

2005-08 ENGINE PERFORMANCE

Intake Air System - RL

COMPONENT LOCATION INDEX

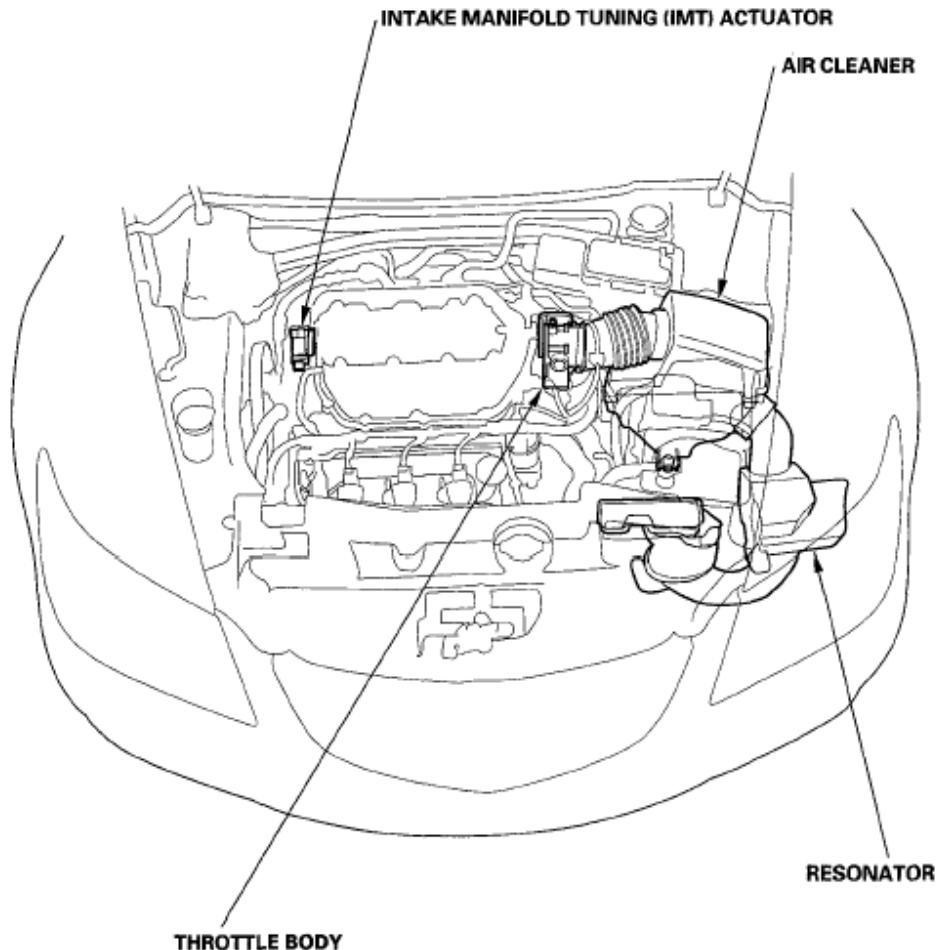


Fig. 1: Identifying Intake Air System Component Location
Courtesy of AMERICAN HONDA MOTOR CO., INC.

DTC TROUBLESHOOTING

DTC P1077: IMT VALVE STUCK IN HIGH RPM POSITION

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.

4. Make sure the IMT VALVE CMD is CLOSED in the DATA LIST with the HDS.

Is CLOSE indicated?

YES -Go to step 5.

NO -Go to step 29.

5. Check the IMT VALVE SW in the DATA LIST with the HDS.

Is OPEN 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 IMT actuator and the PCM.

6. Turn the ignition switch OFF.
7. Disconnect the IMT actuator 5P connector.
8. Turn the ignition switch ON (II).
9. Check the IMT VALVE SW in the DATA LIST with the HDS.

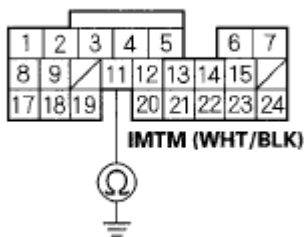
Is CLOSED indicated?

YES -Go to step 14.

NO -Go to step 10.

