

Troubleshooting

DTC 7-4: Rear Solenoid

During the initial diagnosis, after the fail-safe relays are turned on, and during the regular diagnosis, the ABS control unit monitors the voltage from the battery for the six solenoids (when the ABS is not functioning). If the detection circuit for the rear solenoids detects 0 V, the ABS control unit keeps the ABS indicator light on after the engine is started. It turns the ABS indicator light on again if it detects 0 V after the light goes off.

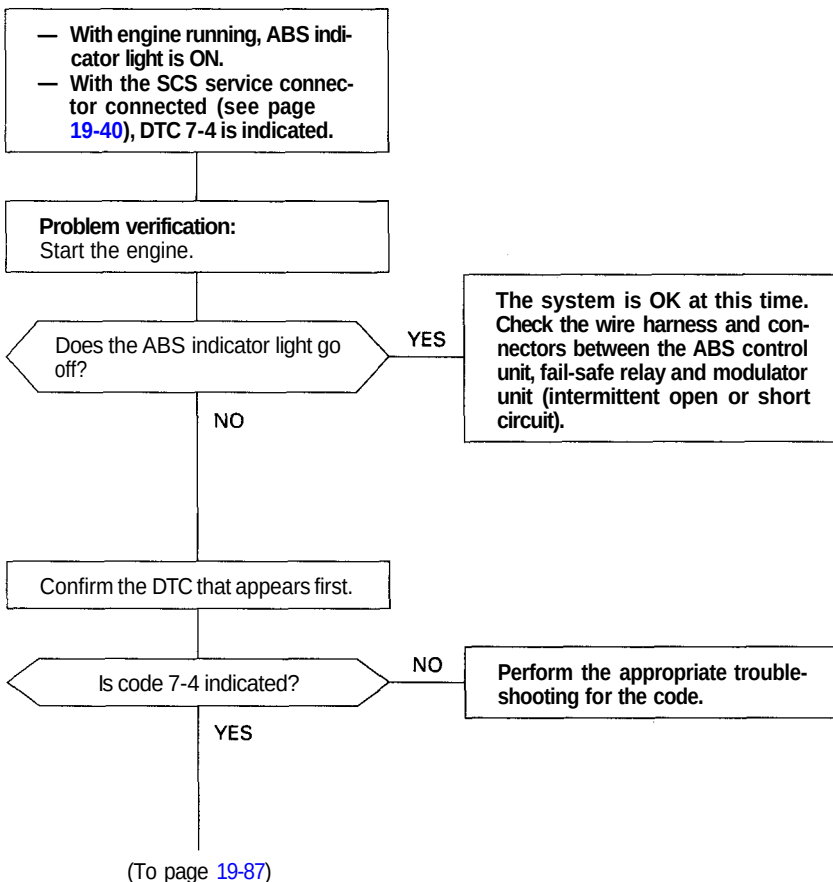
Possible causes:

- Rear fail-safe relay stuck OFF
- Open circuit in the rear solenoid drive circuits between the under-hood fuse/relay box and ABS control unit
- Short circuit to body ground in the rear solenoid drive circuits between the solenoids and ABS control unit
- Faulty rear solenoid drive transistor (ON) in the ABS control unit

