2007-2008 ENGINE PERFORMANCE

PGM-FI System - Element

COMPONENT LOCATION INDEX

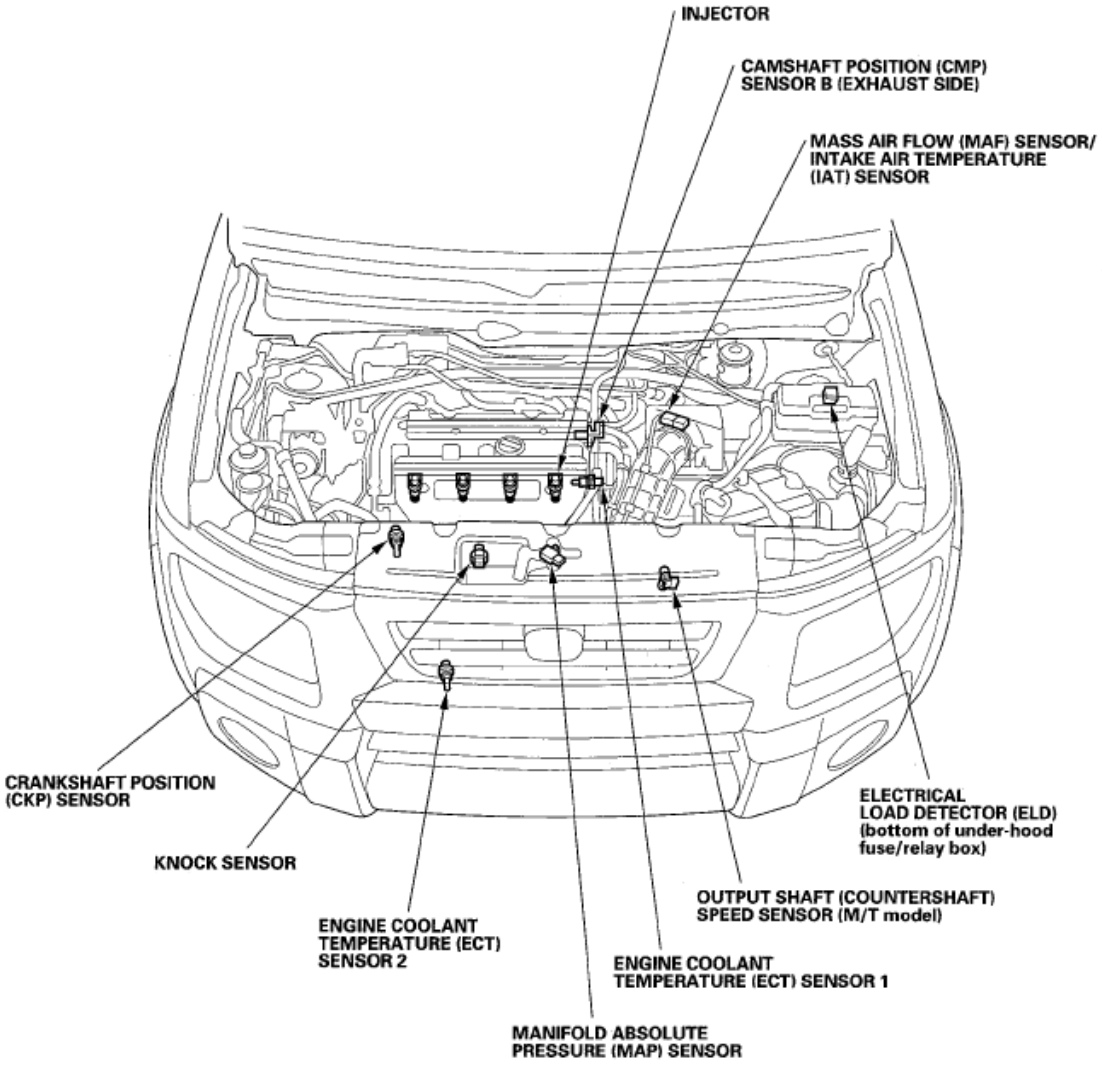

Fig. 1: Identifying PGM-FI System Components (1 Of 2)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

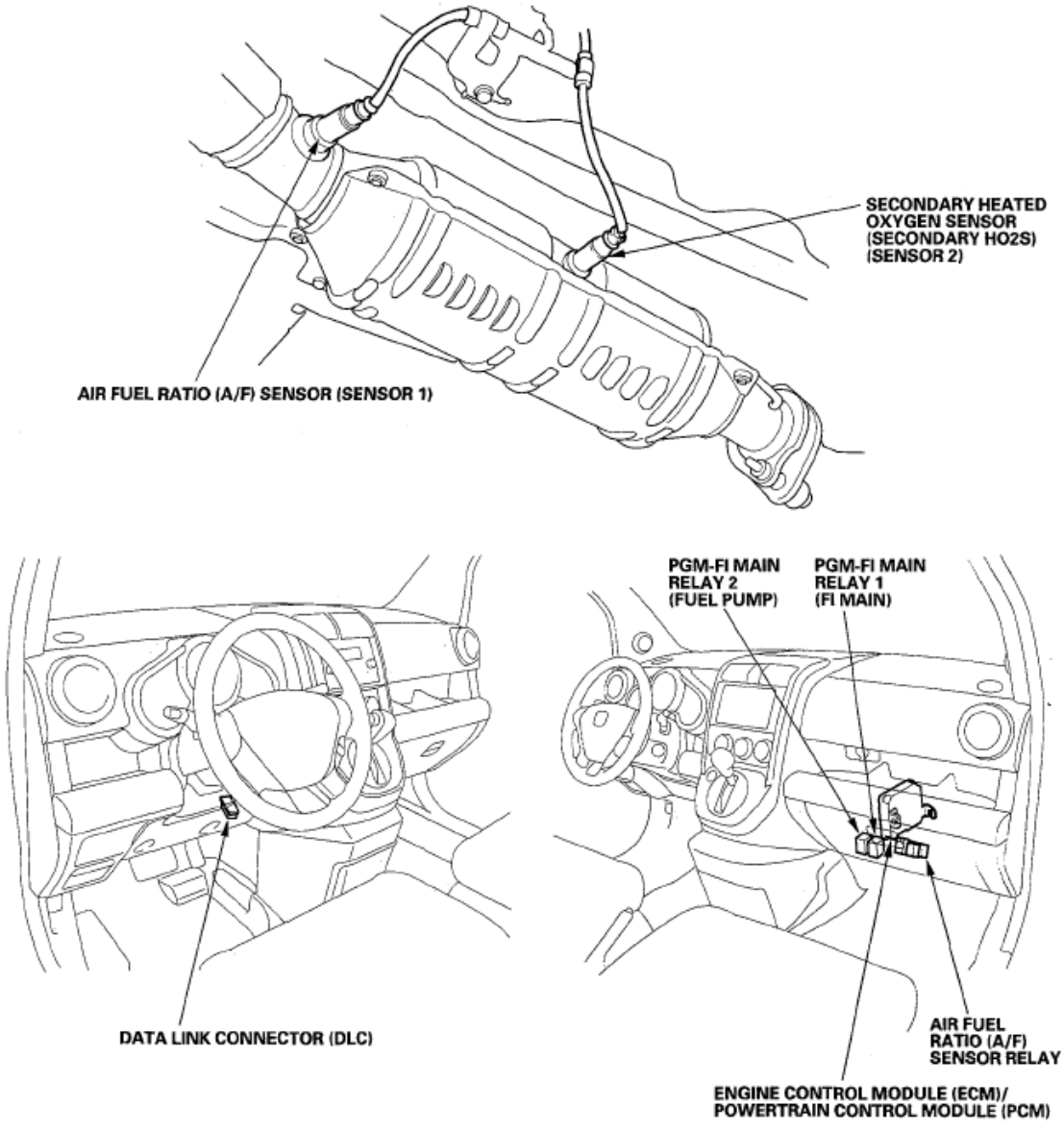

Fig. 2: Identifying PGM-FI System Components (2 Of 2)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

DTC TROUBLESHOOTING

DTC P0101: MAF SENSOR CIRCUIT RANGE/PERFORMANCE PROBLEM

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**

- **If DTC P1128, P1129, P2228, and/or P2229 are stored at the same time as DTC P0101, troubleshoot those DTCs first, then recheck for DTC P0101.**

1. Check for poor connections or damage to these parts:
   - PCV hose
   - Intake air tube
   - Air cleaner
   - Purge (PCS) line
   - Brake booster hose

   Are the parts OK?

   YES -Go to step 2.

   NO -Repair or replace the damaged parts, then go to step 17.

2. Check for damage or looseness at the air tube in the air cleaner.

   Is it OK?

   YES -Go to step 3.

   NO -Reconnect or replace the air tube, then go to step 15.

3. Check for a dirty air cleaner element.

   Is it dirty?

   YES -Replace the air cleaner element (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT**), then go to step 15.

   NO -Go to step 4.

4. Turn the ignition switch OFF.
5. Turn the ignition switch ON (II).
6. Check the MAF SENSOR in the DATA LIST with the HDS.

   Is there about 0.2 gm/s or 0.5 V?

   YES -Go to step 7.

   NO -Go to step 13.

7. Start the engine.

8. Vary the engine speed between 2,000 rpm and 3,000 rpm.
9. Check the MAF SENSOR in the DATA LIST with the HDS.

   Does the reading change?

   YES -Go to step 10.

   NO -Go to step 13.

10. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
11. Test-drive the vehicle for several minutes in the range of these recorded freeze data parameters:
    - ENGINE SPEED
    - VSS
    - MAP SENSOR
    - MAF SENSOR
12. Monitor the OBD STATUS for DTC P0101 in the DTCs MENU with the HDS.

    Does the screen indicate FAILED?

    YES -Go to step 13.

    NO -If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the MAF sensor/IAT sensor and the ECM/PCM. If the screen indicates NOT COMPLETED, go to step 11 and recheck.

13. Turn the ignition switch OFF.
14. Replace the MAF sensor/IAT sensor (see **MAP SENSOR REPLACEMENT**).
15. Turn the ignition switch ON (II).
16. Reset the ECM/PCM with the HDS.
17. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
18. Test-drive the vehicle for several minutes in the range of these recorded freeze data parameters:
    - ENGINE SPEED
    - VSS
    - MAP SENSOR
    - MAF SENSOR
19. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0101 indicated?

    YES -Check for poor connections or loose terminals at the MAF sensor/IAT sensor and the ECM/PCM, then go to step 1.

NO -Go to step 20.

20. Monitor the OBD STATUS for DTC P0101 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 19, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the MAF sensor/IAT sensor and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, go to step 18.

DTC P0102: MAF SENSOR CIRCUIT LOW VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II), and wait 2 seconds.
2. Check the MAF SENSOR in the DATA LIST with the HDS.

   Is about 0 gm/s or 0.1 V or less indicated?

   YES -Go to step 3.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the MAF sensor and the ECM/PCM.

3. Check the No. 4 ACG (10 A) fuse in the under-dash fuse/relay box.

   Is the fuse OK?

   YES -Go to step 4.

   NO -Repair short in the wire between the MAF sensor and the No. 4 ACG (10 A) fuse. Also replace the No. 4 ACG (10 A) fuse, then go to step 20.

4. Turn the ignition switch OFF.
5. Disconnect the MAF sensor/IAT sensor 5P connector.
6. Turn the ignition switch ON (II).
7. Measure voltage between MAF sensor/IAT sensor 5P connector terminal No. 3 and body ground.

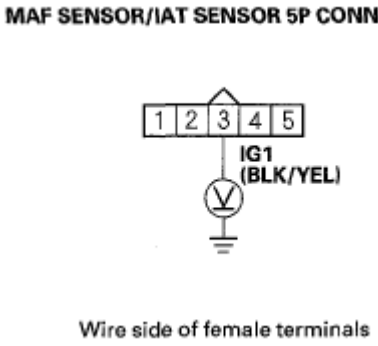

Fig. 3: Measuring Voltage Between MAF Sensor/IAT Sensor 5P Connector Terminal No. 3 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 8.

NO -Repair open in the wire between the No. 4 ACG (10 A) fuse and the MAF sensor, then go to step 20.

8. Turn the ignition switch OFF.
9. Measure resistance between MAF sensor/IAT sensor 5P connector terminal No. 1 and body ground.

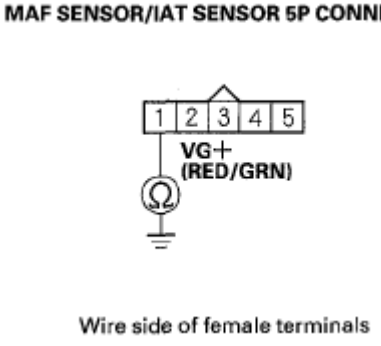

Fig. 4: Measuring Resistance Between MAF Sensor/IAT Sensor 5P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there 190-210 kohms?

YES -Go to step 15.

NO -Go to step 10.

10. Jump the SCS line with the HDS.
11. Disconnect ECM/PCM connector C (22P).

12. Check for continuity between ECM/PCM connector terminal C22 and body ground.

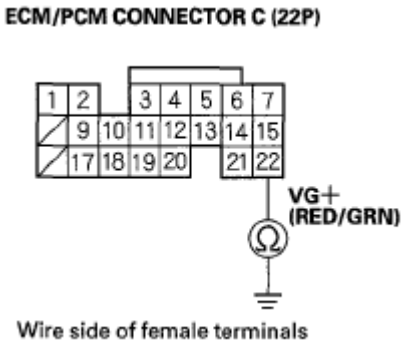

Fig. 5: Checking Continuity Between ECM/PCM Connector Terminal C22 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (C22) and the MAF sensor, then go to step 20.

NO -Go to step 13.

13. Connect MAF sensor/IAT sensor 5P connector terminal No. 1 to body ground with a jumper wire.

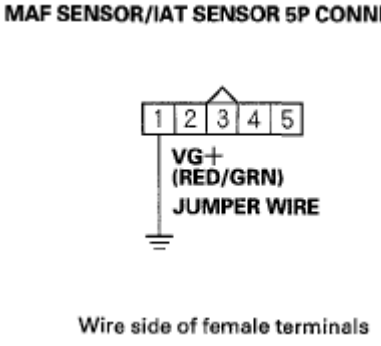

Fig. 6: Connecting MAF Sensor/IAT Sensor 5P Connector Terminal No. 1 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Check for continuity between ECM/PCM connector terminal C22 and body ground.

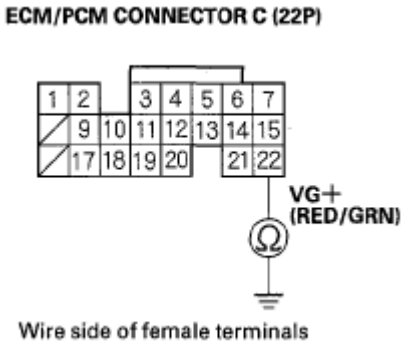

Fig. 7: Checking Continuity Between ECM/PCM Connector Terminal C22 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 26.

NO -Repair open in the wire between the ECM/PCM (C22) and the MAF sensor, then go to step 20.

15. Reconnect the MAF sensor/IAT sensor 5P connector.
16. Start the engine. Hold the engine speed at 2,000 rpm without load (in Park or neutral).
17. Measure voltage between ECM/PCM connector terminal C22 and body ground.

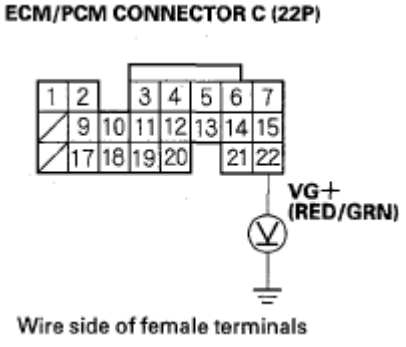

Fig. 8: Measuring Voltage Between ECM/PCM Connector Terminal C22 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 1.5 V?

YES -Go to step 25.

NO -Go to step 18.

18. Turn the ignition switch OFF.
19. Replace the MAF sensor/IAT sensor (see **MAP SENSOR REPLACEMENT**).
20. Reconnect all connectors.

21. Turn the ignition switch ON (II).
22. Reset the ECM/PCM with the HDS.
23. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
24. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0102 indicated?

    YES -Check for poor connections or loose terminals at the MAF sensor/IAT sensor and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

25. Turn the ignition switch OFF.
26. Reconnect all connectors.
27. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
28. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0102 indicated?

    YES -Check for poor connections or loose terminals at the MAF sensor/IAT sensor and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

    NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0103: MAF SENSOR CIRCUIT HIGH VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II), and wait 2 seconds.
2. Check the MAF SENSOR in the DATA LIST with the HDS.

    Is about 202 gm/s or 4.89 V or more indicated?

    YES -Go to step 3.

    NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the MAF sensor and the ECM/PCM.

3. Turn the ignition switch OFF.
4. Jump the SCS line with the HDS.
5. Disconnect the MAF sensor/IAT sensor 5P connector.
6. Disconnect ECM/PCM connector C (22P).
7. Connect MAF sensor/IAT sensor 5P connector terminal No. 2 to body ground with a jumper wire.

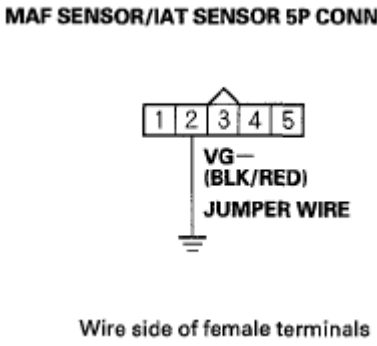

Fig. 9: Connecting MAF Sensor/IAT Sensor 5P Connector Terminal No. 2 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Check for continuity between ECM/PCM connector terminal C21 and body ground.

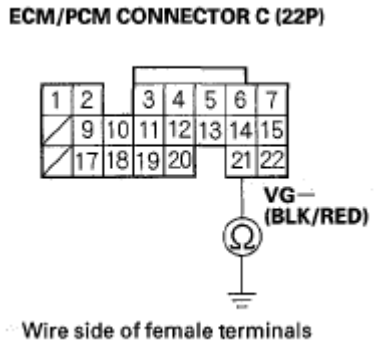

Fig. 10: Checking Continuity Between ECM/PCM Connector Terminal C21 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 9.

NO -Repair open in the wire between the ECM/PCM (C21) and the MAF sensor, then go to step 15.

9. Reconnect ECM/PCM connector C (22P).
10. Reconnect the MAF sensor/IAT sensor 5P connector.
11. Start the engine. Hold the engine speed at 2,000 rpm without load (in Park or neutral).

12. Measure voltage between ECM/PCM connector terminal C22 and body ground.

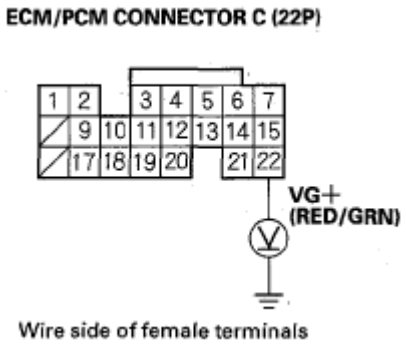

Fig. 11: Measuring Voltage Between ECM/PCM Connector Terminal C22 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 1.5 V?

YES -Go to step 20.

NO -Go to step 13.

13. Turn the ignition switch OFF.
14. Replace the MAF sensor/IAT sensor (see **MAP SENSOR REPLACEMENT**).
15. Reconnect all connectors.
16. Turn the ignition switch ON (II).
17. Reset the ECM/PCM with the HDS.
18. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
19. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0103 indicated?

YES -Check for poor connections or loose terminals at the MAF sensor/IAT sensor and the ECM/PCM, then go to step 1.

NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

20. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
21. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0103 indicated?

YES -Check for poor connections or loose terminals at the MAF sensor/IAT sensor and the ECM/PCM.

If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0107: MAP SENSOR CIRCUIT LOW VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Check the MAP SENSOR in the DATA LIST with the HDS.

   Is about 3 kPa (1.0 in.Hg, 26 mmHg), or 0.23 V or less indicated?

   YES -Go to step 3.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the MAP sensor and the ECM/PCM.

3. Turn the ignition switch OFF.
4. Disconnect the MAP sensor 3P connector.
5. Turn the ignition switch ON (II).
6. Check the MAP SENSOR in the DATA LIST with the HDS.

   Is about 3 kPa (1.0 in.Hg, 26 mmHg), or 0.23 V or less indicated?

   YES -Go to step 9.

   NO -Go to step 7.

7. Measure voltage between MAP sensor 3P connector terminals No. 1 and No. 3.

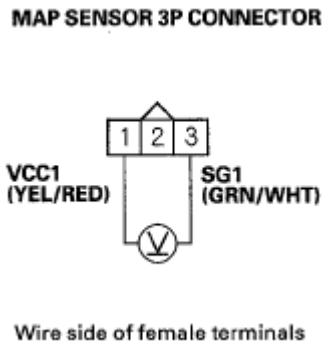

Fig. 12: Measuring Voltage Between MAP Sensor 3P Connector Terminals No. 1 And No. 3
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 13.

NO -Go to step 8.

8. Measure voltage between ECM/PCM connector terminals A21 and A24.

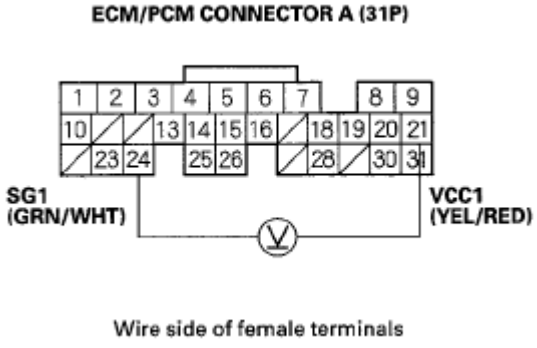

Fig. 13: Measuring Voltage Between ECM/PCM Connector Terminals A21 And A24
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Repair open in the wire between the ECM/PCM (A21) and the MAP sensor, then go to step 15.

NO -Go to step 20.

9. Turn the ignition switch OFF.
10. Jump the SCS line with the HDS.
11. Disconnect ECM/PCM connector A (31P).
12. Check for continuity between MAP sensor 3P connector terminal No. 2 and body ground.

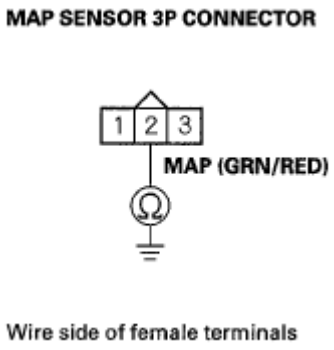

Fig. 14: Checking Continuity Between MAP Sensor 3P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (A30) and the MAP sensor, then go to step 15.

NO -Go to step 21.

13. Turn the ignition switch OFF.
14. Replace the MAP sensor (see **MAP SENSOR REPLACEMENT**).
15. Reconnect all connectors.
16. Turn the ignition switch ON (II).
17. Reset the ECM/PCM with the HDS.
18. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
19. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0107 indicated?

    YES -Check for poor connections or loose terminals at the MAP sensor and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

20. Turn the ignition switch OFF.
21. Reconnect all connectors.
22. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
23. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0107 indicated?

YES -Check for poor connections or loose terminals at the MAP sensor and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0108: MAP SENSOR CIRCUIT HIGH VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Check the MAP SENSOR in the DATA LIST with the HDS.

   Is about 160 kPa (47.1 in.Hg, 1,197 mmHg), or 4.49 V or more indicated?

   YES -Go to step 3.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the MAP sensor and 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.

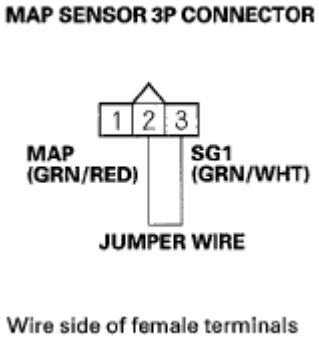

Fig. 15: Connecting MAP Sensor 3P Connector Terminals No. 2 And No. 3 With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Turn the ignition switch ON (II).
7. Check the MAP SENSOR in the DATA LIST with the HDS.

   Is about 160 kPa (47.1 in.Hg, 1,197 mmHg), or 4.49 V or more indicated?

YES -Go to step 8.

NO -Go to step 19.

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

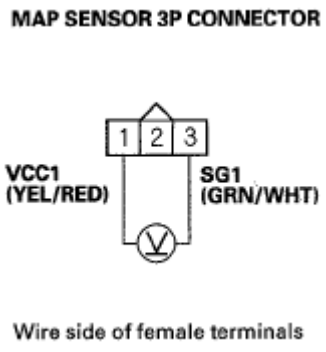

Fig. 16: Measuring Voltage Between MAP Sensor 3P Connector Terminals No. 1 And No. 3
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 15.

NO -Go to step 10.

10. Turn the ignition switch OFF.
11. Jump the SCS line with the HDS.
12. Disconnect ECM/PCM connector A (31P).
13. Connect MAP sensor 3P connector terminal No. 3 to body ground with a jumper wire.

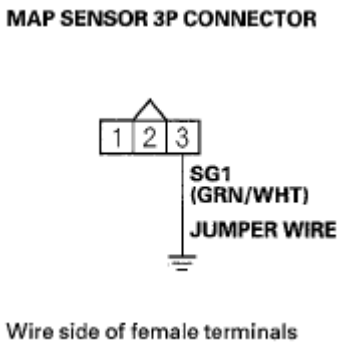

Fig. 17: Connecting MAP Sensor 3P Connector Terminal No. 3 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Check for continuity between ECM/PCM connector terminal A24 and body ground.

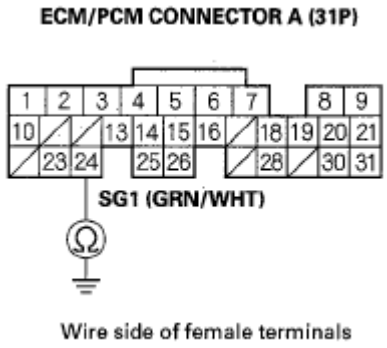

Fig. 18: Checking Continuity Between ECM/PCM Connector Terminal A24 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 27.

NO -Repair open in the wire between the ECM/PCM (A24) and the MAP sensor, then go to step 21.

15. Turn the ignition switch OFF.
16. Connect ECM/PCM connector terminals A24 and A30 with a jumper wire.

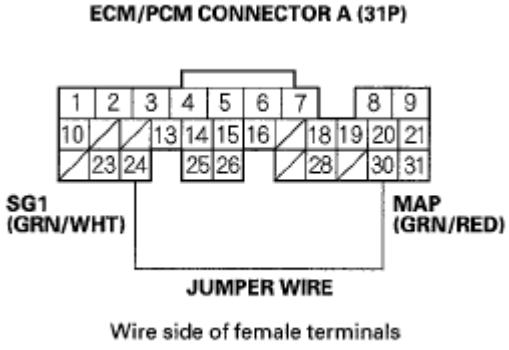

Fig. 19: Connecting ECM/PCM Connector Terminals A24 And A30 With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Turn the ignition switch ON (II).
18. Check the MAP SENSOR in the DATA LIST with the HDS.

Is about 160 kPa (47.1 in.Hg, 1,197 mmHg), or 4.49 V or more indicated?

YES -Go to step 26.

NO -Repair open in the wire between the ECM/PCM (A30) and the MAP sensor, then go to step 21.

19. Turn the ignition switch OFF.
20. Replace the MAP sensor (see **MAP SENSOR REPLACEMENT**).
21. Reconnect all connectors.
22. Turn the ignition switch ON (II).
23. Reset the ECM/PCM with the HDS.
24. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
25. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0108 indicated?

    YES -Check for poor connections or loose terminals at the MAP sensor and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

26. Turn the ignition switch OFF.
27. Reconnect all connectors.
28. Update the ECM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM (see **SUBSTITUTING THE ECM/PCM**).
29. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0108 indicated?

    YES -Check for poor connections or loose terminals at the MAP sensor and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

    NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0111: IAT SENSOR CIRCUIT RANGE/PERFORMANCE PROBLEM

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Check for poor connections or loose terminals at ECT sensor 1, ECT sensor 2, and the MAF sensor/IAT sensor.

   Are the connections and terminals OK?

   YES -Go to step 2.

NO -Repair the connectors or terminals, then go to step 15.

2. Remove the MAF sensor/IAT sensor (see **MAP SENSOR REPLACEMENT**).
3. Allow IAT sensor to cool to ambient temperature.
4. Note the ambient temperature.
5. Connect the MAF sensor/IAT sensor to the 5P connector, but do not install the sensor onto the air cleaner.
6. Turn the ignition switch ON (II).
7. Note the value of the IAT SENSOR quickly in the DATA LIST with the HDS.
8. Compare the value of the IAT SENSOR and the ambient temperature.

Does the value of the IAT SENSOR differ 5.4°F (3°C) or more?

YES -Go to step 13.

NO -Go to step 9.

9. Disconnect the MAF sensor/IAT sensor from the 5P connector.
10. Using a heat gun, blow hot air on the MAF sensor/IAT sensor for a few seconds. Do not apply the heat longer than a few seconds or you will damage the sensor.
11. Connect the MAF sensor/IAT sensor to the 5P connector, but do not install the sensor onto the air cleaner.
12. Check the IAT SENSOR in the DATA LIST with the HDS.

Does the IAT SENSOR change 61°F (34°C) or more?

YES -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the MAF sensor/IAT sensor and the ECM/PCM.

NO -Go to step 13.

13. Turn the ignition switch OFF.
14. Replace the MAF sensor/IAT sensor (see **MAP SENSOR REPLACEMENT**).
15. Turn the ignition switch ON (II).
16. Reset the ECM/PCM with the HDS.
17. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
18. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0111 indicated?

YES -Check for poor connections or loose terminals at the MAF sensor/IAT sensor and the ECM/PCM, then go to step 1.

NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0112: IAT SENSOR CIRCUIT LOW VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Check the IAT SENSOR in the DATA LIST with the HDS.

   Is about 356°F (180°C) or higher, or 0.08 V or less indicated?

   YES -Go to step 3.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the MAF sensor/IAT sensor and the ECM/PCM.

3. Turn the ignition switch OFF.
4. Disconnect the MAF sensor/IAT sensor 5P connector.
5. Turn the ignition switch ON (II).
6. Check the IAT SENSOR in the DATA LIST with the HDS.

   Is about 356°F (180°C) or higher, or 0.08 V or less indicated?

   YES -Go to step 7.

   NO -Go to step 11.

7. Turn the ignition switch OFF.
8. Jump the SCS line with the HDS.
9. Disconnect ECM/PCM connector B (24P).
10. Check for continuity between MAF sensor/IAT sensor 5P connector terminal No. 5 and body ground.

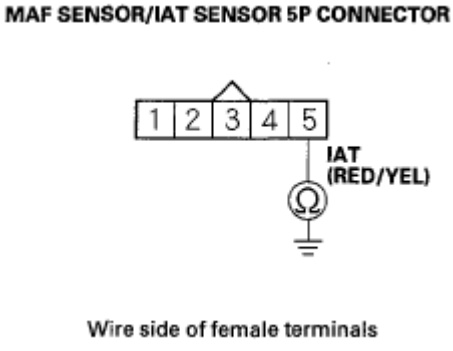

Fig. 20: Checking Continuity Between MAF Sensor/IAT Sensor 5P Connector Terminal No. 5 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the IAT sensor and the ECM/PCM (B17), then go to step 13.

NO -Go to step 18.

11. Turn the ignition switch OFF.
12. Replace the MAF sensor/IAT sensor (see **MAP SENSOR REPLACEMENT**).
13. Reconnect all connectors.
14. Turn the ignition switch ON (II).
15. Reset the ECM/PCM with the HDS.
16. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
17. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0112 indicated?

    YES -Check for poor connections or loose terminals at the MAF sensor/IAT sensor and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

18. Reconnect all connectors.
19. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
20. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0112 indicated?

    YES -Check for poor connections or loose terminals at the MAF sensor/IAT sensor and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

    NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0113: IAT SENSOR CIRCUIT HIGH VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Check the IAT SENSOR in the DATA LIST with the HDS.

   Is about -40°F (-40°C) or less, or 4.92 V or more indicated?

   YES -Go to step 3.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the MAF sensor/IAT sensor and the ECM/PCM.

3. Turn the ignition switch OFF.
4. Disconnect the MAF sensor/IAT sensor 5P connector.
5. Connect MAF sensor/IAT sensor 5P connector terminals No. 4 and No. 5 with a jumper wire.

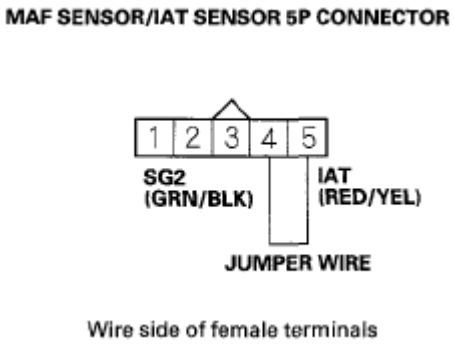

Fig. 21: Connecting MAF Sensor/IAT Sensor 5P Connector Terminals No. 4 And No. 5 With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Turn the ignition switch ON (II).
7. Check the IAT SENSOR in the DATA LIST with the HDS.

   Is about -40°F (-40°C) or less, or 4.92 V or more indicated?

   YES -Go to step 8.

   NO -Go to step 18.

8. Turn the ignition switch OFF.
9. Remove the jumper wire from the MAF sensor/IAT sensor 5P connector.
10. Turn the ignition switch ON (II).
11. Measure voltage between MAF sensor/IAT sensor 5P connector terminal No. 5 and body ground.

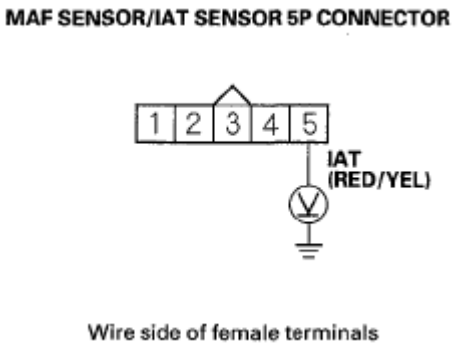

Fig. 22: Measuring Voltage Between MAF Sensor/IAT Sensor 5P Connector Terminal No. 5 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 12.

NO -Go to step 17.

12. Turn the ignition switch OFF.
13. Jump the SCS line with the HDS.
14. Disconnect ECM/PCM connector A (31P).
15. Connect MAF sensor/IAT sensor 5P connector terminal No. 4 to body ground with a jumper wire.

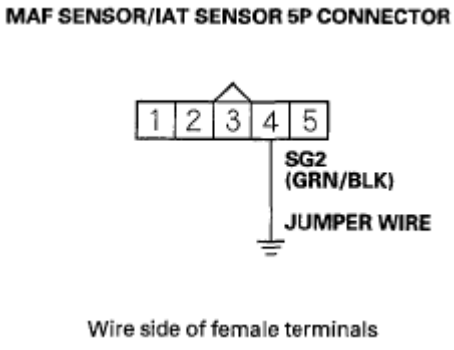

Fig. 23: Connecting MAF Sensor/IAT Sensor 5P Connector Terminal No. 4 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Check for continuity between ECM/PCM connector terminal A23 and body ground.

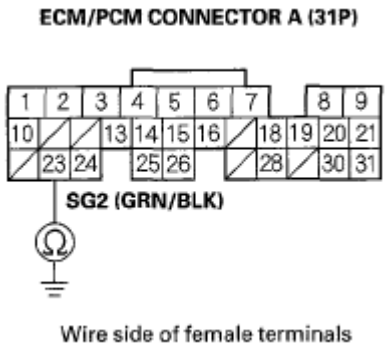

Fig. 24: Checking Continuity Between ECM/PCM Connector Terminal A23 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 26.

NO -Repair open in the wire between the ECM/PCM (A23) and the IAT sensor, then go to step 20.

