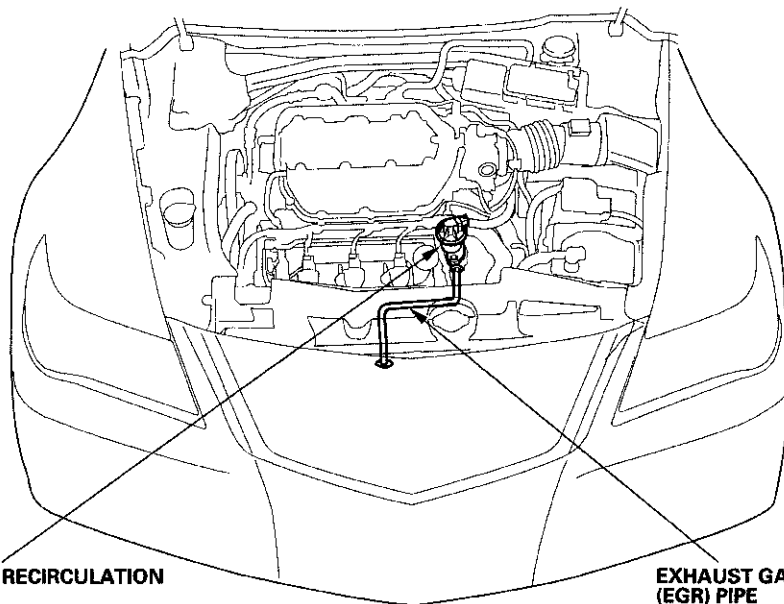


EGR System

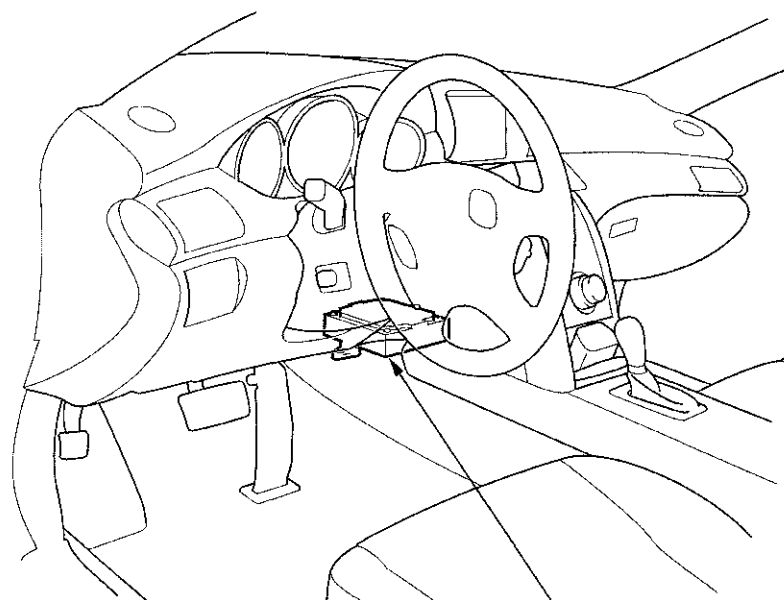


Component Location Index



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Removal and Installation, page 11-388



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EGR System

DTC Troubleshooting

DTC P0400: EGR System Leak Detected

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see page 11-3).

1. Check for a loose or damaged EGR pipe.

Is the EGR pipe OK?

YES—Go to step 2.

NO—Reconnect or replace the EGR pipe, then go to step 7.

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

3. Test-drive under these conditions:

- Engine coolant temperature (ECT SENSOR 1) above 158 °F (70 °C)
- Transmission in D
- Vehicle speed at 25 mph (40 km/h) or less for 5 minutes or more
- Maintain the vehicle speed at 32 mph (50 km/h) and engine speed between 1,500—3,000 rpm for 1 minute or more

4. Monitor the OBD STATUS for DTC P0400 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 exhaust gas leakage between the EGR pipe and the EGR valve. If the screen indicates NOT COMPLETED, go to step 3 and recheck.

