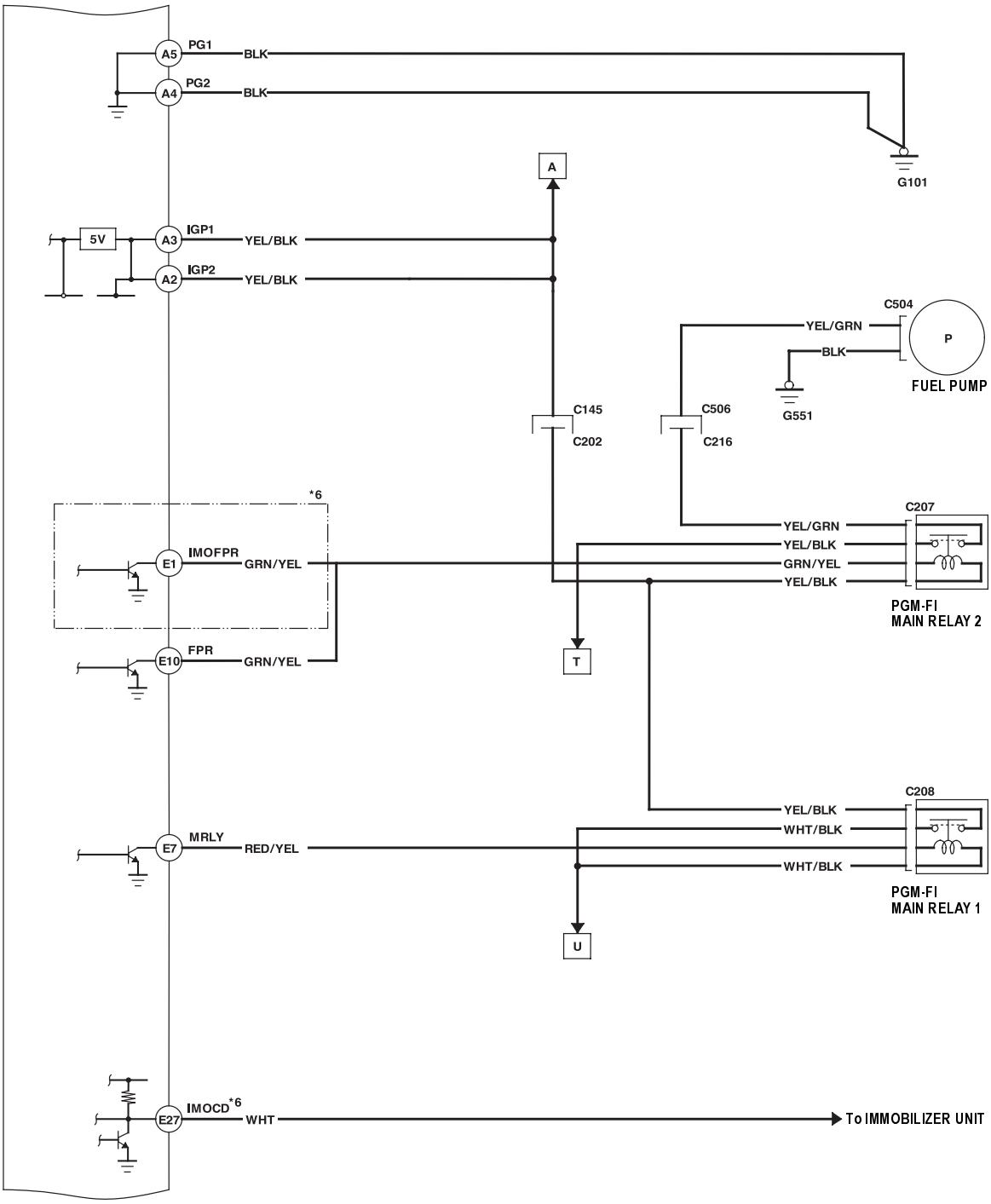


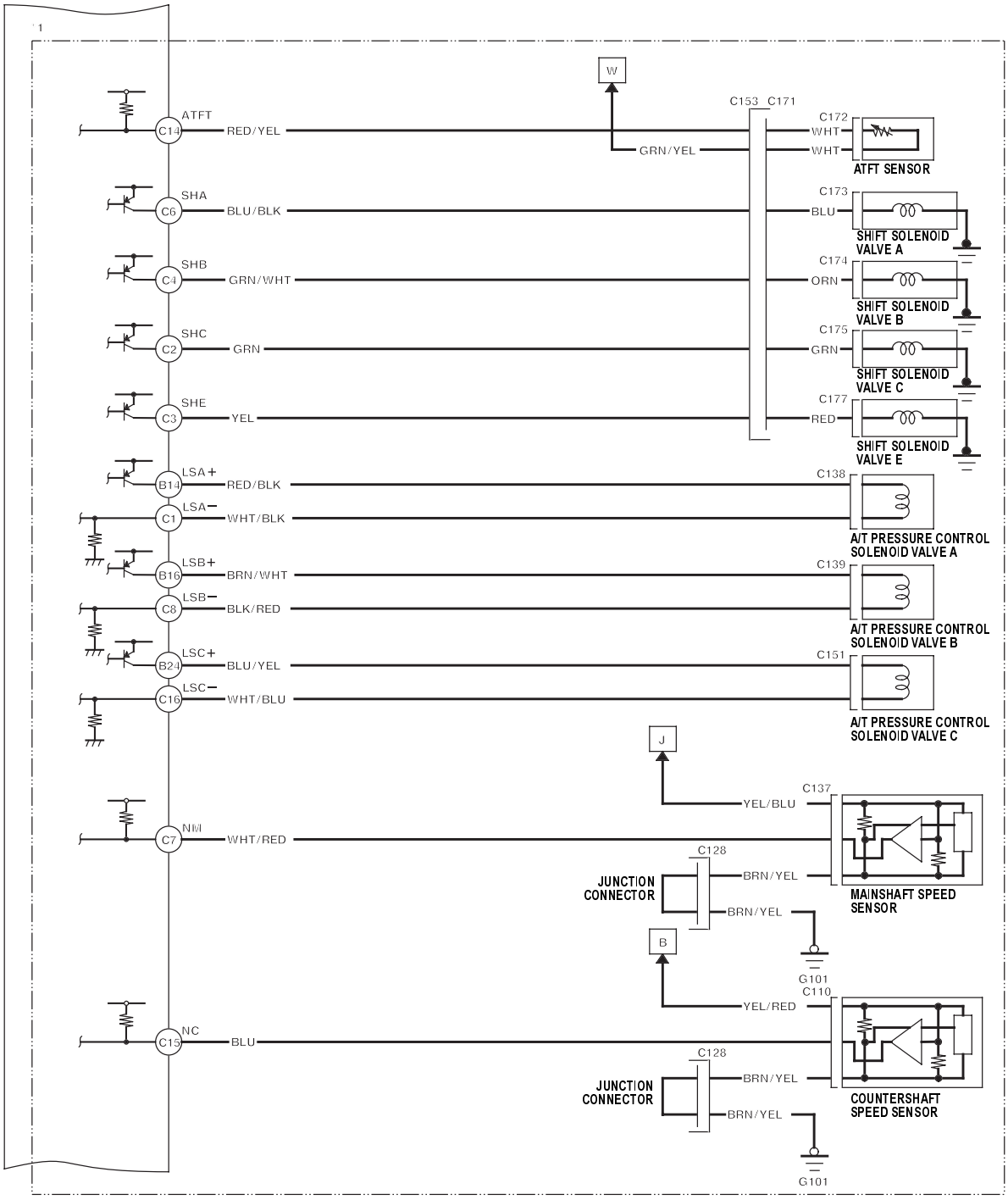

*2
A18
VSS
WHT/GRN
WHT/
GRN
C145
C202
BLU/
WHT
Q
K
X
C108
VSS
BLK/YEL
BLK
BLK/YEL
BLK/YEL
BLK/YEL
JUNCTION
CONNECTOR
C128
G101
C145
C202
GRN/
YEL
R
B21
PCS
YEL/BLU
C124
BLK/YEL
EVAP CANISTER PURGE
VALVE
C153_C161
C136
B10
ALTL
WHT/BLU
BLK/YEL
WHT/BLU
WHT/RED
WHT/GRN
ALT
B13
ALTF
WHT/RED
B18
ALTC*9
WHT/GRN
JUNCTION
CONNECTOR
C128
A30
IGPLS1
YEL/GRN
C129
BLK/WHT
BLK
ICM
No. 1 IGNITION COIL
To
SPARK
PLUG
A29
IGPLS2
BLU/RED
C130
BLK/WHT
BLK
ICM
No. 2 IGNITION COIL
To
SPARK
PLUG
A28
IGPLS3
WHT/BLU
C131
BLK/WHT
BLK
ICM
No. 3 IGNITION COIL
To
SPARK
PLUG
A27
IGPLS4
BRN
C132
BLK/WHT
BLK
ICM
No. 4 IGNITION COIL
To
SPARK
PLUG
BLK/
WHT
C145
C202
BLK/
WHT
S
BLK
G101

(cont'd)

System Descriptions (cont'd)

ECM/PCM Circuit Diagram (cont'd)

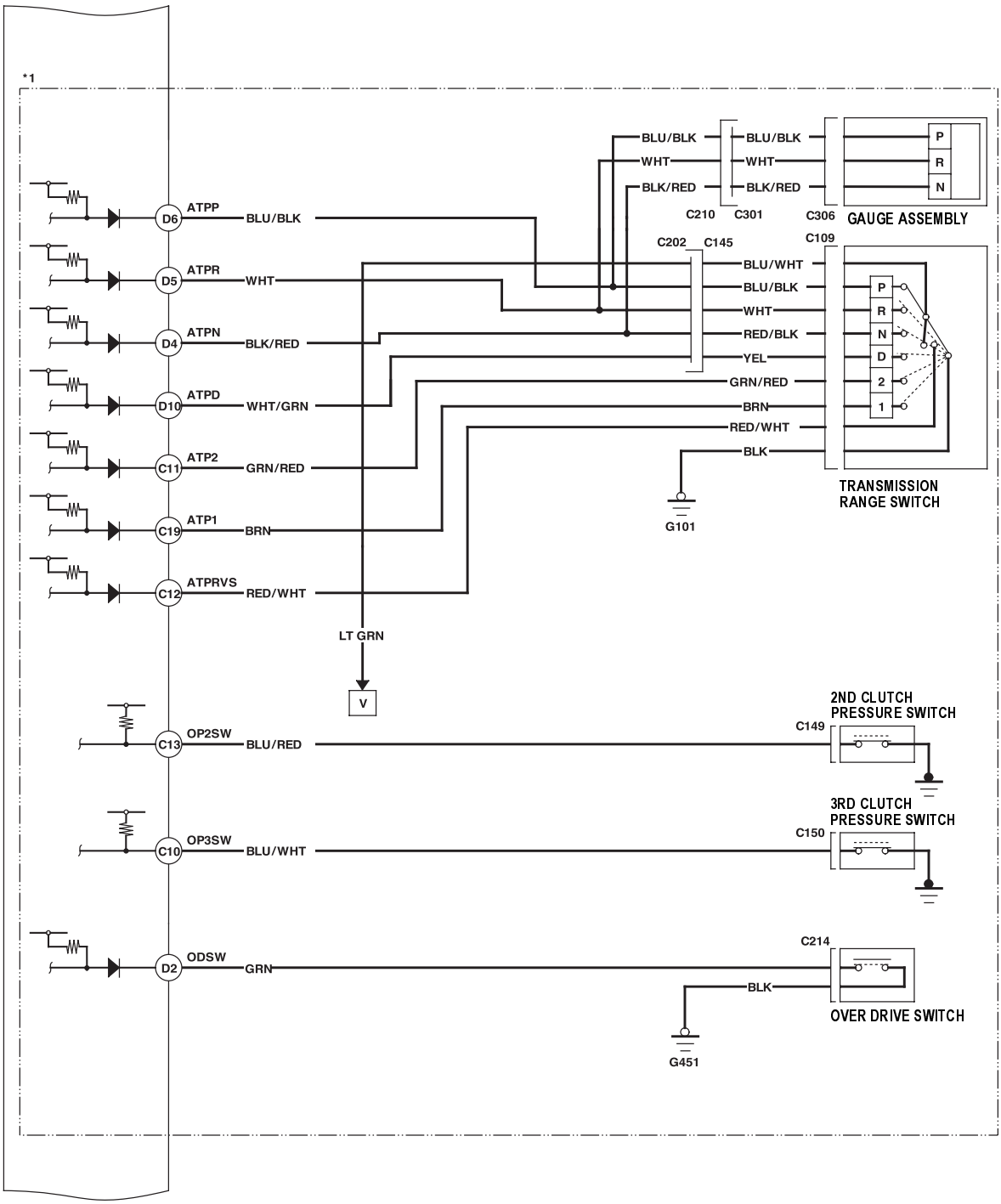


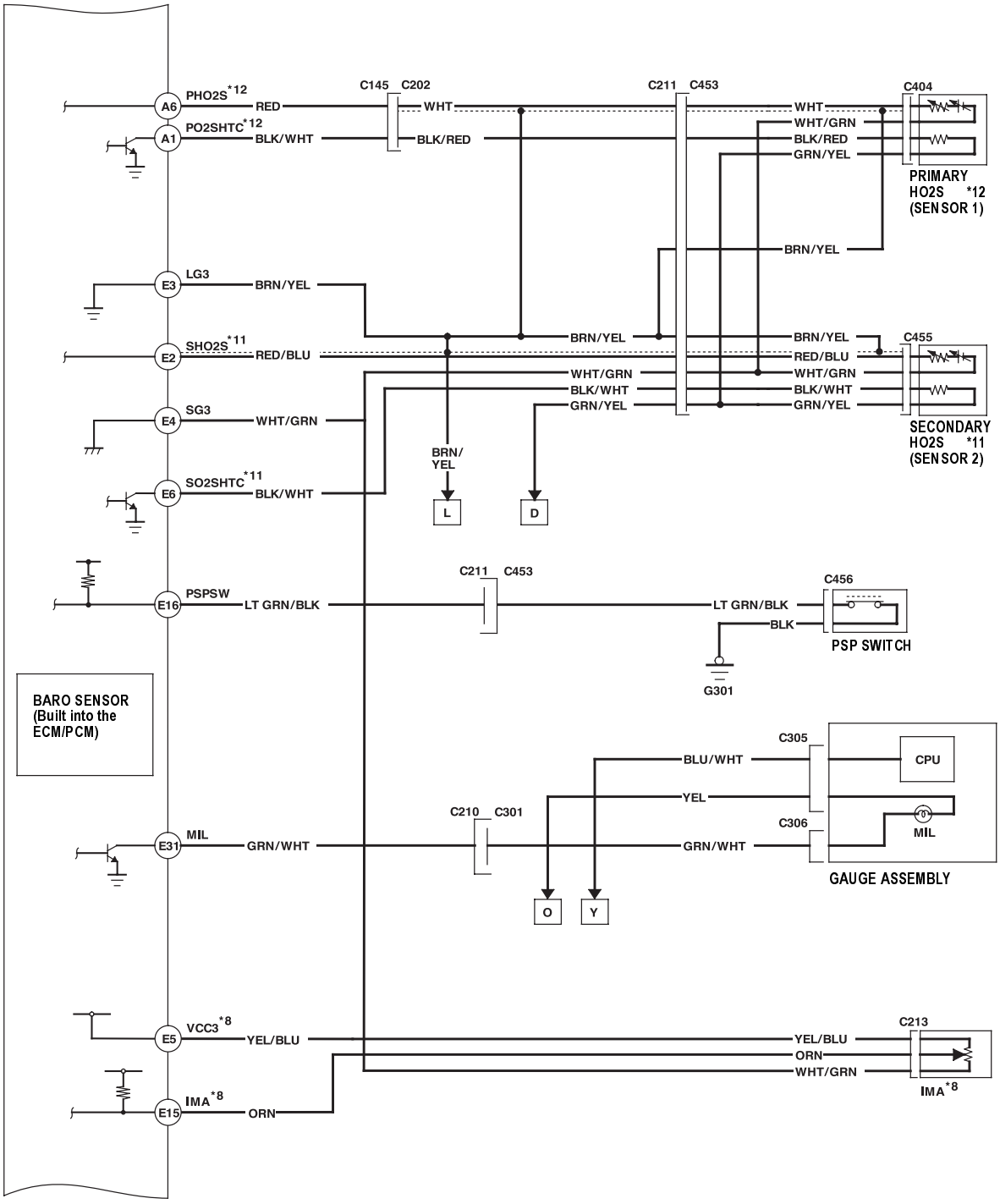

W
C153 C171
ATFT
C14
RED/YEL
GRN/YEL
C172
WHT
WHT
ATFT SENSOR
SHA
C6
BLU/BLK
C173
BLU
SHIFT SOLENOID VALVE A
SHB
C4
GRN/WHT
C174
ORN
SHIFT SOLENOID VALVE B
SHC
C2
GRN
C175
GRN
SHIFT SOLENOID VALVE C
SHE
C3
YEL
C177
RED
SHIFT SOLENOID VALVE E
LSA+
B14
RED/BLK
C138
LSA−
C1
WHT/BLK
A/T PRESSURE CONTROL SOLENOID VALVE A
LSB+
B16
BRN/WHT
C139
LSB−
C8
BLK/RED
A/T PRESSURE CONTROL SOLENOID VALVE B
LSC+
B24
BLU/YEL
C151
LSC−
C16
WHT/BLU
A/T PRESSURE CONTROL SOLENOID VALVE C
J
YEL/BLU
C137
NM
C7
WHT/RED
C128
JUNCTION CONNECTOR
BRN/YEL
BRN/YEL
MAINSHAFT SPEED SENSOR
B
G101
C110
YEL/RED
NC
C15
BLU
C128
JUNCTION CONNECTOR
BRN/YEL
BRN/YEL
COUNTERSHAFT SPEED SENSOR
G101

(cont'd)

System Descriptions (cont'd)

ECM/PCM Circuit Diagram (cont'd)

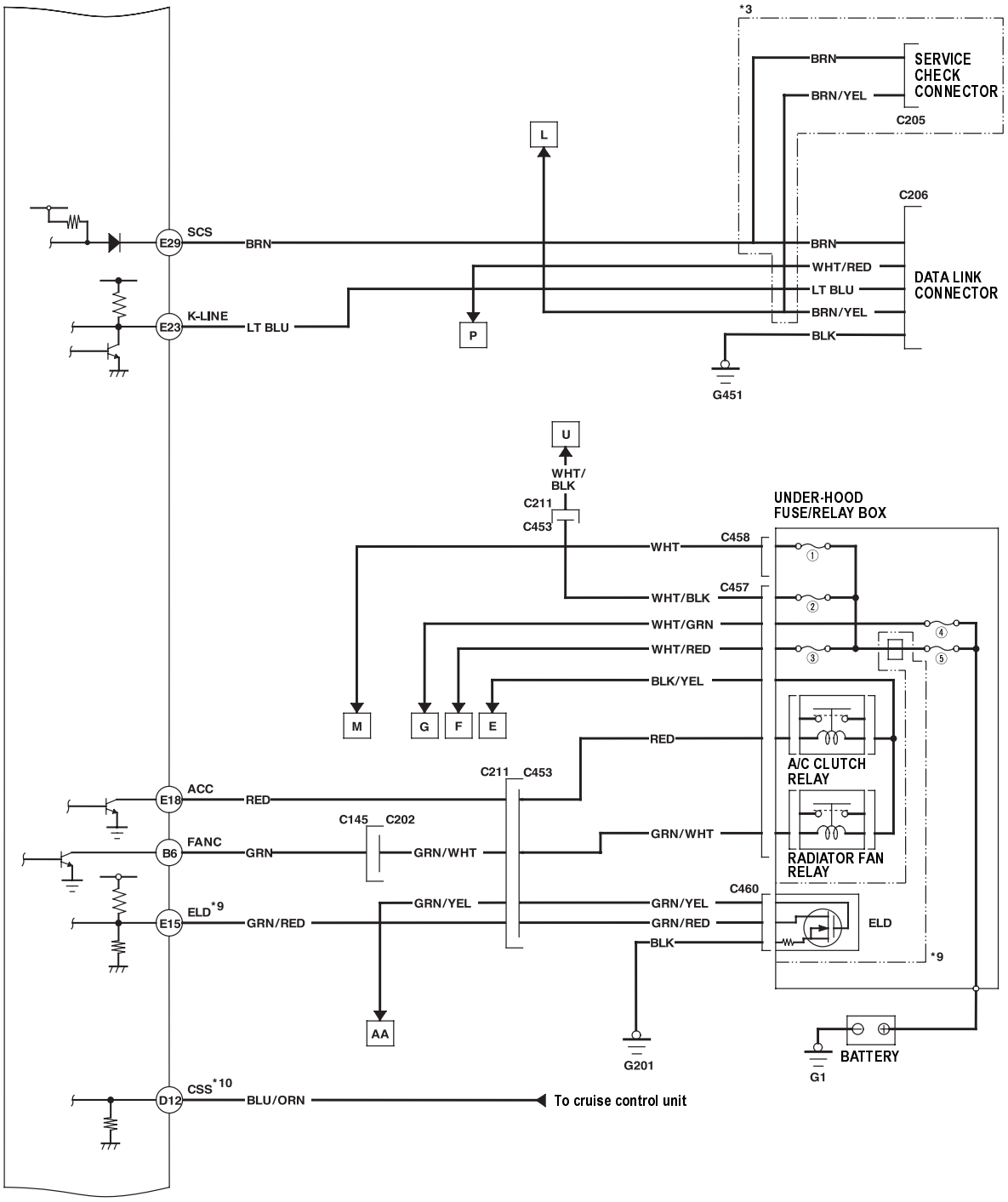


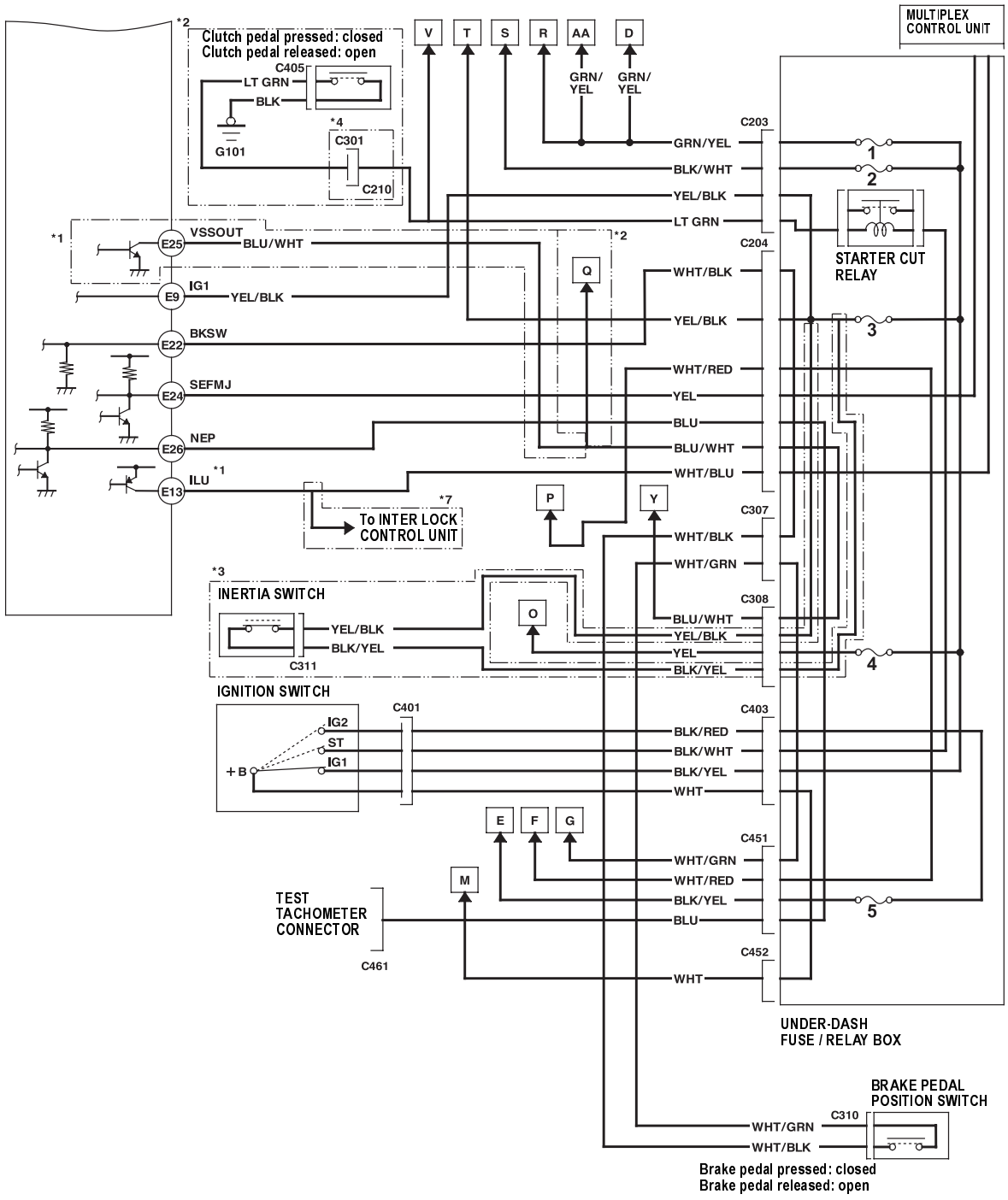

A6
PHO2S *12
RED
A1
PO2SHTC *12
BLK/WHT
C145 C202
WHT
BLK/RED
C211 C453
WHT
WHT/GRN
BLK/RED
GRN/YEL
C404
PRIMARY HO2S *12 (SENSOR 1)
BRN/YEL
E3
LG3
BRN/YEL
E2
SHO2S *11
RED/BLU
BRN/YEL
WHT/GRN
BLK/WHT
GRN/YEL
BRN/YEL
RED/BLU
WHT/GRN
BLK/WHT
GRN/YEL
C455
SECONDARY HO2S *11 (SENSOR 2)
E4
SG3
WHT/GRN
BRN/ YEL
L
D
E6
SO2SHTC *11
BLK/WHT
E16
PSPSW
LT GRN/BLK
C211 C453
LT GRN/BLK
BLK
C456
PSP SWITCH
G301
BARO SENSOR (Built into the ECM/PCM)
C305
BLU/WHT
CPU
YEL
C210 C301
C306
MIL
E31
MIL
GRN/WHT
GRN/WHT
GAUGE ASSEMBLY
O
Y
E5
VCC3 *8
YEL/BLU
YEL/BLU
ORN
WHT/GRN
C213
IMA *8
E15
IMA *8
ORN

(cont'd)

System Descriptions (cont'd)

ECM/PCM Circuit Diagram (cont'd)





UNDER-HOOD FUSE/RELAY BOX:

1 No. 20 IG (50A)
2 No. 6 ECU (ECM/PCM) (15A)
3 No. 9 BACK UP (10A)
4 No. 7 HORN, STOP (15A)
5 No. 19 BATTERY (100A)

UNDER-DASH FUSE/RELAY BOX:

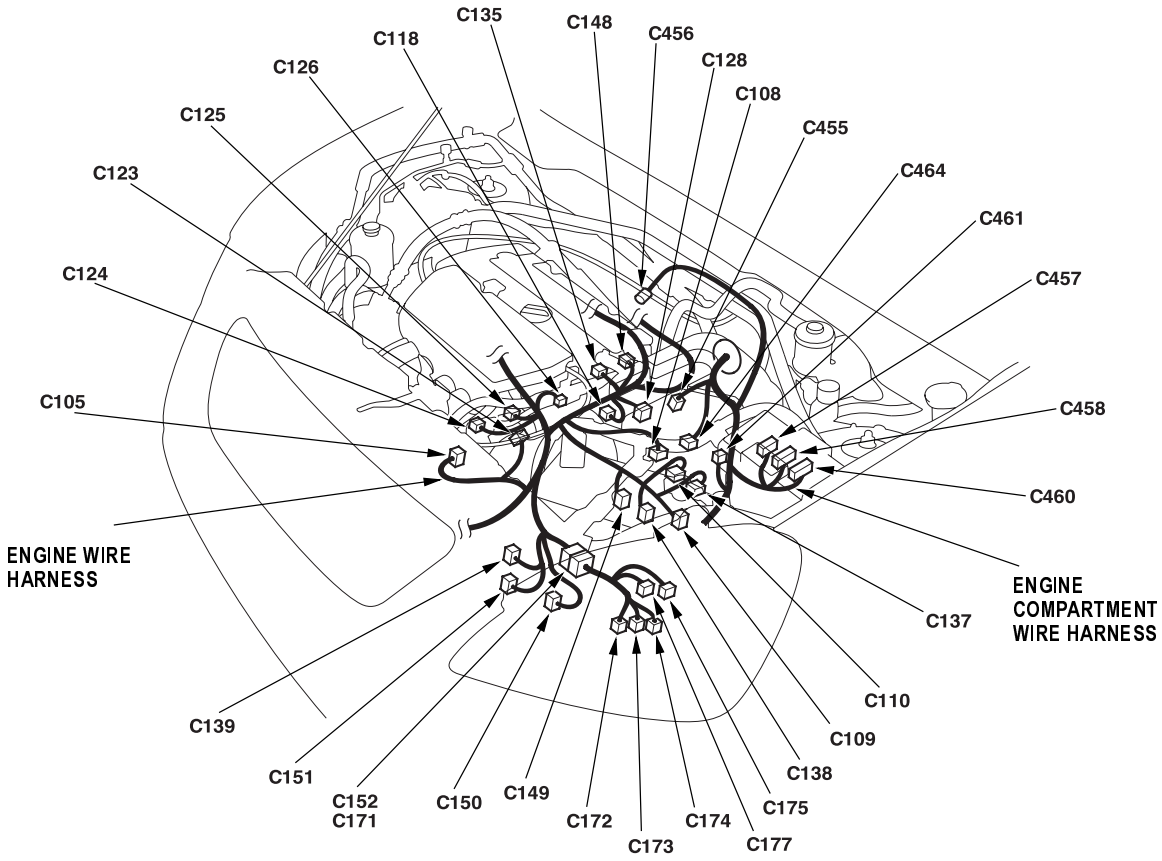
1 No. 4 ACG (10A)
2 No. 1 IGN COIL (15A)
3 No. 17 FUEL PUMP (15A)
4 No. 10 METER (7.5A)
5 No. 14 A/C CLUTCH RELAY (10A)

(cont'd)

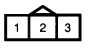
System Descriptions (cont'd)

ECM/PCM Circuit Diagram (cont'd)

LHD model:



C105

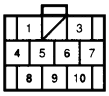


①	BLK
②	YEL/BLK
③	BLK/RED

C108 (M/T)

①	BLK
②	BLK/YEL
③	WHT/GRN

C109 (A/T)



①	BLU/WHT	⑥	RED/WHT
2	——	⑦	YEL
③	BLK	⑧	RED/BLK
④	BRN	⑨	WHT
⑤	GRN/RED	⑩	BLU/BLK

C110 (A/T)

①	YEL/RED
②	BLU
③	BRN/YEL

C118

①	RED/WHT
②	GRN/YEL

C123

①	YEL/BLU
②	RED/BLK
③	GRN/YEL

C124

①	BLK/YEL
②	YEL/BLU

C125

①	YEL/RED
②	GRN/RED
③	GRN/WHT

C126

①	GRN/YEL
②	RED/YEL

C128

①	BRN/YEL	⑨	BLK/YEL	⑰	BLK/WHT
②	BRN/YEL	⑩	BLK/YEL	⑱	YEL/BLK
③	BRN/YEL	⑪	BLK/YEL	⑲	YEL/BLK
④	BRN/YEL	⑫	BLK/YEL	⑳	YEL/BLK
⑤	BRN/YEL	⑬	BLK/WHT	㉑	YEL/BLK
⑥	BRN/YEL	⑭	BLK/WHT	㉒	YEL/BLK
⑦	BRN/YEL*	⑮	BLK/WHT	㉓	YEL/BLK
⑦	BLK/YEL	⑯	BLK/WHT	㉔	YEL/BLK
⑧	BLK/YEL				

* : A/T

C135

①	GRN
②	BRN/YEL
③	YEL/BLK

C137 (A/T)

①	YEL/BLU
②	WHT/RED
③	BRN/YEL

C138 (A/T)

①	RED/BLK
②	WHT/BLK

C139 (A/T)

①	BRN/WHT
②	BLK/RED

C148

①	BLU/WHT
②	BRN/YEL
③	BLK/YEL

C149 (A/T)

①	BLU/RED

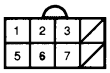
C150 (A/T)

①	BLU/WHT

C151 (A/T)

①	BLU/YEL
②	WHT/BLU

C152 (A/T)



①	GRN	⑤	BLU/BLK
②	GRN/WHT	⑥	RED/YEL
③	YEL	⑦	GRN/YEL
4	——	8	——

C172 (A/T)

①	WHT
②	WHT

C173 (A/T)

①	BLU

C174 (A/T)

①	ORN

C175 (A/T)

①	GRN

C177 (A/T)

①	RED

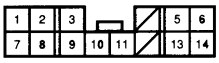
C455
(KG, KS, KR, FO models)

①	WHT/GRN
②	RED/BLU
③	BLK/WHT
④	GRN/YEL

C456

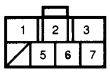
①	LT GRN/BLK
②	BLK

C457



1	ORN	⑧	BLK/YEL
2	BLU/RED	⑨	GRN/WHT
3	BLU/RED	⑩	RED
4	——	⑪	WHT/RED
5	WHT/BLU	12	——
⑥	WHT/BLK	13	BLK
⑦	WHT/GRN	14	WHT

C458



①	WHT
2	WHT/RED
3	BLU/WHT
4	——
5	BLK/YEL
6	WHT/BLK
7	YEL/BLK

C460
(KG, KS, KR, FO, KK, KM, models)

①	GRN/YEL
②	BLK
③	GRN/RED

C461

1	——
②	BLU

C464
(with TWC model)

①	WHT
②	WHT/GRN
③	GRN/YEL
④	BLK/RED

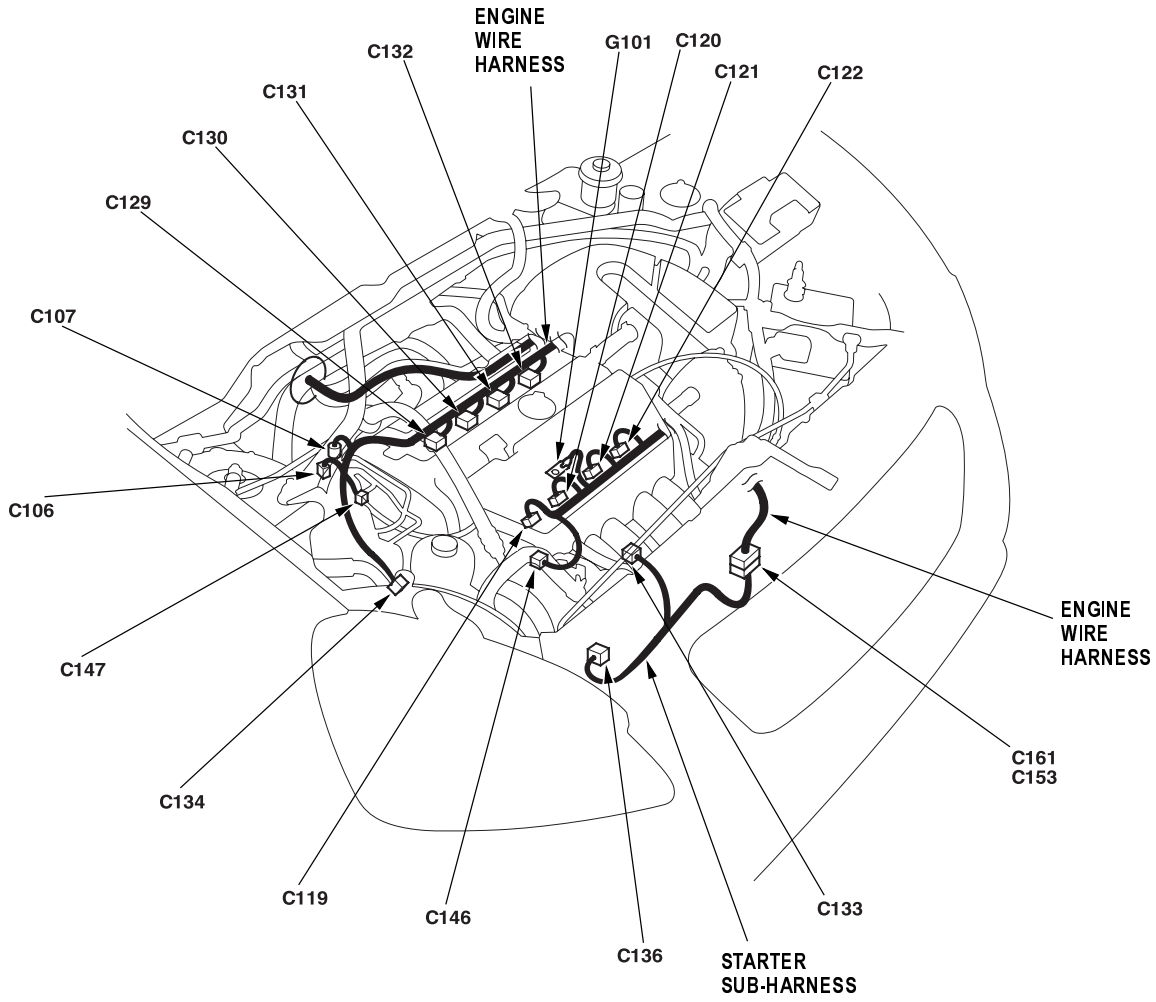
Note:
- Connector with male terminals (double outline): View from terminal side
- Connector with female terminals (single outline): View from wire side
- O : Related to ECM/PCM control

(cont'd)

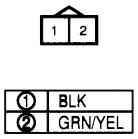
System Descriptions (cont'd)

ECM/PCM Circuit Diagram (cont'd)

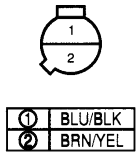
LHD model:



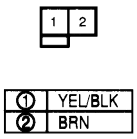
C106



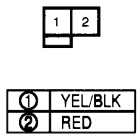
C107



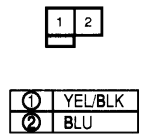
C119



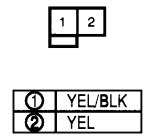
C120



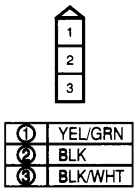
C121



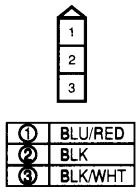
C122



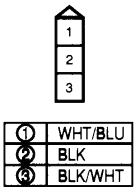
C129



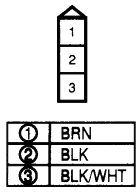
C130



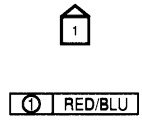
C131



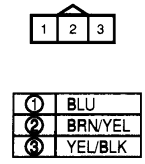
C132



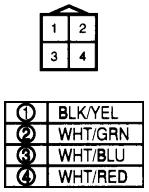
C133



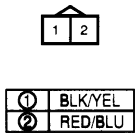
C134



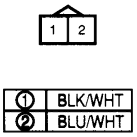
C136



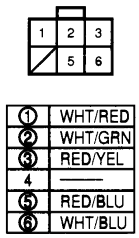
C146



C147



C153



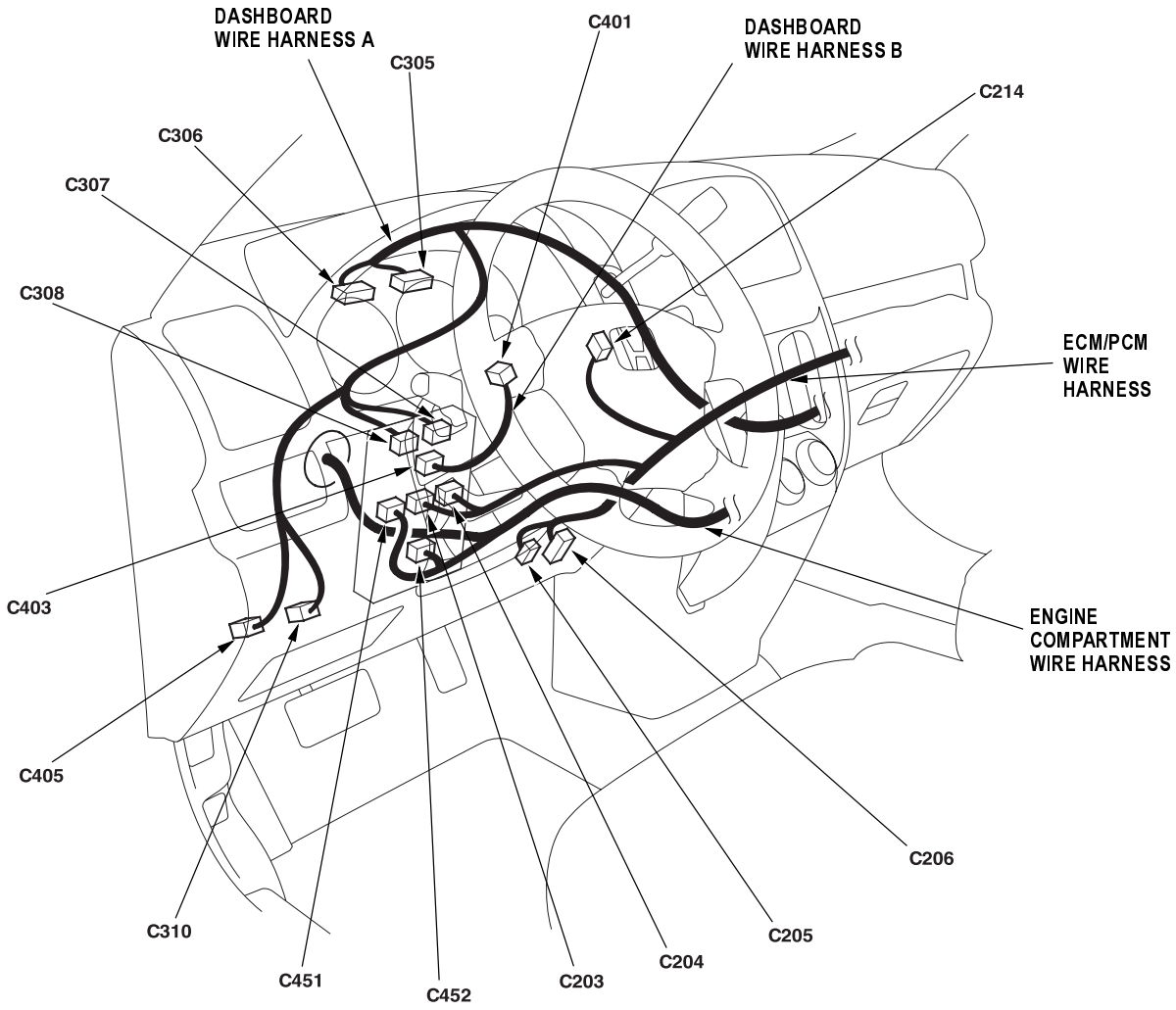
Note:
- Connector with male terminals (double outline): View from terminal side
- Connector with female terminals (single outline): View from wire side
- O : Related to ECM/PCM control

(cont'd)

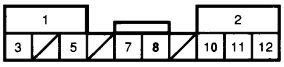
System Descriptions (cont'd)

ECM/PCM Circuit Diagram (cont'd)

LHD model:



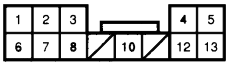
C203



1	BLK/WHT	⑦	LT GRN
2	GRN/WHT	8	GRN/BLK
③	GRN/YEL	9	——
4	——	10	BLU/BLK *1
⑤	BLK/WHT	11	YEL
6	——	⑫	YEL/BLK

*1: A/T

C204



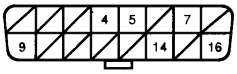
1	GRY	8	WHT *2
2	YEL/RED *1	9	——
③	WHT/BLK	⑩	YEL
④	BLU/WHT	11	——
⑤	BLU	⑫	WHT/RED
⑥	YEL/BLK	⑬	WHT/BLU *1
7	BRN		

*1: A/T
*2: KG, KS, KR, KH, KY, FO, KK, KM models

C205
(KG, KR, KB, KS models)

①	BRN
②	BRN/YEL

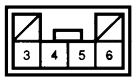
C206 *



1	——	⑨	BRN *1
2	——	10	——
3	——	11	——
④	BLK	12	——
⑤	BRN/YEL	13	——
6	——	14	GRY
⑦	LT BLU	15	——
8	——	⑯	WHT/RED

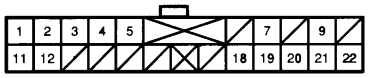
*1: execpt KG, KR, KS models

C214 (A/T)



1	——	
2	——	
3	YEL/BLK	
4	YEL/RED	
⑤	BLK	
⑥	GRN	

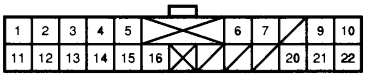
C305



1	GRY/RED	9	WHT *2	16	——
2	YEL/BLK	10	——	17	——
3	BLK	11	RED/WHT *2	⑱	YEL
④	BLU/WHT	11	BLU/YEL	19	WHT/RED
5	BLU	12	BLU/YEL	20	PNK/BLU
6	——	13	——	21	WHT/BLU *3
7	PNK *1	14	——	22	WHT/BLK *3
8	——	15	——		

*1: with outside air temperature sensor
*2: with rear fog fight
*3: KK, KM, KP models

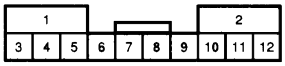
C306



1	RED/YEL	9	YEL/RED	17	——
②	BLU/BLK *1	10	WHT/RED	18	——
③	BLK/RED *1	11	GRN/RED	19	——
④	WHT *1	12	GRN/YEL	⑳	GRN/WHT
5	LT GRN/BLK *1	13	BLU/RED	21	BLK/YEL
6	RED	14	RED/BLU	22	BLU/ORN *2
7	RED/BLK	15	BLK		
8	——	16	PNK		

*1: A/T
*2: KG, KS, KR, KH, KY, FO, KK, KM models

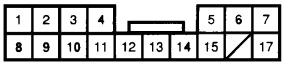
C307



1	RED/YEL *1	7	GRN/RED
2	GRN	8	RED/BLK
3	GRN/YEL *2	9	BLU/YEL *2
4	WHT/BLU	10	RED
⑤	WHT/BLK	11	BLU/WHT *2
6	YEL/GRN	⑫	WHT/GRN

*1: with headlight washer
*2: with cruise control

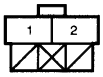
C308



1	BLU	10	GRY/RED
2	BLU/ORN	11	RED/BLK *2
3	WHT/RED	⑫	YEL/BLK *3
4	WHT/RED	13	WHT/RED
5	BLU/YEL *1	⑭	BLK/YEL *3
6	YEL	15	RED/WHT *4
⑦	YEL	16	——
⑧	BLU/WHT	17	RED *5
9	BLU/WHT		

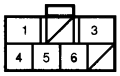
*1: with cruise control
*2: KG with NAVI
*3: KG, KR, KS models
*4: with rear fog light
*5: with seat heater

C310



①	WHT/GRN
②	WHT/BLK
3	——
4	——

C401



①	BLK/WHT
2	——
③	WHT
④	BLK/RED
5	WHT/RED
⑥	BLK/YEL
7	——

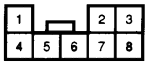
C403

①	WHT
2	WHT/RED
③	BLK/WHT
④	BLK/RED
⑤	BLK/YEL

C405 (M/T)

①	LT GRN
②	BLK

C451



①	BLK/YEL
②	WHT/RED
③	WHT/GRN
4	BLK
⑤	BLU
6	ORN
7	WHT
8	WHT/BLU

C452

①	WHT
②	WHT/RED
3	WHT/BLK

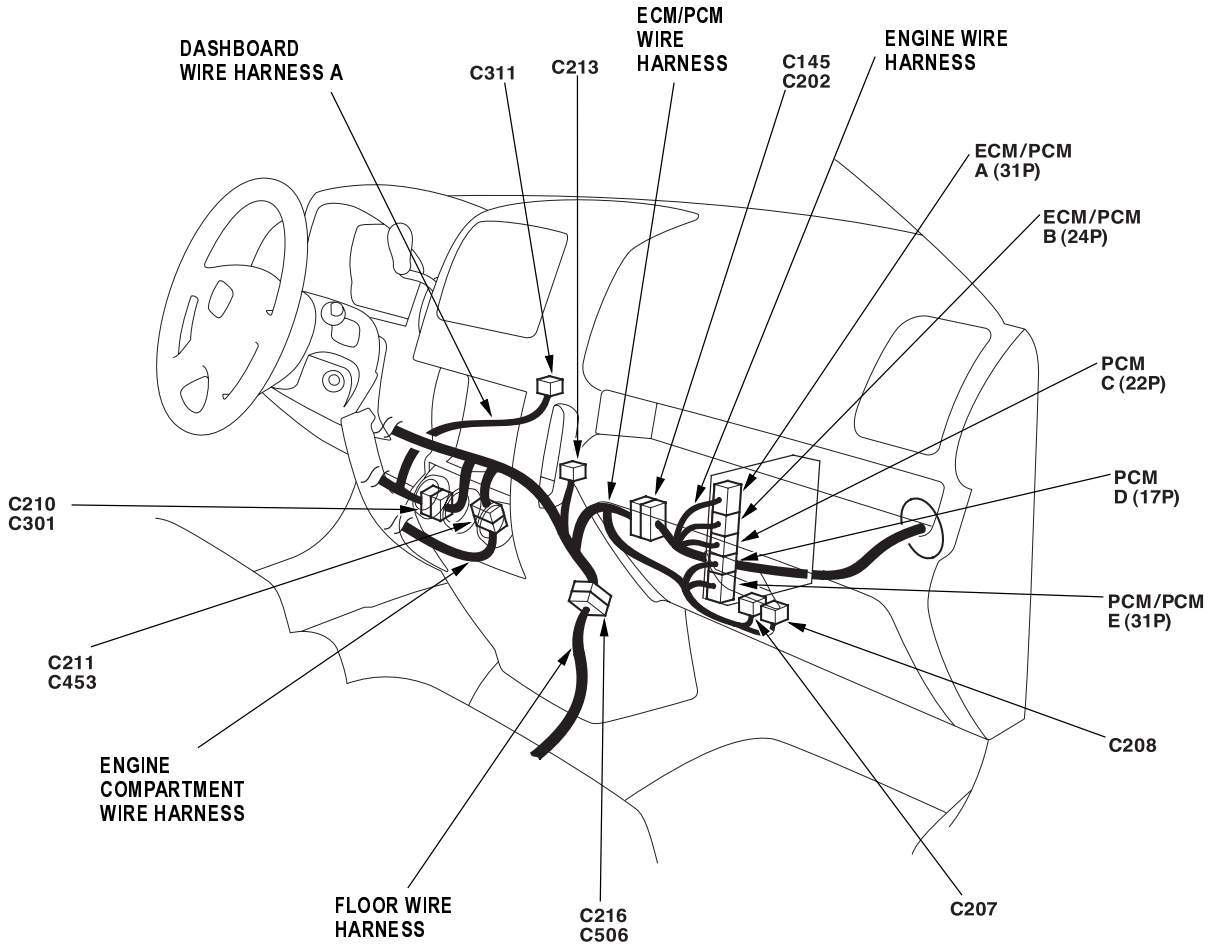
Note:
- Connector with male terminals (double outline): View from terminal side
- Connector with female terminals (single outline): View from wire side
- O : Related to ECM/PCM control
- * : Terminal side of female terminals

(cont'd)

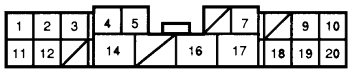
System Descriptions (cont'd)

ECM/PCM Circuit Diagram (cont'd)

LHD model:



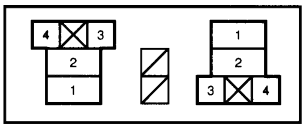
C145



①	BLU/BLK *1	④	GRN/RED *1	⑩	BLK/WHT	16	BLK/WHT
1	GRN/WHT *2	⑤	BRN *1	⑪	WHT *1	17	RED/WHT *3
②	RED/BLK *1	6	——	⑫	YEL *1	18	YEL/RED
2	YEL *2	⑦	GRN	13	——	⑲	WHT
③	BLU/WHT *1	8	——	⑭	YEL/BLK	⑳	BLK/WHT
④	WHT/GRN *2	⑨	BLK/YEL	15	——		

*1: A/T
*2: M/T
*3: with climate control

C207 **C208**



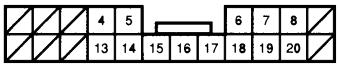
①	YEL/BLK
②	YEL/GRN
③	GRN/YEL
④	YEL/BLK

①	YEL/BLK
②	WHT/BLK
③	RED/YEL
④	WHT/BLK

C213
(without TWC model)

①	YEL/BLU
②	ORN
③	WHT/GRN

C301



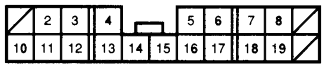
1	——	8	RED/YEL *3	15	YEL/RED
2	——	9	——	⑯	GRN/WHT
3	——	10	——	⑰	BLU/BLK *4
4	WHT/GRN *1	11	——	18	LT GRN/BLK *4
5	BLU/ORN *1	12	——	⑲	LT GRN *4
6	BRN/YEL *2	⑬	BLK/RED *4	20	RED/WHT *5
7	YEL/BLK *2	⑭	WHT *4	21	——

*1: with cruise control
*2: KG, KS, KR, KH, KY, FO, KK, KM models
*3: KH, PH models
*4: A/T
*5: with climate control

C311
(KG, KR, KS models)

①	BLK/YEL
2	——
③	YEL/BLK

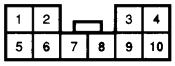
C453



1	——	⑧	GRN/RED *4	⑮	WHT/GRN *5
②	WHT *1	9	——	⑯	GRN/YEL *5
③	BRN/YEL *1	10	BLK/RED	⑰	RED/BLU *5
4	BLK/YEL *2	⑪	BLK/RED *1	⑱	BRN/YEL *5
5	YEL *3	⑫	WHT/BLK	⑲	BLK/WHT *5
⑥	LT GRN/BLK	⑬	RED	20	——
⑦	GRN/YEL *4	⑭	GRN/WHT		

*1: with TWC model
*2: with seat heater
*3: with ABS
*4: KG, KS, KR, FO, KK, KM models
*5: KG, KS, KR, FO models

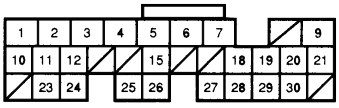
C506



1	GRN/YEL	6	YEL/BLK
②	YEL/GRN	7	YEL
3	GRY *1	8	YEL/BLU
4	BLK/YEL	9	YEL/RED
5	GRN/RED	10	RED/BLK *1

*1: with seat heater

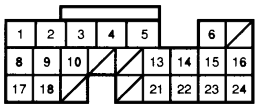
ECM/PCM A (31P)



