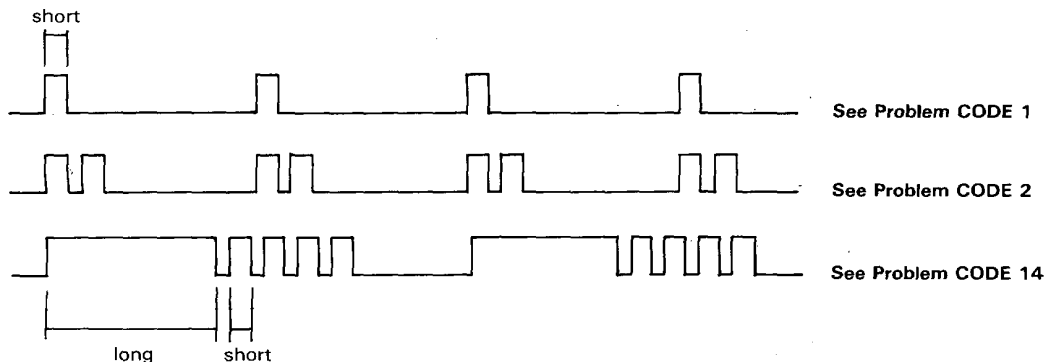


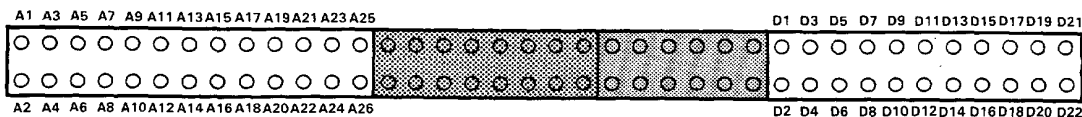
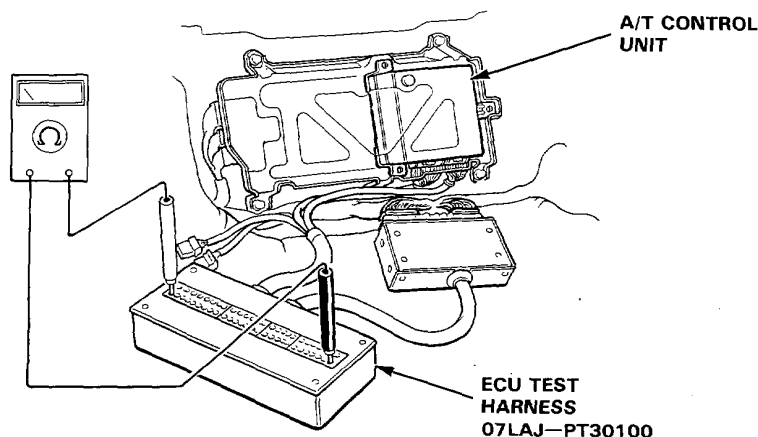


Problem codes 1 through 9 are indicated by individual short blinks, Problem codes 10 through 15 are indicated by a series of long and short blinks. One long blink equals 10 short blinks. Add the long and short blinks together to determine the problem code. After determining the problem code, refer to the electrical system Symptom-to-Component Chart on page 9-28.



Some PGM-FI problems will also make the S indicator light come on. After repairing the PGM-FI system, disconnect the Back Up fuse (7.5 A) in the under-hood relay box for more than 10 seconds to reset the A/T control unit memory.

NOTE: Disconnecting the Back up fuse also cancels the radio preset stations and the clock setting. Make note of the radio presets before removing the fuse so you can reset them.



Terminal Locations

NOTE:

- Only the A and D sections of the ECU test harness are used for A/T troubleshooting.
- Unless otherwise noted, use only the Digital Multimeter for testing.

