

## SH-AWD SYSTEM

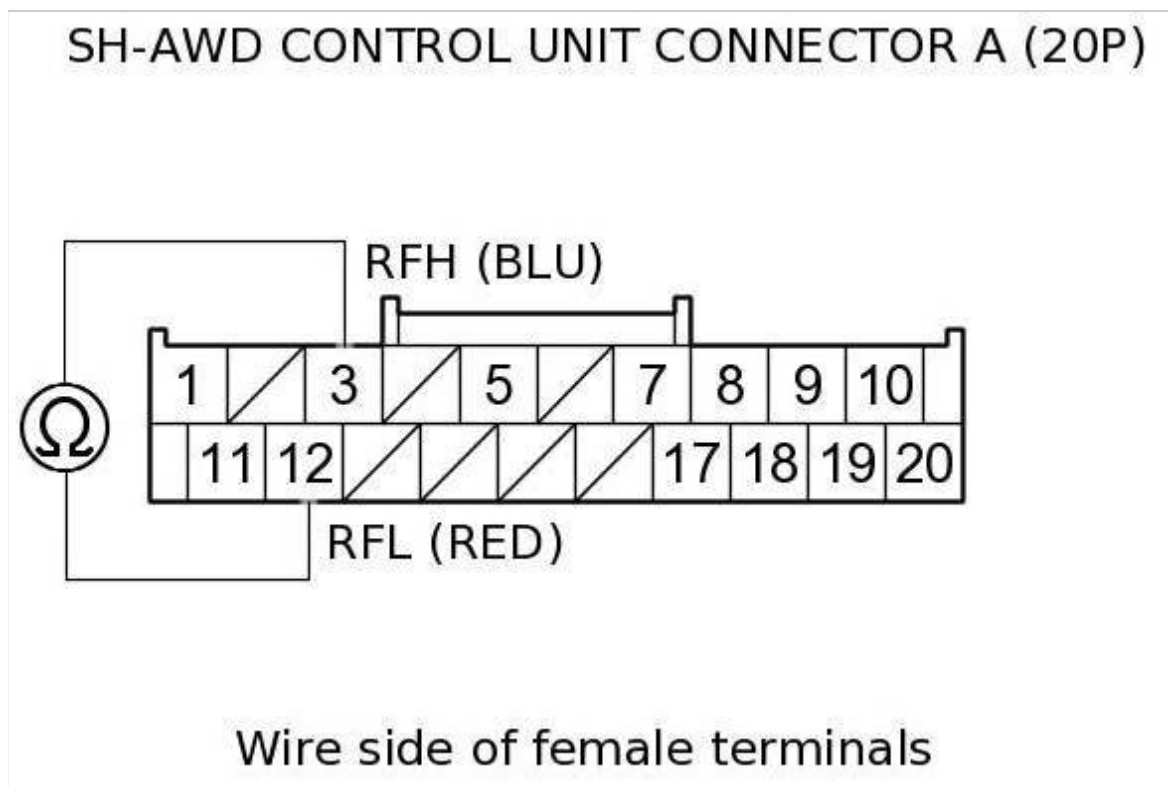
### SH AWD DTC Troubleshooting: 82-1

DTC 82-1:

Right Search Coil Sensor Malfunction

NOTE: Before you troubleshoot, review the general troubleshooting information See: Differential Assembly > Initial Inspection and Diagnostic Overview > How To Troubleshoot The SH-AWD System.

1. Turn the ignition switch to LOCK (0), or press the engine start/stop button to select the OFF mode.
2. Disconnect SH-AWD control unit connector A (20P).
3. Check for continuity between SH-AWD control unit connector terminals A3 and A12.



Is there continuity?