①	BLK/WHT	⑨	RED/BLU	17	——	㉕	BLU/WHT
②	YEL/BLK	⑩	GRN/YEL	⑱	WHT/GRN *1	㉖	GRN
③	YEL/BLK	⑪	GRN/WHT	⑲	GRN/RED	㉗	BRN
④	BLK	⑫	BLK/RED	⑳	YEL/BLU	㉘	WHT/BLU
⑤	BLK	13	——	㉑	YEL/RED	㉙	BLU/RED
⑥	RED	14	——	22	——	㉚	YEL/GRN
⑦	BLU	⑮	RED/BLK	㉓	BRN/YEL	31	——
8	——	16	——	㉔	BRN/YEL		

*1: M/T

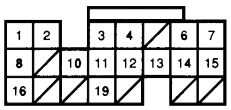
ECM/PCM B (24P)



①	BLU/WHT *2	⑨	BLU/BLK	⑰	RED/YEL
②	YEL	⑩	WHT/BLU	⑱	WHT/GRN
③	BLU	11	——	19	——
④	RED	12	——	20	——
⑤	BRN	⑬	WHT/RED	㉑	YEL/BLU
⑥	GRN	⑭	RED/BLK *1	㉒	RED/BLU
7	——	⑮	GRN/YEL	㉓	BLK/WHT
⑧	RED/WHT	⑯	BRN/WHT *1	㉔	BLU/YEL *1

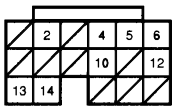
*1: A/T
*2: KG model

PCM C (22P) (A/T)



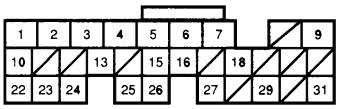
①	WHT/BLK	⑫	RED/WHT
②	GRN	⑬	BLU/RED
③	YEL	⑭	RED/YEL
④	GRN/WHT	⑮	BLU
5	——	⑯	WHT/BLU
⑥	BLU/BLK	17	——
⑦	WHT/RED	18	——
⑧	BLK/RED	⑲	BRN
9	——	20	——
⑩	BLU/WHT	21	——
⑪	GRN/RED	22	——

PCM D (17P) (A/T)



1	——	⑩	WHT/GRN
②	GRN	11	——
3	——	⑫	BLU/ORN
④	BLK/RED	⑬	BLU/WHT
⑤	WHT	⑭	BLU/YEL
⑥	BLU/BLK	15	——
7	——	16	——
8	——	17	——
9	——		

ECM/PCM E (31P)



①	GRN/YEL *1	⑨	YEL/BLK	⑯	LT GRN/BLK	㉔	YEL
②	RED/BLU *2	⑩	GRN/YEL *4	17	——	㉕	BLU/WHT *5
③	BRN/YEL	11	——	⑱	RED	㉖	BLU
④	WHT/GRN	12	——	19	——	㉗	WHT *1
⑤	YEL/BLU *3	⑬	WHT/BLU *5	20	——	28	——
⑥	BLK/WHT *2	14	——	21	——	㉙	BRN
⑦	RED/YEL	⑮	GRN/RED *6	㉒	WHT/BLK	30	——
8	——	⑮	ORN *3	㉓	LT BLU	㉛	GRN/WHT

*1: KG, KS, KR, KH, KY, FO, KK, KM models
*2: KG, KS, KR, FO models
*3: without TWC model
*4: except KG, KS, KR, KH, KY FO, KK, KM models
*5: A/T
*6: KG, KS, KR, FO, KK, KM models

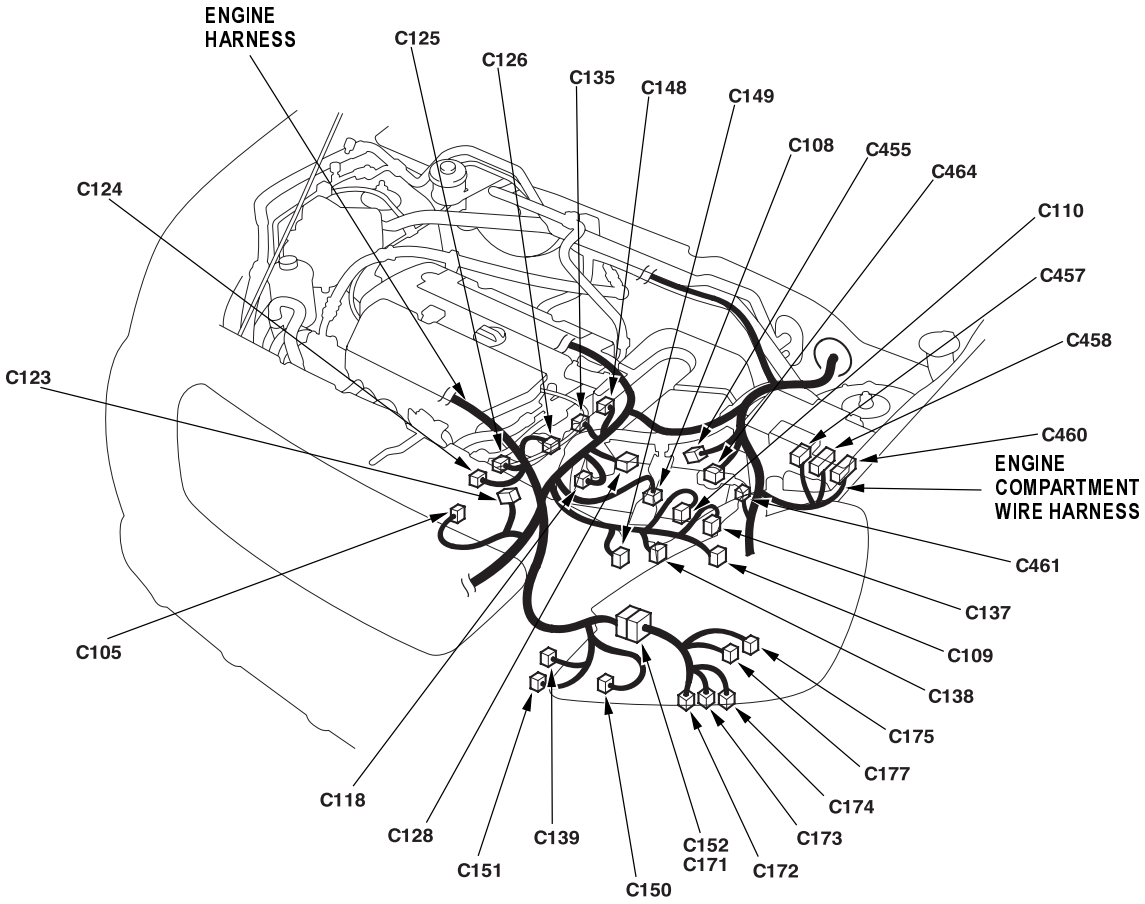
Note: · Connector with male terminals (double outline): View from terminal side
· Connector with female terminals (single outline): View from wire side
· O : Related to ECM/PCM control

(cont'd)

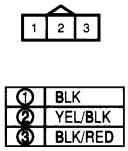
System Descriptions (cont'd)

ECM/PCM Circuit Diagram (cont'd)

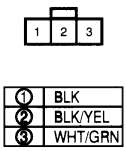
RHD model:



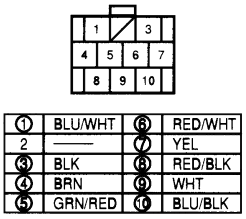
C105



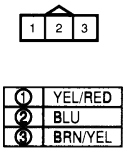
C108 (M/T)



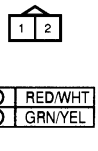
C109 (A/T)



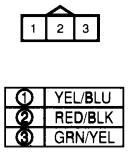
C110 (A/T)



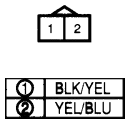
C118



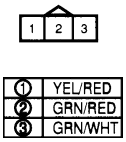
C123



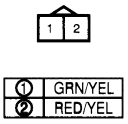
C124



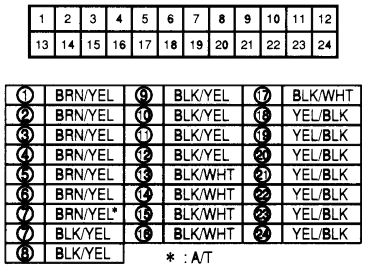
C125



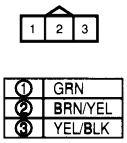
C126



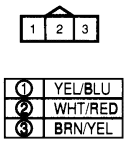
C128



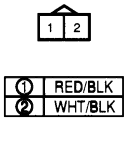
C135



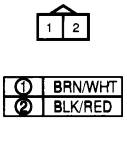
C137 (A/T)



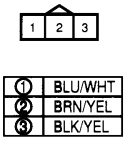
C138 (A/T)



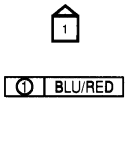
C139 (A/T)



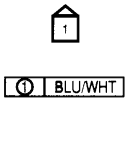
C148



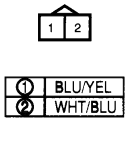
C149 (A/T)



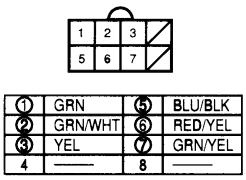
C150 (A/T)



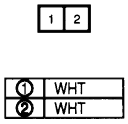
C151 (A/T)



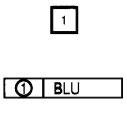
C152 (A/T)



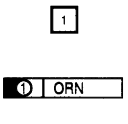
C172 (A/T)



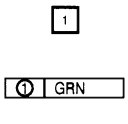
C173 (A/T)



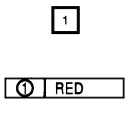
C174 (A/T)



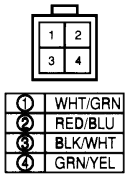
C175 (A/T)



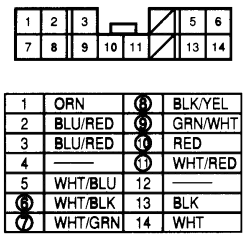
C177 (A/T)



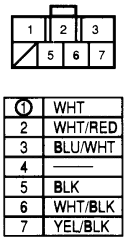
C455
(KE, KU, KZ, KQ models)



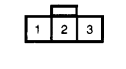
C457



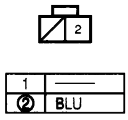
C458



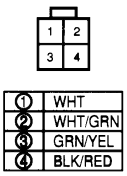
C460
(KE, KU, KZ, KQ models)



C461



C464
(with TWC model)



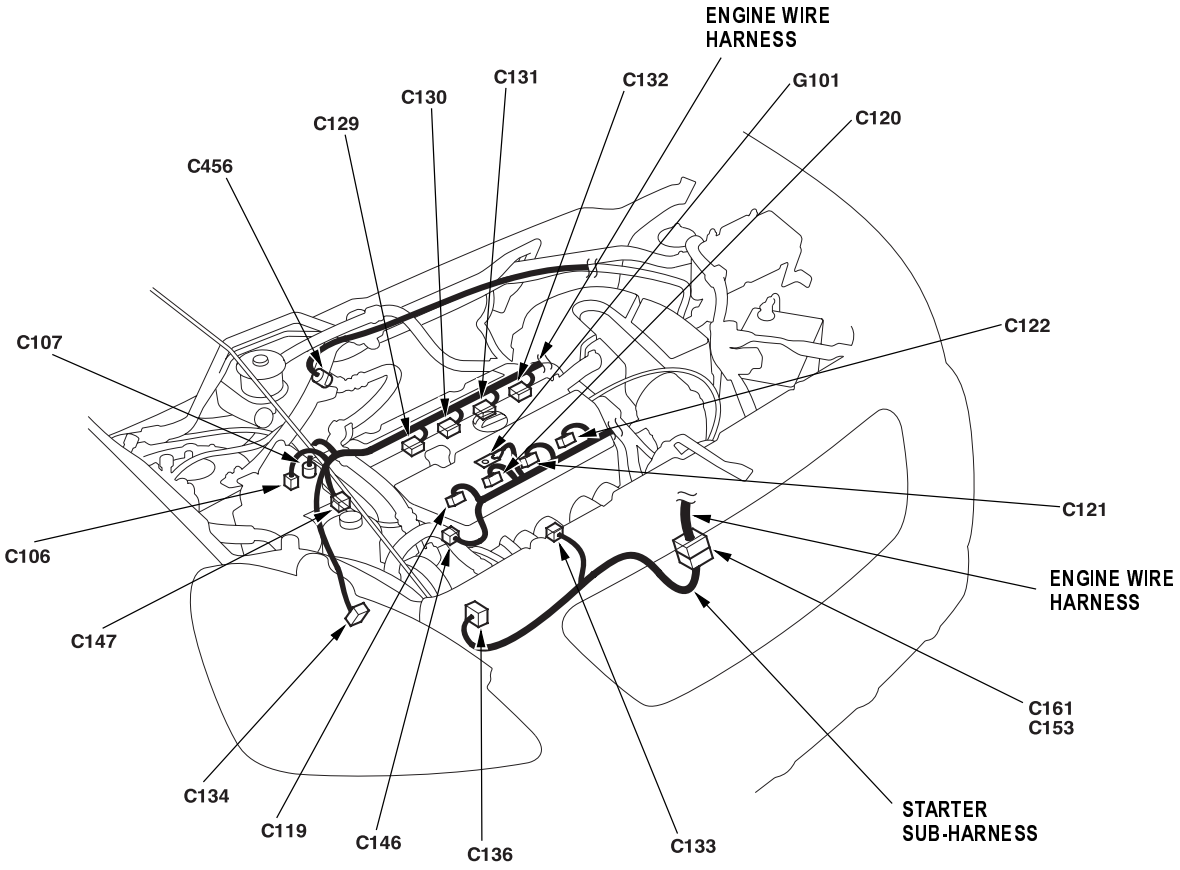
Note: · Connector with male terminals (double outline): View from terminal side
· Connector with female terminals (single outline): View from wire side
· O : Related to ECM/PCM control

(cont'd)

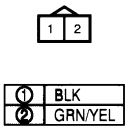
System Descriptions (cont'd)

ECM/PCM Circuit Diagram (cont'd)

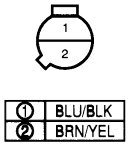
RHD model:



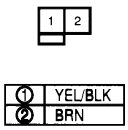
C106



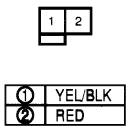
C107



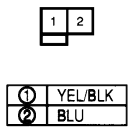
C119



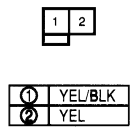
C120



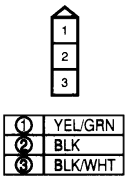
C121



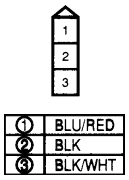
C122



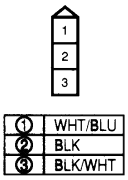
C129



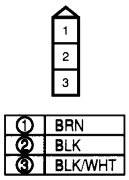
C130



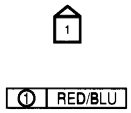
C131



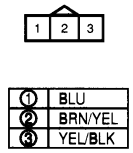
C132



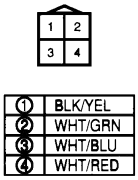
C133



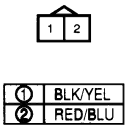
C134



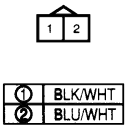
C136



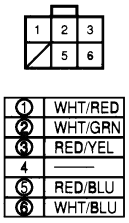
C146



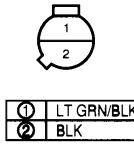
C147



C153



C456



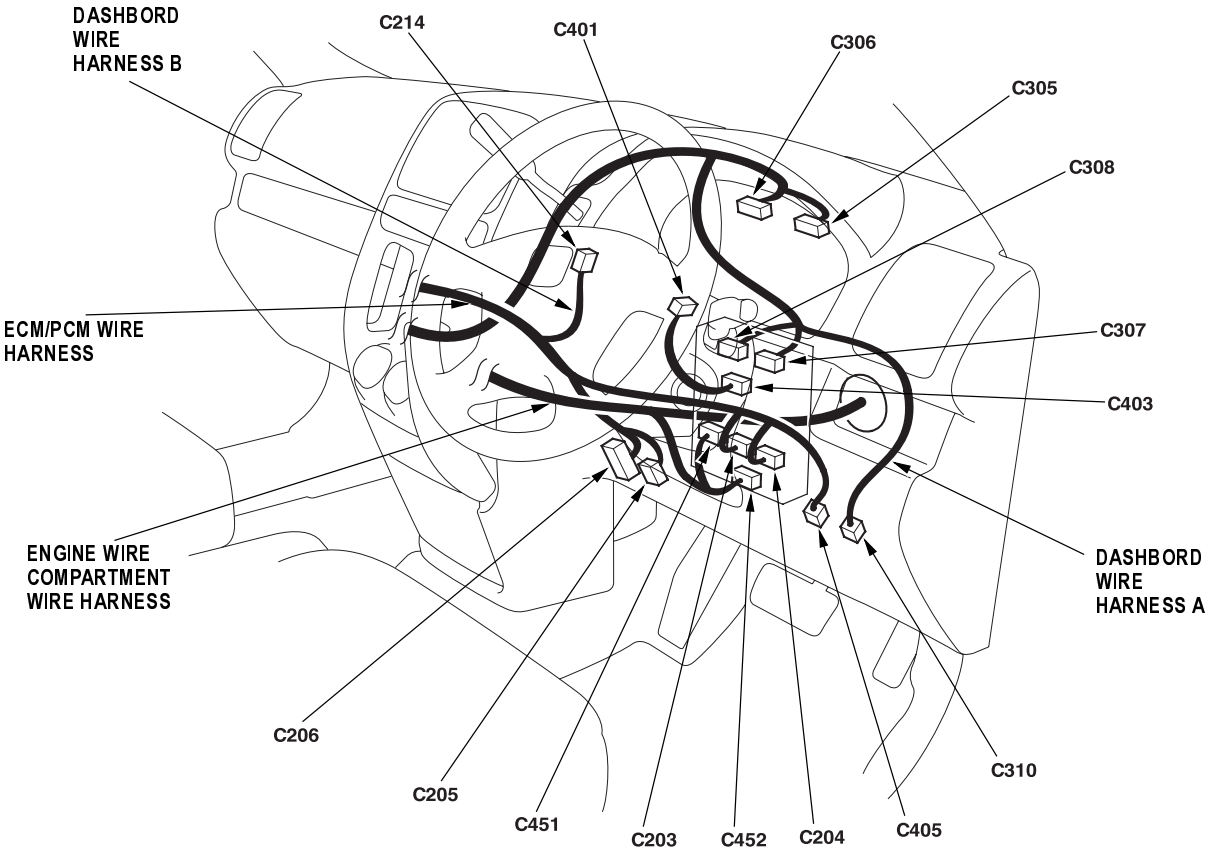
Note: · Connector with male terminals (double outline): View from terminal side
· Connector with female terminals (single outline): View from wire side
· O : Related to ECM/PCM control

(cont'd)

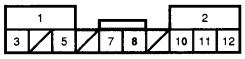
System Descriptions (cont'd)

ECM/PCM Circuit Diagram (cont'd)

RHD model:

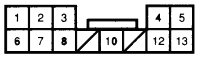


C203



1	BLK/WHT	⑦	LT GRN
2	GRN/WHT	8	GRN/BLK
③	GRN/YEL	9	——
4	——	10	BLU/BLK *1
⑤	BLK/WHT	11	YEL
6	——	⑫	YEL/BLK

C204



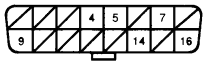
1	GRY	8	WHT *2
2	YEL/RED *1	9	——
③	WHT/BLK	⑩	YEL
④	BLU/WHT	11	——
⑤	BLU	⑫	WHT/RED
⑥	YEL/BLK	⑬	WHT/BLU *1
7	BRN		

*1: A/T
*2: KE, KU, KN, KZ, KQ models

C205
(KE models)

①	BRN
②	BRN/YEL

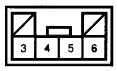
C206*



1	——	⑨	BRN *1
2	——	10	——
3	——	11	——
④	BLK	12	——
⑤	BRN/YEL	13	——
6	——	14	GRY
⑦	LT BLU	15	——
8	——	⑯	WHT/RED

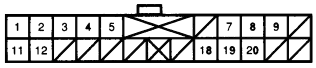
*1: except KE model

C214 (A/T)



1	——		
2	——		
3	YEL/BLK		
4	YEL/RED		
⑤	BLK		
⑥	GRN		

C305



1	GRY/RED	9	WHT*2	16	——
2	YEL/BLK	10	——	17	——
3	BLK	11	RED/WHT*2	⑱	YEL
④	BLU/WHT	11	BLU/YEL	19	WHT/RED
5	BLU	12	BLU/YEL	20	PNK/BLU
6	——	13	——	21	——
7	PNK *1	14	——	22	——
8	GRY *3	15	——		

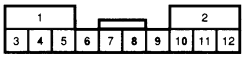
*1: with outside air temperature sensor
*2: with rear fog light
*3: with climate control

C306

1	RED/YEL	9	YEL/RED	17	——
②	BLU/BLK *1	10	WHT/RED	18	——
③	BLK/RED *1	11	GRN/RED	19	——
④	WHT *1	12	GRN/YEL	⑳	GRN/WHT
5	LT GRN/BLK *1	13	BLU/RED	21	BLK/YEL
6	RED	14	RED/BLU	22	BLU/ORN*2
7	RED/BLK	15	BLK		
8	——	16	PNK		

*1: A/T
*2: KE, KU, KN, KZ, KQ models

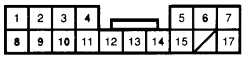
C307



1	RED/YEL *1	7	GRN/RED
2	GRN	8	RED/BLK
3	GRN/YEL *2	9	BLU/YEL *2
4	WHT/BLU	10	RED
⑤	WHT/BLK	11	BLU/WHT*2
6	YEL/GRN	⑫	WHT/GRN

*1: with headlight washer
*2: with cruise control

C308



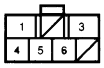
1	BLU	10	GRY/RED
2	BLU/ORN	11	RED/BLK *2
3	WHT/RED	⑫	YEL/BLK *3
4	WHT/RED	13	WHT/RED
5	BLU/YEL *1	⑭	BLK/YEL *3
6	YEL	15	RED/WHT*4
⑦	YEL	16	——
⑧	BLU/WHT	17	RED *5
9	BLU/WHT		

*1: with cruise control
*2: KE with NAVI
*3: KE models
*4: with rear fog light
*5: with seat heater

C310

①	WHT/GRN
②	WHT/BLK
3	——
4	——

C401



①	BLK/WHT
2	——
③	WHT
④	BLK/RED
5	WHT/RED
⑥	BLK/YEL
7	——

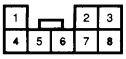
C403

①	WHT
2	WHT/RED
③	BLK/WHT
④	BLK/RED
⑤	BLK/YEL

C405 (M/T)

①	LT GRN
②	BLK

C451



①	BLK/YEL
②	WHT/RED
③	WHT/GRN
4	BLK
⑤	BLU
6	ORN
7	WHT
8	WHT/BLU

C452

①	WHT
②	WHT/RED
3	WHT/BLK

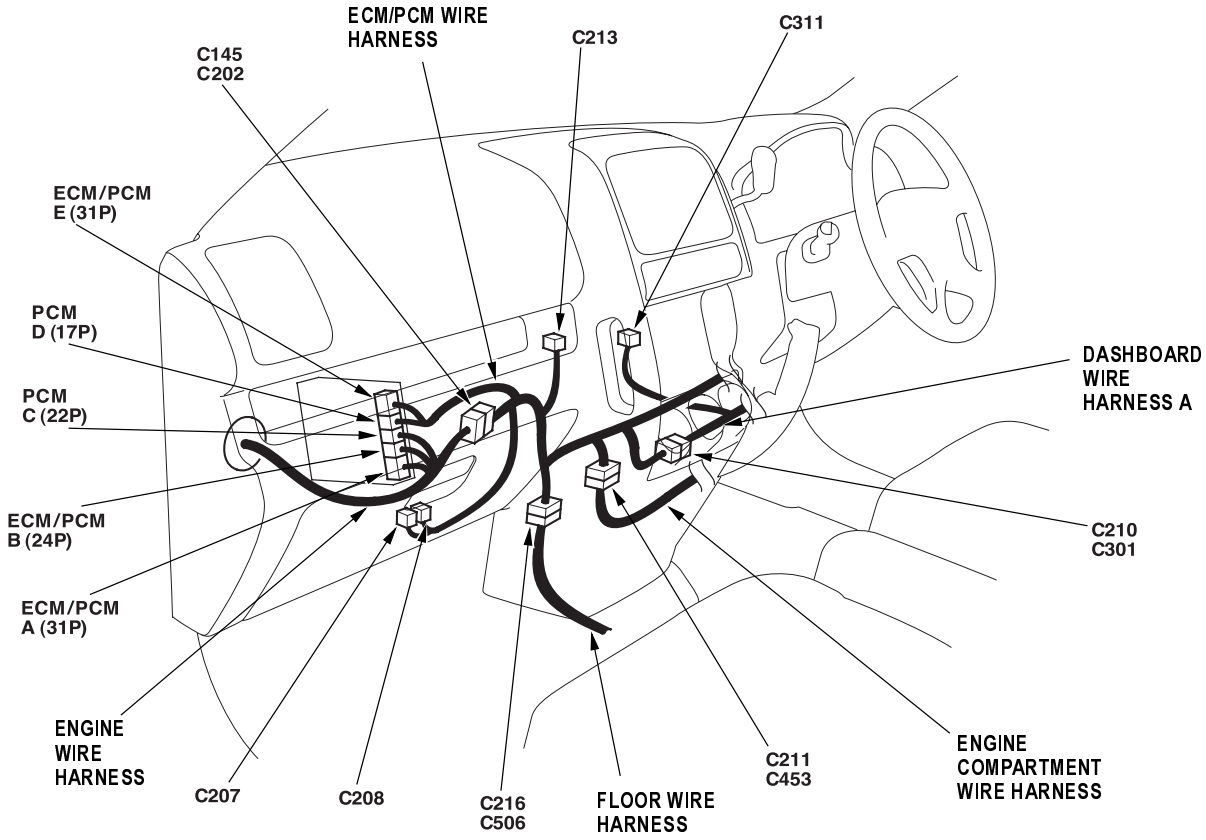
Note:
- Connector with male terminals (double outline): View from terminal side
- Connector with female terminals (single outline): View from wire side
- O : Related to ECM/PCM control
- * : Terminal side of female terminals

(cont'd)

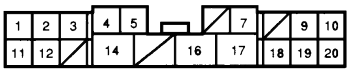
System Descriptions (cont'd)

ECM/PCM Circuit Diagram (cont'd)

RHD model:



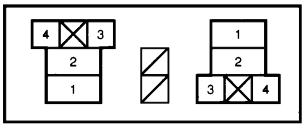
C145



①	BLU/BLK *1	④	GRN/RED *1	⑩	BLK/WHT	16	BLK/WHT
1	GRN/WHT *2	⑤	BRN *1	⑪	WHT *1	17	RED/WHT *3
②	RED/BLK *1	6	———	⑫	YEL *1	18	YEL/RED
2	YEL *2	⑦	GRN	13	———	⑲	WHT
③	BLU/WHT *1	8	———	⑭	YEL/BLK	⑳	BLK/WHT
④	WHT/GRN *2	⑨	BLK/YEL	15	———		

*1: A/T
*2: M/T
*3: with climate control

C207



①	YEL/BLK
②	YEL/GRN
③	GRN/YEL
④	YEL/BLK

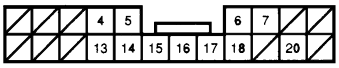
C208

①	YEL/BLK
②	WHT/BLK
③	RED/YEL
④	WHT/BLK

C213 (without TWC model)

①	YEL/BLU
②	ORN
③	WHT/GRN

C301



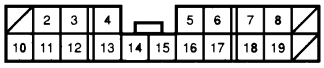
1	———	8	———	15	YEL/RED
2	———	9	———	⑯	GRN/WHT
3	———	10	———	⑰	BLU/BLK *3
4	WHT/GRN *1	11	———	18	LT GRN/BLK *3
5	BLU/ORN *1	12	———	19	———
6	BRN/YEL *2	⑬	BLK/RED *3	20	RED/WHT *4
7	YEL/BLK *2	⑭	WHT *3	21	———

*1: with cruise control
*2: KE, KU, KN, KZ, KQ models
*3: A/T
*4: with climate control

C311 (KE model)

①	BLK/YEL
2	———
③	YEL/BLK

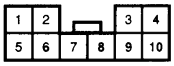
C453



1	———	⑧	GRN/RED *4	⑮	WHT/GRN *4
②	WHT *1	9	———	⑯	GRN/YEL *4
③	BRN/YEL *1	10	BLK/RED	⑰	RED/BLU *4
4	BLK/YEL *2	⑪	BLK/RED *1	⑱	BRN/YEL *4
5	YEL *3	⑫	WHT/BLK	⑲	BLK/WHT *4
⑥	LT GRN/BLK	⑬	RED	20	———
⑦	GRN/YEL *4	⑭	GRN/WHT		

*1: with TWC model
*2: with seat heater
*3: with ABS
*4: KE, KU, KZ, KQ models

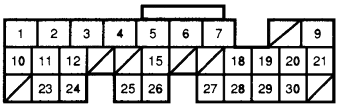
C506



1	GRN/YEL	6	YEL/BLK
②	YEL/GRN	7	YEL
3	GRY *1	8	YEL/BLU
4	BLK/YEL	9	YEL/RED
5	GRN/RED	10	RED/BLK *1

*1: with seat heater

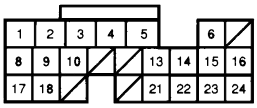
ECM/PCM A (31P)



①	BLK/WHT	⑨	RED/BLU	17	———	㉕	BLU/WHT
②	YEL/BLK	⑩	GRN/YEL	⑱	WHT/GRN *1	㉖	GRN
③	YEL/BLK	⑪	GRN/WHT	⑲	GRN/RED	㉗	BRN
④	BLK	⑫	BLK/RED	⑳	YEL/BLU	㉘	WHT/BLU
⑤	BLK	13	———	㉑	YEL/RED	㉙	BLU/RED
⑥	RED	14	———	22	———	㉚	YEL/GRN
⑦	BLU	⑮	RED/BLK	㉓	BRN/YEL	31	———
8	———	16	———	㉔	BRN/YEL		

*1: M/T

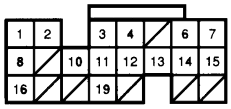
ECM/PCM B (24P)



①	BLU/WHT *2	⑨	BLU/BLK	⑰	RED/YEL
②	YEL	⑩	WHT/BLU	⑱	WHT/GRN
③	BLU	11	———	19	———
④	RED	12	———	20	———
⑤	BRN	⑬	WHT/RED	㉑	YEL/BLU
⑥	GRN	⑭	RED/BLK *1	㉒	RED/BLU
7	———	⑮	GRN/YEL	㉓	BLK/WHT
⑧	RED/WHT	⑯	BRN/WHT *1	㉔	BLU/YEL *1

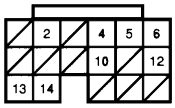
*1: A/T
*1: KE model

PCM C (22P) (A/T)



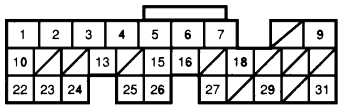
①	WHT/BLK	⑫	RED/WHT
②	GRN	⑬	BLU/RED
③	YEL	⑭	RED/YEL
④	GRN/WHT	⑮	BLU
5	———	⑯	WHT/BLU
⑥	BLU/BLK	17	———
⑦	WHT/RED	18	———
⑧	BLK/RED	⑲	BRN
9	———	20	———
⑩	BLU/WHT	21	———
⑪	GRN/RED	22	———

PCM D (17P) (A/T)



1	———	⑩	WHT/GRN
②	GRN	11	———
3	———	⑫	BLU/ORN
④	BLK/RED	⑬	BLU/WHT
⑤	WHT	⑭	BLU/YEL
⑥	BLU/BLK	15	———
7	———	16	———
8	———	17	———
9	———		

ECM/PCM E (31P)



①	GRN/YEL *1	⑨	YEL/BLK	⑯	LT GRN/BLK	㉔	YEL
②	RED/BLU *2	⑩	GRN/YEL *4	17	———	㉕	BLU/WHT *5
③	BRN/YEL	11	———	⑱	RED	㉖	BLU
④	WHT/GRN	12	———	19	———	㉗	WHT *1
⑤	YEL/BLU *3	⑬	WHT/BLU *5	20	———	28	———
⑥	BLK/WHT *2	14	———	21	———	㉙	BRN
⑦	RED/YEL	⑮	GRN/RED *2	㉒	WHT/BLK	30	———
8	———	⑮	ORN *3	㉓	LT BLU	㉛	GRN/WHT

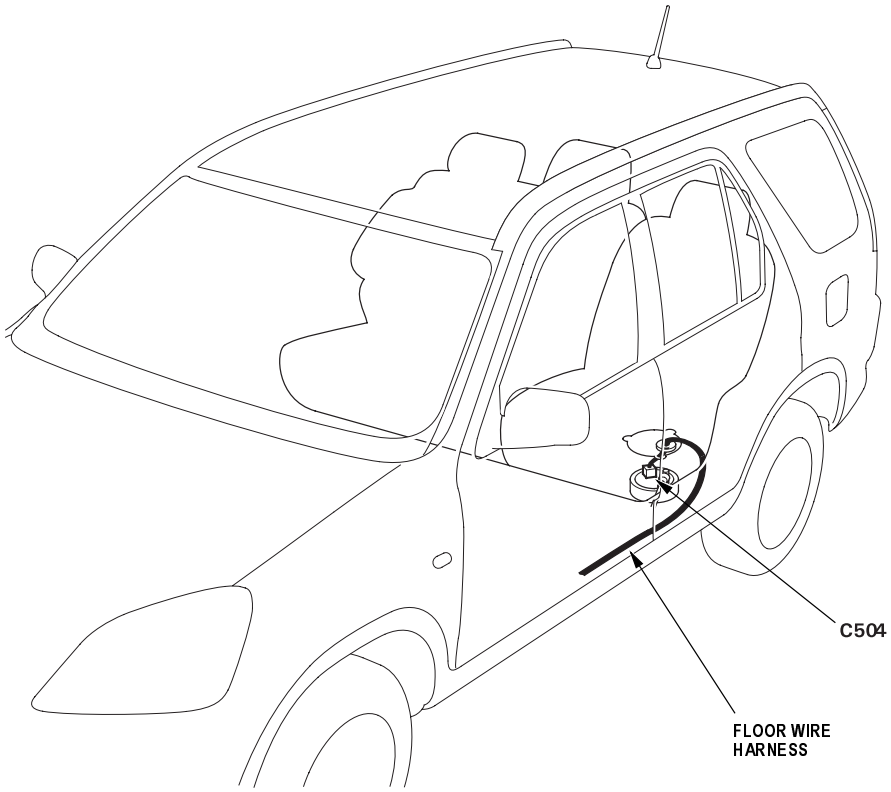
*1: KE, KU, KN, KZ, KQ models
*2: KE, KU, KZ, KQ models
*3: without TWC model
*4: except KE, KU, KN, KZ, KQ models
*5: A/T

Note: · Connector with male terminals (double outline): View from terminal side
· Connector with female terminals (single outline): View from wire side
· O : Related to ECM/PCM control

(cont'd)

System Descriptions (cont'd)

ECM/PCM Circuit Diagram (cont'd)



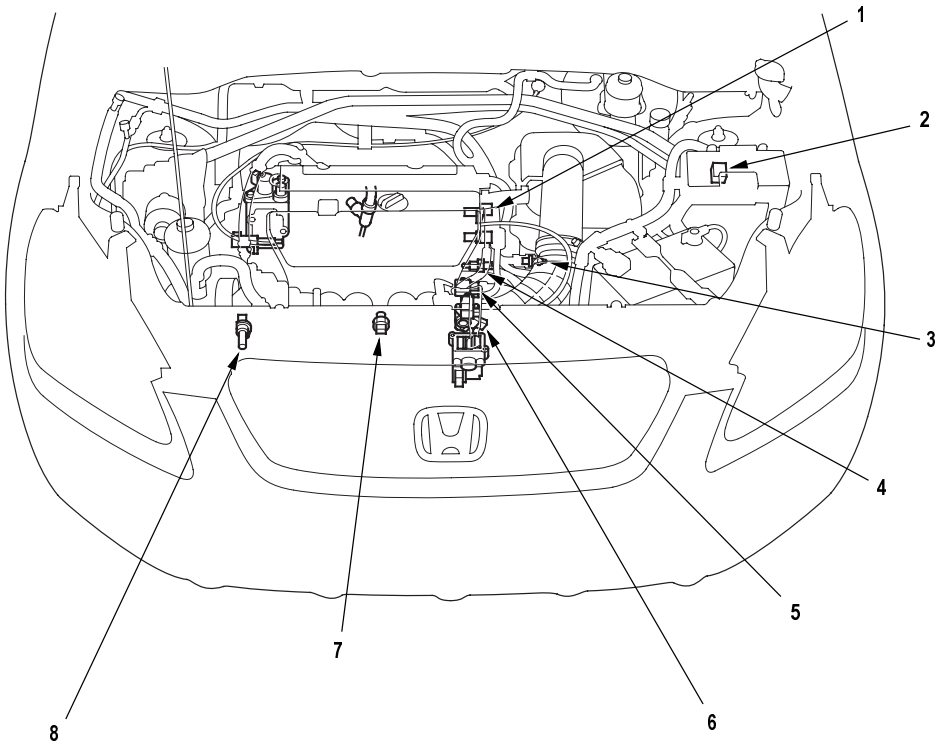
C504

1	BLK
2	YEL/BLK
3	——
④	BLK
⑤	YEL/GRN

Note: · Connector with male terminals (double outline): View from terminal side
· Connector with female terminals (single outline): View from wire side
· O : Related to ECM/PCM control

PGM-FI System

Component Location Index



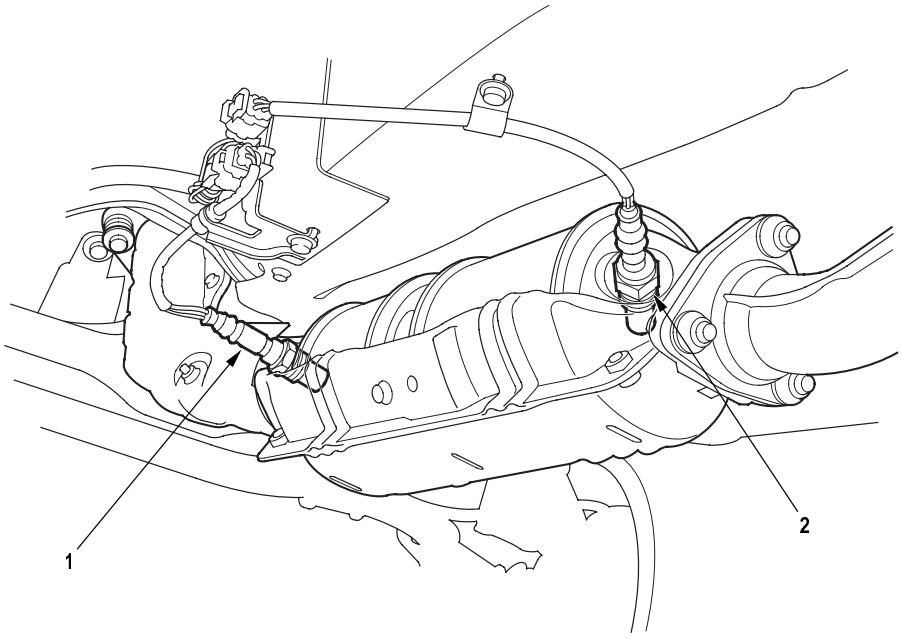
*: The illustration shows LHD model

1	TOP DEAD CENTER (TDC) SENSOR	Troubleshooting, page 11-100; Replacement, page 11-120
2	ELECTRICAL LOAD DETECTOR (ELD)	Troubleshooting, page 11-97
3	INTAKE AIR TEMPERATURE (IAT) SENSOR	Troubleshooting, page 11-64; Replacement, page 11-121
4	ENGINE COOLANT TEMPERATURE (ECT) SENSOR	Troubleshooting, page 11-66; Replacement, page 11-120
5	MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR	Troubleshooting, page 11-62
6	THROTTLE POSITION (TP) SENSOR	Troubleshooting, page 11-68
7	KNOCK SENSOR	Troubleshooting, page 11-87; Replacement, page 11-121
8	CRANKSHAFT POSITION (CKP) SENSOR	Troubleshooting, page 11-88; Replacement, page 11-119

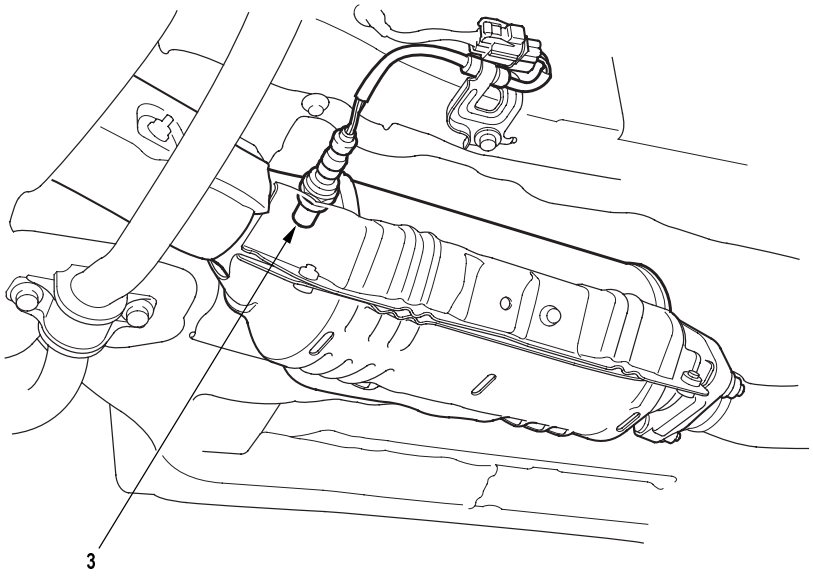
(cont'd)

Component Location Index (cont'd)

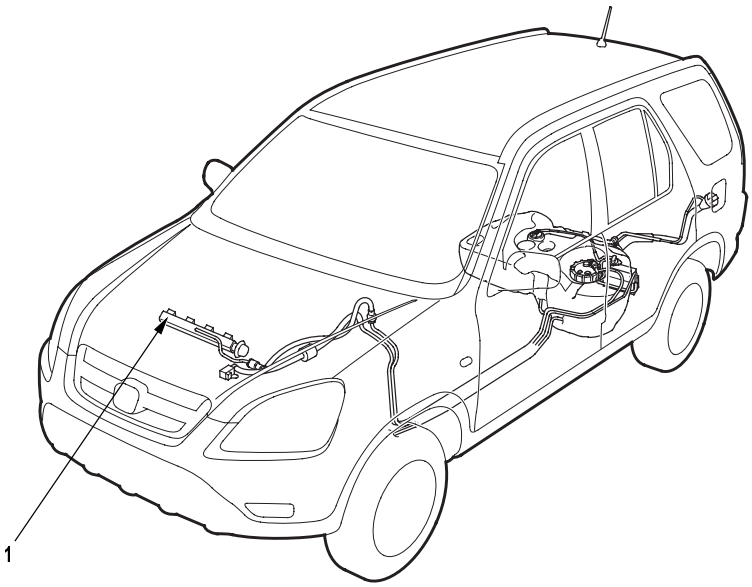
KG, KS, KE, KR, KU, KZ, FO, KQ models:



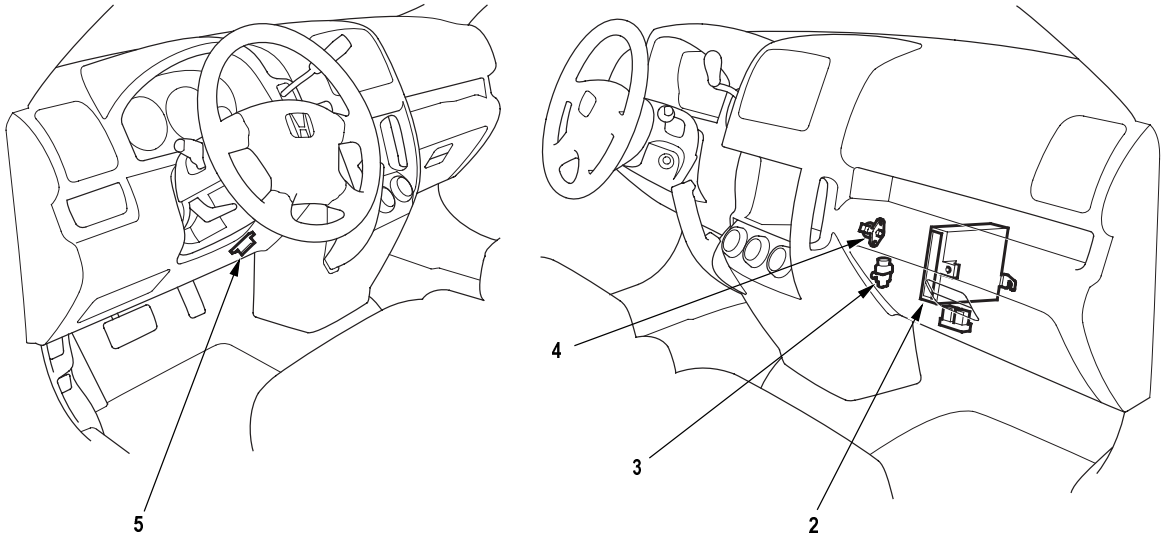
KN, KM, KY, MA, PH, IN, KK models:



1	PRIMARY HEATED OXYGEN SENSOR (PRIMARY HO2S) (SENSOR 1)	Troubleshooting, page 11-71; Replacement, page 11-119
2	SECONDARY HEATED OXYGEN SENSOR (SECONDARY H2OS) (SENSOR 2)	Troubleshooting, page 11-76; Replacement, page 11-122
3	HEATED OXYGEN SENSOR (HO2S)	Troubleshooting, page 11-71; Replacement, page 11-119



*: The illustration shows KG, KS, KE, KR models.



*: The illustration shows LHD model

1	INJECTORS	Test, page 11-116; Replacement, page 11-117
2	ENGINE CONTROL MODULE / POWERTRAIN CONTROL MODULE (ECM/PCM)	General Troubleshooting Information, page 11-3; Troubleshooting, page 11-101
3	INERTIA SWITCH	Troubleshooting, page 11-102
4	IDLE MIXTURE ADJUSTER (IMA)	Troubleshooting, page 11-94
5	DATA LINK CONNECTOR (DLC)	General Troubleshooting Information, page 11-3

DTC Troubleshooting

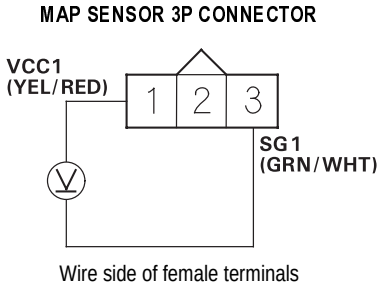
DTC P0107(3-1): MAP Sensor Circuit Low Voltage

1. Turn the ignition switch ON (II).
2. Check the MAP with the scan tool.

   Is about 101 kPa (760 mmHg, 30 in.Hg) or 2.9 V indicated?

   Yes Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the MAP sensor and at the ECM/PCM.■

   No Go to step 3.
3. Turn the ignition switch OFF.
4. Disconnect the MAP sensor 3P connector.
5. Turn the ignition switch ON (II).
6. Measure voltage between MAP sensor 3P connector terminals No. 1 and No. 3.

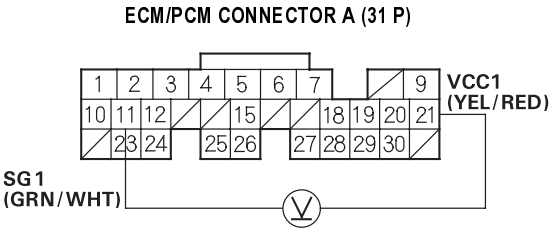


Wire side of female terminals

   Is there about 5 V?

   Yes Go to step 8.

   No Go to step 7.
7. Measure voltage between ECM/PCM connector terminals A11 and A21.



Wire side of female terminals

   Is there about 5 V?

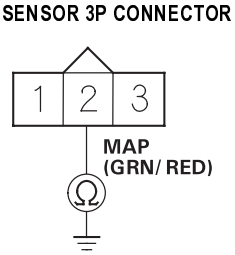
   Yes Repair open in the wire between ECM/PCM (A21) and the MAP sensor.■

   No Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away, replace the original ECM/PCM.■
8. Check the MAP with the scan tool.

   Is 2 kPa (15 mmHg, 0.6 in.Hg) or less or 0 V indicated?

   Yes Go to step 9.

   No Replace the MAP sensor.■
9. Disconnect the negative cable from the battery.
10. Turn the ignition switch OFF.
11. Disconnect ECM/PCM connector A (31P).
12. Check for continuity between MAP sensor connector terminal No. 2 and body ground.



Wire side of female terminals

   Is there continuity?

   Yes Repair short in the wire between the ECM/PCM (A19) and the MAP sensor.■

   No Substitute a known-good ECM/PCM and recheck (see page 11-5) If the symptom/indication goes away, replace the original ECM/PCM.■

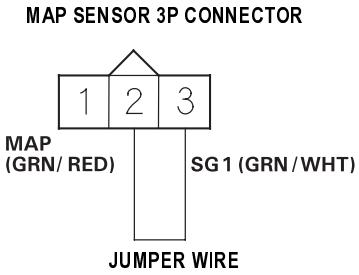
DTC P0108 (3-2): MAP Sensor Circuit High Voltage

1. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on, then let it idle with no load.
2. Check the MAP with the scan tool.

   Is about 101 kPa (760 mmHg, 30 in.Hg) or higher, or about 2.9 V or higher indicated?

   Yes Go to step 3.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the MAP sensor and at the ECM/PCM.■
3. Turn the ignition switch OFF.
4. Disconnect the MAP sensor 3P connector.
5. Connect MAP sensor 3P connector terminals No. 2 and No. 3 with a jumper wire.



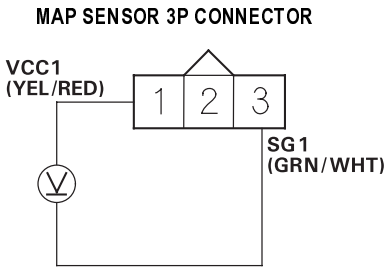
Wire side of female terminals

6. Turn the ignition switch ON (II).
7. Check the MAP with the scan tool.

   Is about 101 kPa (760 mmHg, 30 in.Hg) or higher, or about 2.9 V or higher indicated?

   Yes Go to step 8.

   No Replace the MAP sensor.■
8. Remove the jumper wire.
9. Measure voltage between MAP sensor 3P connector terminals No. 1 and No. 3.

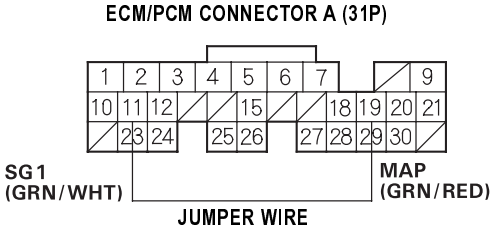


Wire side of female terminals

   Is there about 5 V?

   Yes Go to step 10.

   No Repair open in the wire between the ECM/PCM (A11) and the MAP sensor.■
10. Turn the ignition switch OFF.
11. Connect ECM/PCM connector terminals A11 and A19 with a jumper wire.



Wire side of female terminals

12. Turn the ignition switch ON (II).
13. Check the MAP with the scan tool.

    Is about 101 kPa (760 mmHg, 30 in.Hg) or higher, or about 2.9 V or higher indicated?

    Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away, replace the original ECM/PCM.■

    No Repair open in the wire between the ECM/PCM (A19) and the MAP sensor.■

(cont'd)

DTC Troubleshooting (cont'd)

DTC P0112 (10-1): IAT Sensor Circuit Low Voltage

1. Turn the ignition switch ON (II).
2. Check the IAT with the scan tool.

   Is 150°C (302°F) or higher (or H-Limit in Honda mode of PGM Tester) or 0 V indicated?

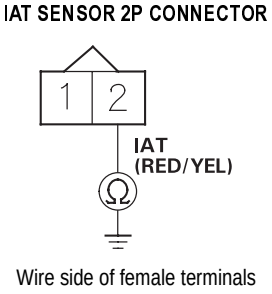
   Yes Go to step 3.

   No Go to step 9.
3. Disconnect the IAT sensor 2P connector.
4. Check the IAT with the scan tool.

   Is 150°C (302°F) or higher (or H-Limit in Honda mode of PGM Tester) or 0 V indicated?

   Yes Go to step 5.

   No Replace the IAT sensor.■
5. Turn the ignition switch OFF.
6. Disconnect the negative cable from the battery.
7. Disconnect ECM/PCM connector B (24P).
8. Check for continuity between IAT sensor 2P connector terminal No. 2 and body ground.



Wire side of female terminals

   Is there continuity?

   Yes Repair short in the wire between the ECM/PCM (B17) and the IAT sensor.■

   No Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away, replace the original ECM/PCM.■
9. Check the temperature reading on the scan tool. Be aware that if the engine is warm, the reading will be higher than ambient temperature. If the engine is cold, the IAT and ECT will have the same value.

   Is the correct ambient temperature indicated?

   Yes Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the IAT sensor and at the ECM/PCM.■

   No Replace the IAT sensor.■

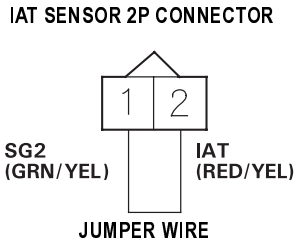
DTC P0113 (10-2): IAT Sensor Circuit High Voltage

1. Turn the ignition switch ON (II).
2. Check the IAT with the scan tool.

   Is -20°C (-4°F) or less (or L-Limit in Honda mode of PGM Tester) or 5 V indicated?

   Yes Go to step 3.

   No Intermitent failure, system is OK at this time. Check for poor connections or loose wires at the IAT sensor and at the ECM/PCM.■
3. Turn the ignition switch OFF.
4. Disconnect the IAT sensor 2P connector.
5. Connect IAT sensor 2P connector terminals No. 1 and No. 2 with a jumper wire.