Symptom-to-Component Chart

Electrical System

Number of LED display blinks	S indicator light	Possible Cause	Symptom	Refer to page
1	Blinks	<ul style="list-style-type: none"> • Disconnected lock-up control solenoid valve A coupler • Short or open in lock-up control solenoid valve A wire • Faulty lock-up control solenoid valve A 	<ul style="list-style-type: none"> • Lock-up clutch does not engage. • Lock-up clutch does not disengage. • Frequent engine stalling. 	9-30
2	Blinks	<ul style="list-style-type: none"> • Disconnected lock-up control solenoid valve B coupler • Short or open in lock-up control solenoid valve B wire • Faulty lock-up control solenoid valve B 	<ul style="list-style-type: none"> • Lock-up clutch does not engage. 	9-31
3	Blinks or OFF	<ul style="list-style-type: none"> • Disconnected throttle angle sensor coupler • Short or open in throttle angle sensor wire • Faulty throttle angle sensor 	<ul style="list-style-type: none"> • Lock-up clutch does not engage. 	9-32
4	Blinks	<ul style="list-style-type: none"> • Disconnected sensor coupler • Short or open in speed sensor wire • Faulty speed sensor 	<ul style="list-style-type: none"> • Lock-up clutch does not engage. 	9-33
5	Blinks	<ul style="list-style-type: none"> • Short in shift position console switch wire • Faulty shift position console switch 	<ul style="list-style-type: none"> • Fails to shift other than 2nd ↔ 4th gears. • Lock-up clutch does not engage. 	9-34
6	OFF	<ul style="list-style-type: none"> • Disconnected shift position console switch coupler • Open in shift position console switch wire • Faulty shift position console switch 	<ul style="list-style-type: none"> • Fails to shift other than 2nd ↔ 4th gears. • Lock-up clutch does not engage. • Lock-up clutch engages and disengages alternately. 	9-36
7	Blinks	<ul style="list-style-type: none"> • Disconnected shift control solenoid valve A coupler • Short or open in shift control solenoid valve A wire • Faulty shift control solenoid valve A 	<ul style="list-style-type: none"> • Fails to shift (between 1st ↔ 4th, 2nd ↔ 4th or 2nd ↔ 3rd gears only). • Fails to shift (stuck in 4th gear) 	9-38
8	Blinks	<ul style="list-style-type: none"> • Disconnected shift control solenoid valve B coupler • Short or open in shift control solenoid valve B wire • Faulty shift control solenoid valve B 	<ul style="list-style-type: none"> • Fails to shift (stuck in 1st or 4th gears). 	9-39



Number of LED display blinks	S indicator light	Possible Cause	Symptom	Refer to page
9	Blinks	<ul style="list-style-type: none">• Disconnected NC speed sensor coupler• Short or open in the NC speed sensor wire• Faulty NC speed sensor	<ul style="list-style-type: none">• Lock-up clutch does not engage.	9-40
10	Blinks	<ul style="list-style-type: none">• Disconnected water temperature sensor coupler• Short or open in the water temperature sensor wire• Faulty water temperature sensor	<ul style="list-style-type: none">• Lock-up clutch does not engage.	9-42
11	OFF	<ul style="list-style-type: none">• Disconnected ignition coil coupler• Short or open in ignition coil wire• Faulty ignition coil	<ul style="list-style-type: none">• Lock-up clutch does not engage.	9-44
14	OFF	<ul style="list-style-type: none">• Short or open in FAS wire• Trouble in PGM-FI unit	<ul style="list-style-type: none">• Transmission jerks hard when shifting.	9-46
15	OFF	<ul style="list-style-type: none">• Disconnected NM speed sensor coupler• Short of open in NM speed sensor wire• Faulty NM speed sensor	<ul style="list-style-type: none">• Transmission jerks hard when shifting.	9-50

- If a customer describes the symptoms for codes 3, 6, or 11, yet the LED is not blinking, it will be necessary to recreate the symptom by test driving, and then checking the LED with the ignition still ON.
- If the LED displays codes other than those listed above or stays lit continuously, the control unit is faulty.
- Sometimes the S indicator light and the Check Engine warning light may come on simultaneously. If so, check the PGM-FI system according to the number of blinks on the PGM-FI ECU self-diagnosing indicator, then reset the memory by removing the Back Up fuse in the under hood relay box for more than 10 seconds. Drive the vehicle for several minutes at speed over 50 km/h (30 mph), then recheck the lights.