5. Turn the ignition switch to LOCK (0).

6. Replace the EGR valve (see page 11-388).

7. Turn the ignition switch to ON (II).

8. Reset the PCM with the HDS.

9. Do the PCM idle learn procedure (see page 11-313).

10. Test-drive under these conditions:

- Engine coolant temperature (ECT SENSOR 1) above 158 °F (70 °C)
- Transmission in D
- Vehicle speed at 25 mph (40 km/h) or less for 5 minutes or more
- Maintain the vehicle speed at 32 mph (50 km/h) and engine speed between 1,500—3,000 rpm for 1 minute or more

11. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P0400 indicated?

YES—Check for exhaust gas leakage between the EGR pipe and the EGR valve, then go to step 1.

NO—Go to step 12.

12. Monitor the OBD STATUS for DTC P0400 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

YES—Troubleshooting is complete. If any other Pending or Confirmed DTCs were indicated in step 11, go to the indicated DTC's troubleshooting. ■

NO—If the screen indicates FAILED, check for exhaust gas leakage between the EGR pipe and the EGR valve, then go to step 1. If the screen indicates NOT COMPLETED, go to step 10.



DTC P0401: EGR Insufficient Flow

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see page 11-3).

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in P or N) until the radiator fan comes on, then let it idle.

4. Do the EGR TEST in the INSPECTION MENU with the HDS.

Is the result OK?

YES—Go to step 5.

NO—Go to step 7.

5. Test-drive under these conditions:

- Engine coolant temperature (ECT SENSOR 1) above 158 °F (70 °C)
- Transmission in D
- Drive at a steady speed between 55—75 mph (88—120 km/h) for at least 10 seconds
- During the drive, decelerate (with the throttle fully closed) for 5 seconds

6. Monitor the OBD STATUS for DTC P0401 in the DTCs MENU with the HDS.

Does the screen indicate FAILED?

YES—Clean the intake manifold EGR port and the EGR pipe (see page 11-388) with throttle plate cleaner. Also, clean the passage inside the EGR valve with throttle plate cleaner, then go to step 9.

NO—If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the EGR valve and the PCM. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 5 and recheck.

7. Turn the ignition switch to LOCK (0).

8. Replace the EGR valve (see page 11-388).

9. Turn the ignition switch to ON (II).

10. Reset the PCM with the HDS.

11. Do the PCM idle learn procedure (see page 11-313).

12. Test-drive under these conditions:

- Engine coolant temperature (ECT SENSOR 1) above 158 °F (70 °C)
- Transmission in D
- Drive at a steady speed between 55—75 mph (88—120 km/h) for at least 10 seconds
- During the drive, decelerate (with the throttle fully closed) for 5 seconds

13. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P0401 indicated?

YES—Check for poor connections or loose terminals at the EGR valve and the PCM. If the connections and the terminals are OK, go to step 15.

NO—Go to step 14.

14. Monitor the OBD STATUS for DTC P0401 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

YES—Troubleshooting is complete. If any other Pending or Confirmed DTCs were indicated in step 13, go to the indicated DTC's troubleshooting. ■

NO—If the screen indicates FAILED, check for poor connections or loose terminals at the EGR valve and the 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 12.

(cont'd)

EGR System

DTC Troubleshooting (cont'd)

15. Update the PCM if it does not have the latest software (see page 11-230), or substitute a known-good PCM (see page 11-7).
16. Test-drive under these conditions:
 - Engine coolant temperature (ECT SENSOR 1) above 158 °F (70 °C)
 - Transmission in D
 - Drive at a steady speed between 55—75 mph (88—120 km/h) for at least 10 seconds
 - During the drive, decelerate (with the throttle fully closed) for 5 seconds
17. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P0401 indicated?

YES—Check for poor connections or loose terminals at the EGR valve and the PCM. If the PCM was updated, substitute a known-good PCM (see page 11-7), then go to step 16. If the PCM was substituted, go to step 1.

NO—Go to step 18.

18. Monitor the OBD STATUS for DTC P0401 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

YES—If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see page 11-232). If any other Pending or Confirmed DTCs were indicated in step 17, go to the indicated DTC's troubleshooting. ■

NO—If the screen indicates FAILED, check for poor connections or loose terminals at the EGR valve and the PCM. If the PCM was updated, substitute a known-good PCM (see page 11-7), then go to step 16. If the PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, go to step 16.

DTC P0404: EGR Valve Circuit Range/Performance Problem

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see page 11-3).

