DLC Circuit Troubleshooting

(Supersedes DLC Circuit Troubleshooting, dated March 2014, to revise the information marked by the black bars)

REVISION SUMMARY

Under K-Line Only System Troubleshooting Procedure, step 4 was changed.

BACKGROUND

Use this information to diagnose HDS-to-vehicle communication issues involving vehicles equipped with F-CAN or K-Line communication circuits.

NOTE: Under VEHICLES AFFECTED, all models are equipped with a K-Line to DLC circuit, and some are equipped with an additional F-CAN to DLC circuit. See the information below to determine the correct troubleshooting procedure to use.

VEHICLES AFFECTED

Equipped with both F-CAN and K-Line:

2013–14 ILX - ALL
2013–14 ILX Hybrid - ALL
2007–14 MDX - ALL
2007–14 RDX - ALL
2008–12 RL - ALL
2014 RLX - ALL
2008–14 TL - ALL
2007–14 TSX - ALL
2010–13 ZDX - ALL

Equipped with K-Line Only:

1997 2.2CL - ALL
1998–99 2.3CL - ALL
1997–99 3.0CL - ALL
2001–03 3.2CL - ALL
2000–01 Integra - ALL
2001–06 MDX - ALL
1997–05 NSX - ALL
1996–04 3.5RL - ALL
2005–07 RL - ALL
2002–06 RSX - ALL
1995–98 2.5TL - ALL
1996–03 3.2TL - ALL
2004–07 TL - ALL
2004–06 TSX - ALL

F-CAN System Troubleshooting Procedure

NOTE: This procedure requires advanced troubleshooting skills, including the ability to check circuit power, continuity, and data network communication.

1. Check the condition of the 12-volt battery and its state-of-charge before proceeding. See Service Bulletin 88-016, *Battery Testing and Replacement.*
2. Connect the HDS to the vehicle, and check for DTCs.

   *Do you see **HDS has been unable to confirm communication to vehicle** on the screen?*

   Yes – Go to step 3.

   No – If DTCs are set, continue with normal system troubleshooting.
3. Connect the HDS to a known-good-vehicle, and check for DTCs.

   Does the HDS communicate with the vehicle?

   Yes – Go to step 4.

   No – Check the HDS and MVCI for damage or failure.
4. Use the electronic service manual to check if the subject vehicle monitors DTC P0641 (sensor reference voltage A malfunction) or P0651 (sensor reference voltage B malfunction).
   - If the subject vehicle monitors P0641 or P0651, go to step 6.
   - If the subject vehicle **does not** monitor P0641 or P0651, go to step 5.
5. Disconnect the MAP sensor connector, then measure the voltage on the VCC circuit.
   - If the voltage is between 4.5 and 5.5 V, go to step 6.
   - If the voltage is under 4.5 V or over 5.5 V, go to step 13.
6. Use the electronic service manual to identify all of the control modules on the F-CAN circuit.
7. Disconnect each control module on the F-CAN circuit, one at a time, and check if the HDS can communicate with the vehicle, but do not disconnect the PCM and gauge control module.
   - If communication is restored when a control module is disconnected, go to step 8.

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- If there is no communication when all of the control modules are disconnected, except the PCM and gauge control module, go to step 9.

8. Check the power circuit for battery voltage and ground circuit for continuity on the control module that interrupted communication. Do a voltage drop test to check for excessive circuit resistance.

   Does the control module have power and ground?

   Yes – Replace the control module.

   No – Repair the faulty circuit.

9. Check the F-CAN H and F-CAN L circuits for continuity between the PCM and the gauge control module.

   Do both circuits have continuity?

   Yes – Go to step 10.

   No – Repair the faulty circuit.

10. Check the F-CAN H and F-CAN L circuits for continuity to body ground.

    Does either circuit have continuity to ground?

    Yes – Repair the short to ground in the affected circuit.

    No – Go to step 11.

11. Replace the PCM with a known-good one.

    Is communication restored?

    Yes – Replace the PCM.

    No – Go to step 12.

12. Replace the gauge control module with a known-good one.

    Is communication restored?

    Yes – Replace the gauge control module.