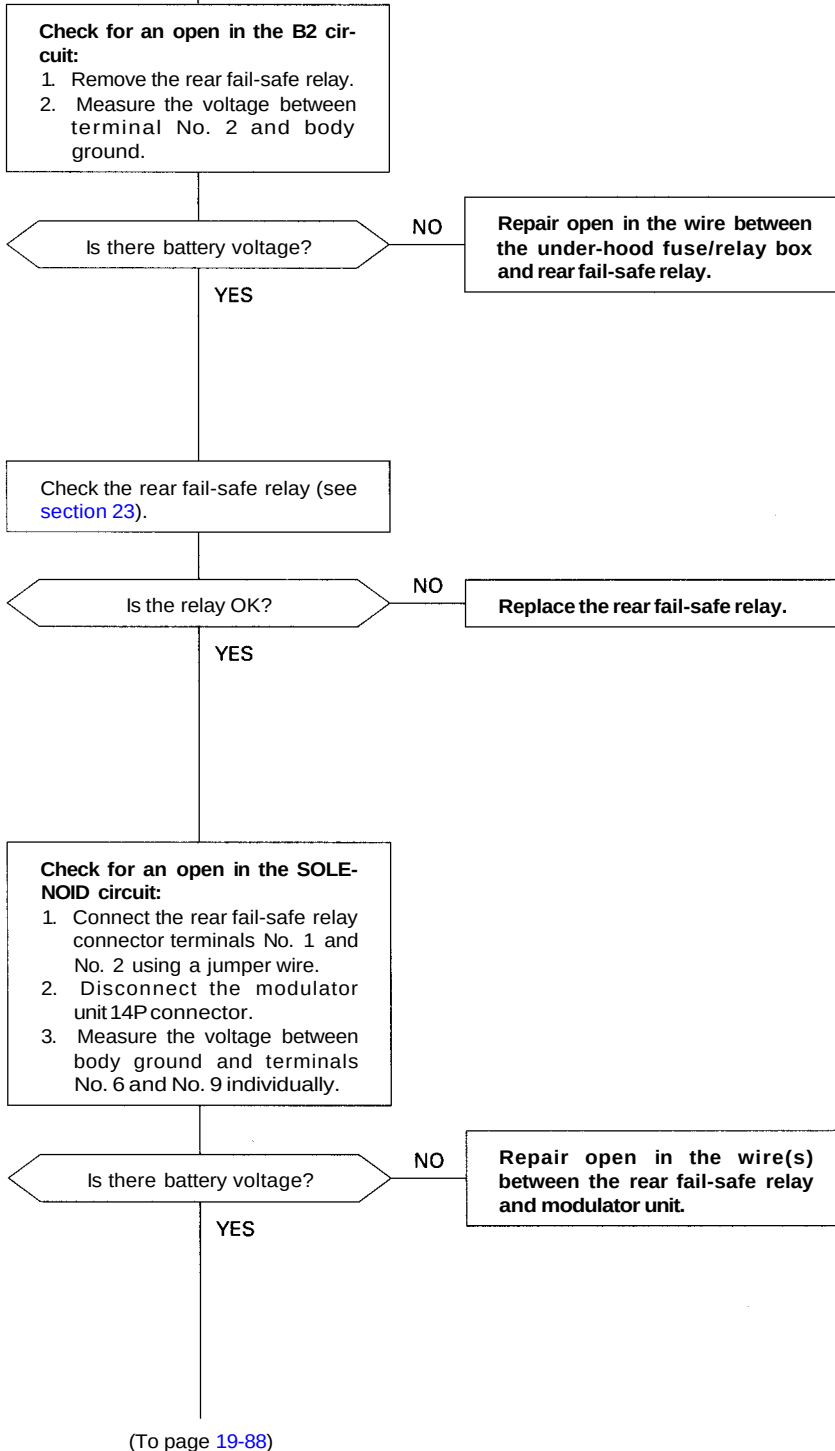
The ABS control unit momentarily outputs the ON signal to each solenoid (too momentary to turn the solenoid on) during the initial diagnosis, and each time the vehicle is driven, to check the voltage from the battery with the detection circuit. If the detection circuit for the rear solenoids detects battery voltage at this time, the ABS control unit keeps the ABS indicator light on. It turns the ABS indicator light on again if it detects the battery voltage when the vehicle is driven.

Possible causes:

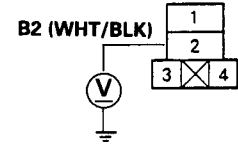
- Short circuit to power in the rear solenoid drive circuits between the solenoids and ABS control unit
- Faulty rear solenoid drive transistor (OFF) in the ABS control unit
- Short circuit to power in the rear solenoid drive circuits in the modulator wire harness or solenoids
- Short circuit to the rear solenoid outlet circuit in the inlet circuit between the solenoids and ABS control unit
- Short circuit to the right-front or left-front solenoid inlet or outlet circuit in the rear solenoid inlet or outlet circuit between the solenoids and ABS control unit



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REAR FAIL-SAFE RELAY CONNECTOR

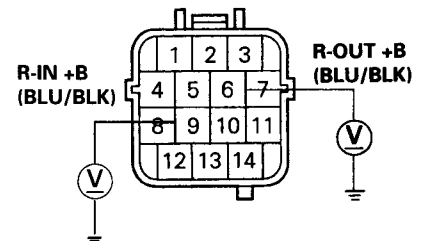


Terminal side of female terminals

SOLENOID (BLU/BLK)



MODULATOR UNIT 14P CONNECTOR



Terminal side of male terminals

(cont'd)

Troubleshooting

DTC 7-4: Rear Solenoid (cont'd)

