

2005-08 ENGINE PERFORMANCE

Radiator Fan Control (RFC) System - RL

COMPONENT LOCATION INDEX

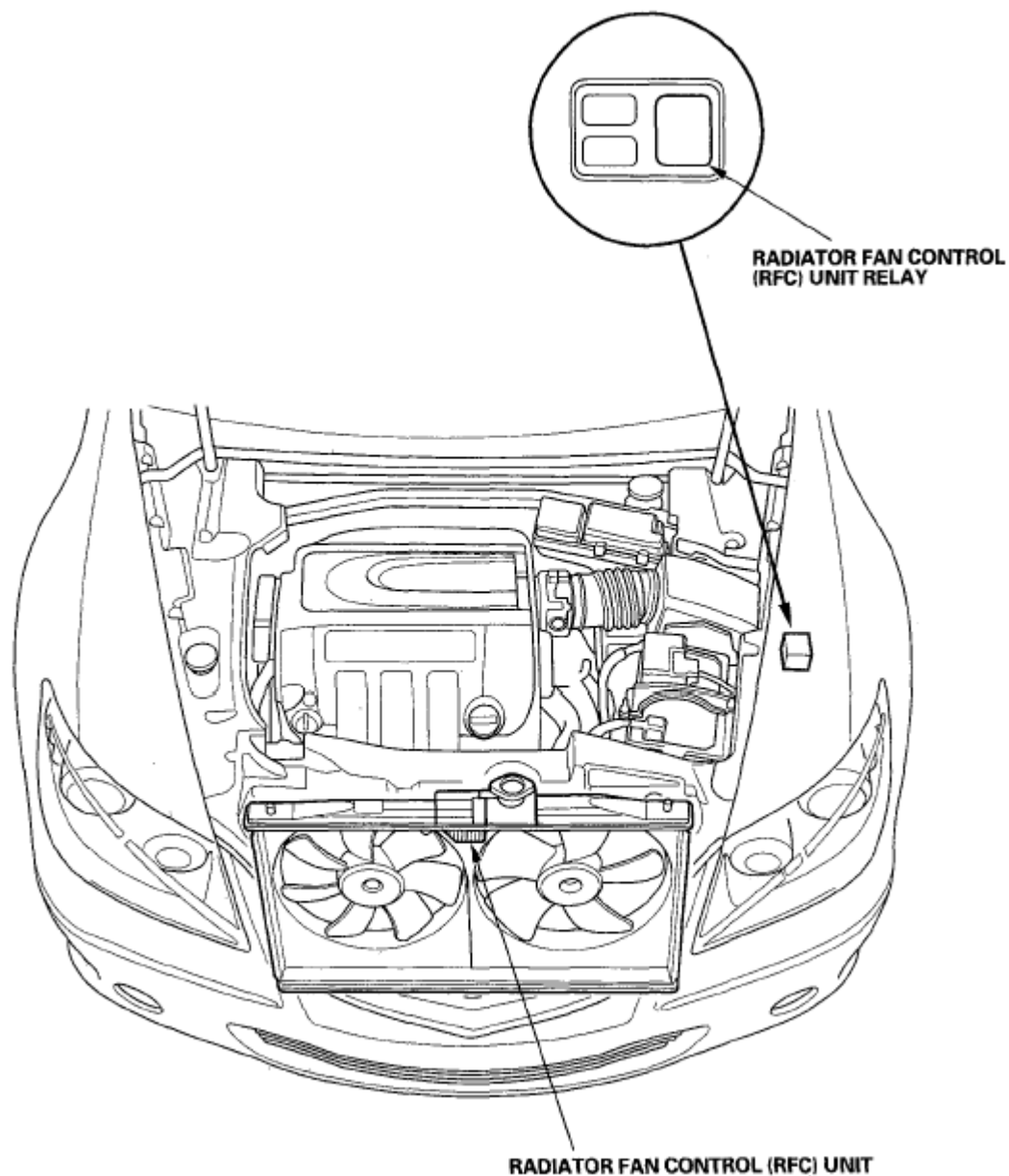


Fig. 1: Identifying Radiator Fan Control System Component Location
Courtesy of AMERICAN HONDA MOTOR CO., INC.

DTC TROUBLESHOOTING

DTC P0480: RFC 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, and wait 3 minutes or more.
3. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0480 indicated?

YES - Go to step 6.

NO - Go to step 4.

4. Select RADIATOR FAN in the INSPECTION MENU with the HDS.
5. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0480 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 RFC unit, the RFC unit relay, the radiator fan motor, the condenser fan motor, and the PCM.

6. Check for these conditions at the radiator fan and the condenser fan:
 - Interference with fan shroud
 - Debris in the fan
 - Ice on the fan blades

Are both fans OK?

YES - Go to step 7.