10. Turn the ignition switch OFF.
11. Jump the SCS line with the HDS.
12. Disconnect PCM connector B (24P).
13. Check for continuity between PCM connector terminal B11 and body ground.

PCM CONNECTOR B (24P)



Wire side of female terminals

Fig. 2: Checking Continuity Between PCM Connector Terminal B11 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the PCM (B11) and the IMT actuator, then go to step 25.

NO -Go to step 31.

14. Turn the ignition switch OFF.
15. Jump the SCS line with the HDS.
16. Disconnect PCM connector B (24P).
17. Check for continuity between PCM connector terminal B4 and body ground.

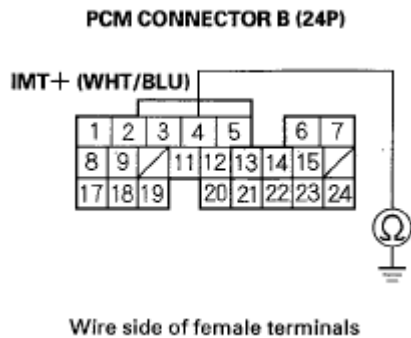


Fig. 3: Checking Continuity Between PCM Connector Terminal B4 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between the PCM (B4) and the IMT actuator, then go to step 25.

NO -Go to step 18.

18. Connect IMT actuator 5P connector terminal No. 5 to body ground with a jumper wire.

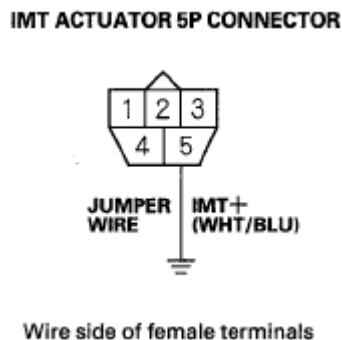


Fig. 4: Connecting IMT Actuator 5P Connector Terminal No. 5 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

19. Check for continuity between PCM connector terminal B4 and body ground.

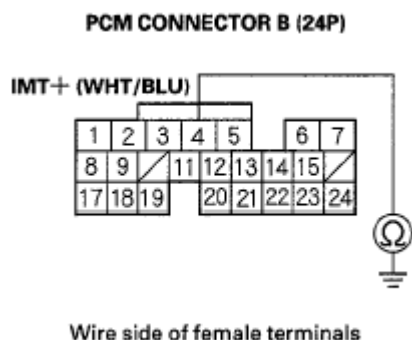


Fig. 5: Checking Continuity Between PCM Connector Terminal B4 And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 20.

NO -Repair open in the wire between the PCM (B4) and the IMT actuator, then go to step 25.

20. Check for continuity between PCM connector terminal B3 and body ground.

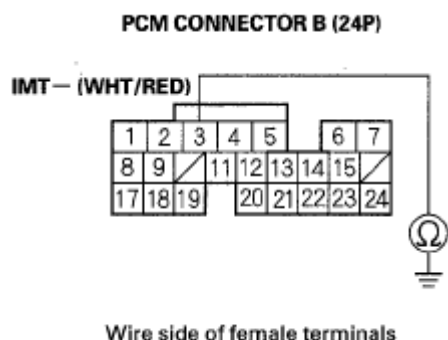


Fig. 6: Checking Continuity Between PCM Connector Terminal B3 And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

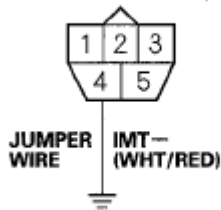
Is there continuity?

YES -Repair short in the wire between the PCM (B3) and the IMT actuator, then go to step 25.

NO -Go to step 21.

21. Connect IMT actuator 5P connector terminal No. 4 to body ground with a jumper wire.

IMT ACTUATOR 5P CONNECTOR



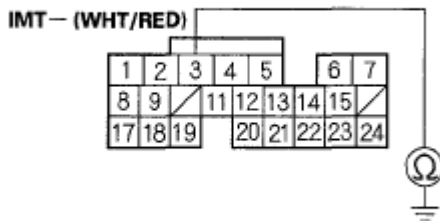
Wire side of female terminals

Fig. 7: Connecting IMT Actuator 5P Connector Terminal No. 4 To Body Ground With Jumper Wire

Courtesy of AMERICAN HONDA MOTOR CO., INC.