YES -

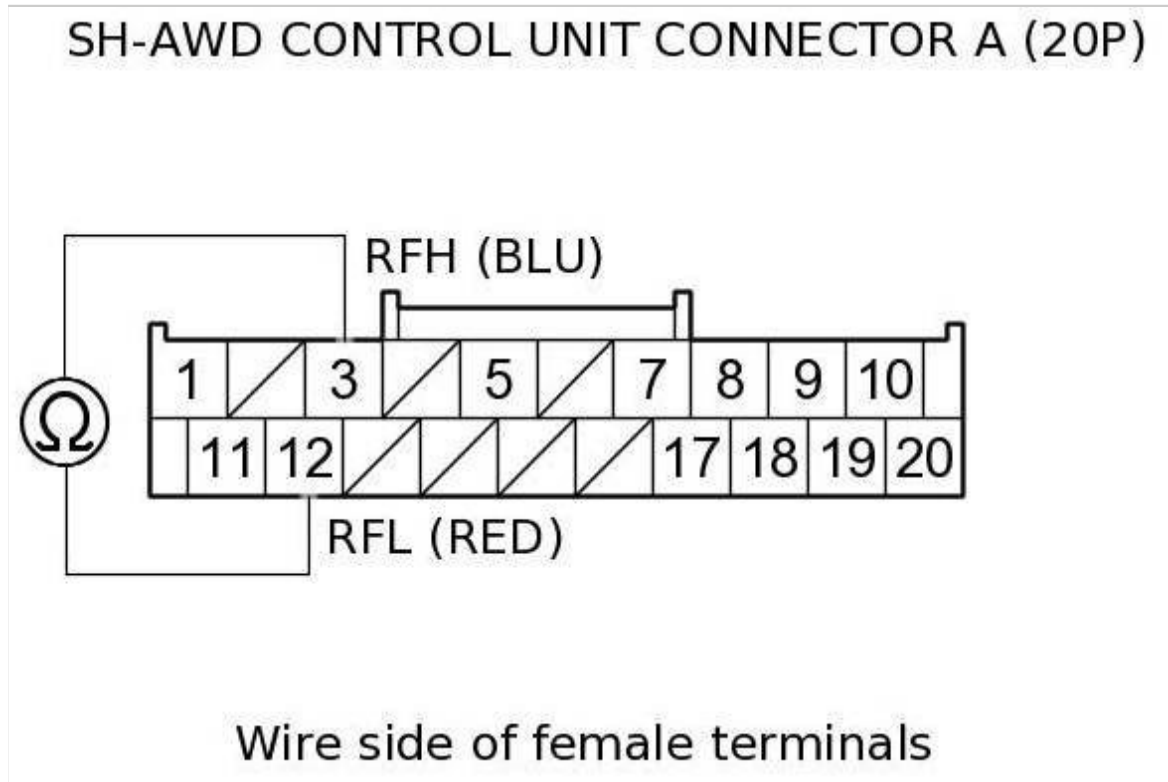
Go to step 4.

NO -

Go to step 12.

4. Check the REAR DIFFERENTIAL FLUID TEMPERATURE SENSOR in the SH-AWD mode menu DATA LIST. The temperature should be above 68 °F(20 °C) with the HDS before proceeding to the next step. If the temperature is below 68 °F (20 °C), drive the vehicle to warm up the rear differential until the fluid temperature becomes above 68 °F (20 °C).

5. Measure the resistance between SH-AWD control unit connector terminals A3 and A12.



Is there about 2.0 Ohms or more?

YES -

Go to step 6.

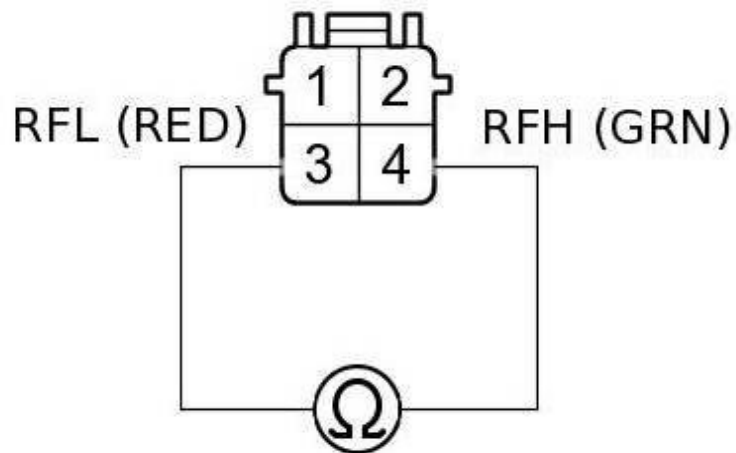
NO -

Go to step 10.

6. Disconnect the right solenoid 4P connector.

7. Check for continuity between right solenoid 4P connector terminals No. 3 and No. 4.

## RIGHT SOLENOID 4P CONNECTOR



Wire side of female terminals

Is there continuity?