17. Measure voltage between ECM/PCM connector terminal B17 and body ground.

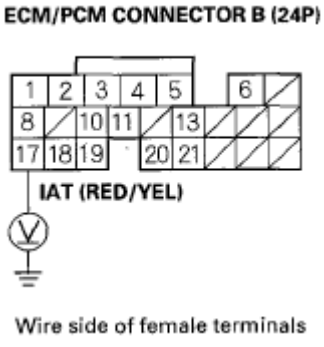

Fig. 25: Measuring Voltage Between ECM/PCM Connector Terminal B17 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Repair open in the wire between the ECM/PCM (B17) and the IAT sensor, then go to step 20.

NO -Go to step 25.

18. Turn the ignition switch OFF.
19. Replace the MAF sensor/I AT sensor (see **MAP SENSOR REPLACEMENT**).
20. Reconnect all connectors.
21. Turn the ignition switch ON (II).
22. Reset the ECM/PCM with the HDS.

23. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
24. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0113 indicated?

    YES -Check for poor connections or loose terminals at the MAF sensor/IAT sensor and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

25. Turn the ignition switch OFF.
26. Reconnect all connectors.
27. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
28. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0113 indicated?

    YES -Check for poor connections or loose terminals at the MAF sensor/IAT sensor and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

    NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0116: ECT SENSOR 1 CIRCUIT RANGE/PERFORMANCE PROBLEM

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Check ECT SENSOR 1 in the DATA LIST with the HDS.

   Is about 176°F (80°C) or more, or 0.78 V or less indicated?

   YES -Go to step 6.

   NO -Go to step 3.

3. Note the value of ECT SENSOR 1 in the DATA LIST with the HDS.
4. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.

5. Check ECT SENSOR 1 in the DATA LIST with the HDS.

   Does ECT SENSOR 1 change 18°F (10°C) or more?

   YES -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at ECT sensor 1 and the ECM/PCM.

   NO -Go to step 11.

6. Note the value of ECT SENSOR 1 in the DATA LIST with the HDS.
7. Turn the ignition switch OFF.
8. Open the hood, and let the engine cool for 3 hours.
9. Turn the ignition switch ON (II).
10. Check ECT SENSOR 1 in the DATA LIST with the HDS.

    Does ECT SENSOR 1 change 18°F (10°C) or more?

    YES -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at ECT sensor 1 and the ECM/PCM.

    NO -Go to step 11.

11. Turn the ignition switch OFF.
12. Replace ECT sensor 1 (see **ECT SENSOR 1 REPLACEMENT**).
13. Turn the ignition switch ON (II).
14. Reset the ECM/PCM with the HDS.
15. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
16. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0116 indicated?

    YES -Check for poor connections or loose terminals at ECT sensor 1 and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0117: ECT SENSOR 1 CIRCUIT LOW VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).

2. Check ECT SENSOR 1 in the DATA LIST with the HDS.

   Is about 356°F (180°C) or higher, or 0.08 V or less indicated?

   YES -Go to step 3.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at ECT sensor 1 and the ECM/PCM.

3. Turn the ignition switch OFF.
4. Disconnect the ECT sensor 1 2P connector.
5. Turn the ignition switch ON (II).
6. Check ECT SENSOR 1 in the DATA LIST with the HDS.

   Is about 356°F (180°C) or higher, or 0.08 V or less indicated?

   YES -Go to step 7.

   NO -Go to step 11.

7. Turn the ignition switch OFF.
8. Jump the SCS line with the HDS.
9. Disconnect ECM/PCM connector B (24P).
10. Check for continuity between ECT sensor 1 2P connector terminal No. 1 and body ground.

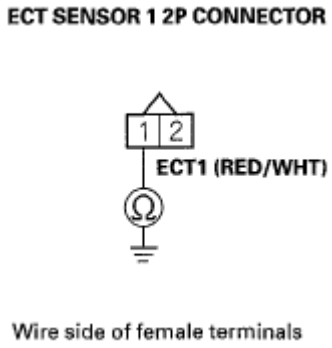

Fig. 26: Checking Continuity Between ECT Sensor 1 2P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between ECT sensor 1 and the ECM/PCM (B8), then go to step 13.

NO -Go to step 18.

11. Turn the ignition switch OFF.
12. Replace ECT sensor 1 (see **ECT SENSOR 1 REPLACEMENT**).
13. Reconnect all connectors.
14. Turn the ignition switch ON (II).
15. Reset the ECM/PCM with the HDS.
16. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
17. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0117 indicated?

    YES -Check for poor connections or loose terminals at ECT sensor 1 and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

18. Reconnect all connectors.
19. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
20. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0117 indicated?

    YES -Check for poor connections or loose terminals at ECT sensor 1 and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

    NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0118: ECT SENSOR 1 CIRCUIT HIGH VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Check ECT SENSOR 1 in the DATA LIST with the HDS.

   Is about -40°F (-40°C) or less, or 4.92 V or more indicated?

   YES -Go to step 3.

NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at ECT sensor 1 and the ECM/PCM.

3. Turn the ignition switch OFF.
4. Disconnect the ECT sensor 1 2P connector.
5. Connect ECT sensor 1 2P connector terminals No. 1 and No. 2 with a jumper wire.

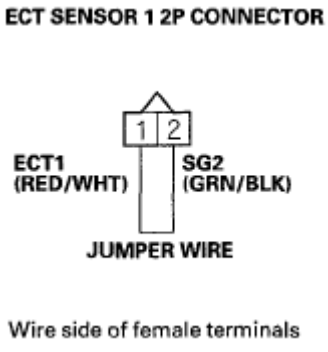

Fig. 27: Connecting ECT Sensor 1 2P Connector Terminals No. 1 And No. 2 With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Turn the ignition switch ON (II).
7. Check ECT SENSOR 1 in the DATA LIST with the HDS.

Is about -40°F (-40°C) or less, or 4.92 V or more indicated?

YES -Go to step 8.

NO -Go to step 18.

8. Turn the ignition switch OFF.
9. Remove the jumper wire from the ECT sensor 1 2P connector.
10. Turn the ignition switch ON (II).
11. Measure voltage between ECT sensor 1 2P connector terminal No. 1 and body ground.

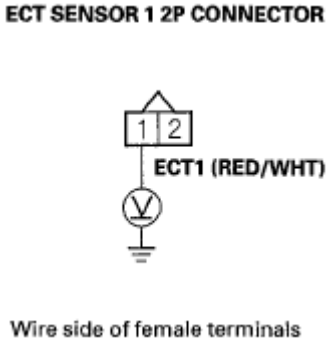

Fig. 28: Measuring Voltage Between ECT Sensor 1 2P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 12.

NO -Go to step 17.

12. Turn the ignition switch OFF.
13. Jump the SCS line with the HDS.
14. Disconnect ECM/PCM connector A (31P).
15. Connect ECT sensor 1 2P connector terminal No. 2 to body ground with a jumper wire.

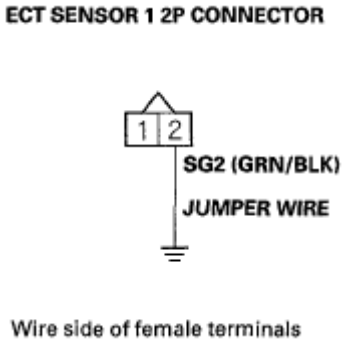

Fig. 29: Connecting ECT Sensor 1 2P Connector Terminal No. 2 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Check for continuity between ECM/PCM connector terminal A23 and body ground.

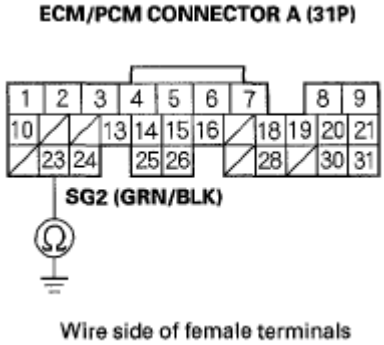

Fig. 30: Checking Continuity Between ECM/PCM Connector Terminal A23 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 26.

NO -Repair open in the wire between the ECM/PCM (A23) and ECT sensor 1, then go to step 20.

17. Measure voltage between ECM/PCM connector terminal B8 and body ground.

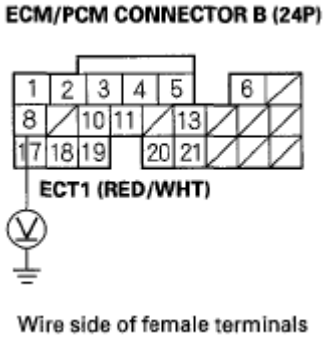

Fig. 31: Measuring Voltage Between ECM/PCM Connector Terminal B8 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Repair open in the wire between the ECM/PCM (B8) and ECT sensor 1, then go to step 20.

NO -Go to step 25.

18. Turn the ignition switch OFF.
19. Replace ECT sensor 1 (see **ECT SENSOR 1 REPLACEMENT**).
20. Reconnect all connectors.
21. Turn the ignition switch ON (II).
22. Reset the ECM/PCM with the HDS.
23. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
24. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0118 indicated?

YES -Check for poor connections or loose terminals at ECT sensor 1 and the ECM/PCM, then go to step 1.

NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

25. Turn the ignition switch OFF.
26. Reconnect all connectors.
27. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or

substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).

28. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0118 indicated?

    YES -Check for poor connections or loose terminals at ECT sensor 1 and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

    NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0125: ECT SENSOR 1 MALFUNCTION/SLOW RESPONSE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Start the engine, and let it idle for 5 minutes or more.
2. Check ECT SENSOR 1 in the DATA LIST with the HDS.

   Is about 0°F (-18°C) or less, or 4.45 V or more indicated?

   YES -Go to step 9.

   NO -Go to step 3.

3. Allow the engine to cool to 104°F (40°C) or less.
4. Note the value of ECT SENSOR 1 and ECT SENSOR 2 in the DATA LIST with the HDS.
5. Start the engine, and let it idle.
6. Let the engine idle until ECT SENSOR 1 goes up 41°F (23°C) or more from the recorded temperature.
7. Note the value of ECT SENSOR 2 in the DATA LIST with the HDS.
8. Compare ECT SENSOR 2 and the recorded temperature.

   Did ECT SENSOR 2 change 14°F (8°C) or more?

   YES -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at ECT sensor 1, ECT sensor 2, and the ECM/PCM.

   NO -Check the thermostat (see **FAN MOTOR TEST**). If the thermostat is OK, go to step 9. If the thermostat is faulty, replace it (see **THERMOSTAT REPLACEMENT**), then go to step 11.

9. Turn the ignition switch OFF.

10. Replace ECT sensor 1 (see **ECT SENSOR 1 REPLACEMENT**).
11. Turn the ignition switch ON (II).
12. Reset the ECM/PCM with the HDS.
13. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
14. Allow the engine to cool to ambient temperature.
15. Start the engine, and let it idle for 20 minutes.
16. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0125 indicated?

    YES -Check for poor connections or loose terminals at ECT sensor 1, ECT sensor 2, and the ECM/PCM, then go to step 1.

    NO -Go to step 17.

17. Monitor the OBD STATUS for DTC P0125 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 16, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at ECT sensor 1, ECT sensor 2, and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, go to step 14.

DTC P0128: COOLING SYSTEM MALFUNCTION

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the blower switch OFF.
4. Check the FAN CTRL in the DATA LIST with the HDS.

   Is it OFF?

   YES -Go to step 5.

   NO -Wait until the FAN CTRL is off, then go to step 5.

5. Check the radiator fan operation.

Does the radiator fan keep running?

YES -Check the radiator fan circuit (see **RADIATOR FAN CIRCUIT TROUBLESHOOTING**), and the radiator fan relay (see **POWER RELAY TEST**). If the circuits and the relay is OK, go to step 19.

NO -Go to step 6.

6. Let the engine cool until the coolant temperature is 104°F (40°C) or less.
7. Note the value of ECT SENSOR 1 and ECT SENSOR 2 in the DATA LIST with the HDS.
8. Start the engine, and let it idle.
9. Let the engine idle until ECT SENSOR 1 goes up 41°F (23°C) or more from the recorded temperature.
10. Check ECT SENSOR 2 in the DATA LIST with the HDS.
11. Compare the recorded value of ECT SENSOR 2 and the present value of ECT SENSOR 2.

Did temperature rise 14°F (8°C) or more?

YES -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at ECT sensor 1, ECT sensor 2, and the ECM/PCM.

NO -Test the thermostat (see **FAN MOTOR TEST**), then go to step 12.

12. Turn the ignition switch ON (II).
13. Reset the ECM/PCM with the HDS.
14. Let the engine cool until the coolant temperature is between 21°F (-6°C) and 104°F (40°C).
15. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
16. Test-drive at a steady speed between 15-75 mph (24-120 km/h) for 10 minutes.
17. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0128 indicated?

YES -Check the cooling system, then go to step 1.

NO -Go to step 18.

18. Monitor the OBD STATUS for DTC P0128 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 17, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO -If the screen indicates FAILED, check the cooling system, then go to step 1. If the screen indicates NOT COMPLETED, go to step 14.

19. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
20. Let the engine cool until the coolant temperature is between 21°F (-6°C) and 104°F (40°C).
21. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
22. Test-drive at a steady speed between 15-75 mph (24-120 km/h) for 10 minutes.
23. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0128 indicated?

    YES -Check for poor connections or loose terminals at ECT sensor 1, ECT sensor 2, and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 20. If the ECM/PCM was substituted, go to step 1.

    NO -Go to step 24.

24. Monitor the OBD STATUS for DTC P0128 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 23, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at ECT sensor 1, ECT sensor 2, and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 20. If the ECM/PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, go to step 20.

DTC P0133: A/F SENSOR (SENSOR 1) MALFUNCTION/SLOW RESPONSE

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **If DTC P0139 is stored at the same time as DTC P0133, troubleshoot DTC P0139 first, then recheck for DTC P0133.**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
4. Test-drive under these conditions:
   - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)

- A/T in D position (M/T in 3rd or 4th gear)
- Drive the vehicle at 25 mph (40 km/h) or less for 5 minutes, then drive at a steady speed between 26-81 mph (41 - 130 km/h).

5. Monitor the OBD STATUS for DTC P0133 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 6.

   NO -If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 3 and recheck.

6. Turn the ignition switch OFF.
7. Replace the A/F sensor (Sensor 1) (see **A/F SENSOR REPLACEMENT**).
8. Turn the ignition switch ON (II).
9. Reset the ECM/PCM with the HDS.
10. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
11. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
12. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158°C (70°C)
    - A/T in D position (M/T in 3rd or 4th gear)
    - Drive the vehicle at 25 mph (40 km/h) or less for 5 minutes, then drive at a steady speed between 26-81 mph (41 - 130 km/h).
13. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0133 indicated?

    YES -Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM, then go to step 1.

    NO -Go to step 14.

14. Monitor the OBD STATUS for DTC P0133 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 13, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the A/F sensor

(Sensor 1) and the ECM/PCM, then go to step 1. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 11.

DTC P0134: A/F SENSOR (SENSOR 1) HEATER SYSTEM MALFUNCTION

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **If DTC P0135 is stored at the same time as DTC P0134, troubleshoot DTC P0135 first, then recheck for DTC P0134.**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and let it idle without load (in Park or neutral) until the radiator fan comes on.
4. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P0134 indicated?

   YES -Go to step 5.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the A/F sensor (Sensor 1), the A/F sensor relay (LAF), and the ECM/PCM.

5. Turn the ignition switch OFF.
6. Replace the A/F sensor (Sensor 1) (see **A/F SENSOR REPLACEMENT**).
7. Turn the ignition switch ON (II).
8. Reset the ECM/PCM with the HDS.
9. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
10. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0134 indicated?

    YES -Check for poor connections or loose terminals at the A/F sensor (Sensor 1), the A/F sensor relay (LAF), and the ECM/PCM, then go to step 1.

    NO -Go to step 11.

11. Monitor the OBD STATUS for DTC P0134 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 10, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO -If the screen indicates FAILED, check for poor connections or loose terminals at the A/F sensor (Sensor 1), the A/F sensor relay (LAF), and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

DTC P0135: A/F SENSOR (SENSOR 1) HEATER CIRCUIT MALFUNCTION

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
4. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P0135 indicated?

   YES -Go to step 5.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the A/F sensor (Sensor 1), the A/F sensor relay (LAF), and the ECM/PCM.

5. Turn the ignition switch OFF.
6. Check these fuses:
   - No. 14 OP1 (40 A) fuse in the under-hood fuse/relay box.
   - No. 15 LAF HEATER (20 A) fuse in the under-dash fuse/relay box.

   Are any of the fuses blown?

   YES -Repair short in the wire between the A/F sensor relay (LAF) and the fuses. Also replace the blown fuses, then go to step 24.

   NO -Go to step 7.

7. Disconnect the A/F sensor (Sensor 1) 4P connector.
8. At the sensor side, measure resistance between A/F sensor (Sensor 1) 4P connector terminals No. 3 and No. 4.

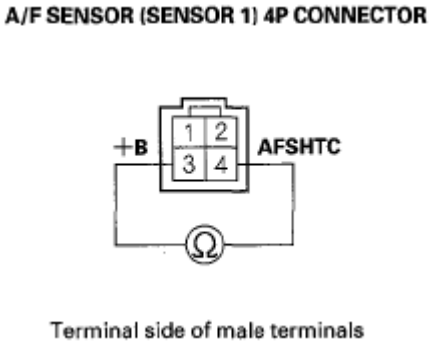

Fig. 32: Measuring Resistance Between A/F Sensor (Sensor 1) 4P Connector Terminals No. 3 And No. 4
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there 2.1-2.9 ohms at room temperature?

YES -Go to step 9.

NO -Go to step 23.

9. At the sensor side, check for continuity between A/F sensor (Sensor 1) 4P connector terminals No. 2 and No. 3, and No. 2 and No. 4 individually.

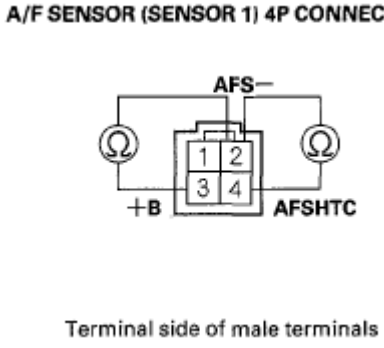

Fig. 33: Checking Continuity Between A/F Sensor (Sensor 1) 4P Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 23.

NO -Go to step 10.

10. Jump the SCS line with the HDS.
11. Disconnect ECM/PCM connector A (31P).
12. Check for continuity between ECM/PCM connector terminal A10 and body ground.

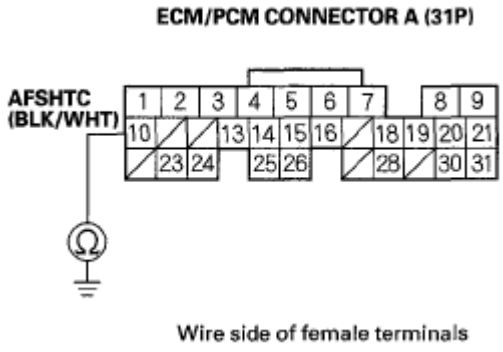

Fig. 34: Checking Continuity Between ECM/PCM Connector Terminal A10 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (A10) and the A/F sensor (Sensor 1), then go to step 24.

NO -Go to step 13.

13. Connect A/F sensor (Sensor 1) 4P connector terminal No. 4 to body ground with a jumper wire.

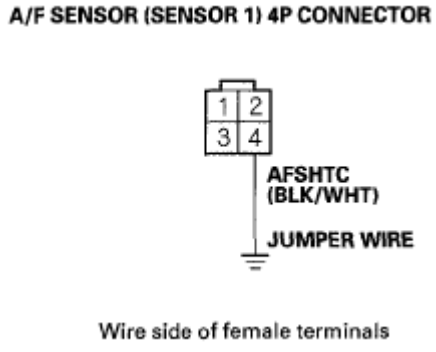

Fig. 35: Connecting A/F Sensor (Sensor 1) 4P Connector Terminal No. 4 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Check for continuity between ECM/PCM connector terminal A10 and body ground.

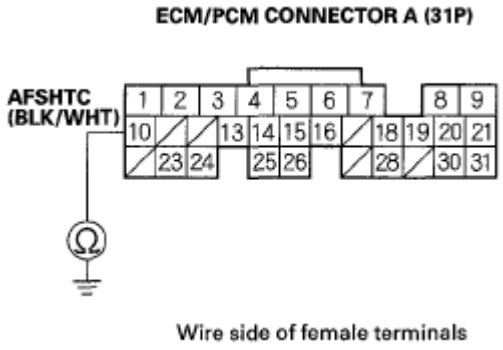

Fig. 36: Checking Continuity Between ECM/PCM Connector Terminal A10 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 15.

NO -Repair open in the wire between the ECM/PCM (A10) and the A/F sensor (Sensor 1), then go to step 24.

15. Remove the glove box (see **GLOVE BOX REMOVAL/INSTALLATION**).
16. Remove the A/F sensor relay (LAF) (A).

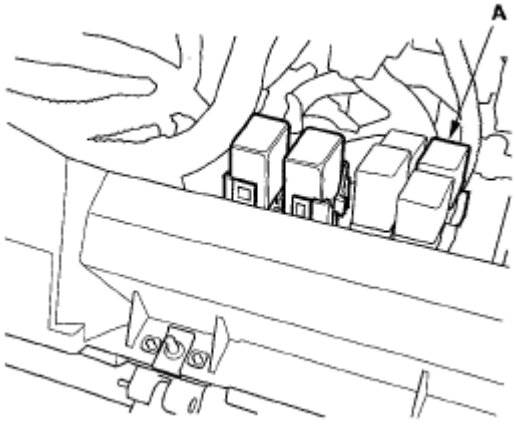

Fig. 37: Identifying A/F Sensor Relay (LAF)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Connect A/F sensor (Sensor 1) 4P connector terminal No. 3 to body ground with a jumper wire.

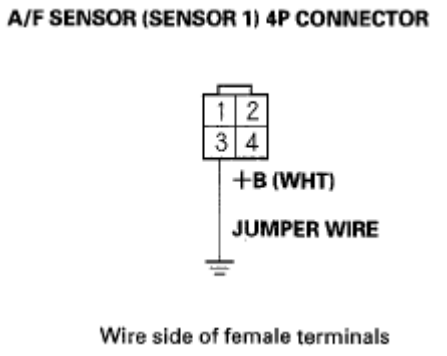

Fig. 38: Connecting A/F Sensor (Sensor 1) 4P Connector Terminal No. 3 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

18. Check for continuity between A/F sensor relay (LAF) 4P connector terminal No. 1 and body ground.

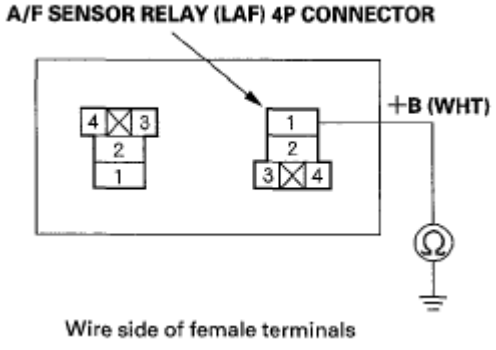

Fig. 39: Checking Continuity Between A/F Sensor Relay (LAF) 4P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 19.

NO -Repair open in the wire between the A/F sensor (Sensor 1) and the A/F sensor relay (LAF), then go to step 24.

19. Disconnect ECM/PCM connector E (31P).
20. Check for continuity between ECM/PCM connector terminal E8 and body ground.

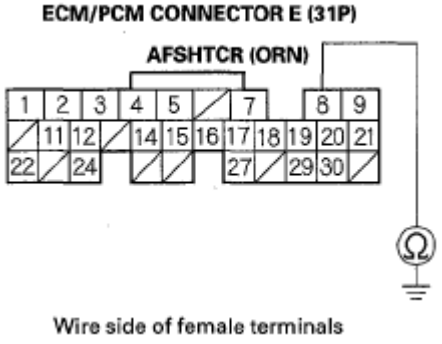

Fig. 40: Checking Continuity Between ECM/PCM Connector Terminal E8 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (E8) and the A/F sensor relay (LAF), then go to step 24.

NO -Go to step 21.

21. Check for continuity between ECM/PCM connector terminal E8 and A/F sensor relay (LAF) 4P connector terminal No. 3.

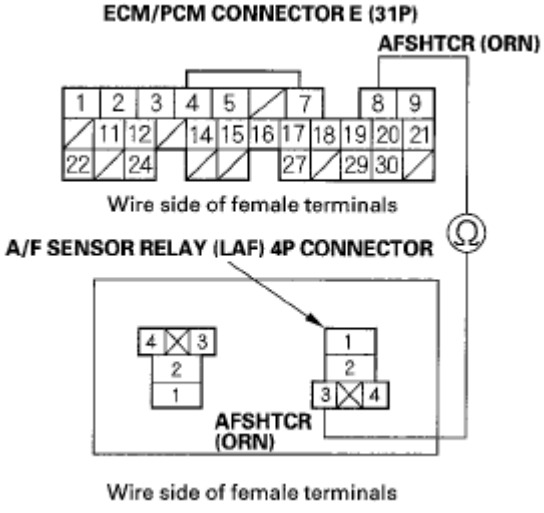

Fig. 41: Checking Continuity Between ECM/PCM And A/F Sensor Relay (LAF) 4P Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 22.

NO -Repair open in the wire between the ECM/PCM (E8) and the A/F sensor relay (LAF), then go to step 24.

22. Check the A/F sensor relay (LAF) (see **POWER RELAY TEST**).

    Is the A/F sensor relay (LAF) OK?

    YES -Go to step 30.

    NO -Replace the A/F sensor relay (LAF), then go to step 24.

23. Replace the A/F sensor (Sensor 1) (see **A/F SENSOR REPLACEMENT**).
24. Reconnect all connectors.
25. Turn the ignition switch ON (II).
26. Reset the ECM/PCM with the HDS.
27. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
28. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0135 indicated?

    YES -Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM, then go to step 1.

    NO -Go to step 29.

29. Monitor the OBD STATUS for DTC P0135 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 28, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

30. Reconnect all connectors.
31. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
32. Start the engine, and let it idle.
33. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0135 indicated?

    YES -Check for poor connections or loose terminals at the A/F sensor (Sensor 1), the A/F sensor relay

(LAF), and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 32. If the ECM/PCM was substituted, go to step 1.

NO -Go to step 34.

34. Monitor the OBD STATUS for DTC P0135 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 32, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the A/F sensor (Sensor 1), the A/F sensor relay (LAF), and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 32. If the ECM/PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

DTC P0137: SECONDARY HO2S (SENSOR 2) CIRCUIT LOW VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and let it idle without load (in Park or neutral) until the radiator fan comes on.
4. Check the HO2S S2 in the DATA LIST with the HDS.

   Does the voltage stay at 0.05 V or less?

   YES -Go to step 5.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM.

5. Turn the ignition switch OFF.
6. Disconnect the secondary HO2S (Sensor 2) 4P connector.
7. Turn the ignition switch ON (II).
8. Check the HO2S S2 in the DATA LIST with the HDS.

   Does the voltage stay at 0.05 V or less?

   YES -Go to step 9.

NO -Go to step 13.

9. Turn the ignition switch OFF.
10. Jump the SCS line with the HDS.
11. Disconnect ECM/PCM connector E (31P).
12. Check for continuity between secondary HO2S (Sensor 2) 4P connector terminal No. 2 and body ground.

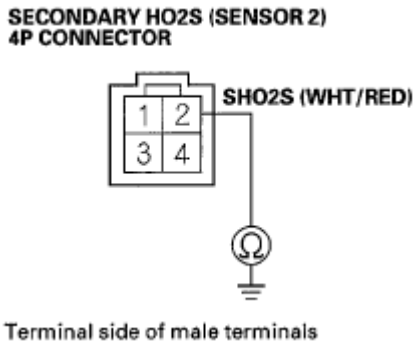

Fig. 42: Checking Continuity Between Secondary HO2S (Sensor 2) 4P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (E20) and the secondary HO2S (Sensor 2), then go to step 15.

NO -Go to step 23.

13. Turn the ignition switch OFF.
14. Replace the secondary HO2S (Sensor 2) (see **A/F SENSOR REPLACEMENT**).
15. Reconnect all connectors.
16. Turn the ignition switch ON (II).
17. Reset the ECM/PCM with the HDS.
18. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
19. Start the engine, and let it idle without load (in Park or neutral) until the radiator fan comes on.
20. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
    - A/T in D position (M/T in 4th gear)
    - Engine speed at 1,500-3,000 rpm
    - Drive 1 minute or more
21. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0137 indicated?

YES -Check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM, then go to step 1.

NO -Go to step 22.

22. Monitor the OBD STATUS for DTC P0137 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 21, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM, then go to step 1. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 19.

23. Reconnect all connectors.
24. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
25. Start the engine, and let it idle without load (in Park or neutral) until the radiator fan comes on.
26. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
    - A/T in D position (M/T in 4th gear)
    - Engine speed at 1,500-3,000 rpm
    - Drive 1 minute or more
27. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0137 indicated?

    YES -Check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 25. If the ECM/PCM was substituted, go to step 1.

    NO -Go to step 28.

28. Monitor the OBD STATUS for DTC P0137 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 27, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good

ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 25. If the ECM/PCM was substituted, go to step 1. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 25.

DTC P0138: SECONDARY HO2S (SENSOR 2) CIRCUIT HIGH VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and let it idle without load (in Park or neutral) until the radiator fan comes on.
4. Check the HO2S S2 in the DATA LIST with the HDS.

   Does the voltage stay at 1.27 V or more?

   YES -Go to step 5.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM.

5. Turn the ignition switch OFF.
6. Disconnect the secondary HO2S (Sensor 2) 4P connector.
7. Connect secondary HO2S (Sensor 2) 4P connector terminals No. 1 and No. 2 with a jumper wire.

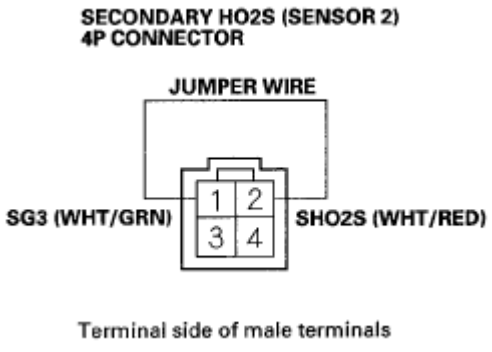

Fig. 43: Connecting Secondary HO2S (Sensor 2) 4P Connector Terminals No. 1 And No. 2 With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Turn the ignition switch ON (II).
9. Check the HO2S S2 in the DATA LIST with the HDS.

   Does the voltage stay at 1.27 V or more?

YES -Go to step 10.

NO -Go to step 19.

10. Turn the ignition switch OFF.
11. Remove the jumper wire from the secondary HO2S (Sensor 2) 4P connector.
12. Connect secondary HO2S (Sensor 2) 4P connector terminal No. 2 to body ground with a jumper wire.

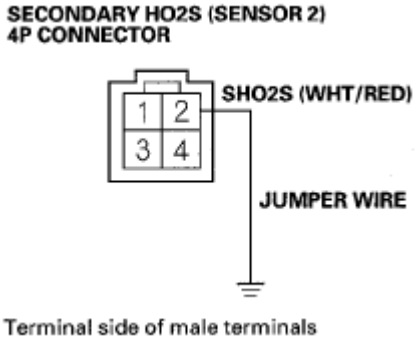

Fig. 44: Connecting Secondary HO2S (Sensor 2) 4P Connector Terminal No. 2 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Turn the ignition switch ON (II).
14. Check the HO2S S2 in the DATA LIST with the HDS.

Does the voltage stay at 1.27 V or more?

YES -Go to step 15.

NO -Repair open in the wire between the ECM/PCM (E4) and the secondary HO2S (Sensor 2), then go to step 21.

15. Turn the ignition switch OFF.
16. Jump the SCS line with the HDS.
17. Disconnect ECM/PCM connector E (31P).
18. Check for continuity between ECM/PCM connector terminal E20 and body ground.

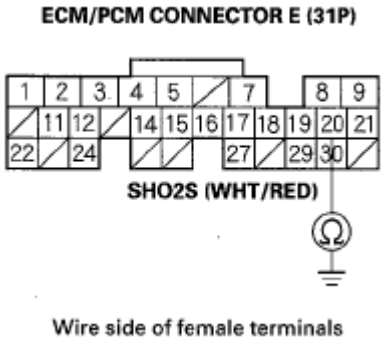

Fig. 45: Checking Continuity Between ECM/PCM Connector Terminal E20 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 29.

NO -Repair open in the wire between the ECM/PCM (E20) and the secondary HO2S (Sensor 2), then go to step 21.

19. Turn the ignition switch OFF.
20. Replace the secondary HO2S (Sensor 2) (see **A/F SENSOR REPLACEMENT**).
21. Reconnect all connectors.
22. Turn the ignition switch ON (II).
23. Reset the ECM/PCM with the HDS.
24. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
25. Start the engine, and let it idle without load (in Park or neutral) until the radiator fan comes on.
26. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
    - A/T in D position (M/T in 4th gear)
    - Engine speed at 1,500-3,000 rpm
    - Drive 1 minute or more
27. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0138 indicated?

    YES -Check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM, then go step 1.

    NO -Go to step 28.

28. Monitor the OBD STATUS for DTC P0138 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 27, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO -If the screen indicates FAILED, check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM, then go to step 1. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 25.

29. Reconnect all connectors.
30. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
31. Start the engine, and let it idle without load (in Park or neutral) until the radiator fan comes on.
32. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
    - A/T in D position (M/T in 4th gear)
    - Engine speed at 1,500-3,000 rpm
    - Drive 1 minute or more
33. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0138 indicated?

    YES -Check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 31. If the ECM/PCM was substituted, go to step 1.

    NO -Go to step 34.

34. Monitor the OBD STATUS for DTC P0138 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 33, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 31. If the ECM/PCM was substituted, go to step 1. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 31.

DTC P0139: SECONDARY HO2S (SENSOR 2) SLOW RESPONSE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and let it idle without load (in Park or neutral) until the radiator fan comes on.
4. Test-drive under these conditions:
   - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
   - A/T in D position (M/T in 4th gear)
   - Vehicle speed at 35 mph (56 km/h) or more
   - Drive about 15 seconds
5. Monitor the OBD STATUS for DTC P0139 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 6.

   NO -If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 3 and recheck.

6. Turn the ignition switch OFF.
7. Replace the secondary HO2S (Sensor 2) (see **A/F SENSOR REPLACEMENT**).
8. Turn the ignition switch ON (II).
9. Reset the ECM/PCM with the HDS.
10. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
11. Start the engine, and let it idle without load (in Park or neutral) until the radiator fan comes on.
12. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
    - A/T in D position (M/T in 4th gear)
    - Vehicle speed at 35 mph (56 km/h) or more
    - Drive about 15 seconds
13. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0139 indicated?

    YES -Check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM, then go to step 1.

    NO -Go to step 14.

14. Monitor the OBD STATUS for DTC P0139 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 13, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM, then go to step 1. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 11.

DTC P0141: SECONDARY HO2S (SENSOR 2) HEATER CIRCUIT MALFUNCTION

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

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

   Is DTC P0141 indicated?

   YES -Go to step 5.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM.

5. Turn the ignition switch OFF.
6. Check the No. 4 ACG (10 A) fuse in the under-dash fuse/relay box.

   Is the fuse OK?

   YES -Go to step 7.

   NO -Repair short in the wire between the secondary HO2S (Sensor 2) and the No. 4 ACG (10 A) fuse. Also replace the No. 4 ACG (10 A) fuse, then go to step 23.

7. Disconnect the secondary HO2S (Sensor 2) 4P connector.
8. At the secondary HO2S (Sensor 2) side, measure resistance between secondary HO2S (Sensor 2) 4P connector terminals No. 3 and No. 4.

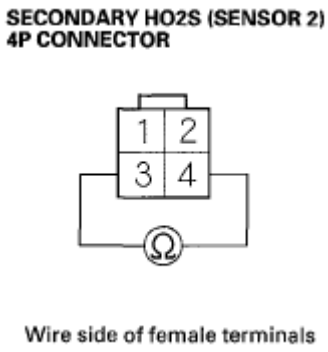

Fig. 46: Measuring Resistance Between Secondary Ho2S (Sensor 2) 4P Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there 5.0- 6.4 0. at room temperature?