22. Check for continuity between PCM connector terminal B3 and body ground.

PCM CONNECTOR B (24P)



Wire side of female terminals

Fig. 8: Checking Continuity Between PCM Connector Terminal B3 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 23.

NO -Repair open in the wire between the PCM (B3) and the IMT actuator, then go to step 25.

23. Remove the IMT actuator (see **IMT ACTUATOR REPLACEMENT**).
24. Move the IMT valve by hand.

Does it move smoothly?

YES -Substitute a known-good IMT actuator (see **IMT ACTUATOR REPLACEMENT**), then go to step 25 and recheck. If DTC P1077 is not indicated, replace the IMT actuator (see **IMT ACTUATOR REPLACEMENT**), then go to step 25. If DTC P1077 is indicated, go to step 33.

NO -Remove the engine cover (see step 1 under **INTAKE MANIFOLD REMOVAL AND INSTALLATION**), and repair the stuck valve. If necessary, replace the intake manifold (see **INTAKE MANIFOLD REMOVAL AND INSTALLATION**), then go to step 25.

25. Reconnect all connectors.

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26. Turn the ignition switch ON (II).
27. Reset the PCM with the HDS.
28. Do the PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).
29. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P1077 indicated?

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

NO -Go to step 30.

30. Monitor the OBD STATUS for DTC P1077 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 **PCM REPLACEMENT**). 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 IMT actuator and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

31. Turn the ignition switch OFF.
32. Reconnect all connectors.
33. Update the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
34. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P1077 indicated?

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

NO -Go to step 35.

35. Monitor the OBD STATUS for DTC P1077 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 **PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 34, go to the indicated DTCs troubleshooting.

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

DTC P1078: IMT VALVE STUCK IN LOW RPM POSITION

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 above 4,000 RPM.
4. Make sure the IMT VALVE CMD is OPEN in the DATA LIST with the HDS.
5. Check the IMT VALVE SW in the DATA LIST with the HDS.

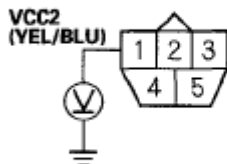
Is CLOSED indicated?

YES -Go to step 6.

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

6. Let the engine idle, then turn the ignition switch OFF.
7. Disconnect the IMT actuator 5P connector.
8. Turn the ignition switch ON (II).
9. Measure voltage between IMT actuator 5P connector terminal No. 1 and body ground.

IMT ACTUATOR 5P CONNECTOR



Wire side of female terminals

Fig. 9: Measuring Voltage Between IMT Actuator 5P Connector Terminal No. 1 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

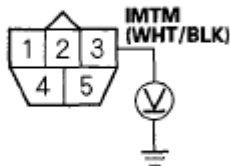
Is there about 5 V?

YES -Go to step 10.

NO -Repair open in the wire between the PCM (C14) and the IMT actuator, then go to step 27.

10. Measure voltage between IMT actuator 5P connector terminal No. 3 and body ground.

IMT ACTUATOR 5P CONNECTOR



Wire side of female terminals

Fig. 10: Measuring Voltage Between IMT Actuator 5P Connector Terminal No. 3 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

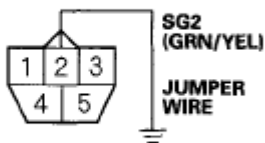
Is there about 5 V?

YES -Go to step 11.

NO -Go to step 16.

11. Turn the ignition switch OFF.
12. Jump the SCS line with the HDS.
13. Disconnect PCM connector C (22P).
14. Connect IMT actuator 5P connector terminal No. 2 to body ground with a jumper wire.

IMT ACTUATOR 5P CONNECTOR



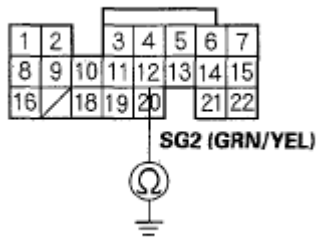
Wire side of female terminals

Fig. 11: Connecting IMT Actuator 5P Connector Terminal No. 2 To Body Ground With Jumper Wire

Courtesy of AMERICAN HONDA MOTOR CO., INC.