NO - Repair or replace the damaged parts, then go to step 52.

7. Select RADIATOR FAN in the INSPECTION MENU with the HDS.
8. Check the radiator fan and the condenser fan operation.

Do both fans operate?

YES - Go to step 9.

NO - Replace the motor that is not operating, then go to step 52.

9. Turn the ignition switch OFF.
10. Let the engine cool until the coolant temperature is low.
11. Turn the ignition switch ON (II), and wait 3 minutes or more.
12. Confirm that the A/C is not switched on.

13. Check the radiator fan and the condenser fan operation.

Do both fans keep running?

YES - Go to step 25.

NO - Go to step 14.

14. Turn the ignition switch OFF.

15. Check the No. 23 IGP (7.5A) fuse in the driver's under-dash fuse/relay box.

Is the fuse blown?

YES - Repair short in the wire the RFC unit relay and the No. 23 IGP (7.5A) fuse. Also replace the No. 23 IGP (7.5A) fuse, then go to step 52.

NO - Go to step 16.

16. Check the No. 34 RFC (50A) fuse in the battery terminal fuse box.

Is the fuse blown?

YES - Go to step 31.

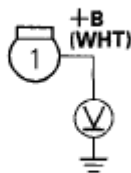
NO - Go to step 17.

17. Disconnect the RFC unit IP connector.

18. Turn the ignition switch ON (II), and wait 3 minutes or more.

19. Measure voltage between the RFC unit IP connector terminal and body ground.

RFC UNIT 1P CONNECTOR



Wire side of female terminals

Fig. 2: Measuring Voltage Between RFC Unit IP Connector Terminal And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 20.

NO - Go to step 39.

20. Turn the ignition switch OFF.
21. Check for continuity between PCM connector terminal E6 and body ground.

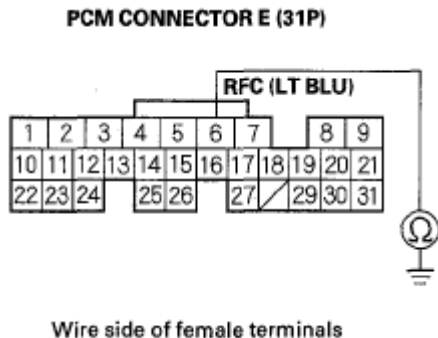


Fig. 3: Checking Continuity Between PCM Connector Terminal E6 And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 22.

NO - Substitute a known-good RFC unit (see **A/C CONDENSER FAN CIRCUIT TROUBLESHOOTING (SHORT)**), then go to step 52 and recheck. If DTC P0480 is not indicated, replace the original RFC unit (see **A/C CONDENSER FAN CIRCUIT TROUBLESHOOTING (SHORT)**), then go to step 52.

22. Jump the SCS line with the HDS.
23. Disconnect PCM connector E (31P).
24. Check for continuity between PCM connector terminal E6 and body ground.

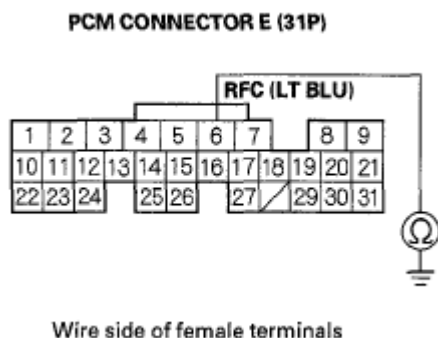


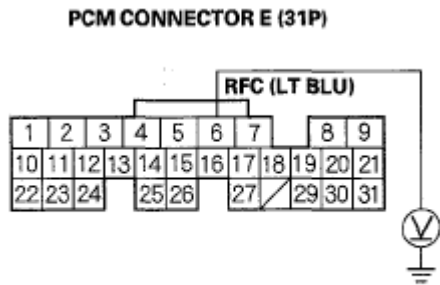
Fig. 4: Checking Continuity Between PCM Connector Terminal E6 And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between the PCM (E6) and the RFC unit, then go to step 52.

NO - Go to step 58.

25. Measure voltage between PCM connector terminal E6 and body ground.



Wire side of female terminals

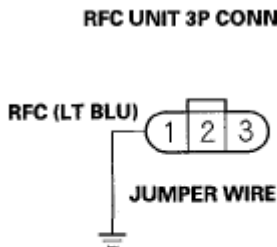
Fig. 5: Measuring Voltage Between PCM Connector Terminal E6 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES - Go to step 58.

NO - Go to step 26.

26. Jump the SCS line with the HDS.
27. Disconnect PCM connector E (31P).
28. Disconnect the RFC unit 3P connector.
29. Connect RFC unit 3P connector terminal No. 1 and body ground with a jumper wire.