YES -Go to step 9.

NO -Go to step 22.

9. At the secondary HO2S (Sensor 2) side, check for continuity between body ground and secondary HO2S (Sensor 2) 4P connector terminals No. 3 and No. 4 individually.

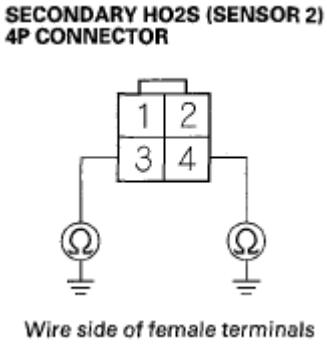

Fig. 47: Checking Continuity Between Body Ground And Secondary HO2S (Sensor 2) 4P Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 22.

NO -Go to step 10.

10. Turn the ignition switch ON (II).
11. Measure voltage between secondary HO2S (Sensor 2) 4P connector terminals No. 3 and No. 4.

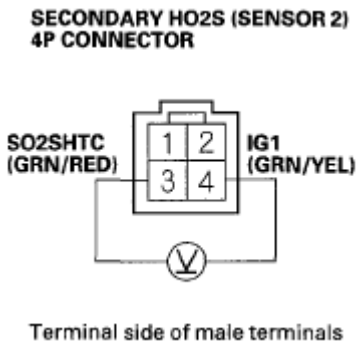

Fig. 48: Measuring Voltage Between Secondary HO2S (Sensor 2) 4P Connector Terminals No. 3 And No. 4
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 12.

NO -Go to step 16.

12. Turn the ignition switch OFF.
13. Jump the SCS line with the HDS.
14. Disconnect ECM/PCM connector E (31P).
15. Check for continuity between ECM/PCM connector terminal E21 and body ground.

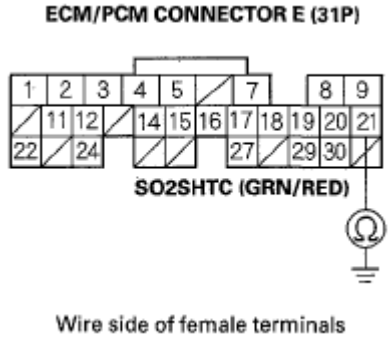

Fig. 49: Checking Continuity Between ECM/PCM Connector Terminal E21 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (E21) and the secondary HO2S (Sensor 2), then go to step 23.

NO -Go to step 29.

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

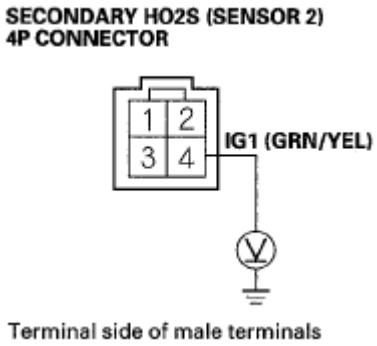

Fig. 50: Measuring Voltage Between Secondary HO2S (Sensor 2) 4P Connector Terminal No. 4 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 17.

NO -Repair open in the wire between the secondary HO2S (Sensor 2) and the No. 4 ACG (10 A) fuse, then go to step 23.

17. Turn the ignition switch OFF.
18. Jump the SCS line with the HDS.
19. Disconnect ECM/PCM connector E (31P).
20. Connect secondary HO2S (Sensor 2) 4P connector terminal No. 3 to body ground with a jumper wire.

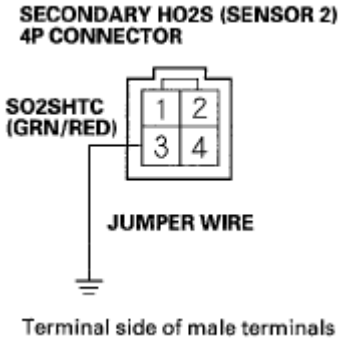

Fig. 51: Connecting Secondary HO2S (Sensor 2) 4P Connector Terminal No. 3 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

21. Check for continuity between ECM/PCM connector terminal E21 and body ground.

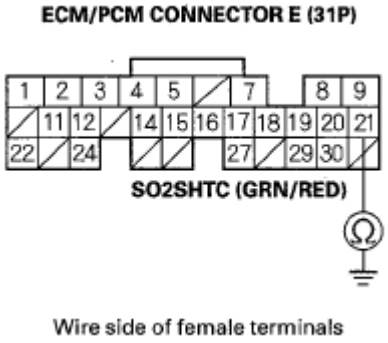

Fig. 52: Checking Continuity Between ECM/PCM Connector Terminal E21 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 29.

NO -Repair open in the wire between the ECM/PCM (E21) and the secondary HO2S (Sensor 2), then go to step 23.

22. Replace the secondary HO2S (Sensor 2) (see **A/F SENSOR REPLACEMENT**).
23. Reconnect all connectors.
24. Turn the ignition switch ON (II).
25. Reset the ECM/PCM with the HDS.
26. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
27. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0141 indicated?

    YES -Check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM, then go to step 1.

    NO -Go to step 28.

28. Monitor the OBD STATUS for DTC P0141 in the DTCs MENU with the HDS indicate.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 27, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

29. Reconnect all connectors.
30. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
31. Start the engine, and let it idle.
32. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0141 indicated?

    YES -Check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 31. If the ECM/PCM was substituted, go to step 1.

    NO -Go to step 33.

33. Monitor the OBD STATUS for DTC P0141 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 32, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 31. If the ECM/PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

DTC P0171: FUEL SYSTEM TOO LEAN; DTC P0172: FUEL SYSTEM TOO RICH

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **If any of the DTCs listed below are indicated at the same time as DTC P0171 and/or P0172, troubleshoot those DTCs first, then recheck for P0171 and/or P0172.**

P0101, P0102, P0103: Mass airflow (MAF) sensor P0107, P0108, P1128, P1129: Manifold absolute pressure (MAP) sensor

P0133, P1172, P1157, P2195, P2238, P2252, P2A00: Air fuel ratio (A/F) sensor (Sensor 1)

P0134, P0135: Air fuel ratio (A/F) sensor (Sensor 1) heater

P0137, P0138, P0139, P2270, P2271: Secondary HO2S (Sensor 2)

P0141: Secondary HO2S (Sensor 2) heater

P0443, P0496: EVAP canister purge valve

P2646, P2647, P2648, P2649: VTEC system

1. Check the fuel pressure (see **FUEL PRESSURE TEST**).

   Is the fuel pressure OK?

   YES -Go to step 2.

   NO -

   - If the pressure is too high, replace the fuel pressure regulator (see **FUEL PRESSURE REGULATOR REPLACEMENT**), then go to step 7.
   - If the pressure is too low, check the fuel pump, the fuel feed pipe, and the fuel filter. If they are OK, replace the fuel pressure regulator (see **FUEL PRESSURE REGULATOR REPLACEMENT**), then go to step 7.
2. Check for vacuum leaks at these parts:
   - PCV valve
   - PCV hose
   - EVAP canister purge valve
   - Throttle body
   - Intake manifold
   - Brake booster
   - Brake booster hose
   - Intake air duct

   Are the parts OK?

   YES -Go to step 3.

   NO -Repair or replace parts with leaks, then go to step 7.

3. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
4. Check for these conditions:
   - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
   - M/T in neutral (A/T in Park or neutral)
   - All electrical loads off
5. Monitor the ENGINE SPEED in the DATA LIST with the HDS, and hold the engine speed at 2,500 rpm. Once the engine speed is met, hold the accelerator pedal steady for more than 10 seconds.

Did the engine speed vary more than 100 rpm from 2,500 rpm?

YES -Repeat step 5.

NO -Go to step 6.

6. While holding the engine speed at 2,500 rpm, check the MAF SENSOR in the DATA LIST with the HDS.

   Is there about 6.4-9.2 gm/s?

   YES -Check the engine valve clearances and adjust if necessary (see **VALVE CLEARANCE ADJUSTMENT**). If the valve clearances are OK, replace the injectors (see **INJECTOR REPLACEMENT**), then go to step 7.

   NO -Replace the MAF sensor/IAT sensor (see **MAP SENSOR REPLACEMENT**), then go to step 7.

7. Turn the ignition switch ON (II).
8. Reset the ECM/PCM with the HDS.
9. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
10. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
11. Check for these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158 T (70°C)
    - M/T in neutral (A/T in Park or neutral)
    - All electrical loads off

    NOTE: DTC P0171 and/or P0172 may take up to 80 minutes of test driving to set. Using the HDS, monitor the air fuel feed back average (AF FB AVE). If the AF FB AVE stays within 0.82-1.18, there is no problem at this time.

12. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0171 or P0172 indicated?

    YES -Go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0300: RANDOM MISFIRE AND ANY COMBINATION OF THE FOLLOWING; DTC P0301: NO. 1 CYLINDER MISFIRE DETECTED; DTC P0302: NO. 2 CYLINDER MISFIRE DETECTED; DTC P0303: NO. 3 CYLINDER MISFIRE DETECTED; DTC P0304: NO. 4 CYLINDER MISFIRE DETECTED

Special Tools Required

- Pressure gauge adapter 07NAJ-P07010A
- A/T low pressure gauge w/panel 07406-0070301
- A/T pressure hose 07406-0020201
- A/T pressure hose, 2,210 mm 07MAJ-PY4011A
- A/T pressure adapter 07MAJ-PY40120
- Oil pressure hose 07ZAJ-S5AA200

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **If the misfire is frequent enough to trigger detection of increased emissions during two consecutive driving cycles, the MIL will come on, and DTC P0300 (and some of the combination of P0301 through P0304) will be stored.**
- **If the misfire is frequent enough to damage the catalyst, the MIL will flash whenever the misfire occurs, and DTC P0300 (and some of the combination of P0301 through P0304) will be stored. When the misfire stops, the MIL will remain on.**
- **If any of the DTCs listed below are indicated at the same time as the random misfire DTCs, troubleshoot those DTCs first, then recheck for these random misfire DTCs:**

P0101, P0102, P0103: Mass air flow (MAF) sensor

P0107, P0108, P1128, P1129: Manifold absolute pressure (MAP) sensor

P0171, P0172: Fuel system

P0335, P0339: Crankshaft position (CKP) sensor

P0365, P0369: Camshaft position (CMP) sensor B P0506, P507: Idle control system

P2646, P2647, P2648, P2649: VTEC system

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and let it idle without load (in Park or neutral).
4. Monitor the OBD STATUS for DTC P0301, P0302, P0303, or P0304 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

YES -Go to step 9.

NO -If the screen indicates PASSED, go to step 5. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, wait several minutes, then recheck.

5. Check the CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE in the DATA LIST for 10 minutes with the HDS.

   Does (he CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE show misfire counts?

   YES -Go to step 9.

   NO -Go to step 6.

6. Test-drive the vehicle several minutes in the range of these recorded freeze data parameters:
   - ENGINE SPEED
   - VSS
   - REL TP SENSOR
   - CLV (calculated load value)
   - APP SENSOR
7. Monitor the OBD STATUS for DTC P0301, P0302, P0303, or P0304 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 9.

   NO -If the screen indicates PASSED, go to step 8. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 6 and recheck.

8. Check the CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE in the DATA LIST for 10 minutes with the HDS.

   Does the CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE show misfire counts?

   YES -Go to step 9.

   NO -Intermittent failure, the system is OK at this time.

9. Turn the ignition switch OFF.
10. Check the fuel quality.

    Is the quality good?

    YES -Go to step 11.

NO -Drain the tank and fill with a known-good fuel, then go to step 24.

11. Inspect the spark plugs (see **SPARK PLUG INSPECTION**). If the spark plugs are fouled or worn, replace them.
12. Test-drive the vehicle several minutes in the range of these recorded freeze data parameters:
    - ENGINE SPEED
    - VSS
    - REL TP SENSOR
    - CLV (calculated load value)
    - APP SENSOR
13. Check the CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE in the DATA LIST for 10 minutes with the HDS.

    Does the CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE show misfire counts?

    YES -Go to step 14.

    NO -Go to step 25.

14. Check the fuel pressure (see **FUEL PRESSURE TEST**).

    Is the fuel pressure OK?

    YES -Go to step 15.

    NO -

    - If the fuel pressure is too high, replace the fuel pressure regulator (see **FUEL PRESSURE REGULATOR REPLACEMENT**),then go to step 24.
    - If the fuel pressure is too low, check the fuel pump, the fuel feed pipe, and the fuel filter. If they are OK, replace the fuel pressure regulator (see **FUEL PRESSURE REGULATOR REPLACEMENT**), then go to step 24.
15. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
16. Check for these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 176°F (80°C)
    - M/T in neutral (A/T in Park or neutral)
    - All electrical loads off
17. Monitor the ENGINE SPEED in the DATA LIST with the HDS, and hold the engine speed at 2,500 rpm. Once the engine speed is met, hold the accelerator pedal steady for more than 10 seconds.

    Did the engine speed vary more than 100 rpm from 2,500 rpm?

YES -Repeat step 17.

NO -Go to step 18.

18. While holding the engine speed at 2,500 rpm, check the MAF SENSOR in the DATA LIST with the HDS.

    Is there about 6.4-9.2 gm/s?

    YES -Go to step 19.

    NO -Replace the MAF sensor/IAT sensor (see **MAP SENSOR REPLACEMENT**), then go to step 24.

19. Turn the ignition switch OFF.
20. Remove the rocker arm oil pressure switch (A), and install the special tools as shown, then install the rocker arm oil pressure switch in the pressure gauge adapter (B).

    NOTE: Install the parts in the reverse order of removal with a new O-ring.

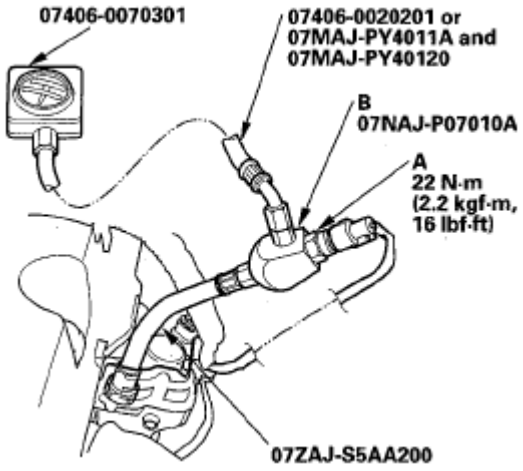

Fig. 53: Installing Rocker Arm Oil Pressure Switch In Pressure Gauge Adapter With Torque Specification
Courtesy of AMERICAN HONDA MOTOR CO., INC.

21. Reconnect the rocker arm oil pressure switch 2P connector.
22. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
23. Check the oil pressure at engine speeds of 1,000 rpm and 2,000 rpm.

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

    YES -Check for air in the fuel line, then go to step 24.

NO -Inspect the VTEC system, then go to step 24.

24. Turn the ignition switch ON (II).
25. Reset the ECM/PCM with the HDS.
26. Clear the CKP pattern with the HDS.
27. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
28. Do the CKP pattern learn procedure (see **CRANK (CKP) PATTERN CLEAR/CRANK (CKP) PATTERN LEARN**).
29. Test-drive the vehicle for several minutes in the range of these recorded freeze data parameters:
    - ENGINE SPEED
    - VSS
    - REL TP SENSOR
    - CLV (calculated load value)
    - APP SENSOR
30. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0300, P0301, P0302, P0303, or P0304 indicated?

    YES -Check for a poor connection or loose terminals at the ignition coil, the injector, and the ECM/PCM, then go to DTC P0301, P0302, P0303, or P0304 troubleshooting (see **DTC P0301: NO. 1 CYLINDER MISFIRE DETECTED; DTC P0302: NO. 2 CYLINDER MISFIRE DETECTED; DTC P0303: NO. 3 CYLINDER MISFIRE DETECTED; DTC P0304: NO. 4 CYLINDER MISFIRE DETECTED**).

    NO -Go to step 31.

31. Monitor the OBD STATUS for DTC P0301, P0302, P0303, or P0304 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 30, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the ignition coil, the injector, and the ECM/PCM, then go to step 1. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 29.

DTC P0301: NO. 1 CYLINDER MISFIRE DETECTED; DTC P0302: NO. 2 CYLINDER MISFIRE DETECTED; DTC P0303: NO. 3 CYLINDER MISFIRE DETECTED; DTC P0304: NO. 4 CYLINDER MISFIRE DETECTED

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and let it idle without load (in Park or neutral).
4. Monitor the OBD STATUS for DTC P0301, P0302, P0303, or P0304 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 9.

   NO -If the screen indicates PASSED, go to step 5. If the screen indicates EXECUTING, keep idling until a result comes on. If the screen indicates OUT OF CONDITION, wait several minutes, and recheck.

5. Check the CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE in the DATA LIST for 10 minutes with the HDS.

   Does CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE show misfire counts?

   YES -Go to step 9.

   NO -Go to step 6.

6. Test-drive the vehicle for several minutes in the range of these recorded freeze data parameters:
   - ENGINE SPEED
   - VSS
   - REL TP SENSOR
   - CLV (calculated load value)
   - APP SENSOR
7. Monitor the OBD STATUS for DTC P0301, P0302, P0303, or P0304 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 9.

   NO -If the screen indicates PASSED, go to step 8. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 6 and recheck.

8. Check the CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE in the DATA LIST for 10 minutes with the HDS.

   Does CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE show misfire counts?

   YES -Go to step 9.

   NO -Intermittent failure, the system is OK at this time. Check for loose wires or poor connections in the

fuel system circuit.

9. Turn the ignition switch OFF.
10. Remove the engine cover (see step 3 in **REMOVAL**).
11. Start the engine, and listen for a clicking sound at the injector of the problem cylinder.

    Does the injector click?

    YES -Go to step 12.

    NO -Go to step 43.

12. Turn the ignition switch OFF.
13. Exchange the ignition coil from the problem cylinder with one from another cylinder.
14. Test-drive the vehicle for several minutes in the range of these recorded freeze data parameters:
    - ENGINE SPEED
    - VSS
    - REL TP SENSOR
    - CLV (calculated load value)
    - APP SENSOR
15. Check the CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE in the DATA LIST for 10 minutes with the HDS.

    Does CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE show misfire counts?

    YES -Go to step 16.

    NO -Intermittent misfire due to poor contact at the ignition coil connector (no misfire at this time). Check for poor connections or loose terminals at the ignition coil.

16. Determine which cylinder had the misfire.

    Does the misfire occur in the cylinder where the ignition coil was exchanged?

    YES -Replace the faulty ignition coil (see **IGNITION COIL REMOVAL/INSTALLATION**), then go to step 62.

    NO -Go to step 17.

17. Turn the ignition switch OFF.
18. Exchange the spark plug from the problem cylinder with one from another cylinder.
19. Test-drive the vehicle for several minutes in the range of these recorded freeze data parameters:
    - ENGINE SPEED

- VSS
- REL TP SENSOR
- CLV (calculated load value)
- APP SENSOR

20. Check the CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE in the DATA LIST for 10 minutes with the HDS.

    Does CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE show misfire counts?

    YES -Go to step 21.

    NO -Intermittent misfire due to spark plug fouling (no misfire at this time).

21. Determine which cylinder had the misfire.

    Does the misfire occur in the cylinder where the spark plug was exchanged?

    YES -Replace the faulty spark plug, then go to step 62.

    NO -Go to step 22.

22. Turn the ignition switch OFF.
23. Exchange the injector from the problem cylinder with one from another cylinder.
24. Start the engine, and let it idle 2 minutes.
25. Test-drive the vehicle for several minutes in the range of these recorded freeze data parameters:
    - ENGINE SPEED
    - VSS
    - REL TP SENSOR
    - CLV (calculated load value)
    - APP SENSOR
26. Check the CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE in the DATA LIST for 10 minutes with the HDS.

    Does CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE show misfire counts?

    YES -Go to step 27.

    NO -Intermittent misfire due to bad contact in the injector connector (no misfire at this time). Check for poor connections or loose terminals at the injector.

27. Determine which cylinder had the misfire.

    Does the misfire occur in the cylinder where the injector was exchanged?

YES -Replace the faulty injector (see **INJECTOR REPLACEMENT**), then go to step 62.

NO -Go to step 28.

28. Turn the ignition switch OFF.
29. Disconnect the ignition coil 3P connector from the problem cylinder.
30. Turn the ignition switch ON (II).
31. Measure voltage between ignition coil 3P connector terminal No. 3 and body ground.

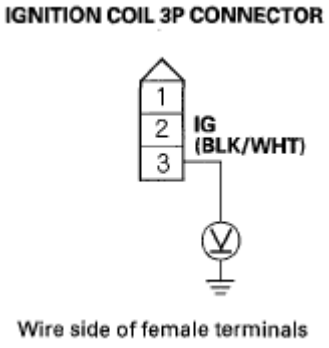

Fig. 54: Measuring Voltage Between Ignition Coil 3P Connector Terminal No. 3 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 32.

NO -Repair open in the wire between the ignition coil and the No. 16 IGN RLY (15 A) fuse, then go to step 62.

32. Turn the ignition switch OFF.
33. Check for continuity between ignition coil 3P connector terminal No. 2 and body ground.

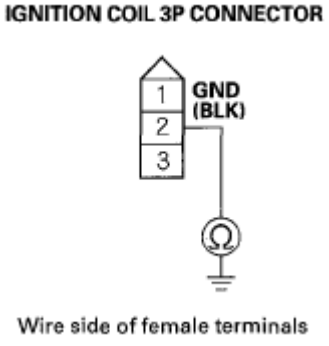

Fig. 55: Checking Continuity Between Ignition Coil 3P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 34.

NO -Repair open in the wire between the ignition coil and G102, then go to step 62.

34. Turn the ignition switch OFF.
35. Jump the SCS line with the HDS.
36. Disconnect ECM/PCM connector A (31P).
37. Check for continuity between body ground and the appropriate ECM/PCM connector terminal (see table).

CONNECTOR TERMINAL SPECIFICATION

PROBLEM CYLINDER	DTC	ECM/PCM TERMINAL	WIRE COLOR
No. 1	P0301	A16	YEL/GRN
No. 2	P0302	A15	BLU/RED
No. 3	P0303	A14	WHT/BLU
No. 4	P0304	A13	BRN

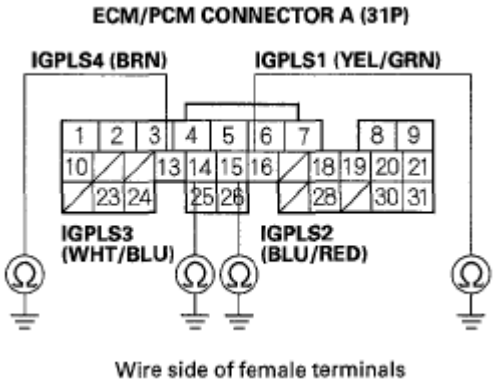

Fig. 56: Checking Continuity Between Body Ground And ECM/PCM Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM and the ignition coil, then go to step 62.

NO -Go to step 38.

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

CONNECTOR TERMINAL SPECIFICATION

PROBLEM CYLINDER	DTC	WIRE COLOR
No. 1	P0301	YEL/GRN

No. 2	P0302	BLU/RED
No. 3	P0303	WHT/BLU
No. 4	P0304	BRN

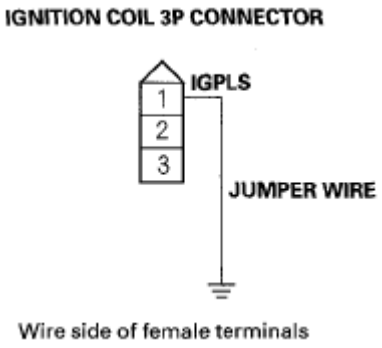

Fig. 57: Connecting Ignition Coil 3P Connector Terminal No. 1 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

CONNECTOR TERMINAL SPECIFICATION

PROBLEM CYLINDER	DTC	ECM/PCM TERMINAL	WIRE COLOR
No. 1	P0301	A16	YEL/GRN
No. 2	P0302	A15	BLU/RED
No. 3	P0303	A14	WHT/BLU
No. 4	P0304	A13	BRN

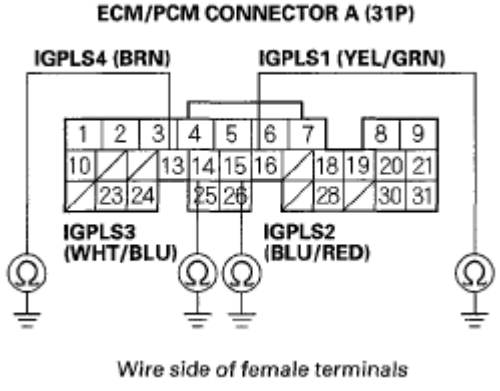

Fig. 58: Checking Continuity Between Body Ground And ECM/PCM Connector Terminal
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 40.

NO -Repair open in the wire between the ECM/PCM and the ignition coil, then go to step 62.

40. Reconnect the ignition coil 3P connector and ECM/PCM connector A (31P).
41. Do an engine compression and a cylinder leakdown test (see **ENGINE COMPRESSION INSPECTION**).

    Did the engine pass both tests?

    YES -Go to step 42.

    NO -Repair the engine, then go to step 62.

42. Do the VTEC rocker arms test (see **VTEC ROCKER ARM TEST**).

    Did the VTEC rocker arms pass the test?

    YES -Go to step 71.

    NO -Repair the VTEC rocker arm, then go to step 62.

43. Turn the ignition switch OFF.
44. Jump the SCS line with the HDS.
45. Disconnect ECM/PCM connector B (24P).
46. Turn the ignition switch ON (II).
47. Measure voltage between body ground and the appropriate ECM/PCM connector terminal (see table).

CONNECTOR TERMINAL SPECIFICATION

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

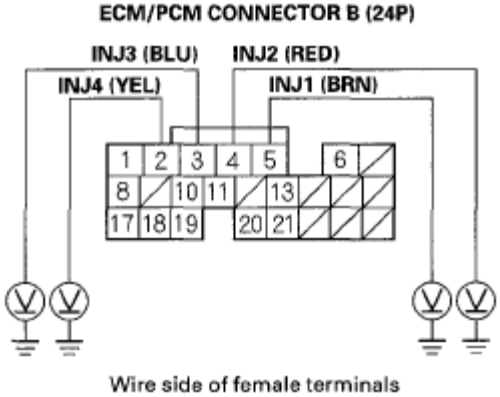

Fig. 59: Measuring Voltage Between Body Ground And ECM/PCM Connector Terminal
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 56.

NO -Go to step 48.

48. Turn the ignition switch OFF.
49. Disconnect the injector 2P connector from the problem cylinder.
50. Turn the ignition switch ON (II).
51. Measure voltage between injector 2P connector terminal No. 1 and body ground.

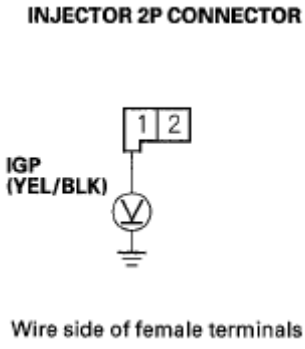

Fig. 60: Measuring Voltage Between Injector 2P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 52.

NO -Repair open in the wire between the injector and PGM-FI main relay 1 (FI MAIN), then go to step 62.

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

CONNECTOR TERMINAL SPECIFICATION

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

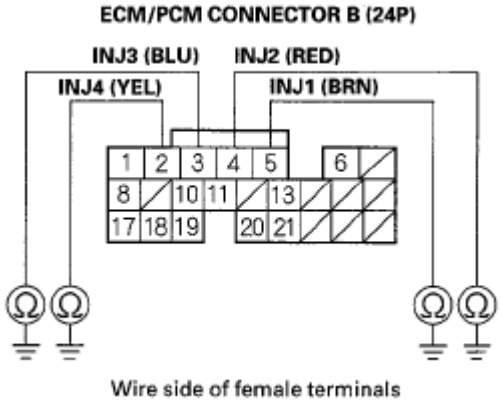

Fig. 61: Checking Continuity Between Body Ground And ECM/PCM Connector Terminal
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM and the injector, then go to step 62.

NO -Go to step 54.

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

CONNECTOR TERMINAL SPECIFICATION

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

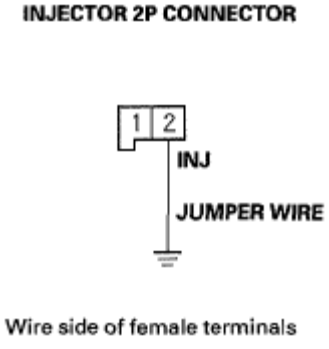

Fig. 62: Connecting Appropriate Injector 2P Connector Terminal No. 2 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

CONNECTOR TERMINAL SPECIFICATION

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

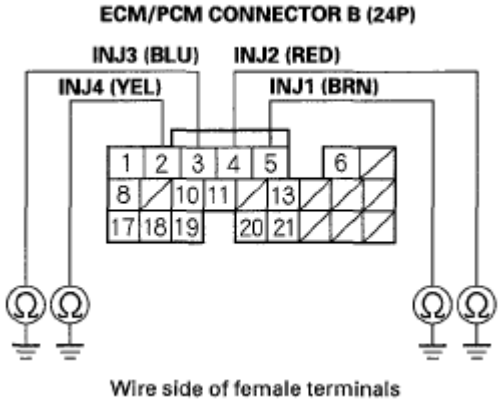

Fig. 63: Checking Continuity Between Body Ground And ECM/PCM Connector Terminal
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 56.

NO -Repair open in the wire between the ECM/PCM and the injector, then go to step 62.

56. At the injector side, measure resistance between injector 2P connector terminals No. 1 and No. 2.

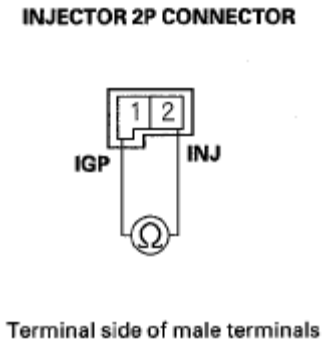

Fig. 64: Measuring Resistance Between Injector 2P Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there 10-13 ohms?

YES -Go to step 57.

NO -Replace the injector (see **INJECTOR REPLACEMENT**), then go to step 62.

57. Substitute a known-good injector into the problem cylinder.
58. Reconnect all connectors.
59. Start the engine, and let it idle 2 minutes.
60. Test-drive the vehicle for several minutes in the range of these recorded freeze data parameters:
    - ENGINE SPEED
    - VSS
    - REL TP SENSOR
    - CLV (calculated load value)
    - APP SENSOR
61. Check the CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE in the DATA LIST for 10 minutes with the HDS.

    Does CYL1 MISFIRE, CYL2 MISFIRE, CYL3 MISFIRE, and/or CYL4 MISFIRE show misfire counts?

    YES -Go to step 71.

    NO -Replace the original injector (see **INJECTOR REPLACEMENT**), then go to step 62.

62. Reconnect all connectors.
63. Turn the ignition switch ON (II).
64. Reset the ECM/PCM with the HDS.
65. Clear the CKP pattern with the HDS.
66. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
67. Do the CKP pattern learn procedure (see **CRANK (CKP) PATTERN CLEAR/CRANK (CKP) PATTERN LEARN**).
68. Test-drive the vehicle for several minutes in the range of these recorded freeze data parameters:
    - ENGINE SPEED
    - VSS
    - REL TP SENSOR
    - CLV (calculated load value)
    - APP SENSOR
69. Check for Temporary DTCs or DTCs with the HDS.

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

    YES -Check for poor connections or loose terminals at the ignition coil, the injector, and the ECM/PCM, then go to troubleshooting DTC P0300, P0301, P0302, P0303, or P0304 (see **DTC P0300: RANDOM**

MISFIRE AND ANY COMBINATION OF THE FOLLOWING:; DTC P0301: NO. 1 CYLINDER MISFIRE DETECTED; DTC P0302: NO. 2 CYLINDER MISFIRE DETECTED; DTC P0303: NO. 3 CYLINDER MISFIRE DETECTED; DTC P0304: NO. 4 CYLINDER MISFIRE DETECTED).

NO -Go to step 70.

70. Monitor the OBD STATUS for DTC P0301, P0302, P0303, or P0304 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 69, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the ignition coil, the injector, and the ECM/PCM, then go to step 1. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 68.

71. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
72. Test-drive the vehicle for several minutes in the range of these recorded freeze data parameters:
    - ENGINE SPEED
    - VSS
    - REL TP SENSOR
    - CLV (calculated load value)
    - APP SENSOR
73. Check for Temporary DTCs or DTCs with the HDS.

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

    YES -Check for poor connections or loose terminals at the ignition coil, the injector, and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 72. If the ECM/PCM was substituted, go to step 1.

    NO -Go to step 74.

74. Monitor the OBD STATUS for DTC P0301, P0302, P0303, or P0304 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 73, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the ignition coil, the injector, and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see

SUBSTITUTING THE ECM/PCM), then go to step 72. If the ECM/PCM was substituted, go to step 1. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 72.

DTC P0325: KNOCK SENSOR CIRCUIT MALFUNCTION

NOTE: Before you troubleshoot, record ail freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
4. Hold the engine speed between 3,000-4,000 rpm for at least 10 seconds.
5. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P0325 indicated?

   YES -Go to step 6.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the knock sensor and the ECM/PCM.

6. Turn the ignition switch OFF.
7. Jump the SCS line with the HDS.
8. Disconnect the knock sensor 1P connector.
9. Disconnect ECM/PCM connector A (31P).
10. Check for continuity between ECM/PCM connector terminal A1 and body ground.

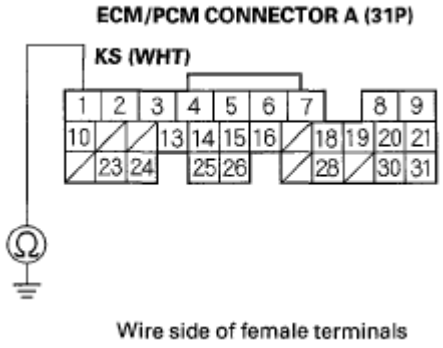

Fig. 65: Checking Continuity Between ECM/PCM Connector Terminal A1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (A1) and the knock sensor, then go to step 14.

NO -Go to step 11.

11. Connect the knock sensor IP connector terminal to body ground with a jumper wire.

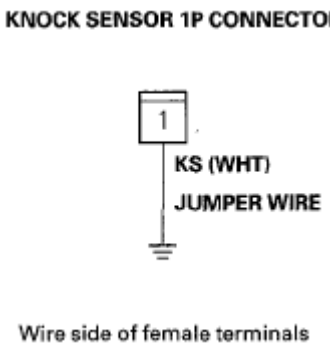

Fig. 66: Connecting Knock Sensor IP Connector Terminal To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

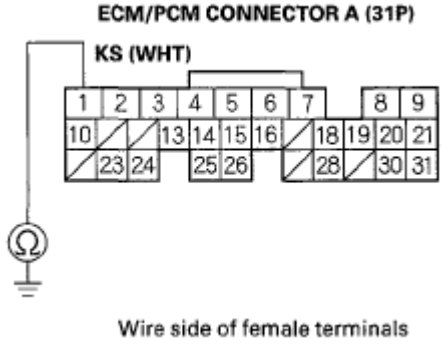

Fig. 67: Checking Continuity Between ECM/PCM Connector Terminal A1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 13.

NO -Repair open in the wire between the ECM/PCM (A1) and the knock sensor, then go to step 14.

13. Replace the knock sensor (see **OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR REPLACEMENT**).
14. Reconnect all connectors.
15. Turn the ignition switch ON (II).
16. Reset the ECM/PCM with the HDS.

17. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
18. Hold the engine speed between 3,000-4,000 rpm for at least 10 seconds.
19. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0325 indicated?

    YES -Go to step 21.

    NO -Go to step 20.

20. Monitor the OBD STATUS for DTC P0325 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 19, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the knock sensor and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, go to step 18.

21. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
22. Hold the engine speed between 3,000-4,000 rpm for at least 10 seconds.
23. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0325 indicated?

    YES -Check for poor connections or loose terminals at the knock sensor and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 22. If the ECM/PCM was substituted, go to step 1.

    NO -Go to step 24.