15. Check for continuity between PCM connector terminal C12 and body ground.

PCM CONNECTOR C (22P)



Wire side of female terminals

Fig. 12: Checking Continuity Between PCM Connector Terminal C12 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

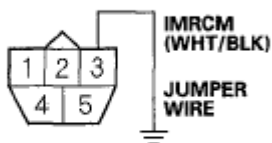
Is there continuity?

YES -Go to step 21.

NO -Repair open in the wire between the PCM (C12) and the IMT actuator, then go to step 29.

16. Turn the ignition switch OFF.
17. Jump the SCS line with the HDS.
18. Disconnect PCM connector B (24P).
19. Connect IMT actuator 5P connector terminal No. 3 to body ground with a jumper wire.

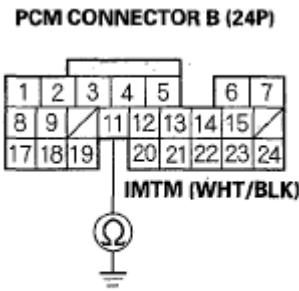
IMT ACTUATOR 5P CONNECTOR



Wire side of female terminals

Fig. 13: Connecting IMT Actuator 5P Connector Terminal No. 3 To Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. Check for continuity between PCM connector terminal B11 and body ground.



Wire side of female terminals

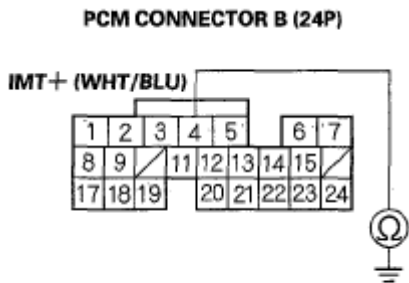
Fig. 14: Checking Continuity Between PCM Connector Terminal B11 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 36.

NO -Repair open in the wire between the PCM (B11) and the IMT actuator, then go to step 27.

21. Check for continuity between PCM connector terminal B4 and body ground.



Wire side of female terminals

Fig. 15: Checking Continuity Between PCM Connector Terminal B4 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

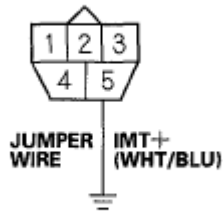
Is there continuity?

YES -Repair short in the wire between the PCM (B4) and the IMT actuator, then go to step 29.

NO -Go to step 22.

22. Connect IMT actuator 5P connector terminal No. 5 to body ground with a jumper wire.

IMT ACTUATOR 5P CONNECTOR



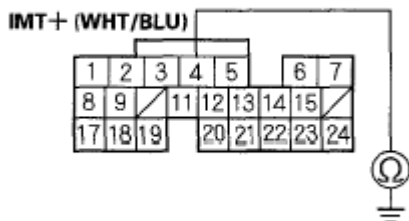
Wire side of female terminals

Fig. 16: Connecting IMT Actuator 5P Connector Terminal No. 5 To Body Ground With Jumper Wire

Courtesy of AMERICAN HONDA MOTOR CO., INC.

23. Check for continuity between PCM connector terminal B4 and body ground.

PCM CONNECTOR B (24P)



Wire side of female terminals

Fig. 17: Checking Continuity Between PCM Connector Terminal B4 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

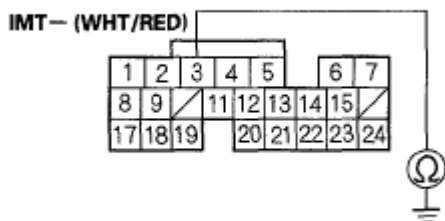
Is there continuity?

YES -Go to step 24.

NO -Repair open in the wire between the PCM (B4) and the IMT actuator, then go to step 29.

24. Check for continuity between PCM connector terminal B3 and body ground.

PCM CONNECTOR B (24P)



Wire side of female terminals

Fig. 18: Checking Continuity Between PCM Connector Terminal B3 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

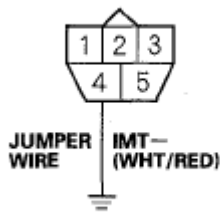
Is there continuity?

YES -Repair short in the wire between the PCM (B3) and the IMT actuator, then go to step 29.

NO -Go to step 25.