YES -

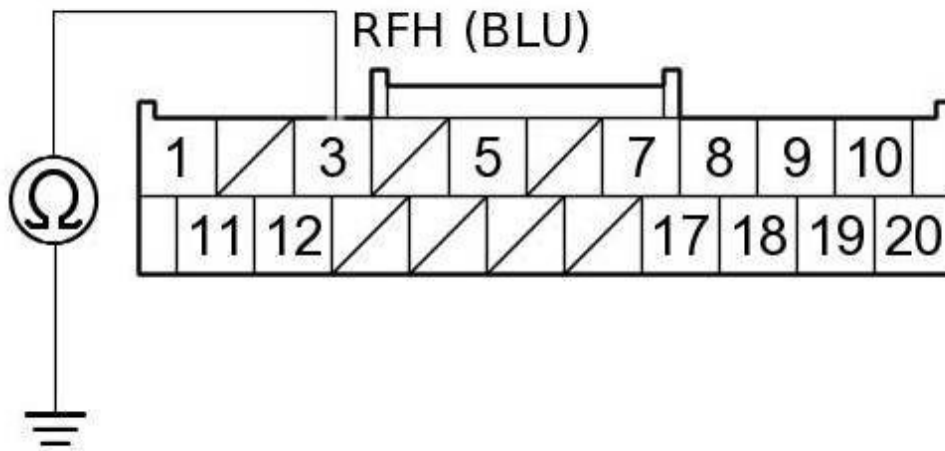
Repair a short in the wires between SH-AWD control unit connector A and the right solenoid 4P connector.

NO -

Replace the rear differential right side case See: Differential Assembly > Overhaul > Rear Differential Side Case Replacement (With SH-AWD).

8. Check for continuity between SH-AWD control unit connector terminal A3 and body ground.

## SH-AWD CONTROL UNIT CONNECTOR A (20P)



Wire side of female terminals

Is there continuity?

YES -

Repair a short to body ground in the wire between SH-AWD control unit connector terminal A3 and body ground.

NO -

Go to step 9.

9. Check the connections at the SH-AWD control unit.

Are the connections loose or poor?

YES -

Repair the connections as needed, and recheck.

NO -

Go to step 10.

10. Update the SH-AWD control unit with the latest software See: Control Unit, Differential Lock > Programming and Relearning > SH-AWD Control Unit Update (With SH-AWD), and recheck.

Does the symptom/indication go away?

YES -

Troubleshooting is complete.

NO -

Go to step 11.

11. Substitute the SH-AWD control unit with a known-good control unit, and recheck.

Does the symptom/indication go away?

YES -

Replace the original SH-AWD control unit See: Control Unit, Differential Lock > Removal and Replacement > SH-AWD Control Unit Replacement (With SH-AWD).

NO -

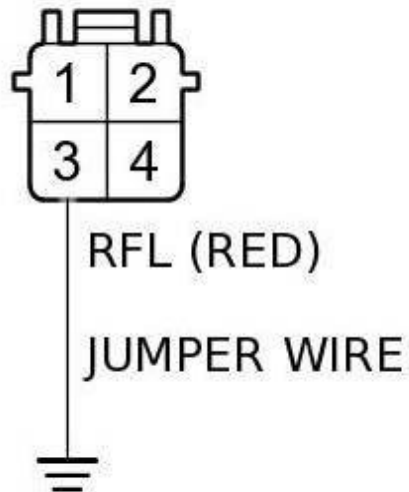
Replace the rear differential right side case See: Differential Assembly > Overhaul > Rear Differential Side Case Replacement (With SH-AWD).

NOTE: If a new SH-AWD control unit was used in place of the known-good control unit and the new control unit will not initialize, replace the rear differential right side case See: Differential Assembly > Overhaul > Rear Differential Side Case Replacement (With SH-AWD).

12. Disconnect the right solenoid 4P connector.

13. Connect right solenoid 4P connector terminal No. 3 to body ground with a jumper wire.

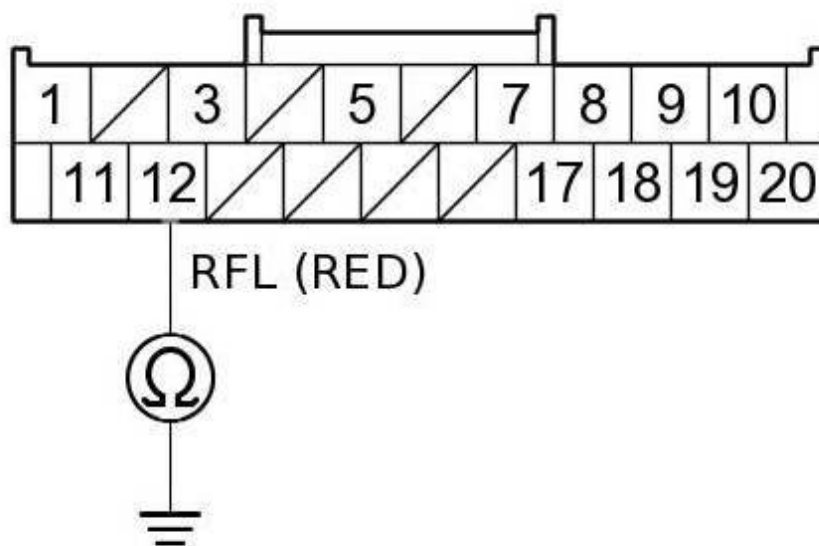
## RIGHT SOLENOID 4P CONNECTOR



Wire side of female terminals

14. Check for continuity between SH-AWD control unit connector terminal A12 and body ground.

## SH-AWD CONTROL UNIT CONNECTOR A (20P)



Wire side of female terminals

Is there continuity?