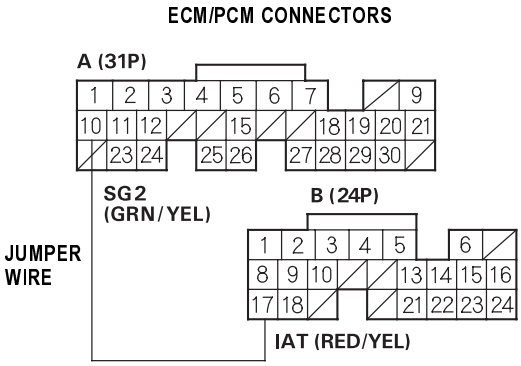
Wire side of female terminals

6. Turn the ignition switch ON (II).
7. Check the IAT with the scan tool.

   Is -20°C (-4°F) or less (or L-Limit in Honda mode of PGM Tester) or 5 V indicated?

   Yes Go to step 8.

   No Replace the IAT sensor.■
8. Turn the ignition switch OFF.
9. Remove the jumper wire.
10. Connect ECM/PCM connector terminals A10 and B17 with a jumper wire.



Wire side of female terminals

11. Turn the ignition switch ON (II).
12. Check the IAT with the scan tool.

    Is -20°C (-4°F) or less (or L-Limit in Honda mode of PGM Tester) or 5 V indicated?

    Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away, replace the original ECM/PCM.■

    No Repair open in the wire between the ECM/PCM (A10, B17) and the IAT sensor.■

(cont'd)

DTC Troubleshooting (cont'd)

DTC P0117 (6-1): ECT Sensor Circuit Low Voltage

1. Turn the ignition switch ON (II).
2. Check the ECT with the scan tool.

   Is 150°C (302°F) or higher (or H-Limit in Honda mode of PGM Tester) or 0 V indicated?

   Yes Go to step 3.

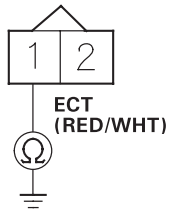
   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the ECT sensor and at the ECM/PCM.■
3. Disconnect the ECT sensor 2P connector.
4. Check the ECT with the scan tool.

   Is 150°C (302°F) or higher (or H-Limit in Honda mode of PGM Tester) or 0 V indicated?

   Yes Go to step 5.

   No Replace the ECT sensor.■
5. Turn the ignition switch OFF.
6. Disconnect the negative cable from the battery.
7. Disconnect ECM/PCM connector B (24P).
8. Check for continuity between ECT sensor 2P connector terminal No. 1 and body ground.

ECT SENSOR 2P CONNECTOR



Wire side of female terminals

Is there continuity?

Yes Repair short in the wire between the ECM/PCM (B8) and the ECT sensor.■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away, replace the original ECM/PCM.■

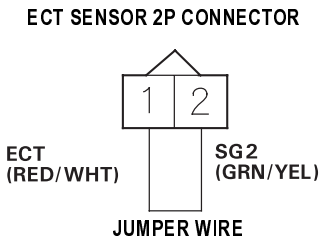
DTC P0118 (6-2): ECT Sensor Circuit High Voltage

1. Turn the ignition switch ON (II).
2. Check the ECT with the scan tool.

   Is -20°C (-4°F) or less (or L-Limit in Honda mode of PGM Tester) or 5 V indicated?

   Yes Go to step 3.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the ECT sensor and at the ECM/PCM.■
3. Turn the ignition switch OFF.
4. Disconnect the ECT sensor 2P connector.
5. Connect ECT sensor 2P connector terminals No. 1 and No. 2 with a jumper wire.



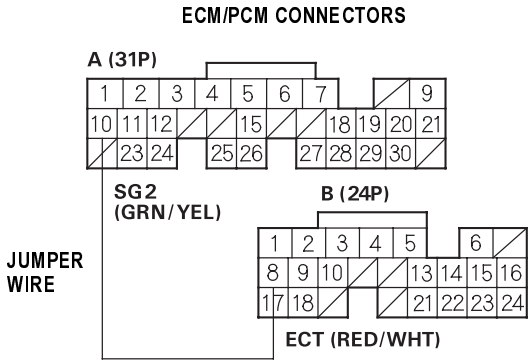
Wire side of female terminals

6. Turn the ignition switch ON (II).
7. Check the ECT with the scan tool.

   Is -20°C (-4°F) or less (or L-Limit in Honda mode of PGM Tester) or 5 V indicated?

   Yes Go to step 8.

   No Replace the ECT sensor.■
8. Turn the ignition switch OFF.
9. Remove the jumper wire.
10. Connect ECM/PCM connector terminals A10 and B8 with a jumper wire.



Wire side of female terminals

11. Turn the ignition switch ON (II).
12. Check the ECT with the scan tool.

    Is -20°C (-4°F) or less (or L-Limit in Honda mode of PGM Tester) or 5 V indicated?

    Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away, replace the original ECM/PCM.■

    No Repair open in the wire between the ECM/PCM (A10, B8) and the ECT sensor.■

(cont'd)

DTC Troubleshooting (cont'd)

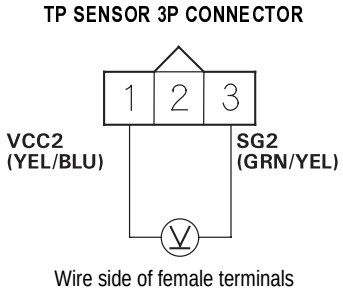
DTC P0122 (7-1): TP Sensor Circuit Low Voltage

1. Turn the ignition switch ON(II).
2. Check the throttle position with the scan tool.

   Is there about 10% or 0.5 V when the throttle is fully closed and about 90% or 4.5 V when the throttle is fully opened?

   Yes Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the TP sensor and at the ECM/PCM.■

   No Go to step 3.
3. Turn the ignition switch OFF.
4. Disconnect the TP sensor 3P connector.
5. Turn the ignition switch ON (II).
6. Measure voltage between TP sensor 3P connector terminals No. 1 and No. 3.

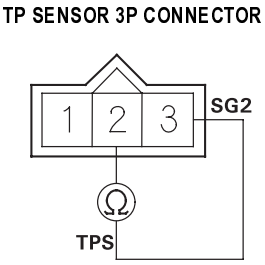


Wire side of female terminals

   Is there about 5 V?

   Yes Go to step 7.

   No Go to step 15.
7. Turn the ignition switch OFF.
8. At the sensor side, measure resistance between TP sensor 3P connector terminals No. 1 and No. 3 with the throttle fully closed.

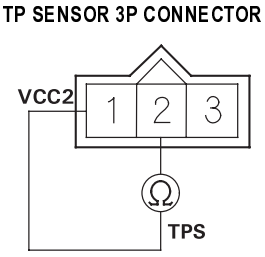


Trerminal side of male terminals

   Is there about 0.5 - 0.9 kΩ?

   Yes Go to step 9.

   No Replace the throttle body.■
9. Measure resistance between TP sensor 3P connector terminals No. 1 and No. 2 with the throttle fully closed.



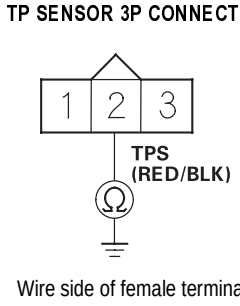
Terminal side of male terminals

   Is there about 4.5 kΩ?

   Yes Go to step 10.

   No Replace the throttle body (the TP sensor is not available separately).■
10. Disconnect the negative cable from the battery.
11. Disconnect ECM/PCM connector A (31P).

12. At the wire harness side, check for continuity between TP sensor 3P connector terminal No. 2 and body ground.



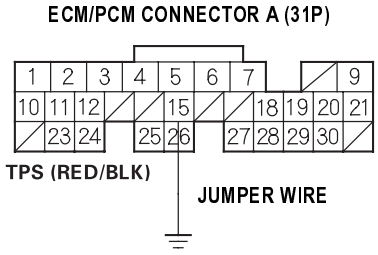
Wire side of female terminals

Is there continuity?

Yes Repair short in the wire between the ECM/PCM (A15) and the TP sensor.■

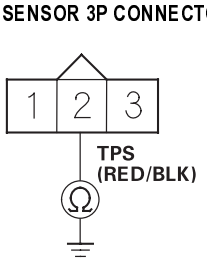
No Go to step 13.

13. Connect ECM/PCM connector terminal A15 and body ground with a jumper wire.



Wire side of female terminals

14. At the wire harness side, check for continuity between TP sensor 3P connector terminals No. 2 and body ground.



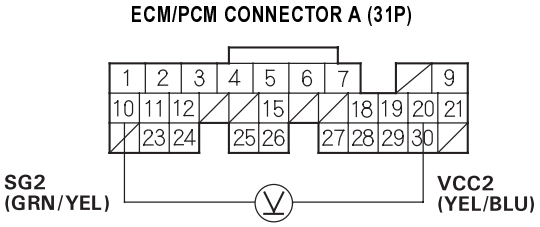
Wire side of female terminals

Is there continuity?

Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away, replace the original ECM/PCM.■

No Repair open in the wire between the ECM/PCM (A15) and the TP sensor.■

15. Measure voltage between ECM/PCM connector terminals A10 and A20.



Wire side of female terminals

Is there about 5 V?

Yes Repair open in the wire between the ECM/PCM (A20) and the TP sensor.■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away, replace the original ECM/PCM.■

(cont'd)

DTC Troubleshooting (cont'd)

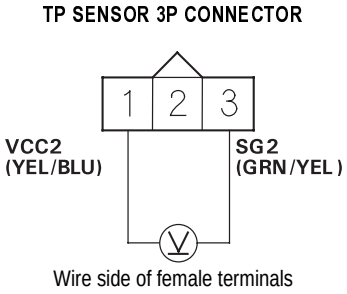
DTC P0123 (7-2): TP Sensor Circuit High Voltage

1. Turn the ignition switch ON (II).
2. Check the throttle position with the scan tool.

   Is there about 10% or 0.5 V when the throttle is fully closed and about 90% or 4.5 V when the throttle is fully opened?

   Yes Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the TP sensor and at the ECM/PCM.■

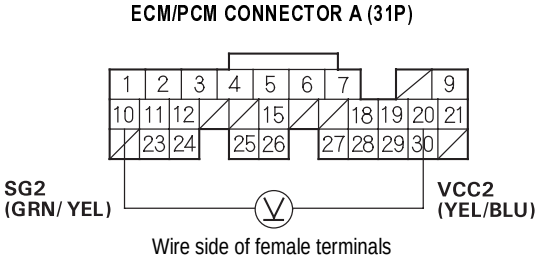
   No Go to step 3.
3. Turn the ignition switch OFF.
4. Disconnect the TP sensor 3P connector.
5. Turn the ignition switch ON (II).
6. At the wire harness side, measure voltage between TP sensor 3P connector terminals No. 1 and No. 3.



   Is there about 5 V?

   Yes Replace the throttle body (the TP sensor is not available separately).■

   No Go to step 7.
7. Measure voltage between ECM/PCM connector terminals A10 and A20.



   Is there about 5 V?

   Yes Repair open in the wire between the ECM/PCM (A10) and the TP sensor.■

   No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

DTC P0131 (1-1): Primary HO2S (Sensor 1) Circuit Low Voltage

1. Reset the ECM/PCM (see page 11-4)
2. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on.
3. Check the primary HO2S (Sensor 1) output voltage with the scan tool during acceleration using wide open throttle.

   Does the voltage stay at 0.5 V or less?

   Yes Go to step 4.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the primary HO2S (Sensor 1) and at the ECM/PCM.■
4. Check the fuel pressure (see page 11-154).

   Is it normal?

   Yes Go to step 5.

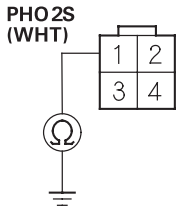
   No Repair the fuel supply system.■
5. Turn the ignition switch OFF.
6. Disconnect the primary HO2S (Sensor 1) 4P connector.
7. Turn the ignition switch ON (II).
8. Check the primary HO2S (Sensor 1) output voltage with the scan tool.

   Does it stay at 0.5 V or less?

   Yes Go to step 9.

   No Replace the primary HO2S (Sensor 1).■
9. Turn the ignition switch OFF.
10. Disconnect the negative cable from the battery.
11. Disconnect ECM/PCM connector A (31P).
12. Check for continuity between primary HO2S (Sensor 1) 4P connector terminal No. 1 and body ground.

PRIMARY HO2S (SENSOR 1) 4P CONNECTOR



Wire side of female terminals

Is there continuity?

Yes Repair short in the wire between the ECM/PCM (A6) and the primary HO2S (Sensor 1).■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

(cont'd)

DTC Troubleshooting (cont'd)

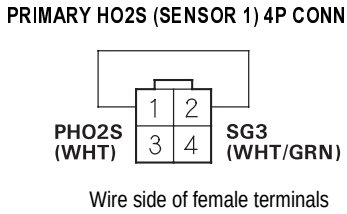
DTC P0132 (1-2): Primary HO2S (Sensor 1) Circuit High Voltage

1. Reset the ECM/PCM (see page 11-4).
2. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on.
3. Check the primary HO2S (Sensor 1) output voltage with the scan tool.

   Does the voltage stay at 0.9 V or more?

   Yes Go to step 4.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the primary HO2S (Sensor 1) and at the ECM/PCM.■
4. Turn the ignition switch OFF.
5. Disconnect the primary HO2S (Sensor 1) 4P connector.
6. Connect primary HO2S (Sensor 1) 4P connector terminals No. 1 and No. 2 with a jumper wire.

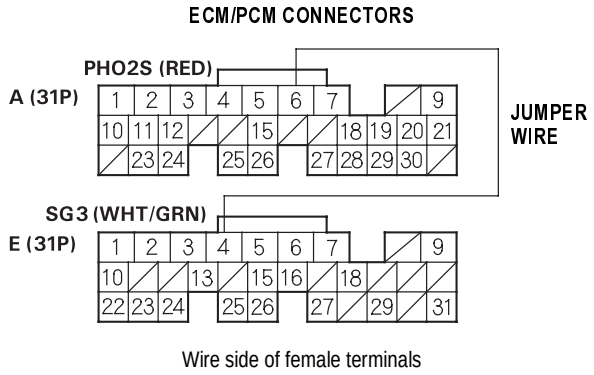


7. Turn the ignition switch ON (II).
8. Check the primary HO2S (Sensor 1) output voltage with the scan tool.

   Is there 0.9 V or more?

   Yes Go to step 9.

   No Replace the primary HO2S (Sensor 1).■
9. Turn the ignition switch OFF.
10. Connect ECM/PCM connector terminals A6 and E4 with a jumper wire.



11. Turn the ignition switch ON (II).
12. Check the primary HO2S (Sensor 1) output voltage with the scan tool.

    Is there 0.9 V or more?

    Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

    No Repair open in the wire between the ECM/PCM (A6, E4) and the primary HO2S (Sensor 1).■

DTC P0133 (61-1): Primary HO2S (Sensor 1) Slow Response

NOTE: If DTC P0131, P0132 and/or P0135 are stored at the same time as DTC P0133, troubleshoot those DTCs first, then recheck for DTC P0133.

1. Reset the ECM/PCM (see page 11-4).
2. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on.
3. Test-drive under the following conditions:
   - 89 km/h (55 mph) steady speed
   - A/T in D position (M/T in 5th gear)
   - Until readiness code or Temporary DTC P0133 comes on
4. Check for a Temporary DTC with the scan tool.

   Is Temporary DTC P0133 indicated?

   Yes Replace the primary HO2S (Sensor 1).■

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the primary HO2S (Sensor 1) and the ECM/PCM.■

(cont'd)

DTC Troubleshooting (cont'd)

DTC P0135 (41-2): Primary HO2S (Sensor 1) Heater Circuit Malfunction

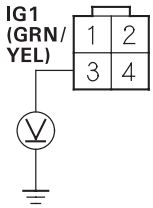
1. Reset the ECM/PCM (see page 11-4).
2. Start the engine.

   Is DTC P0135 indicated?

   Yes Go to step 3.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the primary HO2S (Sensor 1) and at the ECM/PCM.■
3. Turn the ignition switch OFF.
4. Disconnect the primary HO2S (Sensor 1) 4P connector.
5. Turn the ignition switch ON (II).
6. Measure voltage between primary HO2S (Sensor 1) 4P connector terminal No. 3 and body ground.

PRIMARY HO2S (SENSOR 1) 4P CONNECTOR



Wire side of female terminals

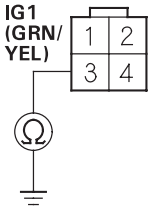
Is there battery voltage?

Yes Go to step 8.

No Go to step 7.

7. Check for continuity between body ground and primary HO2S (Sensor 1) 4P connector terminals No. 3.

PRIMARY HO2S (SENSOR 1) 4P CONNECTOR



Wire side of female terminals

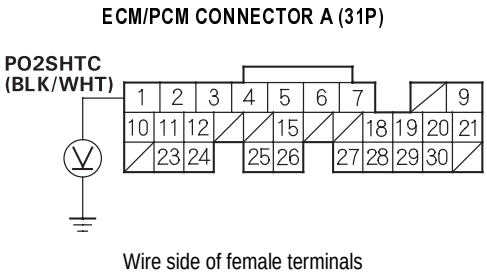
Is there continuity?

Yes Repair short in the wire between the primary HO2S (Sensor 1) and the No. 4 ACG (10A) fuse.■

No Check the No. 4 ACG (10A) fuse in the under-dash fuse/relay box. If the fuse is OK, repair open in the wire between the primary HO2S (Sensor 1) and the No. 4 ACG (10A) fuse.■

8. Turn the ignition switch OFF.
9. Reconnect the primary HO2S (Sensor 1) 4P connector.
10. Disconnect the negative cable from the battery.
11. Disconnect ECM/PCM connector A (31P).
12. Reconnect the negative cable to the battery.
13. Turn the ignition switch ON (II).

14. Measure voltage between between body ground and ECM/PCM connector terminal A1.



Wire side of female terminals

Is there battery voltage?

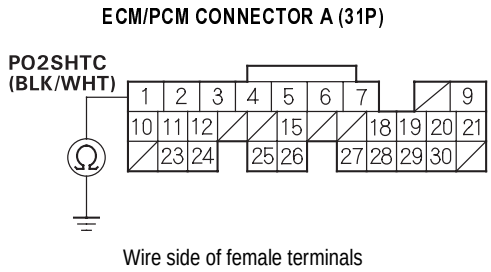
Yes Go to step 15.

No Repair open in the wire between ECM/PCM (A1) and primary HO2S (Sensor 1).■

15. Turn the ignition switch OFF.

16. Disconnect the primary HO2S (Sensor 1) 4P connector.

17. Check for continuity between body ground and ECM/PCM connector terminal A1.



Wire side of female terminals

Is there continuity?

Yes Repair short in the wire between the ECM/PCM (A1) and primary HO2S (Sensor 1).■

No Go to step 18.

18. Substitute a known-good primary HO2S (Sensor 1) and recheck.

Is DTC P0135 indicated?

Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM.■

No Replace the primary HO2S (Sensor 1).■

(cont'd)

DTC Troubleshooting (cont'd)

DTC P0137 (63-1): Secondary HO2S (Sensor 2) Circuit Low Voltage

1. Reset the ECM/PCM (see page 11-4).
2. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on.
3. Check the secondary HO2S (Sensor 2) output voltage at 3,000 rpm (min^{-1}) with the scan tool.

   Does the voltage stay at 0.3 V or less?

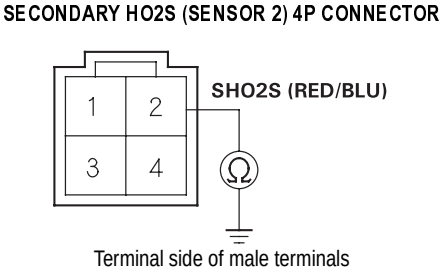
   Yes Go to step 4.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the secondary HO2S (Sensor 2) and at the ECM/PCM.■
4. Turn the ignition switch OFF.
5. Disconnect the secondary HO2S (Sensor 2) 4P connector.
6. Turn the ignition switch ON (II).
7. Check the secondary HO2S (Sensor 2) output voltage with the scan tool.

   Does the voltage stay at 0.3 V or less?

   Yes Go to step 8.

   No Replace the secondary HO2S (Sensor 2).■
8. Turn the ignition switch OFF.
9. Disconnect the negative cable from the battery.
10. Disconnect ECM/PCM connector E (31P).
11. Check for continuity between secondary HO2S (Sensor 2) 4P connector terminal No. 2 and body ground.



Is there continuity?

Yes Repair short in the wire between the ECM/PCM (E2) and the secondary HO2S (Sensor 2).■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

DTC P0138 (63-2): Secondary HO2S (Sensor 2) Circuit High Voltage

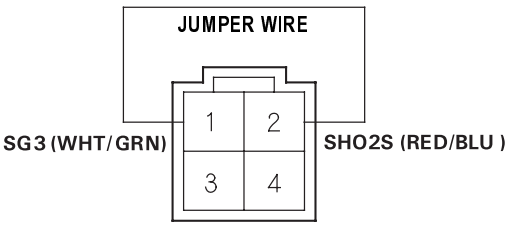
1. Reset the ECM/PCM (see page 11-4).
2. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on.
3. Check the secondary HO2S (Sensor 2) output voltage at 3,000 rpm (min^{-1}) with the scan tool.

   Does the voltage stay at 1.0 V or more?

   Yes Go to step 4.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the secondary HO2S (Sensor 2) and the at ECM/PCM.■
4. Turn the ignition switch OFF.
5. Disconnect the secondary HO2S (Sensor 2) 6P connector.
6. Connect secondary HO2S (Sensor 2) 6P connector terminals No. 1 and No. 2 with a jumper wire.

SECONDARY HO2S (SENSOR 2) 4P CONNECTOR



Terminal side of male terminals

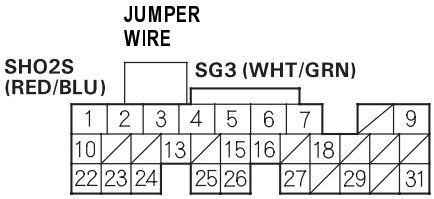
7. Turn the ignition switch ON (II).
8. Check the secondary HO2S (Sensor 2) output voltage with the scan tool.

   Is there 1.0 V or more?

   Yes Go to step 9.

   No Replace the secondary HO2S (Sensor 2).■
9. Turn the ignition switch OFF.
10. Connect ECM/PCM connector terminals E2 and E4 with a jumper wire.

ECM/PCM CONNECTOR E (31P)



Wire side of female terminals

11. Turn the ignition switch ON (II).
12. Check the secondary HO2S (Sensor 2) output voltage with the scan tool.

    Is there 1.0 V or more?

    Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/ indication goes away, replace the original ECM/PCM.■

    No Repair open in the wire between the ECM/ PCM (E2, E4) and the secondary HO2S (Sensor 2).■

(cont'd)

DTC Troubleshooting (cont'd)

DTC P0141 (65-2): Secondary HO2S (Sensor 2) Heater Circuit Malfunction

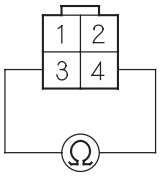
1. Reset the ECM/PCM (see page 11-4).
2. Start the engine.

   Is DTC P0141 indicated?

   Yes Go to step 3.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the secondary HO2S (Sensor 2) and at the ECM/PCM.■
3. Turn the ignition switch OFF.
4. Disconnect the secondary HO2S (Sensor 2) 4P connector.
5. At the secondary HO2S (Sensor 2) side, measure resistance between the HO2S 4P connector terminals No. 3 and No. 4.

SECONDARY HO2S (SENSOR 2) 4P CONNECTOR



Wire side of female terminals

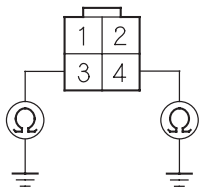
Is there about 3.3 Ω?

Yes Go to step 6.

No Replace the secondary HO2S (Sensor 2).■

6. Check continuity between body ground and secondary HO2S (Sensor 2) 4P connector terminals No. 3 and No. 4 individually.

SECONDARY HO2S (SENSOR 2) 4P CONNECTOR



Wire side of female terminals

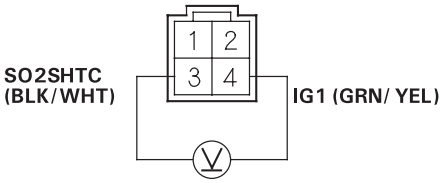
Is there continuity?

Yes Replace the secondary HO2S (Sensor 2).■

No Go to step 7.

7. Turn the ignition switch ON (II).
8. Measure voltage between secondary HO2S 4P connector terminals No. 3 and No. 4.

SECONDARY HO2S (SENSOR 2) 4P CONNECTOR



Terminal side of male terminals

Is there battery voltage?

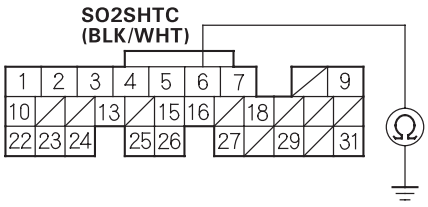
Yes Go to step 9.

No Go to step 14.

9. Turn the ignition switch OFF.
10. Disconnect the negative cable from the battery.
11. Disconnect ECM/PCM connector E (31P).
12. Reconnect the negative cable to the battery.

13. Check for continuity between ECM/PCM connector terminal E6 and body ground.

ECM/PCM CONNECTOR E (31P)



Wire side of female terminals

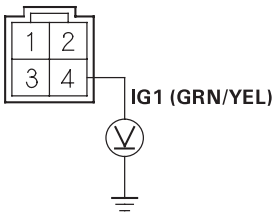
Is there continuity?

Yes Repair short in the wire between the ECM/PCM (E6) and the secondary HO2S (Sensor 2).■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

14. Measure voltage between secondary HO2S (Sensor 2) 4P connector terminal No. 4 and body ground.

SECONDARY HO2S (SENSOR 2) 4P CONNECTOR



Terminal side of male terminals

Is there battery voltage?

Yes Go to step 15.

No Check the No. 4 ACG (10A) fuse in the under-dash fuse/relay box. If the fuse is OK, repair open in the wire between the secondary HO2S (Sensor 2) and No. 4 ACG (10A) fuse.■

15. Turn the ignition switch OFF.

16. Reconnect the secondary HO2S (Sensor 2) 4P connector.

17. Disconnect the negative cable from the battery.

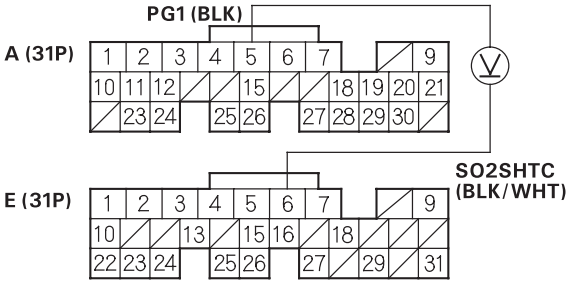
18. Disconnect ECM/PCM connector E (31P).

19. Reconnect the negative cable to the battery.

20. Turn the ignition switch ON (II).

21. Measure voltage between ECM/PCM connector terminal E6 and A5.

ECM/PCM CONNECTORS



Wire side of female terminals

Is there 0.1 V or less?

Yes Repair open in the wire between the ECM/PCM (E6) and the secondary HO2S (Sensor 2).■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

(cont'd)

DTC Troubleshooting (cont'd)

DTC P0171 (45-2): Fuel System Too Lean

DTC P0172 (45-1): Fuel System Too Rich

NOTE: If some of the DTCs listed below are stored at the same time as DTC P0171 and/or P0172, troubleshoot those DTCs first, then recheck for P0171 and/or P0172.

P0010, P0011: VTC System
P0107, P0108: Manifold Absolute Pressure (MAP) sensor
P0135: Primary Heated Oxygen Sensor (primary HO2S) (Sensor 1) heater
P0137, P0138: Secondary Heated Oxygen Sensor (secondary HO2S) (sensor 1)
P0141: Secondary Heated Oxygen Sensor (secondary HO2S) (sensor 2) heater
P0340, P0344: CMP Sensor
P1259: VTEC System

1. Check the fuel pressure (see page 11-154).

   Is fuel pressure OK?

   Yes Go to step 2.

   No Check these items:
   - If the pressure is too high, replace the fuel pressure regulator (see page 11-165).■
   - If the pressure is too low, check the fuel pump, the fuel feed pipe, the fuel filter, and replace the fuel pressure regulator (see page 11-165).■

2. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on.

3. Check the primary HO2S (Sensor 1) output with the scan tool.

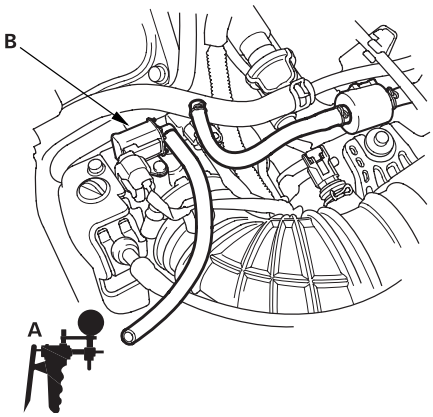
   Does it stay at less than 0.3 V or more than 0.6 V?

   Yes Replace the primary HO2S (Sensor 1).■

   No Go to step 4.

4. Turn the ignition switch OFF.

5. With a vacuum pump (A), apply vacuum to the evaporative emission (EVAP) canister purge valve (B) from the evaporative emission (EVAP) canister side.



   Does it hold vacuum?

   Yes Go to step 6.

   No Replace the EVAP canister purge valve.■

6. Turn the ignition switch ON (II).

7. Check the manifold pressure with the scan tool.

   Does it indicate atmospheric pressure?

   Yes Go to step 8.

   No Replace the MAP sensor.■

8. Start the engine.

9. Check the MAP sensor with the scan tool.

   Is a MAP of 40.0 kPa (300 mmHg, 12.0 in.Hg) or less indicated within 1 second after starting the engine?

   Yes Check the valve clearance and adjust if necessary. If the valve clearance are OK, replace the injector.■

   No Replace the MAP sensor.■

(cont'd)

DTC P0300 (7x-1): Random misfire and any Combination of the Following:

DTC P0301 (71-1): No. 1 Cylinder Misfire

DTC P0302 (72-1): No. 2 Cylinder Misfire

DTC P0303 (73-1): No. 3 Cylinder Misfire

DTC P0304 (74-1): No. 4 Cylinder Misfire

NOTE:
- If the misfiring is frequent enough to trigger detection of increased emissions during two consecutive driving cycles, the MIL will come on, and DTC P0300 (and some combination of P0301 through P0304) will be stored.
- If the misfiring is frequent enough to damage the catalyst, the MIL will blink whenever the misfiring occurs, and DTC P0300 (and some combination of P0301 through P0304) will be stored. When the misfiring stops, the MIL will remain on.

1. Troubleshoot the following DTCs first if any of them were stored along with the random misfire DTC(s):
   P0107, P0108: Manifold Absolute Pressure (MAP) sensor
   P0131, P0132: Primary Heated Oxygen Sensor (primary HO2S) (Sensor 1)
   P0171, P0172: Fuel system
   P0335, P0336: Crankshaft Position (CKP) sensor
   P1253: VTEC system
   P1361, P1362: Top Dead Center (TDC) sensor
   P1519: Idle Air Control (IAC) valve
2. Test-drive the vehicle to verify the symptom.
3. Find the symptom in the chart below, and do the related procedures in the order listed until you find the cause.

Symptom	Procedure(s)	Also check for:
Random misfire only at low engine speed and under load	Check fuel pressure (see page 11-154).	• Low compression • Contaminated fuel • Manifold vacuum problem
Random misfire only during acceleration	Check fuel pressure (see page 11-154).	Malfunction in the VTEC system (see page 11-130)
Random misfire at high engine speed, under load, or under random conditions	Check fuel pressure (see page 11-154).	Correct valve clearance (see page 06-9)

(cont'd)

DTC Troubleshooting (cont'd)

DTC P0301 (71-1): No. 1 Cylinder Misfire

DTC P0302 (72-1): No. 2 Cylinder Misfire

DTC P0303 (73-1): No. 3 Cylinder Misfire

DTC P0304 (74-1): No. 4 Cylinder Misfire

1. After checking and recording the freeze data, reset the ECM/PCM (see page 11-4). If there is no freeze data of the misfire, just clear the DTC.
2. Start the engine, and listen for a clicking sound at the injector at the problem cylinder.

   Does it click?

   Yes Go to step 3.

   No Go to step 32.
3. Turn the ignition switch OFF, and reset the ECM/PCM.
4. Exchange the ignition coil from the problem cylinder with one from another cylinder.
5. Test-drive the vehicle several times in the range of the freeze data or under various conditions if there was no freeze data.
6. Check the DTC or the Temporary DTC with the scan tool.

   Is DTC or Temporary DTC P0301, P0302, P0303 or P0304 indicated?

   Yes Go to step 7.

   No Intermittent misfire due to poor contact at the ignition coil connector (no misfire at this time).■
7. Determine which cylinder(s) had the misfire.

   Does the misfire occur in the other cylinder whose ignition coil was exchanged?

   Yes Replace the faulty ignition coil.■

   No Go to step 8.
8. Turn the ignition switch OFF, and reset the ECM/PCM.
9. Exchange the spark plug from the problem cylinder with one from another cylinder.
10. Test-drive the vehicle several times in the range of the freeze data or under various conditions if there was no freeze data.
11. Check the DTC or the Temporary DTC with the scan Tool.

    Is DTC or Temporary DTC P0301, P0302, P0303 or P0304 indicated?

    Yes Go to step 12.

    No Intermittent misfire due to spark plug fouling, etc. (no misfire at this time).■
12. Determine which cylinder(s) had the misfire.

    Does the misfire occur in the other cylinder whose spark plug was exchanged?

    Yes Replace the faulty spark plug.■

    No Go to step 13.
13. Turn the ignition switch OFF, and reset the ECM/PCM.
14. Exchange the injector from the problem cylinder with one from the another cylinder.
15. Let the engine idle for 2 minutes.

16. Test-drive the vehicle several times in the range of the freeze data or under various conditions if there was no freeze data.

17. Check for a DTC or Temporary DTC with the scan Tool.

Is DTC or Temporary DTC P0301, P0302, P0303 or P0304 indicated?

Yes Go to step 18.

No Intermittent misfire due to bad contact at the injector connector (no misfire at this time).■

18. Determine which cylinder(s) had the misfire.

Does the misfire occur in the other cylinder whose injector was exchanged?

Yes Replace the faulty injector.■

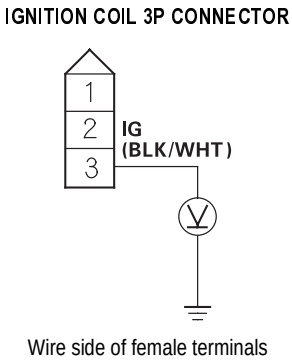
No Go to step 19.

19. Turn the ignition switch OFF.

20. Disconnect the ignition coil 3P connector from the problem cylinder.

21. Turn the ignition switch ON (II).

22. Measure voltage between ignition coil 3P connector terminal No. 3 and body ground.



Wire side of female terminals

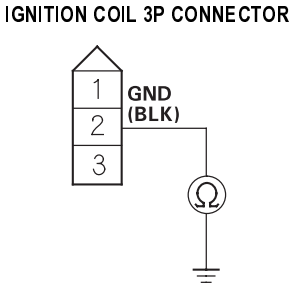
Is there battery voltage?

Yes Go to step 23.

No Repair open or short in the wire between the No. 1 IGN COIL (15A) fuse and the ignition coil.■

23. Turn the ignition switch OFF.

24. Check for continuity between ignition coil 3P connector terminal No. 2 and body ground.



Wire side of female terminals

Is there continuity?

Yes Go to step 25.

No Repair open in the wire between the ignition coil and G101.■

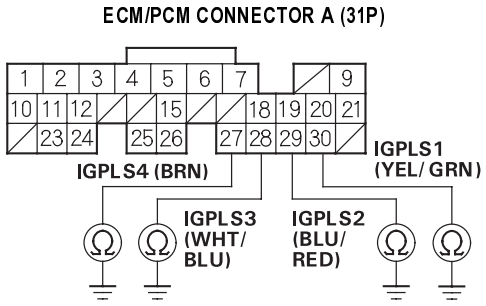
25. Disconnect the negative cable from the battery.

26. Disconnect ECM/PCM connector A (31P).

(cont'd)

DTC Troubleshooting (cont'd)

27. Check for continuity between body ground and the appropriate ECM/PCM connector terminal (see table).



Wire side of female terminals

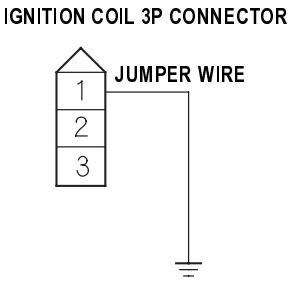
PROBLEM CYLINDER	DTC	ECM/PCM TERMINAL	WIRE COLOR
No. 1	P0301	A30	YEL/GRN
No. 2	P0302	A29	BLU/RED
No. 3	P0303	A28	WHT/BLU
No. 4	P0304	A27	BRN

Is there continuity?

Yes Repair short in the wire between the ECM/PCM and the ignition coil.■

No Go to step 28.

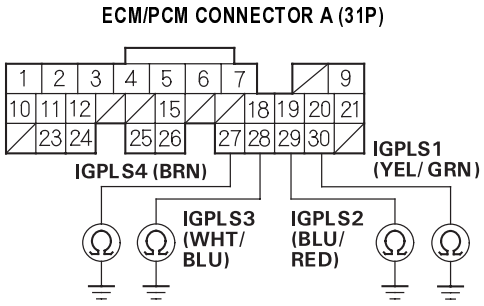
28. Connect the appropriate ignition coil 3P connector terminal No. 1 and body ground with a jumper wire (see table).



Wire side of female terminals

PROBLEM CYLINDER	DTC	WIRE COLOR
No. 1	P0301	YEL/GRN
No. 2	P0302	BLU/RED
No. 3	P0303	WHT/BLU
No. 4	P0304	BRN

29. Check for continuity between body ground and the appropriate ECM/PCM connector terminal (see table).



Wire side of female terminals

PROBLEM CYLINDER	DTC	ECM/PCM TERMINAL	WIRE COLOR
No. 1	P0301	A30	YEL/GRN
No. 2	P0302	A29	BLU/RED
No. 3	P0303	A28	WHT/BLU
No. 4	P0304	A27	BRN

Is there continuity?

Yes Go to step 30.

No Repair open in the wire between the ECM/PCM and the ignition coil.■

30. Reconnect the negative cable to the battery.

31. Check the compression.

Is the engine compression OK?

Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

No Repair the engine.■

32. Disconnect the negative cable from the battery.

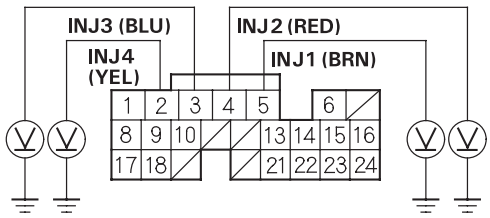
33. Disconnect ECM/PCM connector B (24P).

34. Reconnect the negative cable to the battery.

35. Turn the ignition switch ON (II).

36. Measure voltage between body ground and the appropriate ECM/PCM connector terminal (see table).

ECM/PCM CONNECTOR B (24P)



Wire side of female terminals

PROBLEM CYLINDER	DTC	ECM/PCM TERMINAL	WIRE COLOR
No. 1	P0301	B5	BRN
No. 2	P0302	B4	RED
No. 3	P0303	B3	BLU
No. 4	P0304	B2	YEL

Is there battery voltage?

Yes Go to step 37.

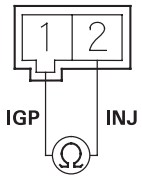
No Go to step 45.

37. Turn the ignition switch OFF, and remove the engine cover.

38. Disconnect the injector 2P connector on the problem cylinder.

39. Measure the resistance between injector 2P connector terminals No. 1 and No. 2.

INJECTOR 2P CONNECTOR



Terminal side of male terminals

Is there 10 Ω - 13 Ω?

Yes Go to step 40.

No Replace the injector (see page 11-117).■

40. Exchange the injector from the problem cylinder with one from another cylinder.

41. Let the engine idle for 2 minutes.

42. Test-drive the vehicle several times in the range of the freeze data or under various conditions if there was no freeze data.

43. Check for a DTC or Temporary DTC with a scan tool.

Is DTC or Temporary DTC P0301, P0302, P0303, or P0304 indicated?

Yes Go to step 44.

No Intermittent misfire due to injector malfunction etc.■

44. Determine which cylinder(s) had the misfire.

Does the misfire occur in the other cylinder whose injector was exchanged?

Yes Replace the faulty injector.■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/ indication goes away, replace the original ECM/PCM.■

45. Turn the ignition switch OFF and remove the engine cover.

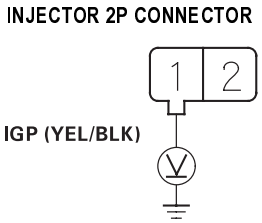
46. Disconnect the injector 2P connector on the problem cylinder.

47. Turn the ignition switch ON (II).

(cont'd)

DTC Troubleshooting (cont'd)

48. Measure voltage between injector 2P connector terminal No. 1 and body ground.



Wire side of female terminals

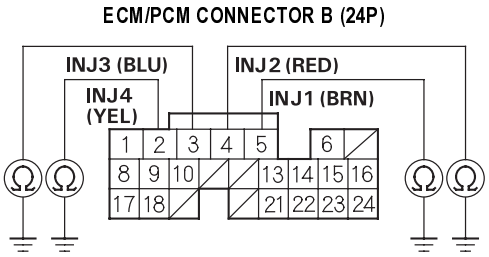
Is there battery voltage?

Yes Go to step 49.

No Repair open in the wire between the injector and the PGM-FI main relay.■

49. Turn the ignition switch OFF.

50. Check for continuity between body ground and the appropriate ECM/PCM connector terminal (see table).



Wire side of female terminals

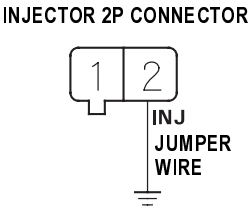
PROBLEM CYLINDER	DTC	ECM/PCM TERMINAL	WIRE COLOR
No. 1	P0301	B5	BRN
No. 2	P0302	B4	RED
No. 3	P0303	B3	BLU
No. 4	P0304	B2	YEL

Is there continuity?

Yes Repair short in the wire between the ECM/PCM and the injector.■

No Go to step 51.

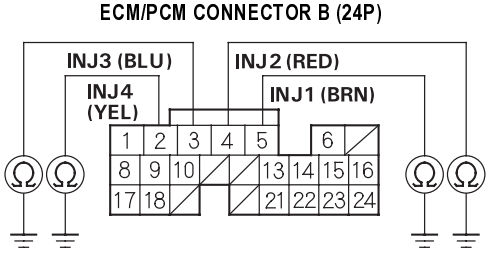
51. Connect the appropriate injector 2P connector terminal No. 2 to body ground with a jumper wire (see table).



Wire side of female terminals

PROBLEM CYLINDER	DTC	WIRE COLOR
No. 1	P0301	BRN
No. 2	P0302	RED
No. 3	P0303	BLU
No. 4	P0304	YEL

52. Check for continuity between body ground and the appropriate ECM/PCM connector terminal (see table).



Wire side of female terminals

PROBLEM CYLINDER	DTC	ECM/PCM TERMINAL	WIRE COLOR
No. 1	P0301	B5	BRN
No. 2	P0302	B4	RED
No. 3	P0303	B3	BLU
No. 4	P0304	B2	YEL

Is there continuity?

Yes Replace the injector, then recheck.■

No Repair open in the wire between the ECM/PCM and the injector.■

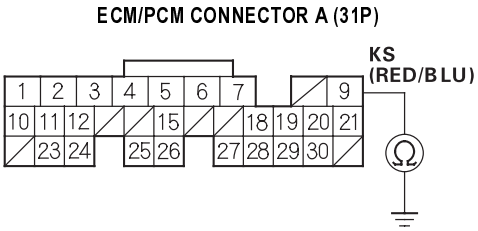
DTC P0325 (23-1): Malfunction in Knock Sensor Circuit

1. Reset the ECM/PCM (see page 11-4).
2. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on, then let it idle.
3. Hold the engine at 3,000 - 4,000 rpm (min^{-1}) for at least 60 seconds.

   Is DTC P0325 indicated?

   Yes Go to step 4.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the knock sensor and at the ECM/PCM.
4. Turn the ignition switch OFF.
5. Disconnect the starter sub-harness 6P connector.
6. Check for continuity between ECM/PCM connector terminal A9 and body ground.



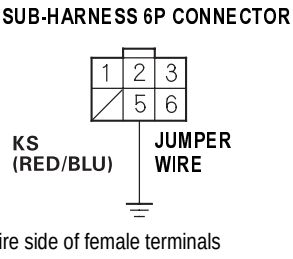
Wire side of female terminals

Is there continuity?

Yes Repair short in the wire between the ECM/PCM (A9) and the starter sub-harness 6P connector.■

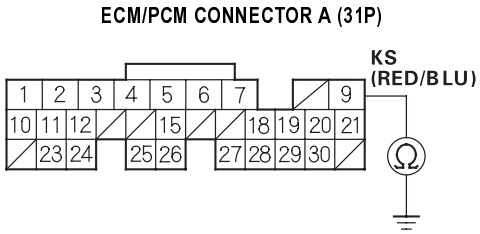
No Go to step 7.

7. Connect starter sub-harness 6P connector terminal No. 5 to body ground with a jumper wire.



Wire side of female terminals

8. Check for continuity between body ground and ECM/PCM connector terminal A9.



Wire side of female terminals

Is there continuity?

Yes Go to step 9.

No Repair open in the wire between the ECM/PCM (A9) and the starter sub-harness 6P connector.■

9. Check the starter sub-harness between 6P connector and the knock sensor for an open or short. If it's OK, substitute a known-good knock sensor and recheck.

   Is DTC P0325 indicated?

   Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

   No Replace the original knock sensor and/or starter sub-harness.■

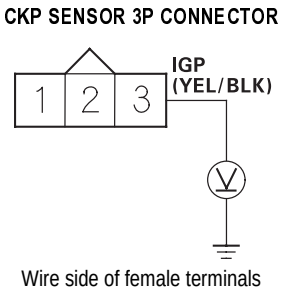
(cont'd)

DTC Troubleshooting (cont'd)

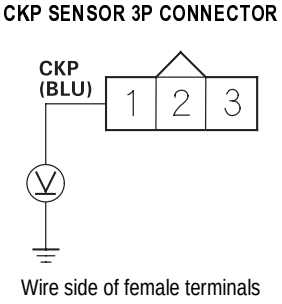
DTC P0335 (4-1): CKP Sensor No Signal

DTC P0336 (4-2): CKP Sensor Intermittent Interruption

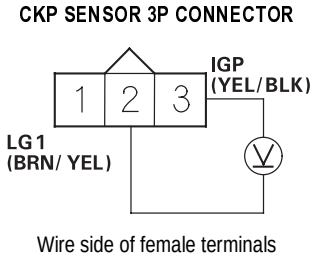
1. Reset the ECM/PCM (see page 11-4).
2. Start the engine.
   Is DTC P0335 and/or P0336 indicated?
   Yes Go to step 3.
   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the CKP sensor and at the ECM/PCM.■
3. Turn the ignition switch OFF.
4. Disconnect the CKP sensor 3P connector.
5. Turn the ignition switch ON (II).
6. Measure voltage between CKP sensor 3P connector terminal No. 3 and body ground.



   Is there battery voltage?
   Yes Go to step 7.
   No Repair open in the wire between the PGM-FI main relay 1 and the CKP sensor.■
7. Measure voltage between CKP sensor 3P connector terminal No. 1 and body ground.

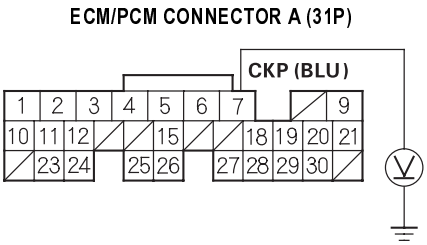


   Is there about 5 V?
   Yes Go to step 8.
   No Go to step 10.
8. Measure voltage between CKP sensor 3P connector terminals No. 2 and No. 3.



   Is there battery voltage?
   Yes Go to step 9.
   No Repair open in the BRN/YEL wire between the CKP sensor and G101.■
9. Substitute a known-good CKP sensor and recheck.
   Is DTC P0335 and/or P0336 indicated?
   Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/ indication goes away, replace the original ECM/PCM.■
   No Replace the original CKP sensor.■

10. Measure voltage between ECM/PCM connector terminal A7 and body ground.



Wire side of female terminals

Is there about 5 V?

Yes Repair open in the wire between the ECM/PCM (A7) and the CKP sensor.■

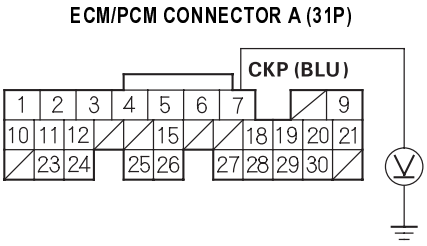
No Go to step 11.

11. Turn the ignition switch OFF.

12. Disconnect the negative cable from the battery.

13. Disconnect ECM/PCM connector A (31P).

14. Check for continuity between ECM/PCM connector terminal A7 and body ground.



Wire side of female terminals

Is there continuity?

Yes Repair short in the wire between the ECM/PCM (A7) and the CKP sensor.■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

(cont'd)

DTC Troubleshooting (cont'd)

DTC P0500 (17-1): VSS Circuit Malfunction

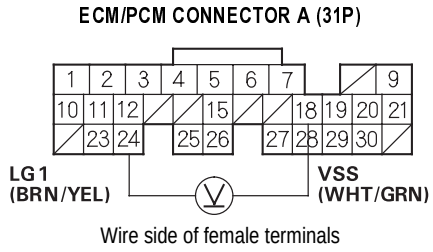
DTC P0501 (17-2): VSS Range/Performance Problem

1. Test-drive the vehicle.
2. Check the vehicle speed with the scan tool.

   Is the correct speed indicated?

   Yes Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the VSS and at the ECM.■

   No Go to step 3.
3. Turn the ignition switch OFF.
4. Block the rear wheels and set the parking brake.
5. Raise the front of the vehicle, and make sure it is securely supported.
6. Turn the ignition switch ON (II).
7. Block the right front wheel, and slowly rotate the left front wheel.
8. Measure voltage between ECM/PCM connector terminals A18 and A24.



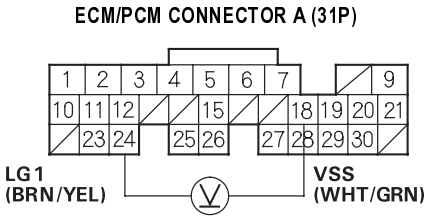
Wire side of female terminals

Does the voltage pulse between 0 V and 5 V or battery voltage?

Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/ indication goes away, replace the original ECM/PCM.■

No Go to step 9.

9. Turn the ignition switch OFF.
10. Disconnect the negative cable from the battery.
11. Disconnect ECM/PCM connector A (31P).
12. Reconnect the negative cable to the battery.
13. Turn the ignition switch ON (II).
14. Block the right front wheel, and slowly rotate the left front wheel.
15. Measure voltage between ECM/PCM connector terminals A18 and A24.



Wire side of female terminals

Does the voltage pulse between 0 V and 5 V or battery voltage?

Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/ indication goes away, replace the original ECM/PCM.■

No Check these items:

- A short or an open in the wire between the ECM/ PCM (A18) and the VSS.
- If the wire is OK, test the VSS (see page 22A-75).

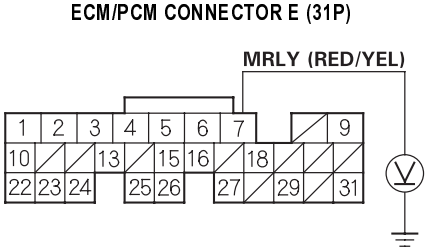
DTC P0563 (34-2): ECM/PCM Power Source Circuit Unexpected Voltage

1. Reset the ECM/PCM (see page 11-4).
2. Turn the ignition switch OFF.
3. Wait 5 seconds.
4. Turn the ignition switch ON (II).

   Is DTC P0563 indicated?

   Yes Go to step 5.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the No. 6 ECU (ECM/PCM) (15A) fuse in the under-hood fuse/relay box and at the ECM/PCM.■
5. Turn the ignition switch OFF.
6. Disconnect the negative cable from the battery.
7. Disconnect ECM/PCM connector E (31P).
8. Reconnect the negative cable to the battery.
9. Measure voltage between ECM/PCM connector terminal E7 and body ground.



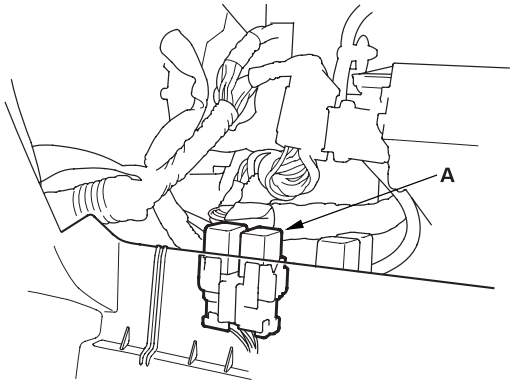
Wire side of female terminals

Is there battery voltage?

Yes Go to step 13.

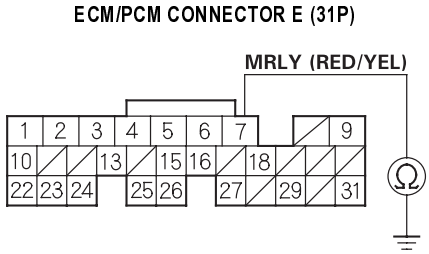
No Go to step 10.

10. Remove the glove box (see page 20-95).
11. Remove the PGM-FI main relay 1 (A).



*: The illustration shows LHD model.

12. Check for continuity between ECM/PCM connector terminal E7 and body ground.



Wire side of female terminals

Is there continuity?

Yes Repair short in the wire between the ECM/PCM (E7) and the PGM-FI main relay 1.■

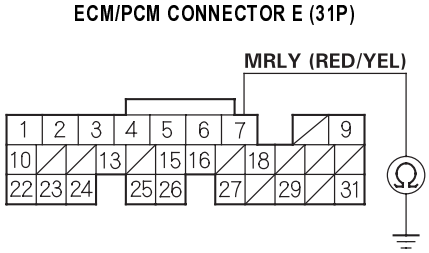
No Replace the PGM-FI main relay 1.

13. Disconnect the negative cable from the battery.
14. Reconnect ECM/PCM connector E (31P).
15. Reconnect the negative cable to the battery.

(cont'd)

DTC Troubleshooting (cont'd)

16. Measure voltage between ECM/PCM connector terminal E7 and body ground.



Wire side of female terminals

Is there battery voltage?

Yes Go to step 18.