24. Monitor the OBD STATUS for DTC P0325 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 23, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the knock sensor and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 22. If the ECM/PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, go to step 22.

DTC P0335: CKP SENSOR NO SIGNAL

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

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

   Is DTC P0335 indicated?

   YES -Go to step 5.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the CKP sensor and the ECM/PCM.

5. Turn the ignition switch OFF.
6. Disconnect the CKP sensor 3P connector.
7. Turn the ignition switch ON (II).
8. Measure voltage between CKP sensor 3P connector terminal No. 1 and body ground.

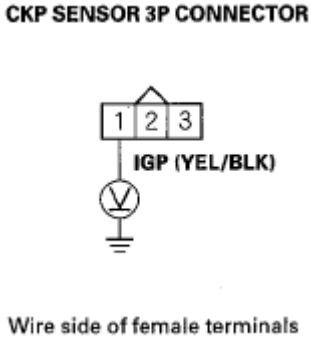

Fig. 68: Measuring Voltage Between CKP Sensor 3P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 9.

NO -Repair open in the wire between the CKP sensor and PGM-FI main relay 1 (FI MAIN), then go to step 19.

9. Measure voltage between CKP sensor 3P connector terminal No. 2 and body ground.

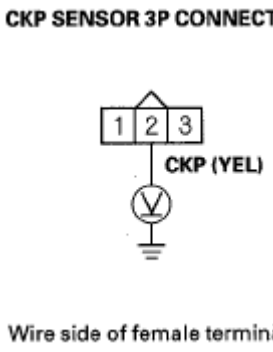

Fig. 69: Measuring Voltage Between CKP Sensor 3P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 10.

NO -Go to step 11.

10. Measure voltage between CKP sensor 3P connector terminals No. 1 and No. 3.

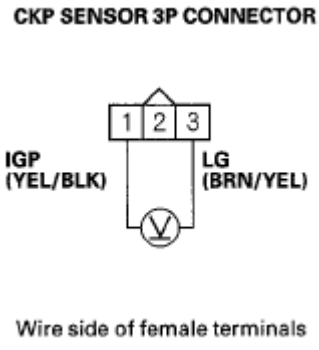

Fig. 70: Measuring Voltage Between CKP Sensor 3P Connector Terminals No. 1 And No. 3
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 17.

NO -Repair open in the wire between the CKP sensor and G101, then go to step 19.

11. Turn the ignition switch OFF.
12. Jump the SCS line with the HDS.
13. Disconnect ECM/PCM connector A (31P).
14. Check for continuity between ECM/PCM connector terminal A7 and body ground.

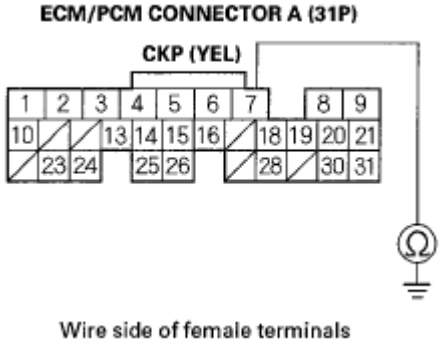

Fig. 71: Checking Continuity Between ECM/PCM Connector Terminal A7 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (A7) and the CKP sensor, then go to step 19.

NO -Go to step 15.

15. Connect CKP sensor 3P connector terminal No. 2 to body ground with a jumper wire.

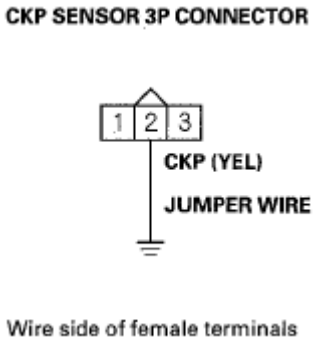

Fig. 72: Connecting CKP Sensor 3P Connector Terminal No. 2 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

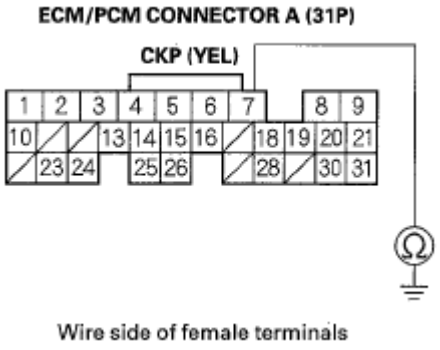

Fig. 73: Checking Continuity Between ECM/PCM Connector Terminal A7 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 26.

NO -Repair open in the wire between the ECM/PCM (A7) and the CKP sensor, then go to step 19.

17. Turn the ignition switch OFF.
18. Replace the CKP sensor (see **CMP SENSOR B REPLACEMENT**).
19. Reconnect all connectors.
20. Turn the ignition switch ON (II).
21. Reset the ECM/PCM with the HDS.
22. Clear the CKP pattern with the HDS.
23. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** .
24. Do the CKP pattern learn procedure (see **CRANK (CKP) PATTERN CLEAR/CRANK (CKP) PATTERN LEARN**).
25. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0335 indicated?

    YES -Check for poor connections or loose terminals at the CKP sensor and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

26. Reconnect all connectors.
27. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
28. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0335 indicated?

YES -Check for poor connections or loose terminals at the CKP sensor and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0339: CKP SENSOR CIRCUIT INTERMITTENT INTERRUPTION

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and let it idle 10 seconds.
4. Check the CKP NOISE in the DATA LIST with the HDS.

   Are 0 counts indicated?

   YES -Go to step 7.

   NO -Go to step 5.

5. Test-drive the vehicle for several minutes in the range of these recorded freeze data parameters:
   - ENGINE SPEED
   - VSS
6. Check the CKP NOISE count in the DATA LIST with the HDS.

   Are 0 counts indicated?

   YES -Go to step 7.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the CKP sensor and the ECM/PCM.

7. Check for poor or loose connections and terminals at these locations:
   - CKP sensor
   - ECM/PCM
   - Engine ground
   - Body ground

   Are the connections and terminals OK?

YES -Go to step 8.

NO -Repair the connectors or terminals, then go to step 11.

8. Remove the cam chain case (see **CAM CHAIN REMOVAL**), and check for damage on the CKP sensor pulse plate.

   Is the pulse plate damaged?

   YES -Replace the CKP sensor pulse plate (see **CKP PULSE PLATE REPLACEMENT**), then go to step 11.

   NO -Go to step 9.

9. Turn the ignition switch OFF.
10. Replace the CKP sensor (see **CMP SENSOR B REPLACEMENT**).
11. Turn the ignition switch ON (II).
12. Reset the ECM/PCM with the HDS.
13. Clear the CKP pattern with the HDS.
14. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
15. Do the CKP pattern learn procedure (see **CRANK (CKP) PATTERN CLEAR/CRANK (CKP) PATTERN LEARN**).
16. Start the engine, and let it idle 10 seconds.
17. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0339 indicated?

    YES -Check for poor connections or loose terminals at the CKP sensor and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0365: CMP SENSOR B NO SIGNAL

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

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

Is DTC P0365 indicated?

YES -Go to step 5.

NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at CMP sensor B and the ECM/PCM.

5. Turn the ignition switch OFF.
6. Disconnect CMP sensor B 3P connector.
7. Turn the ignition switch ON (II).
8. Measure voltage between CMP sensor B 3P connector terminal No. 3 and body ground.

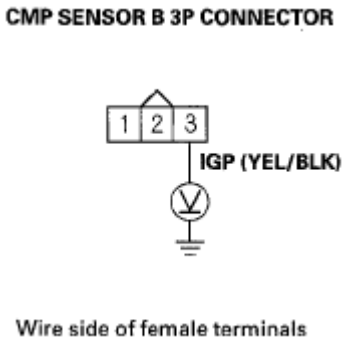

Fig. 74: Measuring Voltage Between CMP Sensor B 3P Connector Terminal No. 3 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 9.

NO -Repair open in the wire between the CMP sensor B and PGM-FI main relay 1 (FI MAIN), then go to step 19.

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

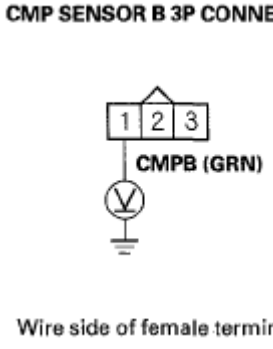

Fig. 75: Measuring Voltage Between CMP Sensor B 3P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 10.

NO -Go to step 11.

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

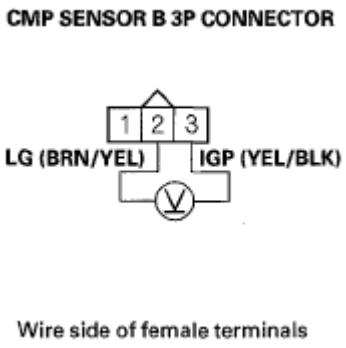

Fig. 76: Measuring Voltage Between CMP Sensor B 3P Connector Terminals No. 2 And No. 3
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 17.

NO -Repair open in the wire between the CMP sensor B and G101, then go to step 19.

11. Turn the ignition switch OFF.
12. Jump the SCS line with the HDS.
13. Disconnect ECM/PCM connector A (31P).
14. Check for continuity between ECM/PCM connector terminal A6 and body ground.

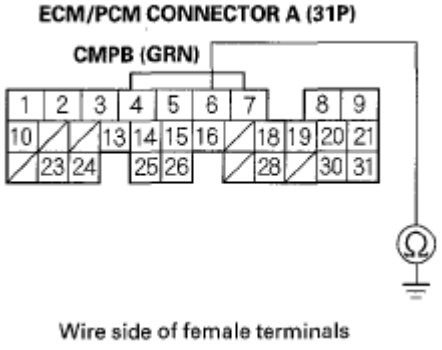

Fig. 77: Checking Continuity Between ECM/PCM Connector Terminal A6 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (A6) and the CMP sensor B, then go to step 19.

NO -Go to step 15.

15. Connect CMP sensor B 3P connector terminal No. 1 to body ground with jumper wire.

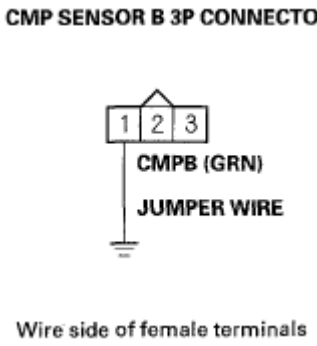

Fig. 78: Connecting CMP Sensor B 3P Connector Terminal No. 1 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Check for continuity between ECM/PCM connector terminal A6 and body ground.

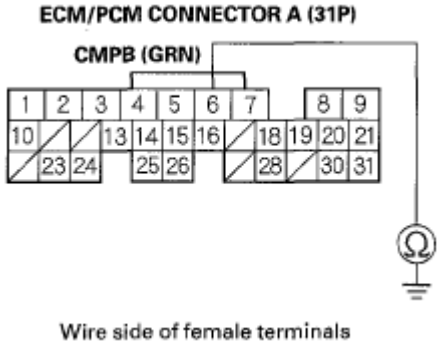

Fig. 79: Checking Continuity Between ECM/PCM Connector Terminal A6 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 25.

NO - Repair open in the wire between the ECM/PCM (A6) and the CMP sensor B, then go to step 19.

17. Turn the ignition switch OFF.
18. Replace the CMP sensor B (see **CMP SENSOR B REPLACEMENT**).
19. Reconnect all connectors.
20. Turn the ignition switch ON (II).
21. Reset the ECM/PCM with the HDS.
22. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
23. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0365 indicated?

    YES -Check for poor connections or loose terminals at the CMP sensor B and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

24. Reconnect all connectors.
25. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
26. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0365 indicated?

    YES -Check for poor connections or loose terminals at the CMP sensor B and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE**

ECM/PCM), then recheck. If the ECM/PCM was substituted, go to step 1.

NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0369: CMP SENSOR B CIRCUIT INTERMITTENT INTERRUPTION

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and let it idle 10 seconds.
4. Check the CMP B NOISE in the DATA LIST with the HDS.

   Are 0 counts indicated?

   YES -Go to step 7.

   NO -Go to step 5.

5. Test-drive the vehicle for several minutes in the range of these recorded freeze data parameters:
   - ENGINE SPEED
   - VSS
6. Check the CMP NOISE B count in the DATA LIST with the HDS.

   Are 0 counts indicated?

   YES -Go to step 7.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the CMP sensor B and the ECM/PCM.

7. Check for poor or loose connections and terminals at these locations:
   - CMP sensor B
   - ECM/PCM
   - Engine ground
   - Body ground

   Are the connections and terminals OK?

   YES -Go to step 8.

NO - Repair the connectors or terminals, then go to step 11.

8. Check for damage to the CMP pulse plate B (see **CMP PULSE PLATE A REPLACEMENT**).

   Is the pulse plate damaged?

   YES -Replace the CMP pulse plate B (see **CMP PULSE PLATE A REPLACEMENT**), then go to step 11.

   NO -Go to step 9.

9. Turn the ignition switch OFF.
10. Replace the CMP sensor B (see **CMP SENSOR B REPLACEMENT**).
11. Turn the ignition switch ON (II).
12. Reset the ECM/PCM with the HDS.
13. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
14. Start the engine, and let it idle 10 seconds.
15. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0369 indicated?

    YES -Check for poor connections or loose terminals at the CMP sensor B and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P050A: COLD START IDLE AIR CONTROL SYSTEM PERFORMANCE PROBLEM

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Check for Temporary DTCs or DTCs with the HDS.

   Are any Temporary DTCs or DTCs other than P050A indicated?

   YES -Go to the **INDICATED DTCS TROUBLESHOOTING**.

   NO -Go to step 3.

3. Check for poor connections or blockage at the intake air duct.

   Is it OK?

YES -Go to step 4.

NO -Reconnect or repair the intake air duct, then go to step 20.

4. Check for damage at the air cleaner housing.

   Is it OK?

   YES -Go to step 5.

   NO -Replace the air cleaner housing (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT**), then go to step 20.

5. Check for dirt or debris in the air cleaner element.

   Is it dirty?

   YES -Replace the air cleaner element or remove the debris (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT**), then go to step 20.

   NO -Go to step 6.

6. Let the engine cool until the value of ECT SENSOR 1 is 122°F (50°C) or less.
7. Clear the DTC with the HDS.
8. Start the engine, and let it idle 10 seconds or more.
9. Monitor the OBD STATUS for DTC P050A in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 10.

   NO -If the screen indicates PASSED, intermittent failure, the system is OK at this time. If the screen indicates EXECUTING, let the engine idle until a result comes on. If the screen indicates OUT OF CONDITION, go to step 6 and recheck.

10. Do the ETCS TEST in the INSPECTION MENU with the HDS.

    Is the THROTTLE ACTUATOR CONTROL VALVE normal?

    YES -Go to step 11.

    NO -Replace the throttle body (see **THROTTLE BODY REMOVAL/INSTALLATION**), then go to step 20.

11. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.

12. Monitor the ENGINE SPEED in the DATA LIST with the HDS, and hold the engine speed at 2,500 rpm for at least 30 seconds.
13. While holding the engine speed at 2,500 rpm, check the MAF SENSOR in the DATA LIST with the HDS.

    Is there about 6.4- 9.2 gm/s?

    YES -Go to step 14.

    NO -Replace the MAF sensor/IAT sensor (see **MAP SENSOR REPLACEMENT**), then go to step 20.

14. Turn the ignition switch OFF.
15. Allow the engine to cool to ambient temperature.
16. Note the ambient temperature.
17. Turn the ignition switch ON (II).
18. Note the value of IAT SENSOR quickly in the DATA LIST with the HDS.
19. Compare the value of the IAT SENSOR and the ambient temperature.

    Does the value of the IAT SENSOR differ 5.4°F (3°C) or more?

    YES -Replace the MAF sensor/IAT sensor (see **MAP SENSOR REPLACEMENT**), then go to step 20.

    NO -Check for dirt, carbon, or damage in the throttle bore. If there is dirt or carbon, clean the throttle body (see **THROTTLE BODY CLEANING**), then go to step 20. If there is damage in the throttle bore, replace the throttle body (see **THROTTLE BODY REMOVAL/INSTALLATION**), then go to step 20.

20. Turn the ignition switch ON (II).
21. Reset the ECM/PCM with the HDS.
22. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
23. Let the engine cool until the value of ECT SENSOR 1 is 122 T (50°C) or less.
24. Start the engine, and let it idle for 10 seconds or more.
25. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P050A indicated?

    YES -Check for poor connections or loose terminals at the throttle body, the MAF sensor/IAT sensor, and the ECM/PCM, then go to step 1.

    NO -Go to step 26.

26. Monitor the OBD STATUS for DTC P050A in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 25, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO -If the screen indicates FAILED, check for poor connections or loose terminals at the throttle body, the MAF sensor/IAT sensor, and the ECM/PCM, then go to step 1. If the screen indicates EXECUTING, keep idling until a result comes on. If the screen indicates OUT OF CONDITION, go to step 23.

DTC P050B: COLD START IGNITION TIMING CONTROL SYSTEM PERFORMANCE PROBLEM

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Check for Temporary DTCs or DTCs with the HDS.

   Are any Temporary DTCs or DTCs other than P050B indicated?

   YES -Go to the **INDICATED DTCS TROUBLESHOOTING**.

   NO -Go to step 3.

3. Check for poor connections or blockage at the intake air duct.

   Is it OK?

   YES -Go to step 4.

   NO -Reconnect or repair the intake air duct, then go to step 25.

4. Check for damage at the air cleaner housing.

   Is it OK?

   YES -Go to step 5.

   NO -Replace the air cleaner housing (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT**), then go to step 25.

5. Check for dirt or debris in the air cleaner element.

   Is it dirty?

   YES -Replace the air cleaner element or remove the debris (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT**), then go to step 25.

NO -Go to step 6.

6. Let the engine cool until the value of ECT SENSOR 1 is 122°F (50°C) or less.
7. Clear the DTC with the HDS.
8. Start the engine, and let it idle 10 seconds or more.
9. Monitor the OBD STATUS for DTC P050B in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 10.

   NO -If the screen indicates PASSED, intermittent failure, the system is OK at this time. If the screen indicates EXECUTING, let the engine idle until a result comes on. If the screen indicates OUT OF CONDITION, go to step 6 and recheck.

10. Inspect the ignition timing (see **IGNITION TIMING INSPECTION**).

    Is the ignition timing OK?

    YES -Go to step 12.

    NO -Go to step 11.

11. Check for damage at the CKP sensor (see **CMP SENSOR B REPLACEMENT**) and the CKP sensor pulser plate (see **CKP PULSE PLATE REPLACEMENT**).

    Is the CKP sensor and/or the CKP sensor pulser plate damaged?

    YES -Replace the CKP sensor (see **CMP SENSOR B REPLACEMENT**) and/or the CKP sensor pulser plate (see **CKP PULSE PLATE REPLACEMENT**), then go to step 6.

    NO -Go to step 32.

12. Do the ETCS TEST in the INSPECTION MENU with the HDS.

    Is the THROTTLE ACTUATOR CONTROL VALVE normal?

    YES -Go to step 13.

    NO -Replace the throttle body (see **THROTTLE BODY REMOVAL/INSTALLATION**), then go to step 25.

13. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
14. Monitor the ENGINE SPEED in the DATA LIST with the HDS, and hold the engine speed at 2,500 rpm for at least 30 seconds.

15. While holding the engine speed at 2,500 rpm, check the MAF SENSOR in the DATA LIST with the HDS.

    Is there about 6.4-9.2 gm/s?

    YES -Go to step 16.

    NO -Replace the MAF sensor/IAT sensor (see **MAP SENSOR REPLACEMENT**), then go to step 25.

16. Turn the ignition switch OFF.
17. Drain the coolant (see **COOLANT CHECK**).
18. Remove ECT sensor 1 (see **ECT SENSOR 1 REPLACEMENT**), and ECT sensor 2 (see **ECT SENSOR 1 REPLACEMENT**).
19. Allow the sensors to cool to ambient temperature.
20. Note the ambient temperature.
21. Connect ECT sensor 1 to its 2P connector, and ECT sensor 2 to its 2P connector, but do not install them on the engine.
22. Turn the ignition switch ON (II).
23. Note the value of ECT SENSOR 1 and ECT SENSOR 2 quickly in the DATA LIST with the HDS.
24. Compare the value of ECT SENSOR 1 and the ambient temperature, and the value of ECT SENSOR 2 and the ambient temperature individually.

    Does either sensor differ more than 5.4°F (3°C) from the ambient temperature?

    YES -Replace the sensor that differed more than 5.4°F OX) from the ambient temperature, then go to step 25.

    NO -Check and repair any problems with the following items, then go to step 25.

    - Engine compression and cylinder leakdown
    - VTEC system
    - Engine oil
    - A/C system
    - Power steering

25. Turn the ignition switch ON (II).
26. Reset the ECM/PCM with the HDS.
27. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
28. Let the engine cool until the value of ECT SENSOR 1 is 122°F (50°C) or less.
29. Start the engine, and let it idle for 10 seconds or more.
30. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P050B indicated?

YES -Check for poor connections or loose terminals at the CKP sensor, the throttle body, the MAF sensor/IAT sensor, ECT sensor 1, ECT sensor 2, and the ECM/PCM, then go to step 1.

NO -Go to step 31.

31. Monitor the OBD STATUS for DTC P050B in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 29, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the CKP sensor, the throttle body, the MAF sensor/IAT sensor, ECT sensor 1, ECT sensor 2, and the ECM/PCM, then go to step 1. If the screen indicates EXECUTING, keep idling until a result comes on. If the screen indicates OUT OF CONDITION, go to step 28.

32. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
33. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
34. Let the engine cool until the value of ECT SENSOR 1 is 122°F (50°C) or less.
35. Start the engine, and let it idle for 10 seconds or more.
36. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P050B indicated?

    YES -Check for poor connections or loose terminals at the CKP sensor, the throttle body, the MAF/IAT sensor, ECT sensor 1, ECT sensor 2, and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (+see **SUBSTITUTING THE ECM/PCM**), then go to step 34. If the ECM/PCM was substituted, go to step 1.

    NO -Go to step 37.

37. Monitor the OBD STATUS for DTC P050B in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 36, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the CKP sensor, the throttle body, the MAF/IAT sensor, ECT sensor 1, ECT sensor 2, and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 34. If the ECM/PCM was substituted, go to step 1. If the screen indicates EXECUTING, keep idling until a result comes on. If the screen indicates OUT OF CONDITION, go to

step 34.

DTC P0562: CHARGING SYSTEM LOW VOLTAGE

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **If any high current load accessories are installed, this DTC can be set.**
- **If DTC P16BB and/or P16BC is stored at the same time as DTC P0562, troubleshoot DTC P16BB and/or P16BC first, then recheck for DTC P0562.**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine.
4. Check under these conditions:
   - A/C on
   - Temperature control at maximum cool
   - Blower fan at maximum speed
   - Rear window defogger on
   - Headlights on high beam
5. Hold the engine speed at 2,000 rpm (in Park or neutral) for 1 minute.
6. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P0562 indicated?

   YES -Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION**), then go to step 7.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the alternator and the under-hood fuse/relay box, and check the battery performance (see **BATTERY TEST**).

7. Turn the ignition switch ON (II).
8. Reset the ECM/PCM with the HDS.
9. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
10. Start the engine.
11. Check under these conditions:
    - A/Con
    - Temperature control at maximum cool
    - Blower fan at maximum speed
    - Rear window defogger on

- Headlights on high beam

12. Hold the engine speed at 2,000 rpm (in Park or neutral) for 1 minute.
13. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0562 indicated?

YES -Check for poor connections or loose terminals at the alternator and the under-hood fuse/relay box, then go to step 1.

NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0563: ECM/PCM POWER SOURCE CIRCUIT UNEXPECTED VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch OFF.
4. Wait 10 seconds.
5. Turn the ignition switch ON (II).
6. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0563 indicated?

YES -Go to step 7.

NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the No. 6 FI ECU (15 A) fuse in the under-hood fuse/relay box, PGM-FI main relay 1 (FI MAIN), and the ECM/PCM.

7. Turn the ignition switch OFF.
8. Jump the SCS line with the HDS.
9. Disconnect ECM/PCM connector E (31P).
10. Measure voltage between ECM/PCM connector terminal E7 and body ground.

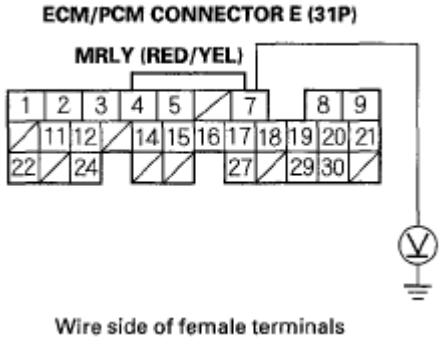

Fig. 80: Measuring Voltage Between ECM/PCM Connector Terminal E7 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 13.

NO -Go to step 11.

11. Remove the glove box (see **GLOVE BOX REMOVAL/INSTALLATION**), then remove PGM-FI main relay 1 (FI MAIN) (A).

Fig. 81: Identifying PGM-FI Main Relay 1 (FI MAIN)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

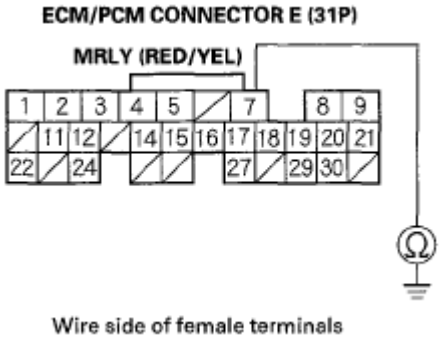

Fig. 82: Checking Continuity Between ECM/PCM Connector Terminal E7 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (E7) and PGM-FI main relay 1 (FI MAIN), then go to step 20.

NO -Go to step 19.

13. Reconnect ECM/PCM connector E (31P).
14. Measure voltage between ECM/PCM connector terminal E7 and body ground.

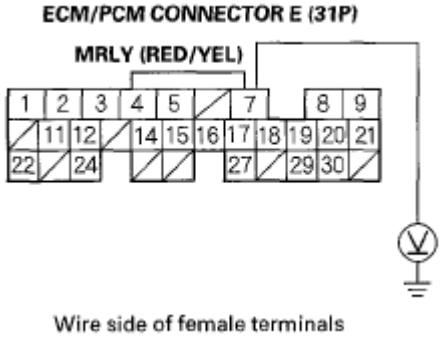

Fig. 83: Measuring Voltage Between ECM/PCM Connector Terminal E7 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 15.

NO -Go to step 27.

15. Disconnect ECM/PCM connector A (31P).
16. Measure voltage between body ground and ECM/PCM connector terminals A3 and A2 individually.

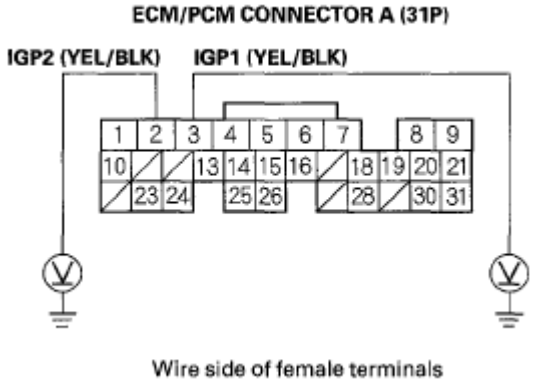

Fig. 84: Measuring Voltage Between Body Ground And ECM/PCM Connector Terminals A3 And A2
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 17.

NO -Go to step 27.

17. Remove the glove box (see **GLOVE BOX REMOVAL/INSTALLATION**), then remove PGM-FI main relay 1 (FI MAIN) (A).

Fig. 85: Identifying PGM-FI Main Relay 1 (FI MAIN)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

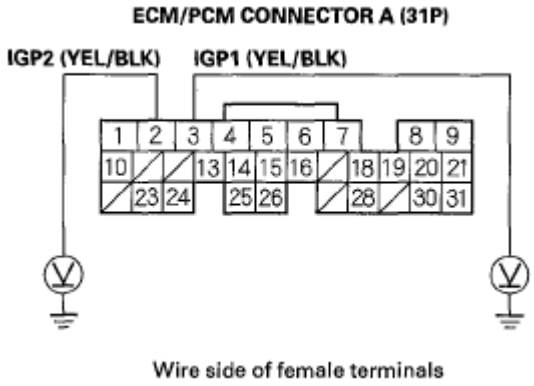

Fig. 86: Measuring Voltage Between Body Ground And ECM/PCM Connector Terminals A3 And A2
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Repair short to power in the wire between the ECM/PCM (A2, A3) and PGM-FI main relay 1 (FI MAIN), then go to step 20.

NO -Go to step 19.

19. Test PGM-FI main relay 1 (FI MAIN) (see **POWER RELAY TEST**).

    Is PGM-FI main relay 1 (FI MAIN) OK?

    YES -Go to step 27.

    NO -Replace PGM-FI main relay 1 (FI MAIN), then go to step 20.

20. Reconnect all connectors.
21. Turn the ignition switch ON (II).
22. Reset the ECM/PCM with the HDS.
23. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
24. Turn the ignition switch OFF.
25. Wait 10 seconds.
26. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0563 indicated?

    YES -Check for poor connections or loose terminals at PGM-FI main relay 1 (FI MAIN) and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

27. Reconnect all connectors.
28. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
29. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0563 indicated?

    YES -Check for poor connections or loose terminals at PGM-FI main relay 1 (FI MAIN) and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

    NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0602: ECM/PCM PROGRAMMING ERROR

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This DTC is indicated when the ECM/PCM update is not completed.**
- **Do not turn the ignition switch OFF while updating the ECM/PCM. If you turn the ignition switch OFF before completion, the ECM/PCM can be damaged.**

1. Do the ECM/PCM update procedure (see **UPDATING THE ECM/PCM**).
2. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P0602 indicated?

   YES -Replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**).

   NO -Updating is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0603: ECM/PCM INTERNAL CONTROL MODULE KEEP ALIVE MEMORY (KAM) ERROR

NOTE: **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**

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

Are any Temporary DTCs or DTCs indicated?

YES -Go to step 4.

NO -Intermittent failure, the system is OK at this time.

4. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
5. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0603 indicated?

YES -If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0606: ECM/PCM PROCESSOR MALFUNCTION

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch OFF.
4. Turn the ignition switch ON (II).
5. Wait 40 seconds.
6. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0606 indicated?

YES -Go to step 7.

NO -Intermittent failure, the system is OK at this time.

7. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
8. Turn the ignition switch OFF.
9. Turn the ignition switch ON (II).
10. Wait 40 seconds.
11. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0606 indicated?

YES -If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 8. If the ECM/PCM was substituted, go to step 1.

NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0630: VIN NOT PROGRAMMED OR MISMATCH

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This DTC is stored only when the ECM/PCM does not have the VIN information of the vehicle. Use the HDS to input the missing VIN information.**

1. Turn the ignition switch ON (II).
2. Check the VIN with the HDS.

   Does the HDS show the vehicle's VIN?

   YES -Go to step 5.

   NO -Go to step 3.

3. Input the VIN to the ECM/PCM with the HDS.

   Does the screen show COMPLETE?

   YES -Go to step 5.

   NO -Go to step 4.

4. Check for DTCs with the HDS.

   Is DTC P0603 indicated?

   YES -Go to the **DTC P0603** troubleshooting.

   NO -Go to step 9.

5. Clear the DTC with the HDS.
6. Turn the ignition switch OFF.

7. Turn the ignition switch ON (II), and wait 5 seconds.
8. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P0630 indicated?

   YES -Go to step 9.

   NO -Intermittent failure, the system is OK at this time. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

9. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
10. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0630 indicated?

    YES -If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

    NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0685: ECM/PCM POWER CONTROL CIRCUIT/INTERNAL CIRCUIT MALFUNCTION

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **If the problem doesn't return after you clear the DTC, or if this DTC is stored intermittently, check for loose terminals at the IGP line connectors before replacing the ECM/PCM.**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, then let it idle for 30 seconds.
4. Turn the ignition switch OFF.
5. Start the engine, then let it idle for 30 seconds.
6. Turn the ignition switch OFF.
7. Turn the ignition switch ON (II).
8. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P0685 indicated?

YES -Go to step 9.

NO -Intermittent failure, the system is OK at this time.

9. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
10. Start the engine, then let it idle for 30 seconds.
11. Turn the ignition switch OFF.
12. Start the engine, then let it idle for 30 seconds.
13. Turn the ignition switch OFF.
14. Turn the ignition switch ON (II).
15. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0685 indicated?

YES -If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 10. If the ECM/PCM was substituted, go to step 1.

NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P0720: OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR CIRCUIT MALFUNCTION

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Start the engine. Hold the engine speed at 3,000 rpm without load (in neutral) until the radiator fan comes on, then let it idle.
2. Test-drive several miles.
3. Check the C SHAFT SPD in the DATA LIST with the HDS.

Is any vehicle speed indicated?

YES -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the output shaft (countershaft) speed sensor and the ECM.

NO -Go to step 4.

4. Turn the ignition switch OFF.
5. Disconnect the output shaft (countershaft) speed sensor 3P connector.
6. Turn the ignition switch ON (II).
7. Measure voltage between output shaft (countershaft) speed sensor 3P connector terminal No. 1 and body

ground.

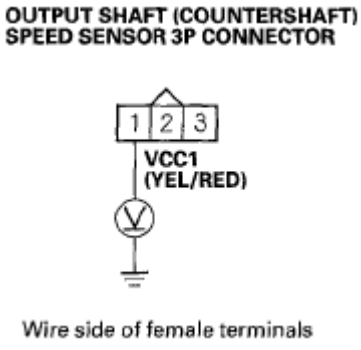

Fig. 87: Measuring Voltage Between Output Shaft Speed Sensor 3P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 8.

NO -Repair open in the wire between the ECM (A21) and the output shaft (countershaft) speed sensor, then go to step 17.

8. Measure voltage between output shaft (countershaft) speed sensor 3P connector terminal No. 2 and body ground.

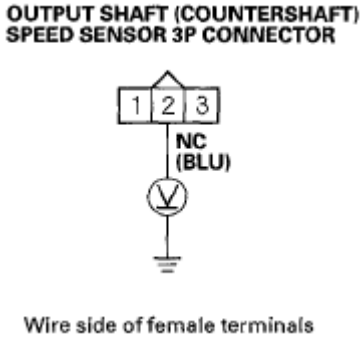

Fig. 88: Measuring Voltage Between Output Shaft Speed Sensor 3P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 9.

NO -Go to step 10.

9. Measure voltage between output shaft (countershaft) speed sensor 3P connector terminals No. 1 and No. 3.

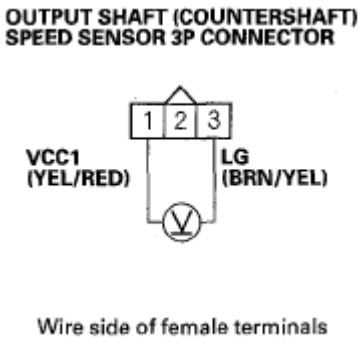

Fig. 89: Measuring Voltage Between Output Shaft (Countershaft) Speed Sensor 3P Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 15.

NO -Repair open in the wire between the output shaft (countershaft) speed sensor and G101, then go to step 17.

10. Measure voltage between ECM connector terminal A18 and body ground.

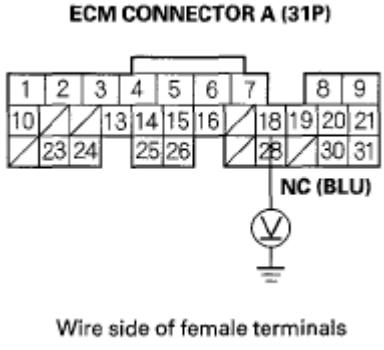

Fig. 90: Measuring Voltage Between ECM Connector Terminal A18 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Repair open in the wire between the ECM (A18) and the output shaft (countershaft) speed sensor, then go to step 17.

NO -Go to step 11.

11. Turn the ignition switch OFF.
12. Jump the SCS line with the HDS.
13. Disconnect ECM connector A (31P).
14. Check for continuity between ECM connector terminal A18 and body ground.