25. Connect IMT actuator 5P connector terminal No. 4 to body ground with a jumper wire.

IMT ACTUATOR 5P CONNECTOR



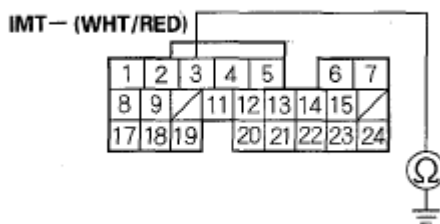
Wire side of female terminals

Fig. 19: Connecting IMT Actuator 5P Connector Terminal No. 4 To Body Ground With Jumper Wire

Courtesy of AMERICAN HONDA MOTOR CO., INC.

26. Check for continuity between PCM connector terminal B3 and body ground.

PCM CONNECTOR B (24P)



Wire side of female terminals

Fig. 20: Checking Continuity Between PCM Connector Terminal B3 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 PCM (B3) and the IMT actuator, go to step 29.

27. Remove the IMT actuator (see **IMT ACTUATOR REPLACEMENT**).
28. Move the IMT valve by hand.

Does it move smoothly?

YES -Substitute a known-good IMT actuator (see **IMT ACTUATOR REPLACEMENT**), then go

to step 29 and recheck. If DTC P1078 is not indicated, replace the IMT actuator (see **IMT ACTUATOR REPLACEMENT**), then go to step 29. If DTC P1078 is indicated, go to step 37.

NO -Remove the engine cover (see step 1 under **INTAKE MANIFOLD REMOVAL AND INSTALLATION**), and repair the stuck valve. If necessary, replace the intake manifold (see **INTAKE MANIFOLD REMOVAL AND INSTALLATION**), then go to step 29.

29. Reconnect all connectors.
30. Turn the ignition switch ON (II).
31. Reset the PCM with the HDS.
32. Do the PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).
33. Start the engine. Hold the engine speed at 4,000 RPM for 10 seconds, then let it idle.
34. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P1078 indicated?

YES -Check for poor connections or loose terminals at the IMT actuator and the PCM, then go to step 1.

NO -Go to step 35.

35. Monitor the OBD STATUS for DTC P1078 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 34, go to the indicated DTCs troubleshooting.

NO -If the screen indicates FAILED, check for poor connections or loose terminals at the IMT actuator and the PCM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

36. Reconnect all connectors.
37. Update the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
38. Start the engine, and hold the engine speed at 4,000 RPM for 10 seconds, then let it idle.
39. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P1078 indicated?

YES -Check for poor connections or loose terminals at the IMT actuator and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then go to step 38. If the PCM was substituted, go to step 1.

NO -Go to step 40.

40. Monitor the OBD STATUS for DTC P1078 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 **PCM REPLACEMENT**). If any other Temporary DTCs or DTCs were indicated in step 39, go to the indicated DTCs troubleshooting.

NO -If the screen indicates FAILED, check for poor connections or loose terminals at the IMT actuator and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then go to step 38. If the PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, go to step 38.

THROTTLE BODY TEST

CARBON ACCUMULATION CHECK

NOTE: If the malfunction indicator lamp (MIL) was reported on, check for diagnostic trouble codes (DTCs).

1. Connect the HDS to the data link connector (DLC) (A) located under the driver's side of the dashboard.

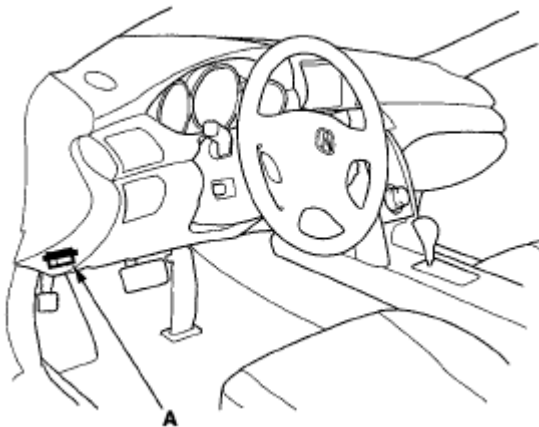


Fig. 21: Identifying Data Link Connector Location
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the PCM and other vehicle systems. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING**).
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 the REL TP SENSOR in the DATA LIST with the HDS. The reading should be below 2.73 %. If it is not, clean the throttle body (see **THROTTLE BODY CLEANING**).