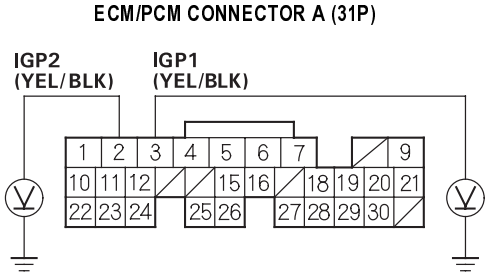
No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

17. Disconnect the negative cable from the battery.

18. Disconnect ECM/PCM connector A (31P).

19. Reconnect the negative cable to the battery.

20. Measure voltage between body ground and ECM/PCM connector terminals A3 and A2 individually.



Wire side of female terminals

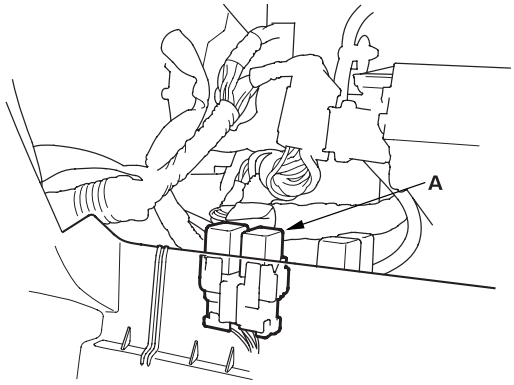
Is there battery voltage?

Yes Go to step 21.

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

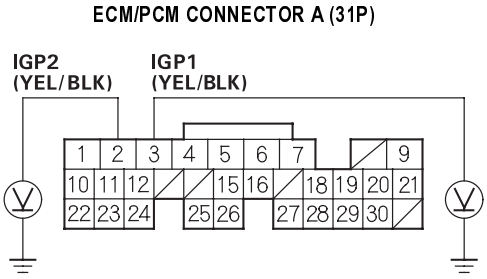
21. Remove the glove box (see page 20-95).

22. Remove the PGM-FI main relay 1 (A).



*: The illustration shows LHD model.

23. Measure voltage between body ground and ECM/PCM connector terminals A3 and A2 individually.



Wire side of female terminals

Is there battery voltage?

Yes Repair short to power in the wire between the ECM/PCM (A2, A3) and the PGM-FI main relay 1.■

No Replace the PGM-FI main relay 1.■

DTC P1107 (13-1): BARO Sensor Circuit Low Voltage

DTC P1108 (13-2): BARO Sensor Circuit High Voltage

1. Reset the ECM/PCM (see page 11-4).
2. Turn the ignition switch ON (II).

   Is DTC P1107 or P1108 indicated?

   Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/ indication goes away, replace the original ECM/PCM.■

   No Intermittent failure, system is OK at this time.■

(cont'd)

DTC Troubleshooting (cont'd)

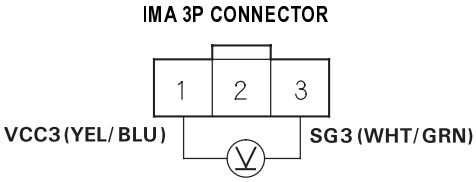
DTC P1213 (11-1): IMA Circuit Low Voltage

1. Reset the ECM/PCM (see page 11-4).
2. Start the engine, then let it idle for more than 5 seconds.

   Is DTC P1213 indicated?

   Yes Go to step 3.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the IMA and at the ECM/PCM.■
3. Turn the ignition switch OFF.
4. Disconnect the IMA 3P connector.
5. Turn the ignition switch ON (II).
6. Measure voltage between IMA 3P connector terminals No. 1 and No. 3.

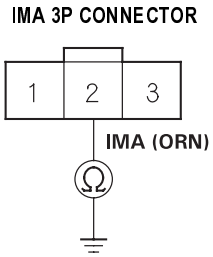


Wire side of female terminals

   Is there about 5 V?

   Yes Go to step 7.

   No Go to step 15.
7. Turn the ignition switch OFF.
8. Disconnect the negative cable from the battery.
9. Disconnect ECM/PCM connector E (31P).
10. At the wire harness side, check for continuity between IMA 3P connector terminal No. 2 and body ground.



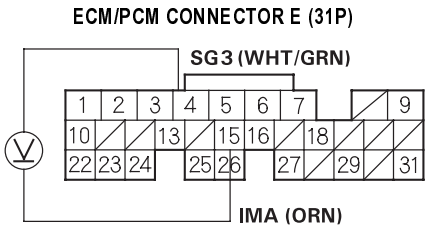
Wire side of female terminals

   Is there continuity?

   Yes Repair short in the wire between the ECM/PCM (E15) and the IMA.■

   No Go to step 11.
11. Reconnect the IMA 3P connector and ECM/PCM connector E (31P).
12. Reconnect the negative cable to the battery.
13. Turn the ignition switch ON (II).

14. Measure voltage between ECM/PCM connector terminals E4 and E15.



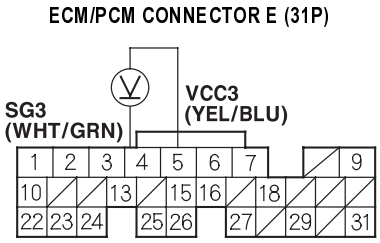
Wire side of female terminals

Is there about 0.5 - 4.5 V?

Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM.■

No Replace the IMA.■

15. Measure voltage between ECM/PCM connector terminals E4 and E5.



Wire side of female terminals

Is there about 5 V?

Yes Repair open in the wire between the ECM/PCM (E5) and the IMA.■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM.■

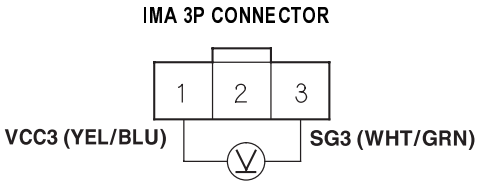
DTC P1214 (11-2): IMA Circuit High Voltage

1. Reset the ECM/PCM (see page 11-4).
2. Start the engine, then let it idle for more than 5 seconds.

   Is DTC P1214 indicated?

   Yes Go to step 3.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the IMA and at the ECM/PCM.■
3. Turn the ignition switch OFF.
4. Disconnect the IMA 3P connector.
5. Turn the ignition switch ON (II).
6. Measure voltage between IMA 3P connector terminals No. 1 and No. 3.



Wire side of female terminals

Is there about 5 V?

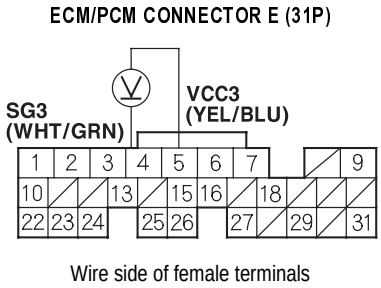
Yes Go to step 8.

No Go to step 7.

(cont'd)

DTC Troubleshooting (cont'd)

7. Measure voltage between ECM/PCM connector terminals E4 and E5.



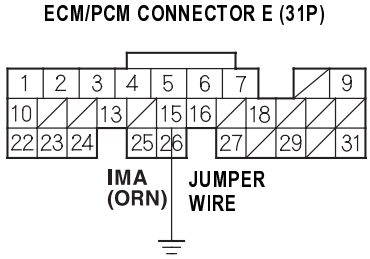
Wire side of female terminals

Is there about 5 V?

Yes Repair open in the wire between the ECM/PCM (E4) and the IMA.■

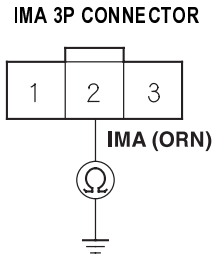
No Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM.■

8. Connect ECM/PCM connector terminal E15 and body ground with a jumper wire.



Wire side of female terminals

9. At the wire harness side, check for continuity between IMA 3P connector terminals No. 2 and body ground.



Wire side of female terminals

Is there continuity?

Yes Replace the IMA.■

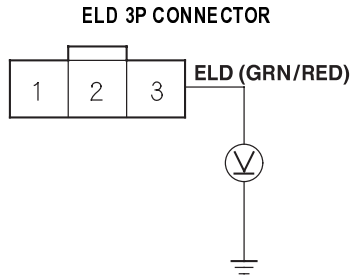
No Repair open in the wire between the ECM/PCM (E15) and the IMA.■

DTC P1297 (20-1): ELD Circuit Low Voltage

1. Reset the ECM/PCM (see page 11-4).
2. Start the engine.
3. Turn on the headlights.
   Is DTC P1297 indicated?

   Yes Go to step 4.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the ELD and at the ECM/PCM.■
4. Turn the ignition switch and the headlights OFF.
5. Disconnect the ELD 3P connector.
6. Turn the ignition switch ON (II).
7. Measure voltage between body ground and ELD 3P connector terminal No. 3.



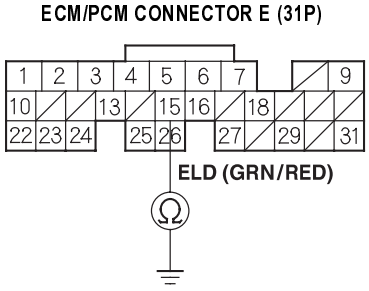
Wire side of female terminals

Is there about 5 V?

Yes Replace the ELD.■

No Go to step 8.

8. Turn the ignition switch OFF.
9. Disconnect the negative cable from the battery.
10. Disconnect ECM/PCM connector E (31P).
11. Check for continuity between body ground and ECM/PCM connector terminal E15.



Wire side of female terminals

Is there continuity?

Yes Repair short in the wire between the ECM/PCM (E15) and the ELD.■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

(cont'd)

DTC Troubleshooting (cont'd)

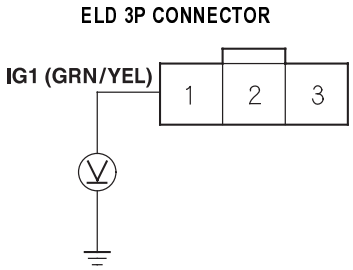
DTC P1298 (20-2): ELD Circuit High Voltage

1. Reset the ECM/PCM (see page 11-4).
2. Start the engine.
3. Turn on the headlights.

   Is DTC P1298 indicated?

   Yes Go to step 4.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the ELD and at the ECM/PCM.■
4. Turn the ignition switch and headlights OFF.
5. Disconnect the ELD 3P connector.
6. Turn the ignition switch ON (II).
7. Measure voltage between body ground and ELD 3P connector terminal No. 1.

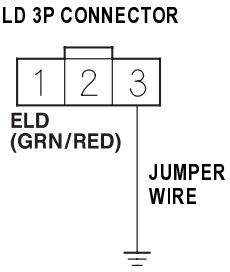


Wire side of female terminals

   Is there battery voltage?

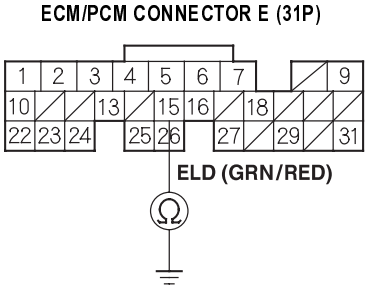
   Yes Go to step 8.

   No Check the No. 4 ACG (10A) fuse in the under-dash fuse/relay box. If the fuse is OK, repair open in the wire between the No. 4 ACG (10A) fuse and the ELD.■
8. Turn the ignition switch OFF.
9. Connect ELD 3P connector terminal No. 3 to body ground with a jumper wire.



Wire side of female terminals

10. Disconnect ECM/PCM connector E (31P).
11. Disconnect the negative cable from the battery.
12. Check for continuity between body ground and ECM/PCM connector terminal E15.



Wire side of female terminals

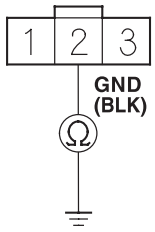
   Is there continuity?

   Yes Go to step 13.

   No Repair open in the wire between the ECM/PCM (E15) and the ELD.

13. Check for continuity between ELD 3P connector terminal No. 2 and body ground.

ELD 3P CONNECTOR



Wire side of female terminals

Is there continuity?

Yes Go to step 14.

No Repair open in the wire between ELD and G201.■

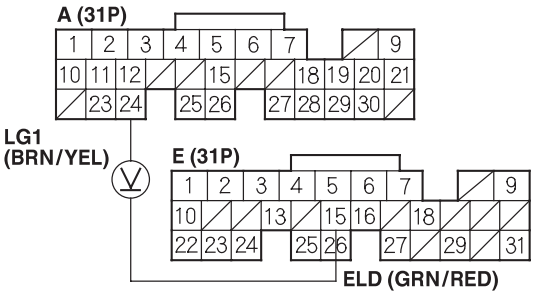
14. Reconnect the ELD 3P connector and ECM/PCM connector E (31P).

15. Reconnect the negative cable to the battery.

16. Start the engine and let it idle.

17. While measuring voltage between ECM/PCM connector terminals A24 and E15, turn the headlights on (high).

ECM/PCM CONNECTORS



Wire side of female terminals

Does the voltage drop?

Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/ indication goes away, replace the original ECM/PCM.■

No Replace the ELD.■

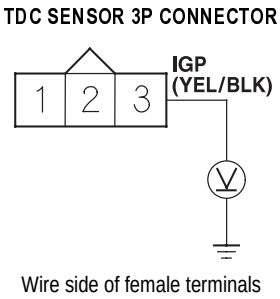
(cont'd)

DTC Troubleshooting (cont'd)

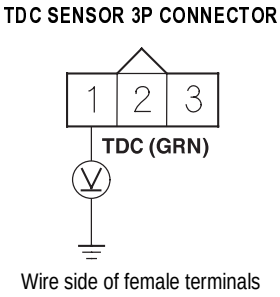
DTC P1361 (8-2): TDC Sensor Intermittent Interruption

DTC P1362 (8-1): TDC Sensor No Signal

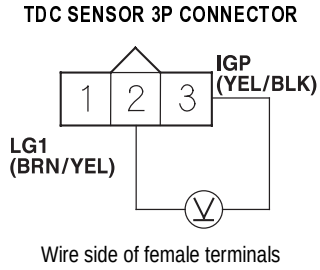
1. Reset the ECM/PCM (see page 11-4).
2. Start the engine.
   Is DTC P1361 and/or P1362 indicated?
   Yes Go to step 3.
   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the TDC sensor and at the ECM/PCM.■
3. Turn the ignition switch OFF.
4. Disconnect the TDC sensor 3P connector.
5. Turn the ignition switch ON (II).
6. Measure voltage between TDC sensor 3P connector terminal No. 3 and body ground.



   Is there battery voltage?
   Yes Go to step 7.
   No Repair open in the wire between the PGM-FI main relay 1 and the TDC sensor.■
7. Measure voltage between TDC sensor 3P connector terminal No. 1 and body ground.

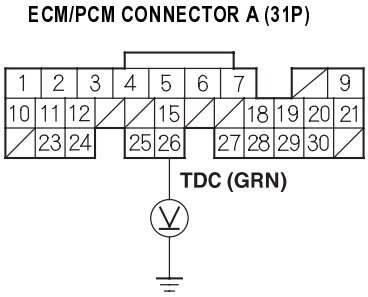


   Is there about 5 V?
   Yes Go to step 8.
   No Go to step 10.
8. Measure voltage between TDC sensor 3P connector terminals No. 2 and No. 3.



   Is there battery voltage?
   Yes Go to step 9.
   No Repair open in the BRN/YEL wire between the TDC sensor and G101.■
9. Substitute a known-good TDC sensor and recheck.
   Is DTC P1361 and/or P1362 indicated?
   Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■
   No Replace the original TDC sensor.■

10. Measure voltage between ECM/PCM connector terminal A26 and body ground.

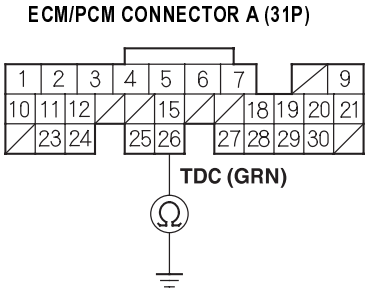


Is there about 5 V?

Yes Repair open in the wire between the ECM/PCM (A26) and TDC sensor.■

No Go to step 11.

11. Turn the ignition switch OFF.
12. Disconnect the negative cable from the battery.
13. Disconnect ECM/PCM connector A (31P).
14. Check for continuity between ECM/PCM connector terminal A26 and body ground.



Is there continuity?

Yes Repair short in the wire between the ECM/PCM (A26) and the TDC sensor.■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

DTC P1607 (0-2): Malfunction in ECM/PCM Internal Circuit

1. Reset the ECM/PCM (see page 11-4).
2. Turn the ignition switch ON (II).
3. Wait 40 seconds.

Is DTC P1607 indicated?

Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

No Intermittent failure, system is OK at this time.■

MIL Circuit Troubleshooting

1. Connect a scan tool/Honda PGM Tester (see page 11-3).
2. Turn the ignition switch ON (II) and read the scan tool/Honda PGM Tester.

   Does the the scan tool/Honda PGM Tester communicate with the ECM/PCM?

   Yes Go to step 3.

   No Go to troubleshooting ”DLC circuit” (see page 11-114).
3. Check the scan tool/Honda PGM Tester for DTCs.

   Are any DTCs indicated?

   Yes Go to the DTC Troubleshooting Index.

   No Go to step 4.
4. Turn the ignition switch OFF.
5. Turn the ignition switch ON (II) and watch the Malfunction Indicator Lamp (MIL).

   Does the MIL come on and stay on?

   Yes If the MIL always come on and stays on, go to step 77. But if the MIL sometimes works normally, first check for these problems:

   - An intermittent short in the wire between the ECM/PCM (E29) and the Data Link Connector (DLC).
   - An intermittent short in the wire between the ECM/PCM (E31) and the gauge assembly.

   No If the MIL is always off, go to step 6. But if the MIL sometimes works normally, first check for these problems:

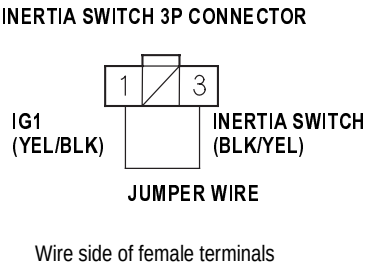
   - A loose No. 10 METER (7.5A) fuse in the under-dash fuse/relay box.
   - A loose No. 20 IG (50A) fuse in the under-hood fuse/relay box.
   - A loose No. 6 ECU (ECM/PCM) (15A) fuse in the under-hood fuse/relay box.
   - A loose No. 17 FUEL PUMP (15A) fuse in the under-dash fuse/relay box.
   - A poor connection at ECM/PCM terminal E31.
   - An intermittent open in the GRN/WHT wire between the ECM/PCM (E31) and the gauge assembly.
   - An intermittent short in the wire between the ECM/PCM (A21) and the manifold absolute pressure (MAP) sensor, countershaft speed sensor (A/T).
   - An intermittent short in the wire between the ECM/PCM (A20) and the throttle position (TP) sensor, mainshaft speed sensor (A/T).
   - An intermittent short in the wire between the ECM/PCM (E5) and the idle mixture adjuster (IMA) (without TWC).

6. KG, KS, KE, KR models:
   Turn the ignition switch OFF and press the inertia switch button.
7. KG, KS, KE, KR models:
   Turn the ignition switch ON (II).

   Does the MIL come on for 2 seconds after the ignition switch is turned ON (II)?

   Yes Intermittent failure system is OK at this time.■

   No Go to step 8.
8. KG, KS, KE, KR models:
   Turn the ignition switch OFF and disconnect the inertia switch 3P connector.
9. KG, KS, KE, KR models:
   Connect inertia switch 3P connector terminals No. 1 and No. 3 with a jumper wire.



10. KG, KS, KE, KR models:
    Turn the ignition switch ON(II).

    Does the MIL come on for 2 seconds after the ignition switch is turned ON (II)?

    Yes Replace the inertia switch.■

    No Go to step 11.
11. Turn the ignition switch OFF.
12. Turn the ignition switch ON(II).

    Is the low oil pressure light on?

    Yes Go to step 15.

    No Go to step 13.
13. Inspect the No. 10 METER (7.5A) fuse in the under-dash fuse/relay box.

    Is the fuse OK?

    Yes Go to step 14.

    No Repair short in the wire between No. 10 METER (7.5A) fuse and the gauge assembly. Also replace the No. 10 METER (7.5A) fuse.■
14. Inspect the No. 20 IG1 (50A) fuse in the under-hood fuse/relay box.

    Is the fuse OK?

    Yes Repair open in the wire between the No. 20 IG (50A) fuse and the gauge assembly. If the wires are OK, test the ignition switch (see page 22A-63).■

    No Repair short in the wire between the No. 20 IG (50A) fuse and the under-hood fuse/relay box. Also replace the No. 20 IG (50A) fuse.■
15. Try to start the engine.

    Does the engine start?

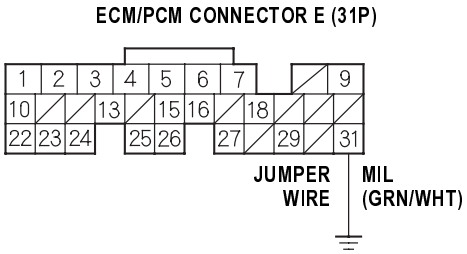
    Yes Go to step 16.

    No Go to step 18.

(cont'd)

MIL Circuit Troubleshooting (cont'd)

16. Turn the ignition switch OFF. Connect ECM/PCM connector terminal E31 to body ground with a jumper wire.



Wire side of female terminals

17. Turn the ignition switch ON (II).

Is the MIL on?

Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/ indication goes away, replace the original ECM/PCM.■

No Check for an open in the wires between the ECM/PCM (E31) and the gauge assembly. Also check for a blown MIL bulb. If the wires and the bulb are OK, replace the gauge assembly.■

18. Turn the ignition switch OFF.

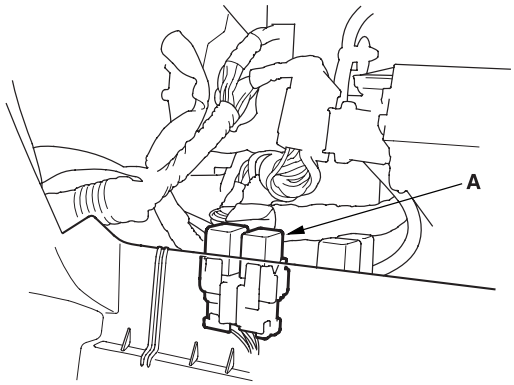
19. Remove and inspect the No. 6 ECU (ECM/PCM) (15A) fuse in the under-hood fuse/relay box.

Is the fuse OK?

Yes Go to step 25.

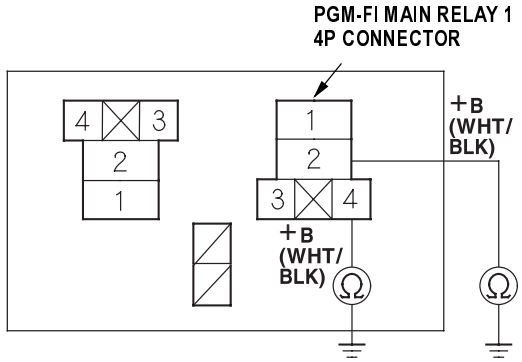
No Go to step 20.

20. Remove the glove box (see page 20-95), PGM-FI main relay 1 (A).



*: The illustration shows LHD model.

21. Check for continuity between body ground and PGM-FI main relay 1 4P connector terminals No. 2 and No. 4 individually.



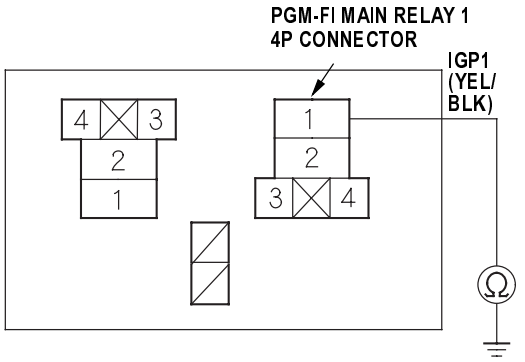
Wire side of female terminals

Is there continuity?

Yes Repair short in the wire between the No. 6 ECU (ECM/PCM) (15A) fuse and the PGM-FI main relay 1. Also replace the No. 6 ECU (ECM/PCM) (15A) fuse.■

No Go to step 22.

22. Disconnect each of the component or the connector sensors below, one at a time, and check for continuity between the PGM-FI main relay 1 4P connector terminal No. 1 and body ground.
- PGM-FI main relay 2
- ECM/PCM connector A (31P)
- Each injector 2P connector
- Idle air control (IAC) valve 3P connector
- Top dead center (TDC) sensor 2P connector
- Crankshaft position (CKP) sensor 3P connector



Wire side of female terminals

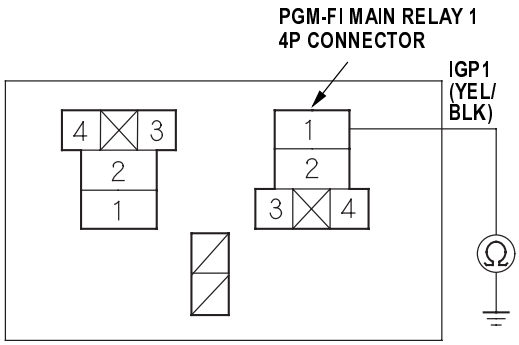
Is there continuity?

Yes Go to step 23.

No Replace the item that made continuity to body ground go away when disconnected. If the item is the ECM/PCM, substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away, replace the original ECM/PCM. Also replace the No. 6 ECU (ECM/PCM) (15A) fuse.■

23. Disconnected the connectors of all following items.
- PGM-FI main relay 2
- ECM/PCM connector A (31P)
- Injectors
- Idle air control (IAC) valve
- Top dead center (TDC) sensor
- Crankshaft position (CKP) sensor

24. Check for continuity between PGM-FI main relay 1 4P connector terminals No. 1 and body ground.



Wire side of female terminals

Is there continuity?

Yes Repair short in the wire between PGM-FI main relay 1 and each item. Also replace the No. 6 ECU (ECM/PCM) (15A) fuse.■

No Replace the PGM-FI main relay 1. Also replace the No. 6 ECU (ECM/PCM) (15A) fuse.■

25. Remove and inspect the No. 17 FUEL PUMP (15A) fuse in the under-dash fuse/relay box.

Is the fuse OK?

Yes Go to step 36.

No Go to step 26.

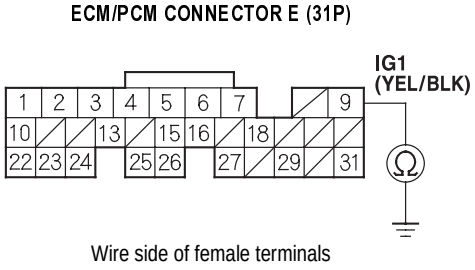
26. Disconnect the negative cable from the battery.

27. Disconnect ECM/PCM connector E (31P).

(cont'd)

MIL Circuit Troubleshooting (cont'd)

28. Check for continuity between ECM/PCM connector terminal E9 and body ground.



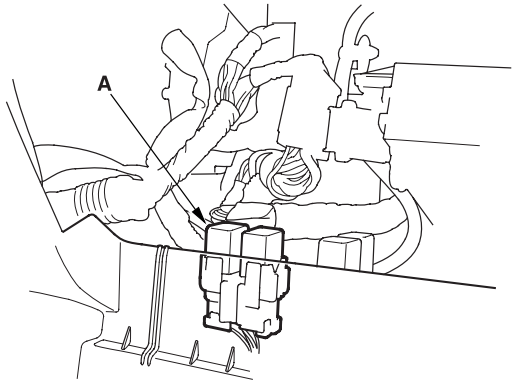
Wire side of female terminals

Is there continuity?

Yes Go to step 29.

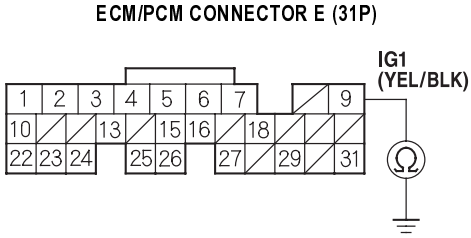
No Replace the No. 17 FUEL PUMP (15A) fuse, and substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/ indication goes away, replace the original ECM/PCM.■

29. Remove the glove box (see page 20-95), PGM-FI main relay 2 (A).



*: The illustration shows LHD model

30. Check for continuity between ECM/PCM connector terminal E9 and body ground.



Wire side of female terminals

Is there continuity?

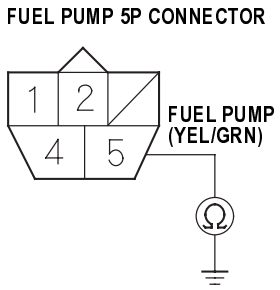
Yes Repair short in the wire between the No. 17 FUEL PUMP (15A) fuse and the ECM/PCM (E9), or the No. 17 FUEL PUMP (15A) fuse and the PGM-FI main relay 2. Also replace the No. 17 FUEL PUMP (15A) fuse.■

No Go to step 31.

31. Fold the rear seats forward, and pull back the carpet to expose the access panel.

32. Remove the access panel from the floor. Disconnect the fuel pump 5P connector.

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



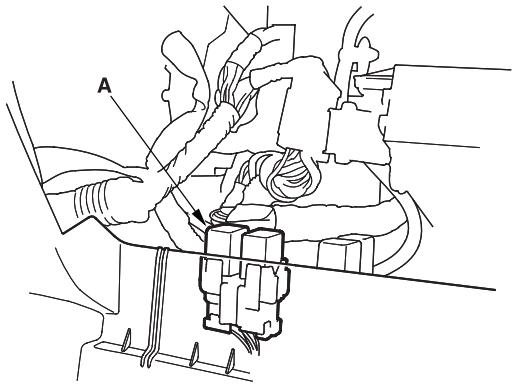
Wire side of female terminals

Is there continuity?

Yes Repair short in the wire between the fuel pump and the PGM-FI main relay 2. Also replace the No. 17 FUEL PUMP (15A) fuse.■

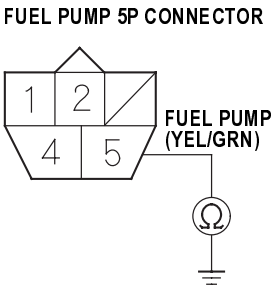
No Go to step 34.

34. Reinstall PGM-FI main relay 2 (A).



*: The illustration shows LHD model

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



Wire side of female terminals

Is there continuity?

Yes Replace PGM-FI main relay 2. Also replace the No. 17 FUEL PUMP (15A) fuse.■

No Check the fuel pump, and replace it if necessary. Also replace the No. 17 FUEL PUMP (15A) fuse.■

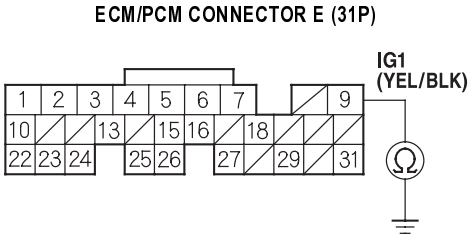
36. Disconnect the negative cable from the battery.

37. Disconnect ECM/PCM connector E (31P).

38. Reconnect the negative cable to the battery.

39. Turn the ignition switch ON (II).

40. Measure voltage between ECM/PCM connector terminals E9 and body ground.



Wire side of female terminals

Is there battery voltage?

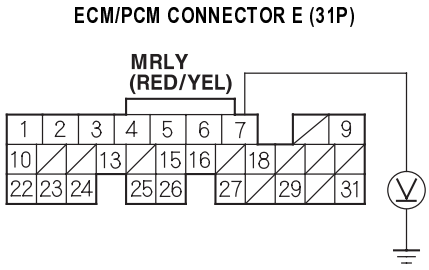
Yes Go to step 41.

No Repair open in the wire between the No. 17 FUEL PUMP (15A) fuse and the ECM/PCM (E9).■

(cont'd)

MIL Circuit Troubleshooting (cont'd)

41. Measure voltage between ECM/PCM connector terminal E7 and body ground.



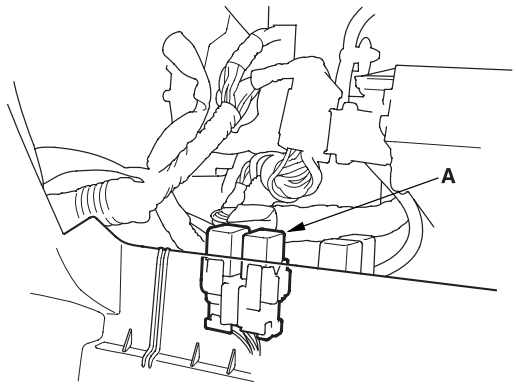
Wire side of female terminals

Is there battery voltage?

Yes Go to step 45.

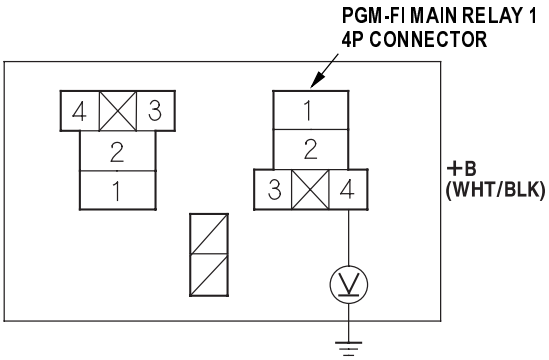
No Go to step 42.

42. Turn the ignition switch OFF and remove PGM-FI main relay 1 (A).



*: The illustration shows LHD model.

43. Measure voltage between PGM-FI main relay 1 4P connector terminal No. 4 and body ground.



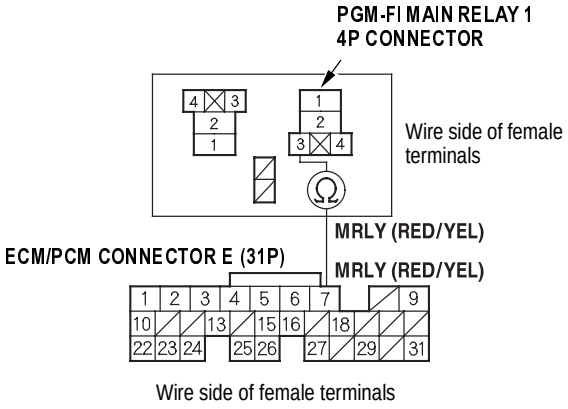
Wire side of female terminals

Is there battery voltage?

Yes Go to step 44.

No Repair open in the wire between the No. 6 ECU (ECM/PCM) (15A) fuse and PGM-FI main relay 1.■

44. Check for continuity between PGM-FI main relay 1 4P connector terminal No. 3 and ECM/PCM connector terminal E7.



Wire side of female terminals

Is there continuity?

Yes Test PGM-FI main relay 1 (see page 22A-60). If the relay is OK, substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away, replace the original ECM/PCM.■

No Repair open in the wire between PGM-FI main relay 1 and the ECM/PCM (E7).■

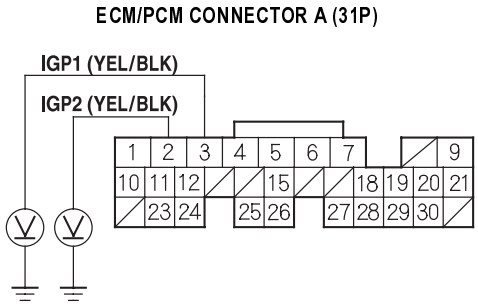
45. Disconnect the negative cable from the battery.

46. Reconnect ECM/PCM connector E (31P).

47. Reconnect the negative cable to the battery.

48. Turn the ignition switch ON (II).

49. Measure voltage between body ground and ECM/PCM connector terminals A2 and A3 individually.



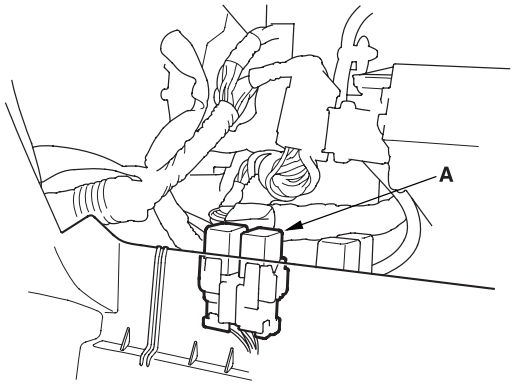
Wire side of female terminals

Is there battery voltage?

Yes Go to step 55.

No Go to step 50.

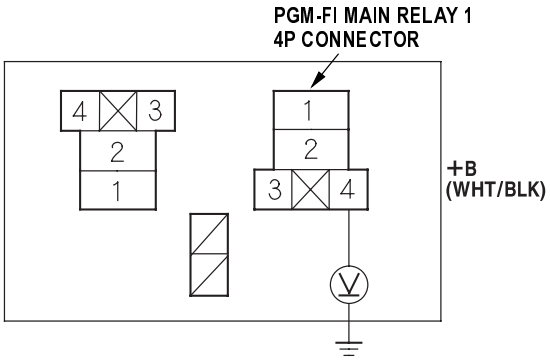
50. Turn the ignition switch OFF and remove PGM-FI main relay 1 (A).



*: The illustration shows LHD model

51. Turn the ignition switch ON (II).

52. Measure voltage between PGM-FI main relay 1 4P connector terminal No. 2 and body ground.



Wire side of female terminals

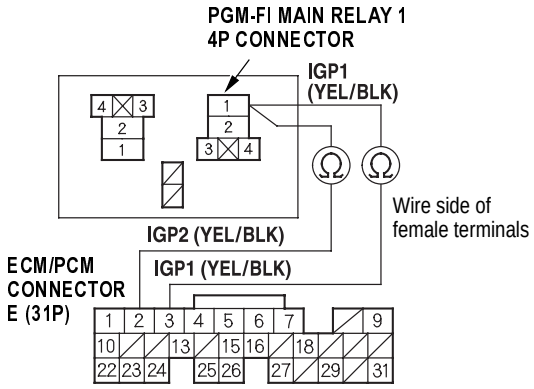
Is there battery voltage?

Yes Go to step 53.

No Repair open in the wire between the No. 6 ECU (ECM/PCM) (15A) fuse and PGM-FI main relay 1.■

53. Turn the ignition switch OFF.

54. Check for continuity between PGM-FI main relay 1 4P connector terminal No. 1 and ECM/PCM connector terminals A2 and A3 individually.



Wire side of female terminals

Is there continuity?

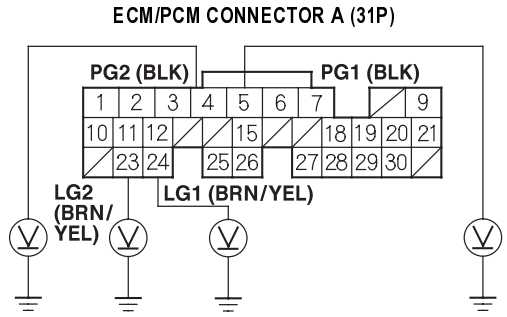
Yes Replace the PGM-FI main relay 1.■

No Repair open in the wire between PGM-FI main relay 1 and the ECM/PCM (A2, A3).■

(cont'd)

MIL Circuit Troubleshooting (cont'd)

55. Measure voltage between body ground and ECM/PCM connector terminals A4, A5, A23 and A24 individually.



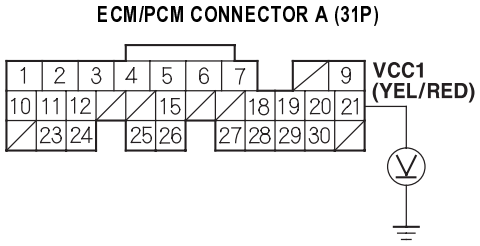
Wire side of female terminals

Is there less than 0.2 V?

Yes Repair open in the wire(s) that had more than 0.2 V between G101 and ECM/PCM (A4, A5, A23, A24).■

No Go to step 56.

56. Measure voltage between body ground and ECM/PCM connector terminals A21.



Wire side of female terminals

Is there about 5 V?

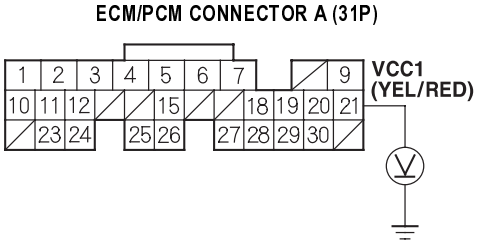
Yes Go to step 63.

No Go to step 57.

57. Turn the ignition switch OFF.

58. Disconnect the 3P connector from each of these sensors, one at a time, and measure voltage between body ground and ECM/PCM connector terminal A21 with the ignition switch ON (II).

- Manifold absolute pressure (MAP) sensor
- Countershaft speed sensor (A/T)



Wire side of female terminals

Is there about 5 V?

Yes Replace the sensor that restored 5 V when disconnected.■

No Go to step 59.

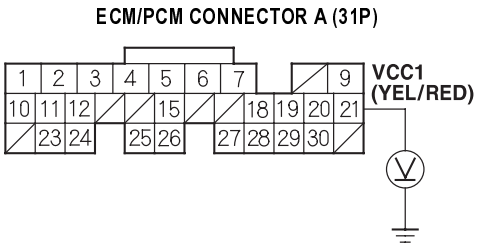
59. Turn the ignition switch OFF and disconnect the negative cable from the battery.

60. Disconnect the 3P connectors from the following sensors.

- Manifold absolute pressure (MAP) sensor
- Countershaft speed sensor (A/T)

61. Disconnect ECM/PCM connector A (31P).

62. Check for continuity between ECM/PCM connector terminal A21 and body ground.



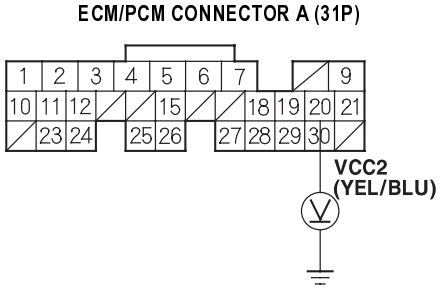
Wire side of female terminals

Is there continuity?

Yes Repair short in the wire between ECM/PCM (A21) and the MAP sensor, countershaft speed sensor (A/T).■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/ indication goes away, replace the original ECM/PCM.■

63. Measure voltage between body ground and ECM/ PCM connector terminals A20.



Wire side of female terminals

Is there about 5 V?

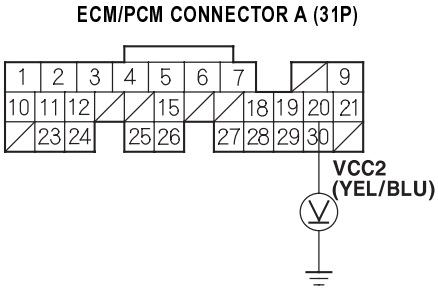
Yes Go to step 70.

No Go to step 64.

64. Turn the ignition switch OFF.

65. Disconnect the 3P connector from each of these sensors, one at a time, and measure voltage between body ground and ECM/PCM connector terminal A20 with the ignition switch ON (II).

- Throttle position (TP) sensor
- Mainshaft speed sensor (A/T)



Wire side of female terminals

Is there about 5 V?

Yes Replace the sensor that restored 5 V when disconnected.■

No Go to step 66.

66. Turn the ignition switch OFF and disconnect the negative cable from the battery.

67. Disconnect the 3P connector from the following sensors.

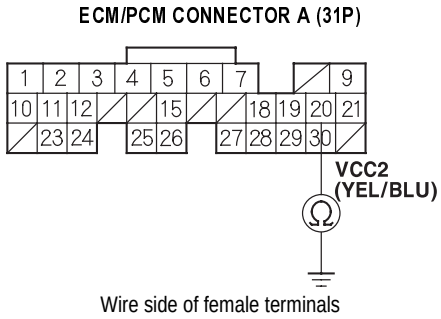
- Throttle position (TP) sensor
- Mainshaft speed sensor (A/T)

68. Disconnect ECM/PCM connector A (31P).

(cont'd)

MIL Circuit Troubleshooting (cont'd)

69. Check for continuity between ECM/PCM connector terminal A20 and body ground.

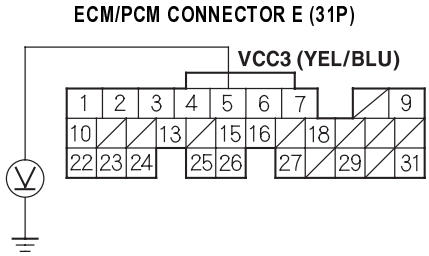


Is there continuity?

Yes Repair short in the wire between the ECM/PCM (A20) and the TP sensor, mainshaft speed sensor (A/T).■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

70. Measure voltage between body ground and ECM/PCM connector terminals E5.



Is there about 5 V?

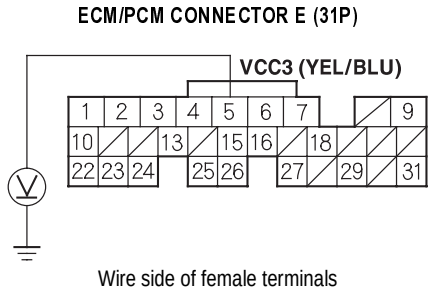
Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away, replace the original ECM/PCM.■

No Go to step 71.

71. Turn the ignition switch OFF and disconnect the idle mixture adjuster (IMA) 3P connector.

72. Turn the ignition switch ON (II).

73. Measure voltage between body ground and ECM/PCM connector terminal E5.



Is there about 5 V?

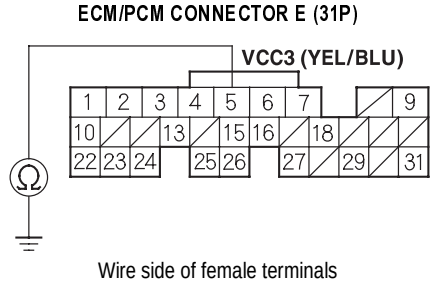
Yes Replace the IMA.■

No Go to step 74.

74. Turn the ignition switch OFF and disconnect the negative cable from the battery.

75. Disconnect ECM/PCM connector E (31P).

76. Check for continuity between ECM/PCM connector terminal E5 and body ground.



Is there continuity?

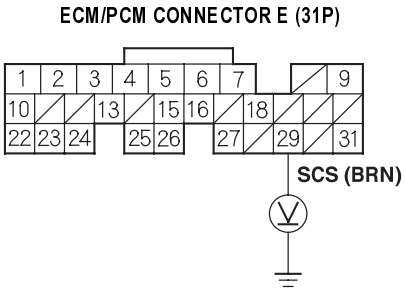
Yes Repair short in the wire between ECM/PCM (E5) and the IMA.■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away, replace the original ECM/PCM.■

77. Turn the ignition switch OFF.

78. Turn the ignition switch ON (II).

79. Measure voltage between ECM/PCM connector terminal E29 and body ground.



Is there about 5 V (or battery voltage)?

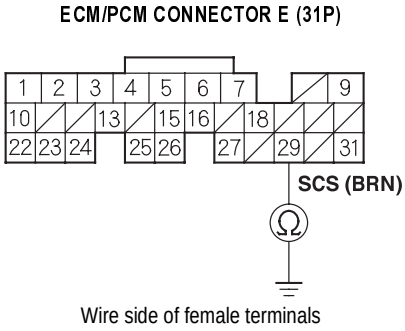
Yes Go to step 83.

No Go to step 80.

80. Turn the ignition switch OFF and disconnect the negative cable from the battery.

81. Disconnect the ECM/PCM connector E (31P).

82. Check for continuity between ECM/PCM connector terminal E29 and body ground.



Is there continuity?

Yes Repair short in the wire between the data link connector and the ECM/PCM (E29).■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/ indication goes away, replace the original ECM/PCM.■

83. Turn the ignition switch OFF and disconnect the negative cable from the battery.

84. Disconnect the ECM/PCM connector E (31P).

85. Reconnect the negative cable to the battery.

86. Turn the ignition ON (II).

Is the MIL ON?

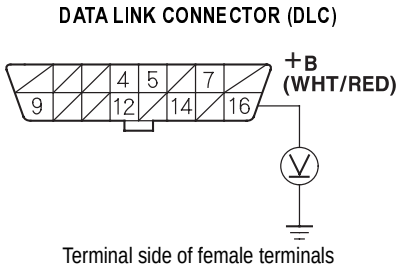
Yes Repair short in the wire between the gauge assembly and the ECM/PCM (E31). If the wires are OK, replace the gauge assembly.■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/ indication goes away, replace the original ECM/PCM.■

DLC Circuit Troubleshooting

1. Turn the ignition switch ON (II).

2. Measure voltage between data link connector (DLC) terminal No. 16 and body ground.

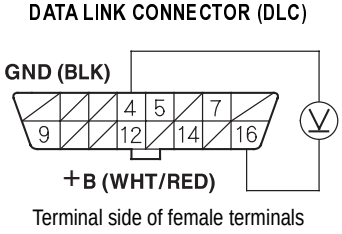


Is there battery voltage?

Yes Go to step 3.

No Repair open in the wire between DLC terminal No. 16 and the No. 9 BACK UP (10A) fuse in the under-hood fuse/relay box.■

3. Measure voltage between DLC terminals No. 4 and No. 16.

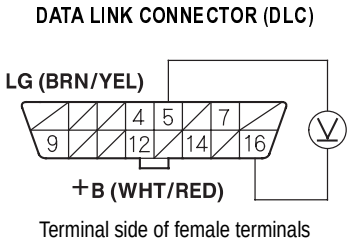


Is there battery voltage?

Yes Go to step 4.

No Repair open in the wire between DLC terminal No. 4 and body ground.■

4. Measure voltage between DLC terminals No. 5 and No. 16.

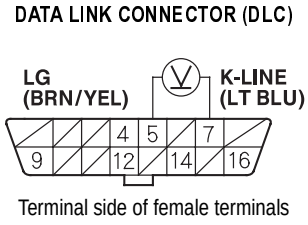


Is there battery voltage?

Yes Go to step 5.

No Repair open in the wire between DLC terminal No. 5 and the ECM/PCM (E3).■

5. Measure voltage between DLC terminals No. 5 and No. 7.



Is there 8.5 V or more?

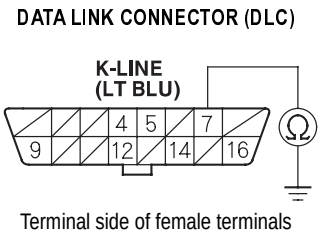
Yes Go to step 11.

No Go to step 6.

6. Turn the ignition switch OFF.

7. Disconnect the negative cable from the battery.

8. Disconnect ECM/PCM connector E (31P). Make sure the Honda PGM Tester is disconnected from the DLC.
9. Check for continuity between DLC terminal No. 7 and body ground.

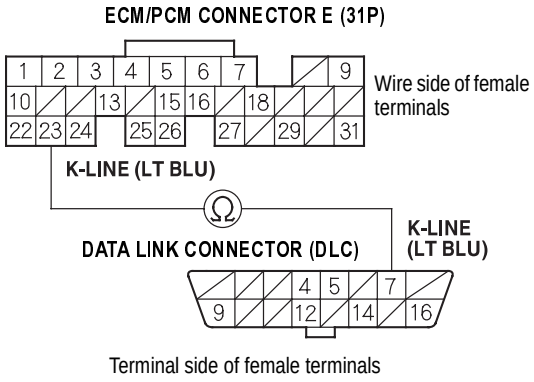


Is there continuity?

Yes Repair short to ground in the wire between DLC terminal No. 7 and the ECM/PCM (E23).■

No Go to step 10.

10. Check for continuity between DLC terminal No. 7 and ECM/PCM terminal E23.

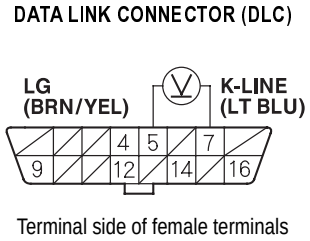


Is there continuity?

Yes Substitute a known-good ECM/PCM, and recheck (see page 11-5). If the symptom/ indication goes away with a known-good ECM/PCM, replace the original ECM/PCM.■

No Repair open in the wire between DLC terminal No. 7 and the ECM/PCM (E23).■

11. Turn the ignition switch OFF.
12. Disconnect the negative cable from the battery.
13. Disconnect ECM/PCM connector E (31P). Make sure the Honda PGM Tester is disconnected from the DLC.
14. Reconnect the negative cable to the battery.
15. Turn the ignition switch ON (II).
16. Measure voltage between DLC terminals No. 5 and No. 7.



Is there 0 V?

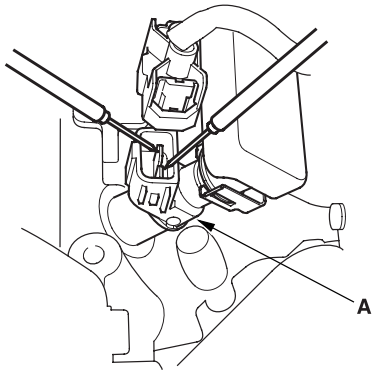
Yes Substitute a known-good ECM/PCM, and recheck (see page 11-5). If the symptom/ indication goes away with a known-good ECM/PCM, replace the original ECM/PCM.■

No Repair short to power in the wire between the DLC terminal No. 7 and the ECM/PCM (E23).■

Injector Test

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

1. Try to start the engine.
   Does the engine start?
   Yes Go to step 2.
   No Go to step 6.
2. Turn the ignition switch OFF. Remove the engine cover.
3. Disconnect each injector connector individually.
4. 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 injector, replace the injector and retest (see page 11-117).
5. Check the clicking sound of each 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 injector (see page 11-117).
   - If clicking sound is still absent, check the following.
     – Whether there is wire breakage or poor connection in the YEL/BLK wire between the PGM-FI main relay and the junction connector.
     – Whether the junction connector is open or corroded.
     – Whether there is wire breakage or poor connection in the YEL/BLK wire between the junction connector and the injector.
     – Whether there is any short-circuiting, wire breakage or poor connection in the wire between the injector and the ECM/PCM.
   - If all is OK, the test is complete.
6. Turn the ignition switch OFF.
7. Remove the engine cover.
8. Remove the injector connector.
9. Measure the resistance between injector (A) terminals No. 1 and No. 2.