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in P or N) until the radiator fan comes on, then let it idle.
4. Do the EGR TEST in the INSPECTION MENU with the HDS.

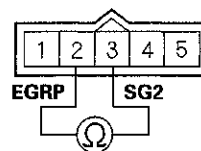
Is the result OK?

YES—Intermittent failure, the system is OK at this time. Clean any carbon build-up on the EGR valve with Acura genuine throttle plate cleaner. ■

NO—Go to step 5.

5. Turn the ignition switch to LOCK (0).
6. Disconnect the EGR valve 5P connector.
7. At the EGR valve side, measure the resistance between EGR valve 5P connector terminals No. 2 and No. 3.

EGR VALVE 5P CONNECTOR



Terminal side of male terminals

Is there 100 kΩ or more?

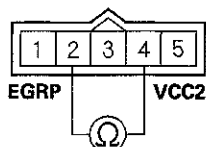
YES—Go to step 25.

NO—Go to step 8.



8. At the EGR valve side, measure the resistance between EGR valve 5P connector terminals No. 2 and No. 4.

EGR VALVE 5P CONNECTOR



Terminal side of male terminals

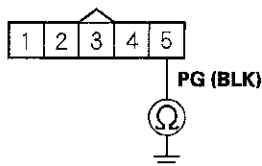
Is there 100 kΩ or more?

YES—Go to step 25.

NO—Go to step 9.

9. Check for continuity between EGR valve 5P connector terminal No. 5 and body ground.

EGR VALVE 5P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Go to step 10.

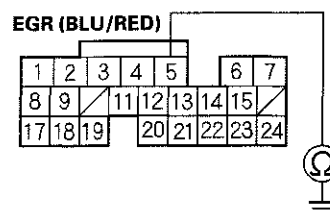
NO—Repair open in the wire between the EGR valve and G101, then go to step 26.

10. Jump the SCS line with the HDS.

11. Disconnect PCM connector B (24P).

12. Check for continuity between PCM connector terminal B5 and body ground.

PCM CONNECTOR B (24P)



Wire side of female terminals

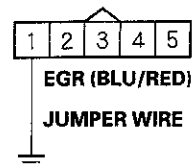
Is there continuity?

YES—Repair short in the wire between the PCM (B5) and the EGR valve, then go to step 27.

NO—Go to step 13.

13. Connect EGR valve 5P connector terminal No. 1 to body ground with a jumper wire.

EGR VALVE 5P CONNECTOR



Wire side of female terminals

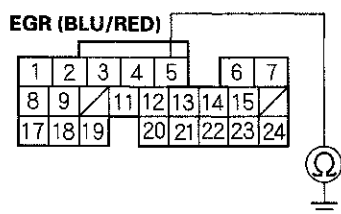
(cont'd)

EGR System

DTC Troubleshooting (cont'd)

14. Check for continuity between PCM connector terminal B5 and body ground.

PCM CONNECTOR B (24P)



Wire side of female terminals

Is there continuity?

YES—Go to step 15.

NO—Repair open in the wire between the PCM (B5) and the EGR valve, then go to step 27.

15. Remove the EGR valve (see page 11-388).
16. Clean any carbon build-up on the EGR valve with Acura genuine throttle plate cleaner.
17. Install the EGR valve (see page 11-388).
18. Reconnect the EGR valve 5P connector.
19. Reconnect PCM connector B (24P).
20. Turn the ignition switch to ON (II).
21. Reset the PCM with the HDS.
22. Do the PCM idle learn procedure (see page 11-313).
23. Start the engine. Hold the engine speed at 3,000 rpm without load (in P or N) until the radiator fan comes on, then let it idle.

24. Do the EGR TEST in the INSPECTION MENU with the HDS.

Is the result OK?

YES—Go to step 33.

NO—Go to step 25.