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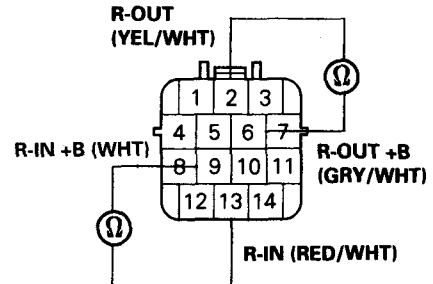
Check the solenoid:

1. Measure the resistance between the modulator unit 14P connector terminals to determine the solenoid standard resistance (A type or B type).
Inlet:
— No. 8 and No. 12
— No. 10 and No. 14
Outlet:
— No. 1 and No. 5
— No. 3 and No. 7
2. Measure the resistance between the modulator unit HP connector terminals No. 2 and No. 6, and terminals No. 9 and No. 13.

NOTE:

	STANDARD RESISTANCE	
	A TYPE	B TYPE
Inlet Solenoid	2.5-2.9 Ω	6.5-7.5 Ω
Outlet Solenoid	2.5-2.9 Ω	3.3-3.9 Ω

MODULATOR UNIT 14P CONNECTOR



Wire side of female terminals

Is the resistance as specified?
Inlet: 2.5- 2.9 Ω or 6.5- 7.5 Ω
Outlet: 2.5-2.9 Ω or 3.3-3.9 Ω

NO

Visually inspect the modulator wire harness. If the harness is OK, replace the modulator unit. (Open or short in the rear inlet or outlet solenoid)

YES

Check for a short to body ground in the solenoid:

Check for continuity between body ground and the modulator unit 14P connector terminals No. 2 and No. 13 individually.

Is there continuity?

YES

Visually inspect the modulator wire harness. If the harness is OK, replace the modulator unit. (Short to body ground in the rear inlet or outlet solenoid)

NO

Check for a short in the SOLENOID circuit:

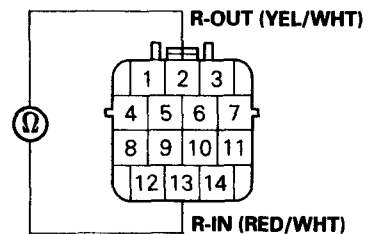
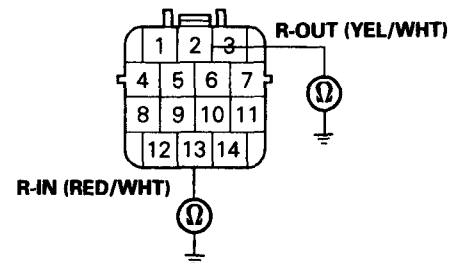
Check for continuity between the modulator unit 14P connector terminals No. 2 and No. 13.

Is there continuity?

YES

Replace the modulator wire harness. (Short to the R-OUT circuit in the R-IN circuit)

NO



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Check for a short in the modulator wire harness:

Check for continuity between the modulator unit 14P connector terminal No. 13 and the following terminals:

- No. 12: Right-front inlet
- No. 1: Right-front outlet
- No. 14: Left-front inlet
- No. 3: Left-front outlet

Is there continuity?

YES

Replace the modulator wire harness. (Short to the FR-IN, FR-OUT, FL-IN or FL-OUT circuit in the R-IN circuit)

NO

Check for a short in the modulator wire harness:

Check for continuity between the modulator unit 14P connector terminal No. 2 and the following terminals:

- No. 12: Right-front inlet
- No. 1: Right-front outlet
- No. 14: Left-front inlet
- No. 3: Left-front outlet

Is there continuity?

YES

Replace the modulator wire harness. (Short to the FR-IN, FR-OUT, FL-IN or FL-OUT circuit in the R-OUT circuit)

NO

Check for a short to body ground in the R-IN and R-OUT circuit:

1. Disconnect the ABS control unit 26P connector.
2. Check for continuity between body ground and terminals No. 3 and No. 16 individually.

Is there continuity?

YES

Repair short to body ground in the R-IN or R-OUT circuit between the ABS control unit and modulator unit.

NO

Check for a short in the R-IN and R-OUT circuit:

Check for continuity between the ABS control unit 26P connector terminals No. 3 and No. 16.

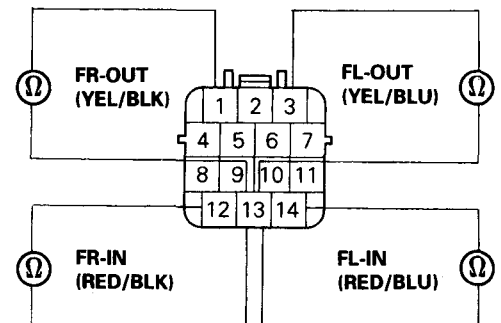
Is there continuity?