THROTTLE POSITION LEARNING CHECK

NOTE: If the malfunction indicator lamp (MIL) was reported on, check for diagnostic trouble codes (DTCs).

1. Connect the HDS to the data link connector (DLC) (A) located under the driver's side of the dashboard.

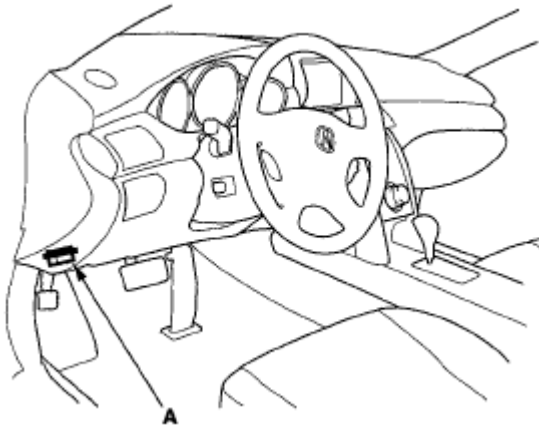


Fig. 22: Identifying Data Link Connector Location
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the PCM and other vehicle systems. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING**).
4. Select the INSPECTION MENU with the HDS.
5. Do the TP POSITION CHECK in the ETCS TEST. If needed, clean the throttle body (see **THROTTLE BODY CLEANING**).

THROTTLE BODY CLEANING

CAUTION: Do not insert your fingers into the installed throttle body when you turn the ignition switch ON (II) or while the ignition switch is ON (II). If you do, you will seriously injure your fingers if the throttle valve is activated.

1. Check for damage to the air cleaner element. If the air cleaner element is damaged, replace it (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT**).
2. Remove the throttle body (see **THROTTLE BODY REMOVAL/INSTALLATION**).
3. Clean off the carbon from the throttle valve and inside the throttle body with a paper towel soaked in throttle plate and induction cleaner.

NOTE:

- Remove the throttle body to clean it.
- Be careful not to pinch your fingers.
- To avoid removing the molybdenum coating, do not clean the bearing area of the throttle shaft (A).
- Do not spray throttle plate and induction cleaner directly on the throttle body.
- Use Acura throttle plate and induction cleaner.

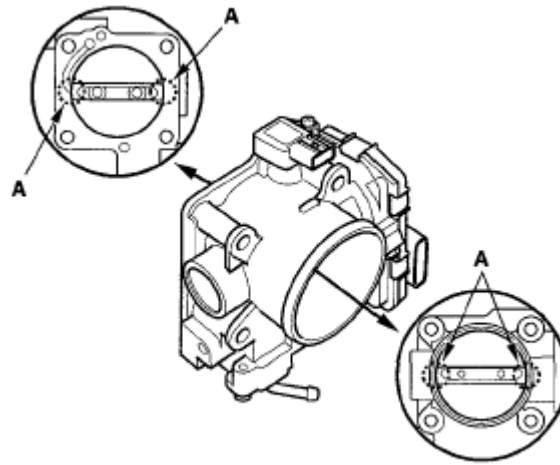


Fig. 23: Identifying Throttle Shaft
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Install the throttle body (see **THROTTLE BODY REMOVAL/INSTALLATION**).
5. Reset the PCM with the HDS.
6. Turn the ignition switch ON (II), and wait 2 seconds.
7. Do the PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).

AIR CLEANER REMOVAL/INSTALLATION

1. Remove the bolts (A) and clamps (B).

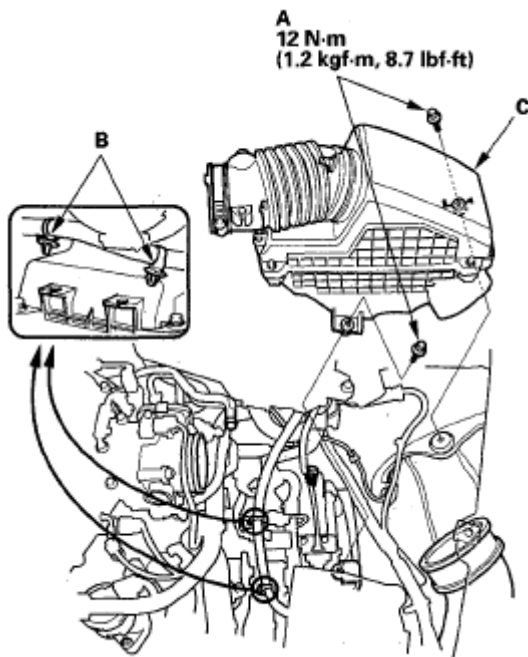


Fig. 24: Identifying Air Cleaner Clamps And Bolts With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the air cleaner (C).