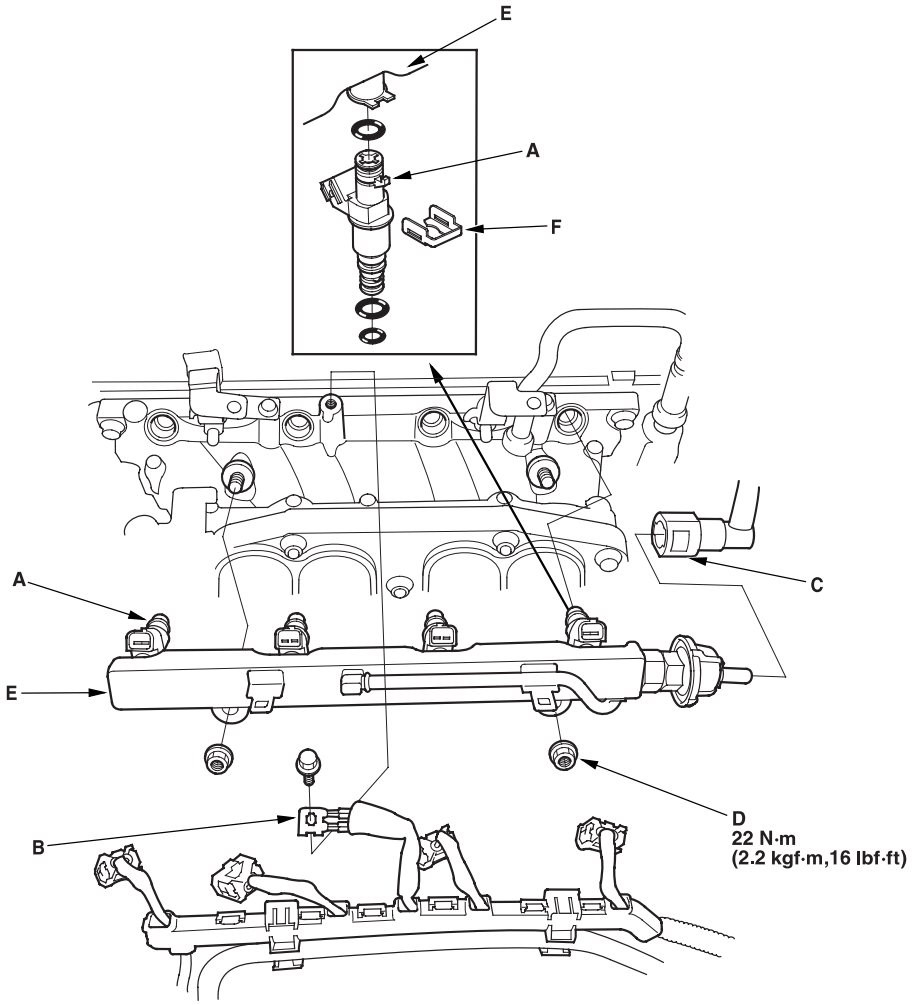
Is there 10 - 13 Ω?
Yes Go to step 10.
No Replace the injector (see page 11-117).■

10. 10. Check the fuel pressure (see page 11-154).

- If the fuel pressure is as specified, check the following:
  – Whether there is wire breakage, or poor connection in the YEL/BLK wire between the PGM-FI main relay and the junction connector.
  – Whether the junction connector is open or corroded.
  – Whether there is wire breakage, or poor connection in the YEL/BLK wire between the junction connector and the injector.
  – Whether there is any short-circuiting, wire breakage or poor connection in the wire between the injector and the ECM/PCM.
- If the fuel pressure is not as specified, recheck the fuel pressure (see page 11-154).

Injector Replacement

1. Relieve fuel pressure (see page 11-154).
2. Disconnect the connectors from the injectors (A), ground cable (B).

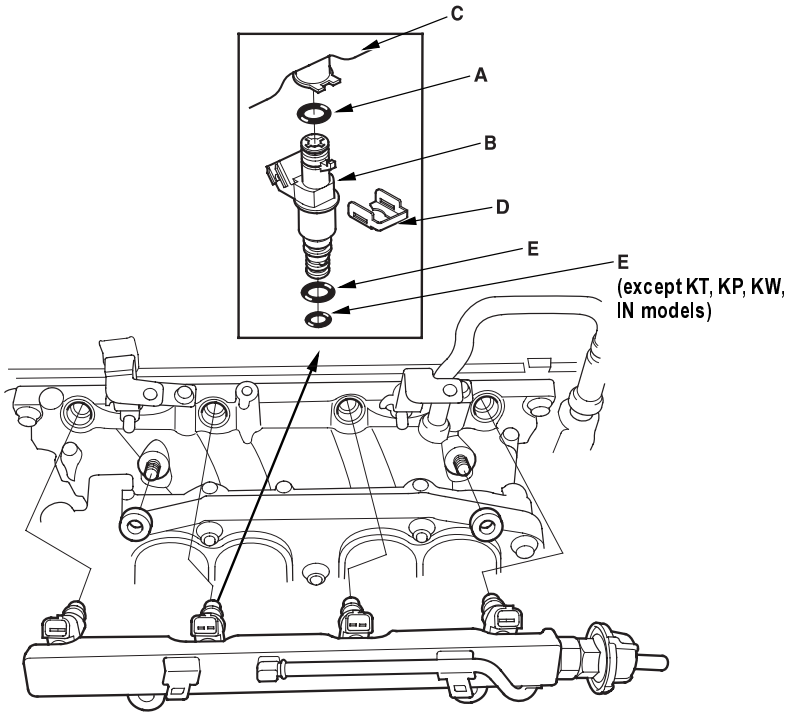


3. Disconnect the quick-connect fittings (C).
4. Remove the fuel rail mounting nuts (D) from the fuel rail (E).
5. Remove the injector clip (F) from the injector.
6. Remove the injector from the fuel rail.

(cont'd)

Injector Replacement (cont'd)

7. Coat the new O-rings (A) with clean engine oil, and insert the injectors (B) into the fuel rail (C).



8. Install the injector clip (D).

9. Coat the injector O-ring (E) with clean engine oil.

10. To prevent damage to the O-rings, install the injectors in the fuel rail first, then install them in the injector base (F).

11. Install the fuel rail mounting nuts and ground cable.

12. Connect the connectors on the injectors.

13. Connect the quick-connect fittings.

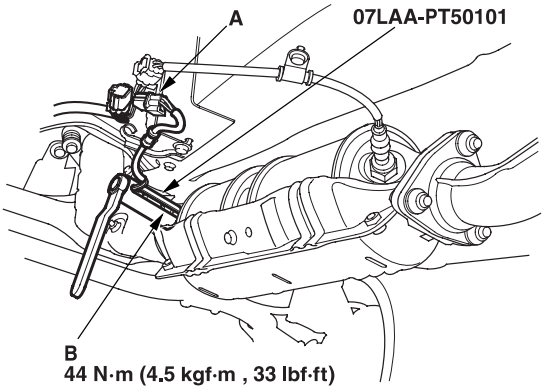
14. Turn the ignition switch ON (II), but do not operate the starter. After the fuel pump runs for approximately 2 seconds, the fuel pressure in the fuel line rises. Repeat this two or three times, then check for fuel leakage.

Primary HO2S Replacement

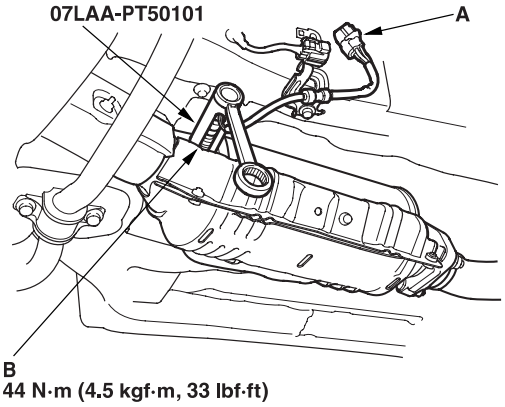
Special Tools Required
O2 sensor wrench 07LAA-PT50101

1. Disconnect the primary HO2S 4P connector (A), then remove the primary HO2S (B).

KG, KS, KE, KR, KU, KZ, FO, KQ models:



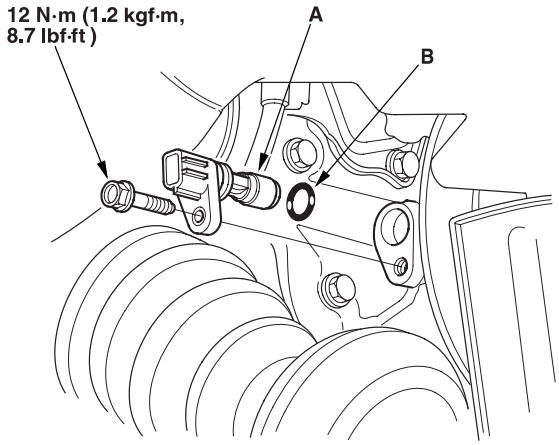
KN, KM, KY, MA, PH, IN, KK models.



2. Install the primary HO2S in the reverse order of removal.

CKP Sensor Replacement

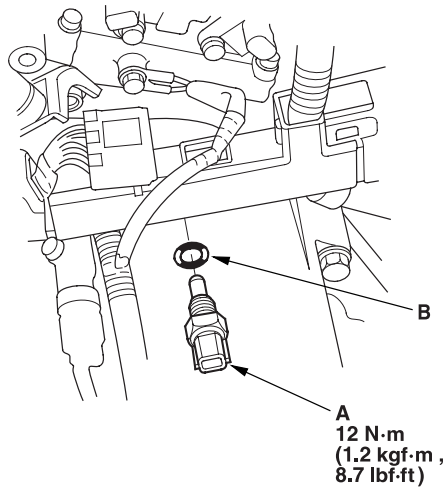
1. Disconnect the CKP 3P connector.
2. Remove the CKP sensor (A).



3. Install the part in the reverse order of removal with a new O-ring (B).

ECT Sensor Replacement

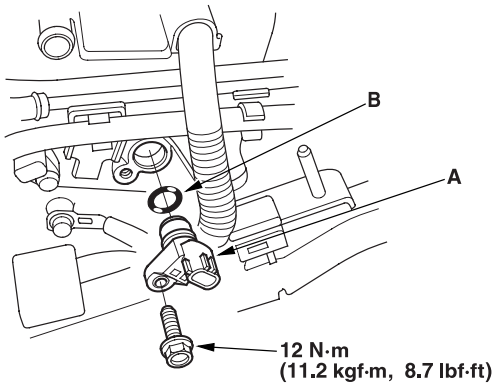
1. Remove the air cleaner (see page 11-182).
2. Disconnect the ECT sensor 2P connector.
3. Remove the ECT sensor (A).



4. Install the part in the reverse order of removal with a new O-ring (B).

TDC Sensor Replacement

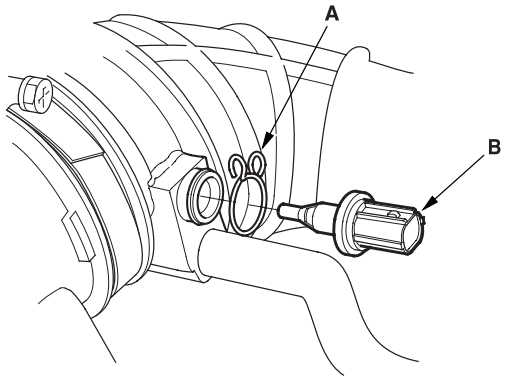
1. Remove the air cleaner (see page 11-182).
2. Disconnect the TDC sensor 3P connector.
3. Remove the TDC sensor (A).



4. Install the part in the reverse order of removal with a new O-ring (B).

IAT Sensor Replacement

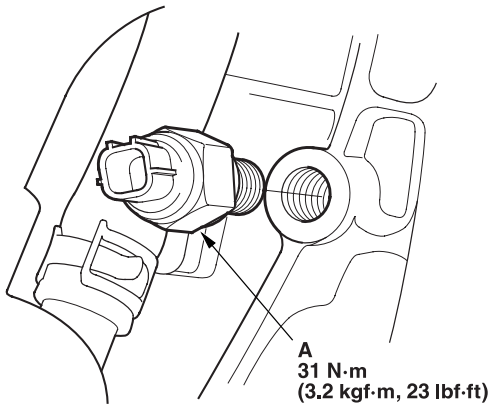
1. Disconnect the IAT sensor 2P connector.
2. Remove the clip (A) and the IAT sensor (B).



3. Install the part in the reverse order of removal.

Knock Sensor Replacement

1. Remove the splash shield.
2. Disconnect the knock sensor 1P connector.
3. Remove the knock sensor (A).

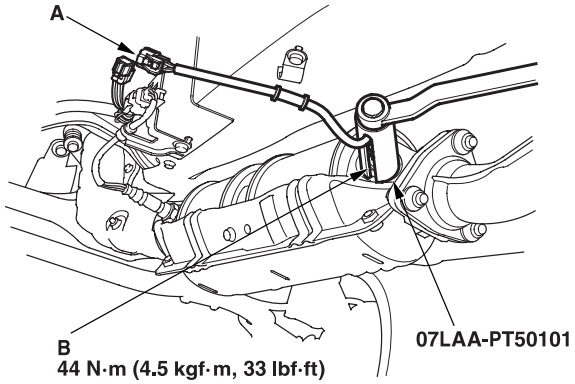


4. Install the part in the reverse order of removal.

Secondary HO2S Replacement

Special Tools Required
O2 sensor wrench 07LAA-PT50101

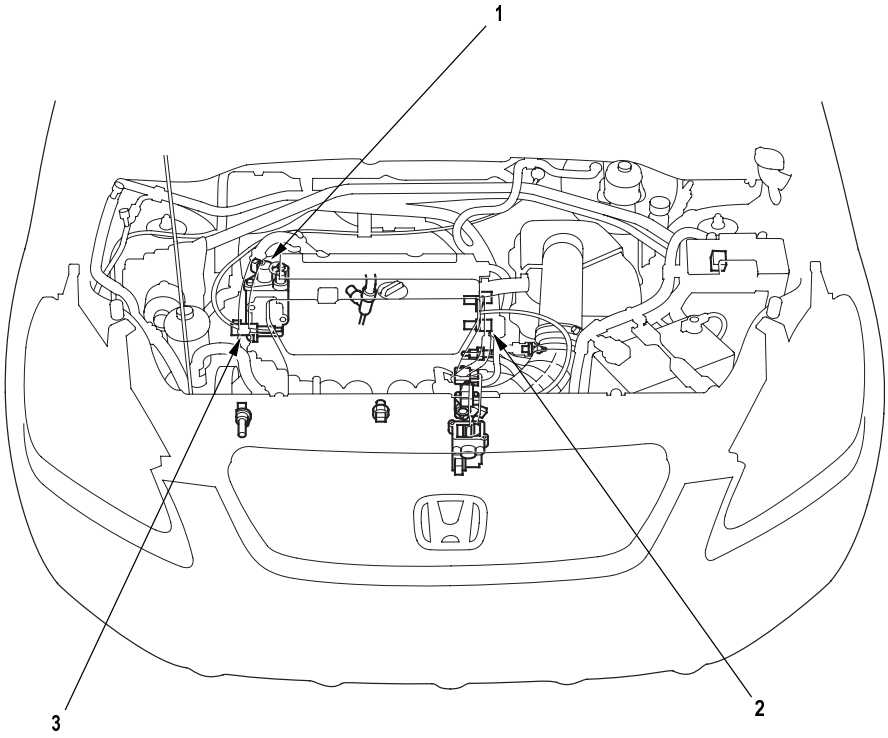
1. Disconnect the secondary HO2S 4P connector (A), then remove the secondary HO2S (B).



2. Install the secondary HO2S in the reverse order of removal.

VTEC/VTC

Component Location Index



1	VTEC SOLENOID VALVE	Troubleshooting, page 11-130; Removal/Inspection, page 11-138
2	CAMSHAFT POSITION (CMP) SENSOR	Troubleshooting, page 11-128; Replacement, page 11-138
3	VTC OIL CONTROL SOLENOID VALVE	Troubleshooting, page 11-124; Test, page 11-137

*: The illustration shows LHD model

DTC Troubleshooting

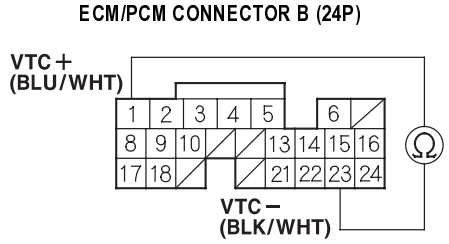
DTC P0010 (56-1): VTC Oil Control Solenoid Valve Malfunction

1. Reset the ECM/PCM (see page 11-4).
2. Start the engine. Hold the engine at 3,000 rpm with no load (in park or neutral) until the radiator fan comes on, then let it idle.
3. Test-drive at a steady speed between 30-60 km/h (20-40 mph) for 10 minutes.

   Is DTC P0010 indicated?

   Yes Go to step 4.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the VTC oil control solenoid valve and at the ECM/PCM.■
4. Turn the ignition switch OFF.
5. Disconnect the negative cable from the battery.
6. Disconnect the ECM/PCM connector B (24P).
7. Measure resistance between ECM/PCM connector terminal B1 and B23.

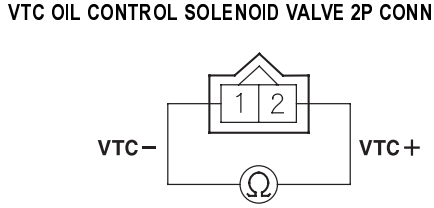


Wire side of female terminals

   Is there 6.75 - 8.25 Ω?

   Yes Go to step 12.

   No Go to step 8.
8. Disconnect the VTC oil control solenoid valve 2P connector.
9. Measure resistance between VTC oil control solenoid valve 2P terminal No. 1 and No. 2.

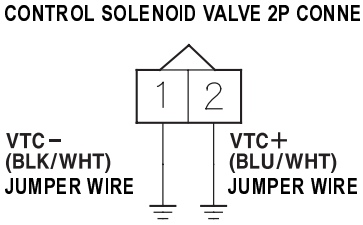


Terminal side of male terminals

   Is there 6.75 - 8.25 Ω?

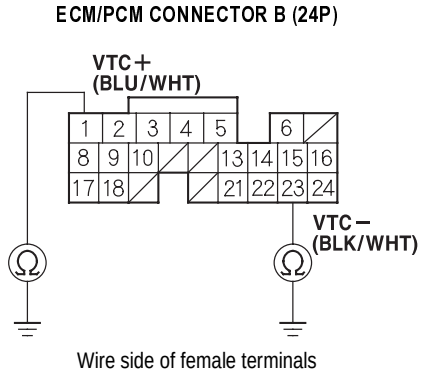
   Yes Go to step 10.

   No Replace the VTC oil control solenoid valve (see page 11-137).■
10. Connect VTC oil control solenoid valve 2P connector terminals No. 1 and No. 2 to body ground with a jumper wire individually.



Wire side of female terminals

11. Check for continuity between ECM/PCM connector terminals B1, B23, and body ground.

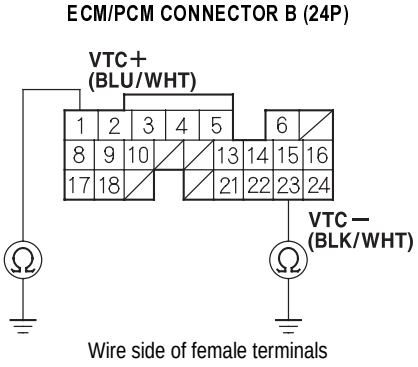


Is there continuity?

Yes Go to step 12.

No Repair open in the wire between the ECM/PCM (B1, B23) and the VTC oil control solenoid valve.■

12. Check for continuity between ECM/PCM connector terminals B1 and B23 and body ground individually.



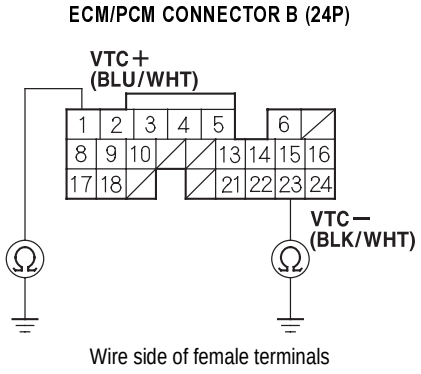
Is there continuity?

Yes Go to step 13.

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM.■

13. Disconnect the VTC oil control solenoid valve 2P connector.

14. Check for continuity between ECM/PCM connector terminals B1 and B23 and body ground individually.



Is there continuity?

Yes Repair short in the wire between the ECM/PCM (B1, B23) and the VTC oil control solenoid valve.■

No Replace the VTC oil control solenoid valve (see page 11-137).■

(cont'd)

DTC Troubleshooting (cont'd)

DTC P0011 (56-2): VTC System Malfunction

1. Reset the ECM/PCM (see page 11-4).
2. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on.
3. Test-drive at a steady speed between 30 - 60 km/h (20 - 40 mph) for 10 minutes.
4. Check for Temporary DTC with the scan tool.

   Is Temporary DTC P0011 indicated?

   Yes Go to step 5.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the VTC oil control solenoid valve and at the ECM/PCM.■
5. Watch the low oil pressure light.

   Is the low oil pressure light on?

   Yes Check the oil pressure (see page 08-4).■

   No Go to step 6.
6. Turn the ignition switch OFF.
7. Remove the auto-tensioner (see page 04-31).
8. Remove the VTC strainer. Check the VTC strainer for clogging.

   Is the strainer OK?

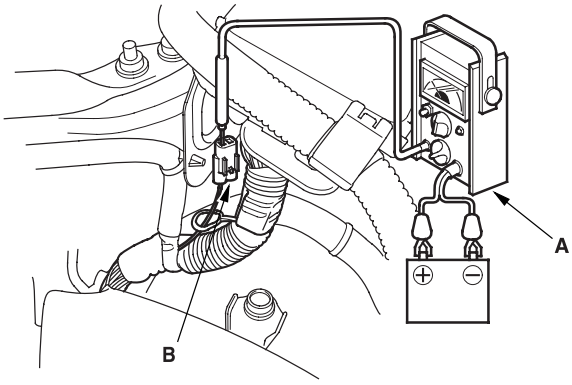
   Yes Go to step 9.

   No Clean the VTC strainer, then replace the engine oil filter and the engine oil.
9. Check the VTC oil control solenoid valve (see page 11-137).

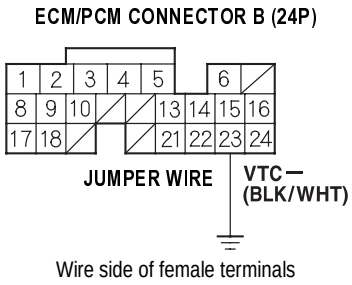
   Is the VTC oil control solenoid valve OK?

   Yes Go to step 10.

   No Clean the ports of the VTC oil control solenoid valve, or replace the VTC oil control solenoid valve.■
10. Install the VTC oil control solenoid valve.
11. Connect a tachometer (A) to the test tachometer connector (B).

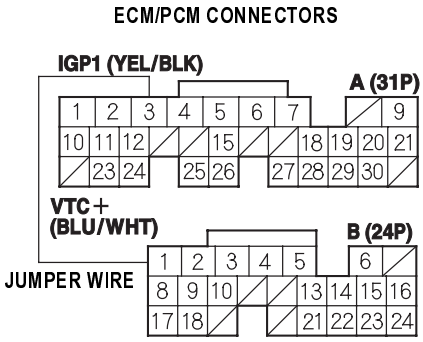


12. Start the engine. Hold the engine at 700 - 1,000 rpm (min^{-1}).
13. Connect the ECM/PCM connector terminal B23 to body ground with a jumper wire.



14. Connect the ECM/PCM connector terminal A3 and B1 with a jumper wire for below 1 minute.

NOTE: Do not jump for above 1 minute.



Wire side of female terminals

Did the engine stall or run rough?

Yes Test-drive at a steady speed between 30 - 60 km/h (19 - 37 mph) for 10 minutes. If temporary DTC P0011 is indicated, substitute a known-good ECM/PCM and recheck (see page 11-5), replace the original ECM/PCM.■

No Go to step 15.

15. Check the VTC actuator (see page 06-8).

Is the VTC actuator OK?

Yes Remove the auto-tensioner (see page 04-31) and replace the VTC oil filter. Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

No Replace the VTC actuator.■

(cont'd)

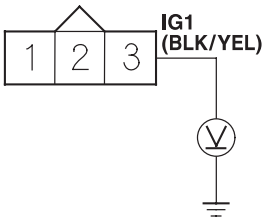
DTC Troubleshooting (cont'd)

DTC P0340 (57-1): CMP Sensor No Signal

DTC P0344 (57-2): CMP Sensor Intermittent Interruption

1. Reset the ECM/PCM (see page 11-4).
2. Start the engine.
   Is DTC P0340 and/or P0344 indicated?
   Yes Go to step 3.
   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the CMP sensor and at the ECM/PCM.■
3. Turn the ignition switch OFF.
4. Disconnect the CMP sensor 3P connector.
5. Turn the ignition switch ON (II).
6. Measure voltage between CMP sensor 3P connector terminal No. 3 and body ground.

CMP SENSOR 3P CONNECTOR



Wire side of female terminals

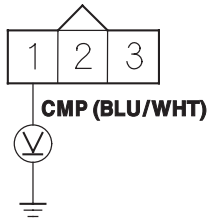
Is there battery voltage?

Yes Go to step 7.

No Check the No. 4 ACG (10A) fuse in the under-dash fuse/relay box. If the fuse is OK, repair open in the wire between the CMP sensor and No. 4 ACG (10A) fuse.

7. Measure voltage between CMP sensor 3P connector terminal No. 1 and body ground.

CMP SENSOR 3P CONNECTOR



Wire side of female terminals

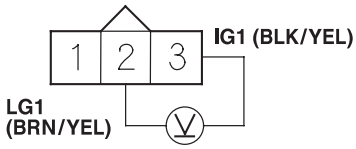
Is there about 5 V?

Yes Go to step 8.

No Go to step 10.

8. Measure voltage between CMP sensor 3P connector terminals No. 2 and No. 3.

CMP SENSOR 3P CONNECTOR



Wire side of female terminals

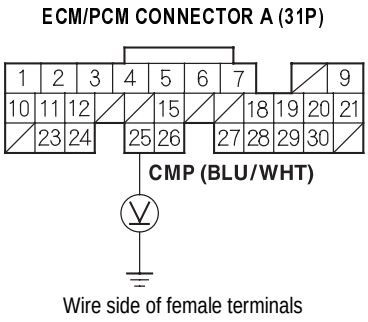
Is there battery voltage?

Yes Go to step 9.

No Repair open in the wire between the CMP sensor and G101.■

9. Substitute a known-good CMP sensor and recheck.
   Is DTC P0340 and/or P0344 indicated?
   Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■
   No Replace the original CMP sensor.■

10. Measure voltage between ECM/PCM connector terminal A25 and body ground.

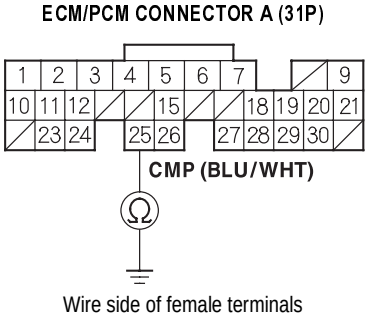


Is there about 5 V?

Yes Repair open in the wire between the ECM/PCM (A25) and CMP sensor.■

No Go to step 11.

11. Turn the ignition switch OFF.
12. Disconnect the negative cable from the battery.
13. Disconnect ECM/PCM connector A (31P).
14. Check for continuity between ECM/PCM connector terminal A25 and body ground.



Is there continuity?

Yes Repair short in the wire between the ECM/PCM (A25) and the CMP sensor.■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

DTC P0341 (57-3): VTC Phase Gap

1. Reset the ECM/PCM (see page 11-4).
2. Start the engine.

   Is DTC P0341 indicated?

   Yes Go to step 3.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the CMP sensor and at the ECM/PCM.■
3. Check the VTC oil control solenoid valve (see page 11-137).

   Is the VTC oil control solenoid valve OK?

   Yes Go to step 4.

   No Clean the VTC oil control solenoid valve, or replace the VTC oil control solenoid valve.■
4. Remove the head cover and check the cam chain (see page 06-15).

   Is the cam chain OK?

   Yes Go to step 5.

   No Repair or replace the cam chain.■
5. Check the slack in the cam chain (see page 06-22).

   Is the cam chain OK?

   Yes Go to step 6.

   No Repair or replace the cam chain.
6. Check the VTC actuator (see page 06-8).

   Is the VTC actuator OK?

   Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

   No Replace the VTC actuator.■

(cont'd)

DTC Troubleshooting (cont'd)

DTC P1253 (21-1): VTEC System Malfunction

Special Tools Required
- Oil Pressure gauge attachment 07NAJ-P070100
- Low pressure gauge 07406-0070001
- Hose oil pressure 07ZAJ-S5A0200

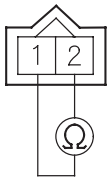
1. Reset the ECM/PCM (see page 11-4).
2. Check the engine oil level, and refill if necessary. Check for external damage to the oil pan.
3. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) unit the radiator fan comes on.
4. Road test the vehicle:
   Accelerate in MT, A/T: 2nd gear to an engine speed over 4,000 rpm (min^{-1}). Hold that engine speed for at least 2 seconds. If DTC P1253 is not repeated during the first road test, repeat this test 2 more times.

   Is DTC P1253 indicated?

   Yes Go to step 5.

   No Intermittent failure, system is OK at this time. Check the oil consumption if oil was added in step 2. Check for poor connections or loose wires at the VTEC solenoid valve and at the ECM/PCM.■
5. Turn the ignition switch OFF.
6. Turn the ignition switch OFF.
7. Disconnect the VTEC solenoid valve 2P connector.
8. Check for resistance between VTEC solenoid valve 2P connector terminals No. 1 and No. 2.

VTEC SOLENOID VALVE 2P CONNECTOR



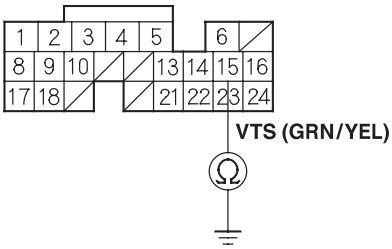
Terminal side of male terminals

Is there 14 - 30 Ω?

Yes Go to step 9.

No Replace the VTEC solenoid valve.■
9. Disconnect the negative cable from the battery.
10. Disconnect ECM/PCM connector B (24P).
11. Check for continuity between ECM/PCM connector terminal B15 and body ground.

ECM/PCM CONNECTOR B (24P)



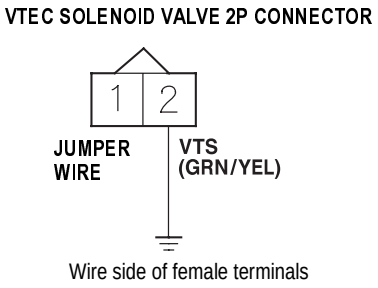
Wire side of female terminals

Is there continuity?

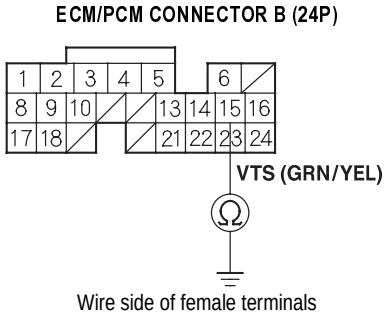
Yes Repair short in the wire between the VTEC solenoid valve and the ECM/PCM (B15).■

No Go to step 12.

12. Connect VTEC solenoid valve 2P connector terminal No. 2 to body ground with a jumper wire.



13. Check for continuity between ECM/PCM connector terminal B15 and body ground.

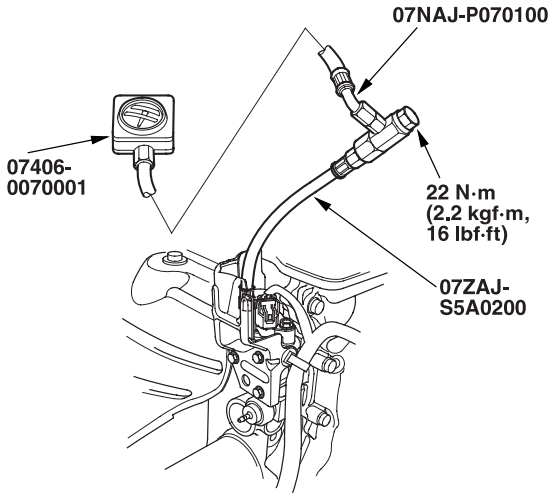


Is there continuity?

Yes Go to step 14.

No Repair open in the wire between the VTEC solenoid valve and the ECM/PCM (B15).■

14. Install the special tools as shown.



15. Reconnect ECM/PCM connector B (24P) and the VTEC solenoid valve connector.

16. Connect a tachometer.

17. Reconnect the negative cable to the battery.

18. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) unit the radiator fan comes on.

19. Check oil pressure at engine speeds of 1,000 and 2,000 rpm (min^{-1}). Keep measuring time as short as possible because the engine is running with no load (less than 1 minute).

Is pressure below 49 kPa (0.5 kgf/cm^2, 7 psi)?

Yes Go to step 20.

No Inspect the VTEC solenoid valve (see page 11-138).■

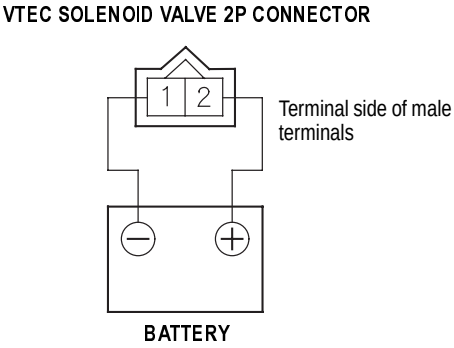
(cont'd)

DTC Troubleshooting (cont'd)

20. Turn the ignition switch OFF.

21. Disconnect the VTEC solenoid valve 2P connector.

22. Attach the battery positive terminal to VTEC solenoid valve 2P connector terminal No. 2.



23. Start the engine, then connect the battery negative to terminal No. 1 and check oil pressure at an engine speed of 3,000 rpm (min^{-1}).

Is pressure above 390 kPa (4.0 kgf/cm^2, 57 psi)?

Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away, replace the original ECM/PCM.■

No Inspect the VTEC solenoid valve (see page 11-138).■

DTC P1259 (22-4): VTEC System Malfunction

Special Tools Required

- Oil Pressure gauge attachment 07NAJ-P070100
- Low pressure gauge 07406-0070001
- Hose oil pressure 07ZAJ-S5A0200

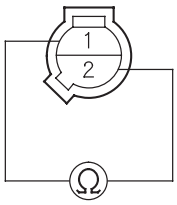
1. Reset the ECM/PCM (see page 11-4).
2. Check the engine oil level, and refill if necessary.
3. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on.
4. Road test the vehicle:
   Accelerate in 1st gear to an engine speed over 4,000 rpm (min^{-1}). Hold that engine speed for at least 2 seconds. If DTC P1259 is not repeated during the first road test, repeat this test 2 more times.

   Is DTC P1259 indicated?

   Yes Go to step 5.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the VTEC solenoid valve and at the ECM/PCM.■
5. Turn the ignition switch OFF.
6. Disconnect the VTEC oil pressure switch 2P connector.
7. Check for continuity on VTEC oil pressure switch between the VTEC oil pressure switch 2P connector terminals No. 1 and No. 2.

VTEC OIL PRESSURE SWITCH 2P CONNECTOR



Terminal side of male terminals

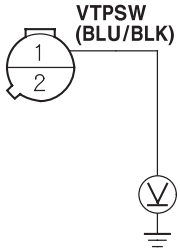
Is there continuity?

Yes Go to step 8.

No Replace the VTEC oil pressure switch.■

8. Turn the ignition switch ON (II).
9. Measure voltage between VTEC oil pressure switch 2P connector terminal No. 1 and body ground.

VTEC OIL PRESSURE SWITCH HARNESS 2P CONNECTOR



Wire side of female terminals

Is there battery voltage?

Yes Go to step 15.

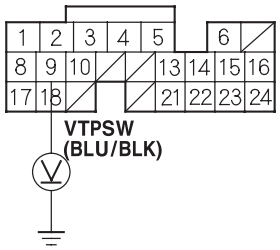
No Go to step 10.

(cont'd)

DTC Troubleshooting (cont'd)

10. Measure voltage between ECM/PCM connector terminal B9 and body ground.

ECM/PCM CONNECTOR B (24P)



Wire side of female terminals

Is there battery voltage?

Yes Repair open in the wire between the VTEC oil pressure switch and the ECM/PCM (B9).■

No Go to step 11.

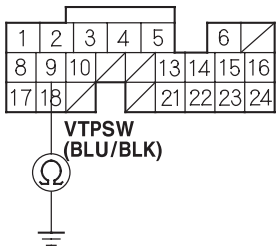
11. Turn the ignition switch OFF.

12. Disconnect the negative cable from the battery.

13. Disconnect ECM/PCM connector B (24P).

14. Check for continuity between ECM/PCM connector terminal B9 and body ground.

ECM/PCM CONNECTOR B (24P)



Wire side of female terminals

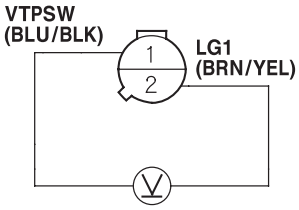
Is there continuity?

Yes Repair short in the wire between the VTEC oil pressure switch and the ECM/PCM (B9).■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/ indication goes away, replace the original ECM/PCM.■

15. Measure voltage between VTEC oil pressure switch 2P connector terminals No. 1 and No. 2.

VTEC OIL PRESSURE SWITCH HARNESS 2P CONNECTOR



Wire side of female terminals

Is there battery voltage?

Yes Go to step 16.

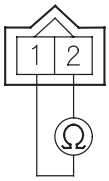
No Repair open in the wire between the VTEC oil pressure switch and G101.■

16. Turn the ignition switch OFF.

17. Disconnect the VTEC solenoid valve 1P connector.

18. Check for resistance between VTEC solenoid valve 2P connector terminals No. 1 and No. 2.

VTEC SOLENOID VALVE 2P CONNECTOR



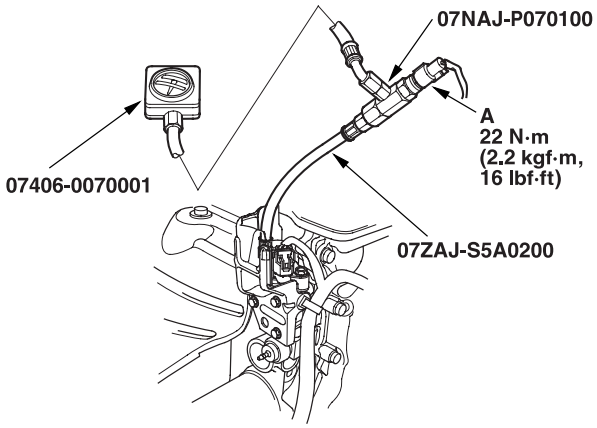
Terminal side of male terminals

Is there 14 - 30 Ω?

Yes Go to step 19.

No Replace the VTEC solenoid valve.■

19. Remove the VTEC oil pressure switch (A) and install the special tools as shown, then reinstall the VTEC oil pressure switch.



20. Reconnect the VTEC solenoid valve 2P connector and VTEC oil pressure switch 2P connector.

21. Connect a tachometer.

22. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on.

23. Check oil pressure at engine speeds of 1,000 and 2,000 rpm (min^{-1}). Keep measuring time as short as possible because the engine is running with no load (less than 1 minute).

Is pressure below 49 kPa (0.5 kgf/cm^2, 7 psi)?

Yes Go to step 24.

No Inspect the VTEC solenoid valve (see page 11-138).■

24. Turn the ignition switch OFF.

25. Disconnect the VTEC solenoid valve 2P connector.

26. Attach the battery positive terminal to the VTEC solenoid valve 2P connector terminal No. 2.

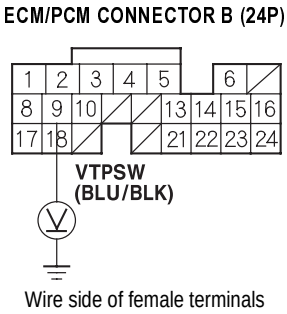
27. Start the engine, then connect the battery negative to terminal No. 1 and check oil pressure at an engine speed of 3,000 rpm (min^{-1}).

Is pressure above 390 kPa (4.0 kgf/cm^2, 57 psi)?

Yes Go to step 28.

No Inspect the VTEC solenoid valve (see page 11-138).■

28. With the battery terminal still connected to the VTEC solenoid valve, measure voltage between ECM/PCM connector terminal B9 and body ground.



Is there battery voltage above 4,000 rpm (min^{-1})?

Yes Go to step 29.

No Replace the VTEC oil pressure switch.■

29. Turn the ignition switch OFF.

30. Disconnect the battery terminal from the VTEC solenoid valve terminal.

(cont'd)

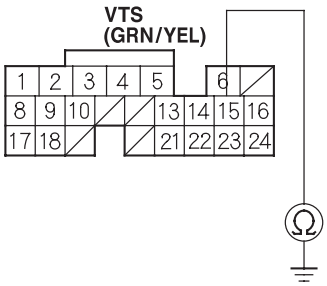
DTC Troubleshooting (cont'd)

31. Reconnect the negative cable to the battery.

32. Disconnect ECM/PCM connector B (24P).

33. Check for continuity between ECM/PCM connector terminal B15 and body ground.

ECM/PCM CONNECTOR B (24P)



Wire side of female terminals

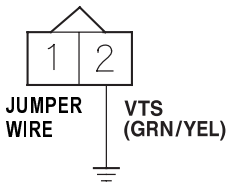
Is there continuity?

Yes Repair short in the wire between the VTEC solenoid valve and the ECM/PCM (B15).■

No Go to step 34.

34. Connect VTEC solenoid valve 2P connector terminal No. 2 to body ground with a jumper wire.

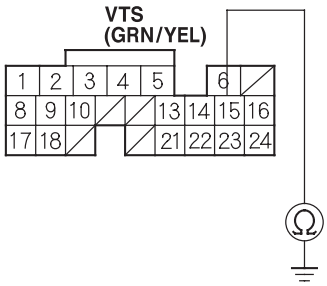
VTEC SOLENOID VALVE 2P CONNECTOR



Wire side of female terminals

35. Check for continuity between ECM/PCM connector terminal B15 and body ground.

ECM/PCM CONNECTOR B (24P)



Wire side of female terminals

Is there continuity?

Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/ indication goes away, replace the original ECM/PCM.■

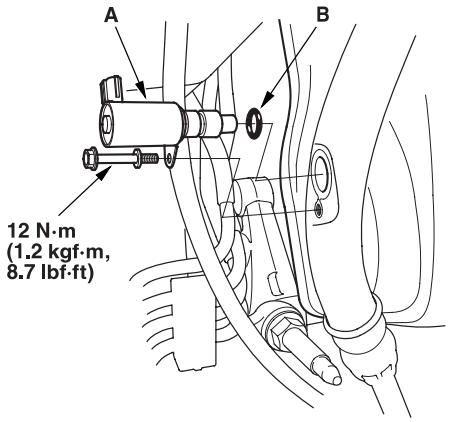
No Repair short in the wire between the VTEC solenoid valve and the ECM/PCM (B15).■

VTC Oil Control Solenoid Valve Test

1. Remove the VTC oil control solenoid valve (A).

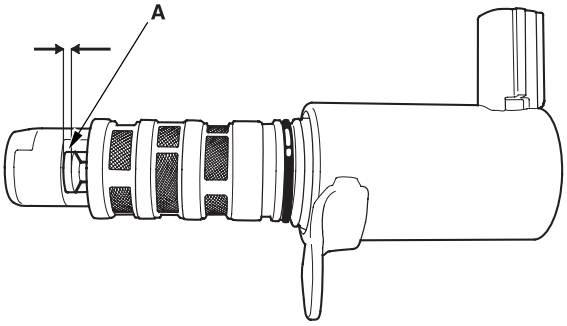
NOTE: Install the part in the reverse order of removal with a new O-ring (B), then check these items:

- Clean and dry the VTC oil control solenoid valve mating surface.
- Coat O-ring with engine oil.
- Do not install the VTC oil control solenoid valve while wearing fibrous gloves.
- Be careful not to contaminate the cylinder head opening.

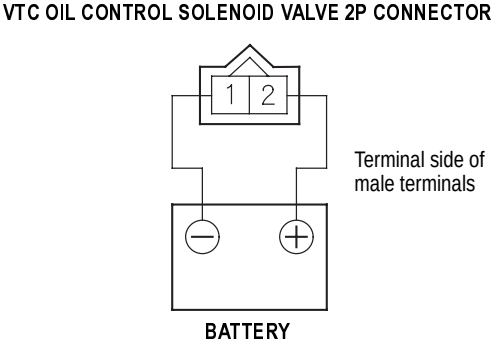


2. Check the VTC oil control solenoid valve filter for clogging. If it is clogged, replace the VTC oil control solenoid valve.

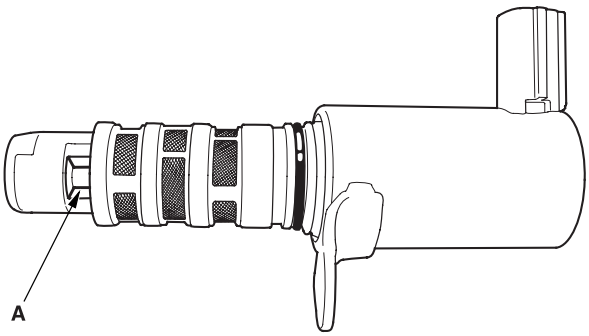
3. Check the clearance between the port (advance side) and the valve. Clearance (A) should be above 2.8 mm (1/8 in.).



4. Connect the battery positive terminal to the VTC oil control solenoid valve 2P connector terminal No. 2.

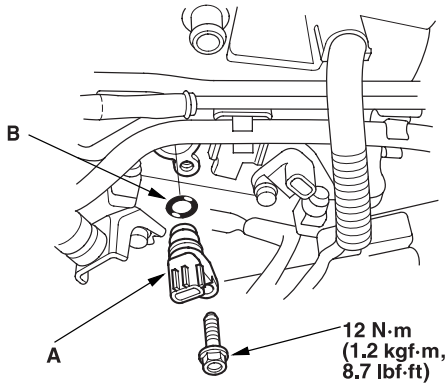


5. Connect the battery negative terminal to the VTC oil control solenoid valve 2P connector terminal No. 1, then make sure the valve (A) opens fully.



CMP Sensor Replacement

1. Remove the air cleaner (see page 11-182).
2. Disconnect the CMP sensor 3P connector.
3. Remove the CMP sensor (A).

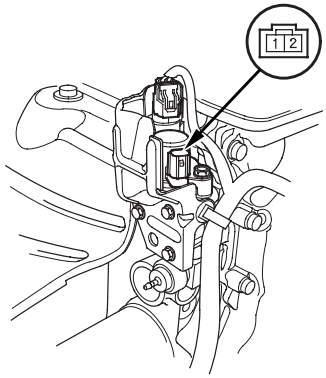


4. Install the part in the reverse order of removal with a new O-ring (B).

VTEC Solenoid Valve Removal/Inspection

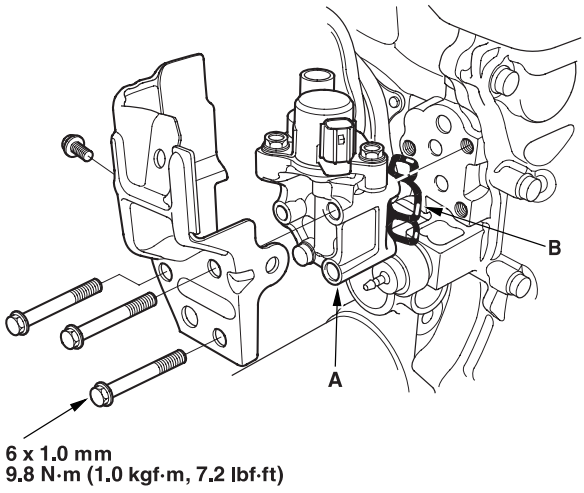
1. Disconnect the VTEC solenoid valve 2P connector.
2. KG, KS, KE, KR, KU (Hong Kong) models: Disconnect the VTEC oil pressure switch 2P connector.
3. Measure resistance between the VTEC solenoid valve connector terminals No. 1 and No. 2.

Resistance: 14 - 30 Ω



*: The illustration shows KG, KS, KE, KR, KU (Hong Kong) models.

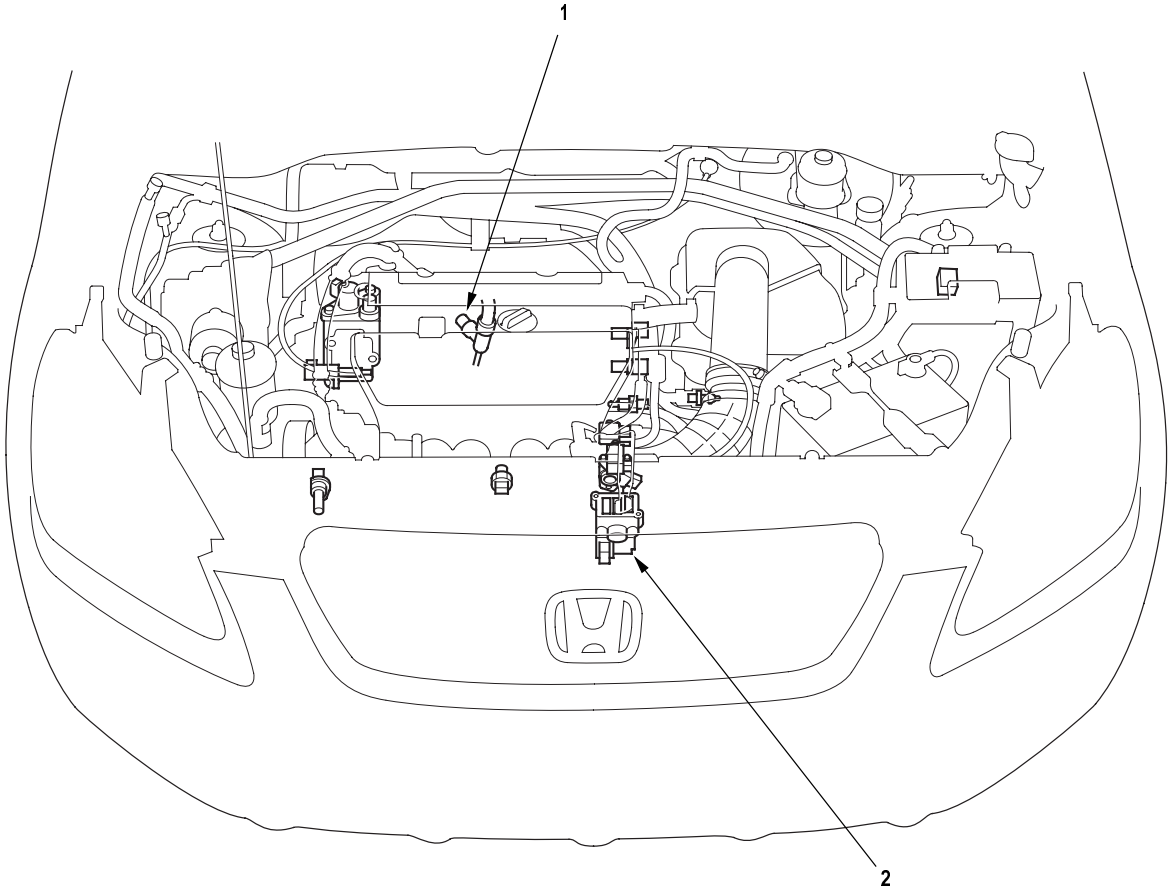
4. If the resistance is within specifications, remove the VTEC solenoid valve assembly (A) from the cylinder head, and check the VTEC solenoid valve filter (B) for clogging. If it is clogged, replace the solenoid valve filter, the engine oil filter, and the engine oil.



*: The illustration shows KG, KS, KE, KR, KU (Hong Kong) models

Idle Control System

Component Location Index



*: The illustration shows LHD model.

1	POWER STEERING PRESSURE (PSP) SWITCH	Troubleshooting, page 11-145
2	IDLE AIR CONTROL (IAC) VALVE	Troubleshooting, page 11-140

DTC Troubleshooting

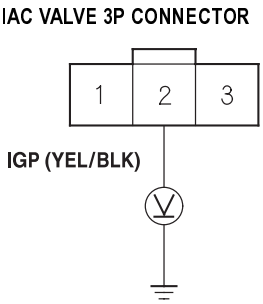
DTC P1519 (14-3): IAC Valve Circuit Malfunction

1. Reset the ECM/PCM (see page 11-4).
2. Turn the ignition switch ON (II).

   Is DTC P1519 indicated?

   Yes Go to step 3.

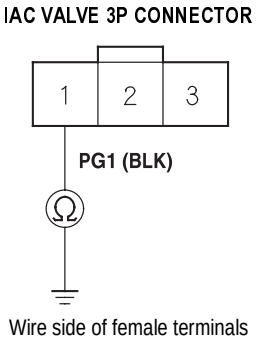
   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the IAC valve and at the ECM/PCM.■
3. Turn the ignition switch OFF.
4. Disconnect the IAC valve 3P connector.
5. Turn the ignition switch ON (II).
6. Measure voltage between IAC valve 3P connector terminal No. 2 and body ground.



   Is there battery voltage?

   Yes Go to step 7.

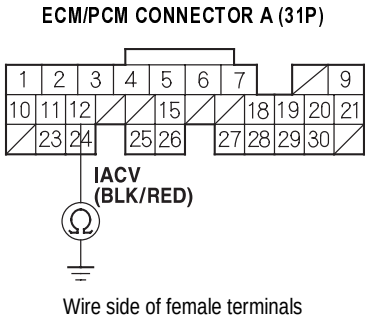
   No Repair open in the wire between the IAC valve and the PGM-FI main relay.■
7. Turn the ignition switch OFF.
8. Check for continuity between body ground and IAC valve 3P connector terminal No. 1.



   Is there continuity?

   Yes Go to step 9.

   No Repair open in the wire between the IAC valve and G101.■
9. Disconnect the negative cable from the battery.
10. Disconnect ECM/PCM connector A (31P).
11. Check for continuity between body ground and ECM/PCM connector terminal A12.

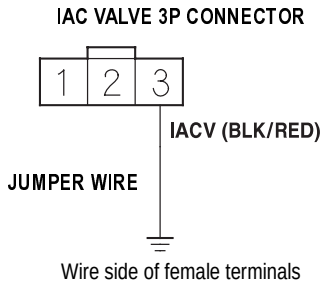


   Is there continuity?

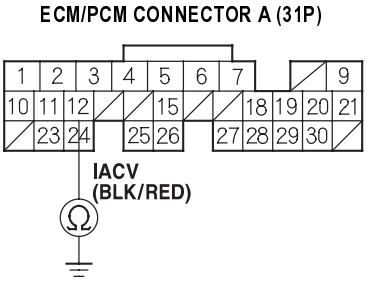
   Yes Repair short in the wire between the IAC valve and the ECM/PCM (A12).■

   No Go to step 12.

12. Connect IAC valve 3P connector terminal No. 3 and body ground with a jumper wire.



13. Check for continuity between ECM/PCM connector terminal A12 and body ground.



Is there continuity?

Yes Go to step 14.