NOTE: Disconnecting the Back up fuse also cancels the radio preset stations and the clock setting. Make note of the radio presets before removing the fuse so you can reset them.

Electrical Troubleshooting

Troubleshooting Flowchart

Self-diagnosis LED indicator blinks once.

Disconnect the 26P connector from the control unit.

Turn the ignition switch ON.

Measure the voltage between the A6 (YEL) and A25 (BLK/RED) terminals.

Is there voltage?

YES
Repair short to power source in YEL wire between the A6 terminal and the lock-up control solenoid valve A.

NO

Turn the ignition switch OFF.

Disconnect the 2P connector from the lock-up control solenoid valve assembly.

Check for continuity between the A6 (YEL) and A25 (BLK/RED) terminals.

Is there continuity?

YES
Repair short to ground in YEL wire between the A6 terminal and the lock-up control solenoid valve A.

NO

Connect the 2P connector to the lock-up control solenoid valve assembly.

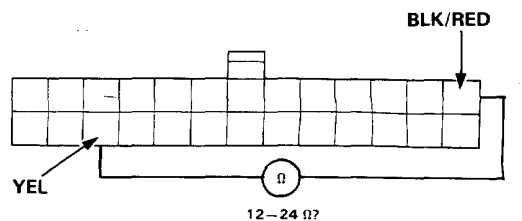
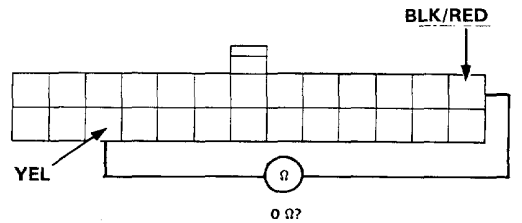
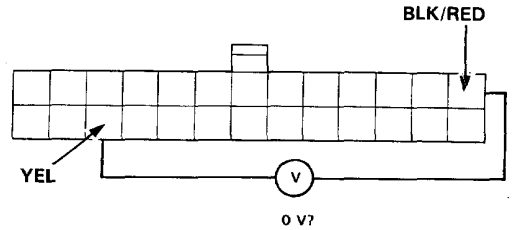
Measure the resistance between the A6 (YEL) and A25 (BLK/RED) terminals.

Is the resistance 12–24 Ω?

NO
Check for open in YEL wire between the A6 terminal and the lock-up control solenoid valve A. If wire is OK, check the Lock-up Control Solenoid Valve A.

YES

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





Self-diagnosis LED indicator blinks twice.

Disconnect the 26P connector from the control unit.

Turn the ignition switch ON.

Measure the voltage between the A4 (GRN/BLK) and A25 (BLK/RED) terminals.

Is there voltage? YES

Repair short to power source in GRN/BLK wire between the A4 terminal and the lock-up control solenoid valve B.

NO

Turn the ignition switch OFF.

Measure the resistance between the A4 (GRN/BLK) and A25 (BLK/RED) terminals.

Is the resistance 12–24 Ω? NO

Check for open in GRN/BLK wire between the A4 terminal and the lock-up control solenoid valve B. If wire is OK, check the Lock-Up Control Solenoid Valve B.

YES

Disconnect the 2P connector from the lock-up control solenoid valve assembly.

Check for continuity between the A4 (GRN/BLK) and A25 (BLK/RED) terminals.