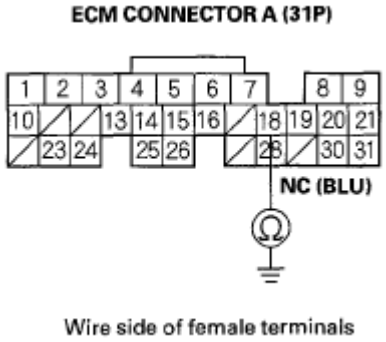

Fig. 91: Checking Continuity Between ECM Connector Terminal A18 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM (A18) and the output shaft (countershaft) speed sensor, then go to step 17.

NO -Go to step 24.

15. Turn the ignition switch OFF.
16. Replace the output shaft (countershaft) speed sensor (see **OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR REPLACEMENT**).
17. Reconnect all connectors.
18. Turn the ignition switch ON (II).
19. Reset the ECM with the HDS.
20. Do the ECM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
21. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
    - Transmission in 5th gear
    - Engine speed between 2,000-3,000 rpm
    - Drive for several minutes, then decelerate (with the throttle fully closed) for 8 seconds
22. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0720 indicated?

YES -Check for poor connections or loose terminals at the output shaft (countershaft) speed sensor and the ECM, then go to step 1.

NO -Go to step 23.

23. Monitor the OBD STATUS for DTC P0720 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 22, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the output shaft (countershaft) speed sensor and the ECM, then go to step 1. If the screen indicates NOT COMPLETED, go to step 21.

24. Reconnect all connectors.
25. Update the ECM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM (see **SUBSTITUTING THE ECM/PCM**).
26. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
    - Transmission in 5th gear
    - Engine speed between 2,000-3,000 rpm
    - Drive for several minutes, then decelerate (with the throttle fully closed) for 8 seconds
27. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P0720 indicated?

    YES -Check for poor connections or loose terminals at the output shaft (countershaft) speed sensor and the ECM. If the ECM was updated, substitute a known-good ECM (see **SUBSTITUTING THE ECM/PCM**), then go to step 26. If the ECM was substituted, go to step 1.

    NO -Go to step 28.

28. Monitor the OBD STATUS for DTC P0720 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -If the ECM was updated, troubleshooting is complete. If the ECM was substituted, replace the original ECM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 27, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the output shaft (countershaft) speed sensor and the ECM. If the ECM was updated, substitute a known-good ECM (see **SUBSTITUTING THE ECM/PCM**), then go to step 26. If the ECM was substituted, go to step 1. If the screen indicates NOT COMPLETED, go to step 26.

DTC P1109: BARO SENSOR CIRCUIT OUT OF RANGE HIGH

NOTE: **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Reset the ECM/PCM with the HDS.
2. Start the engine.
3. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P1109 indicated?

   YES -Go to step 4.

   NO -Intermittent failure, the system is OK at this time. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

4. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
5. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P1109 indicated?

   YES -If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

   NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P1116: ECT SENSOR 1 CIRCUIT RANGE/PERFORMANCE PROBLEM

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **If DTC P0111 is stored at the same time as DTC P1116, troubleshoot DTC P0111 first, then recheck for DTC P1116.**

1. Check for poor connections or loose terminals at ECT sensor 1 and ECT sensor 2.

   Are the connections and terminals OK?

   YES -Go to step 2.

   NO -Repair the connectors or terminals, then go to step 27.

2. Turn the ignition switch ON (II).

3. Check for Temporary DTCs or DTCs with the HDS.

   Are DTC P1116 and P2183 indicated at the same time?

   YES -Go to step 15.

   NO -Go to step 4.

4. Start the engine, and let it idle 10 minutes.
5. Check ECT SENSOR 1 in the DATA LIST with the HDS.

   Is about 115°F (46°C) or less indicated?

   YES -Replace ECT sensor 1 (see **ECT SENSOR 1 REPLACEMENT**), then go to step 27.

   NO -Go to step 6.

6. Turn the ignition switch OFF.
7. Drain the coolant (see **COOLANT CHECK**).
8. Remove ECT sensor 1 (see **ECT SENSOR 1 REPLACEMENT**).
9. Allow ECT sensor 1 to cool to ambient temperature.
10. Note the ambient temperature.
11. Connect ECT sensor 1 to its 2P connector, but do not install the sensor on the engine.
12. Turn the ignition switch ON (II).
13. Note the value of ECT SENSOR 1 quickly in the DATA LIST with the HDS.
14. Compare the value of ECT SENSOR 1 and the ambient temperature.

    Does the value of ECT SENSOR 1 differ 5.4°F (3°C) or more?

    YES -Replace ECT sensor 1 (see **ECT SENSOR 1 REPLACEMENT**), then go to step 27.

    NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at ECT sensor 1, ECT sensor 2, and the ECM/PCM.

15. Start the engine, and let it idle 10 minutes.
16. Check ECT SENSOR 1 in the DATA LIST with the HDS.

    Is about 115°F (46°C) or less indicated?

    YES -Replace ECT sensor 1 (see **ECT SENSOR 1 REPLACEMENT**), then go to step 27.

    NO -Go to step 17.

17. Let the engine idle 10 minutes.

18. Check ECT SENSOR 2 in the DATA LIST with the HDS.

    Is about 115°F (46°C) or less indicated?

    YES -Replace ECT sensor 2 (see **ECT SENSOR 1 REPLACEMENT**), then go to step 27.

    NO -Go to step 19.

19. Turn the ignition switch OFF.
20. Drain the coolant (see **COOLANT CHECK**).
21. Remove ECT sensor 1 (see **ECT SENSOR 1 REPLACEMENT**) and ECT sensor 2 (see **ECT SENSOR 1 REPLACEMENT**).
22. Allow the sensors to cool to ambient temperature.
23. Note the ambient temperature.
24. Connect ECT sensor 1 to the 2P connector, and ECT sensor 2 to its 2P connector, but do not install them on the engine.
25. Note the value of ECT SENSOR 1 and ECT SENSOR 2 quickly in the DATA LIST with the HDS.
26. Compare the value of ECT SENSOR 1 and the ambient temperature, and the value of ECT SENSOR 2 and the ambient temperature individually.

    Does one of the sensors differ more than 5.4°F (3°C) from the ambient temperature?

    YES -Replace the sensor that differed more than 5.4°F (3°C) from the ambient temperature, then go to step 27.

    NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at ECT sensor 1, ECT sensor 2, and the ECM/PCM.

27. Turn the ignition switch ON (II).
28. Reset the ECM/PCM with the HDS.
29. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
30. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P1116 indicated?

    YES -Check for poor connections or loose terminals at ECT sensor 1, ECT sensor 2, and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P1128: MAP SENSOR SIGNAL LOWER THAN EXPECTED

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **Before you troubleshoot, check for poor connections or blockage at the intake air duct.**

1. Turn the ignition switch ON (II).
2. Check the MAP SENSOR in the DATA LIST with the HDS.

   Is less than 54.1 kPa (16.0 in.Hg, 406 mmHg) or 1.61 V held for more than 5 seconds?

   YES -Go to step 7.

   NO -Go to step 3.

3. Clear the DTC with the HDS.
4. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
5. Test-drive under these conditions:
   - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
   - Engine speed between 1,400-5,400 rpm
   - A/T in D position (M/T in 3rd gear)
   - Vehicle speed accelerated from 16-31 mph (25-50 km/h) under half throttle
6. Monitor the OBD STATUS for DTC P1128 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 7.

   NO -If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the MAP sensor and the ECM/PCM. If the screen indicates NOT COMPLETED, go to step 4 and recheck.

7. Turn the ignition switch OFF.
8. Replace the MAP sensor (see **MAP SENSOR REPLACEMENT**).
9. Turn the ignition switch ON (II).
10. Reset the ECM/PCM with the HDS.
11. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
12. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
13. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)

- Engine speed between 1,400-5,400 rpm
- A/T in D position (M/T in 3rd gear)
- Vehicle speed accelerated from 16-31 mph (25-50 km/h) under half throttle

14. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P1128 indicated?

    YES -Check for poor connections or loose terminals at the MAP sensor and the ECM/PCM, then go to step 1.

    NO -Go to step 15.

15. Monitor the OBD STATUS for DTC P1128 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 14, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the MAP sensor and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, go to step 12.

DTC P1129: MAP SENSOR SIGNAL HIGHER THAN EXPECTED

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Check for vacuum leaks in these parts:
    - PCV valve
    - PCV hose
    - EVAP canister purge valve
    - Throttle body
    - Intake manifold
    - Brake booster
    - Brake booster hose

    Are there any vacuum leaks?

    YES -Repair or replace parts with vacuum leaks, then go to step 9.

    NO -Go to step 2.

2. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator

fan comes on, then let it idle.

3. Check the MAP SENSOR in the DATA LIST with the HDS.

   Is more than 36.9 kPa (11.0 in.Hg, 277 mmHg) or 1.1 V held for more than for 5 seconds?

   YES -Go to step 7.

   NO -Go to step 4.

4. Clear the DTC with the HDS.
5. Test-drive under these conditions:
   - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
   - A/T in D position (M/T in 5th gear)
   - Drive at a steady speed between 55-75 mph (88-120 km/h) for 10 seconds
   - During the drive, decelerate (with the throttle fully closed) for 2 seconds
6. Monitor the OBD STATUS for DTC P1129 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 7.

   NO -If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the MAP sensor and the ECM/PCM. If the screen indicates NOT COMPLETED, go to step 5 and recheck.

7. Turn the ignition switch OFF.
8. Replace the MAP sensor (see **MAP SENSOR REPLACEMENT**).
9. Turn the ignition switch ON (II).
10. Reset the ECM/PCM with the HDS.
11. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
12. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
13. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
    - A/T in D position (M/T in 5th gear)
    - Drive at a steady speed between 55-75 mph (88-120 km/h) for 10 seconds
    - During the drive, decelerate (with the throttle fully closed) for 2 seconds
14. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P1129 indicated?

    YES -Check for poor connections or loose terminals at the MAP sensor and the ECM/PCM, then go to

step 1.

NO -Go to step 15.

15. Monitor the OBD STATUS for DTC P1129 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 14, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the MAP sensor and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, go to step 12.

DTC P1157: A/F SENSOR (SENSOR 1) AFS CIRCUIT HIGH VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

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

   Is DTC P1157 indicated?

   YES -Go to step 5.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM.

5. Turn the ignition switch OFF.
6. Jump the SCS line with the HDS.
7. Disconnect the A/F sensor (Sensor 1) 4P connector.
8. Disconnect ECM/PCM connector A (31P).
9. Connect A/F sensor (Sensor 1) 4P connector terminal No. 1 to body ground with a jumper wire.

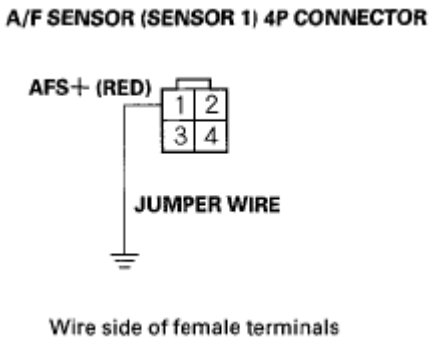

Fig. 92: Connecting A/F Sensor (Sensor 1) 4P Connector Terminal No. 1 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Check for continuity between ECM/PCM connector terminal A31 and body ground.

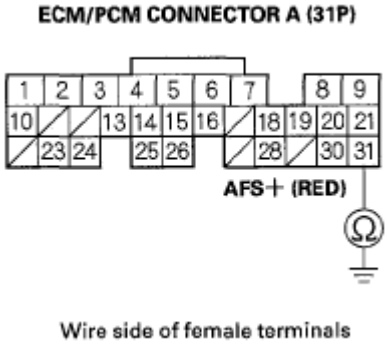

Fig. 93: Checking Continuity Between ECM/PCM Connector Terminal A31 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 11.

NO -Repair open in the wire between the ECM/PCM (A31) and the A/F sensor (Sensor 1), then go to step 15.

11. Remove the jumper wire from the A/F sensor (Sensor 1) 4P connector.
12. Connect A/F sensor (Sensor 1) 4P connector terminal No. 2 to body ground with a jumper wire.

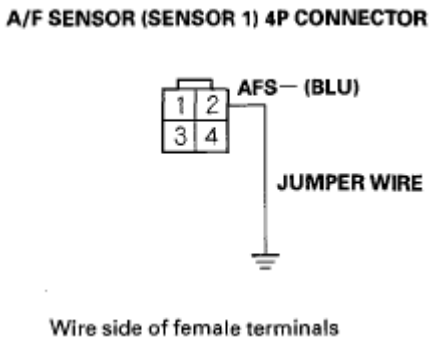

Fig. 94: Connecting A/F Sensor (Sensor 1) 4P Connector Terminal No. 2 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Check for continuity between ECM/PCM connector terminal A28 and body ground.

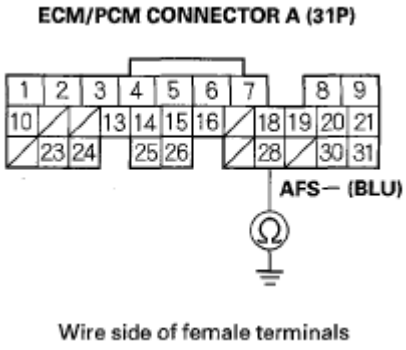

Fig. 95: Checking Continuity Between ECM/PCM Connector Terminal A28 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 14.

NO -Repair open in the wire between the ECM/PCM (A28) and the A/F sensor (Sensor 1), then go to step 15.

14. Replace the A/F sensor (Sensor 1) (see **A/F SENSOR REPLACEMENT**).
15. Reconnect all connectors.
16. Turn the ignition switch ON (II).
17. Reset the ECM/PCM with the HDS.
18. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
19. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P1157 indicated?

YES -Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM, then go to step 1. If the connector and terminal fits are OK, go to step 21.

NO -Go to step 20.

20. Monitor the OBD STATUS for DTC P1157 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 19, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

21. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
22. Start the engine, and let it idle.
23. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P1157 indicated?

    YES -If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 22. If the ECM/PCM was substituted, go to step 1.

    NO -Go to step 24.

24. Monitor the OBD STATUS for DTC P1157 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 23, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, go to step 1. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 22. If the ECM/PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

DTC P1172: A/F SENSOR (SENSOR 1) CIRCUIT OUT OF RANGE HIGH

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
4. Monitor the OBD STATUS for DTC P1172 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 5.

   NO -If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM. If the screen indicates EXECUTING, keep idling until a result comes on. If the screen indicates OUT OF CONDITION, go to step 3 and recheck.

5. Turn the ignition switch OFF.
6. Replace the A/F sensor (Sensor 1) (see **A/F SENSOR REPLACEMENT**).
7. Turn the ignition switch ON (II).
8. Reset the ECM/PCM with the HDS.
9. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
10. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
11. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P1172 indicated?

    YES -Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM, then go to step 1.

    NO -Go to step 12.

12. Monitor the OBD STATUS for DTC P1172 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 11, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM, then go to step 1. If the screen indicates EXECUTING, keep idling until a result comes on. If the screen indicates OUT OF CONDITION, go to step 10.

DTC P1297: ELD CIRCUIT LOW VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Check the ELD in the DATA LIST with the HDS.

   Is 72 A or more indicated?

   YES -Go to step 3.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the ELD and the ECM/PCM.

3. Turn the ignition switch OFF.
4. Disconnect the ELD 3P connector.
5. Turn the ignition switch ON (II).
6. Check the ELD in the DATA LIST with the HDS.

   Is 72 A or more indicated?

   YES -Go to step 7.

   NO -Go to step 11.

7. Turn the ignition switch OFF.
8. Jump the SCS line with the HDS.
9. Disconnect ECM/PCM connector E (31P).
10. Check for continuity between ECM/PCM connector terminal E15 and body ground.

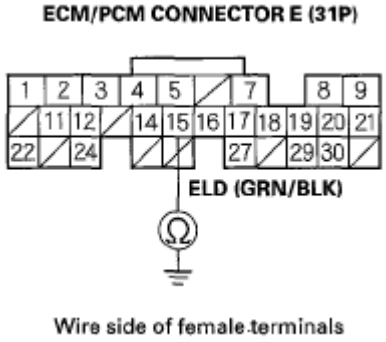

Fig. 96: Checking Continuity Between ECM/PCM Connector Terminal E15 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (E15) and the ELD, then go to step 13.

NO -Go to step 20.

11. Turn the ignition switch OFF.
12. Replace the ELD (see **ELD REPLACEMENT**).
13. Reconnect all connectors.
14. Turn the ignition switch ON (II).
15. Reset the ECM/PCM with the HDS.
16. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
17. Start the engine.
18. Turn on the headlights.
19. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P1297 indicated?

    YES -Check for poor connections or loose terminals at the ELD and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

20. Reconnect all connectors.
21. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
22. Start the engine.
23. Turn on the headlights.
24. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P1297 indicated?

    YES -Check for poor connections or loose terminals at the ELD and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 22. If the ECM/PCM was substituted, go to step 1.

    NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P1298: ELD CIRCUIT HIGH VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Start the engine, and let it idle.
2. Check the ELD in the DATA LIST with the HDS.

   Is 0.2 A or less indicated ?

   YES -Go to step 3.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the ELD and the ECM/PCM.

3. Turn the ignition switch OFF.
4. Disconnect the ELD 3P connector.
5. Turn the ignition switch ON (II).
6. Measure voltage between ELD 3P connector terminal No. 1 and body ground.

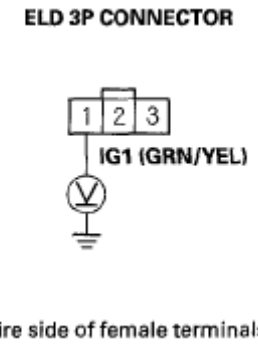

Fig. 97: Measuring Voltage Between ELD 3P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 7.

NO -Check the No. 4 ACG (10 A) fuse in the under-dash fuse/relay box. If the fuse is OK, repair open in the wire between the No. 4 ACG (10 A) fuse and the ELD, then go to step 14.

7. Turn the ignition switch OFF.
8. Connect ELD 3P connector terminal No. 3 to body ground with a jumper wire.

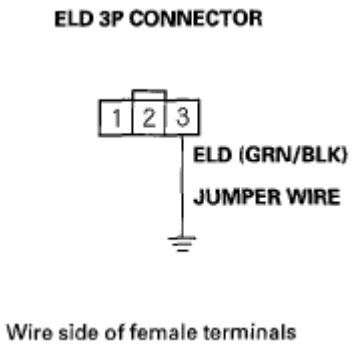

Fig. 98: Connecting ELD 3P Connector Terminal No. 3 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Jump the SCS line with the HDS.
10. Disconnect ECM/PCM connector E (31P).
11. Check for continuity between ECM/PCM connector terminal E15 and body ground.

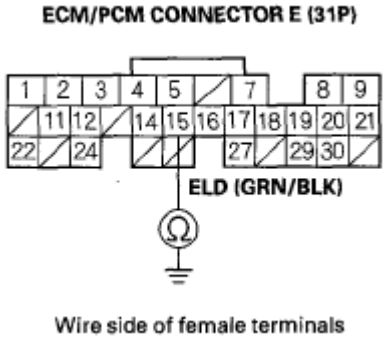

Fig. 99: Checking Continuity Between ECM/PCM Connector Terminal E15 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 12.

NO -Repair open in the wire between the ECM/PCM (E15) and the ELD, then go to step 14.

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

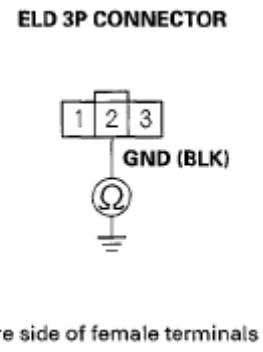

Fig. 100: Checking Continuity Between ELD 3P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 13.

NO -Repair open in the wire between the ELD and G301, then go to step 14.

13. Replace the ELD (see **ELD REPLACEMENT**).
14. Reconnect all connectors.
15. Turn the ignition switch ON (II).
16. Reset the ECM/PCM with the HDS.
17. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
18. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P1298 indicated?

    YES -Go to step 19.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

19. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
20. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P1298 indicated?

    YES -Check for poor connections or loose terminals at the ELD and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

    NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or

DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P1549: CHARGING SYSTEM HIGH VOLTAGE

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **If a high voltage battery (24 V, etc.) is connected to the vehicle, this DTC can be stored.**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine.
4. Check under these conditions:
   - A/C off
   - Headlights off
   - Rear window defogger off
5. Hold the engine speed at 2,000 rpm (in Park or neutral) for 1 minute.
6. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P1549 indicated?

   YES -Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION**), then go to step 7.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the alternator and the under-hood fuse/relay box.

7. Turn the ignition switch ON (II).
8. Reset the ECM/PCM with the HDS.
9. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
10. Start the engine.
11. Check under these conditions:
    - A/C off
    - Headlights off
    - Rear window defogger off
12. Hold the engine speed at 2,000 rpm (in Park or neutral) for 1 minute.
13. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P1549 indicated?

    YES -Check for poor connections or loose terminals at the alternator and the under-hood fuse/relay box

then go to step 1.

NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P16BB: ALTERNATOR B TERMINAL CIRCUIT LOW VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with HDS.
3. Start the engine.
4. Check under these conditions:
   - A/C on
   - Temperature control at maximum cool
   - Blower fan at maximum speed
   - Rear window defogger on
   - Headlights on high beam
5. Hold the engine speed at 2,000 rpm (in Park or neutral) for 1 minute.
6. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P16BB indicated?

   YES -Go to step 7.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the alternator and the under-hood fuse/relay box, and check the battery performance (see **BATTERY TEST**).

7. Check for poor connections or loose terminals at the alternator and the under-hood fuse/relay box (+B line).

   Are the connections and terminals OK?

   YES -Go to step 8.

   NO -Repair the connectors or terminals, then go to step 9.

8. Check for an open in the wire (+B line) between the alternator and under-hood fuse/relay box.

   Is the harness OK?

YES -Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION**), then go to step 9.

NO -Repair open in the wire between the alternator and the under-hood fuse/relay box, then go to step 9.

9. Turn the ignition switch ON (II).
10. Reset the ECM/PCM with the HDS.
11. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
12. Start the engine.
13. Check under these conditions:
    - A/C on
    - Temperature control at maximum cool
    - Blower fan at maximum speed
    - Rear window defogger on
    - Headlights on high beam
14. Hold the engine speed at 2,000 rpm (in Park or neutral) for 1 minute.
15. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P16BB indicated?

YES -Check for poor connections or loose terminals at the alternator and the under-hood fuse/relay box, then go to step 1.

NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P16BC: ALTERNATOR FR TERMINAL CIRCUIT/IGP CIRCUIT LOW VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Check for poor connections or loose terminals at the alternator 4P connector.

Are the connections and terminals OK?

YES -Go to step 2.

NO -Repair the connections or terminals, then go to step 20.

2. Check the alternator mounting surfaces for corrosion.

Are the mounting surfaces corroded?

YES -Remove the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION**). Clean all mounting surfaces, then reinstall the alternator and go to step 20.

NO -Go to step 3.

3. Turn the ignition switch ON (II).
4. Clear the DTC with the HDS.
5. Start the engine.
6. Check under these conditions:
   - A/C on
   - Temperature control at maximum cool
   - Blower fan at maximum speed
   - Rear window defogger on
   - Headlights on high beam
7. Hold the engine speed at 2,000 rpm (in Park or neutral) for 1 minute.
8. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P16BC indicated?

YES -Go to step 9.

NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the alternator.

9. Turn the ignition switch OFF.
10. Disconnect the alternator 4P connector.
11. Turn the ignition switch ON (II).
12. Measure voltage between alternator 4P connector terminal No. 1 and body ground.

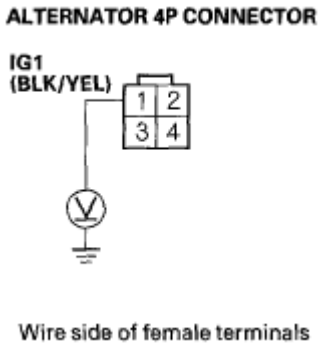

Fig. 101: Measuring Voltage Between Alternator 4P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 13.

NO -Repair open in the wire between the alternator (IG1 line) and the No. 4 ACG (10 A) fuse in the under-dash fuse/relay box, then go to step 19.

13. Measure voltage between alternator 4P connector terminal No. 4 and body ground.

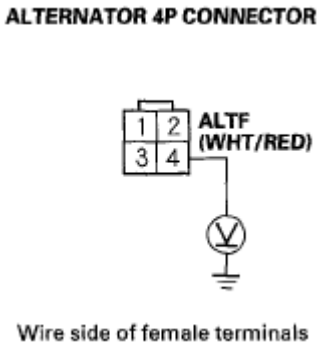

Fig. 102: Measuring Voltage Between Alternator 4P Connector Terminal No. 4 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION**), then go to step 19.

NO -Go to step 14.

14. Turn the ignition switch OFF.
15. Jump the SCS line with the HDS.
16. Disconnect ECM/PCM connector B (24P).
17. Connect alternator 4P connector terminal No. 4 to body ground with a jumper wire.

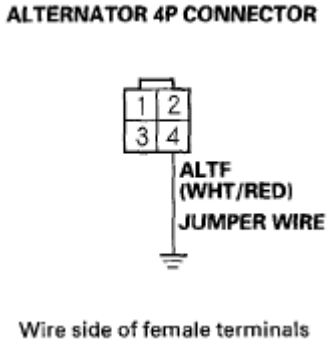

Fig. 103: Connecting Alternator 4P Connector Terminal No. 4 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

18. Check for continuity between ECM/PCM connector terminal B13 and body ground.

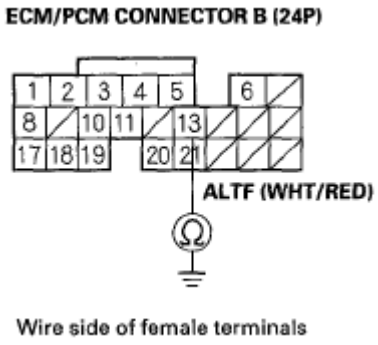

Fig. 104: Checking Continuity Between ECM/PCM Connector Terminal B13 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 28.

NO -Repair open in the wire between the ECM/PCM (B13) and the alternator, then go to step 20.

19. Turn the ignition switch OFF.
20. Reconnect all connectors.
21. Turn the ignition switch ON (II).
22. Reset the ECM/PCM with the HDS.
23. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
24. Start the engine.
25. Check under these conditions:
    - A/C on
    - Temperature control at maximum cool
    - Blower fan at maximum speed
    - Rear window defogger on
    - Headlights on high beam
26. Hold the engine speed at 2,000 rpm (in Park or neutral) for 1 minute.
27. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P16BC indicated?

YES -Check for poor connections or loose terminals at the alternator and the ECM/PCM, then go to step 1.

NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

28. Reconnect all connectors.
29. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
30. Start the engine.
31. Check under these conditions:
    - A/C on
    - Temperature control at maximum cool
    - Blower fan at maximum speed
    - Rear window defogger on
    - Headlights on high beam
32. Hold the engine speed at 2,000 rpm (in Park or neutral) for 1 minute.
33. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P16BC indicated?

    YES -Check for poor connections or loose terminals at the alternator and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 31. If the ECM/PCM was substituted, go to step 1.

    NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P2183: ECT SENSOR 2 CIRCUIT RANGE/PERFORMANCE PROBLEM

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **If DTC P0111 is stored at the same time as DTC P2183, troubleshoot DTC P0111 first, then recheck for DTC P2183.**

1. Check for poor connections or loose terminals at ECT sensor 1 and ECT sensor 2.

   Are the connections and terminals OK?

   YES -Go to step 2.

   NO -Repair the connectors or terminals, then go to step 27.

2. Turn the ignition switch ON (II).
3. Check for Temporary DTCs or DTCs with the HDS.

   Are DTC P1116 and P2183 indicated at the same time?

YES -Go to step 15.

NO -Go to step 4.

4. Start the engine, and let it idle 10 minutes.
5. Check ECT SENSOR 2 in the DATA LIST with the HDS.

Is about 147°F (64°C) or less indicated?

YES -Replace ECT sensor 2 (see **ECT SENSOR 1 REPLACEMENT**), then go to step 27.

NO -Go to step 6.

6. Turn the ignition switch OFF.
7. Drain the coolant (see **COOLANT CHECK**).
8. Remove ECT sensor 2 (see **ECT SENSOR 1 REPLACEMENT**).
9. Allow ECT sensor 2 to cool to ambient temperature.
10. Note the ambient temperature.
11. Connect ECT sensor 2 to its 2P connector, but do not install it on the engine.
12. Turn the ignition switch ON (II).
13. Note the value of ECT SENSOR 2 quickly in the DATA LIST with the HDS.
14. Compare the value of ECT SENSOR 2 and the ambient temperature.

Does ECT SENSOR 2 differ 5.4°F (3°C) or more?

YES -Replace ECT sensor 2 (see **ECT SENSOR 1 REPLACEMENT**), then go to step 27.

NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at ECT sensor 1, ECT sensor 2, and the ECM/PCM.

15. Start the engine, and let it idle 10 minutes.
16. Check ECT SENSOR 1 in the DATA LIST with the HDS.

Is about 115°F (46°C) or less indicated?

YES -Replace ECT sensor 1 (see **ECT SENSOR 1 REPLACEMENT**), then go to step 27.

NO -Go to step 17.

17. Let the engine idle 10 minutes.
18. Check ECT SENSOR 2 in the DATA LIST with the HDS.

Is about 147°F (64°C) or less indicated?

YES -Replace ECT sensor 2 (see **ECT SENSOR 1 REPLACEMENT**), then go to step 27.

NO -Go to step 19.

19. Turn the ignition switch OFF.
20. Drain the coolant (see **COOLANT CHECK**).
21. Remove ECT sensor 1 (see **ECT SENSOR 1 REPLACEMENT**) and ECT sensor 2 (see **ECT SENSOR 1 REPLACEMENT**).
22. Allow the sensors to cool to ambient temperature.
23. Note the ambient temperature.
24. Connect ECT sensor 1 to its 2P connector, and ECT sensor 2 to its 2P connector, but do not install them on the engine.
25. Note the value of ECT SENSOR 1 and ECT SENSOR 2 quickly in the DATA LIST with the HDS.
26. Compare the value of ECT SENSOR 1 and the ambient temperature, and the value of ECT SENSOR 2 and the ambient temperature individually.

    Does one of the sensors differ more than 5.4°F (3°C) from the ambient temperature?

    YES -Replace the sensor that differed more than 5.4°F (3°C) from the ambient temperature, then go to step 27.

    NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at ECT sensor 1, ECT sensor 2, and the ECM/PCM.

27. Turn the ignition switch ON (II).
28. Reset the ECM/PCM with the HDS.
29. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
30. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P2183 indicated?

    YES -Check for poor connections or loose terminals at ECT sensor 1, ECT sensor 2, and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P2184: ECT SENSOR 2 CIRCUIT LOW VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).

2. Check ECT SENSOR 2 in the DATA LIST with the HDS.

   Is about 356°F (180°C) or more, or 0.08 V or less indicated?

   YES -Go to step 3.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at ECT sensor 2 and the ECM/PCM.

3. Turn the ignition switch OFF.
4. Disconnect the ECT sensor 2 2P connector.
5. Turn the ignition switch ON (II).
6. Check ECT SENSOR 2 in the DATA LIST with the HDS.

   Is about 356°F (180°C) or more, or 0.08 V or less indicated?

   YES -Go to step 7.

   NO -Go to step 11.

7. Turn the ignition switch OFF.
8. Jump the SCS line with the HDS.
9. Disconnect ECM/PCM connector E (31P).
10. Check for continuity between ECT sensor 2 2P connector terminal No. 1 and body ground.

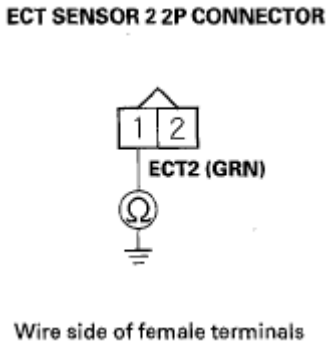

Fig. 105: Checking Continuity Between ECT Sensor 2 2P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between ECT sensor 2 and the ECM/PCM (E1), then go to step 13.

NO -Go to step 18.

11. Turn the ignition switch OFF.
12. Replace ECT sensor 2 (see **ECT SENSOR 1 REPLACEMENT**).
13. Reconnect all connectors.
14. Turn the ignition switch ON (II).
15. Reset the ECM/PCM with the HDS.
16. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
17. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P2184 indicated?

    YES -Check for poor connections or loose terminals at ECT sensor 2 and the ECM/PCM, then go to step 1.

    NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

18. Reconnect all connectors.
19. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
20. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P2184 indicated?

    YES -Check for poor connections or loose terminals at ECT sensor 2 and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

    NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P2185: ECT SENSOR 2 CIRCUIT HIGH VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Check ECT SENSOR 2 in the DATA LIST with the HDS.

   Is about -40°F (-40°C) or less, or 4.92 V or more indicated?

   YES -Go to step 3.

NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at ECT sensor 2 and the ECM/PCM.

3. Turn the ignition switch OFF.
4. Disconnect the ECT sensor 2 2P connector.
5. Connect ECT sensor 2 2P connector terminals No. 1 and No. 2 with a jumper wire.

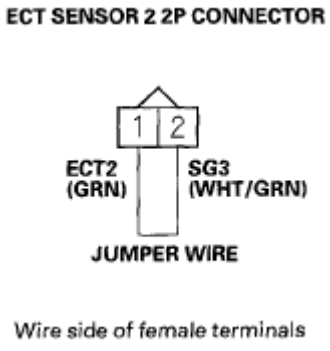

Fig. 106: Connecting ECT Sensor 2 2P Connector Terminals No. 1 And No. 2 With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Turn the ignition switch ON (II).
7. Check ECT SENSOR 2 in the DATA LIST with the HDS.

Is about -40°F (-40°C) or less, or 4.92 V or more indicated?

YES -Go to step 8.

NO -Go to step 18.

8. Turn the ignition switch OFF.
9. Remove the jumper wire from the ECT sensor 2 2P connector.
10. Turn the ignition switch ON (II).
11. Measure voltage between ECT sensor 2 2P connector terminal No. 1 and body ground.

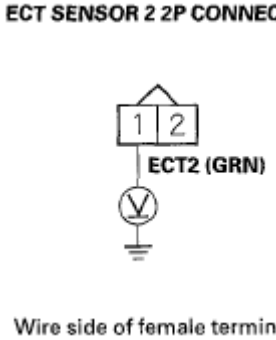

Fig. 107: Measuring Voltage Between ECT Sensor 2 2P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 12.

NO -Go to step 17.

12. Turn the ignition switch OFF.
13. Jump the SCS line with the HDS.
14. Disconnect ECM/PCM connector E (31P).
15. Connect ECT sensor 2 2P connector terminal No. 2 to body ground with a jumper wire.

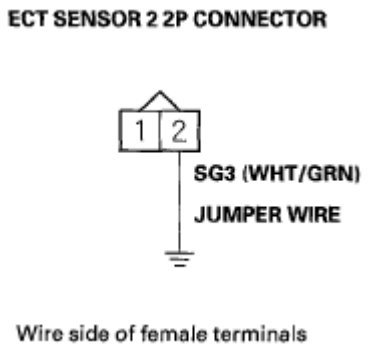

Fig. 108: Connecting ECT Sensor 2 2P Connector Terminal No. 2 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Check for continuity between ECM/PCM connector terminal E4 and body ground.

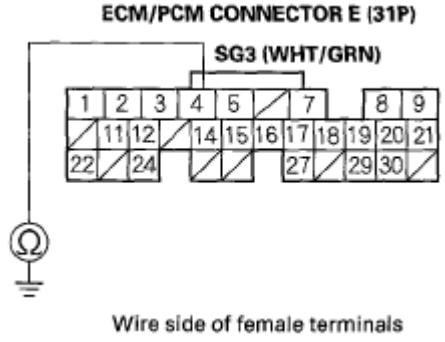

Fig. 109: Checking Continuity Between ECM/PCM Connector Terminal E4 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 26.