Wire side of female terminals

Fig. 6: Connecting RFC Unit 3P Connector Terminal No. 1 And Body Ground With Jumper Wire
Courtesy of AMERICAN HONDA MOTOR CO., INC.

30. Check for continuity between PCM connector terminal E6 and body ground.

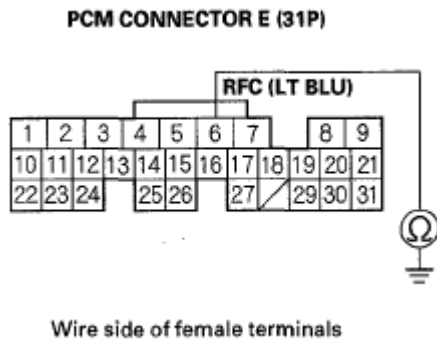


Fig. 7: Checking Continuity Between PCM Connector Terminal E6 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Substitute a known-good RFC unit (see **A/C CONDENSER FAN CIRCUIT TROUBLESHOOTING (SHORT)**), then go to step 52 and recheck. If DTC P0480 is not indicated, replace the original RFC unit (see **A/C CONDENSER FAN CIRCUIT TROUBLESHOOTING (SHORT)**), then go to step 52.

NO - Repair open in the wire between the PCM (E6) and the RFC unit, then go to step 52.

31. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**), and remove the RFC unit relay (A).

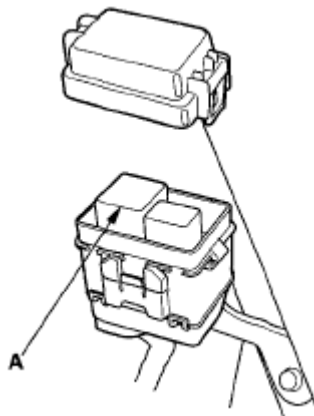
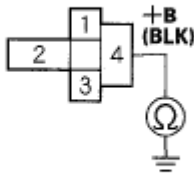


Fig. 8: Identifying RFC Unit Relay
Courtesy of AMERICAN HONDA MOTOR CO., INC.

32. Check for continuity between RFC unit relay 4P connector terminal No. 4 and body ground.

RFC UNIT RELAY 4P CONNECTOR

Wire side of female terminals

Fig. 9: Checking Continuity Between RFC Unit Relay 4P Connector Terminal No. 4 And Body Ground

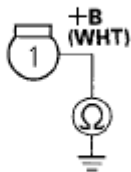
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between the RFC unit relay and the No. 34 RFC (50A) fuse. Also replace the No. 34 RFC (50A) fuse, then go to step 52.

NO - Go to step 33.

33. Disconnect the RFC unit 1P connector.
34. Check for continuity between the RFC unit 1P connector terminal and body ground.

RFC UNIT 1P CONNECTOR

Wire side of female terminals

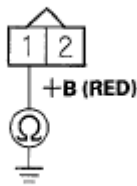
Fig. 10: Checking Continuity Between RFC Unit 1P Connector Terminal And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between the RFC unit relay (+B line) and the RFC unit. Also replace the No. 34 RFC (50A) fuse, then go to step 52.

NO - Go to step 35.

35. Disconnect the RFC unit 2P connector (connected to radiator fan motor).
36. Check for continuity RFC unit 2P connector terminal No. 1 and body ground.

RFC UNIT 2P CONNECTOR

Wire side of female terminals

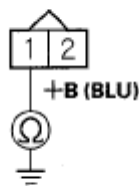
Fig. 11: Checking Continuity RFC Unit 2P Connector Terminal No. 1 And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between the RFC unit and the radiator fan motor. Also replace the No. 34 RFC (50A) fuse, then go to step 52.

NO - Go to step 37.

37. Disconnect the RFC unit 2P connector (connected to condenser fan motor).
38. Check for continuity RFC unit 2P connector terminal No. 1 and body ground.

RFC UNIT 2P CONNECTOR

Wire side of female terminals

Fig. 12: Checking Continuity RFC Unit 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 the RFC unit and the condenser fan motor. Also replace the No. 34 RFC (50A) fuse, then go to step 52.

NO - Substitute a known-good RFC unit (see **A/C CONDENSER FAN CIRCUIT TROUBLESHOOTING (SHORT)**), then go to step 52 and recheck. If DTC P0480 is not indicated, replace the original RFC unit (see **A/C CONDENSER FAN CIRCUIT TROUBLESHOOTING (SHORT)**), then go to step 52.

39. Turn the ignition switch OFF.
40. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**), and remove the RFC unit relay (A).

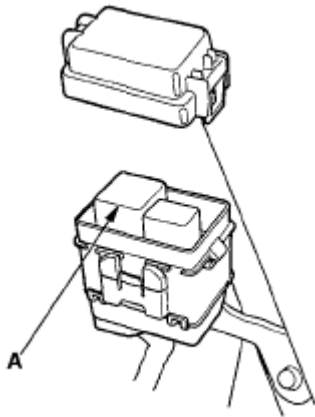


Fig. 13: Identifying RFC Unit Relay
Courtesy of AMERICAN HONDA MOTOR CO., INC.