25. Turn the ignition switch to LOCK (0).
26. Replace the EGR valve (see page 11-388).
27. Reconnect all connectors.
28. Turn the ignition switch to ON (II).
29. Reset the PCM with the HDS.
30. Do the PCM idle learn procedure (see page 11-313).
31. Start the engine. Hold the engine speed at 3,000 rpm without load (in P or N) until the radiator fan comes on, then let it idle.
32. Do the EGR TEST in the INSPECTION MENU with the HDS.
33. Check for Pending or Confirmed DTCs with the HDS.
- Is DTC P0404 indicated?*
- YES**—Check for poor connections or loose terminals at the EGR valve and the PCM, then go to step 1. If the connections and terminals are OK, go to step 34.
- NO**—Troubleshooting is complete. If any other Pending or Confirmed DTCs are indicated, go to the indicated DTC's troubleshooting. ■
34. Update the PCM if it does not have the latest software (see page 11-230), or substitute a known-good PCM (see page 11-7).
35. Start the engine. Hold the engine speed at 3,000 rpm without load (in P or N) until the radiator fan comes on, then let it idle.



36. Do the EGR TEST in the INSPECTION MENU with the HDS.

37. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P0404 indicated?

YES—Check for poor connections or loose terminals at the EGR valve and the PCM. If the PCM was updated, substitute a known-good PCM (see page 11-7), then go to step 35. If the PCM was substituted, go to step 1.

NO—If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see page 11-232). If any other Pending or Confirmed DTCs are indicated, go to the indicated DTC's troubleshooting. ■

DTC P0406: EGR Valve Position Sensor Circuit High Voltage

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see page 11-3).

1. Turn the ignition switch to ON (II).

2. Check the EGR VLS in the DATA LIST with the HDS.

Is 4.88 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 EGR valve and the PCM. ■

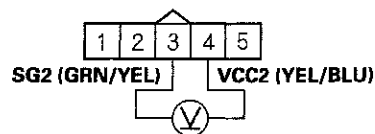
3. Turn the ignition switch to LOCK (0).

4. Disconnect the EGR valve 5P connector.

5. Turn the ignition switch to ON (II).

6. Measure the voltage between EGR valve 5P connector terminals No. 3 and No. 4.

EGR VALVE 5P CONNECTOR



Wire side of female terminals

Is there about 5 V?

YES—Go to step 8.

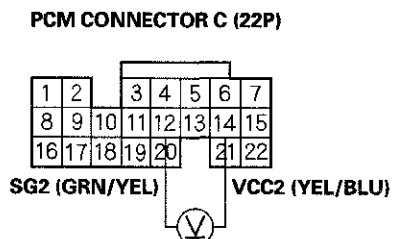
NO—Go to step 7.

(cont'd)

EGR System

DTC Troubleshooting (cont'd)

7. Measure the voltage between PCM connector terminals C12 and C14.



Is there about 5 V?

YES—Repair open in the wire between the EGR valve and the PCM (C12), then go to step 10.

NO—Go to step 14.

8. Turn the ignition switch to LOCK (0).
9. Replace the EGR valve (see page 11-388).
10. Turn the ignition switch to ON (II).
11. Reset the PCM with the HDS.
12. Do the PCM idle learn procedure (see page 11-313).

13. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P0406 indicated?

YES—Check for poor connections or loose terminals at the EGR valve and the PCM, then go to step 1.

NO—Troubleshooting is complete. If any other Pending or Confirmed DTCs are indicated, go to the indicated DTC's troubleshooting. ■

14. Reconnect all connectors.

15. Update the PCM if it does not have the latest software (see page 11-230), or substitute a known-good PCM (see page 11-7).

16. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P0406 indicated?

YES—Check for poor connections or loose terminals at the EGR valve and the PCM. If the PCM was updated, substitute a known-good PCM (see page 11-7), then recheck. If the PCM was substituted, go to step 1.

NO—If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see page 11-232). If any other Pending or Confirmed DTCs are indicated, go to the indicated DTC's troubleshooting. ■



DTC P2413: EGR System Malfunction

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see page 11-3).

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in P or N) until the radiator fan comes on, then let it idle.
4. Do the EGR TEST in the INSPECTION MENU with the HDS.

Is the result OK?

YES—Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the EGR valve and the PCM. ■

NO—Go to step 5.

5. Turn the ignition switch to LOCK (0).
6. Turn the ignition switch to ON (II).
7. Check the EGR VLS in the DATA LIST with the HDS.

Is about 0 V indicated?

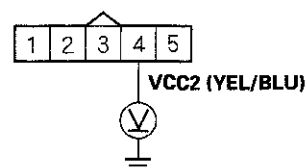
YES—Go to step 8.