NO -Repair open in the wire between the ECM/PCM (E4) and ECT sensor 2, then go to step 20.

17. Measure voltage between ECM/PCM connector terminal E1 and body ground.

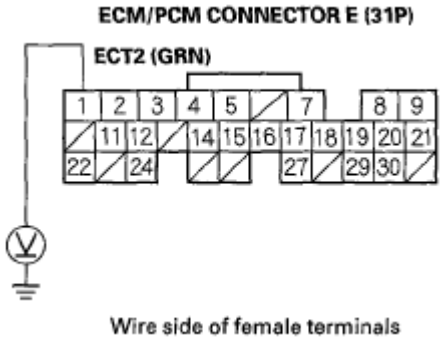

Fig. 110: Measuring Voltage Between ECM/PCM Connector Terminal E1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Repair open in the wire between the ECM/PCM (E1) and ECT sensor 2, then go to step 20.

NO -Go to step 25.

18. Turn the ignition switch OFF.
19. Replace ECT sensor 2 (see **ECT SENSOR 1 REPLACEMENT**).
20. Reconnect all connectors.
21. Turn the ignition switch ON (II).
22. Reset the ECM/PCM with the HDS.
23. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
24. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P2185 indicated?

YES -Check for poor connections or loose terminals at ECT sensor 2 and the ECM/PCM, then go to step 1.

NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

25. Turn the ignition switch OFF.
26. Reconnect all connectors.
27. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or

substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).

28. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P2185 indicated?

    YES -Check for poor connections or loose terminals at ECT sensor 2 and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

    NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P2195: A/F SENSOR (SENSOR 1) SIGNAL STUCK LEAN

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **If the vehicle was out of fuel and the engine stalled before this DTC was stored, refuel, then clear the DTC with the HDS.**
- **If DTC P2101, P2118, P2135, P2138, P2176, or a combination of P2122 and P2127, P2122, and P2138, or P2127 and P2138 is stored at the same time, troubleshoot them first, then recheck for DTC P2195.**

1. Check the installation of the A/F sensor (Sensor 1).

   Is the A/F sensor loose or disconnected from the exhaust pipe?

   YES -Go to step 6.

   NO -Go to step 2.

2. Turn the ignition switch ON (II).
3. Clear the DTC with the HDS.
4. Start the engine, and let it idle 2 minutes.
5. Check for Temporary DTCs or DTCs with the HDS.

   Are any Temporary DTCs or DTCs indicated?

   YES -If DTC P2195 is indicated, check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM, then go to step 13. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM.

6. Turn the ignition switch OFF.
7. Reinstall the A/F sensor (Sensor 1) (see **A/F SENSOR REPLACEMENT**).
8. Turn the ignition switch ON (II).
9. Reset the ECM/PCM with the HDS.
10. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
11. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P2195 indicated?

    YES -Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM, then go to step 1.

    NO -Go to step 12.

12. Monitor the OBD STATUS for DTC P2195 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 11, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM, then go to step 1. If the screen indicated NOT COMPLETED, keep idling until a result comes on.

13. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
14. Start the engine, and let it idle 2 minutes.
15. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P2195 indicated?

    YES -Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 14. If the ECM/PCM was substituted, go to step 1.

    NO -Go to step 16.

16. Monitor the OBD STATUS for DTC P2195 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 15, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO -If the screen indicates FAILED, check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 14. If the ECM/PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

DTC P2227: BARO SENSOR CIRCUIT RANGE/PERFORMANCE PROBLEM

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **If DTC P0107, P0108, P1128, and/or P1129 are stored at the same time as DTC P2227, troubleshoot those DTCs first, then recheck for DTC P2227.**

1. Turn the ignition switch ON (II), and wait 2 seconds.
2. Check the BARO SENSOR in the DATA LIST with the HDS.

   Is about 101 kPa (29.9 in.Hg, 760 mmHg), or about 2.9 V at sea level indicated?

   YES -Go to step 3.

   NO -Go to step 7.

3. Clear the DTC with the HDS.
4. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
5. Test-drive under these conditions:
   - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
   - A/T in D position (M/T in 4th gear)
   - REL TP SENSOR between 12 deg and 20 deg for 3 seconds
6. Monitor the OBD STATUS for DTC P2227 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 7.

   NO -If the screen indicates PASSED, intermittent failure, the system is OK at this time. If the screen indicates NOT COMPLETED, go to step 4 and recheck.

7. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
8. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
9. Test-drive under these conditions:

- Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
- A/T in D position (M/T in 4th gear)
- REL TP SENSOR between 12 deg and 20 deg for 3 seconds

10. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P2227 indicated?

    YES -Check for poor connections or loose terminals at the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 8. If the ECM/PCM was substituted, go to step 1.

    NO -Go to step 11.

11. Monitor the OBD STATUS for DTC P2227 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 10, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 8. If the ECM/PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, go to step 8.

DTC P2228: BARO SENSOR CIRCUIT LOW VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Check the BARO SENSOR in the DATA LIST with the HDS.

   Is about 53 kPa (15.6 in.Hg, 397 mmHg), or 1.31 V or less indicated?

   YES -Go to step 3.

   NO -Intermittent failure, the system is OK at this time.

3. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
4. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P2228 indicated?

YES -Check for poor connections or loose terminals at the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P2229: BARO SENSOR CIRCUIT HIGH VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Check the BARO SENSOR in the DATA LIST with the HDS.

   Is about 160 kPa (47.2 in.Hg, 1,200 mmHg), or 4.49 V or more indicated?

   YES -Go to step 3.

   NO -Intermittent failure, the system is OK at this time.

3. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
4. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P2229 indicated?

   YES -Check for poor connections or loose terminals at the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

   NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P2238: A/F SENSOR (SENSOR 1) AFS+ CIRCUIT LOW VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).

2. Clear the DTC with the HDS.
3. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P2238 indicated?

   YES -Go to step 4.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM.

4. Turn the ignition switch OFF.
5. Jump the SCS line with the HDS.
6. Disconnect the A/F sensor (Sensor 1) 4P connector.
7. Disconnect ECM/PCM connector A (31P).
8. Check for continuity between ECM/PCM connector terminal A31 and body ground.

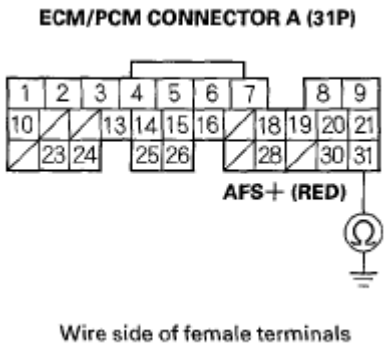

Fig. 111: Checking Continuity Between ECM/PCM Connector Terminal A31 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

   Is there continuity?

   YES -Repair short in the wire between the ECM/PCM (A31) and the A/F sensor (Sensor 1), then go to step 10.

   NO -Go to step 9.

9. Replace the A/F sensor (Sensor 1) (see **A/F SENSOR REPLACEMENT**).
10. Reconnect all connectors.
11. Turn the ignition switch ON (II).
12. Reset the ECM/PCM with the HDS.
13. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
14. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P2238 indicated?

YES -Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM. If the connector and terminal fits are OK, go to step 16.

NO -Go to step 15.

15. Monitor the OBD STATUS for DTC P2238 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 14, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

16. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
17. Start the engine, and let it idle.
18. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P2238 indicated?

    YES -If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 17. If the ECM/PCM was substituted, go to step 1.

    NO -Go to step 19.

19. Monitor the OBD STATUS for DTC P2238 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 18, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, go to step 1. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 17. If the ECM/PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

DTC P2252: A/F SENSOR (SENSOR 1) AFS- CIRCUIT LOW VOLTAGE

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL

TROUBLESHOOTING INFORMATION).

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

   Is DTC P2252 indicated?

   YES -Go to step 5.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM.

5. Turn the ignition switch OFF.
6. Jump the SCS line with the HDS.
7. Disconnect the A/F sensor (Sensor 1) 4P connector.
8. Disconnect ECM/PCM connector A (31P).
9. Check for continuity between ECM/PCM connector terminal A28 and body ground.

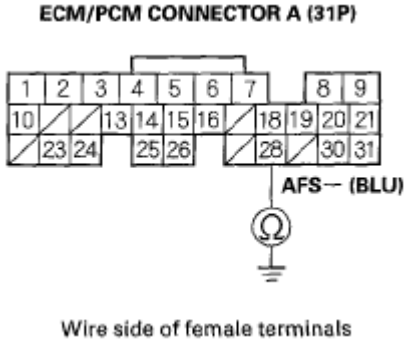

Fig. 112: Checking Continuity Between ECM/PCM Connector Terminal A28 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (A28) and the A/F sensor (Sensor 1), then go to step 11.

NO -Go to step 10.

10. Replace the A/F sensor (Sensor 1) (see **A/F SENSOR REPLACEMENT**).
11. Reconnect all connectors.
12. Turn the ignition switch ON (II).

13. Reset the ECM/PCM with the HDS.
14. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
15. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P2252 indicated?

    YES -Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM, then go to step 1. If the connector and terminal fits are OK, go to step 17.

    NO -Go to step 16.

16. Monitor the OBD STATUS for DTC P2252 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 15, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

17. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
18. Start the engine, and let it idle.
19. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P2252 indicated?

    YES -If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 18. If the ECM/PCM was substituted, go to step 1.

    NO -Go to step 20.

20. Monitor the OBD STATUS for DTC P2252 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 19, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, go to step 1. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then go to step 18. If the ECM/PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

DTC P2270: SECONDARY HO2S (SENSOR 2) CIRCUIT SIGNAL STUCK LEAN; DTC P2271: SECONDARY HO2S (SENSOR 2) CIRCUIT SIGNAL STUCK RICH

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and let it idle without load (in Park or neutral) until the radiator fan comes on.
4. Test-drive under these conditions:
   - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
   - Vehicle speed at 35 mph (56 km/h) or more for at least 25 seconds
5. Monitor the OBD STATUS for DTC P2270 or P2271 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 6.

   NO -If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 3 and recheck.

6. Turn the ignition switch OFF.
7. Replace the secondary HO2S (Sensor 2) (see **A/F SENSOR REPLACEMENT**).
8. Turn the ignition switch ON (II).
9. Reset the ECM/PCM with the HDS.
10. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
11. Start the engine, and let it idle without load (in Park or neutral) until the radiator fan comes on.
12. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
    - Vehicle speed at 35 mph (56 km/h) or more for at least 25 seconds
13. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P2270 or P2271 indicated?

    YES -Check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM, then go to step 1.

    NO -Go to step 14.

14. Monitor the OBD STATUS for DTC P2270 or P2271 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 13, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO -If the screen indicates FAILED, check for poor connections or loose terminals at the secondary HO2S (Sensor 2) and the ECM/PCM, then go to step 1. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 11.

DTC P2610: ECM/PCM IGNITION OFF INTERNAL TIMER MALFUNCTION

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

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

   Is DTC P2610 indicated?

   YES -Go to step 4.

   NO -Intermittent failure, the system is OK at this time.

4. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**).
5. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC P2610 indicated?

   YES -If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the ECM/PCM was substituted, go to step 1.

   NO -If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC P2A00: A/F SENSOR (SENSOR 1) CIRCUIT RANGE/PERFORMANCE PROBLEM

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Turn the ignition switch ON (II).

2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
4. Test-drive under these conditions:
   - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
   - A/T in D position (M/T in 3rd gear)
   - Vehicle speed between 25-55 mph (40 - 88 km/h) for 5 minutes
   - Drive at a steady speed between 55-75 mph (88-120 km/h) for 10 seconds, then decelerate (with the throttle fully closed) for 4 seconds
5. Monitor the OBD STATUS for DTC P2A00 in the DTCs MENU with the HDS.

   Does the screen indicate FAILED?

   YES -Go to step 6.

   NO -If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 3 and recheck.

6. Turn the ignition switch OFF.
7. Replace the A/F sensor (Sensor 1) (see **A/F SENSOR REPLACEMENT**).
8. Turn the ignition switch ON (II).
9. Reset the ECM/PCM with the HDS.
10. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
11. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
12. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
    - A/T in D position (M/T in 3rd gear)
    - Vehicle speed between 25-55 mph (40- 88 km/h) for 5 minutes
    - Drive at a steady speed between 55-75 mph (88-120 km/h) for 10 seconds, then decelerate (with the throttle fully closed) for 4 seconds
13. Check for Temporary DTCs or DTCs with the HDS.

    Is DTC P2A00 indicated?

    YES -Check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM, then go to step 1.

    NO -Go to step 14.

14. Monitor the OBD STATUS for DTC P2A00 in the DTCs MENU with the HDS.

    Does the screen indicate PASSED?

    YES -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 13, go to the **INDICATED DTCS TROUBLESHOOTING**.

    NO -If the screen indicates FAILED, check for poor connections or loose terminals at the A/F sensor (Sensor 1) and the ECM/PCM, then go to step 1. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 11.

DTC U0028: F-CAN MALFUNCTION (BUS-OFF)

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

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

   Is DTC U0028 indicated?

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

   NO -Intermittent failure, the system is OK at this time. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC U0122: F-CAN MALFUNCTION (ECM/PCM-VSA MODULATOR-CONTROL UNIT)

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

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

   Is DTC U0122 indicated?

   YES -Go to step 4.

NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the VSA modulator-control unit and the ECM/PCM.

4. Check for a DTC in the DTCs MENU with the HDS.

   Is VSA DTC 86 indicated?

   YES -Go to step 5.

   NO -Go to step 13.

5. Turn the ignition switch OFF.
6. Jump the SCS line with the HDS.
7. Disconnect the VSA modulator-control unit 47P connector (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION**).
8. Disconnect ECM/PCM connector E (31P).
9. Connect VSA modulator-control unit 47P connector terminal No. 11 to body ground with a jumper wire.

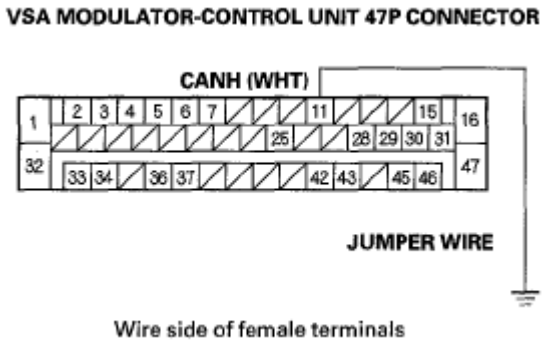

Fig. 113: Connecting VSA Modulator-Control Unit 47P Connector Terminal No. 11 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Check for continuity between ECM/PCM connector terminal E11 and body ground.

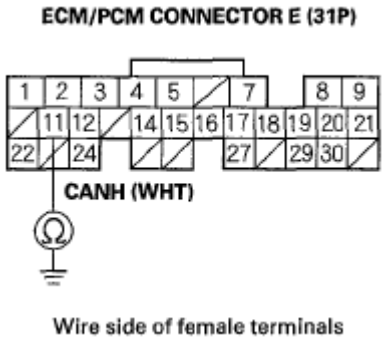

Fig. 114: Checking Continuity Between ECM/PCM Connector Terminal E11 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 11.

NO -Repair open in the wire between the ECM/PCM (E11) and the VSA modulator-control unit (No. 11), then go to step 20.

11. Connect VSA modulator-control unit 47P connector terminal No. 15 to body ground with a jumper wire.

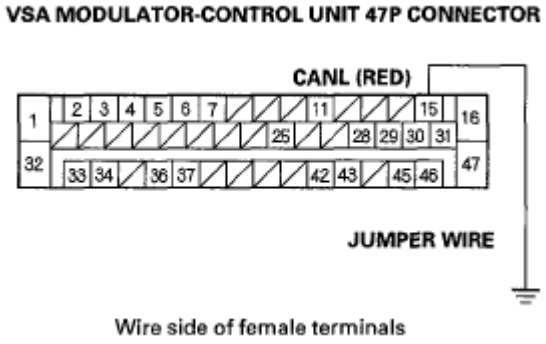

Fig. 115: Connecting VSA Modulator-Control Unit 47P Connector Terminal No. 15 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. Check for continuity between ECM/PCM connector terminal E24 and body ground.

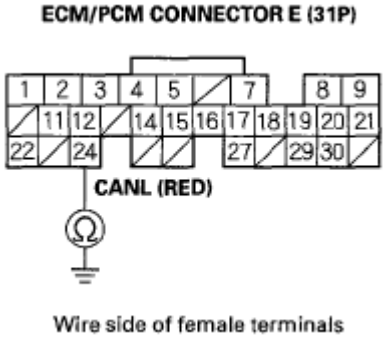

Fig. 116: Checking Continuity Between ECM/PCM Connector Terminal E24 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Substitute a known-good VSA modulator-control unit, then go to step 20 and recheck. If DTC U0122 is not indicated, replace the original VSA modulator-control unit, then go to step 20.

NO -Repair open in the wire between the ECM/PCM (E24) and the VSA modulator-control unit (No. 15),

then go to step 20.

13. Turn the ignition switch OFF.
14. Check for poor connections or loose terminals at the VSA modulator-control unit 47P connector.

    Are the connections and terminals OK?

    YES -Go to step 15.

    NO -Repair the connections or terminals, then go to step 20.

15. Disconnect the VSA modulator-control unit 47P connector.
16. Turn the ignition switch ON (II).
17. Measure voltage between VSA modulator-control unit 47P connector terminal No. 4 and body ground.

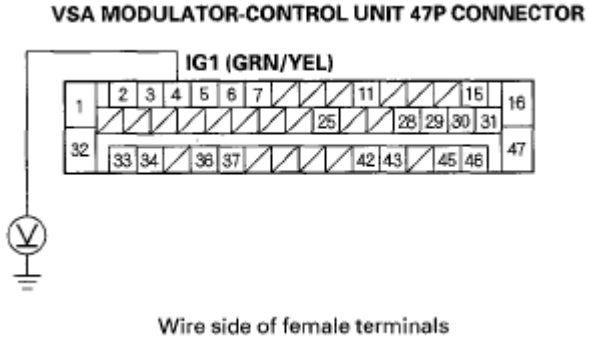

Fig. 117: Measuring Voltage Between VSA Modulator-Control Unit 47P Connector Terminal No. 4 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 18.

NO -Check the No. 4 ACG (10 A) fuse in the under-dash fuse/relay box. If the fuse is OK, repair open in the wire between the No. 4 ACG (10 A) fuse and the VSA modulator-control unit, then go to step 20.

18. Turn the ignition switch OFF.
19. Check for continuity between VSA modulator-control unit 47P connector terminal No. 16 and body ground.

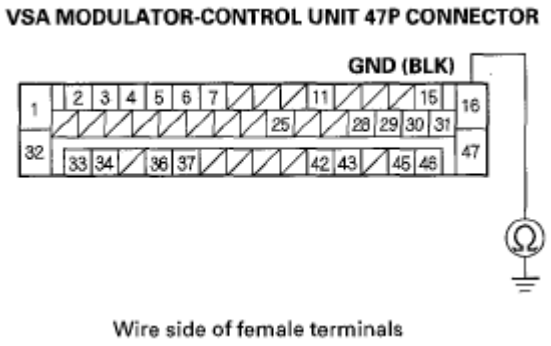

Fig. 118: Checking Continuity Between VSA Modulator-Control Unit 47P Connector Terminal No. 16 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION**), then go to step 20 and recheck. If no DTCs are indicated, replace the original VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION**), then go to step 20.

NO -Repair open in the wire between the VSA modulator-control unit and G202, then go to step 20.

20. Reconnect all connectors.
21. Turn the ignition switch ON (II).
22. Reset the ECM/PCM with the HDS.
23. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
24. Check for Temporary DTCs or DTCs with the HDS.

Is DTC U0122 indicated?

YES -Check for poor connections or loose terminals at the ECM/PCM and the VSA modulator-control unit, then go to step 1.

NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

DTC U0155: F-CAN MALFUNCTION (ECM/PCM-GAUGE CONTROL MODULE)

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION).

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

3. Check for Temporary DTCs or DTCs with the HDS.

   Is DTC U0155 indicated?

   YES -Go to step 4.

   NO -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the gauge control module and the ECM/PCM.

4. Check for body electrical DTCs in the DTCs MENU with the HDS.

   Is DTC B1168, B1169, and/or B1178 indicated?

   YES -Go to step 5.

   NO -Do the gauge control module input test (see **GAUGE CONTROL MODULE INPUT TEST**).

5. Turn the ignition switch OFF.
6. Jump the SCS line with the HDS.
7. Remove the gauge control module (see **REWRITING THE ODO DATA AND TRANSFERRING MAINTENANCE MINDER ON A NEW GAUGE CONTROL MODULE**).
8. Disconnect the gauge control module 36P connector.
9. Disconnect ECM/PCM connector E (31P).
10. Connect gauge control module 36P connector terminal No. 29 to body ground with a jumper wire.

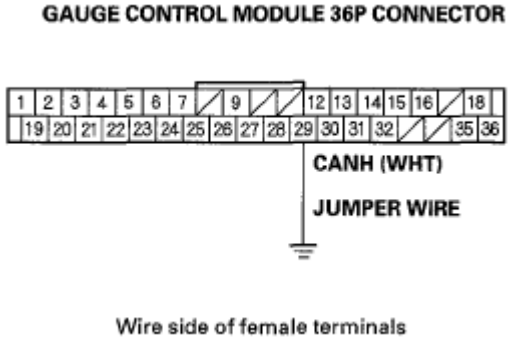

Fig. 119: Connecting Gauge Control Module 36P Connector Terminal No. 29 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Check for continuity between ECM/PCM connector terminal E11 and body ground.

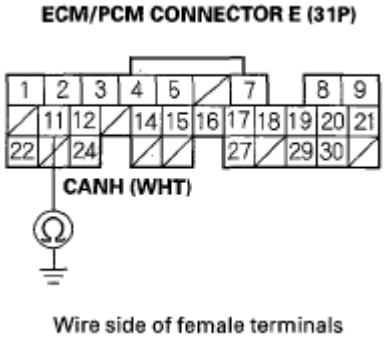

Fig. 120: Checking Continuity Between ECM/PCM Connector Terminal E11 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 12.

NO -Repair open in the wire between the ECM/PCM (Ell) and the gauge control module, then go to step 14.

12. Connect gauge control module 36P connector terminal No. 28 to body ground with a jumper wire.

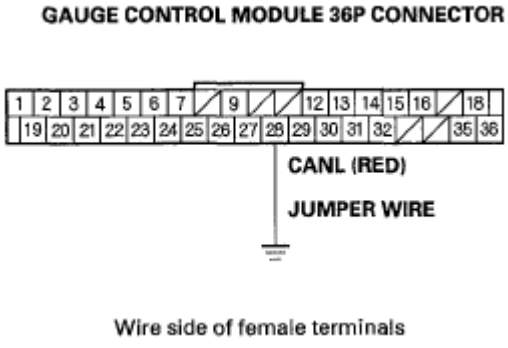

Fig. 121: Connecting Gauge Control Module 36P Connector Terminal No. 28 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Check for continuity between ECM/PCM connector terminal E24 and body ground.

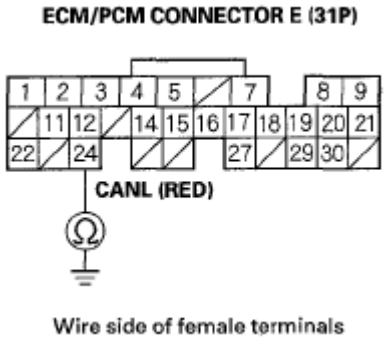

Fig. 122: Checking Continuity Between ECM/PCM Connector Terminal E24 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Substitute a known-good gauge control module (see **REWRITING THE ODO DATA AND TRANSFERRING MAINTENANCE MINDER ON A NEW GAUGE CONTROL MODULE**), then go to step Hand recheck. If DTC U0155 is not indicated, replace the original gauge control module (see **REWRITING THE ODO DATA AND TRANSFERRING MAINTENANCE MINDER ON A NEW GAUGE CONTROL MODULE**), then go to step 14.

NO -Repair open in the wire between the ECM/PCM (E24) and the gauge control module, then go to step 14.

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

Is DTC U0155 indicated?

YES -Check for poor connections or loose terminals at the gauge control module and the ECM/PCM, then go to step 1.

NO -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the **INDICATED DTCS TROUBLESHOOTING**.

F-CAN CIRCUIT TROUBLESHOOTING

NOTE: Information marked with an asterisk (*) applies to the CANL line.

1. Turn the ignition switch OFF.
2. Jump the SCS line with the HDS.

3. Disconnect ECM/PCM connector E (31P), then disconnect the HDS.
4. Measure resistance between ECM/PCM connector terminals E11 and E24*.

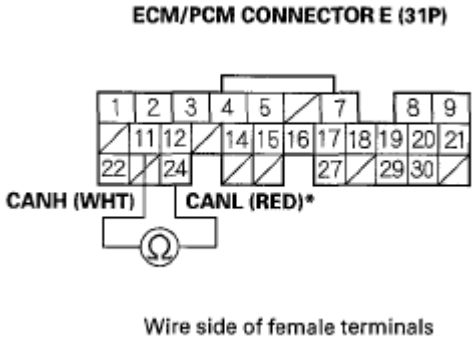

Fig. 123: Measuring Resistance Between ECM/PCM Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 99-121 ohms?

YES -Go to step 26.

NO -Go to step 5.

5. Disconnect the gauge control module 36P connector (see **REWRITING THE ODO DATA AND TRANSFERRING MAINTENANCE MINDER ON A NEW GAUGE CONTROL MODULE**).
6. Disconnect the VSA modulator-control unit 47P connector (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION**).
7. Disconnect the TPMS control unit 20P connector (see **TPMS CONTROL UNIT REPLACEMENT**).
8. Check for continuity between ECM/PCM connector terminals E11 and E24*.

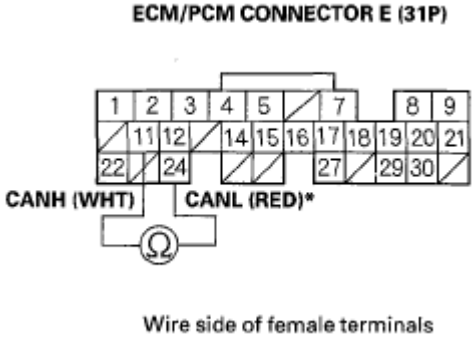

Fig. 124: Checking Continuity Between ECM/PCM Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wires between ECM/PCM connector terminals E11 and E24*.

NO -Go to step 9.

9. Connect ECM/PCM connector terminal E11 to body ground with a jumper wire.

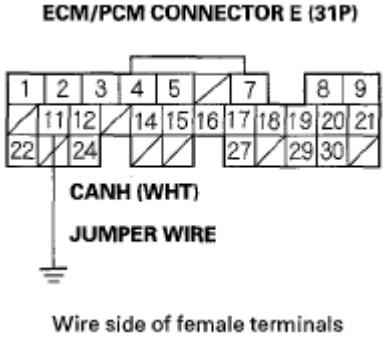

Fig. 125: Connecting ECM/PCM Connector Terminal E11 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Check for continuity between gauge control module 36P connector terminal No. 29 and body ground.

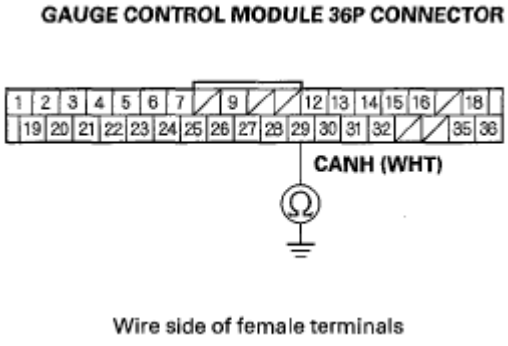

Fig. 126: Checking Continuity Between Gauge Control Module 36P Connector Terminal No. 29 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 11.

NO -Repair open in the wire between the ECM/PCM (El 1) and the gauge control module.

11. Check for continuity between VSA modulator-control unit 47P connector terminal No. 11 and body ground.

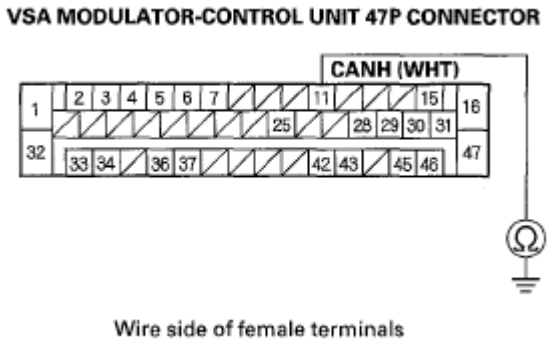

Fig. 127: Checking Continuity Between VSA Modulator-Control Unit 47P Connector Terminal No. 11 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 12.

NO -Repair open in the wire between the ECM/PCM (E11) and the VSA modulator-control unit.

12. Check for continuity between TPMS control unit connector B (20P) terminal No. 19 and body ground.

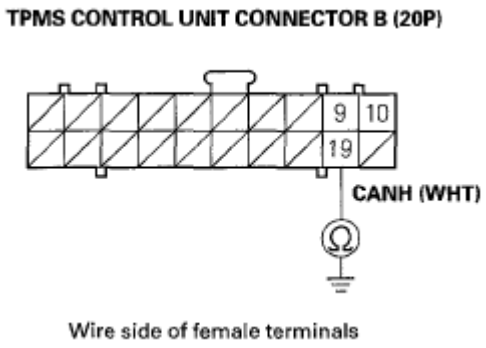

Fig. 128: Checking Continuity Between TPMS Control Unit Connector B (20P) Terminal No. 19 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 13.

NO -Repair open in the wire between the ECM/PCM (E11) and the TPMS control unit.

13. Remove the jumper wire from ECM/PCM connector E(31P).
14. Connect ECM/PCM connector terminal E24' to body ground with a jumper wire.

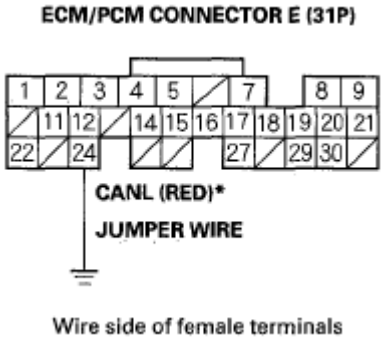

Fig. 129: Connecting ECM/PCM Connector Terminal E24' To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

15. Check for continuity between gauge control module 36P connector terminal No. 28 and body ground.

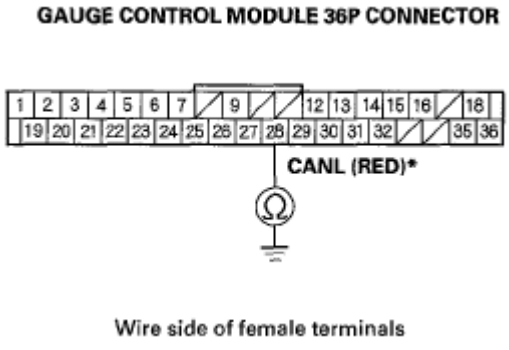

Fig. 130: Checking Continuity Between Gauge Control Module 36P Connector Terminal No. 28 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 16.

NO -Repair open in the wire between the ECM/PCM (E24) and the gauge control module.

16. Check for continuity between VSA modulator-control unit 47P connector terminal No. 15 and body ground.

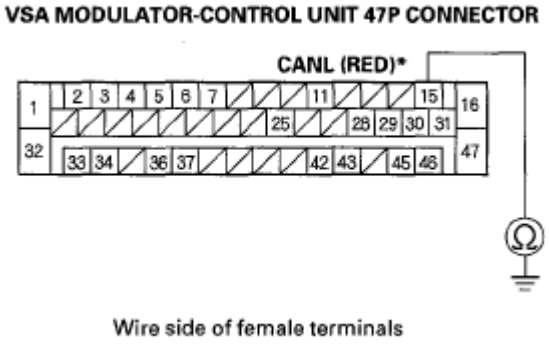

Fig. 131: Checking Continuity Between VSA Modulator-Control Unit 47P Connector Terminal No. 15 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 17.

NO -Repair open in the wire between the ECM/PCM (E24)* and the VSA modulator-control unit.

17. Check for continuity between TPMS control unit connector B (20P) terminal No. 10 and body ground.

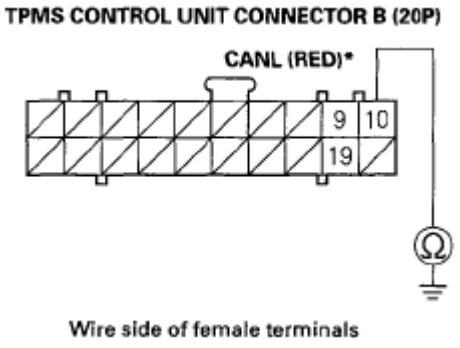

Fig. 132: Checking Continuity Between TPMS Control Unit Connector B (20P) Terminal No. 10 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 18.

NO -Repair open in the wire between the ECM/PCM (E24)' and the TPMS control unit.

18. Reconnect the gauge control module 36P connector.
19. Measure resistance between ECM/PCM connector terminals E11 and E24*.

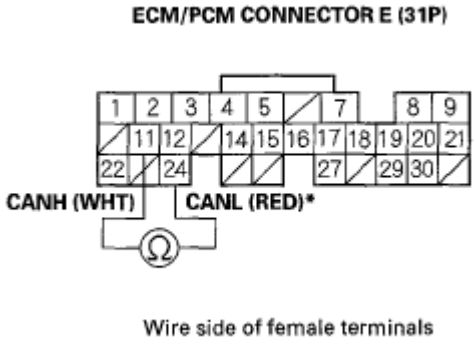

Fig. 133: Measuring Resistance Between ECM/PCM Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 2.34-2.86 kohms ?

YES -Go to step 20.

NO -Substitute a known-good gauge control module (see **REWRITING THE ODO DATA AND TRANSFERRING MAINTENANCE MINDER ON A NEW GAUGE CONTROL MODULE**). If the HDS identifies the vehicle, replace the original gauge control module (see **REWRITING THE ODO DATA AND TRANSFERRING MAINTENANCE MINDER ON A NEW GAUGE CONTROL MODULE**).

20. Disconnect the gauge control module 36P connector.
21. Reconnect the VSA modulator-control unit 47P connector.
22. Measure resistance between ECM/PCM connector terminals E11 and E24*.

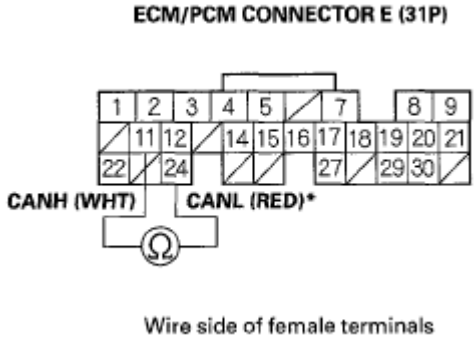

Fig. 134: Measuring Resistance Between ECM/PCM Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 112 - 136 kohms?

YES -Go to step 23.

NO -Substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION**). If the HDS identifies the vehicle, replace the original

VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION**).

23. Disconnect the VSA modulator-control unit 47P connector.
24. Reconnect the TPMS control unit 20P connector.
25. Measure resistance between ECM/PCM connector terminals E11 and E24.

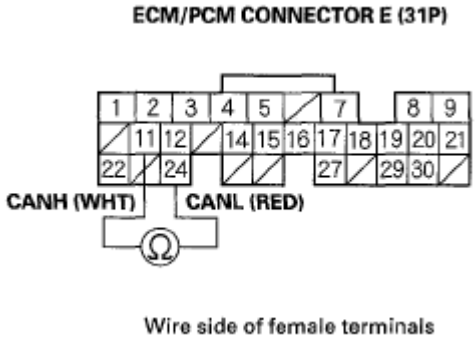

Fig. 135: Measuring Resistance Between ECM/PCM Connector Terminals E11 And E24
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 2.34-2.86 kohms?

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

NO -Substitute a known-good TPMS control unit (see **TPMS CONTROL UNIT REPLACEMENT**). If the HDS identifies the vehicle, replace the original TPMS control unit (see **TPMS CONTROL UNIT REPLACEMENT**).