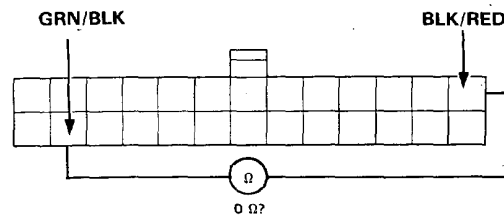
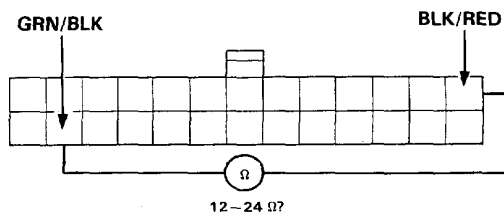
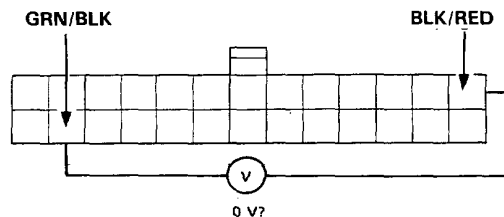
Is there continuity? YES

Repair short to ground in GRN/BLK wire between the A4 terminal and the lock-up control solenoid valve B.

NO

Connect the 2P connector to the lock-up control solenoid valve assembly.

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



(cont'd)

Electrical Troubleshooting

Troubleshooting Flowchart (cont'd)

Self-diagnosis LED indicator blinks three times.

Turn the ignition switch ON.

Check whether the PGM-FI LED display blinks (Section 6).

Does the LED blink?

YES
Repair the PGM-FI System.

NO
Turn the ignition switch OFF.

Disconnect the 26P and 22P connectors from the control unit.

Turn the ignition switch ON.

Measure the voltage between the D18 (LT GRN/BLK) and A25 (BLK/RED) terminals.

Is the voltage 4.75–5.25 V?

NO
Repair open or short in LT GRN/BLK wire between the D18 terminal and the D14 terminal of the PGM-FI ECU.

YES
Turn the ignition switch OFF.

Connect the ECU test harness between the connectors and the control unit.

Turn the ignition switch ON.

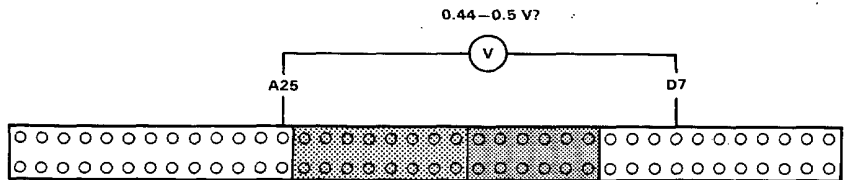
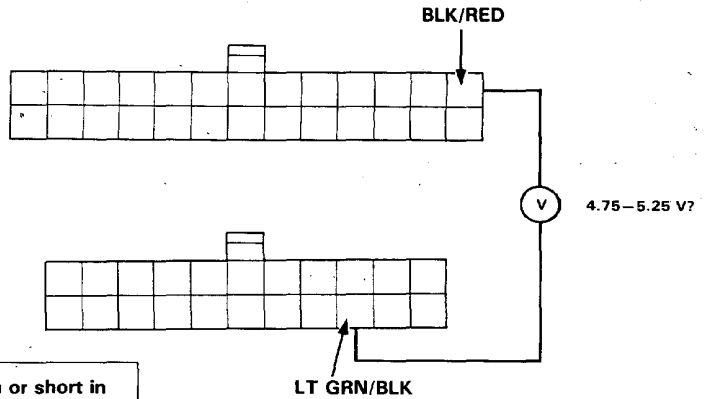
Measure the voltage between the D7 and A25 terminals.