NO—Go to step 19.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the EGR valve 5P connector.
10. Turn the ignition switch to ON (II).

11. Measure the voltage between EGR valve 5P connector terminal No. 4 and body ground.

EGR VALVE 5P CONNECTOR



Wire side of female terminals

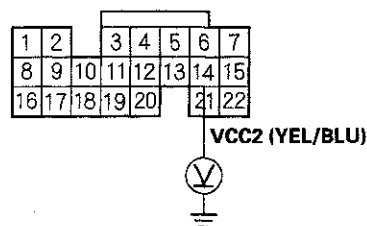
Is there about 5 V?

YES—Go to step 13.

NO—Go to step 12.

12. Measure the voltage between PCM connector terminal C14 and body ground.

PCM CONNECTOR C (22P)



Wire side of female terminals

Is there about 5 V?

YES—Repair open in the wire between the EGR valve and the PCM (C14), then go to step 44.

NO—Go to step 51.

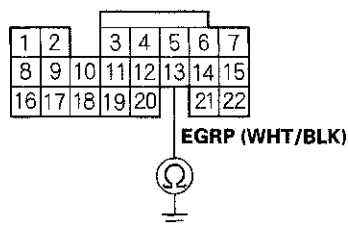
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EGR System

DTC Troubleshooting (cont'd)

13. Turn the ignition switch to LOCK (0).
14. Jump the SCS line with the HDS.
15. Disconnect PCM connector C (22P).
16. Check for continuity between PCM connector terminal C13 and body ground.

PCM CONNECTOR C (22P)



Wire side of female terminals

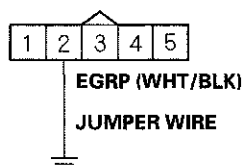
Is there continuity?

YES—Repair short in the wire between the PCM (C13) and the EGR valve, then go to step 44.

NO—Go to step 17.

17. Connect EGR valve 5P connector terminal No. 2 to body ground with a jumper wire.

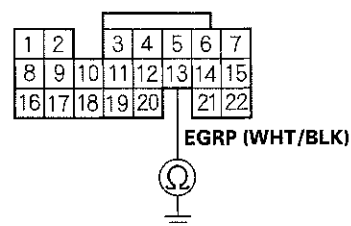
EGR VALVE 5P CONNECTOR



Wire side of female terminals

18. Check for continuity between PCM connector terminal C13 and body ground.

PCM CONNECTOR C (22P)



Wire side of female terminals

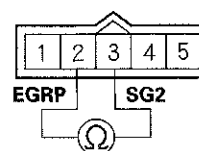
Is there continuity?

YES—Go to step 19.

NO—Repair open in the wire between the PCM (C13) and the EGR valve, then go to step 44.

19. Turn the ignition switch to LOCK (0).
20. Disconnect the EGR valve 5P connector.
21. At the EGR valve side, measure the resistance between EGR valve 5P connector terminals No. 2 and No. 3.

EGR VALVE 5P CONNECTOR



Terminal side of male terminals

Is there 100 k Ω or more?

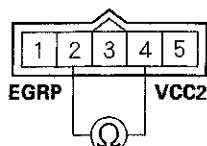
YES—Go to step 43.

NO—Go to step 22.



22. At the EGR valve side, measure the resistance between EGR valve 5P connector terminals No. 2 and No. 4.

EGR VALVE 5P CONNECTOR



Terminal side of male terminals

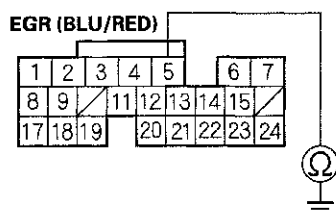
Is there 100 k Ω or more?

YES—Go to step 43.

NO—Go to step 23.

23. Jump the SCS line with the HDS.
24. Disconnect PCM connector B (24P) (Skip this step if the connector is already disconnected.).
25. Check for continuity between PCM connector terminal B5 and body ground.

PCM CONNECTOR B (24P)



Wire side of female terminals

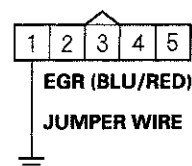
Is there continuity?

YES—Repair short in the wire between the PCM (B5) and the EGR valve, then go to step 44.