YES

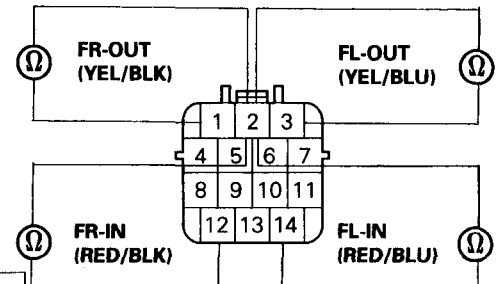
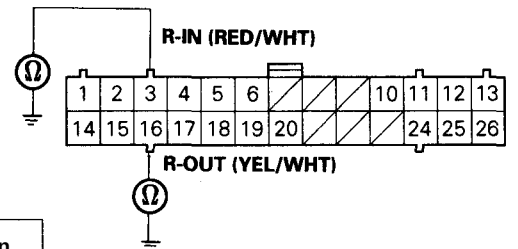
Repair short to the R-OUT circuit in the R-IN circuit between the ABS control unit and modulator unit.

NO

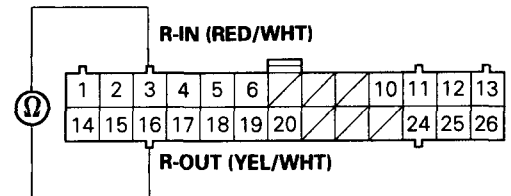
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MODULATOR UNIT 14P CONNECTOR**R-IN (RED/WHT)**

Wire side of female terminals

R-OUT (YEL/WHT)**ABS CONTROL UNIT 26P CONNECTOR**

Wire side of female terminals



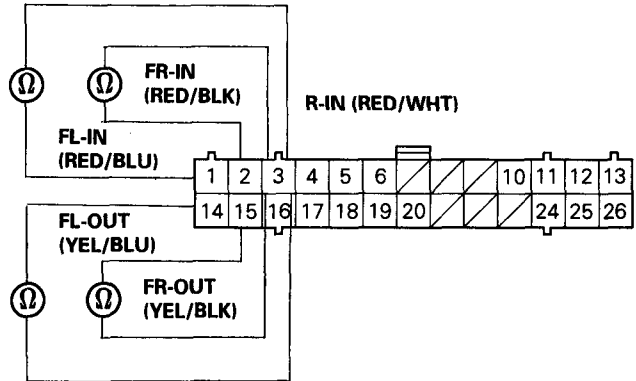
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Troubleshooting

DTC 7-4: Rear Solenoid (cont'd)

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ABS CONTROL UNIT 26P CONNECTOR



Wire side of female terminals

Check for a short in the R-IN circuit:

Check for continuity between the ABS control unit 26P connector terminal No. 3 and the following terminals:

- No. 2: Right-front inlet
- No. 15: Right-front outlet
- No. 1: Left-front inlet
- No. 14: Left-front outlet

Is there continuity?

YES

Repair short to the FR-IN, FR-OUT, FL-IN or FL-OUT circuit in the R-IN circuit between the ABS control unit and modulator unit.

NO

Check for a short in the R-OUT circuit:

Check for continuity between the ABS control unit 26P connector terminal No. 16 and the following terminals:

- No. 2: Right-front inlet
- No. 15: Right-front outlet
- No. 1: Left-front inlet
- No. 14: Left-front outlet

Is there continuity?

YES

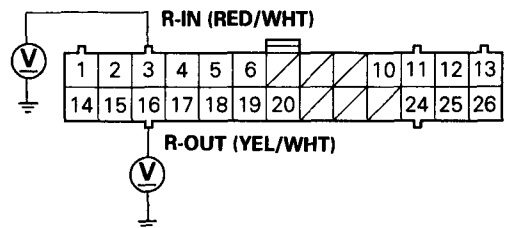
Repair short to the FR-IN, FR-OUT, FL-IN or FL-OUT circuit in the R-OUT circuit between the ABS control unit and modulator unit.

NO

Check for an open in the R-IN and R-OUT circuits:

1. Connect the modulator unit 14P connector.
2. Measure the voltage between body ground and the ABS control unit 26P connector terminals No. 3 and No. 16 individually.

NOTE: Leave jumper wire in fail-safe relay connector.



Is there battery voltage?

NO

Repair open in the R-IN or R-OUT circuit between the ABS control unit and modulator unit.

YES

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Check for an open in the GND circuit:

1. Disconnect the ABS control unit 22P connector.
2. Check for continuity between terminal No. 10 and body ground.

Is there continuity?

NO

Repair open in the wire between the ABS control unit and body ground, or poor ground.

YES

Check for a short to body ground in the FSR circuit:

1. Remove the front fail-safe relay.
2. Remove the jumper wire from the rear fail-safe relay connector.
3. Check for continuity between the ABS control unit 22P connector terminal No. 1 and body ground.

Is there continuity?

YES

Repair short to body ground in the wire between the ABS control unit and rear fail-safe relay.

NO

Check for an open in the FSR circuit:

1. Connect the rear fail-safe relay terminal No. 4 to body ground with a jumper wire.
2. Check for continuity between the ABS control unit 22P connector terminal No. 1 and body ground.

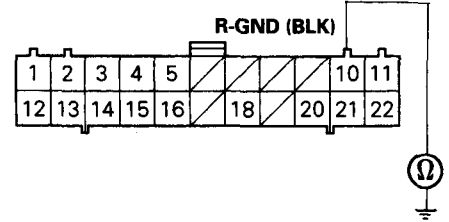
Is there continuity?

NO

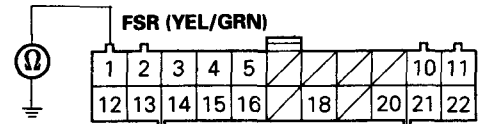
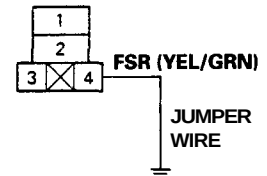
Repair open in the wire between the ABS control unit and rear fail-safe relay.

YES

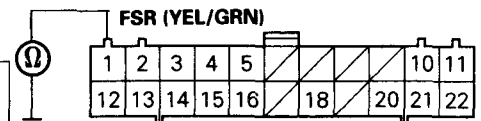
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ABS CONTROL UNIT 22P CONNECTOR

Wire side of female terminals

**REAR FAIL-SAFE RELAY CONNECTOR**

Terminal side of female terminals

ABS CONTROL UNIT 22P CONNECTOR

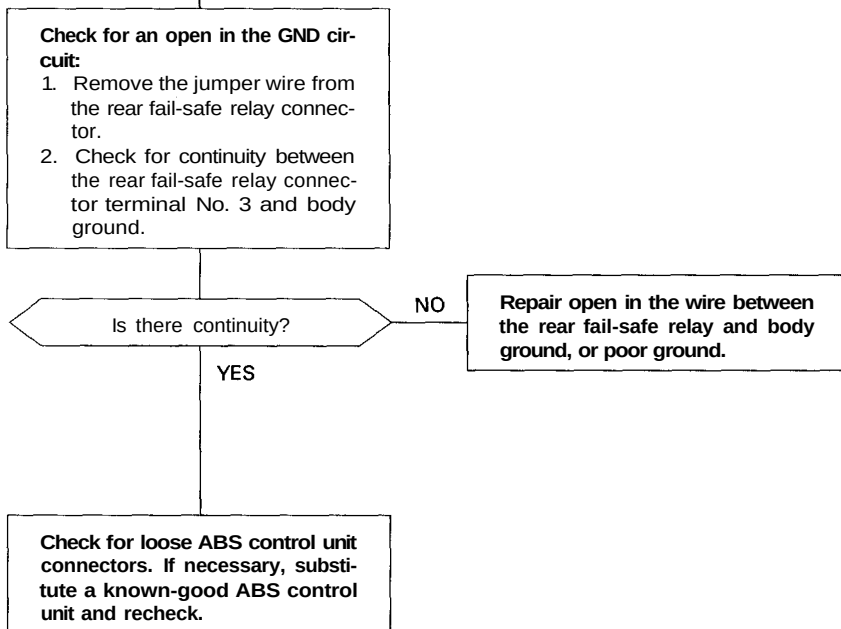
Wire side of female terminals

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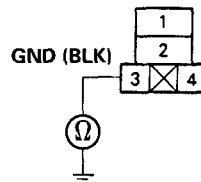
Troubleshooting

DTC 7-4: Rear Solenoid (cont'd)

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REAR FAIL-SAFE RELAY CONNECTOR



Terminal side of female terminals