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

AIR CLEANER ELEMENT INSPECTION/REPLACEMENT

1. Remove the lid (A).

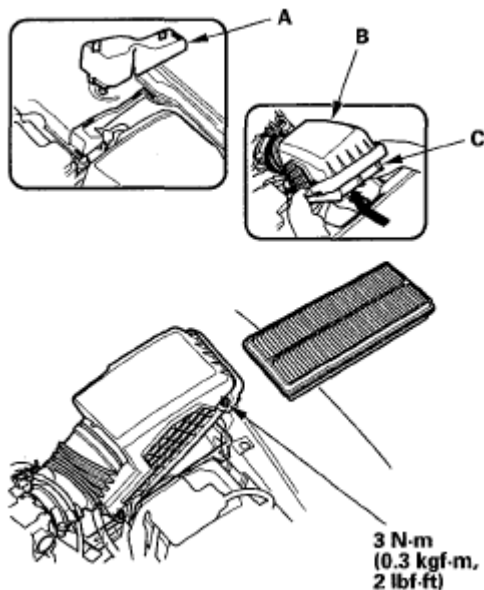


Fig. 25: Identifying Lid With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Open the air cleaner housing cover (B).
3. Remove the air cleaner element (C) from the air cleaner housing cover.
4. Check the air cleaner element for damage or clogging. If it is damaged or clogged, replace it.

NOTE: Do not use compressed air to clean the air cleaner element.

5. Clean and remove any debris from inside the air cleaner housing.
6. Install the parts in the reverse order of removal.
7. If the maintenance minder requires air cleaner replacement, reset the maintenance minder (see **MAINTENANCE MINDER**).

RESONATOR REMOVAL/INSTALLATION

1. Remove the front bumper (see **FRONT BUMPER REMOVAL/INSTALLATION**).
2. Remove the bolts (A) and the intake air cover (B).

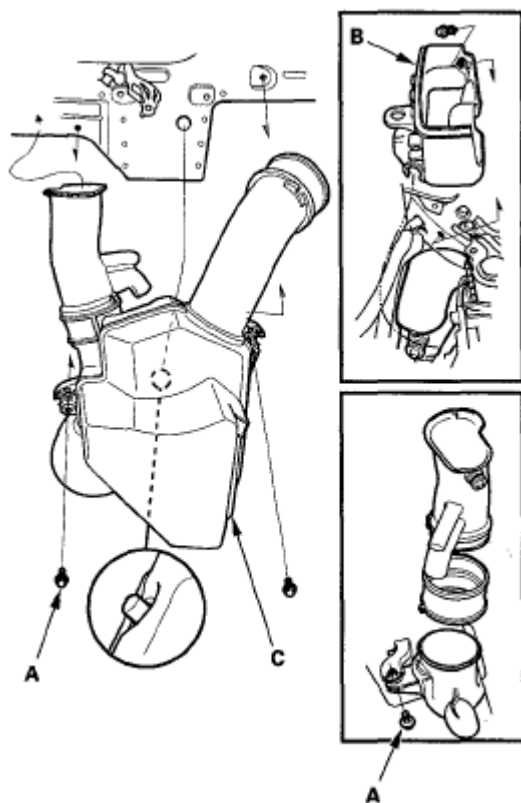


Fig. 26: Identifying Intake Air Cover And Bolts
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the resonator (C).
4. Install the parts in the reverse order of removal.

IMT ACTUATOR REPLACEMENT

1. Remove the engine cover (see step 1 under **INTAKE MANIFOLD REMOVAL AND INSTALLATION**).
2. Disconnect the IMT actuator 5P connector (A).