41. Check the RFC unit relay (see **POWER RELAY TEST**).

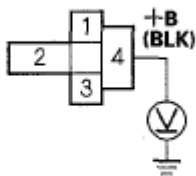
Is the RFC relay OK?

YES - Go to step 42.

NO - Replace the RFC unit relay, then go to step 52.

42. Turn the ignition switch ON (II).
43. Measure voltage between RFC unit relay 4P connector terminal No. 4 and body ground.

RFC UNIT RELAY 4P CONNECTOR



Wire side of female terminals

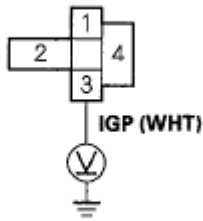
Fig. 14: Measuring Voltage Between RFC Unit Relay 4P Connector Terminal No. 4 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 44.

NO - Repair open in the wire between the RFC unit relay and the No. 34 RFC (50A) fuse, then go to step 52.

44. Measure voltage between RFC unit relay 4P connector terminal No. 3 and body ground.

RFC UNIT RELAY 4P CONNECTOR

Wire side of female terminals

Fig. 15: Measuring Voltage Between RFC Unit Relay 4P Connector Terminal No. 3 And Body Ground

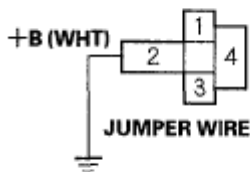
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 45.

NO - Repair open in the wire between the RFC unit relay and the No. 23 IGP (7.5A) fuse, then go to step 52.

45. Connect RFC unit relay 4P connector terminal No. 2 and body ground with a jumper wire.

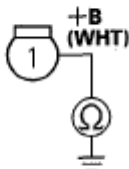
RFC UNIT RELAY 4P CONNECTOR

Wire side of female terminals

Fig. 16: Connecting RFC Unit Relay 4P Connector Terminal No. 2 And Body Ground With Jumper Wire

Courtesy of AMERICAN HONDA MOTOR CO., INC.

46. Check for continuity between the RFC unit 1P connector terminal and body ground.

RFC UNIT 1P CONNECTOR

Wire side of female terminals

Fig. 17: Checking Continuity Between RFC Unit 1P Connector Terminal And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

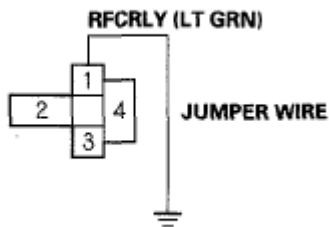
Is there continuity?

YES - Go to step 47.

NO - Repair open in the wire between the RFC unit relay (+B line) and the RFC unit, then go to step 52.

47. Remove the jumper wire from the RFC unit relay 4P connector.
48. Jump the SCS line with the HDS.
49. Disconnect PCM connector A (31P).
50. Connect RFC unit relay 4P connector terminal No. 1 and body ground with a jumper wire.

RFC UNIT RELAY 4P CONNECTOR

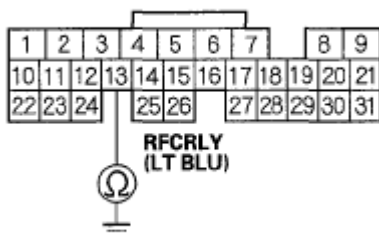


Wire side of female terminals

Fig. 18: Connecting RFC Unit Relay 4P Connector Terminal No. 1 And Body Ground With Jumper Wire
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

51. Check for continuity between PCM connector terminal A13 and body ground.

PCM CONNECTOR A (31P)



Wire side of female terminals

Fig. 19: Checking Continuity Between PCM Connector Terminal A13 And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 58.

NO - Repair open in the wire between the PCM (A13) and the RFC unit relay, then go to step 52.

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52. Turn the ignition switch OFF.
53. Reconnect all connectors.
54. Turn the ignition switch ON (II).
55. Reset the PCM with the HDS.
56. Do the PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).
57. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0480 indicated?

YES - Check for poor connections or loose terminals at the RFC unit, the RFC unit relay, the radiator fan motor, the condenser fan motor, and the PCM.

NO - Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the indicated DTCs troubleshooting.

58. Reconnect all connectors.
59. 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**).
60. Check for Temporary DTCs or DTCs with the HDS.

Is DTC P0480 indicated?

YES - Check for poor connections or loose terminals at the RFC unit, the RFC unit relay, the radiator fan motor, the condenser fan motor, 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 - 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 are indicated, go to the indicated DTCs troubleshooting.