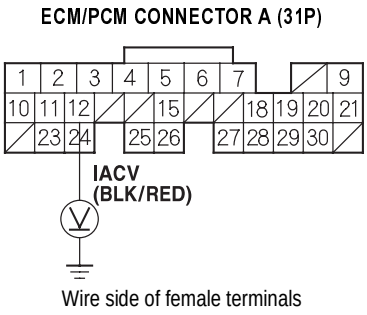
No Repair open in the wire between the IAC valve and the ECM/PCM (A12).■

14. Reconnect the IAC valve 3P connector.

15. Reconnect the negative cable to the battery.

16. Turn the ignition switch ON (II).

17. Measure voltage between body ground and ECM/PCM connector terminal A12.



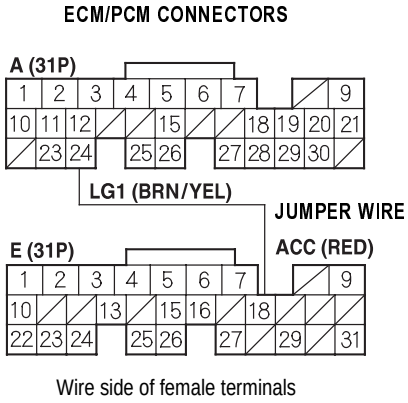
Is there battery voltage?

Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

No Replace the IAC valve.■

A/C Signal Circuit Troubleshooting

1. Turn the ignition switch ON (II).
2. Momentarily connect ECM/PCM connector terminals A24 and E18 with a jumper wire several times.



Is there a clicking noise from the A/C compressor clutch?

Yes Go to step 3.

No Go to step 6.

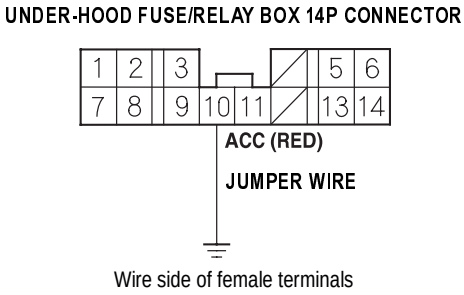
3. Start the engine.
4. Turn the blower switch ON.
5. Turn the A/C switch ON.

   Does the A/C operate?

   Yes The air conditioning signal is OK.■

   No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

6. Momentarily connect the under-hood fuse/relay box 14P connector terminal No. 10 to body ground with a jumper wire several times.



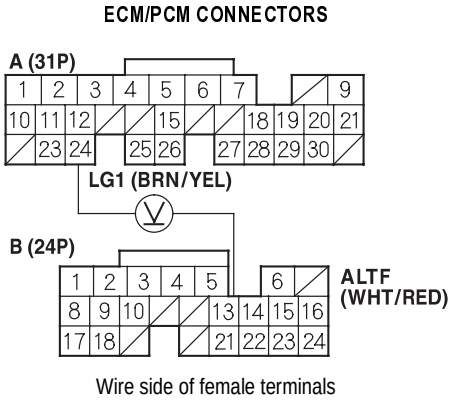
Is there clicking noise from the A/C compressor clutch?

Yes Repair open in the wire between the ECM/PCM (E18) and the A/C clutch relay.■

No Check the A/C system for other symptoms.■

Alternator FR Signal Circuit Troubleshooting

1. Disconnect the alternator 4P connector.
2. Turn the ignition switch ON (II).
3. Measure voltage between ECM/PCM connector terminals A24 and B13.



Is there about 5 V?

Yes Go to step 4.

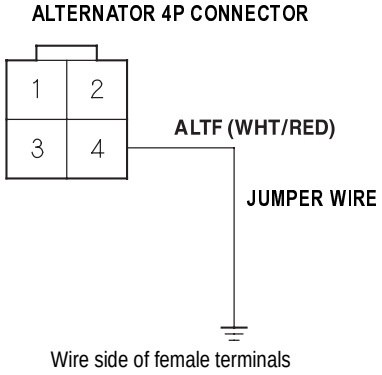
No Go to step 14.

4. Turn the ignition switch OFF.
5. Reconnect the alternator 4P connector.
6. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on, then let it idle.
7. Measure voltage between ECM/PCM connector terminals A24 and B13.

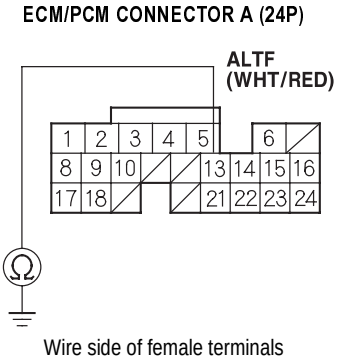
   Does the voltage decrease when the headlights and rear window defogger are turned on?

   Yes The alternator FR signal is OK.■

   No Go to step 8.
8. Turn the ignition switch OFF.
9. Disconnect the negative cable from the battery.
10. Disconnect ECM/PCM connector B (24P).
11. Disconnect the alternator 4P connector.
12. Connect alternator 4P connector terminal No. 4 and body ground with a jumper wire.



13. Check for continuity between body ground and ECM/PCM connector terminal B13.



Is there continuity?

Yes Test the alternator (see page 04-27).■

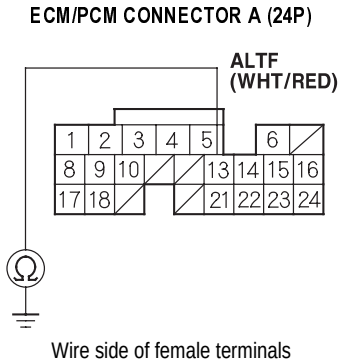
No Repair open in the wire between the ECM/PCM (B13) and the alternator.■

14. Turn the ignition switch OFF.
15. Disconnect the negative cable from the battery.
16. Disconnect ECM/PCM connector B (24P).

(cont'd)

Alternator FR Signal Circuit Troubleshooting (cont'd)

17. Check for continuity between body ground and ECM/PCM connector terminal B13.



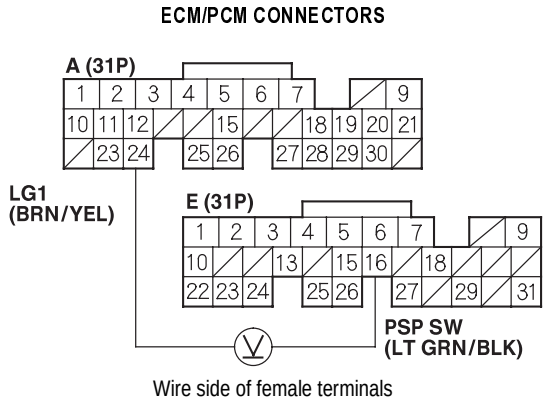
Is there continuity?

Yes Repair short in the wire between the ECM/PCM (B13) and the alternator.■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

PSP Switch Signal Circuit Troubleshooting

1. Turn the ignition switch ON (II).
2. Measure voltage between ECM/PCM connector terminals A24 and E16.



Is there less than 1.0 V?

Yes Go to step 3.

No Go to step 6.

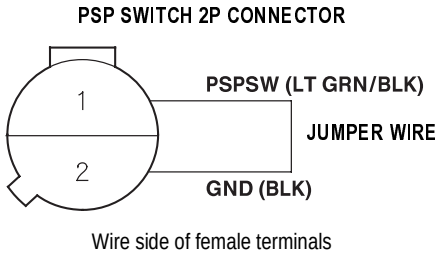
3. Start the engine.
4. Turn the steering wheel to the full lock position.
5. Measure voltage between ECM/PCM connector terminals A24 and E16.

Is there battery voltage?

Yes The PSP switch signal is OK.■

No Go to step 13.

6. Turn the ignition switch OFF.
7. Disconnect the PSP switch 2P connector.
8. Turn the ignition switch ON (II).
9. At the harness side, connect PSP switch 2P connector terminals No. 1 and No. 2 with a jumper wire.



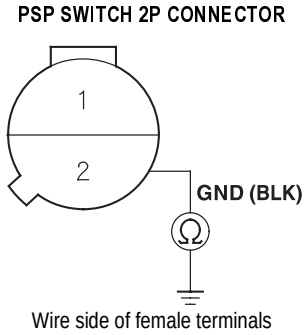
10. Measure voltage between ECM/PCM connector terminals A24 and E16.

Is there less than 1.0 V?

Yes Replace the PSP switch.■

No Go to step 11.

11. Turn the ignition switch OFF.
12. Check for continuity between PSP switch 2P connector terminal No. 2 and body ground.



Is there continuity?

Yes Repair open in the wire between the PSP switch and ECM/PCM (E16).■

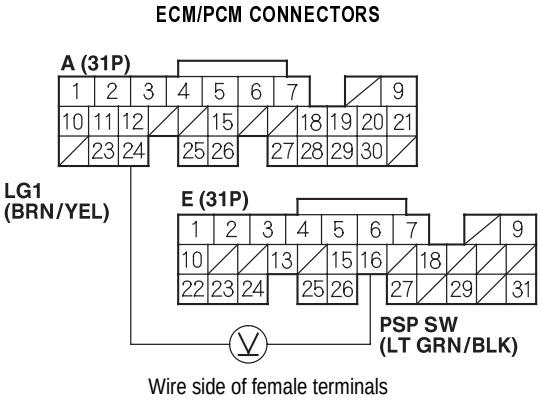
No Repair open in the wire between the PSP switch and G301.■

13. Turn the ignition switch OFF.
14. Disconnect the PSP switch 2P connector.
15. Turn the ignition switch ON (II).

(cont'd)

PSP Switch Signal Circuit Troubleshooting (cont'd)

16. Measure voltage between ECM/PCM connector terminals A24 and E16.



Is there battery voltage?

Yes Replace the PSP switch.■

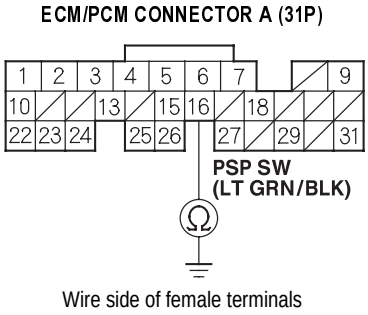
No Go to step 17.

17. Turn the ignition switch OFF.

18. Disconnect the negative cable from the battery.

19. Disconnect ECM/PCM connector E (31P).

20. Check for continuity between body ground and ECM/PCM connector terminal E16.



Is there continuity?

Yes Repair short in the wire between ECM/PCM (E16) and the PSP switch.

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

Brake Pedal Position Switch Signal Circuit Troubleshooting

1. Check the brake lights.

Are the brake lights on without pressing the brake pedal?

Yes Inspect the brake pedal position switch (see page 19A-5).■

No Go to step 2.

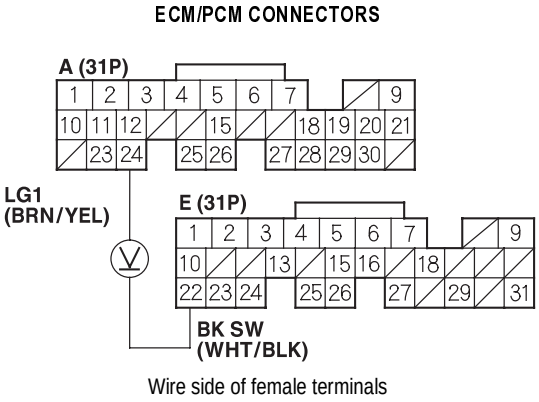
2. Press the brake pedal.

Do the brake lights come on?

Yes Go to step 3.

No Go to step 4.

3. Measure voltage between ECM/PCM connector terminals A24 and E22 with the brake pedal pressed.



Is there battery voltage?

Yes The brake pedal position switch signal is OK.■

No Repair open in the wire between the ECM/PCM (E22) and the brake pedal position switch.■

4. Inspect the No. 7 HORN, STOP (15A) fuse in the under-hood fuse/relay box.

Is the fuse OK?

Yes Repair open in the wire between the brake pedal position switch and the No. 7 HORN, STOP (15A) fuse. Inspect the brake pedal position switch (see page 19A-5).■

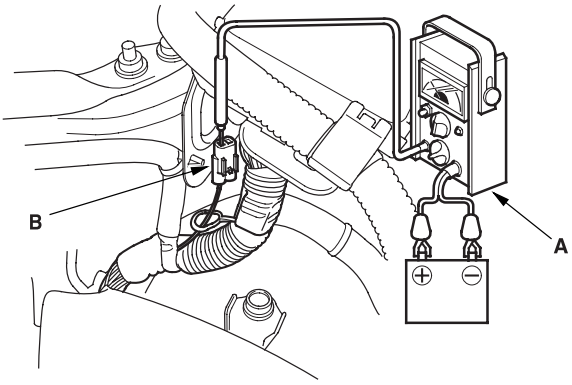
No Repair short in the wire between the ECM/PCM (E22) and the No. 7 HORN, STOP (15A) fuse. Replace the No. 7 HORN, STOP (15A) fuse.■

Idle Speed Inspection

NOTE:
- Leave the Idle Air Control (IAC) valve connected.
- Before checking the idle speed, check these items:
  - The Malfunction Indicator Lamp (MIL) has not been reported on.
  - Ignition timing
  - Spark plugs
  - Air cleaner
  - PCV system

1. Disconnect the Evaporative Emission (EVAP) canister purge valve 2P connector.

2. Connect a tachometer (A) to the test tachometer connector (B).



3. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on, then let it idle.

4. Check the idle speed with no-load conditions: headlights, blower fan, rear defogger, radiator fan, and air conditioner are not operating.

Idle speed should be:

M/T	650 ± 50 rpm (min^{-1})
A/T	650 ± 50 rpm (min^{-1}) (in Park or neutral)

5. Idle the engine for 1 minute with heater fan switch on HI and air conditioner on, then check the idle speed.

Idle speed should be:

M/T	700 ± 50 rpm (min^{-1})
A/T	700 ± 50 rpm (min^{-1}) (in Park or neutral)

NOTE: If the idle speed is not within specification, go to the Symptom Troubleshooting Index.

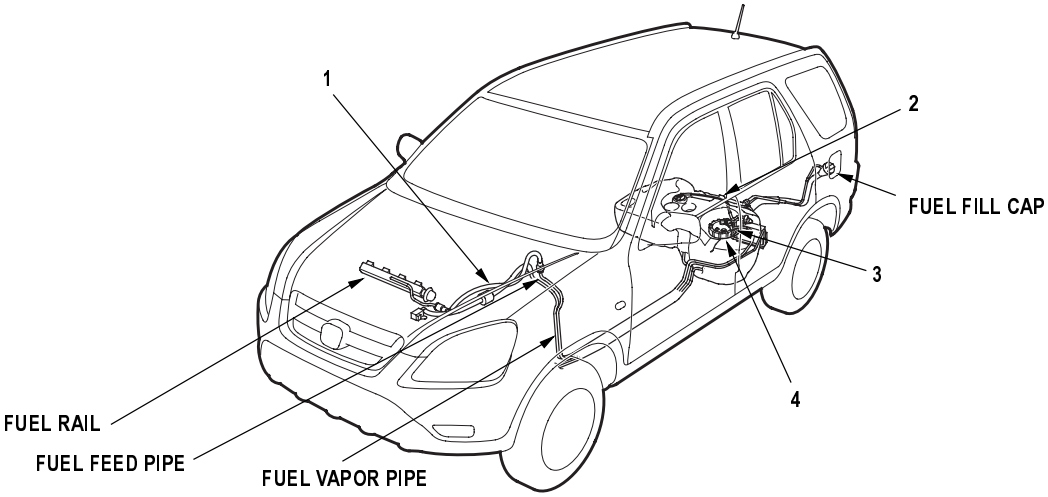
6. Reconnect the EVAP canister purge valve 2P connector.

NOTE: You can use the scan tool or Honda PGM Tester to inspect idle speed.

Fuel Supply System

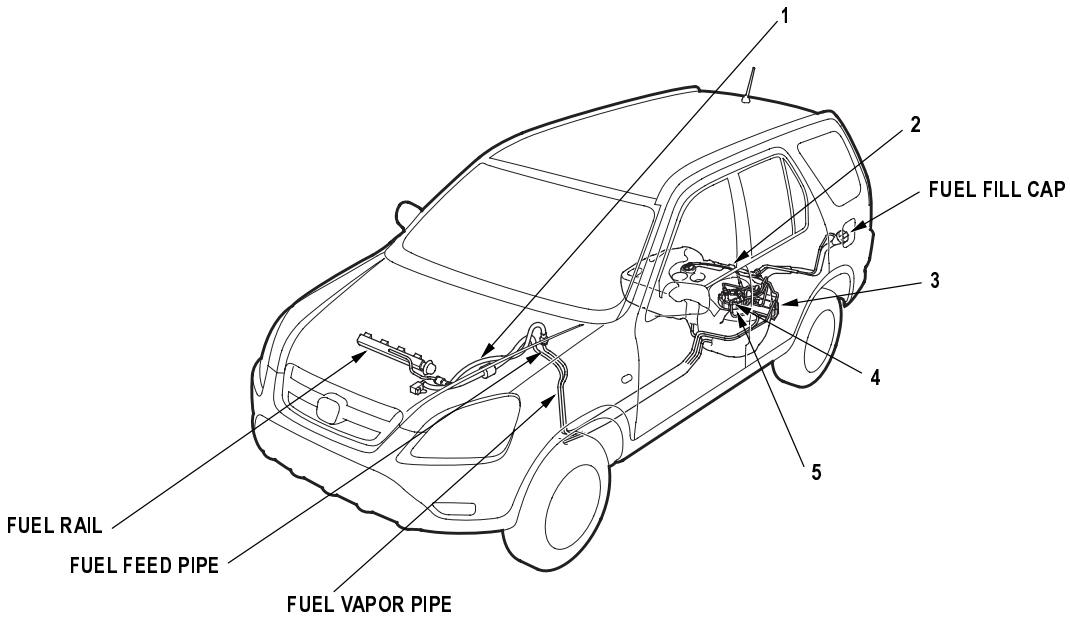
Component Location Index

KG, KS, KE, KR models:



1	FUEL TUBE/QUICK-CONNECT FITTINGS	Precautions, page 11-160; Removal, page 11-161; Installation, page 11-162
2	FUEL TANK	Replacement, page 11-169
3	FUEL TUBE/QUICK-CONNECT FITTINGS	Precautions, page 11-160; Removal, page 11-161; Installation, page 11-162
4	FUEL PUMP	Troubleshooting, page 11-151; Replacement, page 11-167
	FUEL FILTER	Replacement, page 11-166
	FUEL GAUGE SENDING UNIT	Test, page 11-173
	FUEL PRESSURE REGULATOR	Replacement, page 11-165

Except KG, KS, KE, KR, KZ models:

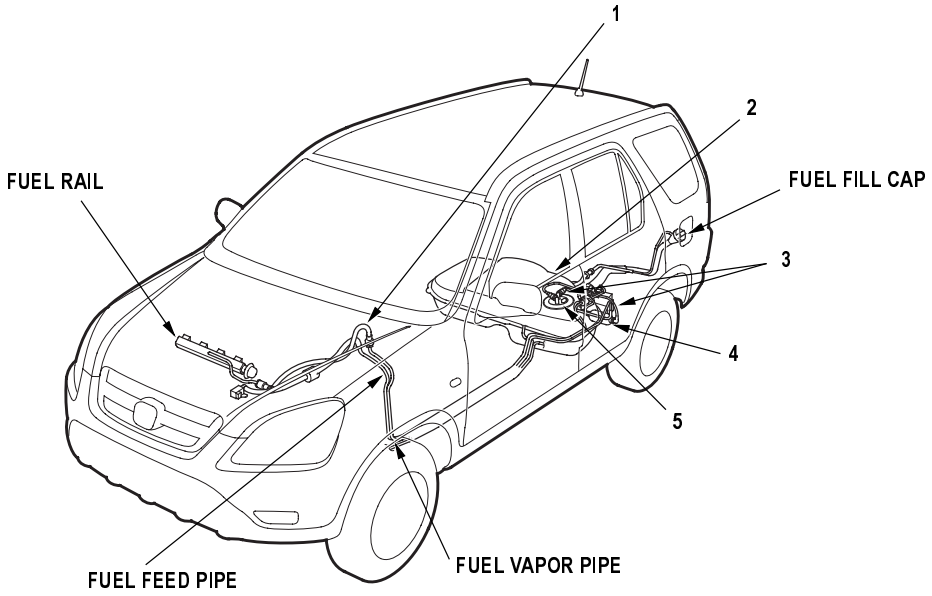


1	FUEL TUBE/QUICK-CONNECT FITTINGS	Precautions, page 11-160; Removal, page 11-161; Installation, page 11-162
2	FUEL TANK	Replacement, page 11-169
3	FUEL FILTER	Replacement, page 11-166
4	FUEL TUBE/QUICK-CONNECT FITTINGS	Precautions, page 11-160; Removal, page 11-161; Installation, page 11-162
5	FUEL PUMP	Troubleshooting, page 11-151; Replacement, page 11-167
	FUEL GAUGE SENDING UNIT	Test, page 11-173
	FUEL PRESSURE REGULATOR	Replacement, page 11-165

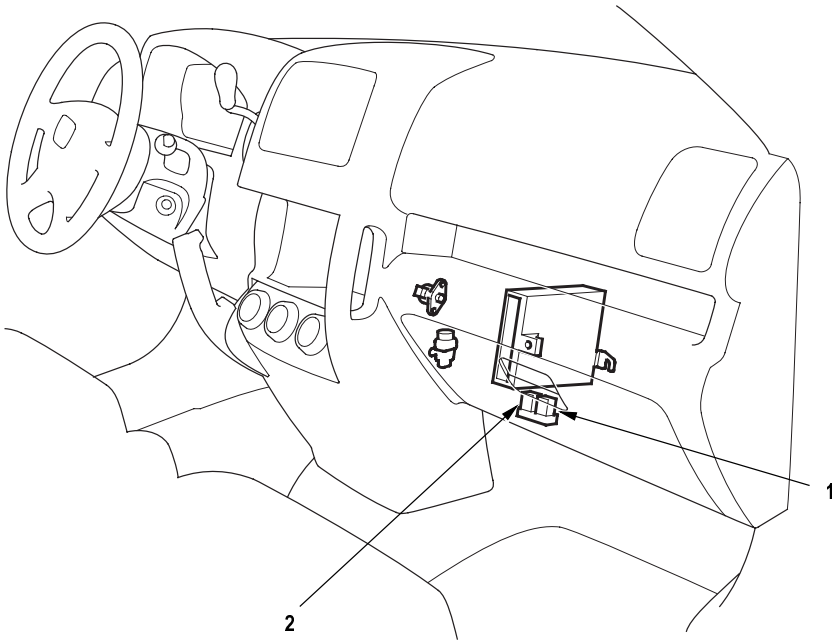
(cont'd)

Component Location Index (cont'd)

KZ model:



1	FUEL TUBE/QUICK-CONNECT FITTINGS	Precautions, page 11-160; Removal, page 11-161; Installation, page 11-162
2	FUEL TANK	Replacement, page 11-169
3	FUEL TUBE/QUICK-CONNECT FITTINGS	Precautions, page 11-160; Removal, page 11-161; Installation, page 11-162
4	FUEL FILTER	Replacement, page 11-166
5	FUEL PUMP	Troubleshooting, page 11-151; Replacement, page 11-167
	FUEL GAUGE SENDING UNIT	Test, page 11-173
	FUEL PRESSURE REGULATOR	Replacement, page 11-165



*: The illustration shows LHD model.

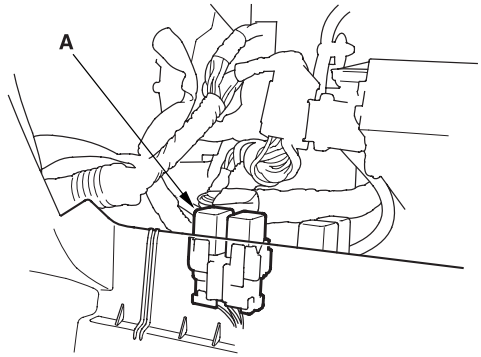
1	PGM-FI MAIN RELAY 1	Troubleshooting, page 11-102
2	PGM-FI MAIN RELAY 2	Troubleshooting, page 11-151

Fuel Pump Circuit Troubleshooting

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

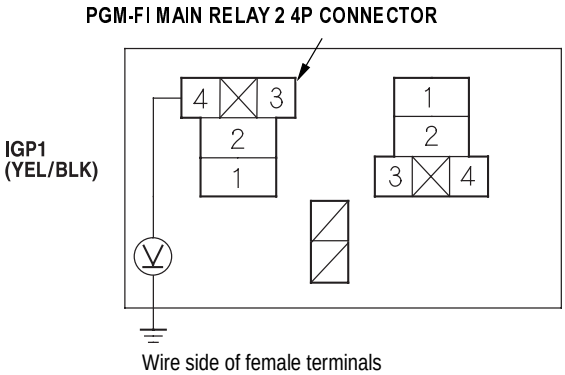
NOTE: Information marked with an asterisk (*) applies to except KG, KS, KE, KR, KU, KN, KH, KY, KZ, FO, KQ, KK, KM models.

1. Turn the ignition switch OFF.
2. Remove the glove box (see page 20-95), PGM-FI main relay 2 (A).



*: The illustration shows LHD model.

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

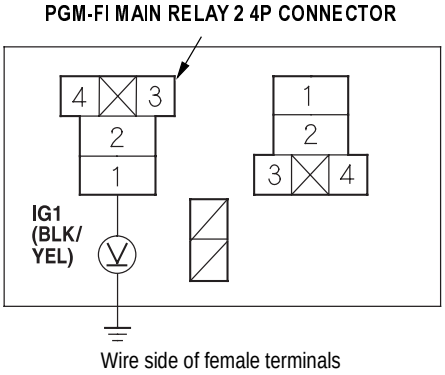


Is there battery voltage?

Yes Go to step 5.

No Repair open in the wire between the PGM-FI main relay 1 and the PGM-FI main relay 2.■

5. Measure voltage between PGM-FI main relay 2 4P connector terminal No. 1 and body ground.

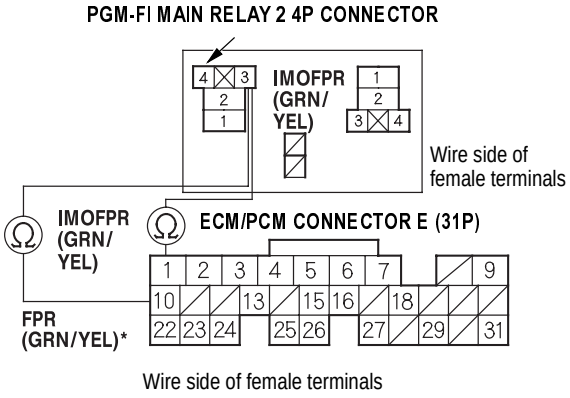


Is there battery voltage?

Yes Go to step 6.

No Repair open in the wire between the under-dash fuse/relay box and PGM-FI main relay 2.■

6. Turn the ignition switch OFF.
7. Disconnect the negative cable from the battery.
8. Disconnect ECM/PCM connector E (31P).
9. Check for continuity between PGM-FI main relay 2 4P connector terminal No. 3 and ECM/PCM connector terminal E1 (E10)*.



Is there continuity?

Yes Go to step 10.

No Repair open in the wire between the PGM-FI main relay 2 and the ECM/PCM (E1, E10*).■

(cont'd)

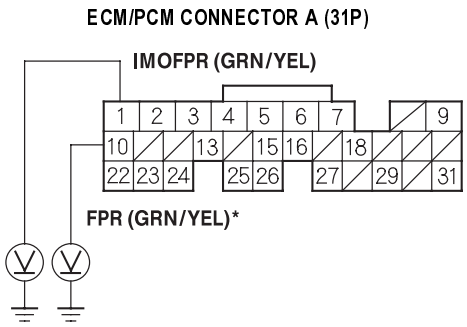
Fuel Pump Circuit Troubleshooting (cont'd)

10. Reinstall the PGM-FI main relay 2.

11. Reconnect the negative cable to the battery.

12. Turn the ignition switch ON (II).

13. Measure voltage between ECM/PCM connector terminal E1 (E10)* and body ground.



Is there battery voltage?

Yes Go to step 14.

No Replace the PGM-FI main relay 2.■

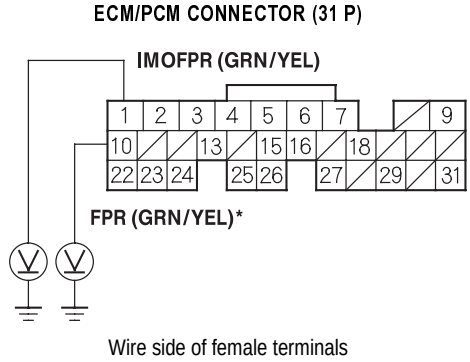
14. Turn the ignition switch OFF.

15. Disconnect the negative cable from the battery.

16. Reconnect ECM/PCM connector E (31P).

17. Reconnect the negative cable to the battery.

18. Turn the ignition switch ON (II), and measure voltage between ECM/PCM connector terminal E1 (E10)* and body ground within the first 2 seconds after the ignition switch was turned ON (II).



Is there battery voltage?

Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/ indication goes away, replace the original ECM/PCM.■

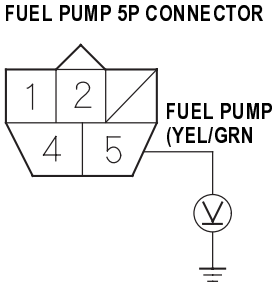
No Go to step 19.

19. Turn the ignition switch OFF.

20. Fold the rear seats forward, and pull back the carpet to expose the access panel.

21. Remove the access panel from the floor.

22. Measure voltage between fuel pump 5P connector terminal No. 5 and body ground within the first 2 seconds after the ignition switch was turned ON (II).



Is there battery voltage?

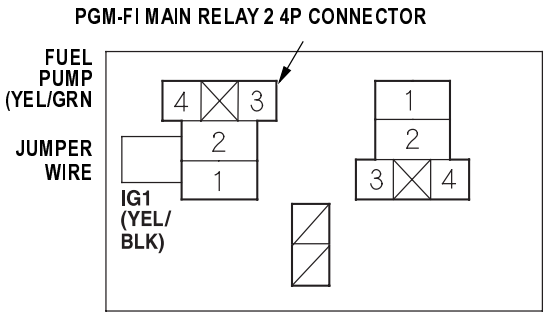
Yes Go to step 28.

No Go to step 23.

23. Turn the ignition switch OFF.

24. Remove the PGM-FI main relay 2.

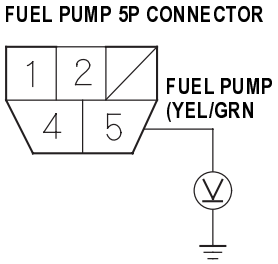
25. Connect PGM-FI main relay 2 4P connector terminals No. 1 and No. 2 with a jumper wire.



Wire side of female terminals

26. Turn the ignition switch ON (II).

27. Measure voltage between fuel pump 5P connector terminal No. 5 and body ground within the first 2 seconds after the ignition switch was turned ON (II).



Wire side of female terminals

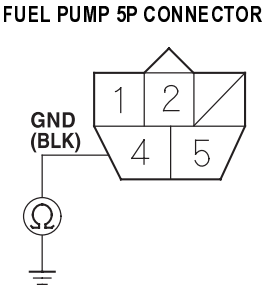
Is there battery voltage?

Yes Replace the PGM-FI main relay 2.■

No Repair open in the wire between the PGM-FI main relay 2 and the fuel pump 5P connector.■

28. Turn the ignition switch OFF.

29. Check for continuity between fuel pump 5P connector terminal No. 4 and body ground.



Wire side of female terminals

Is there continuity?

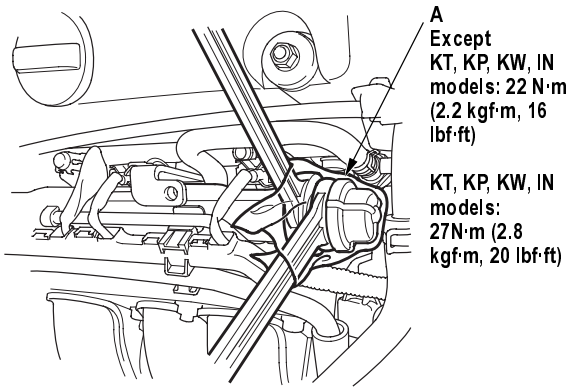
Yes Replace the fuel pump.■

No Repair open in the wire between the fuel pump 5P connector and G551.■

Fuel Pressure Relieving

Before disconnecting fuel lines or hoses, release pressure from the system by loosening the fuel pulsation damper on top of the fuel rail.

1. Make sure you have the anti-theft code for the radio,then write down the frequencies for the radio's preset buttons.
2. Disconnect the negative cable from the battery.
3. Remove the fuel fill cap and the engine cover.
4. Use a wrench on the fuel pulsation damper (A).



5. Place a rag or shop towel (B) over the fuel pulsation damper.
6. Slowly loosen the fuel pulsation damper one complete turn.

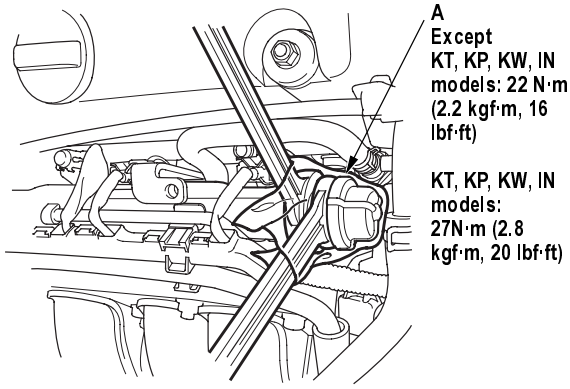
   NOTE: Replace all washers whenever the fuel pulsation damper is loosened or removed.

Fuel Pressure Test

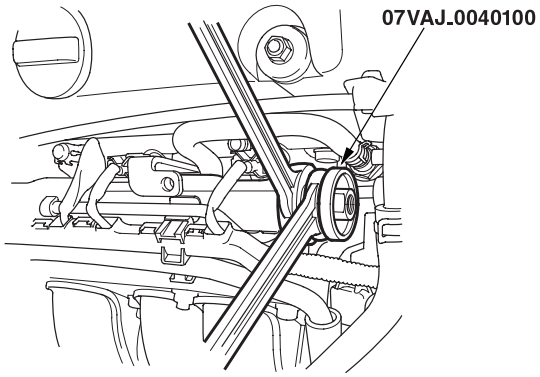
Special Tools Required

- Fuel pressure gauge 07406-0040002
- Fuel pressure gauge attachment 07VAJ-0040100
- Fuel pressure gauge set 07ZAJ-S5A0100

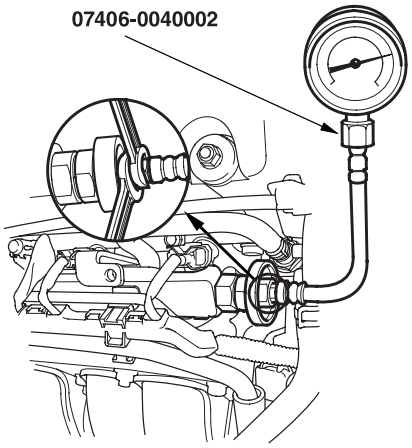
1. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's preset buttons.
2. Disconnect the negative cable from the battery.
3. Remove the fuel fill cap and the engine cover.
4. Use a wrench on the fuel pulsation damper (A) at the fuel rail.



5. Place a rag or shop towel (B) over the fuel pulsation damper.
6. Slowly loosen the fuel pulsation damper one complete turn.
7. Remove the fuel pulsation damper from its fitting, and attach the fuel pressure gauge attachment.



8. Attach the fuel pressure gauge.



9. Start the engine and let it idle.
   - If the engine starts, go to step 11.
   - If the engine does not start, go to step 10.

10. 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 pump runs, go to step 11.
    - If the pump does not run, perform the fuel pump circuit troubleshooting (see page 11-151)

11. Read the pressure gauge. The pressure should be 330 - 380 kpa (3.4 - 3.9 kgf/cm^2, 48 - 55 psi) (KZ model: 320 - 370 kpa (3.3 - 3.8 kgf/cm^2, 47 - 54 psi)).
    - If the pressure is OK, the test is complete.
    - If the pressure is out of specification, replace the fuel pressure regulator (see page 11-165) and the fuel filter (see page 11-166), then repeat the test.

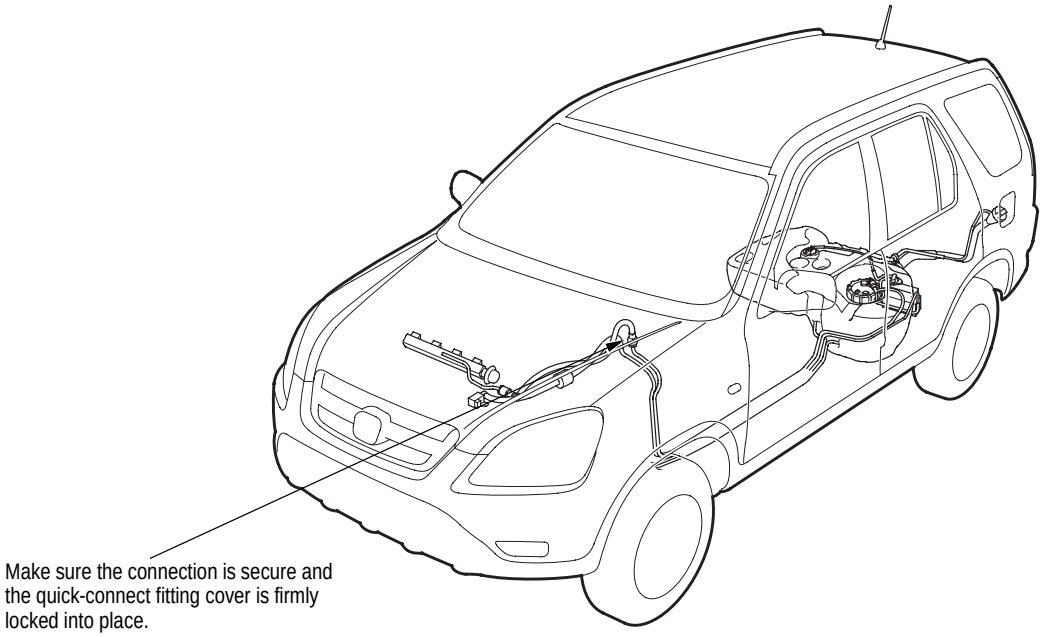
12. Remove the pressure gauge, and reinstall the fuel pulsation damper with a new washer. Tighten the fuel pulsation damper to 22 N·m (2.2kgf·m, 16 lbf·ft) [KT, KP, KW, IN models: 27 N·m (2.8 kgf·m, 20 lbf·ft)].

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

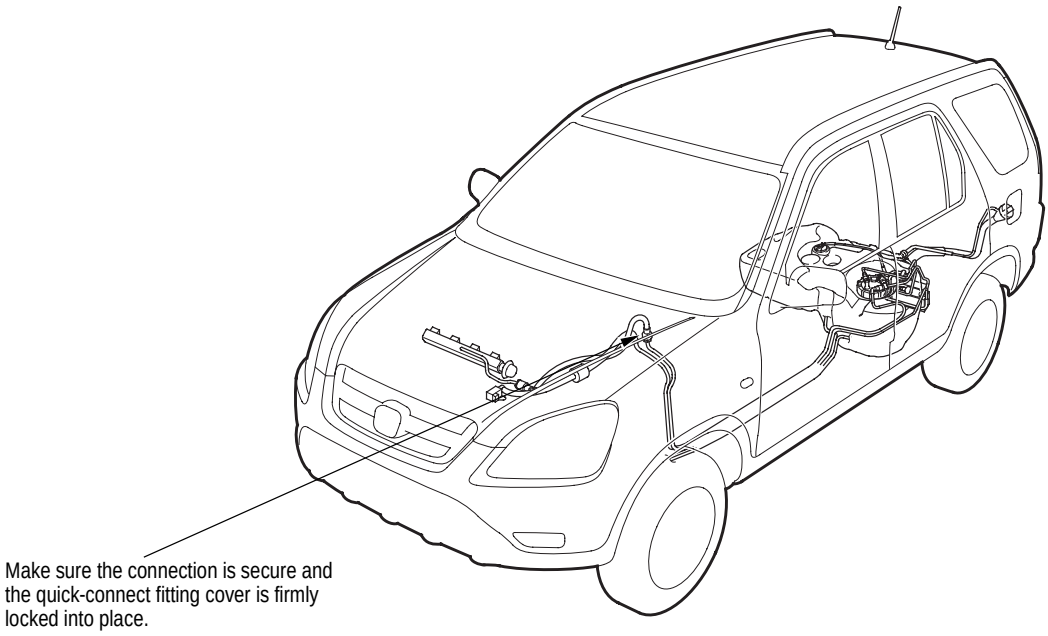
Fuel Line Inspection

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

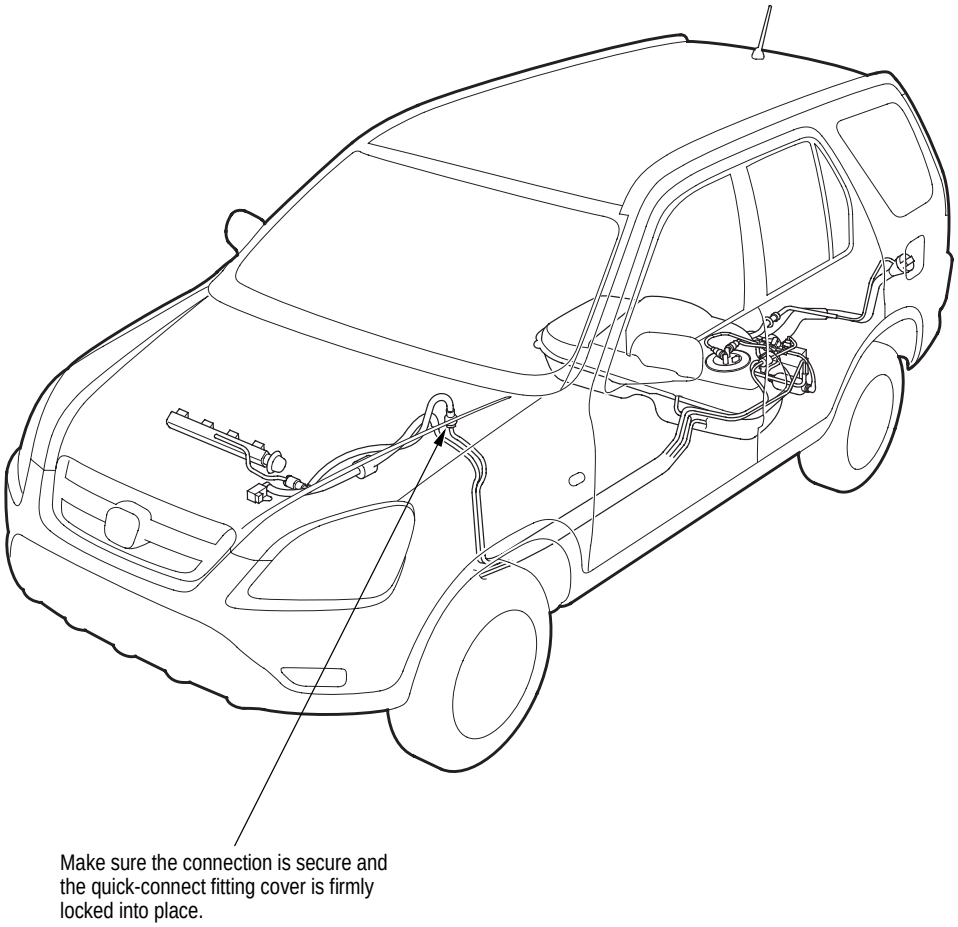
KG, KS, KE, KR models:



Except KG, KS, KE, KR, KZ models:



KZ model:

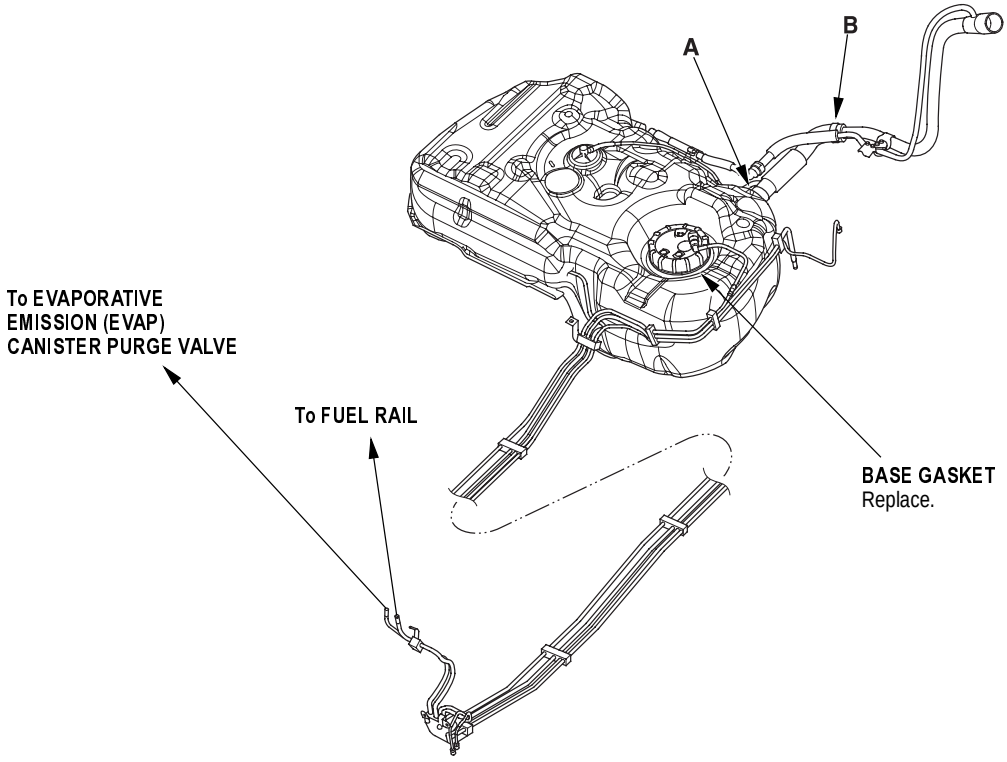


(cont'd)

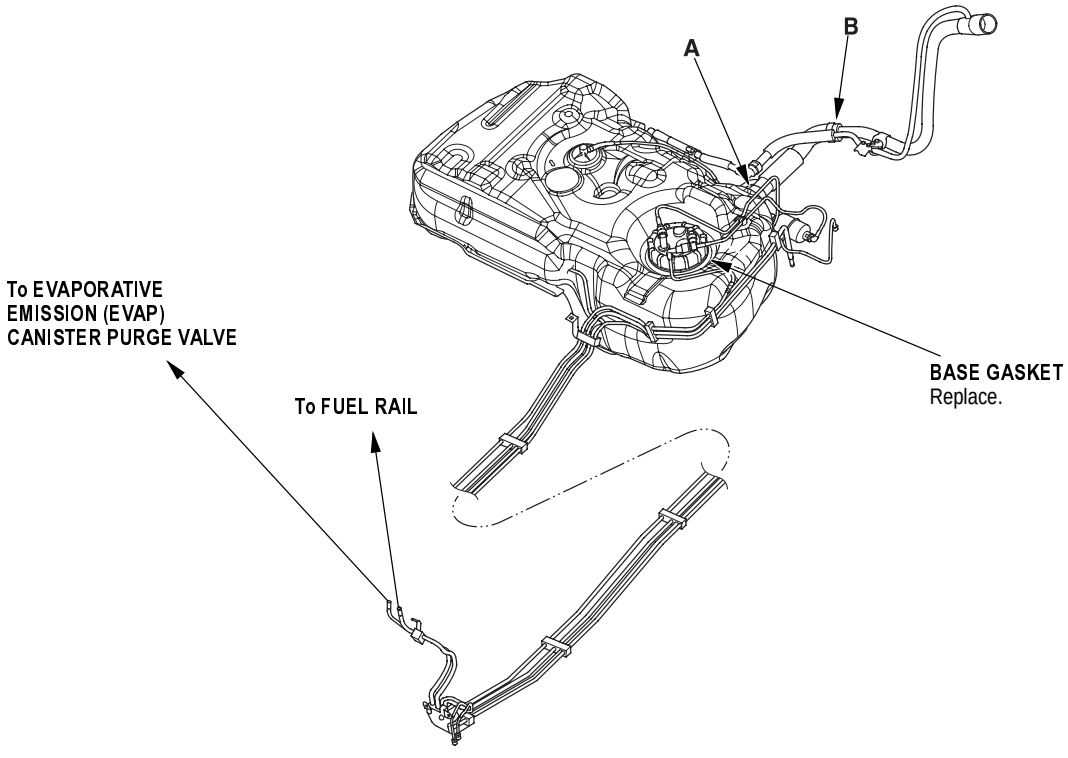
Fuel Line Inspection (cont'd)

Check all clamps and retighten if necessary.
▲: Do not disconnect the hose from the pipe at these joints.

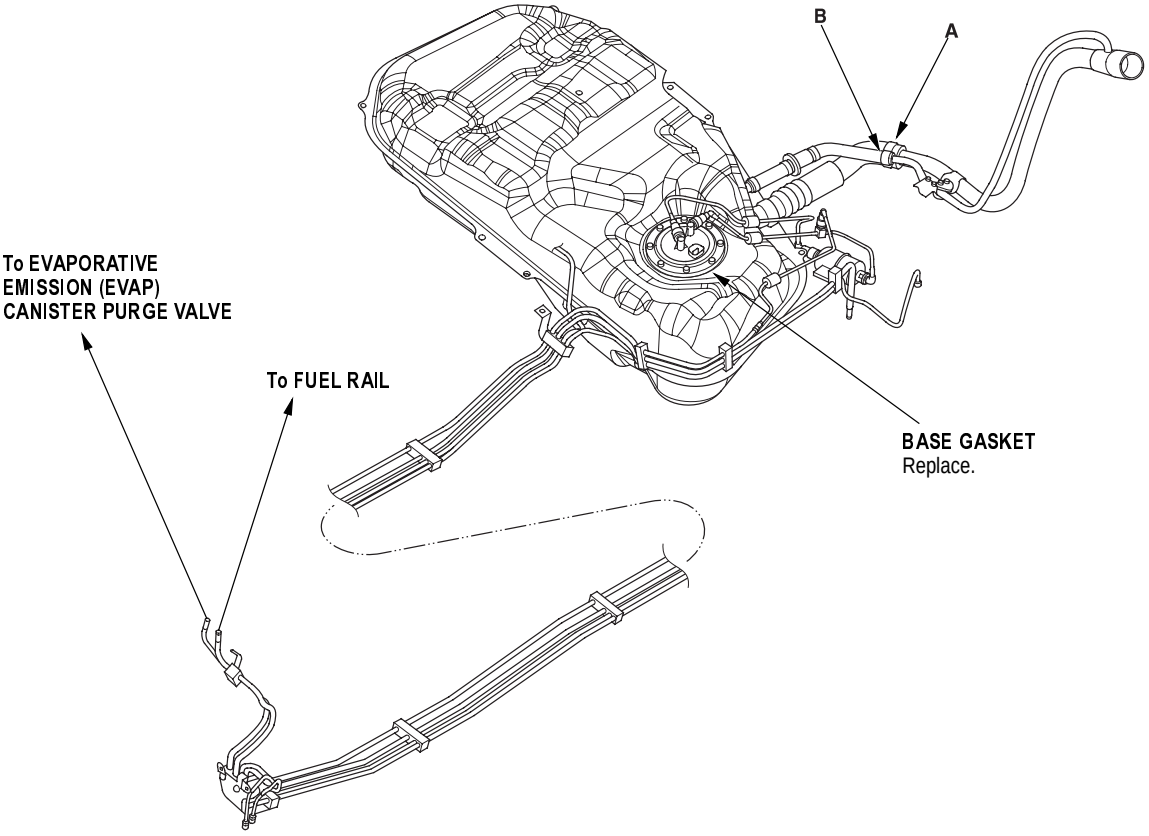
KG, KS, KE, KR models:

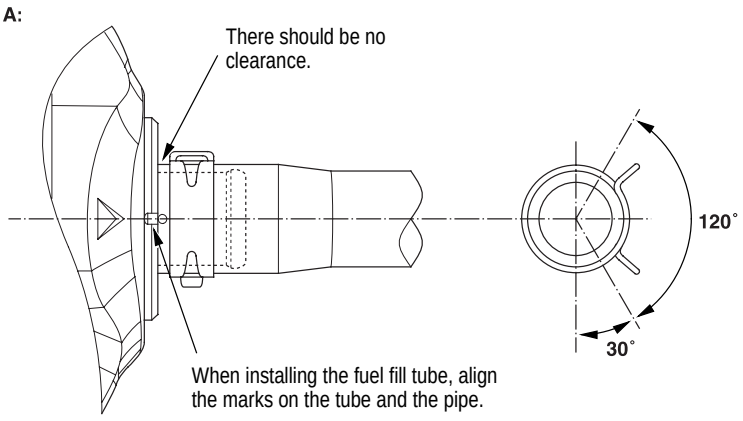


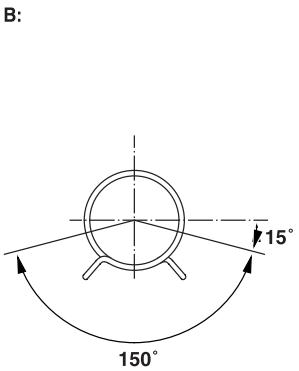
Except KG, KS, KE, KR, KZ models:



KZ model:


B
A
To EVAPORATIVE
EMISSION (EVAP)
CANISTER PURGE VALVE
To FUEL RAIL
BASE GASKET
Replace.

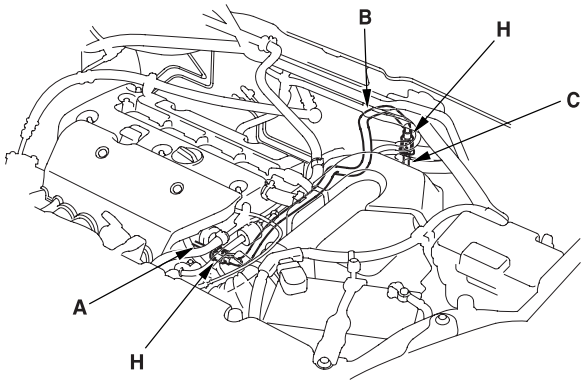

A:
There should be no
clearance.
120˚
30˚
When installing the fuel fill tube, align
the marks on the tube and the pipe.