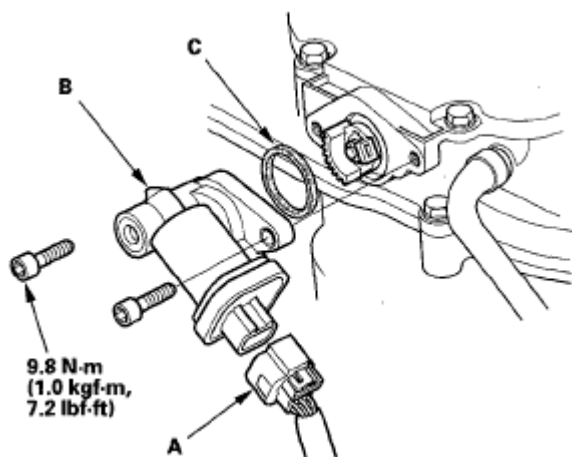


Fig. 27: Identifying IMT Actuator With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the bolts and the IMT actuator (B).
4. Install the parts in the reverse order of removal with a new O-ring (C).

THROTTLE BODY REMOVAL/INSTALLATION

CAUTION: Do not insert your fingers into the installed throttle body when you turn the ignition switch ON (II) or while the ignition switch is ON (II). If you do, you will seriously injure your fingers if the throttle valve is activated.

NOTE: If you are replacing the throttle body, begin at step 1. If you are removing the throttle body temporarily, begin at step 4.

1. Connect the HDS while the engine is stopped.
2. Select the INSPECTION MENU with the HDS.
3. Do the TP POSITION CHECK in the ETCS TEST.
4. Disconnect the MAP sensor connector (A).

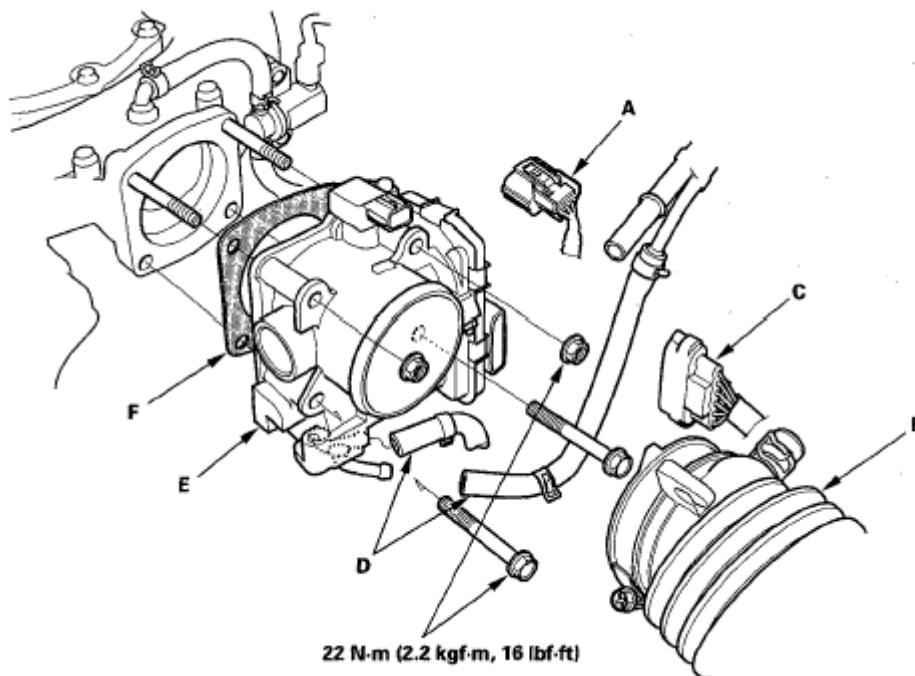


Fig. 28: Removing/Installing Throttle Body With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Remove the intake air duct (B).
6. Disconnect the throttle body connector (C).
7. Disconnect and plug the water bypass hoses (D).
8. Remove the throttle body (E).
9. Install the parts in the reverse order of removal with a new gasket (F).

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NOTE:

- Do the PCM idle learn procedure after the throttle body is replaced (see PCM IDLE LEARN PROCEDURE).
- Refill the radiator with engine coolant (see COOLANT CHECK).