    No – Check the gauge control module power circuit for battery voltage and ground circuits for continuity. Do a voltage drop test to check for excessive circuit resistance.

13. Use the electronic service manual to identify all of the sensors using the 5-volt VCC circuit. Disconnect each sensor, one at a time, and check for HDS-to-vehicle communication.
    - If communication is restored when a sensor is disconnected, go to step 14.
    - If there is no communication when all of the sensors in the circuit are disconnected, go to step 15.

14. Replace the sensor that interrupted communication.

15. Check the signal wire on any disconnected sensor connector for continuity to body ground.

    Is there continuity on any signal circuit?

    Yes – Repair the short to ground.

    No – Go to step 16.

16. Measure the IG1 circuit voltage at the PCM connector. Check the 12-volt battery state-of-charge again before doing this step.
    - If the reading is less than 11.5 V, repair the PCM IG1 circuit.
    - If the reading is 11.5 V or more, go to step 17.

17. Check for continuity to body ground at each PCM ground terminal.

    Do all ground terminals have continuity?

    Yes – Replace the PCM.

    No – Repair the affected ground circuit.

K-Line Only System Troubleshooting Procedure

NOTE: This procedure requires advanced troubleshooting skills, including the ability to confirm circuit power, continuity, and data network communication.

1. Check the condition of the 12-volt battery and its state-of-charge before proceeding. Refer to Service Bulletin 88-016, *Battery Testing and Replacement.*
2. Connect the HDS to the vehicle, and check for DTCs.

   *Do you see **HDS has been unable to confirm communication to vehicle** on the screen?*

   Yes – Go to step 3.

   No – If DTCs are set, continue with normal system troubleshooting.

3. Connect the HDS to a known good-vehicle.

   Does the HDS communicate with the vehicle?

   Yes – Go to step 4.

   No – Check the HDS and MVCI for damage or failure.

4. Measure the voltage on the MAP sensor VCC circuit.
   - If the voltage is between 4.5 and 5.5 V, go to step 5.
   - If the voltage is under 4.5 V or over 5.5 V, go to step 11.

5. Use the electronic service manual to identify all of the control modules on the K-Line circuit.

6. Disconnect each control module on the K-Line circuit, one at a time, and check if the HDS can communicate with the vehicle, but do not disconnect the PCM.
   - Check for communication after each module is disconnected. If communication is restored, go to step 7.
   - If there is no communication with the PCM connected, go to step 8.

7. Check the power circuit for battery voltage and ground circuits for continuity on the control module that interrupted communication. Do a voltage drop test to check for excessive circuit resistance.

   Does the control module have power and ground?

   Yes – Replace the control module.

   No – Repair the faulty power or ground circuit to the control module.

8. Check the K-Line circuit for continuity between the PCM and gauge control module.

   Does the circuit have continuity?

   Yes – Go to step 9.

   No – Repair the open in the affected circuit.

9. Check the K-Line circuit for continuity to body ground.

   Does the circuit have continuity to ground?

   Yes – Repair the short to ground in the affected circuit.

   No – Go to step 10.

10. Replace the PCM with a known-good one.

    Is communication restored?

    Yes – Replace the PCM.

    No – Go to step 11.

11. Disconnect all of the sensors using the 5-volt VCC circuit, one at a time.
    - After you disconnect each sensor, check for communication. If communication is restored, go to step 12. If there is no communication, disconnect the next sensor.
    - If there is no communication when all of the sensors are disconnected, go to step 13.

12. Replace the sensor that interrupted communication.

13. Check the signal wire on any disconnected sensor connector for continuity to body ground.

    NOTE: Make sure the PCM and gauge control module are connected during this step.

    Is there continuity on any signal circuit?

    Yes – Repair the short to ground.

    No – Go to step 14.

14. Measure the IG1 circuit voltage at the PCM connector. Check the 12-volt battery state-of-charge again before doing this step.
    - If the reading is 11.4 V or less, repair the PCM IG1 circuit.
    - If the reading is 11.5 V or more, go to step 15.

15. Check for continuity to body ground for each PCM ground terminal.

    Do all ground terminals have continuity?

    Yes – Replace the PCM.

    No – Repair the affected ground circuit.