B:
15˚
150˚

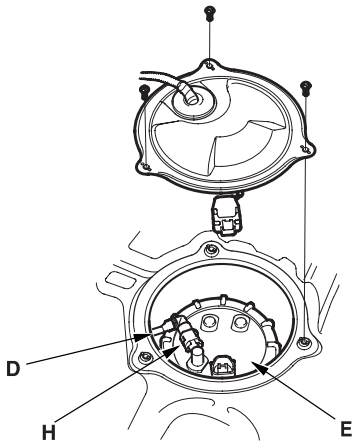
Fuel Tube/Quick-Connect Fittings Precaution

The fuel tube/quick-connect fittings connect the fuel rail (A) to fuel feed hose (B), the fuel feed hose (B) to the fuel line (C), and the fuel tube (D) to the fuel tank unit (E) and fuel tube (F) to the fuel filter (G). 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:

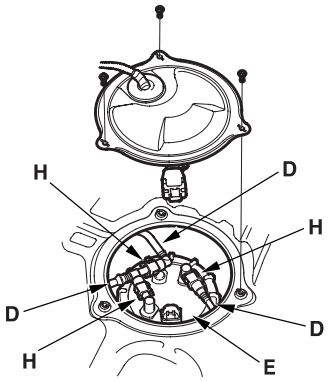
- The fuel feed hose (B), fuel tube (D) and quick-connect fittings (H) are not heat-resistant; be careful not to damage them during welding or other heat-generating procedures.
- The fuel feed hose (B), fuel tube (D) and quick-connect fittings (H) are not acid-proof; do not touch them with a shop towel which was used for wiping battery electrolyte. Replace them if they came into contact with electrolyte or something similar.
- When connecting or disconnecting the fuel feed hose (B), fuel tube (D), and quick-connect fittings (H), be careful not to bend or twist them excessively. Replace them it damaged.



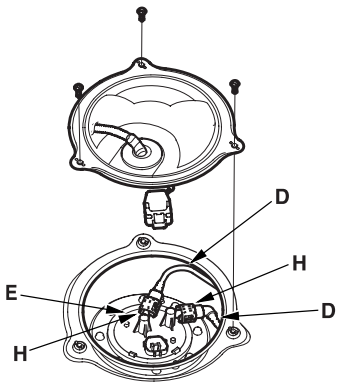
KG, KS, KE, KR models:



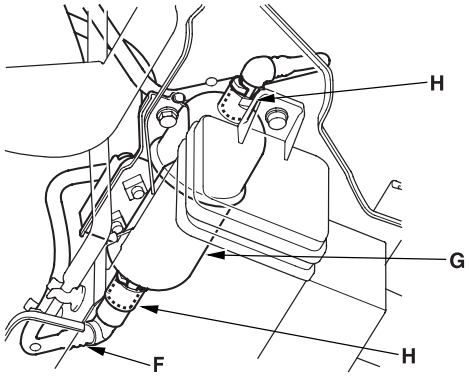
Except KG, KS, KE, KR, KZ models:



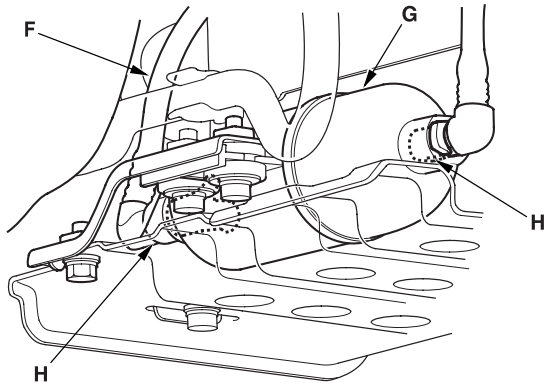
KZ model:



PH, FO, IN, MA models:



KZ model:



A disconnected quick-connect fitting can be reconnected, but the retainer on the mating pipe cannot be reused once it has been removed from the pipe. Replace the retainer when

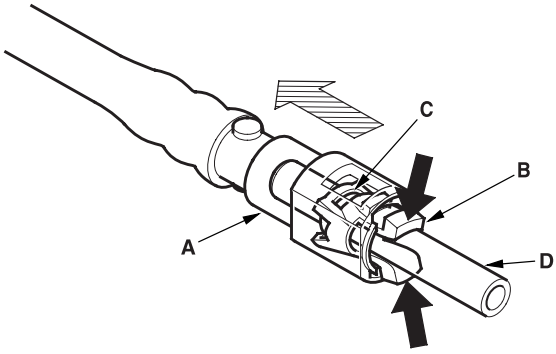
- replacing the fuel rail.
- replacing the fuel pipe.
- replacing the fuel pump.
- replacing the fuel filter.
- replacing the fuel gauge sending unit.
- it has been removed from the pipe.
- it is damaged.

PART	MANUFACTURER	RETAINER COLOR
ENGINE COMPARTMENT (FUEL FEED HOSE: FUEL RAIL SIDE)	TOKAI	BLU
ENGINE COMPARTMENT (FUEL FEED HOSE: FUEL FEED PIPE SIDE)	TOKAI	GREEN
FUEL TANK UNIT FUEL FILTER	SANOH	WHITE
FUEL FILTER (FLOW SIDE)	MOD SIGNAL	NATURAL

Fuel Tube/Quick-Connect Fittings Removal

1. Relieve the fuel pressure (see page 11-154).
2. Check the fuel quick-connect fitting for dirt, and clean if necessary.
3. Hold the connector (A) with one hand and squeeze the retainer tabs (B) with the other hand to release them from the locking pawls (C). Pull the connector off.

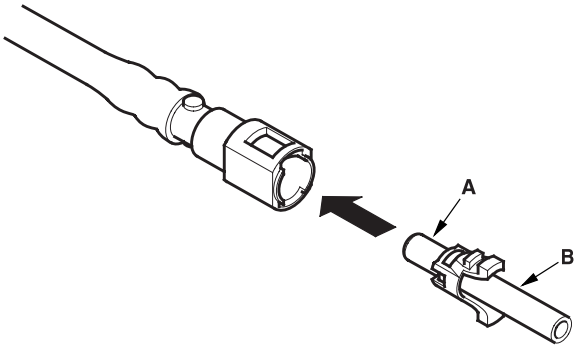
   NOTE:
   - Be careful not to damage the pipe (D) or other parts. Do not use tools.
   - If the connector does not move, keep the retainer tabs pressed down, and alternately pull and push the connector until it comes off easily.
   - Do not remove the retainer from the pipe; once removed, the retainer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



(cont'd)

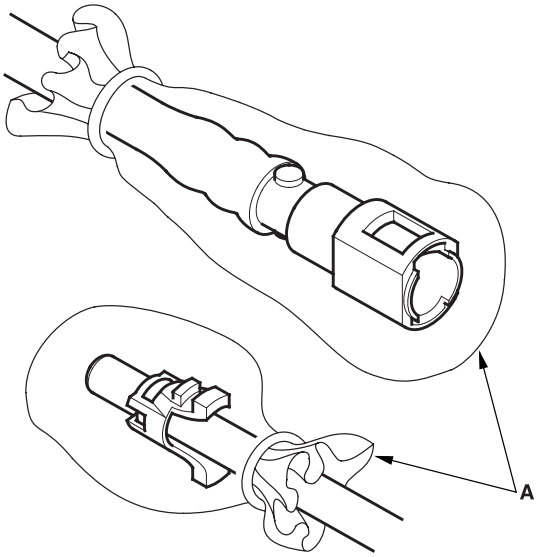
Fuel Tube/Quick-Connect Fittings Removal (cont'd)

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



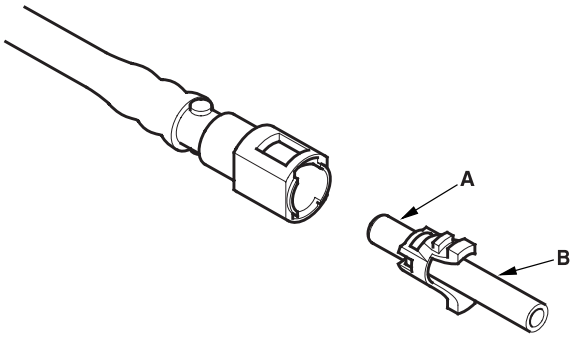
5. To prevent damage and keep foreign matter out, cover the disconnected connector and pipe end with plastic bags (A).

NOTE:
- The retainer cannot be reused once it has been removed from the pipe.
  Replace the retainer when
  – replacing the fuel rail.
  – replacing the fuel feed pipe.
  – replacing the fuel pump.
  – replacing the fuel filter.
  – replacing the fuel gauge sending unit.
  – it has been removed from the pipe.
  – it is damaged.

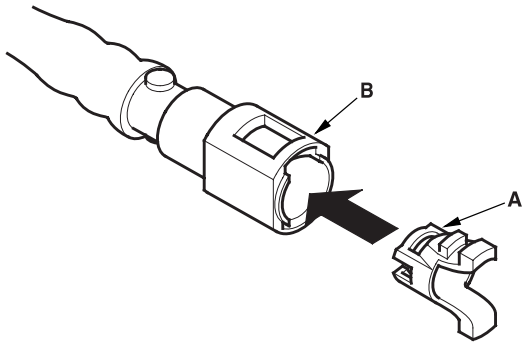


Fuel Tube/Quick-Connect Fittings Installation

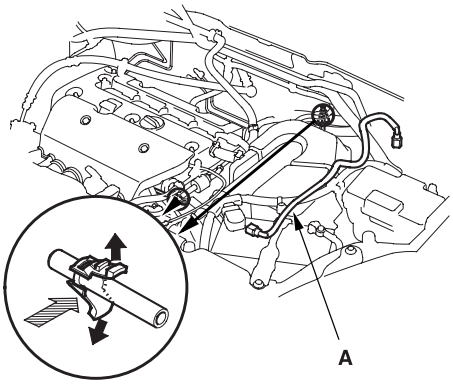
1. Check the contact area (A) of the pipe (B) for dirt and damage, and clean if necessary.



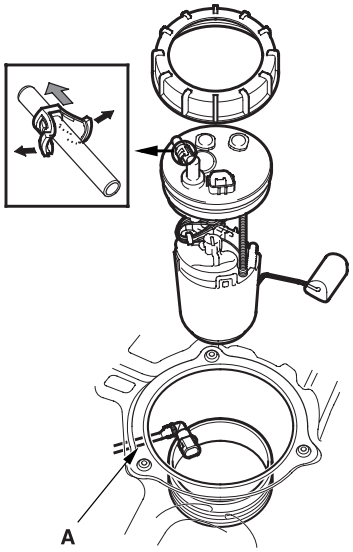
2. Insert a new retainer (A) into the connector (B) if the retainer is damaged, or after
- replacing the fuel rail.
- replacing the fuel feed pipe.
- replacing the fuel pump.
- replacing the fuel filter.
- replacing the fuel gauge sending unit.
- removing the retainer from the pipe.



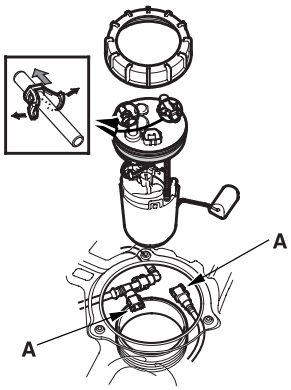
3. Before connecting a new fuel tube/quick-connect fitting assembly (A), remove the old retainer (B) from the mating pipe.



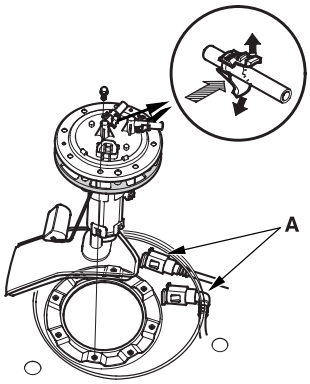
KG, KS, KE, KR models:



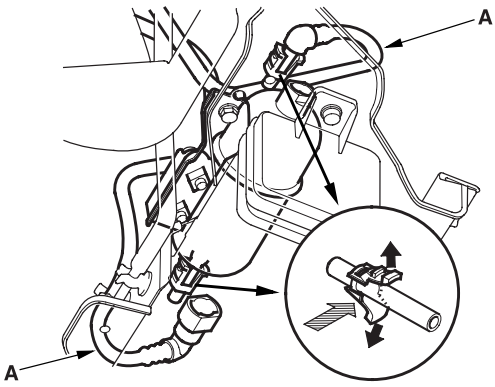
Except KG, KS, KE, KR KZ models:



KZ model:



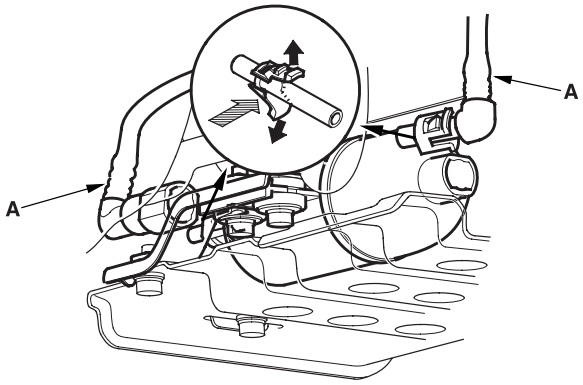
PH, FO, IN, MA models:



(cont'd)

Fuel Tube/Quick-Connect Fittings Installation (cont'd)

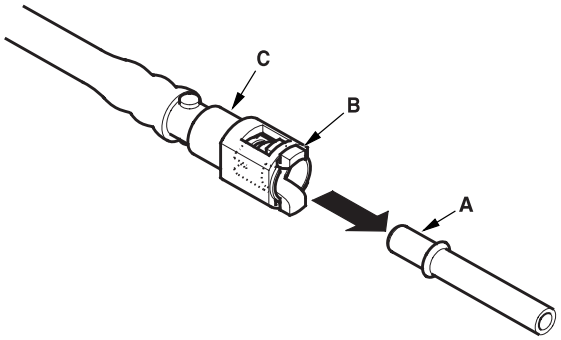
KZ model:



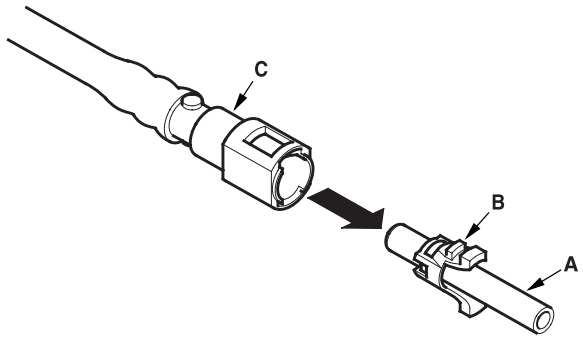
4. Align the quick-connect fittings with the pipe (A), and align the retainer (B) locking pawls with the connector (C) grooves. Then press the quick-connect fittings onto the pipe until both retainer pawls lock with a clicking sound.

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

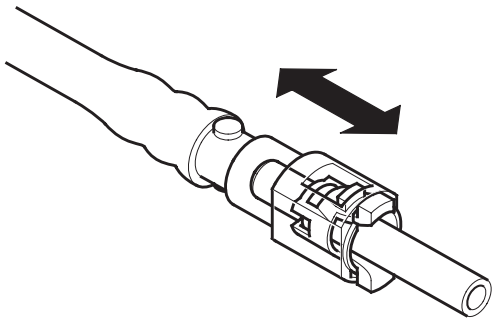
Connection with new retainer:



Reconnection to existing retainer:



5. Make sure the connection is secure and that the pawls are firmly locked into place; check visually and by pulling the connector.

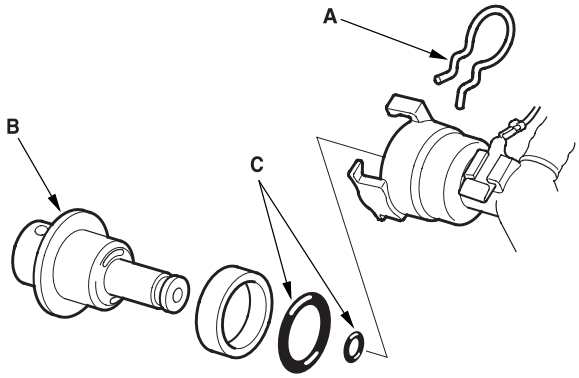


6. Reconnect the negative cable to the battery, and turn the ignition switch ON (II). The fuel pump will run for about 2 seconds, and fuel pressure will rise. Repeat two or three times, and check that there is no leakage in the fuel supply system.

Fuel Pressure Regulator Replacement

Except KZ model:

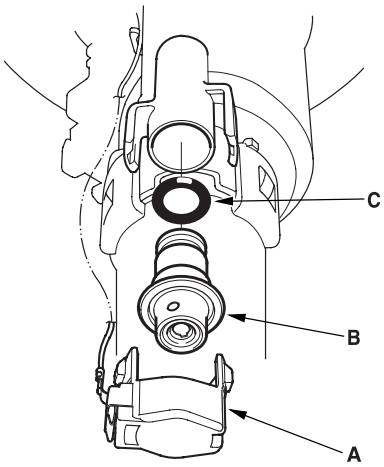
1. Remove the fuel pump (see page 11-167).
2. Remove the clip (A).



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

KZ model:

1. Remove the fuel pump (see page 11-167).
2. Remove the bracket (A).



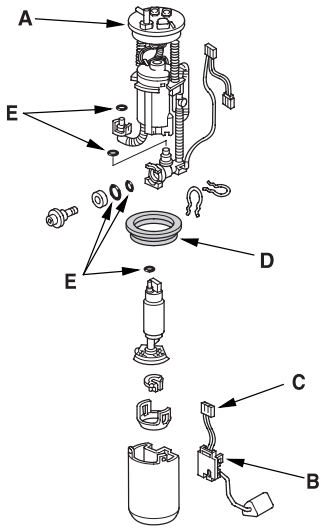
3. Remove the fuel pressure regulator (B).
4. Install the part in the reverse order of removal with a new O-ring (C).

Fuel Filter Replacement

The fuel filter should be replaced whenever the fuel pressure drops below the specified value (330 - 380 kPa (3.4 - 3.9 kgf/cm^2, 48 - 55 psi), KZ model: 320 - 370 kPa, (3.3 - 3.8 kgf/cm^2, 47 - 54 psi)) after making sure that the fuel pump and the fuel pressure regulator are OK.

KG, KS, KE, KR models:

1. Remove the fuel pump (see page 11-167).
2. Remove the fuel filter (A).

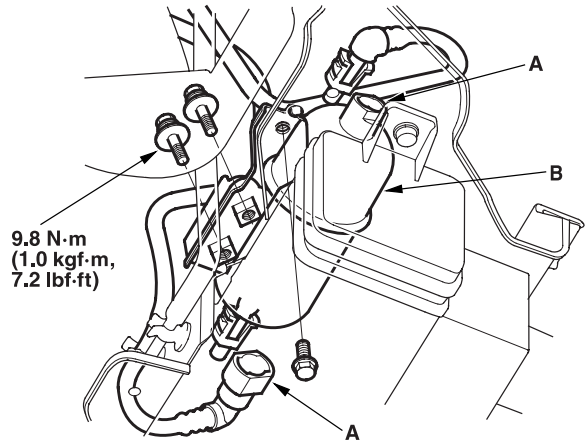


3. Install the part in the reverse order of removal with a new base gasket (D) and new O-rings (E), then check these items:
   - When connecting the wire harness, make sure the connection is secure and the terminal (B) is firmly locked into place.
   - When installing the fuel gauge sending unit (C),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

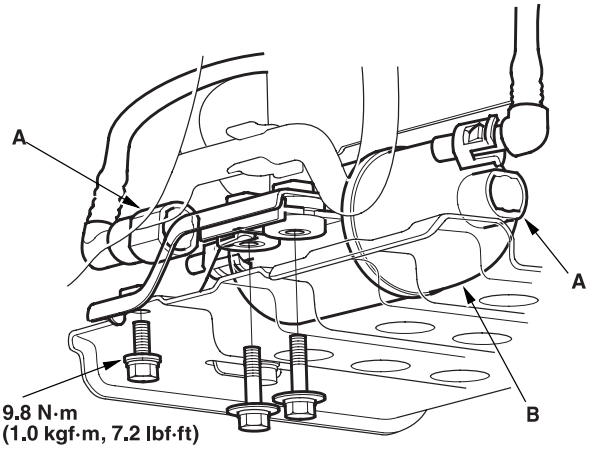
Except KG, KS, KE, KR models:

1. Relieve fuel pressure (see page 11-154).
2. Disconnect the hose and quick-connect fittings (A) (see page 11-161).

Except KZ model:



KZ model:



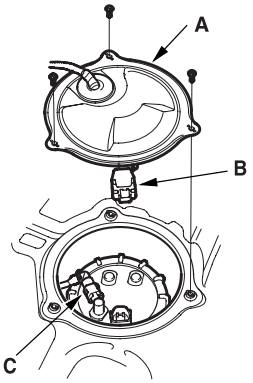
3. Remove the fuel filter (B).
4. Install the part in the reveres order of removal.

Fuel Pump/Fuel Gauge Sending Unit Replacement

Special Tools Required
Adjustable ring wrench 07WAA-0010100

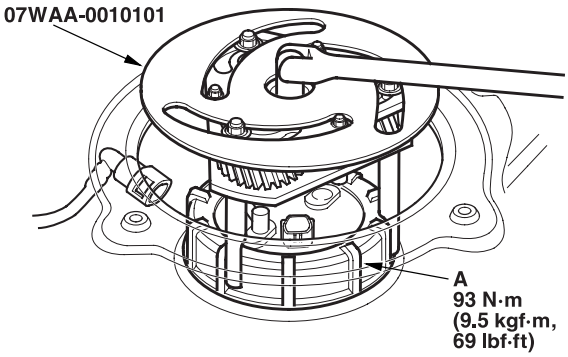
Except KZ model:

1. Relieve the fuel pressure (see page 11-154).
2. Remove the fuel fill cap.
3. Fold the rear seats forward, and pull back the carpet to expose the access panel.
4. Remove the access panel (A) from the floor.



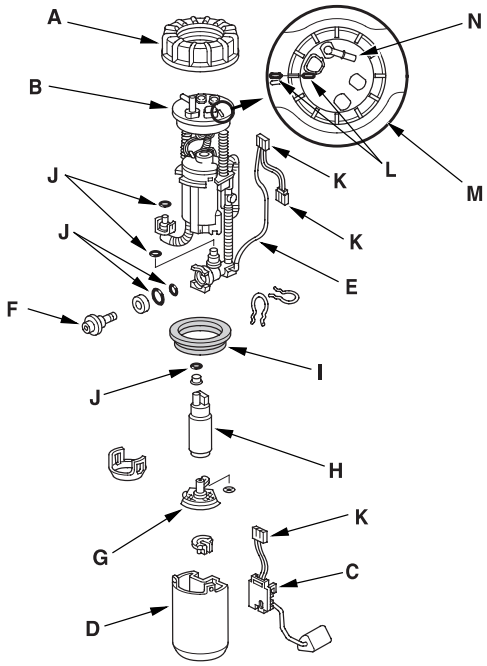
*: The illustration shows KG, KS, KE, KR models.

5. Disconnect the fuel pump 5P connector (B).
6. Disconnect the quick-connect fitting (C) from the fuel tank unit.
7. Using the tool, loosen the fuel tank unit locknut (A).



*: The illustration shows KG, KS, KE, KR models.

8. Remove the locknut (A) and the fuel pump assembly.



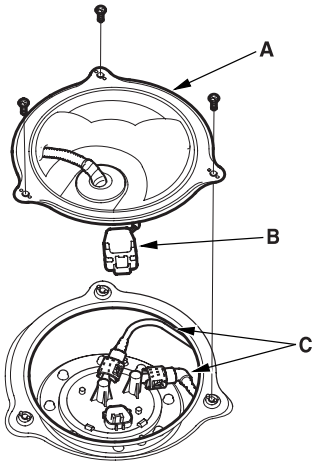
9. Remove the strainer case (B), the fuel gauge sending unit (C), the case (D), the wire harness (E), and the fuel pressure regulator (F).
10. When connecting the fuel pump assembly, make sure the connection is secure and the suction filter (G) is firmly connected to the fuel pump (H).
11. Install the fuel pump assembly in the reverse order of removal with a new base gasket (I) and new O-rings (J), then check these items:
    - When connecting the wire harness, make sure the connection is secure and the connector (K) is firmly locked into the place.
    - When installing the fuel gauge sending unit, make sure the connection is secure and the connector is firmly locked into place. Be careful not to bend or twist it excessively.
    - When installing the fuel pump assembly align, the marks (L) on the fuel tank (M) and the fuel pump assembly (N).

(cont'd)

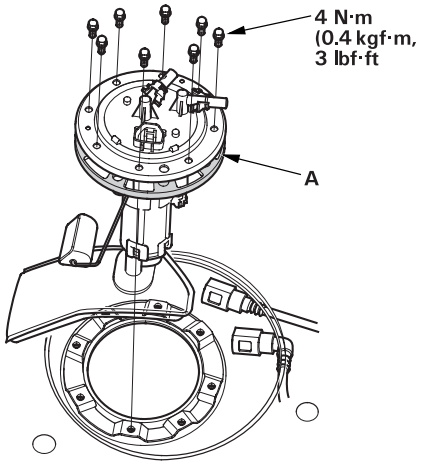
Fuel Pump/Fuel Gauge Sending Unit Replacement (cont'd)

KZ model:

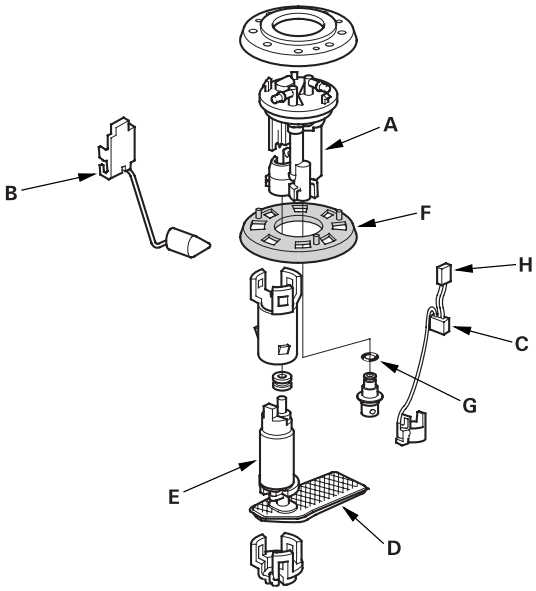
1. Relieve the fuel pressure (see page 11-154).
2. Remove the fuel fill cap.
3. Fold the rear seats forward, and pull back the carpet to expose the access panel.
4. Remove the access panel (A) from the floor.



5. Disconnect the fuel pump 5P connector (B).
6. Disconnect the quick-connect fittings (C) from the fuel tank unit.
7. Remove the fuel tank unit (A).



8. Remove the strainer case (A), the fuel gauge sending unit (B), the wire harness (C).



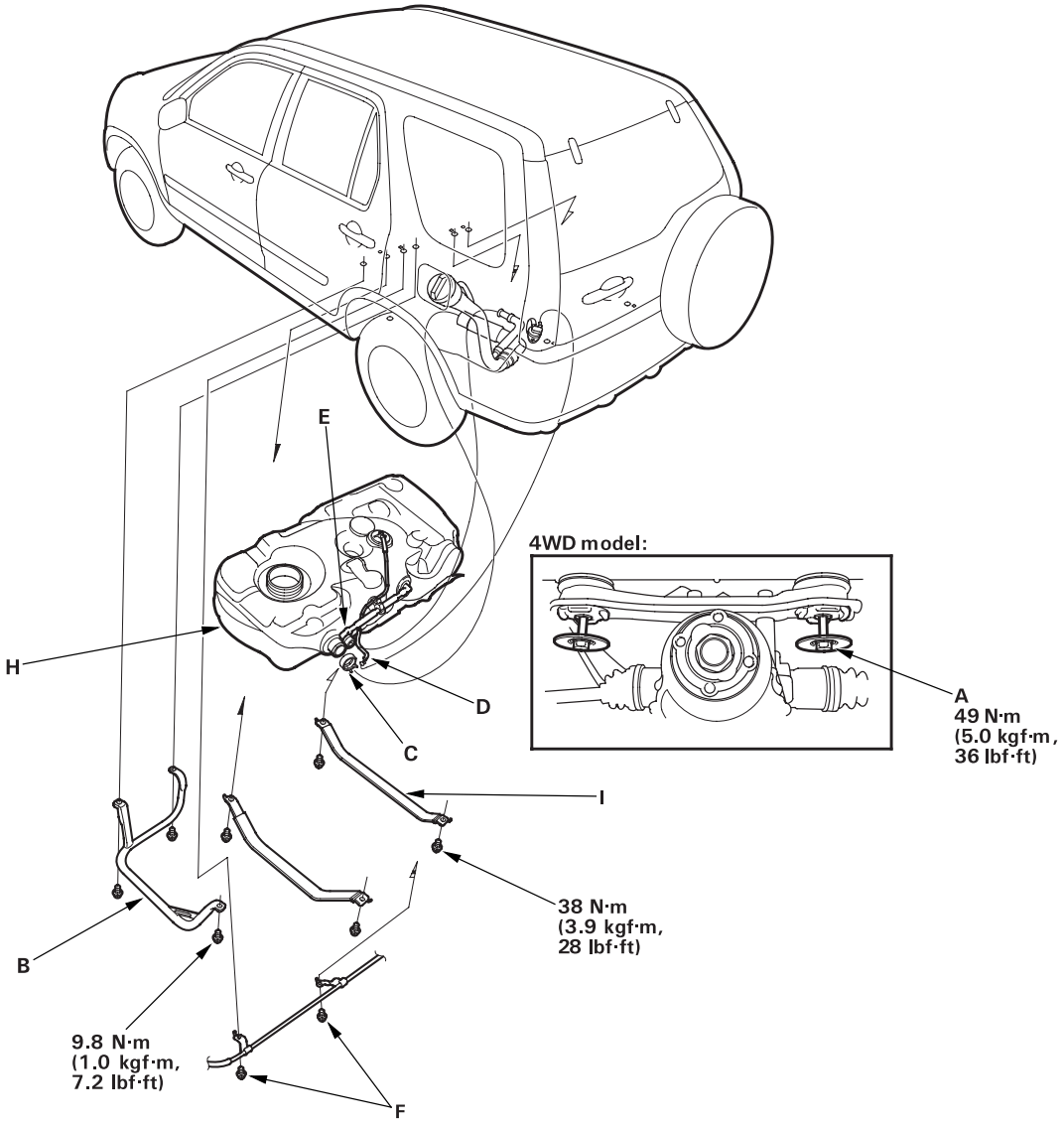
9. When connecting the fuel tank unit, make sure the connection is secure and the suction filter (D) is firmly connected to the fuel pump (E).
10. Install the part in the reverse order of removal with a new base gasket (F) and new O-rings (G), then check these items:
    - When connecting the wire harness, make sure the connection is secure and the connector (H) is firmly locked into the place.
    - When installing the fuel gauge sending unit, make sure the connection is secure and the connector is firmly locked into place. Be careful not to bend or twist it excessively.

Fuel Tank Replacement

Except KZ model:

1. Drain the fuel tank: Remove the fuel pump assembly (see page 11-167). Using a hand pump, hose and container suitable for gasoline, draw the fuel from the fuel tank.
2. Jack up the vehicle, and support it with jackstands.
3. 4WD model:
   Remove the propeller shaft (see page 16-33). Remove the rear differential mounting bolt (A), then support it with jackstands.

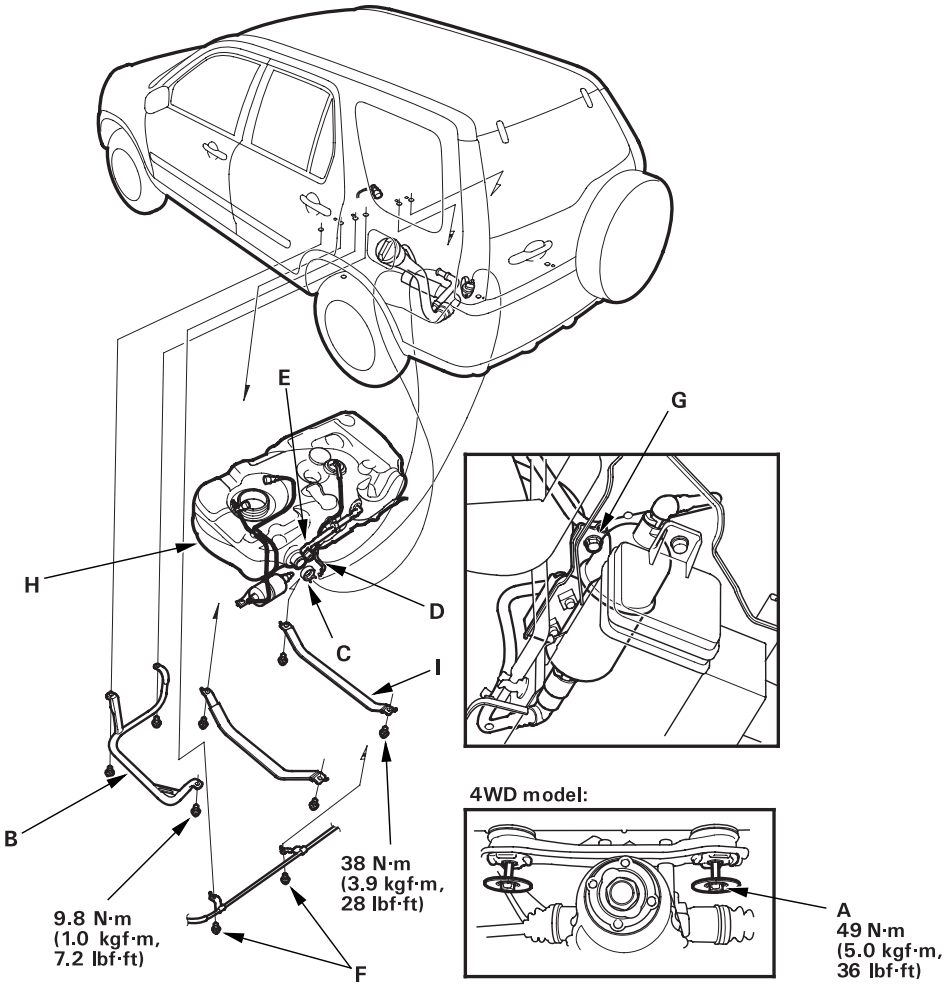
KG, KS, KE, KR models:



(cont'd)

Fuel Tank Replacement (cont'd)

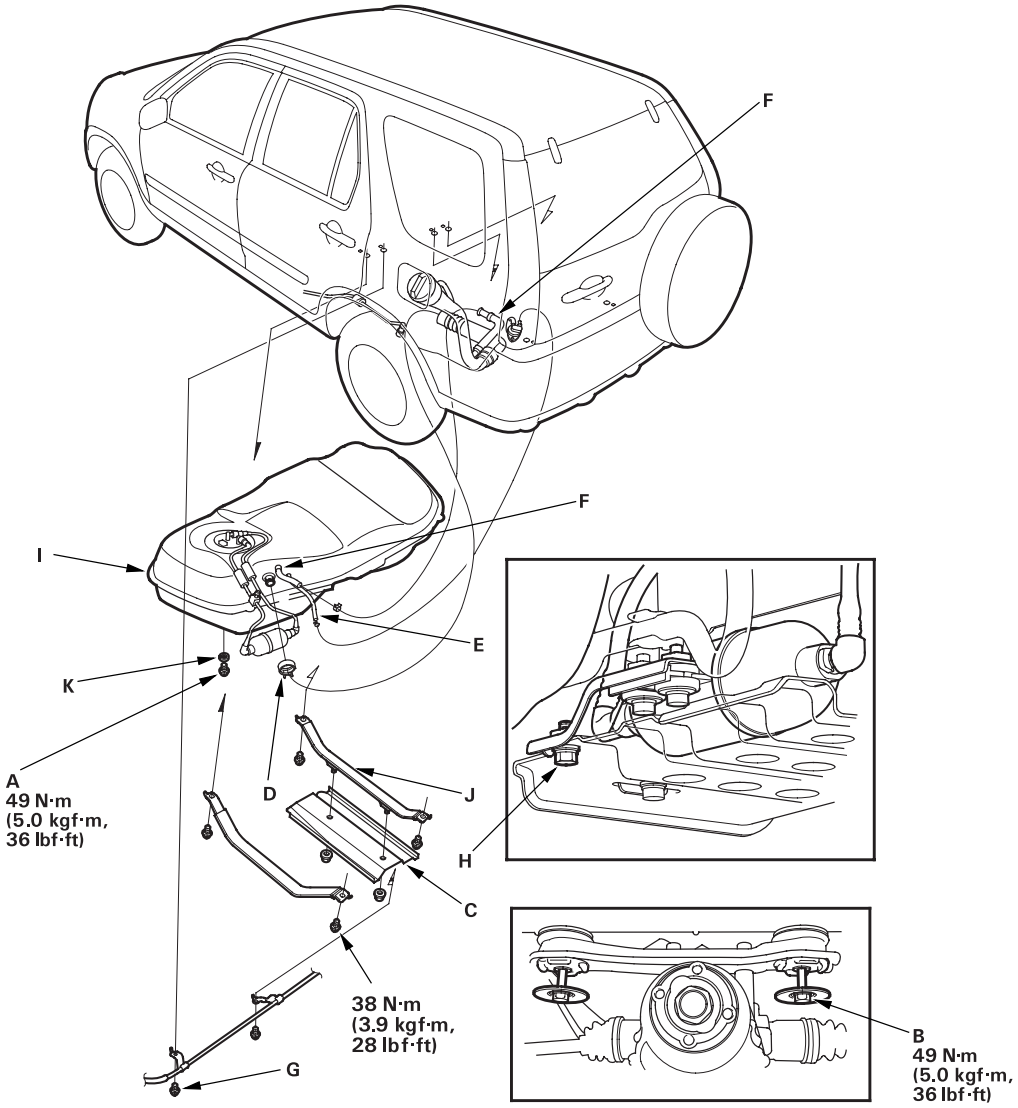
Except KG, KS, KE, KR models:



4. Loosen the Evaporative Emission (EVAP) canister bracket bolt.
5. Remove the fuel tank guard (B).
6. Loosen the clamp (C).
7. Disconnect the fuel vapor hose (D), hoses (E) and wire stay bolts (F). Slide back the clamps, then twist the hoses as you pull to avoid damaging them.
8. Except KG, KS, KE, KR models:
   Remove the fuel filter bracket bolt (G).
9. Place a jack, or other support, under the fuel tank (H).
10. Remove the strap bolts, and the strap (I).
11. Remove the fuel tank.
12. Install the remaining parts in the reverse order of removal.

KZ model:

1. Relieve the fuel pressure (see page 11-154).
2. Fold the rear seats forward, and pull back the carpet to expose the access panel.
3. Remove the access panel, disconnect the quick connect fittings from the fuel pump.
4. Jack up the vehicle, and support it with jackstands.
5. Remove the drain bolt (A), and drain the fuel into an approved container.
6. Remove the propeller shaft (see page 16-33). Remove the rear differential mounting bolt (B), then support it with jackstands.



(cont'd)

Fuel Tank Replacement (cont'd)

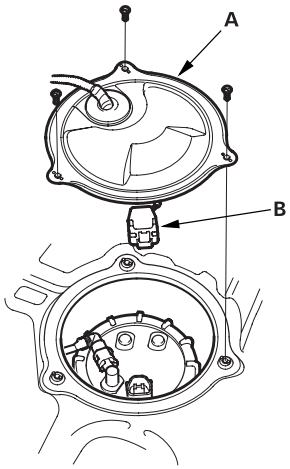
7. Loosen the Evaporative Emission (EVAP) canister bracket bolt.
8. Remove the fuel tank guard (C).
9. Loosen the clamp (D).
10. Disconnect the fuel vapor hose (E) and hoses (F) and wire stay bolts (G). Slide back the clamps, then twist the hoses as you pull to avoid damaging them.
11. Remove the fuel filter bracket (H).
12. Place a jack, or other support, under the fuel tank (I).
13. Remove the strap bolts, and the strap (J).
14. Remove the fuel tank.
15. Install the drain bolt with a new washer (K), then coat the drain bolt with Noxrust 124B or equivalent. Allow the Noxrust or equivalent to dry for 20 minutes.
16. Install the remaining parts in the reverse order of removal.

Fuel Gauge Sending Unit Test

Special Tools Required
Adjustable ring wrench 07WAA-0010100

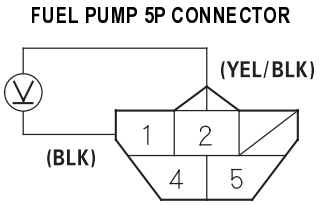
NOTE: For the fuel gauge system circuit diagram, refer to the Gauges Circuit Diagram (see page 22A-68).

1. Check the No. 10 METER (7.5A) fuse in the under-dash fuse/relay box before testing.
2. Do the gauge drive circuit check (see page 22A-67).
   - If the fuel gauge needle sweeps from the minimum to maximum position and then returns to the minimum position, the gauge is OK. Go to step 3.
   - If the fuel gauge needle does not sweep correctly, replace the gauge assembly and retest.
3. Turn the ignition switch OFF.
4. Remove the rear seat cushion (see page 20-114).
5. Remove the access panel (A) from the floor.



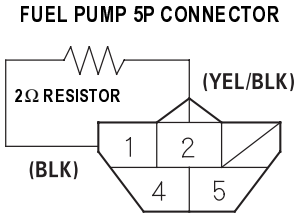
*: The illustration shows KG, KS, KE, KR, KZ models.

6. Disconnect the fuel pump 5P connector (B).
7. Measure voltage between the fuel pump 5P connector terminals No. 1 and No. 2 with the ignition switch ON (II). There should be battery voltage.
   - If the voltage is OK, go to step 8.
   - If the voltage is not as specified, check for:
     – a short YEL/BLK to ground.
     – an open in the YEL/BLK or BLK wire.
     – poor ground (G551).



Wire side of female terminals

8. Turn the ignition switch OFF. Remove the No. 9 BACK UP (10A) fuse from the under-hood fuse/relay box for at least 30 seconds, then reinstall it.
9. Install a 12 Ω resistor between the fuel pump 5P connector terminals No. 1 and No. 2, then turn the ignition switch ON (II).



Wire side of female terminals

(cont'd)

Fuel Gauge Sending Unit Test (cont'd)

10. Check that the pointer of the fuel gauge indicates "F".
- If the pointer of the fuel gauge does not indicate "F", replace the gauge.
- If the gauge is OK, inspect the fuel gauge sending unit.

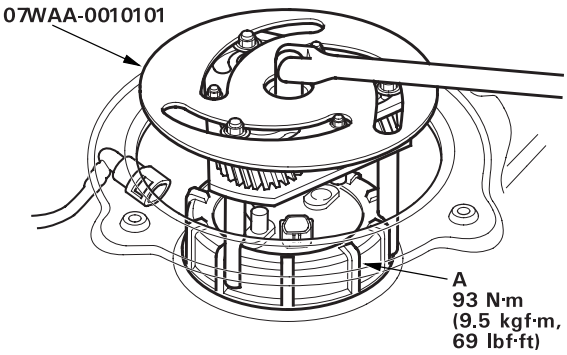
NOTE: The pointer of the fuel gauge returns to the bottom of the gauge dial when the ignition switch is OFF, regardless of the fuel level.

11. Relieve the fuel pressure (see page 11-154).

12. Remove the fuel fill cap.

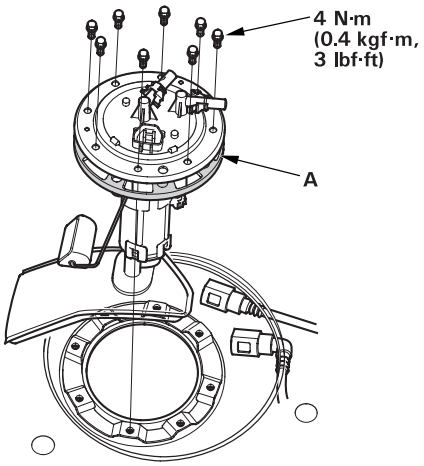
13. Disconnect the quick-connect fittings from the fuel pump.

14. Except KZ model:
Using the tool, loosen the locknut (A), and remove the fuel pump assembly from the fuel tank.



*: The illustration shows KG, KS, KE, KR model.

15. KZ model:
Remove the fuel pump assembly.



16. Measure the resistance between the No. 1 and No. 2 terminals with the float at E (EMPTY), 1/2 (HALF FULL), and F (FULL) positions.
If you do not get the following readings, replace the fuel gauge sending unit (see page 11-167).

Except KZ model:

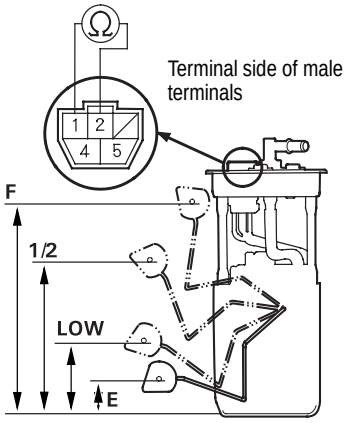
Float Position	F	1/2	LOW	E
Resistance (Ω)	11 -13	67.6 -73.6	113.5 -121.2	130 -132

KZ model:

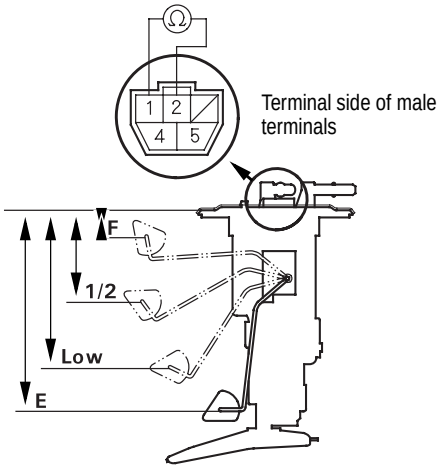
Float Position	F	1/2	LOW	E
Resistance (Ω)	11 -13	67.6 -73.6	110.8 -116.8	130 -132

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

Except KZ model:



KZ model:

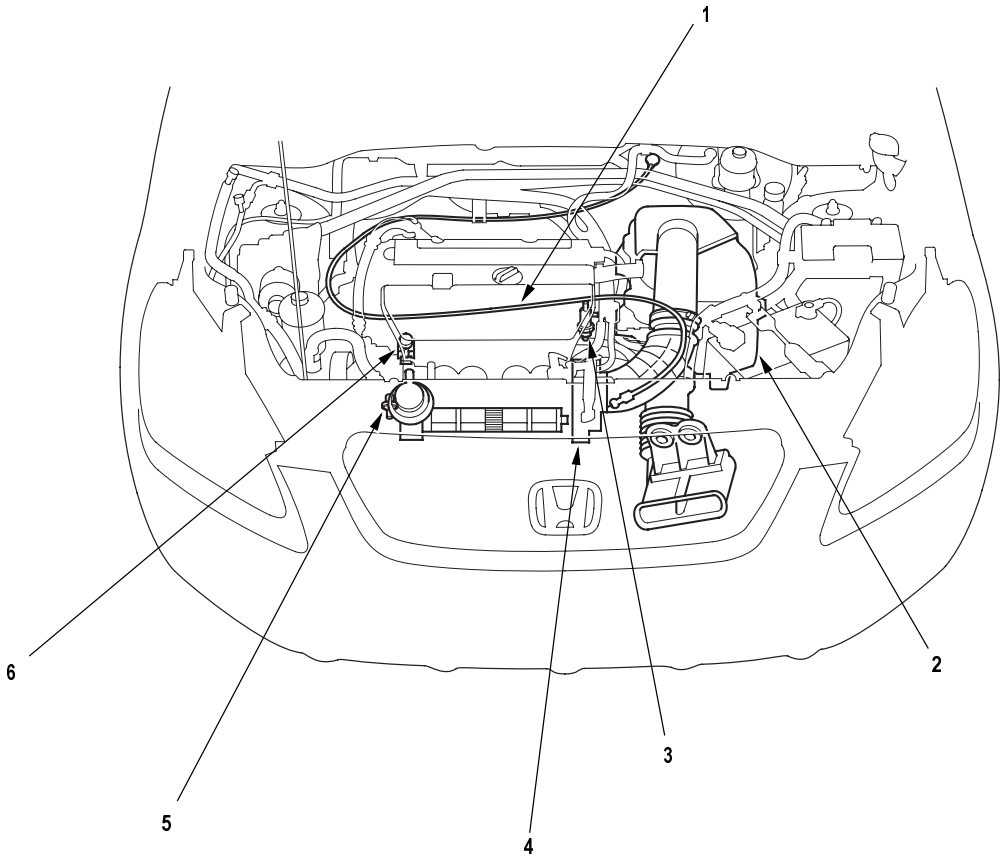


Low Fuel Indicator Light Test

1. Do the fuel gauge sending unit test (see page 11-173).
   - If the system is OK, go to step 2.
   - If the system has any malfunction, repair it.
2. Turn the ignition switch OFF. Remove the No. 9 BACK UP (10A) fuse from the under-hood fuse/relay box for at least 30 seconds, then reinstall it.
3. Turn the ignition switch ON (II) with the float at the E (EMPTY) position.
   - If the low fuel indicator light is on, go to step 3.
   - If the low fuel indicator light is not on, refer to the low fuel indicator Circuit Diagram (see page 22A-69) and check the circuit.
4. Turn the ignition switch OFF. Remove the No. 9 BACK UP (10A) fuse from the under-hood fuse/relay box for at least 30 seconds, then reinstall it.
5. Lift the float above the 1/2 position.
   - If the low fuel indicator light goes off, the system is OK.
   - If the low fuel indicator light is still on, refer to the low fuel indicator Circuit Diagram (see page 22A-69) and check the circuit.

Intake Air System

Component Location Index

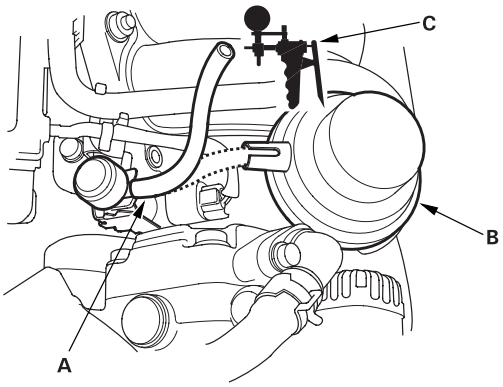


*: The illustration shows LHD model.

1	THROTTLE CABLE	Adjustment, page 11-183; Removal/Installation, page 11-184
2	AIR CLEANER	Replacement, page 11-182
	AIR CLEANER ELEMENT	Replacement, page 11-182
3	INTAKE AIR BYPASS CONTROL THERMAL VALVE	Test, page 11-181
4	THROTTLE BODY	Test, page 11-180; Removal/Installation, page 11-185; Disassembly/Reassembly, page 11-186
5	INTAKE MANIFOLD RUNNER CONTROL (IMRC) ACTUATOR	Troubleshooting, page 11-177; Replacement, page 11-187
6	INTAKE MANIFOLD RUNNER CONTROL (IMRC) SOLENOID VALVE	Troubleshooting, page 11-177

IMRC System Troubleshooting

1. Start the engine and allow it to idle.
2. Disconnect the vacuum hose (A) from Intake Manifold Runner Control (IMRC) actuator (B), and connect the vacuum pump/gauge (C) to the hose.



Is there vacuum?

Yes Go to step 10.

No Go to step 3.

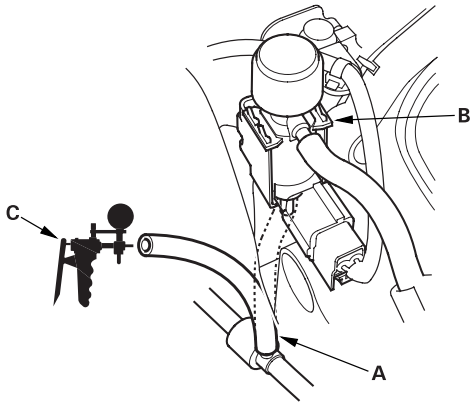
3. Check the vacuum hose between IMRC actuator and IMRC solenoid valve.

Is there vacuum hose OK?

Yes Go to step 4.

No Repair the blockage or vacuum leak between the IMRC actuator and IMRC solenoid valve.■

4. Disconnect the lower vacuum hose (A) from IMRC solenoid valve (B), and connect the vacuum pump/gauge (C) to the hose.



Is there vacuum?

Yes Go to step 5.

No Repair the blockage or vacuum leak between the intake manifold and IMRC solenoid valve.■

5. Reconnect the lower vacuum hose to the IMRC solenoid valve, and connect the vacuum pump/gauge to the vacuum hose (actuator side).
6. Disconnect the IMRC solenoid valve 2P connector.

Is there vacuum?

Yes Go to step 7.

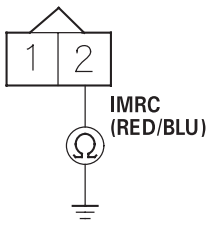
No Replace the IMRC solenoid valve.■

(cont'd)

IMRC System Troubleshooting (cont'd)

7. Turn the ignition switch OFF.
8. Disconnect the negative cable from the battery.
9. Disconnect ECM/PCM connector B (24P).
10. Check for continuity between IMRC solenoid valve 2P connector terminal No. 2 and body ground.

IMRC SOLENOID VALVE 2P CONNECTOR



Wire side of female terminals

Is there continuity?

Yes Repair short in the wire between the ECM/PCM (B22) and the IMRC solenoid valve.■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

11. Raise engine speed to 5,000 rpm (min^{-1}).
12. Check for vacuum.

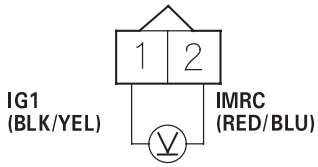
Is there vacuum?

Yes Go to step 13.

No Go to step 23.

13. Turn the ignition switch OFF.
14. Disconnect the IMRC solenoid valve 2P connector.
15. Start the engine.
16. Raise engie speed to 5,000 rpm (min^{-1}), then measure voltage between IMRC solenoid valve 2P connector terminal No. 1 and No. 2.

IMRC SOLENOID VALVE 2P CONNECTOR



Wire side of female terminals

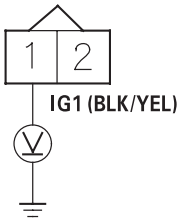
Is there battery voltage?

Yes Replace the IMRC solenoid valve.■

No Go to step 17.

17. Measure voltage between IMRC solenoid valve 2P connector terminal No. 1 and body ground.

IMRC SOLENOID VALVE 2P CONNECTOR



Wire side of female terminals

Is there battery voltage?

Yes Go to step 18.

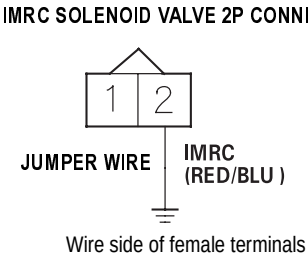
No Check the No. 4 ACG (10A) fuse in the under-dash fuse/relay box. If the fuse OK, repair open in the wire between the IMRC solenoid valve and No. 4 ACG (10A) fuse.