26. Disconnect the gauge control module 36P connector (see **REWRITING THE ODO DATA AND TRANSFERRING MAINTENANCE MINDER ON A NEW GAUGE CONTROL MODULE**).
27. Disconnect the VSA modulator-control unit 47P connector (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION**).
28. Disconnect the TPMS control unit 20P connector (see **TPMS CONTROL UNIT REPLACEMENT**).
29. Check for continuity between ECM/PCM connector terminal E11 and body ground.

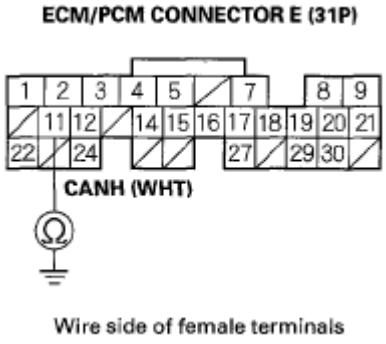

Fig. 136: Checking Continuity Between ECM/PCM Connector Terminal E11 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between ECM/PCM connector terminal E11 and the gauge control module, the VSA modulator-control unit, the TPMS control unit, or the DLC.

NO -Go to step 30.

30. Check for continuity between ECM/PCM connector terminal E24 and body ground.

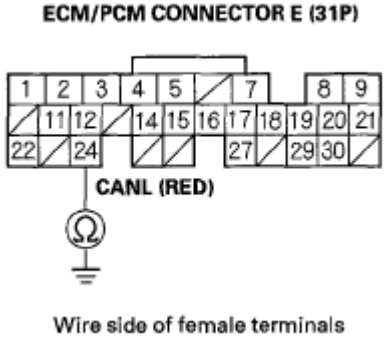

Fig. 137: Checking Continuity Between ECM/PCM Connector Terminal E24 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between ECM/PCM connector terminal E24 and the gauge control module, the VSA modulator-control unit, the TPMS control unit, or the DLC.

NO -Go to step 31.

31. Reconnect all connectors.
32. Connect the HDS to the DLC (see **GENERAL TROUBLESHOOTING INFORMATION**).
33. Disconnect the gauge control module 36P connector.

34. Turn the ignition switch ON (II), and read the HDS.

    Does the HDS identify the vehicle?

    YES -Replace the gauge control module (see **REWRITING THE ODO DATA AND TRANSFERRING MAINTENANCE MINDER ON A NEW GAUGE CONTROL MODULE**).

    NO -Go to step 35.

35. Turn the ignition switch OFF.
36. Reconnect the gauge control module 36P connector.
37. Disconnect the VSA modulator-control unit 47P connector.
38. Turn the ignition switch ON (II), and read the HDS.

    Does the HDS identify the vehicle?

    YES -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION**).

    NO -Go to step 39.

39. Turn the ignition switch OFF.
40. Disconnect the VSA modulator-control unit 47P connector.
41. Disconnect the TPMS control unit 20P connector.
42. Turn the ignition switch ON (II), and read the HDS.

    Does the HDS identify the vehicle?

    YES -Replace the TPMS control unit (see **TPMS CONTROL UNIT REPLACEMENT**).

    NO -Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**).

MIL CIRCUIT TROUBLESHOOTING

1. Turn the ignition switch ON (II).
2. Do the gauge self-diagnostic function (see **SELF-DIAGNOSTIC FUNCTION**).

    Does the MIL indicator flash?

    YES -Go to step 3.

NO -Substitute a known-good gauge control module, and recheck. If the MIL circuit is OK, replace the original gauge control module (see **REWRITING THE ODO DATA AND TRANSFERRING MAINTENANCE MINDER ON A NEW GAUGE CONTROL MODULE**).

3. Connect the HDS to the DLC (see **GENERAL TROUBLESHOOTING INFORMATION**).
4. Check the SCS in the DATA LIST with the HDS.

   Is a short indicated?

   YES -Go to step 5.

   NO -Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**).

5. Turn the ignition switch OFF.
6. Disconnect ECM/PCM connector E (31P), then disconnect the HDS.
7. Check for continuity between ECM/PCM connector terminal E29 and body ground.

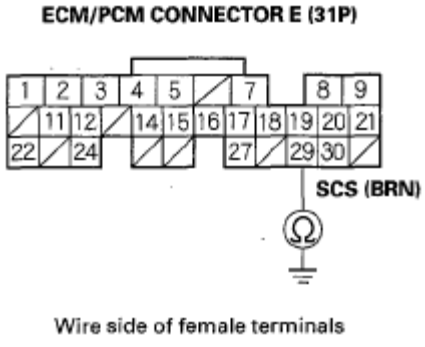

Fig. 138: Checking Continuity Between ECM/PCM Connector Terminal E29 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (E29) and the SRS unit, or the DLC.

NO -Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**).

DLC CIRCUIT TROUBLESHOOTING

NOTE: Make sure the HDS and the DLC cables of the HDS are not defective.

1. Turn the ignition switch OFF.
2. Connect the HDS to the DLC (see **GENERAL TROUBLESHOOTING INFORMATION**).
3. Turn the ignition switch ON (II), and read the HDS.

   Does the HDS identify the vehicle?

   YES -Go to step 4.

   NO -Go to step 20.

4. Check for Temporary DTCs or DTCs in the PGM-FI system with the HDS.

   Are any Temporary DTCs or DTCs indicated?

   YES -Go to the **INDICATED DTCS TROUBLESHOOTING**.

   NO -Go to step 5.

5. Turn the ignition switch OFF.
6. Turn the ignition switch ON (II), and watch the SRS indicator.

   Does the SRS indicator stay on?

   YES -Go to the SRS system's general troubleshooting information (see **GENERAL TROUBLESHOOTING INFORMATION**).

   NO -Go to step 7.

7. Turn the ignition switch OFF.
8. Start the engine, and watch the TPMS indicator.

   Does the TPMS indicator stay on?

   YES -Go to the TPMS system's general troubleshooting information (see **GENERAL TROUBLESHOOTING INFORMATION**).

   NO -Go to step 9.

9. Turn the ignition switch OFF.
10. Turn the ignition switch ON (II), and watch the VSA indicator.

    Does the VSA indicator stay on?

    YES -Go to the VSA system's general troubleshooting information (see **GENERAL TROUBLESHOOTING INFORMATION**).

NO -Go to step 11.

11. Turn the ignition switch OFF.
12. Turn the ignition switch ON (II), and watch the immobilizer indicator.

    Does the immobilizer indicator stay on or flash?

    YES -Go to the immobilizer system's troubleshooting (see **TROUBLESHOOTING**).

    NO -Go to step 13.

13. Do the gauge self-diagnostic function without the HDS (see **SELF-DIAGNOSTIC FUNCTION**).

    Are any indicators flashing?

    YES -Go to step 14.

    NO -Troubleshoot the gauge control module (see **SELF-DIAGNOSTIC FUNCTION**).

14. Turn the ignition switch OFF.
15. Disconnect the HDS from the DLC.
16. Check for continuity between body ground and DLC terminals No. 1 and No. 7 individually.

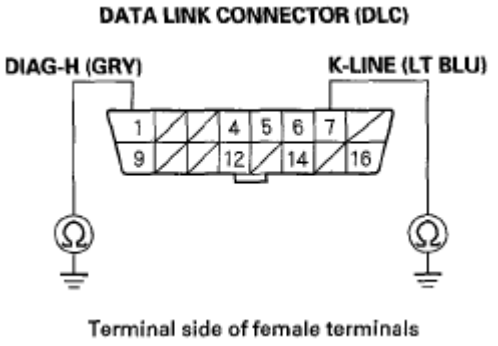

Fig. 139: Checking Continuity Between Body Ground And DLC Terminals No. 1 And No. 7
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 17.

NO -Go to step 18.

17. Continue to check for continuity between DLC terminals No. 1 and No. 7 and body ground individually, while disconnecting these parts, one at a time:
    - Gauge control module 36P connector

- SRS unit connector A (28P)
- VSA modulator-control unit 47P connector
- Immobilizer control unit 7P connector
- TPMS control unit connector B (20P)

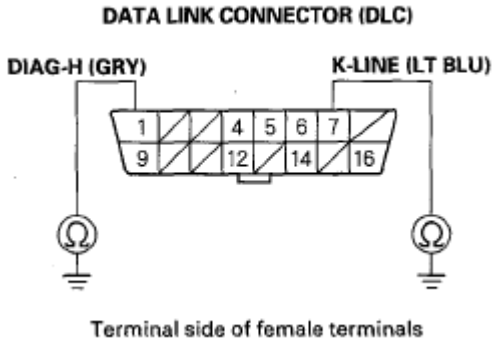

Fig. 140: Checking Continuity Between DLC Terminals No. 1 And No. 7 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Does continuity go away when one of the above components is disconnected?

YES -Replace the part that caused an open when it was disconnected.

NO -Repair short in the wire between the DLC No. 7 (K-line) and the VSA modulator-control unit, the SRS unit, the TPMS control unit, or the gauge control module, or DLC No. 1 (DIAG-H line) and the immobilizer control unit.

18. Connect DLC terminals No. 1 and No. 7 to body ground with a jumper wire.

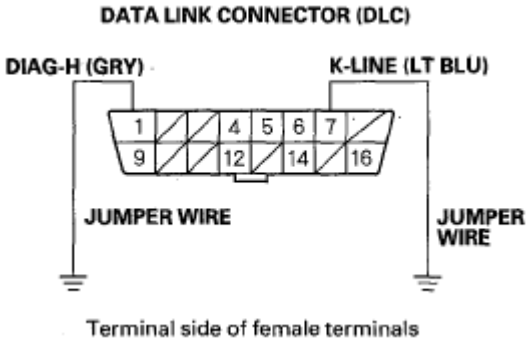

Fig. 141: Connecting DLC Terminals No. 1 And No. 7 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

19. Check for continuity between body ground and these connector terminals:

CONNECTOR TERMINAL SPECIFICATION

Connector	Unit Terminal	DLC Terminal

Gauge control module 36P	No. 9 (LT BLU)	No. 7 (LT BLU)
VSA modulator-control unit 47P	No. 2 (LT BLU)	No. 7 (LT BLU)
SRS unit A 28P	No. 24 (LT BLU)	No. 7 (LT BLU)
TPMS control unit B 20P	No. 9 (LT BLU)	No. 7 (LT BLU)
Immobilizer control unit 7P	No. 3 (GRY)	No. 1 (GRY)

Is there continuity between the DLC terminal and each of the terminals in the chart?

YES -Replace the unit that does not communicate with the HDS.

NO -Repair open in the wire between the DLC (K-line or DIAG-H line) and the appropriate connector.

20. Do the gauge self-diagnostic function (see **SELF-DIAGNOSTIC FUNCTION**).
21. Check odometer/trip meter for "Error 1" message.

Is Error 1 displayed?

YES -Go to step 35.

NO -Go to step 22.

22. Turn the ignition switch OFF.
23. Disconnect the HDS from the DLC.
24. Measure voltage between DLC terminal No. 16 and body ground.

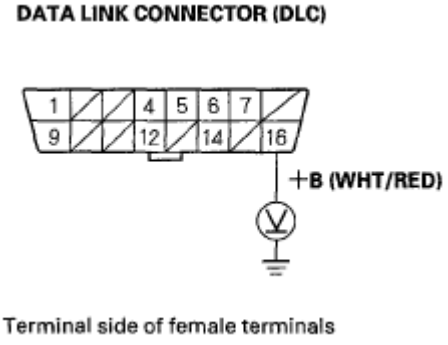

Fig. 142: Measuring Voltage Between DLC Terminal No. 16 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 25.

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

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

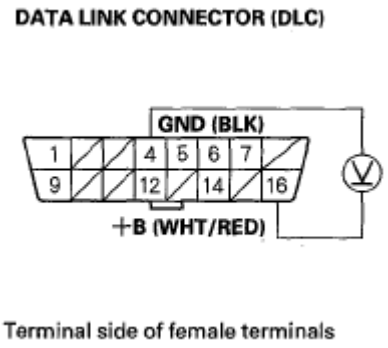

Fig. 143: Measuring Voltage Between DLC Terminals No. 4 And No. 16
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 26.

NO -Repair open in the wire between DLC terminal No. 4 and G451.

26. Connect the HDS to the DLC (see **GENERAL TROUBLESHOOTING INFORMATION**).
27. Jump the SCS line with the HDS.
28. Disconnect ECM/PCM connector E (31P).
29. Disconnect the HDS from the DLC.
30. Connect DLC terminal No. 6 to body ground with a jumper wire.

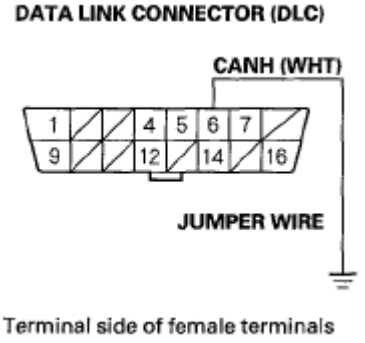

Fig. 144: Connecting DLC Terminal No. 6 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

31. Check for continuity between ECM/PCM connector terminal E11 and body ground.

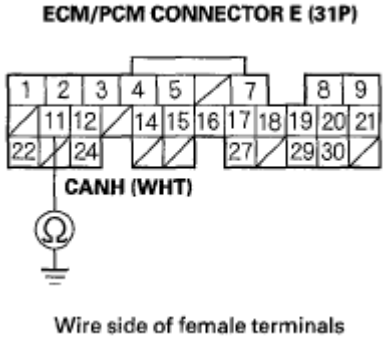

Fig. 145: Checking Continuity Between ECM/PCM Connector Terminal E11 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 32.

NO -Repair open in the wire between the ECM/PCM (E11) and DLC terminal No. 6.

32. Disconnect the jumper wire.
33. Connect DLC terminal No. 14 to body ground with a jumper wire.

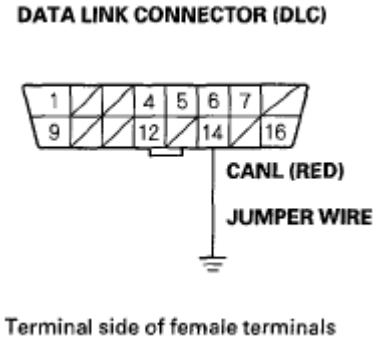

Fig. 146: Connecting DLC Terminal No. 14 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

34. Check for continuity between ECM/PCM connector terminal E24 and body ground.

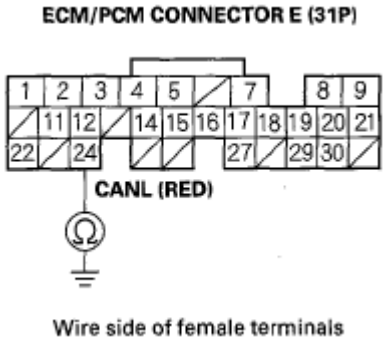

Fig. 147: Checking Continuity Between ECM/PCM Connector Terminal E24 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

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

NO -Repair open in the wire between the ECM/PCM (E24) and DLC terminal No. 14.

35. Try to start the engine.

    Does the engine start and idle smoothly?

    YES -Go to the F-CAN circuit troubleshooting (see **F-CAN CIRCUIT TROUBLESHOOTING**).

    NO -Go to step 36.

36. Turn the ignition switch OFF.
37. Check the No. 20 IG1 (50 A) fuse in the under-hood fuse/relay box.

    Is the fuse OK?

    YES -Repair open in the wire between the No. 20 IG1 (50 A) fuse and the ignition switch. If the wire is OK, go to step 38.

    NO -Repair short in the wire between the No. 20 IG1 (50 A) fuse and the ignition switch. Also replace the No. 20 IG1 (50 A) fuse.

38. Inspect the No. 6 FI ECU (15 A) fuse in the under-hood fuse/relay box.

    Is the fuse OK?

    YES -Go to step 45.

NO -Go to step 39.

39. Remove the blown No. 6 FI ECU (15 A) fuse from the under-hood fuse/relay box.
40. Remove the glove box (see **GLOVE BOX REMOVAL/INSTALLATION**), then remove PGM-FI main relay 1 (FI MAIN) (A).

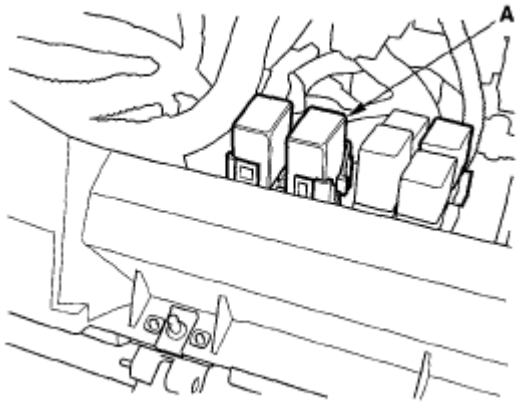

Fig. 148: Identifying PGM-FI Main Relay 1 (FI MAIN)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

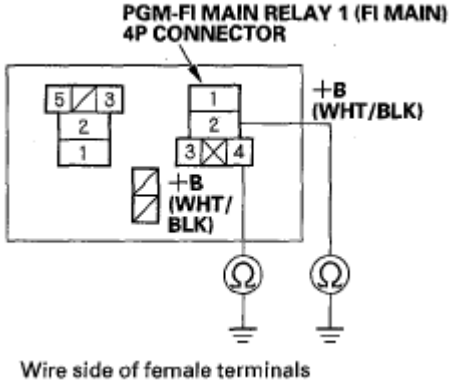

Fig. 149: Checking Continuity Between Body Ground And PGM-FI Main Relay 1 (FI MAIN) 4P Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the No. 6 FI ECU (15 A) fuse and PGM-FI main relay 1 (FI MAIN). Also replace the No. 6 FI ECU (15 A) fuse.

NO -Go to step 42.

42. Disconnect each of the components or connectors below, one at a time, and check for continuity between PGM-FI main relay 1 (FI MAIN) 4P connector terminal No. 1 and body ground.
    - PGM-FI main relay 2 (FUEL PUMP)
    - ECM/PCM connector A (31P)
    - Each injector 2P connector
    - Camshaft position (CMP) sensor B 3P connector
    - Crankshaft position (CKP) sensor 3P connector
    - Throttle actuator control module relay

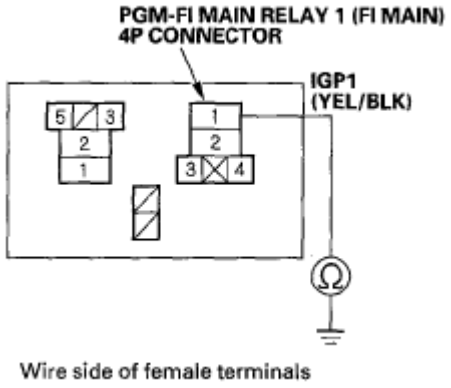

Fig. 150: Checking Continuity Between PGM-FI Main Relay 1 (FI MAIN) 4P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Does continuity go away when one of the above components is disconnected?

YES -Replace the component that made the short to body ground go away when disconnected. If the item is the ECM/PCM, update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**). Also replace the No. 6 FI ECU (15 A) fuse.

NO -Go to step 43.

43. Disconnect the connectors from these components:
    - PGM-FI main relay 2 (FUEL PUMP)
    - ECM/PCM connector A (31P)
    - Injectors
    - Camshaft position (CMP) B sensor
    - Crankshaft position (CKP) sensor
    - Throttle actuator control module relay
44. Check for continuity between PGM-FI main relay 1 (FI MAIN) 4P connector terminal No. 1 and body ground.

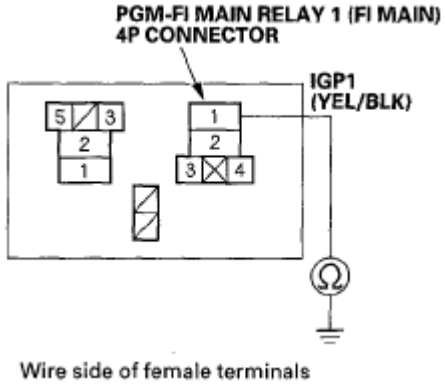

Fig. 151: Checking Continuity Between PGM-FI Main Relay 1 (FI MAIN) 4P Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between PGM-FI main relay 1 (FI MAIN) and each item. Also replace the No. 6 FI ECU (15 A) fuse.

NO -Replace PGM-FI main relay 1 (FI MAIN). Also replace the No. 6 FI ECU (15 A) fuse.

45. Inspect the No. 17 FUEL PUMP (15 A) fuse in the under-dash fuse/relay box.

    Is the fuse OK?

    YES -Go to step 56.

    NO -Go to step 46.

46. Remove the blown No. 17 FUEL PUMP (15 A) fuse from the under-dash fuse/relay box.
47. Jump the SCS line with the HDS.
48. Disconnect ECM/PCM connector E (31P).
49. Check for continuity between ECM/PCM connector terminal E9 and body ground.

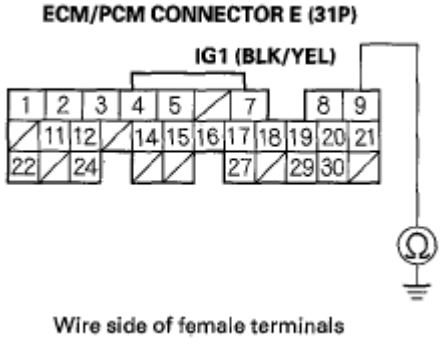

Fig. 152: Checking Continuity Between ECM/PCM Connector Terminal E9 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

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

NO -Go to step 50.

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

Fig. 153: Identifying PGM-FI Main Relay 2 (Fuel Pump)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

51. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).
52. Remove the access panel from the floor (see step 4 in **FUEL TANK UNIT REMOVAL/INSTALLATION**).
53. Disconnect the fuel pump 5P connector.
54. Check for continuity between fuel pump 5P connector terminal No. 5 and body ground.

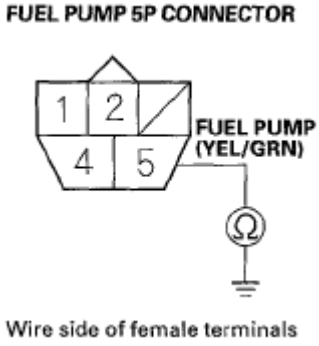

Fig. 154: Checking Continuity Between Fuel Pump 5P Connector Terminal No. 5 And Body

Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

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

NO -Go to step 55.

55. Test PGM-FI main relay 2 (FUEL PUMP) (see **POWER RELAY TEST**).

Is the relay OK?

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

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

56. Jump the SCS line with the HDS.
57. Disconnect ECM/PCM connector E (31P).
58. Turn the ignition switch ON (II).
59. Measure voltage between ECM/PCM connector terminal E9 and body ground.

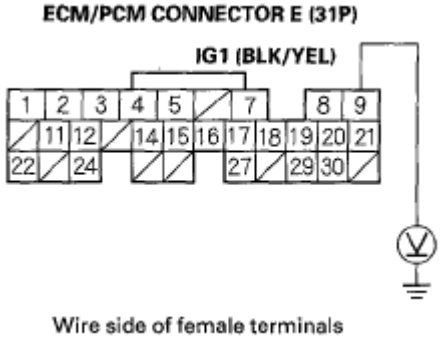

Fig. 155: Measuring Voltage Between ECM/PCM Connector Terminal E9 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 60.

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

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

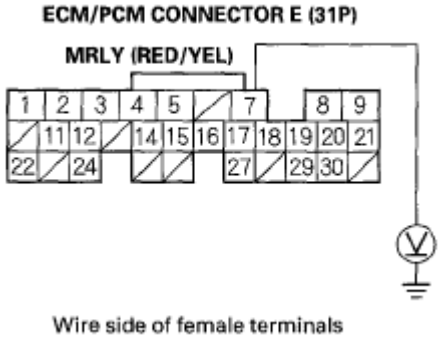

Fig. 156: Measuring Voltage Between ECM/PCM Connector Terminal E7 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 65.

NO -Go to step 61.

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

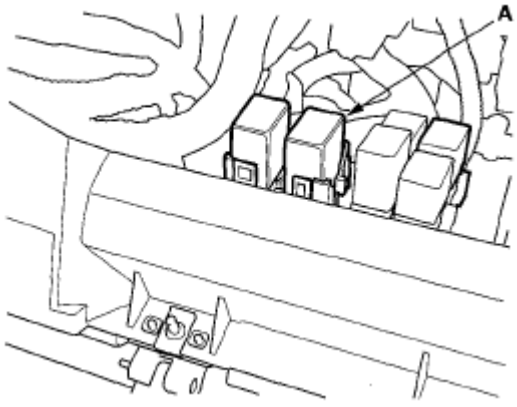

Fig. 157: Identifying PGM-FI Main Relay 1 (FI MAIN)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

63. Measure voltage between PGM-FI main relay 1 (FI MAIN) 4P connector terminal No. 4 and body ground.

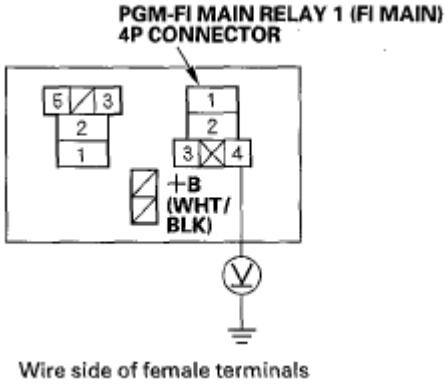

Fig. 158: Measuring Voltage Between PGM-FI Main Relay 1 (FI MAIN) 4P Connector Terminal No. 4 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 64.

NO -Repair open in the wire between the No. 6 FI ECU (15 A) fuse and PGM-FI main relay 1 (FI MAIN).

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

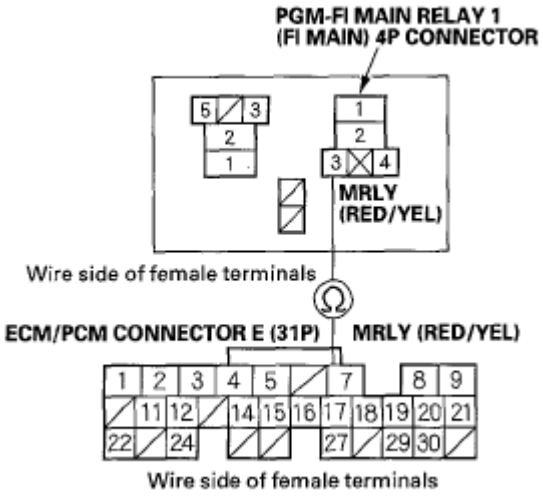

Fig. 159: Checking Continuity Between PGM-FI Main Relay 1 (FI MAIN) 4P And ECM/PCM Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Test PGM-FI main relay 1 (FI MAIN) (see **POWER RELAY TEST**). If the relay is faulty,

replace it. If the relay is OK, update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**).

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

65. Reconnect ECM/PCM connector E (31P).
66. Turn the ignition switch ON (II).
67. Measure voltage between body ground and ECM/PCM connector terminals A2 and A3 individually.

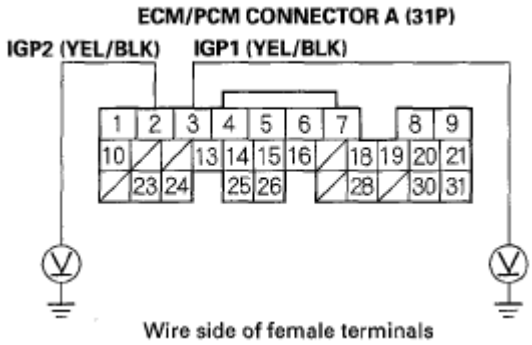

Fig. 160: Measuring Voltage Between Body Ground And ECM/PCM Connector Terminals A2 And A3
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 72.

NO -Go to step 68.

68. Turn the ignition switch OFF.
69. Remove PGM-FI main relay 1 (FI MAIN) (A).

Fig. 161: Identifying PGM-FI Main Relay 1 (FI MAIN)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

70. Measure voltage between PGM-FI main relay 1 (FI MAIN) 4P connector terminal No. 2 and body ground.

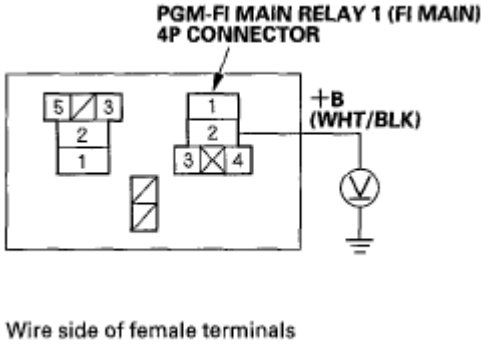

Fig. 162: Measuring Voltage Between PGM-FI Main Relay 1 (FI MAIN) 4P Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES -Go to step 71.

NO -Repair open in the wire between the No. 6 FI ECU (15 A) fuse and PGM-FI main relay 1 (FI MAIN).

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

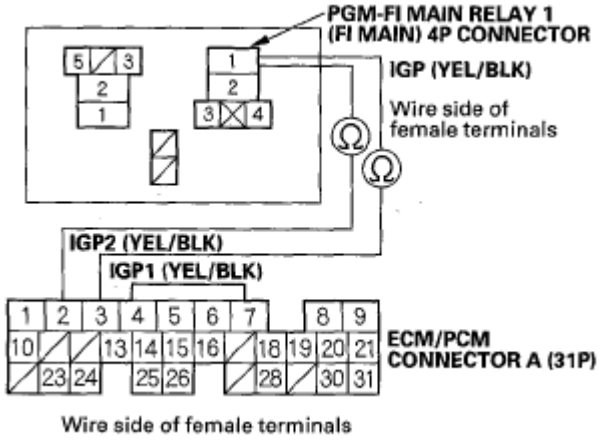

Fig. 163: Checking Continuity Between PGM-FI Main Relay 1 (FI MAIN) 4P And ECM/PCM Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Test PGM-FI main relay 1 (FI MAIN) (see **POWER RELAY TEST**). If the relay is faulty, replace it. If the relay is OK, update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**).

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

72. Measure voltage between body ground and ECM/PCM connector terminals A4, A5, A8, A9, and E3 individually.

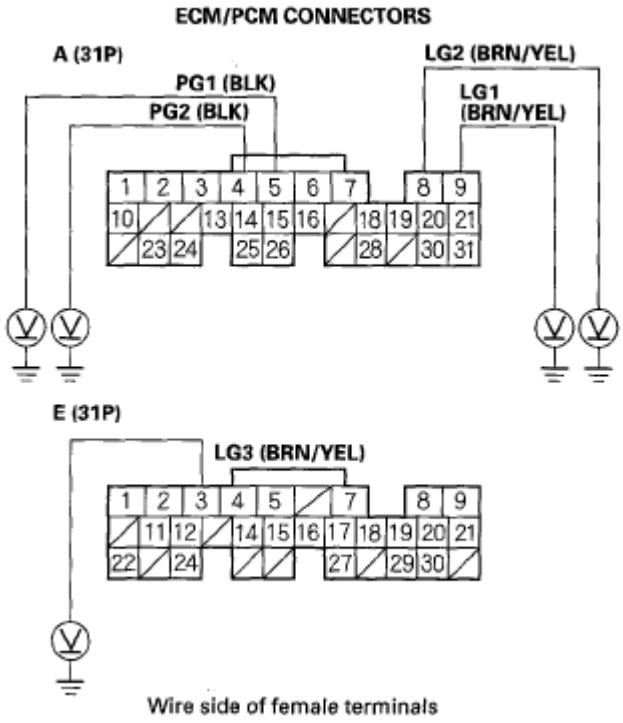

Fig. 164: Measuring Voltage Between Body Ground And ECM/PCM Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there less than 1.0 V?

YES -Go to step 73.

NO -Repair open in the wire(s) that had more than 1.0 V between G101 and the ECM/PCM (A4, A5, A8, A9, E3).

73. Turn the ignition switch ON (II).
74. Measure voltage between body ground and ECM/PCM connector terminal A21.

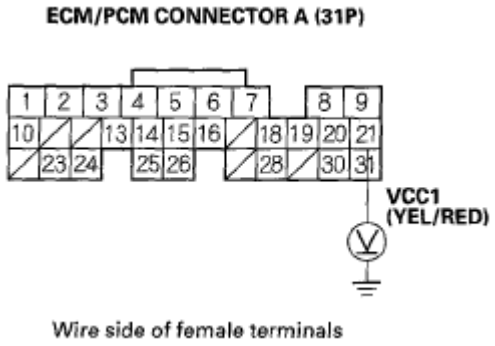

Fig. 165: Measuring Voltage Between Body Ground And ECM/PCM Connector Terminal A21
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 79.

NO -Go to step 75.

75. Disconnect the connector from each of these sensors, one at a time, while measuring voltage between body ground and ECM/PCM connector terminal A21 with the ignition switch ON (II).
    - MAP sensor
    - Output shaft (countershaft) speed sensor
    - APP sensor A

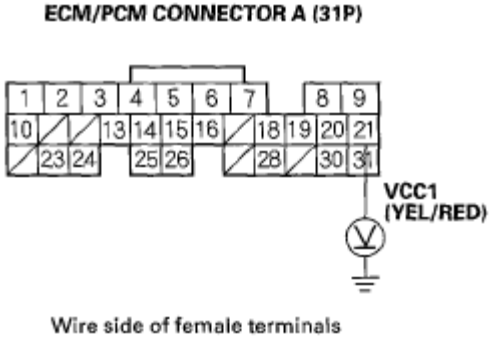

Fig. 166: Measuring Voltage Between Body Ground And ECM/PCM Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Replace the sensor that restored 5 V when disconnected.

NO -Go to step 76.

76. Turn the ignition switch OFF.

77. Disconnect ECM/PCM connector A (31P).
78. Check for continuity between ECM/PCM connector terminal A21 and body ground.

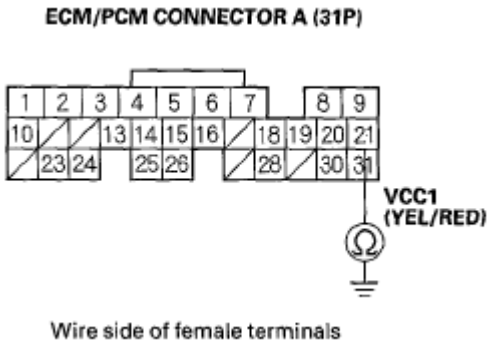

Fig. 167: Checking Continuity Between ECM/PCM Connector Terminal A21 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (A21) and the MAP sensor or the output shaft (countershaft) speed sensor, APP sensor A.

NO -Update the ECM/PCM if it does not have the latest software, or substitute a known-good ECM/PCM (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**).

79. Measure voltage between body ground and ECM/PCM connector terminal A20.

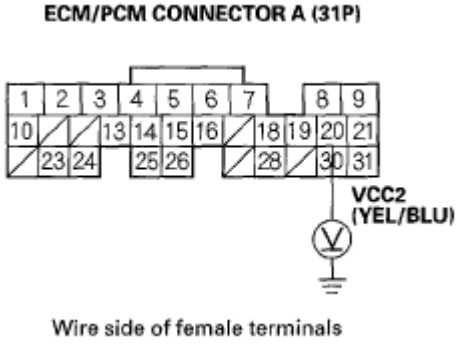

Fig. 168: Measuring Voltage Between Body Ground And ECM/PCM Connector Terminal A20
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Go to step 85.

NO -Go to step 80.

80. Turn the ignition switch OFF.
81. Disconnect the connector from each of these sensors, one at a time, while measuring voltage between body ground and ECM/PCM connector terminal A20 with the ignition switch ON (II).
    - APP sensor B
    - A/T model: Input shaft (mainshaft) speed sensor

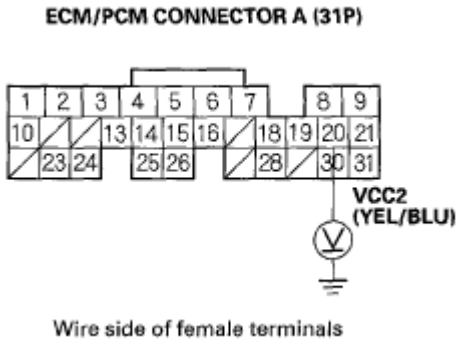

Fig. 169: Measuring Voltage Between Body Ground And ECM/PCM Connector Terminal A20
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Replace the sensor that restored 5 V when disconnected.