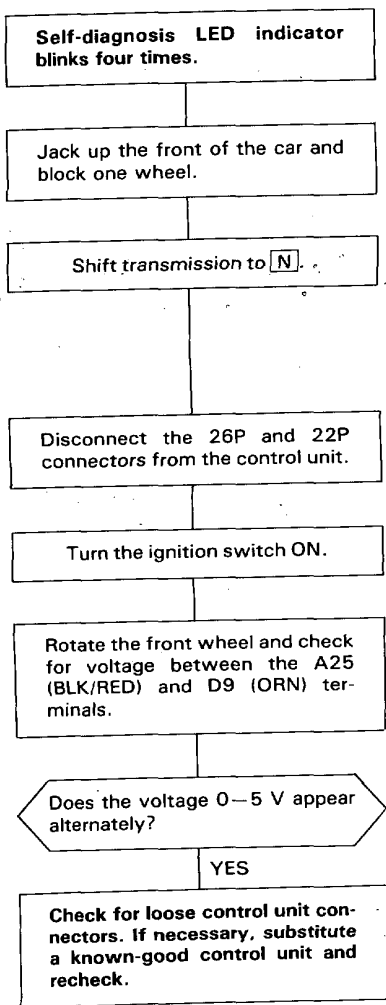
Is the voltage 0.44–0.56 V?*

NO
Repair open or short in RED/BLK wire between the D7 terminal and the throttle angle sensor.

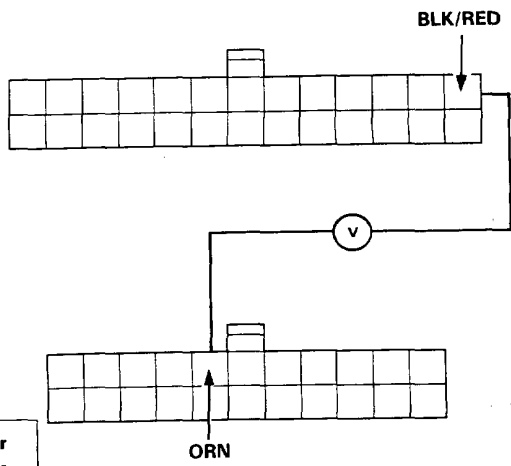
YES * ± 10%

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





- ⚠ WARNING**
- Set the parking brake securely and block the rear wheels.
 - Jack up the front of the car and support with a rigid rack.