YES -

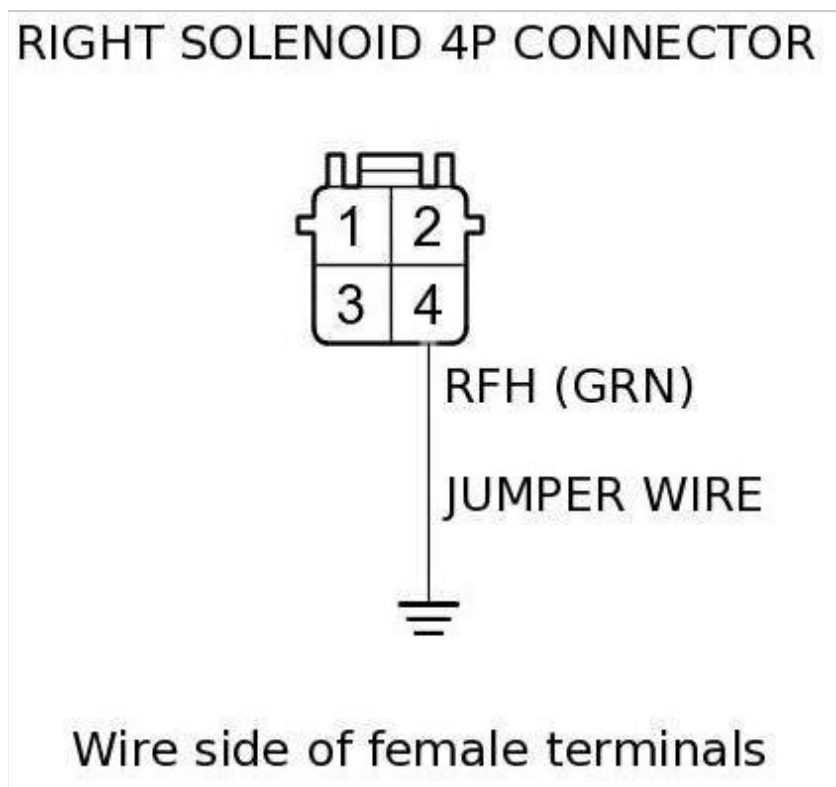
Go to step 15.

NO -

Repair an open in the wire between SH-AWD control unit connector terminal A12 and the right solenoid 4P connector.

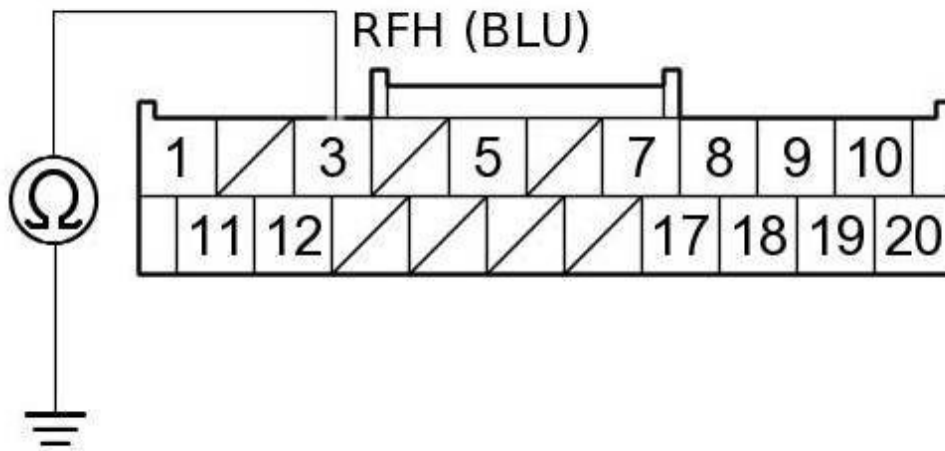
15. Remove the jumper wire from right solenoid 4P connector terminal No. 3.

16. Connect right solenoid 4P connector terminal No. 4 to body ground with a jumper wire.



17. Check for continuity between SH-AWD control unit connector terminal A3 and body ground.

## SH-AWD CONTROL UNIT CONNECTOR A (20P)



Wire side of female terminals

Is there continuity?

YES -

Replace the rear differential right side case See: Differential Assembly > Overhaul > Rear Differential Side Case Replacement (With SH-AWD).

NO -

Repair an open in the wire between SH-AWD control unit connector terminal A3 and the right solenoid 4P connector.