NO -Go to step 82.

82. Turn the ignition switch OFF.
83. Disconnect ECM/PCM connector A (31P).
84. Check for continuity between ECM/PCM connector terminal A20 and body ground.

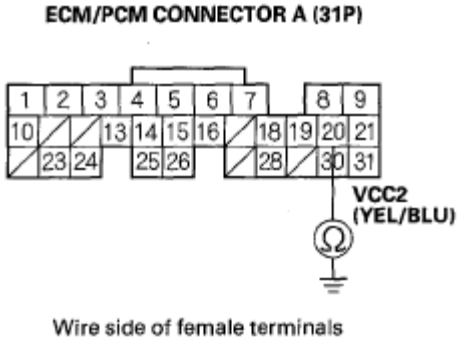

Fig. 170: Checking Continuity Between ECM/PCM Connector Terminal A20 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (A20) and the APP sensor B or the input shaft (mainshaft) speed sensor.

NO -Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**).

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

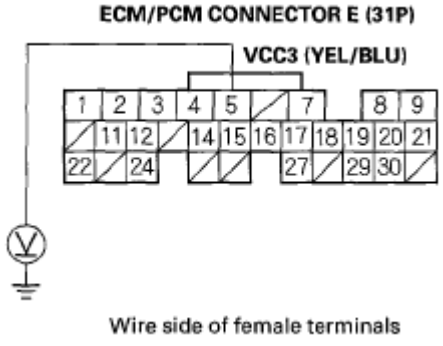

Fig. 171: Measuring Voltage Between Body Ground And ECM/PCM Connector Terminal E5
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

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

NO -Go to step 86.

86. Turn the ignition switch OFF.
87. Disconnect the FTP sensor 3P connector, then measure voltage between body ground and ECM/PCM connector terminal E5 with the ignition switch ON (II).

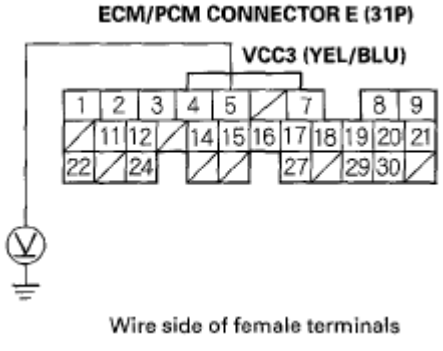

Fig. 172: Measuring Voltage Between Body Ground And ECM/PCM Connector Terminal E5
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES -Replace the FTP sensor (see **FTP SENSOR REPLACEMENT**).

NO -Go to step 88.

88. Turn the ignition switch OFF.
89. Disconnect ECM/PCM connector E (31P).
90. Check for continuity between ECM/PCM connector terminal E5 and body ground.

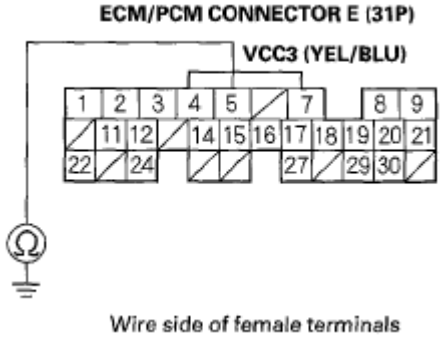

Fig. 173: Checking Continuity Between ECM/PCM Connector Terminal E5 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the ECM/PCM (E5) and FTP sensor.

NO -Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**).

INJECTOR REPLACEMENT

1. Relieve fuel pressure (see **FUEL PRESSURE RELIEVING**).
2. Remove the intake manifold cover (see step 3 in **REMOVAL**).
3. Disconnect the connectors from the injectors (A).

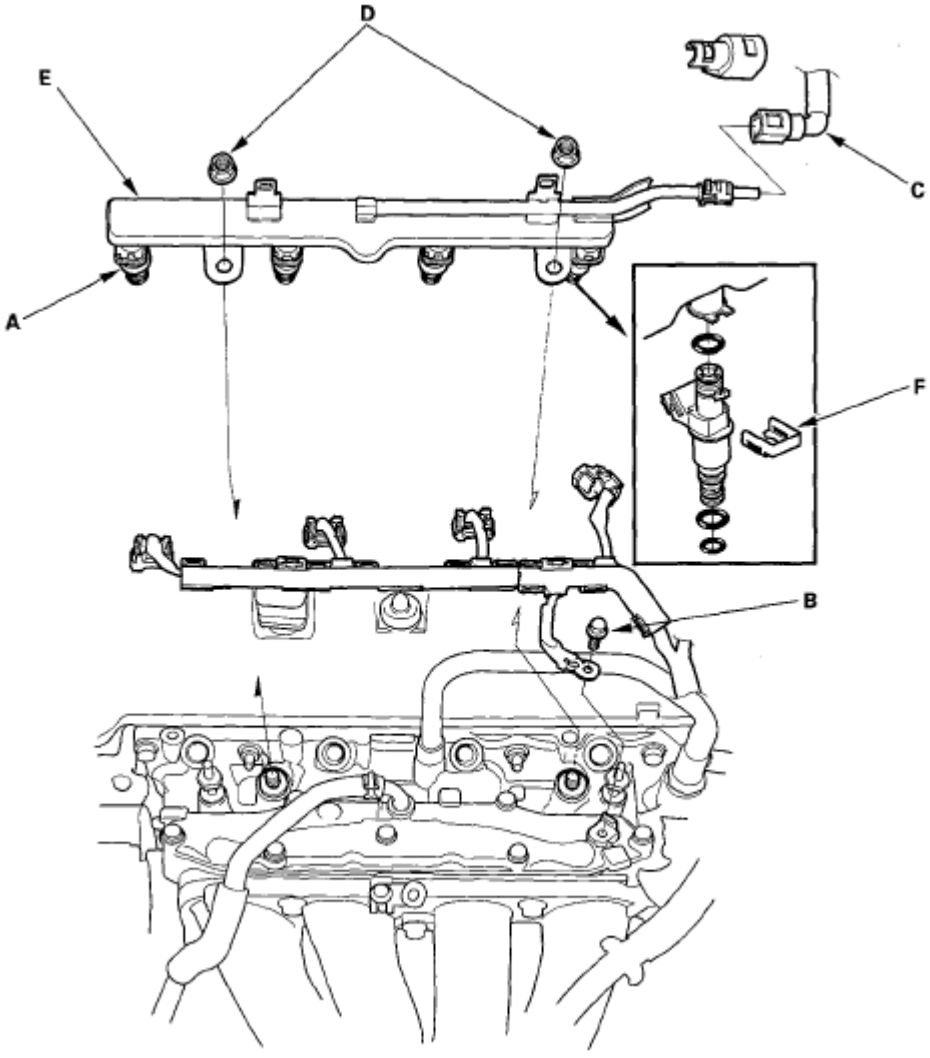

Fig. 174: Identifying Injectors, Ground Cable Bolt, Quick-Connect Fittings And Fuel Rail
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the ground cable bolt (G101) (B).
5. Disconnect the quick-connect fittings (C).
6. Remove the fuel rail mounting nuts (D) from the fuel rail (E).
7. Remove the injector clip (F) from the injector.
8. Remove the injector from the fuel rail.
9. Coat the new O-rings (A) with clean engine oil, and insert the injectors (B) into the fuel rail (C).

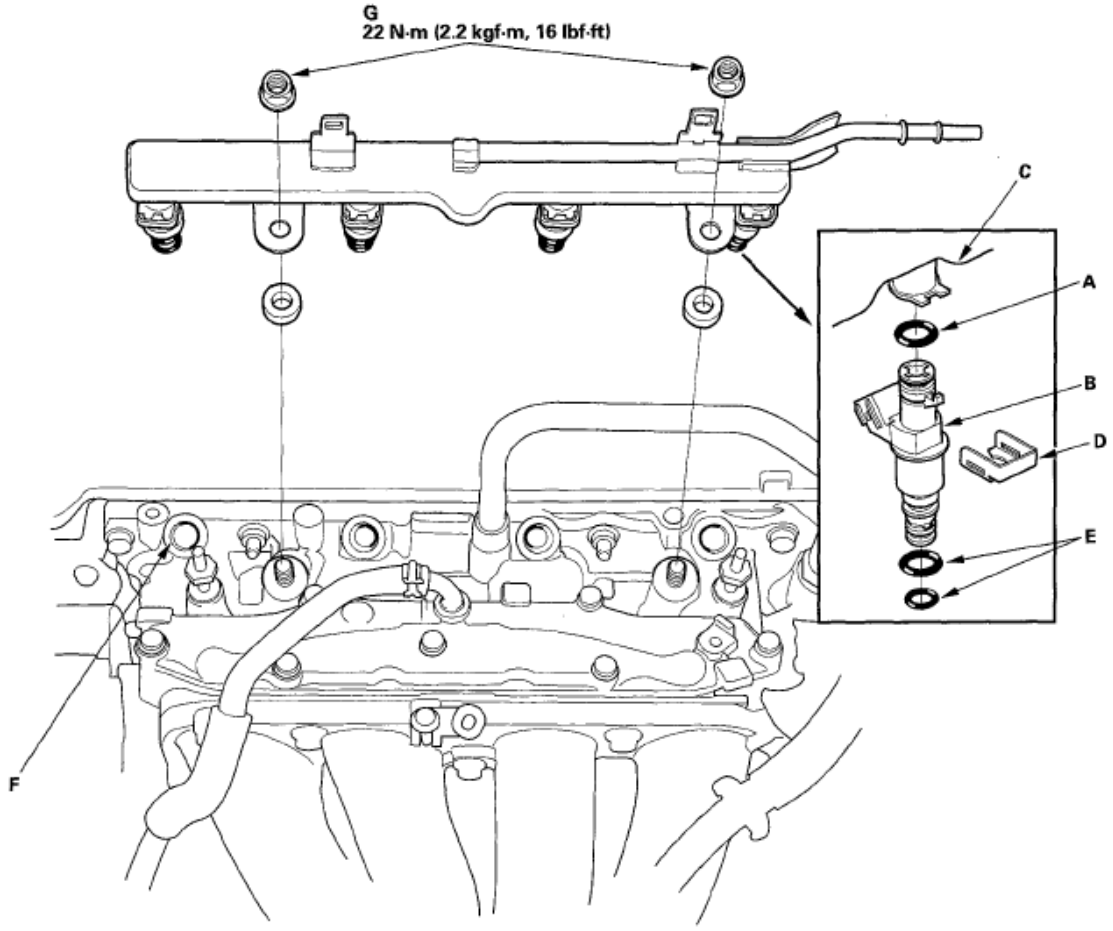

Fig. 175: Identifying O-Rings, Injectors, Fuel Rail, Injector Clip And Injector Base With Torque Specification
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Install the injector clip (D).
11. Coat the injector O-rings (E) with clean engine oil.
12. Install the injectors in the injector base (F).
13. Install the fuel rail mounting nuts (G) and the ground cable bolt (G101).
14. Connect the connectors on the injectors.
15. Connect the quick-connect fitting (see **FUEL LINE/QUICK-CONNECT FITTING INSTALLATION**).
16. Turn the ignition switch ON (II), but do not operate the starter. After the fuel pump runs for about 2 seconds, the fuel rail will be pressurized. Repeat this two or three times, then check for fuel leakage.
17. Install the intake manifold cover.

MAP SENSOR REPLACEMENT

1. Disconnect the MAP sensor connector (A).

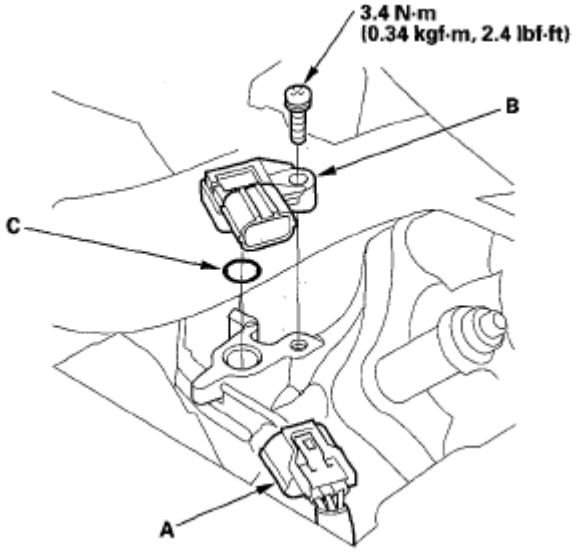

Fig. 176: Identifying O-Ring, MAP Sensor And Connector With Torque Specification
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the MAP sensor (B).
3. Install the parts in the reverse order of removal with a new O-ring (C) coated with clean engine oil.

MAF SENSOR/IAT SENSOR REPLACEMENT

1. Disconnect the MAF sensor/IAT sensor connector (A).

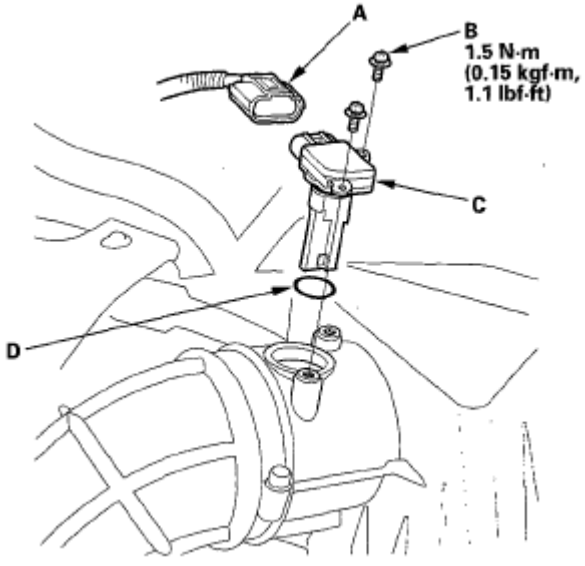

Fig. 177: Identifying MAF Sensor/IAT Sensor Connector With Torque Specification
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the bolts (B).

3. Remove the MAF sensor/IAT sensor (C).
4. Install the parts in the reverse order of removal with a new O-ring (D) coated with clean engine oil.

ECT SENSOR 1 REPLACEMENT

1. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
2. Remove the EVAP canister purge valve (see **FTP SENSOR REPLACEMENT**).
3. Unbolt the under-hood fuse/relay box bolt, and move the assembly aside.
4. Drain the engine coolant (see **COOLANT CHECK**).
5. Disconnect the ECT sensor 1 connector (A).

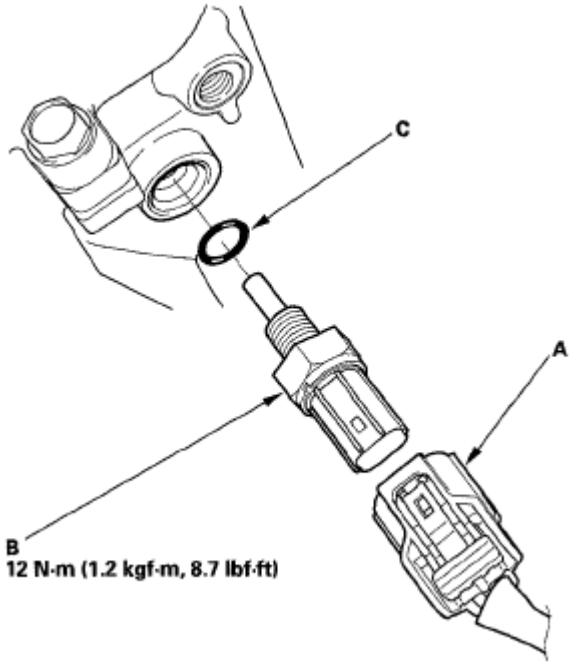

Fig. 178: Identifying O-Ring, ECT Sensor 1 And Connector With Torque Specification
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Remove the ECT sensor 1 (B).
7. Install the parts in the reverse order of removal with a new O-ring (C) coated with clean engine oil, then refill the radiator with engine coolant (see **COOLANT CHECK**).

ECT SENSOR 2 REPLACEMENT

1. Drain the engine coolant (see **COOLANT CHECK**).
2. Remove the splash shield.
3. Disconnect the ECT sensor 2 connector (A).

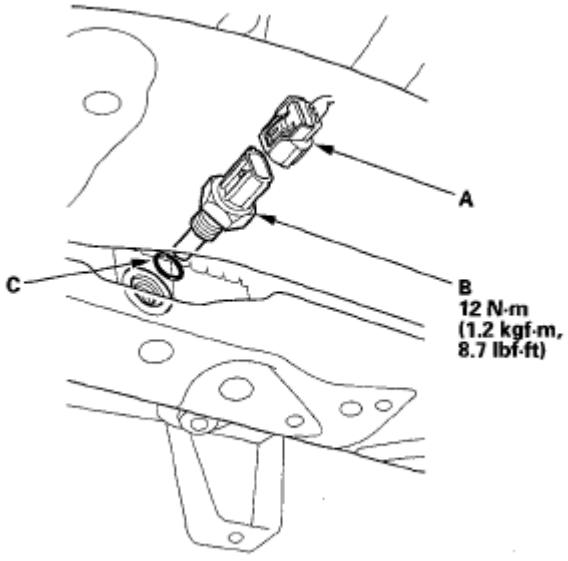

Fig. 179: Identifying O-Ring, ECT Sensor 2 And Connector With Torque Specification
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove ECT sensor 2 (B).
5. Install the parts in the reverse order of removal with a new O-ring (C) coated with clean engine oil, then refill the radiator with engine coolant (see **COOLANT CHECK**).

A/F SENSOR REPLACEMENT

Special Tools Required

O2 sensor socket wrench. Snap-on YA8875, SP Tools 93750, or equivalent, commercially available

1. Disconnect the A/F sensor 4P connector (A), then remove the A/F sensor (B).

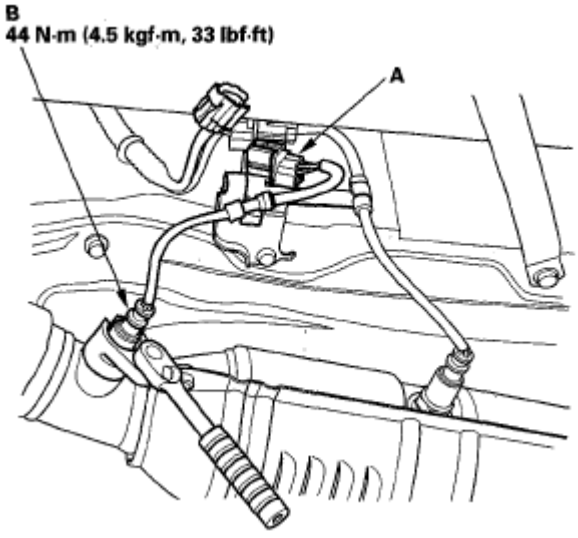

Fig. 180: Identifying A/F Sensor 4P And Connector With Torque Specification
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the parts in the reverse order of removal.

SECONDARY HO2S REPLACEMENT

Special Tools Required

O2 sensor socket wrench, Snap-on YA8875, SP Tools 93750, or equivalent, commercially available

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

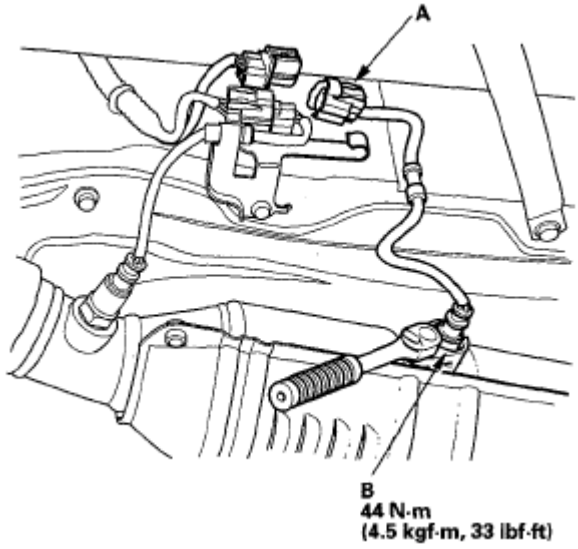

Fig. 181: Removing Secondary HO2S With Torque Specification
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the parts in the reverse order of removal.

CMP SENSOR B REPLACEMENT

1. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
2. Remove the EVAP canister purge valve (see **FTP SENSOR REPLACEMENT**).
3. Disconnect the CMP sensor B connector (A).

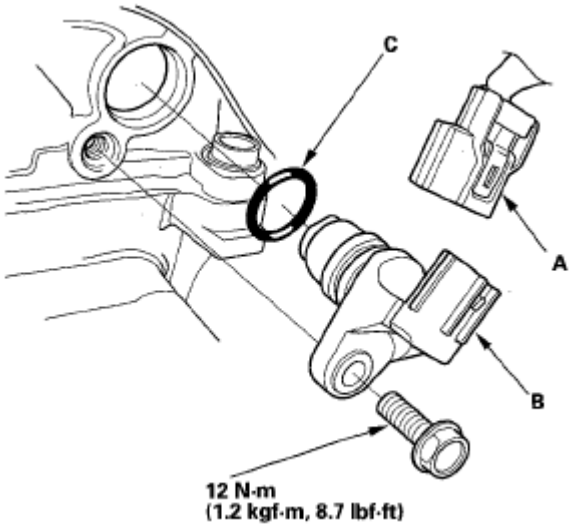

Fig. 182: Identifying O-Ring, CMP Sensor B And Connector With Torque Specification
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove CMP sensor B(B).
5. Install the parts in the reverse order of removal with a new O-ring (C) coated with clean engine oil.

CKP SENSOR REPLACEMENT

1. Disconnect the CKP sensor connector (A).

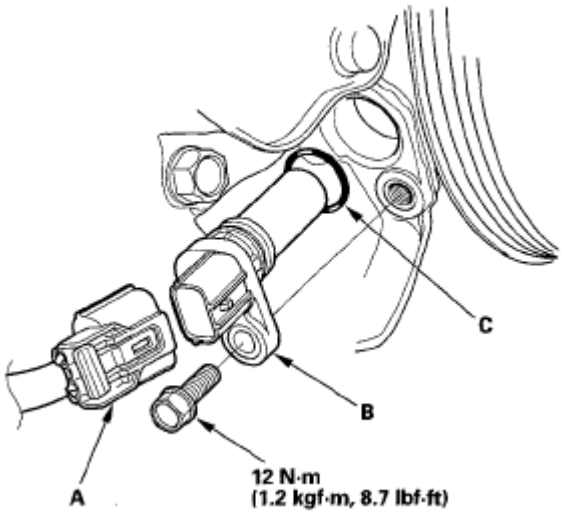

Fig. 183: Identifying O-Ring, CKP Sensor And Connector With Torque Specification
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the CKP sensor (B).
3. Install the parts in the reverse order of removal with a new O-ring (C) coated with clean engine oil.
4. Do the CKP pattern clear/CKP pattern learn procedure (see **CRANK (CKP) PATTERN CLEAR/CRANK (CKP) PATTERN LEARN**).

OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR REPLACEMENT

M/T MODEL

1. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
2. Disconnect the output shaft (countershaft) speed sensor connector (A).

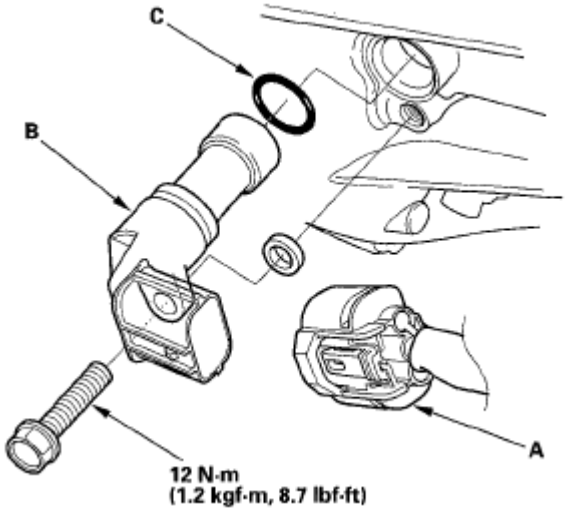

Fig. 184: Identifying O-Ring, Output Shaft (Countershaft) Speed Sensor And Connector With Torque Specification
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the output shaft (countershaft) speed sensor (B).
4. Install the parts in the reverse order of removal with a new O-ring (C) coated with clean engine oil.

KNOCK SENSOR REPLACEMENT

1. Disconnect the knock sensor connector (A).

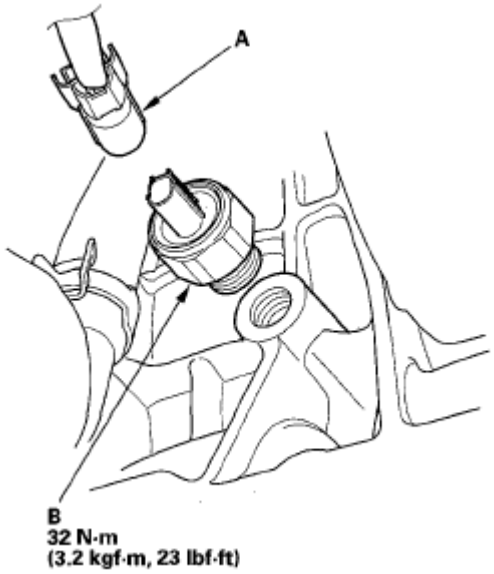

Fig. 185: Identifying Knock Sensor And Connector With Torque Specification
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the knock sensor (B).
3. Install the parts in the reverse order of removal.

ELD REPLACEMENT

1. Make sure you have the anti-theft code for the audio system.
2. Disconnect the negative cable from the battery, then disconnect the positive cable.
3. Remove the two positive (+) terminals (A).
4. Remove the under-hood fuse/relay box from the bracket.
5. Remove the under-hood fuse/relay box lower cover (B) from the fuse/relay box.

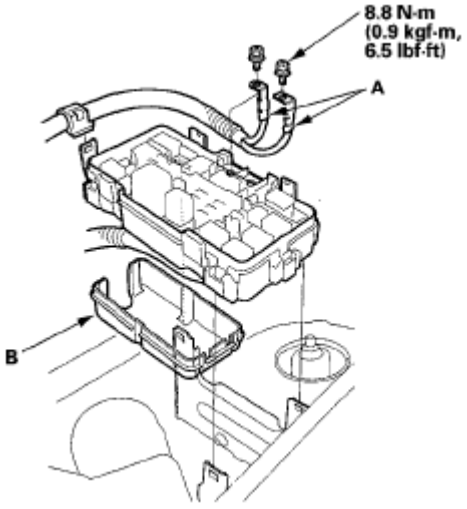

Fig. 186: Identifying Under-Hood Fuse/Relay Box Lower Cover With Torque Specification
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Remove the No. 20 IG1 (50 A) fuse (A) and the No. 19 BATTERY (100 A) fuse (B).

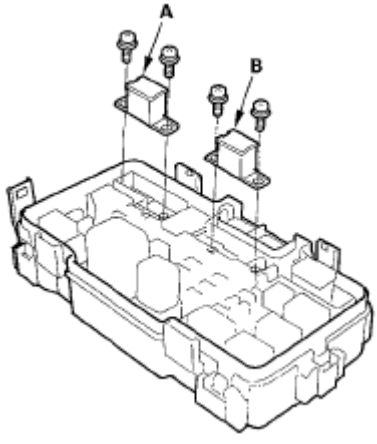

Fig. 187: Identifying Fuses
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Disconnect the ELD 3P connector (A), then remove the ELD (B).

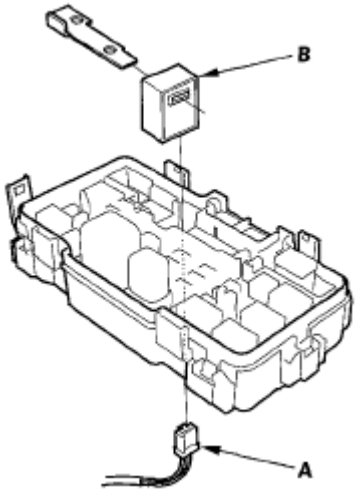

Fig. 188: Identifying ELD And 3P Connector
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Install the parts in the reverse order of removal.
9. Enter the anti-theft code for the audio system.
10. Set the clock.

ECM/PCM REPLACEMENT

Special Tools Required

- Honda diagnostics system (HDS) tablet tester
- Honda interface module (HIM) and an iN workstation with HDS and CM update software
- HDS pocket tester
- GNA 600 and an iN workstation with HDS and CM update software

NOTE:

- **Make sure the HDS is loaded with the latest software version.**
- **If you are replacing the ECM/PCM after substituting a known-good ECM/PCM, reinstall the original ECM/PCM, then do this procedure.**
- **During the procedure, if any READ DATA, WRITE DATA, or other data checks fail, note the failure, then continue.**

1. Connect the HDS to the data link connector (DLC) (A) located under the driver's side of the dashboard.

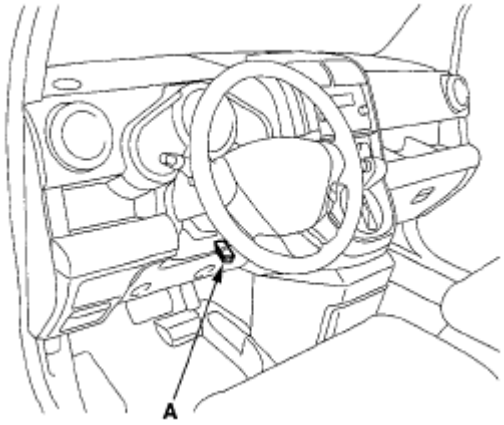

Fig. 189: Identifying Data Link Connector (DLC)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the ECM/PCM and other vehicle system. If it doesn't, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING**). If you are returning from DLC circuit troubleshooting, skip steps 4 through 7, 21 through 23, and 26 through 27, and do this after replacing the ECM/PCM:
   - Replace the engine oil (see **ENGINE OIL REPLACEMENT**) and the engine oil filter (see **ENGINE OIL FILTER REPLACEMENT**).
   - Clean the throttle body (see **THROTTLE BODY CLEANING**).
4. Select the PGM-FI system with the HDS.
5. Select the INSPECTION MENU with the HDS.
6. Select the ETCS TEST, then select the TP POSITION CHECK, and follow the screen prompts.

NOTE: If the TP POSITION CHECK indicates FAILED, continue with this procedure.

7. Select the REPLACE ECM/PCM MENU, then select READ DATA and follow the screen prompts.

NOTE:
- **Doing this step copies (READS) the engine oil life data from the original ECM/PCM so you can later download (WRITE) it into the new ECM/PCM.**
- **If READ DATA indicates FAILED, continue with this procedure.**

8. Turn the ignition switch OFF.
9. Jump the SCS line with the HDS.
10. Remove the passenger's dashboard undercover (see **GLOVE BOX REMOVAL/INSTALLATION**), the side kick panel (see **TRIM REMOVAL/INSTALLATION - DOOR AREAS**), and the glove box (see **GLOVE BOX REMOVAL/INSTALLATION**).
11. Cut the plastic cross brace in the glove box opening with diagonal cutters in the area shown, and discard

it.

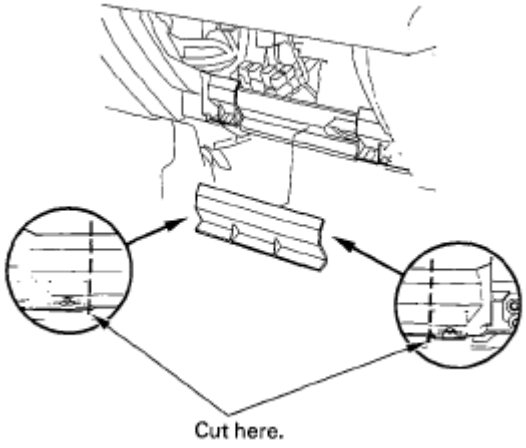

Fig. 190: Cutting Plastic Cross Brace In Glove Box Opening
Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. Remove the relays (A), then remove the bolts (B) and the glove box frame (C).

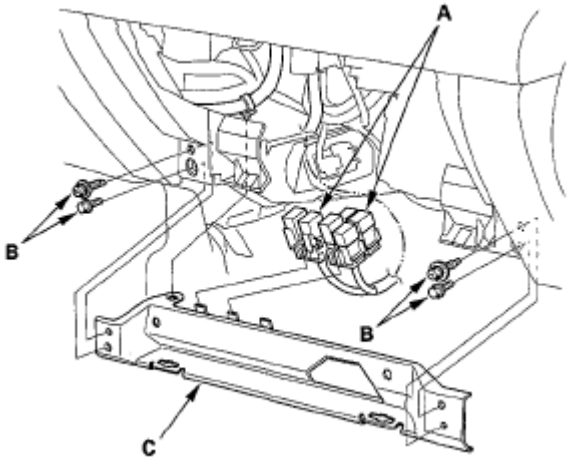

Fig. 191: Identifying Relays, Bolts And Glove Box Frame
Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Remove the gray 20P ECM/PCM wire harness connector (A) from the ECM/PCM mounting bracket.

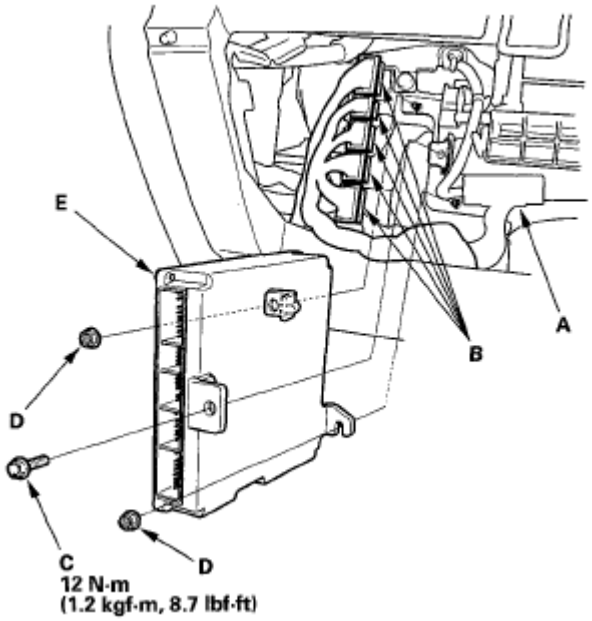

Fig. 192: Identifying ECM/PCM And Wire Harness Connector With Torque Specification
Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Disconnect the ECM/PCM connectors (B).
15. Remove the ECM/PCM mounting bolt (C) and the bracket.
16. Remove the nuts (D), then remove the ECM/PCM (E).
17. Install the parts in the reverse order of removal.
18. Open the SCS line with the HDS.
19. Turn the ignition switch ON (II).
20. Manually input the VIN to the ECM/PCM with the HDS.

NOTE: DTC P0630 "VIN Not Programmed or Mismatch" may be stored because the VIN has not been programmed into the ECM/PCM; ignore it, and continue this procedure.

21. If the READ DATA (engine oil life) failed in step 7, go to step 24. Otherwise, go to step 22.
22. Select the PGM-FI system with the HDS.
23. Select the REPLACE ECM/PCM MENU, then select WRITE DATA and follow the screen prompts.

NOTE: If the WRITE DATA indicates FAILED, continue with this procedure.

24. Select IMMOBI system with the HDS.
25. Enter the immobilizer code with the ECM/PCM replacement procedure in the HDS; it allows you to start the engine.
26. If the TP POSITION CHECK failed in step 6 clean the throttle body (see **THROTTLE BODY**

CLEANING), then go to step 27.

27. If the READ DATA failed in step 7 or the WRITE DATA failed in step 23, replace the engine oil (see **ENGINE OIL REPLACEMENT**) and engine oil filter (see **ENGINE OIL FILTER REPLACEMENT**), then go to step 28.
28. Select PGM-FI system, and reset the ECM/PCM with the HDS.
29. Update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**).
30. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE**).
31. Do the CKP pattern learn procedure (see **CRANK (CKP) PATTERN CLEAR/CRANK (CKP) PATTERN LEARN**).