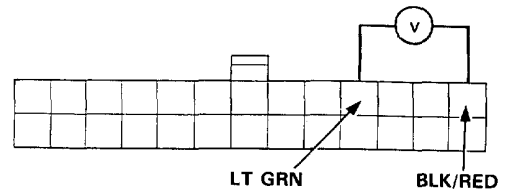
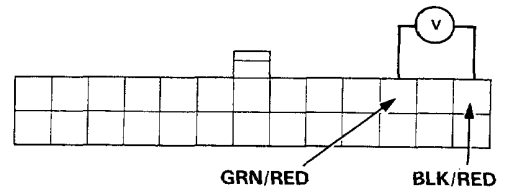
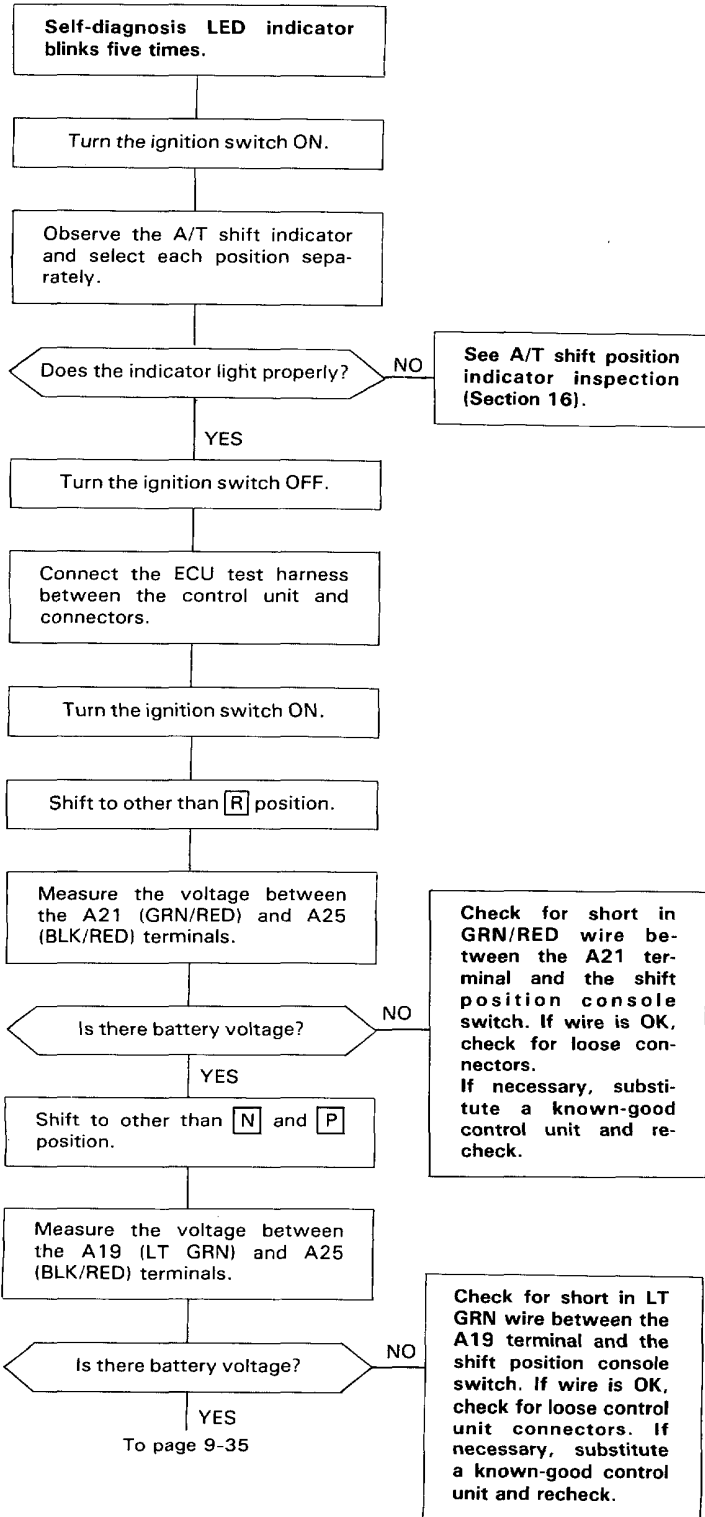


Check for short or open in ORN wire between the D9 terminal and the Speed Sensor. If wire is OK, check the Speed Sensor.

(cont'd)

Electrical Troubleshooting

Troubleshooting Flowchart (cont'd)





From page 9-34

Shift to other than **D4** position.

Measure the voltage between the A17 (GRN/BLK) and A25 (BLK/RED) terminals.

Is there battery voltage? NO

YES

Shift to other than **D3** position.

Measure the voltage between the A15 (GRN/BLU) and A25 (BLK/RED) terminals.

Is there battery voltage? NO

YES

Shift to other than **2** position.

Measure the voltage between the A13 (GRN/YEL) and A25 (BLK/RED) terminals.

Is there battery voltage? NO

YES

Shift to other than **1** position.

Measure the voltage between the A11 (LT GRN/WHT) and A25 (BLK/RED) terminals.