18. Turn the ignition switch OFF.

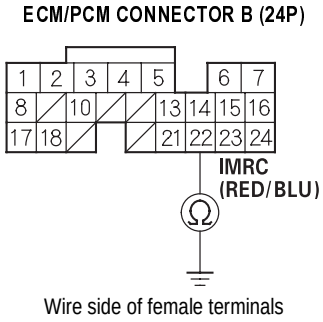
19. Disconnect the negative cable from the battery.

20. Disconnect ECM/PCM connector B (24P).

21. Connect IMRC solenoid valve 2P connector terminal No. 2 to body ground with a jumper wire.



22. Check for continuity between ECM/PCM connector terminal B22 and body ground.

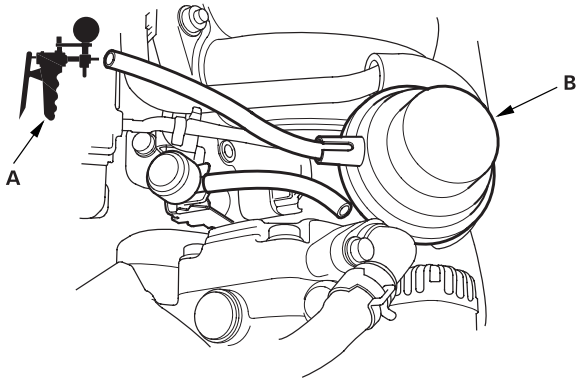


Is there continuity?

Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/indication goes away, replace the original ECM/PCM.■

No Repair open in the wire between the ECM/PCM (B22) and the IMRC solenoid valve.■

23. Connect the vacuum pump/gauge (A) to the IMRC actuator (B), then apply vacuum.

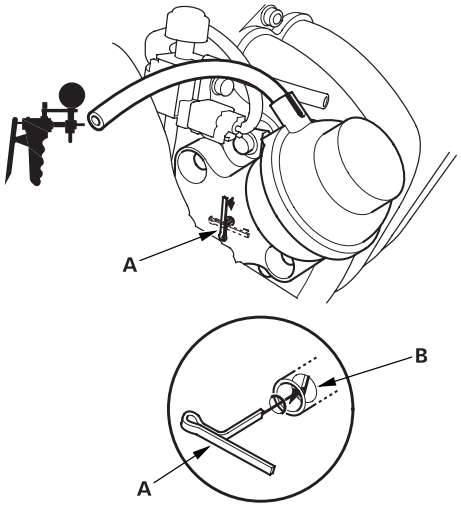


Does the IMRC actuator hold vacuum?

Yes Go to step 24.

No Replace the IMRC valve assembly.■

24. Install the cotter pin (A) to the IMRC actuator shaft (B).



25. Apply vacuum to the IMRC actuator, then check the cotter pin movement.

Does the cotter pin move?

Yes IMRC system is OK.■

No Replace the IMRC valve assembly.■

Throttle Body Test

With using a scan tool/Honda PGM Tester:

NOTE:
- Do not adjust the throttle stop screw. It is preset at the factory.
- If the Malfunction Indicator Lamp (MIL) has been reported on, check for Diagnostic Trouble Codes (DLC) (see page 11-3).

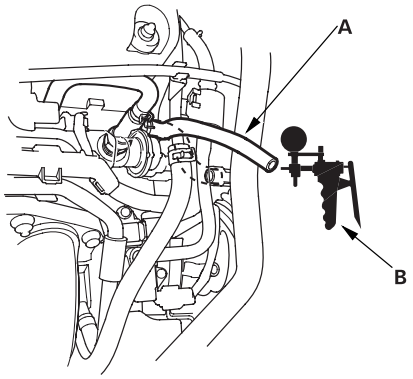
1. With the engine off, check the throttle cable operation. The cable should operate without binding or sticking.
   - If the cable operates OK, go to step 2.
   - If the cable binds or sticks, check it and its routing. If the cable is faulty, reroute it or replace it, and adjust it (see page 11-183), then go to step 2.
2. Operate the throttle lever by hand to see if the throttle valve and/or shaft are too loose or too tight.
   - If there is excessive play in the throttle valve shaft, or any binding in the throttle valve at the fully closed position or fully open, replace the throttle body.
   - If the throttle valve and shaft are OK, go to step 3.
3. Connect the scan tool/Honda PGM Tester to the Data Link Connector (DLC).
4. Turn the ignition switch ON (II).
5. Check the throttle position with the scan tool. The reading should be about 10% when the throttle is fully closed and about 90% when the throttle is fully opened.
   - If the throttle position is correct, the throttle body is OK.
   - If the throttle position is not correct, replace the throttle body.

Intake Air Bypass Control Thermal Valve Test

1. Start the engine. Then let it idle.

   NOTE: The engine coolant temperature must be below 65°C (149°F).

2. Remove the vacuum hose (A) from the intake air duct, and connect a vacuum pump/gauge (B) to the hose.



3. Raise and lower the engine speed, and make sure the vacuum gauge reading changes as the engine speed changes.

   If the vacuum reading does not change, check for these problems:

   - Misrouted, leaking, broken, or clogged intake air bypass control system vacuum lines.
   - A cracked or damage intake air bypass control thermal valve.

4. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on, then let it idle.

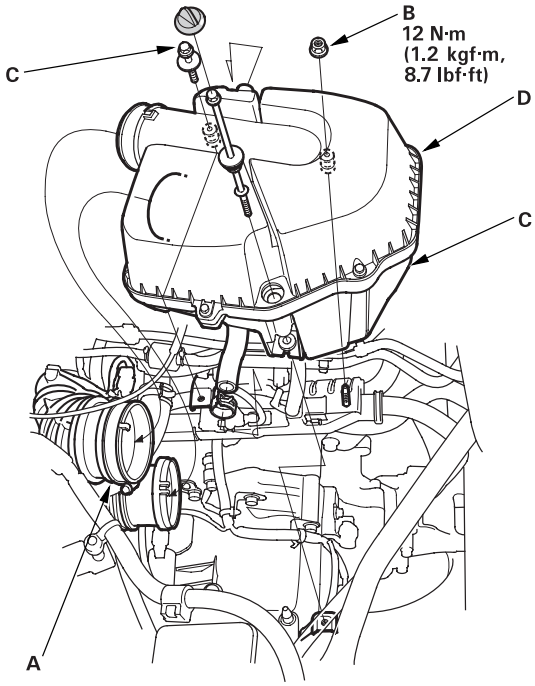
5. Raise and lower the engine speed, and make sure the vacuum gauge reading does not change as the rpm changes.

   If the vacuum reading changes, check for these problems:

   - Misrouted, leaking, broken, or clogged intake air bypass control system vacuum lines.
   - A cracked or damaged intake air bypass control thermal valve.

Air Cleaner Replacement

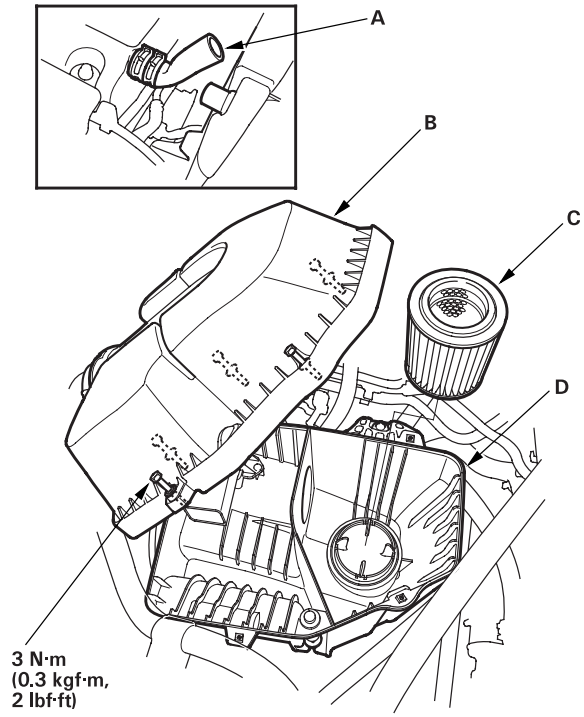
1. Remove the clamp (A), the nuts (B), and the bolts (C).



2. Remove the air cleaner (D).
3. Install the parts in the reverse order of removal.

Air Cleaner Element Replacement

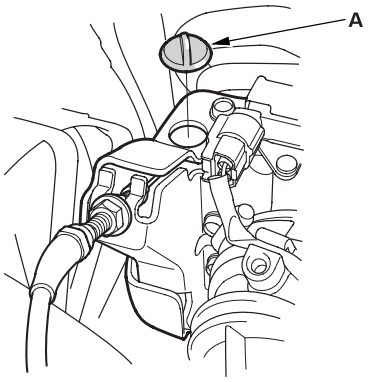
1. Disconnect the PCV hose (A). Open the air cleaner housing cover (B).



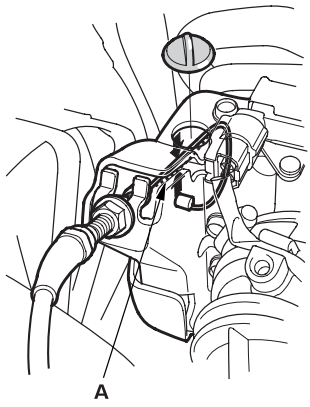
2. Remove the air cleaner (C) from the air clenaer housing (D).
3. Install the parts in the reverse order of removal.

Throttle Cable Adjustment

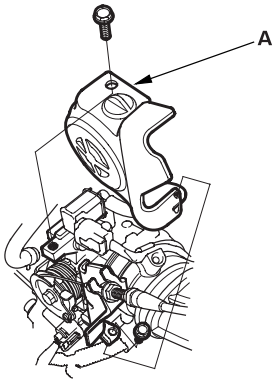
1. Remove the throttle linkage cover grommet (A).



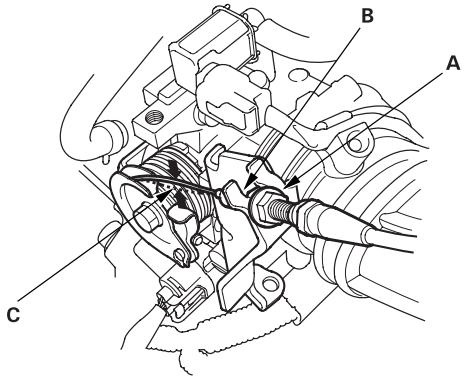
2. Check cable free play at the throttle linkage. Cable deflection (A) should be 10 - 12 mm (3/8 - 1/2 in.).



3. If the deflection is not within spec (10 - 12 mm, 3/8 - 1/2 in.), remove the throttle linkage cover (A).



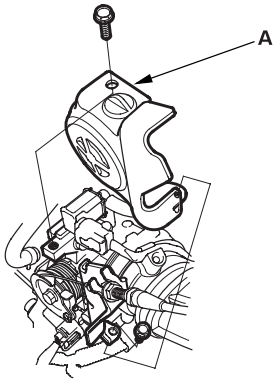
4. Loosen the locknut (A), turn the adjusting nut (B) until the deflection (C) is as specified, then retighten the locknut.



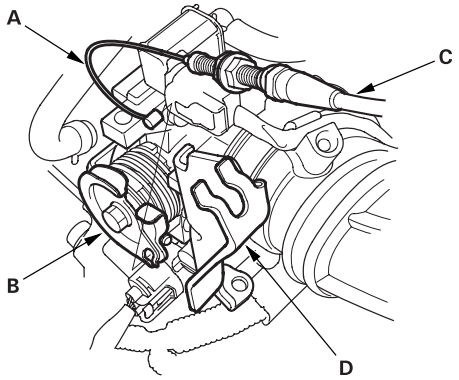
5. With the cable properly adjusted, check the throttle valve to be sure it opens fully when you push the accelerator pedal to the floor. Also check the throttle valve to be sure it returns to the idle position whenever you release the accelerator pedal.

Throttle Cable Removal/Installation

1. Remove the throttle linkage cover (A).

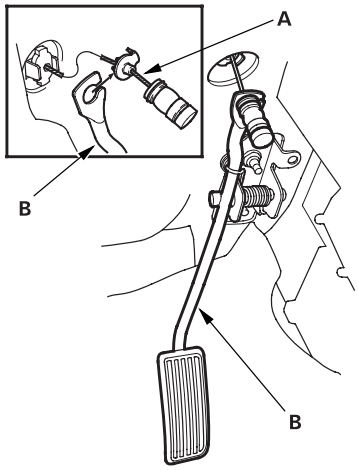


2. Fully open the throttle valve, then remove the throttle cable (A) from the throttle link (B).



3. Remove the cable housing (C) from the cable bracket (D).

4. Remove the throttle cable (A) from the accelerator pedal (B).

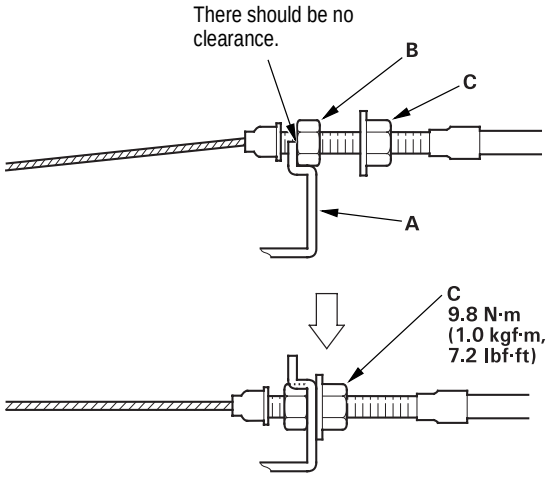


5. Install in the reverse order of removal.

6. After installing, start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on, then let it idle.

7. Hold the cable, removing all slack from it.

8. Set the locknut on the cable bracket (A). Adjust the adjusting nut (B) so that its free play is 0 mm.

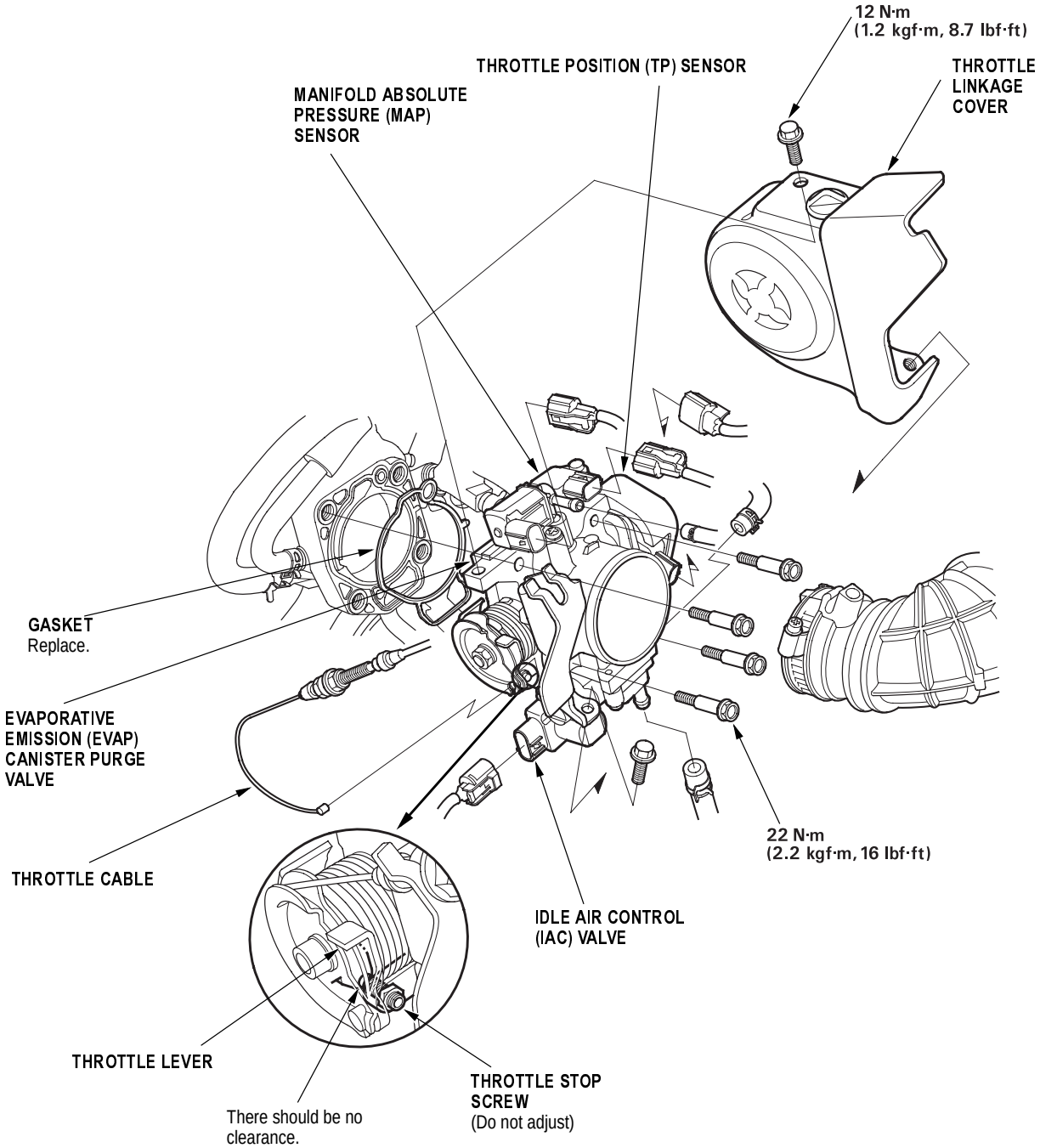


9. Remove the cable from the throttle bracket (A). Reset the adjusting nut (B) and tighten the locknut (C).

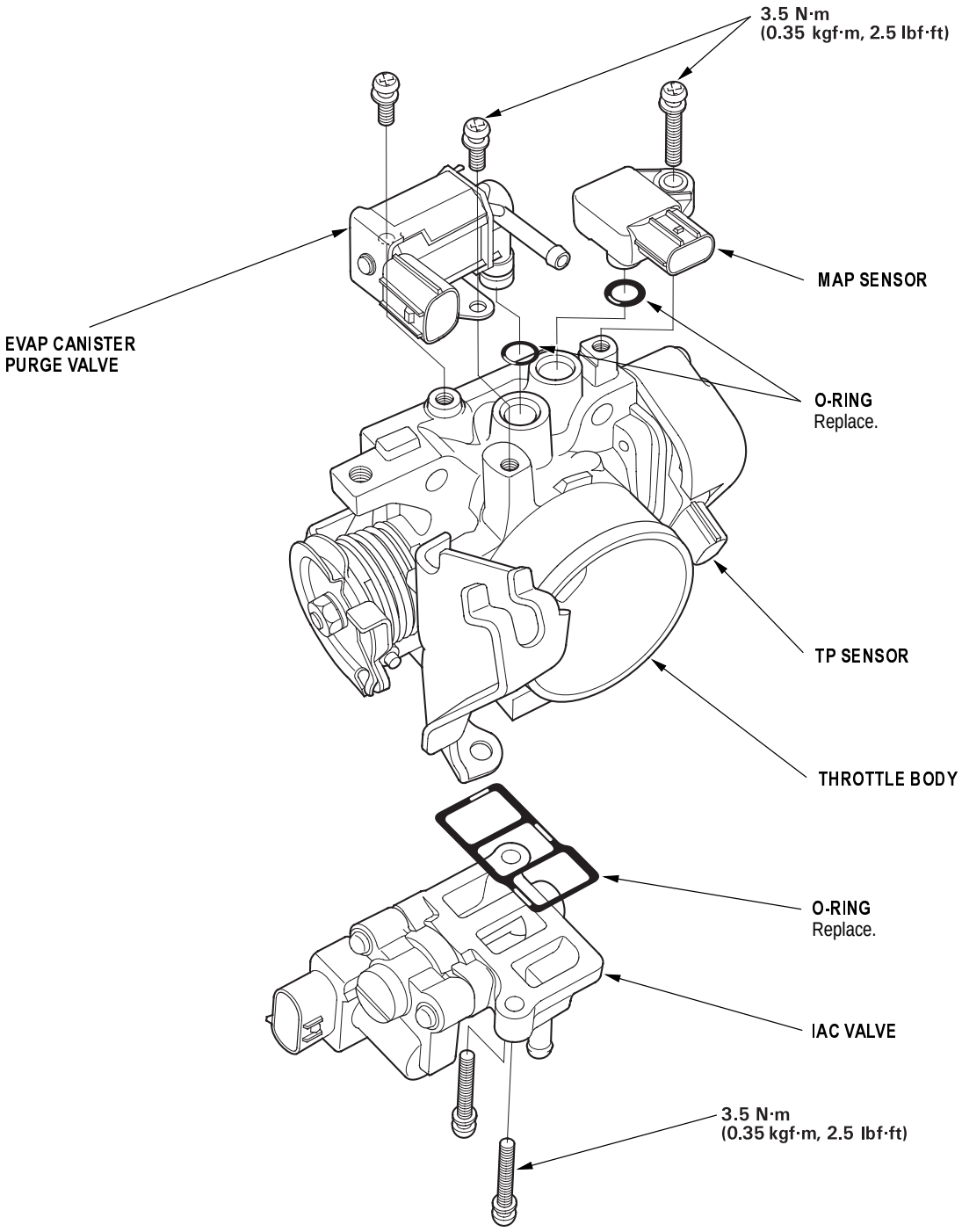
10. With the cable properly adjusted, check the throttle valve to be sure it opens fully when you push the accelerator pedal to the floor. Also check the throttle valve to be sure it returns to the idle position whenever you release the accelerator pedal.

Throttle Body Removal/Installation

NOTE:
- Do not adjust the throttle stop screw.
- After reassembly, adjust the throttle cable (see page 11-183).
- The Throttle Position (TP) sensor is not removable.

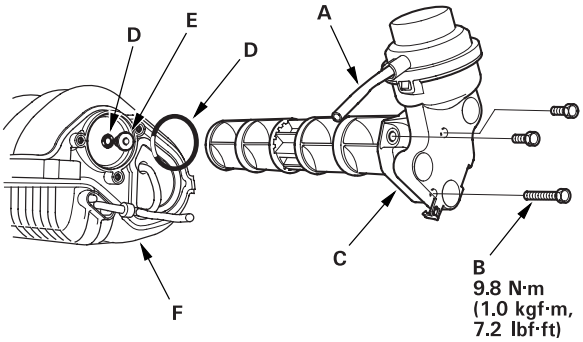


Throttle Body Disassembly/Reassembly



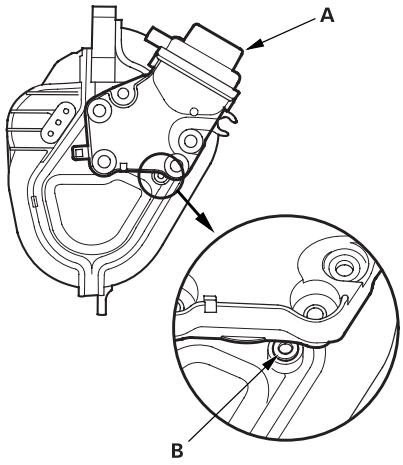
IMRC Valve Replacement

1. Remove the intake manifold (see page 09-2).
2. Disconnect the vacuum hose (A).



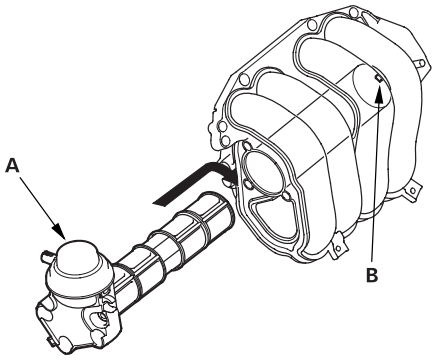
3. Remove the bolts (B).
4. Remove the IMRC actuator assembly (C).

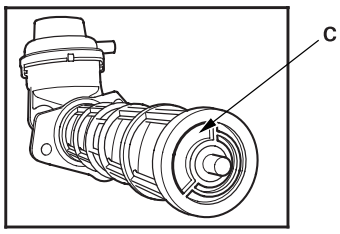
   NOTE:
   - When installing the IMRC actuator, make sure the bearing (E) is firmly secure into place if necessary.
   - Do not the IMRC assembly interfere with the intake manifold (F).
   - When installing the IMRC actuator, replace the new O-rings (D).
5. Install the IMRC actuator assembly (A), then check the hole (B) appears.



6. Turn the IMRC actuator assembly (A), and set the bolt holes.

   NOTE: When turning the IMRC actuator assembly, make sure the stopper (B) and groove (C) are fit.





Catalytic Converter System

DTC Troubleshooting

DTC P0420 (67-1): Catalytic System Efficiency Below Threshold

NOTE: If some of the DTCs listed below are stored at the same time as DTC P0420, troubleshoot those DTCs first, then recheck for DTC P0420.

P0137, P0138: Secondary Heated Oxygen Sensor (secondary HO2S) (Sensor 2)
P0141: Secondary HO2S (Sensor 2) heater

1. Reset the ECM/PCM (see page 11-4), then continue to step 2 through 5 to reset the readiness code.
2. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on.
3. Drive for about 10 minutes without stopping on a highway or freeway. Your speed can vary.
4. With the A/T in D position, M/T in 5th gear, drive at a steady speed between 80 - 100 km/h (50 - 62 mph) for 30 seconds.
5. Repeat step 4 three times. Between each repetition, close the throttle completely for 1 - 2 seconds. If the engine is stopped during this part of the procedure, go to step 3 and do the procedure again.
6. Check for a Temporary DTC with the scan tool.

   Does the scan tool indicate Temporary DTC P0420?

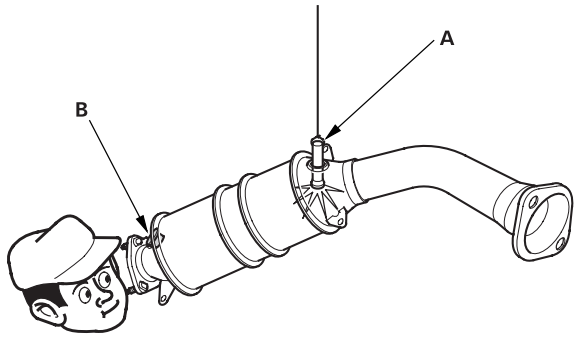
   Yes Check the TWC. If necessary, replace the TWC.■

   No Check for readiness code completion. If the readiness is complete, it was a intermittent failure, system is OK at this time. If the readiness is incomplete, repeat steps 2 through 5.■

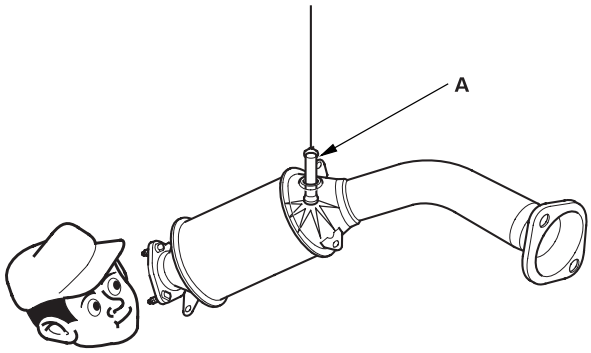
Catalytic Converter Inspection

If excessive exhaust system back-pressure is suspected, remove the TWC from the vehicle.
Using a flashlight (A) and plug (B) (KG, KS, KE, KR, KU, KZ, FO, KQ models) make a visual check for plugging, melting or cracking of the catalyst.
Replace the TWC if any of the visible area is damaged or plugged.

KG, KS, KE, KR, KU, KZ, FO, KQ models:



KN, KM, KY, MA, PH, IN, KK models:

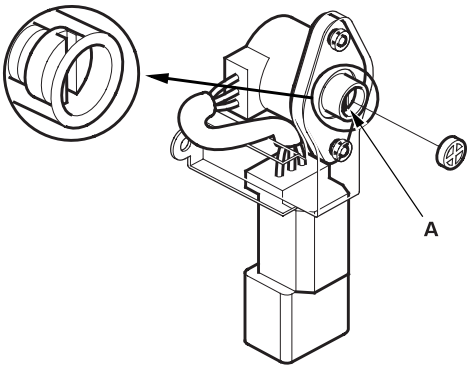


Tailpipe Emissions Test

1. Connect a tachometer.
2. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on, then let it idle.
3. Check the idle speed (see page 11-148).
4. Warm up and calibrate the CO meter according to the meter manufacturer's instructions.
5. Check idle CO with the headlights, heater blower, rear window defogger, cooling fan, and air conditioner off.

   Specified CO%:
   For cars with TWC model: 0.1 % maximum
   For cars without TWC model: 1.0 ± 1.0 %

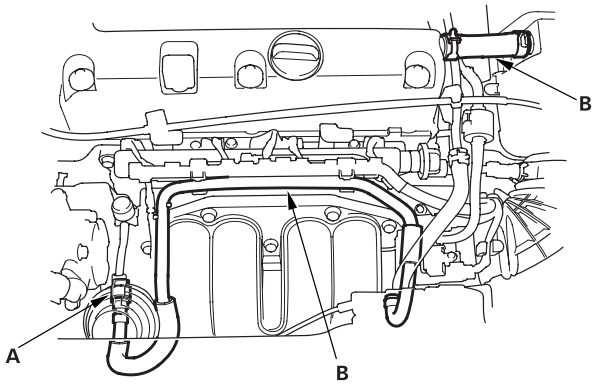
   - If unable to obtain this reading:
     Without TWC model, adjust by turning the adjusting screw (A) of the IMA.
     With TWC model, see DTC troubleshooting index.
   - If unable to obtain a CO reading of specified % by this procedure, check the tune-up condition.



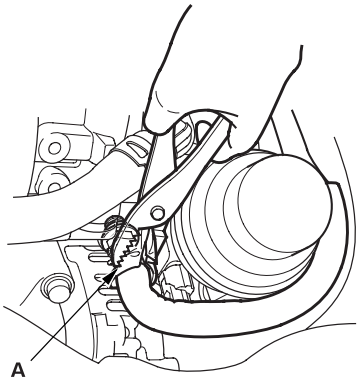
PCV System

PCV Valve Inspection and Test

1. Check the PCV valve (A), hoses (B) and connections for leaks or restrictions.

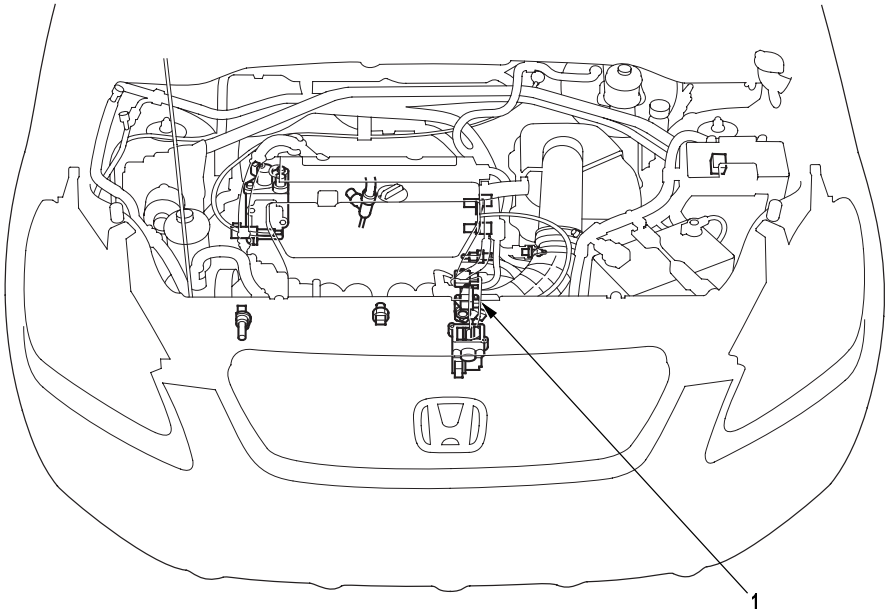


2. At idle, make sure there is a clicking sound from the PCV valve when the hose between the PCV valve and intake manifold is lightly pinched (A) with your fingers or pliers.
If there is no clicking sound, check the PCV valve grommet for cracks or damage. If the grommet is OK, replace the PCV valve and recheck.



Evaporative Emission Control System

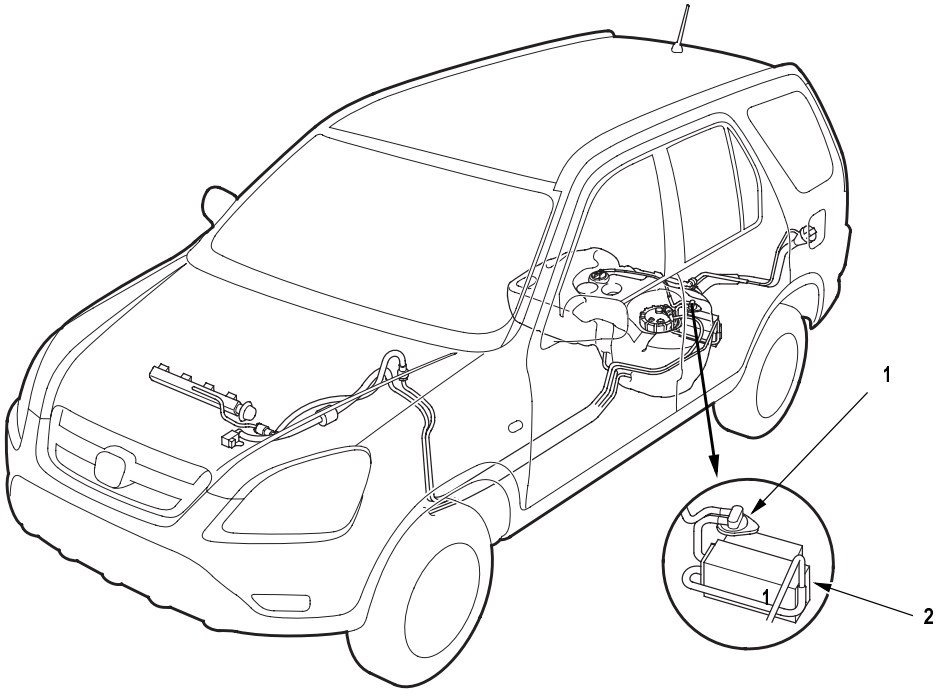
Component Location Index



*: The illustration shows LHD model.

1 EVAPORATIVE EMISSION (EVAP) CANISTER PURGE VALVE Troubleshooting, (see page 11-193)

KG, KS, KE, KR models:



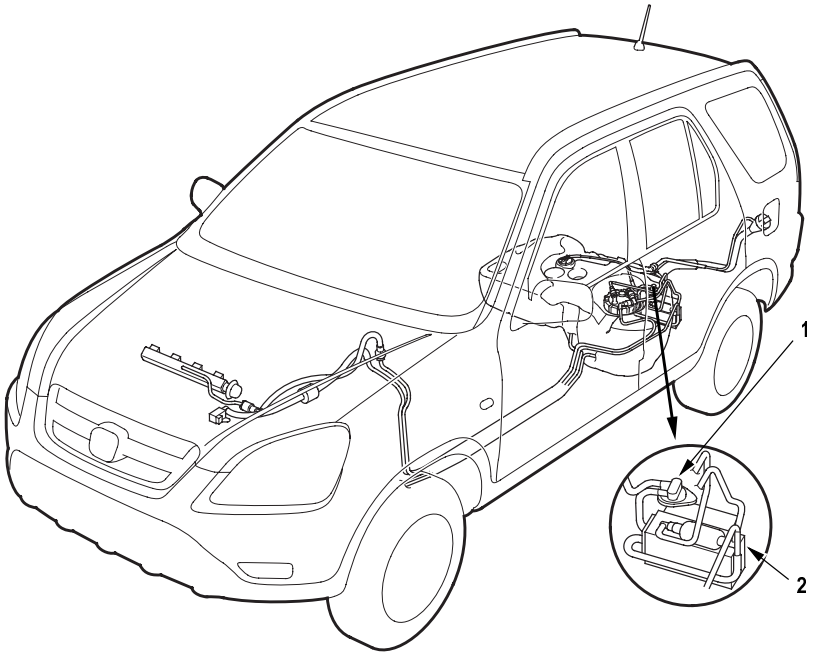
1 EVAPORATIVE EMISSION (EVAP) TWO WAY VALVE Test, page 11-198

2 EVAPORATIVE EMISSION (EVAP) CANISTER Troubleshooting, page 11-195; Replacement, page 11-199

(cont'd)

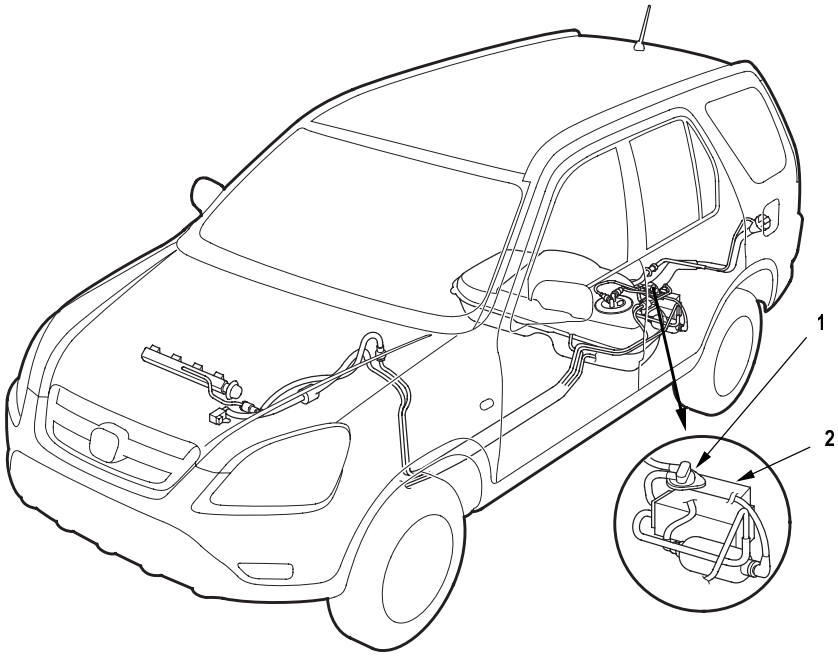
Component Location Index (cont'd)

Except KG, KS, KE, KR, KZ models:



1	EVAPORATIVE EMISSION (EVAP) TWO WAY VALVE	Test, page 11-198
2	EVAPORATIVE EMISSION (EVAP) CANISTER	Troubleshooting, page 11-195; Replacement, page 11-199

KZ model:



1	EVAPORATIVE EMISSION (EVAP) TWO WAY VALVE	Test, page 11-198
2	EVAPORATIVE EMISSION (EVAP) CANISTER	Troubleshooting, page 11-195; Replacement, page 11-199

DTC Troubleshooting

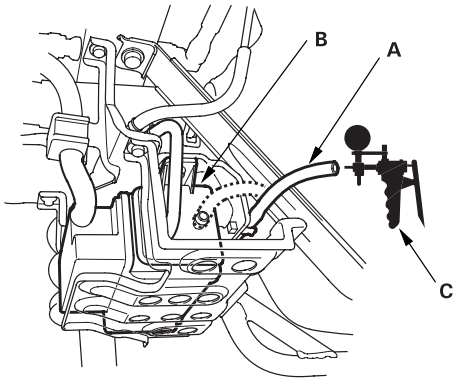
DTC P0443 (92-4): A electrical problem in the EVAP Canister Purge Valve circuit

1. Reset the ECM/PCM (see page 11-4).
2. Turn the ignition switch ON (II).

   Is the DTC P0443 indicated?

   Yes Go to step 3.

   No Intermittent failure, system is OK at this time. Check for poor connections or loose wires between the EVAP canister purge valve and at the ECM/PCM.■
3. Turn the ignition switch OFF.
4. Disconnect the vacuum hose (A) from the EVAP canister (B) and connect a vacuum pump/gauge (C) to the hose.



*: The illustration shows KG, KS, KE, KR models.

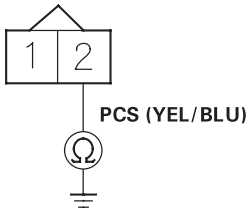
5. Start the engine end let it idle.

   Is there vacuum?

   Yes Go to step 6.

   No Go to step 11.
6. Turn the ignition switch OFF.
7. Disconnect the EVAP canister purge valve 2P connector.
8. Check for continuity between EVAP canister purge valve 2P connector terminal No. 2 and body ground.

EVAP CANISTER PURGE VALVE 2P CONNECTOR



Wire side of female terminals

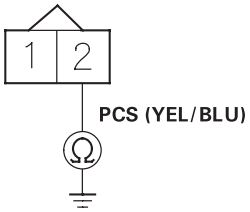
Is there continuity?

Yes Go to step 9.

No Replace the EVAP canister purge valve.■

9. Disconnect the negative cable from the battery.
10. Disconnect ECM/PCM connector B (24P).
11. Check for continuity between EVAP canister purge valve 2P connector terminal No. 2 and body ground.

EVAP CANISTER PURGE VALVE 2P CONNECTOR



Wire side of female terminals

Is there continuity?

Yes Repair short in the wire between the EVAP canister purge valve and the ECM/PCM (B21).■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/ indication goes away, replace the original ECM/PCM.■

(cont'd)

DTC Troubleshooting (cont'd)

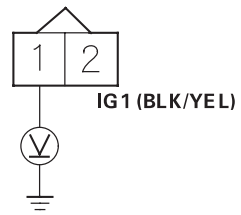
12. Turn the ignition switch OFF.

13. Disconnect the EVAP canister purge valve 2P connector.

14. Turn the ignition switch ON (II).

15. At the hamess side, measure voltage between EVAP canister purge valve 2P connector terminal No. 1 and body ground.

EVAP CANISTER PURGE VALVE 2P CONNECTOR



Wire side of female terminals

Is there battery voltage?

Yes Go to step 16.

No Repair open in the wire between No. 4 ACG (10 A) fuse in the under-dash fuse/relay box and the EVAP canister purge valve.■

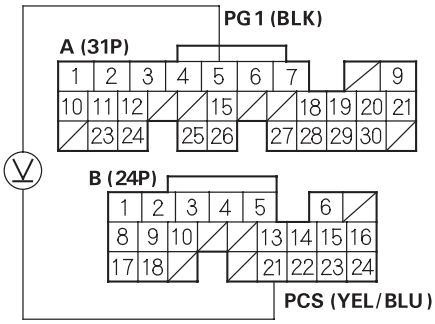
16. Turn the ignition switch OFF.

17. Reconnect the EVAP canister purge valve 2P connector.

18. Turn the ignition switch ON (II).

19. Measure voltage between ECM/PCM connector terminals A5 and B21.

ECM/PCM CONNECTORS



Wire side of female terminals

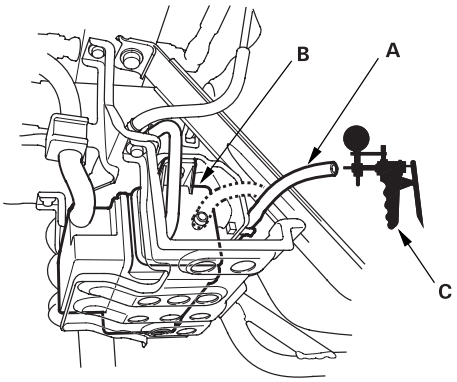
Is there battery voltage?

Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If symptom/ indication goes away, replace the original ECM/PCM.■

No Repair open in the wire between the EVAP canister purge valve and the ECM/PCM (B21). If wire is OK, replace the EVAP canister purge valve.■

Evaporative Emission (EVAP) System Troubleshooting

1. Disconnect the vacuum hose (A) from the EVAP canister (B) and connect a vacuum pump/gauge (C) to the hose.



*: The illustration shows KG, KS, KE, KR models

2. Start the engine and let it idle.

NOTE: Engine coolant temperature must be below 65°C (149°F).

Is there vacuum?

Yes Inspect vacuum hose routing. If OK, replace the EVAP canister purge valve.■

No Go to step 3.

3. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on, then raise the engine speed to 3,000 rpm (min^{-1}).

Is there vacuum?

Yes Go to step 4.

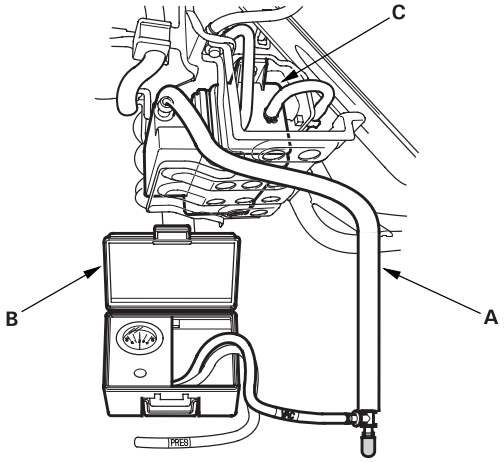
No Inspect vacuum hose routing. If OK, replace the EVAP canister purge valve.■

4. Turn the ignition switch OFF.

5. Reconnect the vacuum hose to the EVAP canister.

6. Remove the fuel fill cap.

7. Disconnect the purge air hose (A) from the EVAP canister and connect a vacuum pressure gauge 0 - 100 mmHg (0 - 4 in.Hg) (B) to EVAP canister (C).



*: The illustration shows KG, KS, KE, KR models.

8. Start the engine and raise speed to 3,000 rpm (min^{-1}).

Does vacuum appear on gauge within 1 minute?

Yes See EVAP two way valve test to complete. Evaporative emission controls are OK.■

No Replace the EVAP canister.■

(cont'd)

Evaporative Emission (EVAP) System Troubleshooting (cont'd)

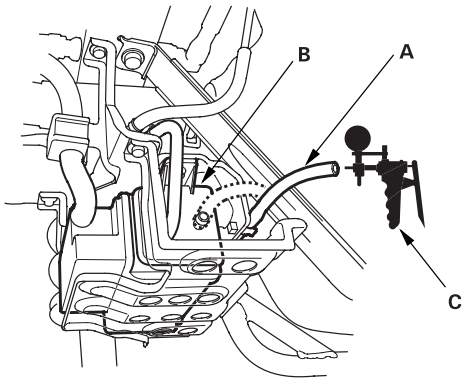
1. Inspect the No. 4 ACG (10A) fuse in the under-dash fuse/relay box.

Is fuse OK?

Yes Go to step 2.

No Replace the fuse, and recheck.■

2. Disconnect the vacuum hose (A) from the EVAP canister (B) and connect a vacuum pump/gauge (C) to the hose.



3. Start the engine and let it idle.

NOTE: Engine coolant temperature must be below 65°C (149°F).

4. Quickly raise the engine speed to 3,000 rpm (min^{-1}).

Is there vacuum?

Yes Go to step 5.

No Go to step 11.

5. Disconnect the EVAP canister purge valve 2P connector.

6. Quickly raise the engine speed to 3,000 rpm (min^{-1}).

Is there vacuum?

Yes Inspect vacuum hose routing. If OK, replace the EVAP canister purge valve.■

No Go to step 7.

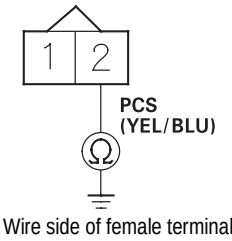
7. Turn the ignition switch OFF.

8. Disconnect the negative cable from the battery.

9. Disconnect ECM/PCM connector B (24P).

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

EVAP CANISTER PURGE VALVE 2P CONNECTOR



Is there continuity?

Yes Repair short in the wire between the EVAP cansiter purge valve and the ECM/PCM (B21).■

No Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/ indication goes away, replace the original ECM/PCM.■

11. Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (in Park or neutral) until the radiator fan comes on, then let it idle.

12. Check for vacuum at the vacuum hose after the starting the engine.

13. Quickly raise the engine speed to 3,000 rpm (min^{-1}).

Is there vacuum?

Yes Go to step 24.

No Go to step 14.

14. Turn the ignition switch OFF.

15. Inspect the vacuum hose rooting.

Is the vacuum hose OK?

Yes Go to step 16.

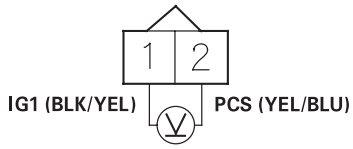
No Repair the vacuum hose.■

16. Disconnect the EVAP canister purge valve 2P connector.

17. Turn the ignition switch ON (II).

18. At the harness side, measure voltage between EVAP canister purge valve 2P connector terminals No. 1 and No. 2.

EVAP CANISTER PURGE VALVE 2P CONNECTOR



Wire side of female terminals

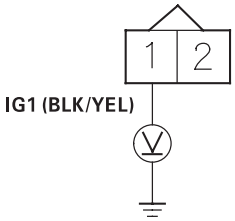
Is there any voltage?

Yes Replace the EVAP canister purge valve.■

No Go to step 19.

19. At the harness side, measure voltage between EVAP canister purge valve 2P connector terminal No. 1 and body ground.

EVAP CANISTER PURGE VALVE 2P CONNECTOR



Wire side of female terminals

Is there battery voltage?

Yes Go to step 20.

No Repair open in the wire between No. 4 ACG (10A) fuse in the under-dash fuse/relay box and the EVAP canister purge valve.■

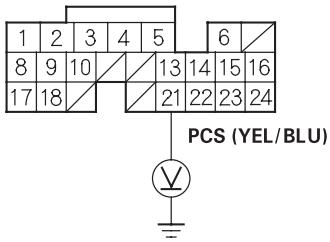
20. Turn the ignition switch OFF.

21. Reconnect the EVAP canister purge valve 2P connector.

22. Turn the ignition switch ON (II).

23. Measure voltage between ECM/PCM connector terminal B21 and body ground.

ECM/PCM CONNECTOR B (24P)



Wire side of female terminals

Is there battery voltage?

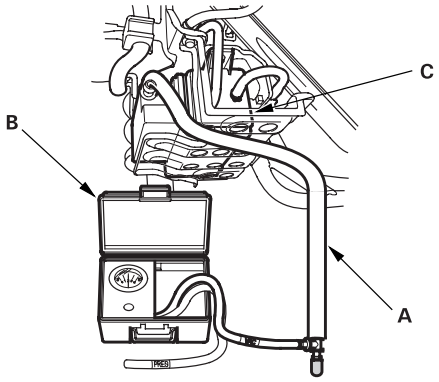
Yes Substitute a known-good ECM/PCM and recheck (see page 11-5). If the symptom/indication goes away, replace the original ECM/PCM.■

No Repair open in the wire between the EVAP canister purge valve and the ECM/PCM (B21).■

24. Reconnect the vacuum hose to the EVAP control canister.

25. Remove the fuel fill cap.

26. Disconnect the purge air hose (A) from the EVAP canister and connect a vacuum/pressure gauge 0 - 100 mm Hg (0 - 4 in. Hg) (B) to EVAP canister (C).



27. Start the engine and raise speed to 3,000 rpm (min^{-1}).

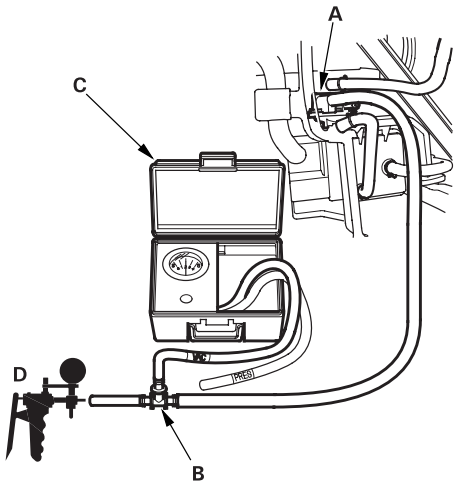
Does vacuum appear on gauge within 2 minute?

Yes When vacuum is appear, evaporative emission controls are OK. Check the EVAP two way valve test (see page 11-198).■

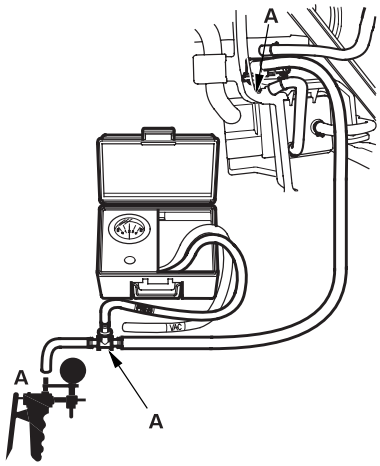
No Replace the EVAP canister.■

EVAP Two Way Valve Test

1. Remove the fuel cap.
2. Disconnect the vapor line from the EVAP two way valve (A). Connect it to a T-fitting (B) from the vacuum gauge (C) and the vacuum pump (D) as shown.



3. Apply vacuum slowly and continuously while watching the gauge.
   The vacuum should stabilize momentarily at 0.8 - 2.1 kPa (6 - 16 mmHg, 0.2 - 0.6 in.Hg).
   If the vacuum stabilizes (valve opens) below 0.8 kPa (6 in.Hg), or above 2.1 kPa (16 mmHg, 0.6 in.Hg), install a new valve and retest.
4. Move the vacuum pump hose from the vacuum fitting to the pressure fitting, and move the vacuum gauge hose from the vacuum side to the pressure side (A) as shown.

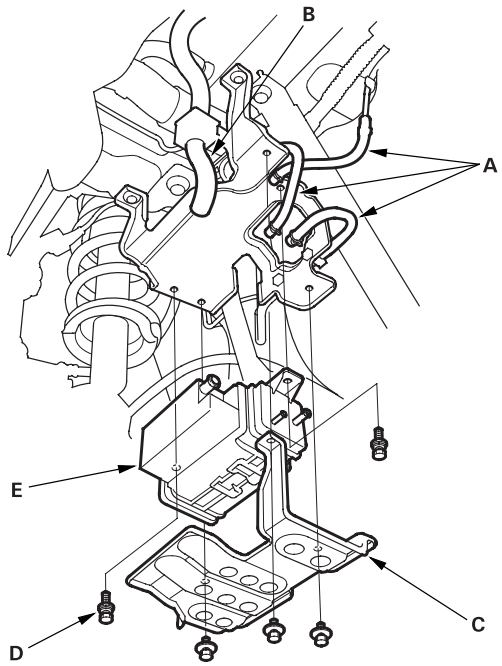


5. Slowly pressurize the vapor line while watching the gauge. The pressure should stabilize momentarily above 1.0 kPa (8 mmHg, 0.3 in.Hg).
   - If the pressure momentarily stabilizes (valve opens) above 1.0 kPa (8 mmHg, 0.3 in.Hg), the valve is OK.
   - If the pressure stabilizes below 1.0 kPa (8 mmHg, 0.3 in.Hg), install a new valve and retest.

EVAP Canister Replacement

1. Remove the vacuum hoses (A) and drain hose (B).
2. Remove the cover (C).
3. Remove the bolt (D).
4. Remove the EVAP canister (E).
5. Install the parts in the reverse order of removal.

Except KZ model:



KZ model: