

(From page 19-118)

Check for continuity between the ABS control unit 22P connector No. 1 (YEL/GRN) terminal and body ground.

Is there continuity?

NO

Repair short to body ground in the YEL/GRN wire between the ABS control unit and front fail-safe relay.

YES

Connect the front fail-safe relay No. 2 (YEL/GRN) terminal to body ground with a jumper wire.

Check for continuity between the ABS control unit 22P connector No. 1 (YEL/GRN) terminal and body ground.

Is there continuity?

NO

Repair open in the YEL/GRN wire between the ABS control unit and front fail-safe relay.

YES

Check for continuity between the front fail-safe relay connector No. 4 (BLK) terminal and body ground.

Is there continuity?

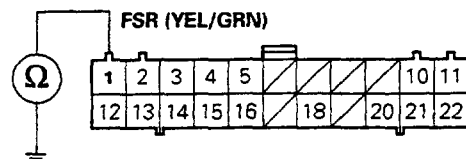
NO

Repair open in the BLK wire between the front fail-safe relay and body ground, or poor ground.

YES

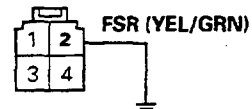
Check for loose ABS control unit connectors. If necessary, substitute a known-good ABS control unit and recheck.

ABS CONTROL UNIT 22P CONNECTOR



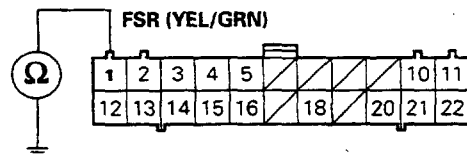
WIRE SIDE OF FEMALE TERMINALS

FRONT FAIL-SAFE RELAY CONNECTOR



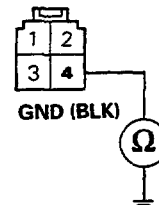
WIRE SIDE OF FEMALE TERMINALS

ABS CONTROL UNIT 22P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

FRONT FAIL-SAFE RELAY CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

Troubleshooting

Rear Solenoid

Diagnostic Trouble Code (DTC) 7-4: Rear Solenoid Diagnosis

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.

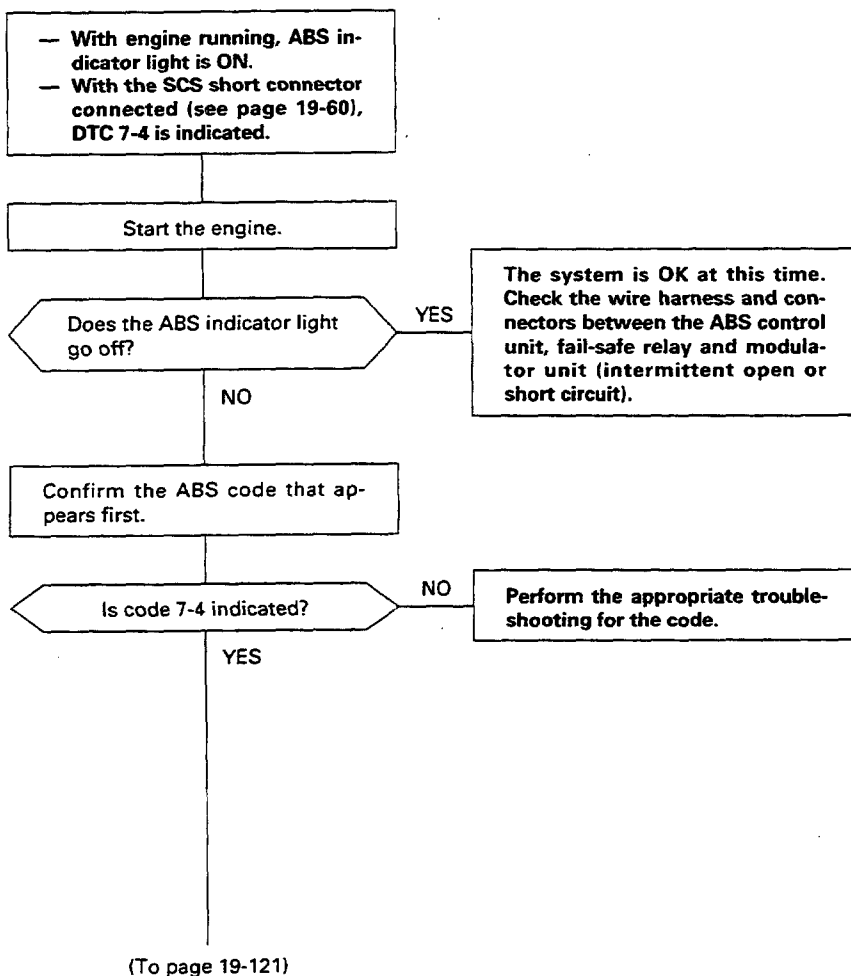
Possible causes:

- Rear fail-safe relay stuck OFF
- Open circuit in the rear solenoid drive circuits between the under-hood ABS 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

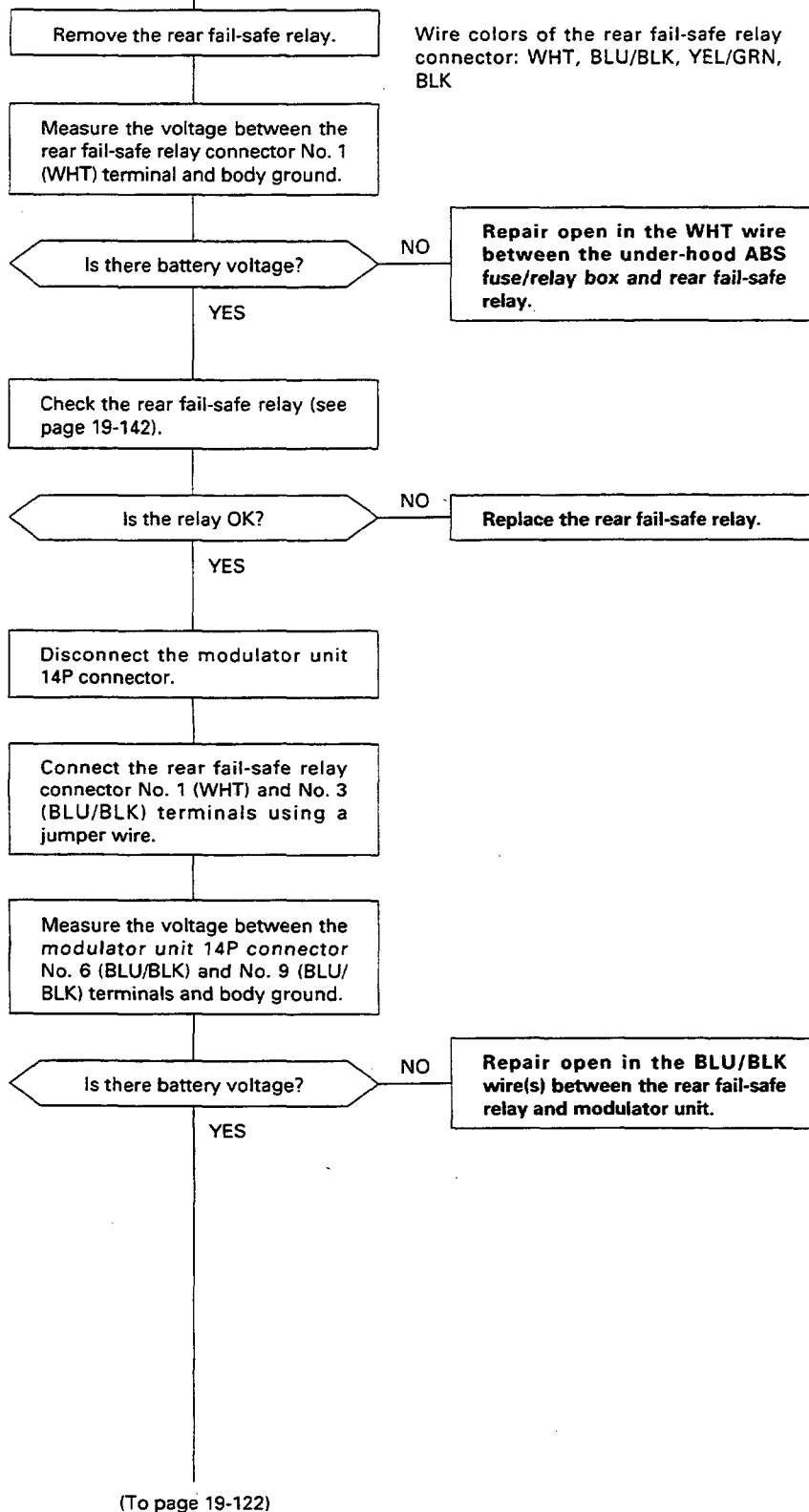
The ABS control unit momentarily outputs the ON signal to each solenoid (too momentary to turn the solenoid on) during the initial diagnosis, and each time the car is started, to check the voltage from the battery with the detection circuit. If the detection circuit for the rear solenoids detects battery 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 car is started.

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.

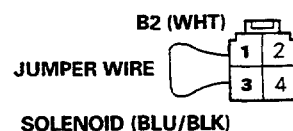
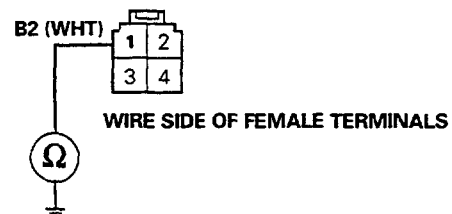


(From page 19-120)

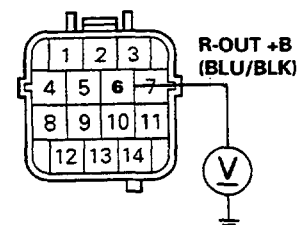


Wire colors of the rear fail-safe relay connector: WHT, BLU/BLK, YEL/GRN, BLK

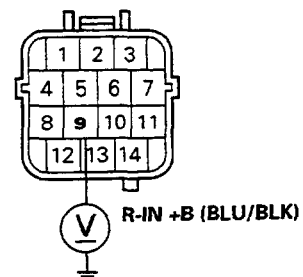
REAR FAIL-SAFE RELAY CONNECTOR



MODULATOR UNIT 14P CONNECTOR



TERMINAL SIDE OF MALE TERMINALS



(cont'd)

Troubleshooting

Rear Solenoid (cont'd)

(From page 19-121)

Measure the resistance between the modulator unit 14P connector terminals to determine the solenoid standard resistance (A type or B type).

Inlet:

- No. 8 (WHT/BLK) and No. 12 (RED/BLK)
- No. 10 (WHT/BLU) and No. 14 (RED/BLU)

Outlet:

- No. 1 (YEL/BLK) and No. 5 (GRY/BLK)
- No. 3 (YEL/BLU) and No. 7 (GRY/BLU)

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

Measure the resistance between the modulator unit 14P connector No. 2 (YEL/WHT) and No. 6 (GRY/WHT) terminals, and the No. 9 (WHT) and No. 13 (RED/WHT) 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 continuity between the modulator unit 14P connector No. 2 (YEL/WHT) and No. 13 (RED/WHT) terminals and body ground.

Is there continuity?

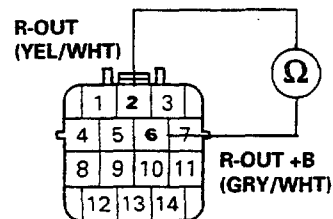
YES

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)

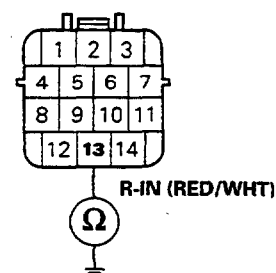
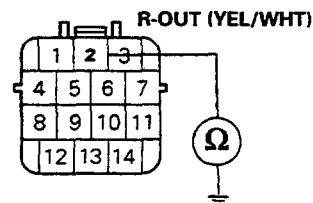
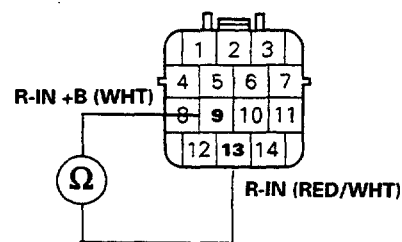
NO

(To page 19-123)

MODULATOR UNIT 14P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS



(From page 19-122)

Check for continuity between the modulator unit 14P connector No. 2 (YEL/WHT) and No. 13 (RED/WHT) terminals.

Is there continuity?

YES

Replace the modulator wire harness. (Short to the RED/WHT wire in the YEL/WHT wire)

NO

Check for continuity between the modulator unit 14P connector No. 13 (RED/WHT) terminal and following terminals:

- No. 12 (RED/BLK): Right-front inlet
- No. 1 (YEL/BLK): Right-front outlet
- No. 14 (RED/BLU): Left-front inlet
- No. 3 (YEL/BLU): Left-front outlet

Is there continuity?

YES

Replace the modulator wire harness. (Short to the RED/BLK, YEL/BLK, RED/BLU or YEL/BLU wire in the RED/WHT wire)

NO

Check for continuity between the modulator unit 14P connector No. 2 (YEL/WHT) terminal and following terminals:

- No. 12 (RED/BLK): Right-front inlet
- No. 1 (YEL/BLK): Right-front outlet
- No. 14 (RED/BLU): Left-front inlet
- No. 3 (YEL/BLU): Left-front outlet

Is there continuity?

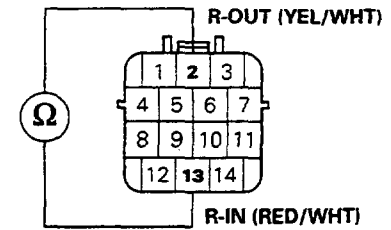
YES

Replace the modulator wire harness. (Short to the RED/BLK, YEL/BLK, RED/BLU or YEL/BLU wire in the YEL/WHT wire)

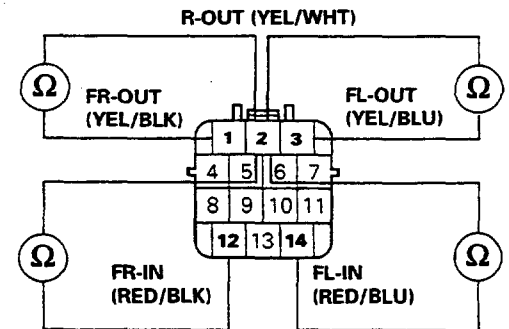
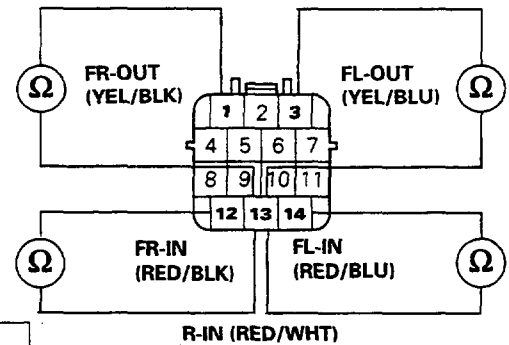
NO

(To page 19-124)

MODULATOR UNIT 14P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS



(cont'd)

Troubleshooting

Rear Solenoid (cont'd)

(From page 19-123)

Disconnect the ABS control unit 26P connector.

Check for continuity between the ABS control unit 26P connector No. 16 (YEL/WHT) and No. 3 (RED/WHT) terminals and body ground.

Is there continuity?

YES

Repair short to body ground in the YEL/WHT or RED/WHT wire between the ABS control unit and modulator unit.

NO

Check for continuity between the ABS control unit 26P connector No. 3 (RED/WHT) and No. 16 (YEL/WHT) terminals.

Is there continuity?

YES

Repair short to the YEL/WHT wire in the RED/WHT wire between the ABS control unit and modulator unit.

NO

Check for continuity between the ABS control unit 26P connector No. 3 (RED/WHT) and following terminals:

- No. 2 (RED/BLK): Right-front inlet
- No. 15 (YEL/BLK): Right-front outlet
- No. 1 (RED/BLU): Left-front inlet
- No. 14 (YEL/BLU): Left-front outlet

Is there continuity?

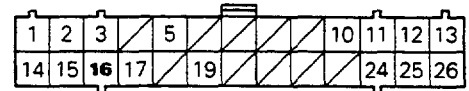
YES

Repair short to the RED/BLK, YEL/BLK, RED/BLU or YEL/BLU wire in the RED/WHT wire between the ABS control unit and modulator unit.

NO

(To page 19-125)

ABS CONTROL UNIT 26P CONNECTOR

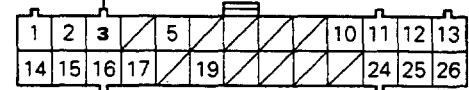


R-OUT (YEL/WHT)

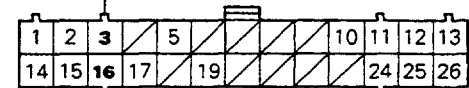


WIRE SIDE OF FEMALE TERMINALS

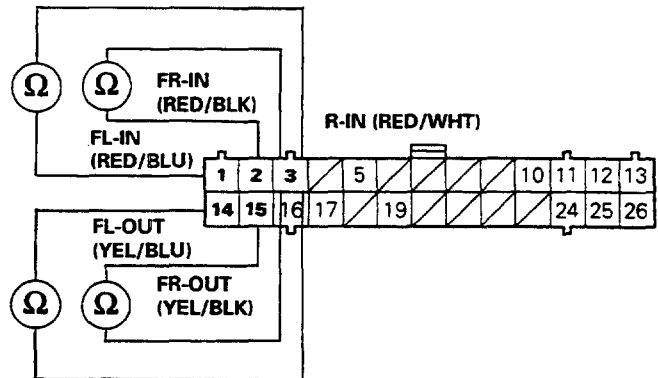
R-IN (RED/WHT)



R-IN (RED/WHT)



R-OUT (YEL/WHT)



(From page 19-124)

Check for continuity between the ABS control unit 26P connector No. 16 (YEL/WHT) and following terminals:

- No. 2 (RED/BLK): Right-front inlet
- No. 15 (YEL/BLK): Right-front outlet
- No. 1 (RED/BLU): Left-front inlet
- No. 14 (YEL/BLU): Left-front outlet

Is there continuity?

YES

NO

Connect the modulator unit 14P connector.

Measure the voltage between the ABS control unit 26P connector No. 16 (YEL/WHT) and No. 3 (RED/WHT) terminals and body ground.

Is there battery voltage?

NO

YES

Disconnect the ABS control unit 22P connector.

Check for continuity between the ABS control unit 22P connector No. 10 (BLK) terminal and body ground.

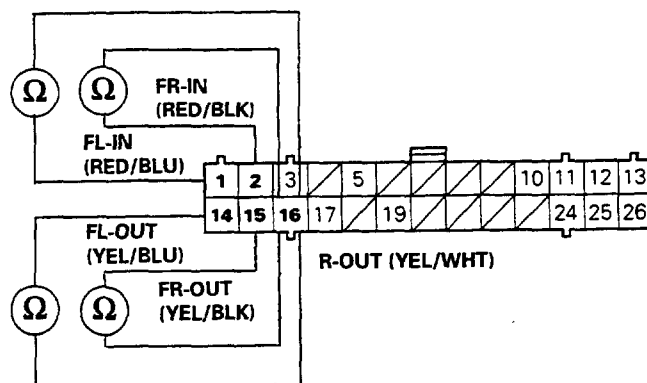
Is there continuity?

NO

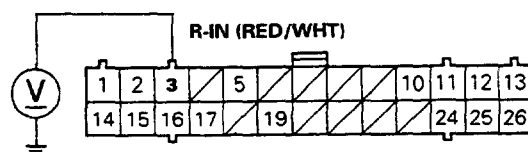
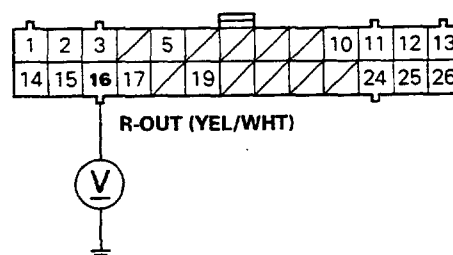
YES

(To page 19-126)

ABS CONTROL UNIT 26P CONNECTOR



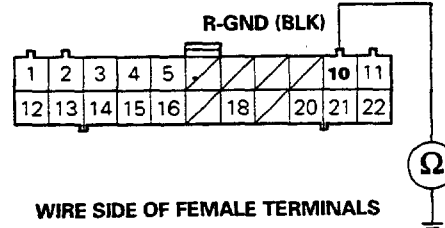
WIRE SIDE OF FEMALE TERMINALS



Repair short to the RED/BLK, YEL/BLK, RED/BLU or YEL/BLU wire in the YEL/WHT wire between the ABS control unit and modulator unit.

Repair open in the YEL/WHT or RED/WHT wire between the ABS control unit and modulator unit.

ABS CONTROL UNIT 22P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

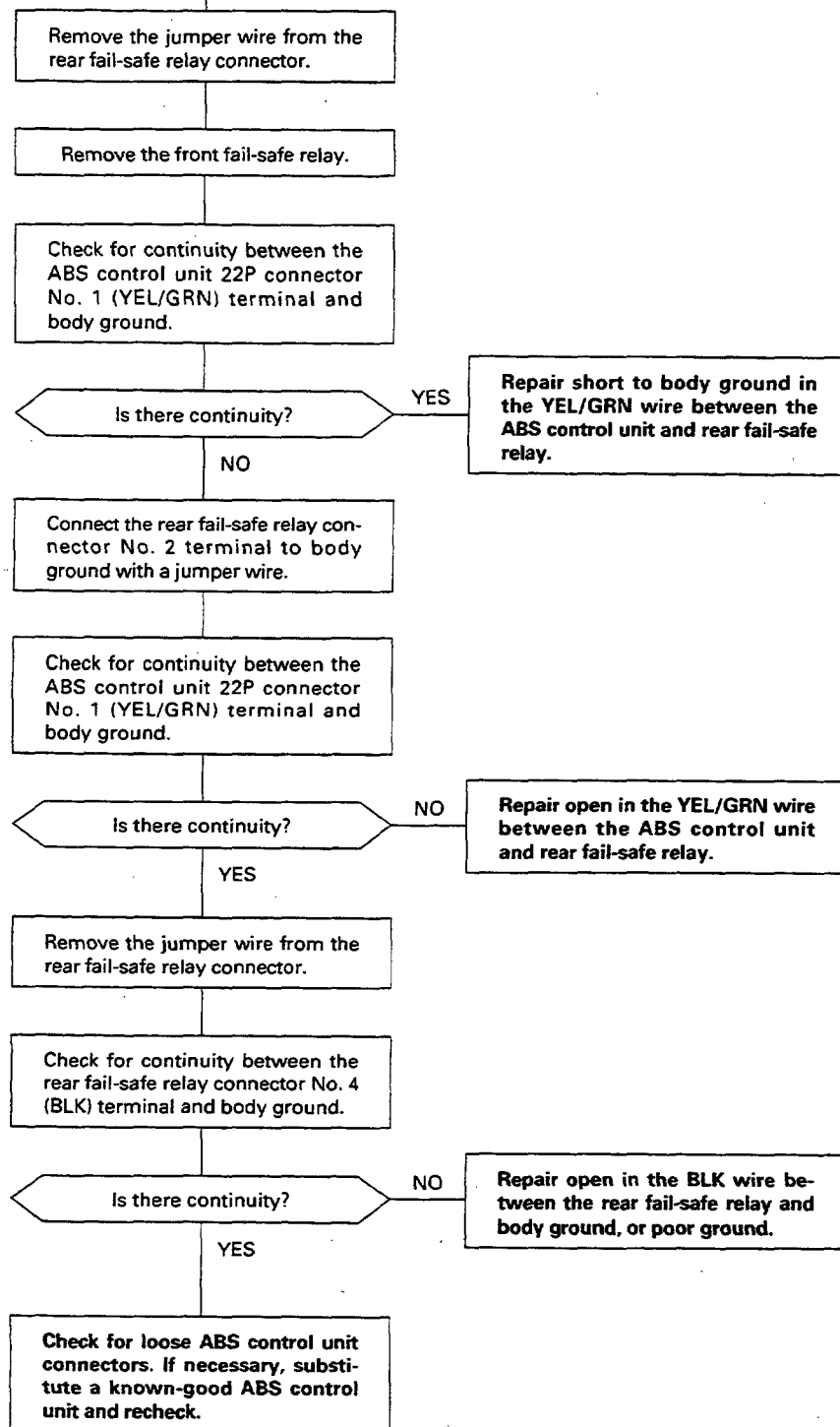
Repair open in the BLK wire between the ABS control unit and body ground, or a poor ground.

(cont'd)

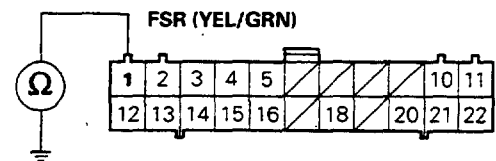
Troubleshooting

Rear Solenoid (cont'd)

(From page 19-125)

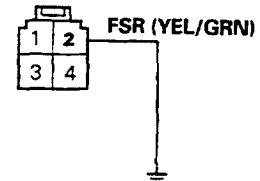


ABS CONTROL UNIT 22P CONNECTOR



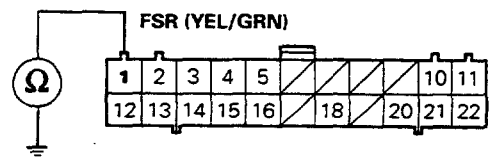
WIRE SIDE OF FEMALE TERMINALS

REAR FAIL-SAFE RELAY CONNECTOR



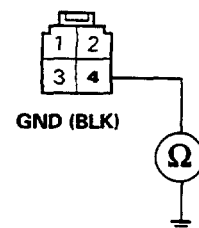
WIRE SIDE OF FEMALE TERMINALS

ABS CONTROL UNIT 22P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

REAR FAIL-SAFE RELAY CONNECTOR



WIRE SIDE OF FEMALE TERMINALS