Is there battery voltage? NO

YES

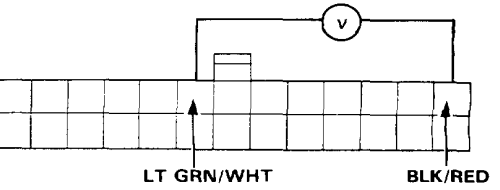
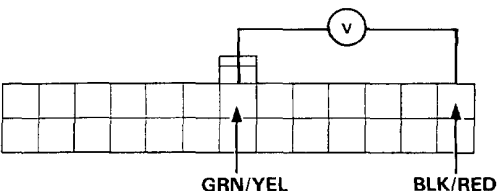
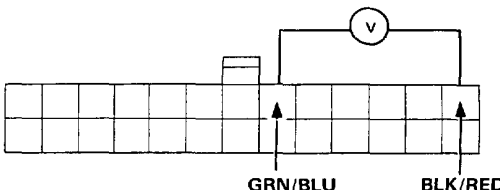
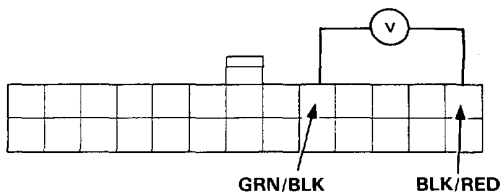
Substitute a known-good control unit and recheck.

Check for short in GRN/BLK wire between the A17 terminal and the shift position console switch. If wire is OK, check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

Check for short in GRN/BLU wire between the A15 terminal and the shift position console switch. If wire is OK, check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

Check for short in GRN/YEL wire between the A13 terminal and the shift position console switch. If wire is OK, check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

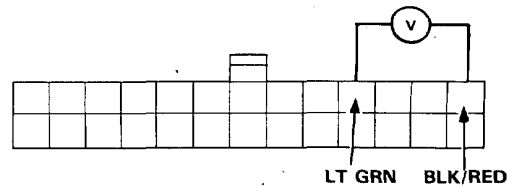
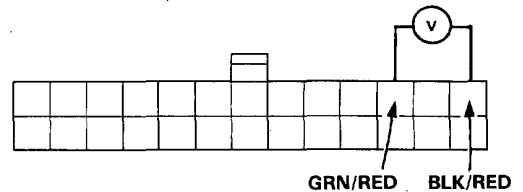
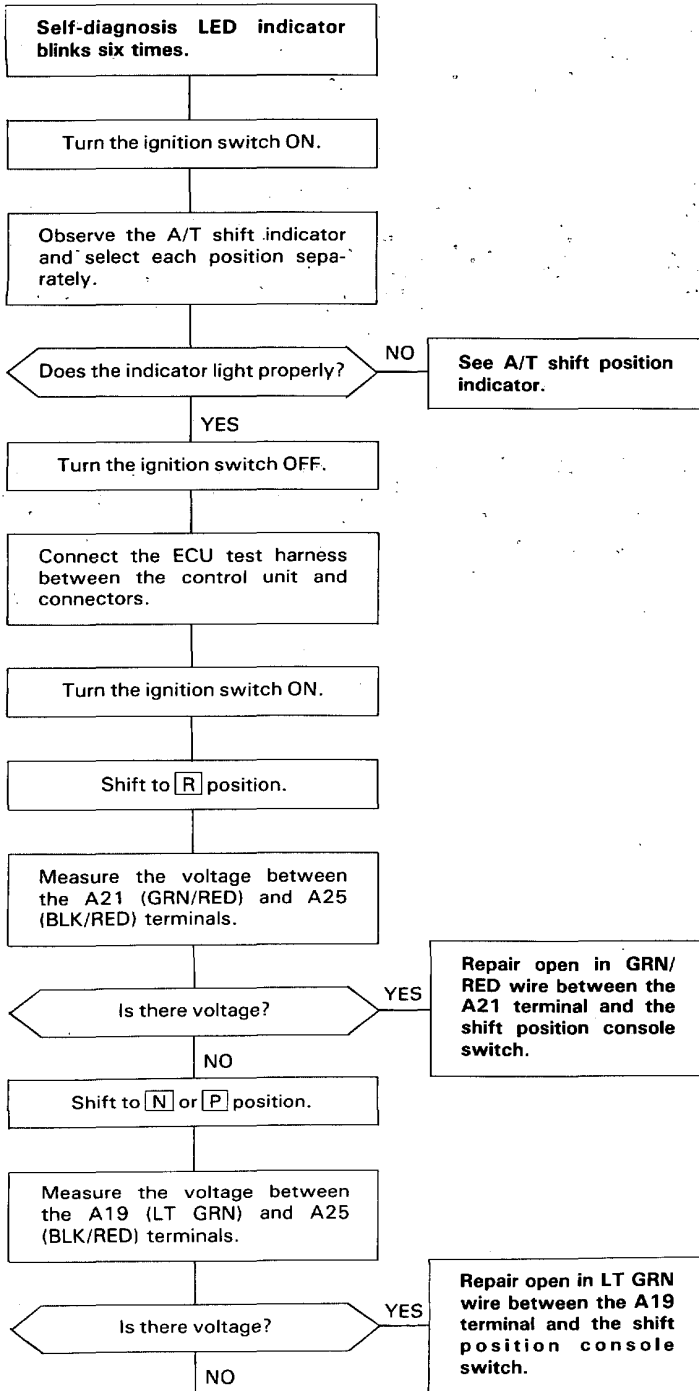
Check for short in LT GRN/WHT wire between the A11 terminal and shift position console switch or shift position indicator. If wire is OK, check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.