NO—Go to step 26.

26. Connect EGR valve 5P connector terminal No. 1 to body ground with a jumper wire.

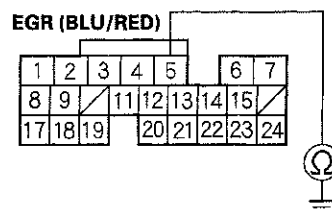
EGR VALVE 5P CONNECTOR



Wire side of female terminals

27. Check for continuity between PCM connector terminal B5 and body ground.

PCM CONNECTOR B (24P)



Wire side of female terminals

Is there continuity?

YES—Go to step 28.

NO—Repair open in the wire between the PCM (B5) and the EGR valve, then go to step 44.

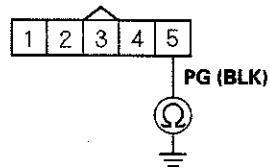
(cont'd)

EGR System

DTC Troubleshooting (cont'd)

28. Remove the jumper wire from the EGR valve 5P connector.
29. Check for continuity between EGR valve 5P connector terminal No. 5 and body ground.

EGR VALVE 5P CONNECTOR



Wire side of female terminals

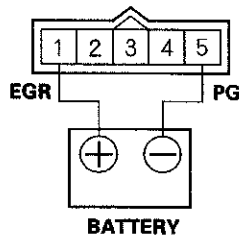
Is there continuity?

YES—Go to step 30.

NO—Repair open in the wire between the EGR valve and G101, then go to step 44.

30. Reconnect PCM connectors B (24P) and C (22P).
31. Connect the positive battery terminal to EGR valve 5P connector terminal No. 1 with a jumper wire.

EGR VALVE 5P CONNECTOR



Terminal side of male terminals

32. Start the engine, and let it idle, then connect the negative battery terminal to EGR valve 5P connector terminal No. 5 with a jumper wire.

Does the engine stall or run rough?

YES—Go to step 51.

NO—Go to step 33.

33. Turn the ignition switch to LOCK (0).
34. Remove the EGR valve (see page 11-388).
35. Clean any carbon build-up on the EGR valve with Acura genuine throttle plate cleaner.
36. Install the EGR valve (see page 11-388).
37. Reconnect the EGR valve 5P connector.
38. Turn the ignition switch to ON (II).
39. Reset the PCM with the HDS.
40. Do the PCM idle learn procedure (see page 11-313).
41. Do the EGR TEST in the INSPECTION MENU with the HDS.

Is the result OK?

YES—Go to step 49.

NO—Go to step 42.



42. Turn the ignition switch to LOCK (0).
43. Replace the EGR valve (see page 11-388).
44. Reconnect all connectors.
45. Turn the ignition switch to ON (II).
46. Reset the PCM with the HDS.
47. Do the PCM idle learn procedure (see page 11-313).
48. Do the EGR TEST in the INSPECTION MENU with the HDS.
49. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P2413 indicated?

YES—Check for poor connections or loose terminals at the EGR valve and the PCM, then go to step 1.

NO—Go to step 50.

50. Monitor the OBD STATUS for DTC P2413 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

YES—Troubleshooting is complete. If any other Pending or Confirmed DTCs were indicated in step 49, go to the indicated DTC's troubleshooting. ■

NO—If the screen indicates FAILED, check for poor connections or loose terminals at the EGR valve and the PCM, then go to step 1. If the screen indicates EXECUTING or OUT OF CONDITION, keep idling until a result comes on.

51. Turn the ignition switch to LOCK (0).
52. Reconnect all connectors.
53. Update the PCM if it does not have the latest software (see page 11-230), or substitute a known-good PCM (see page 11-7).
54. Do the EGR TEST in the INSPECTION MENU with the HDS.
55. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P2413 indicated?

YES—Check for poor connections or loose terminals at the EGR valve and the PCM. If the PCM was updated, substitute a known-good PCM (see page 11-7), then recheck. If the PCM was substituted, go to step 1.

NO—Go to step 56.

56. Monitor the OBD STATUS for DTC P2413 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

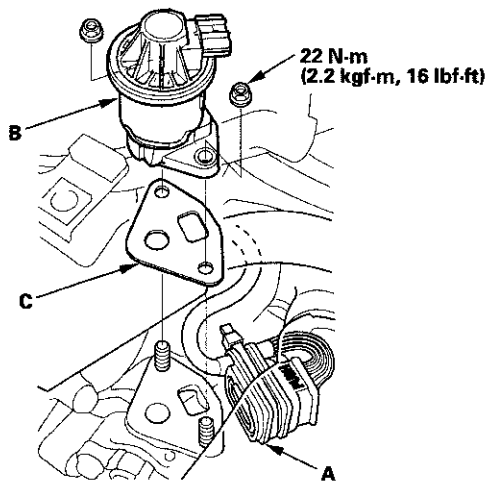
YES—If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see page 11-232). If any other Pending or Confirmed DTCs were indicated in step 51, go to the indicated DTC's troubleshooting. ■

NO—If the screen indicates FAILED, check for poor connections or loose terminals at the EGR valve and the PCM. If the PCM was updated, substitute a known-good PCM (see page 11-7), then recheck. If the PCM was substituted, go to step 1. If the screen indicates EXECUTING or OUT OF CONDITION, keep idling until a result comes on.

EGR System

EGR Valve Replacement

1. Remove the engine cover (see step 2 on page 9-3).
2. Disconnect the EGR valve 5P connector (A).

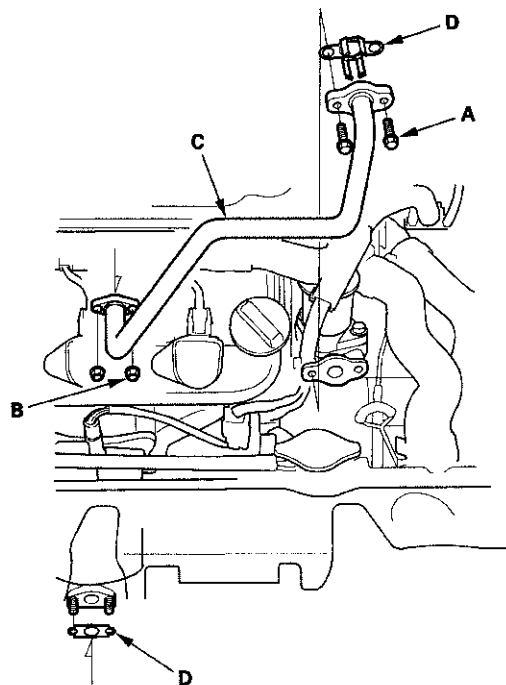


3. Remove the EGR valve (B).
4. Install the parts in the reverse order of removal with a new gasket (C).

EGR Pipe Removal and Installation

Removal

1. Raise the vehicle on a lift.
2. Remove the splash shield (see page 20-177).
3. Remove the EGR pipe mounting bolts (A) and nuts (B).

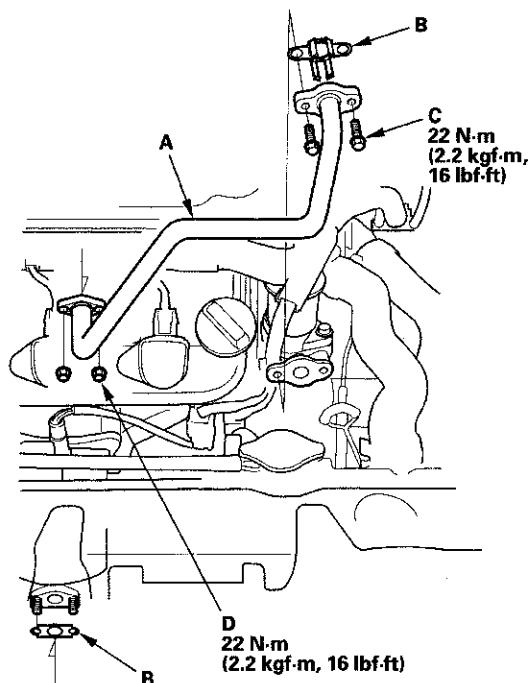


4. Remove the EGR pipe (C) and gaskets (D).



Installation

1. Set the EGR pipe (A) with new gaskets (B).



2. Install the EGR pipe with the mounting bolts (C) and nuts (D).
3. Install the splash shield (see page 20-177).