(cont'd)

Electrical Troubleshooting

Troubleshooting Flowchart (cont'd)



To page 9-37



From page 9-36

Shift to **D4** position.

Measure the voltage between the A17 (GRN/BLK) and A25 (BLK/RED) terminals.

Is there voltage?

YES
Repair open in GRN/BLK wire between the A17 terminal and the shift position console switch.

NO

Shift to **D3** position.

Measure the voltage between the A15 (GRN/BLU) and A25 (BLK/RED) terminals.

Is there voltage?

YES
Repair open in GRN/BLU wire between the A15 terminal and the shift position console switch.

NO

Shift to **2** position.

Measure the voltage between the A13 (GRN/YEL) and A25 (BLK/RED) terminals.

Is there voltage?

YES
Repair open in GRN/YEL wire between the A13 terminal and the shift position console switch.

NO

Shift to **1** position.

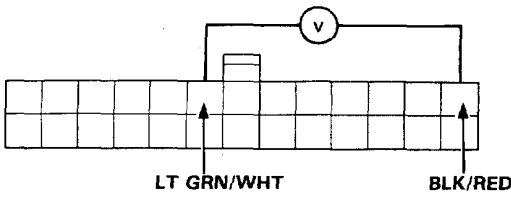
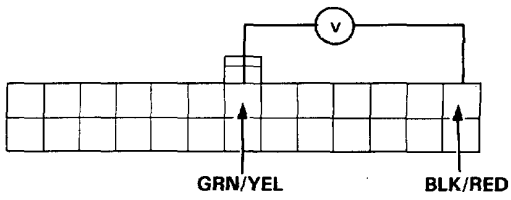
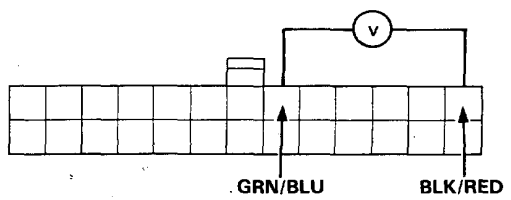
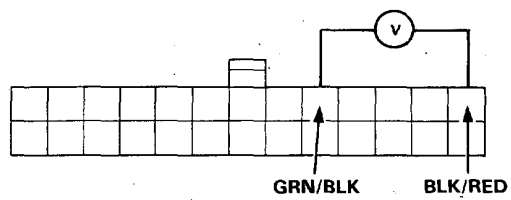
Measure the voltage between the A11 (LT GRN/WHT) and A25 (BLK/RED) terminals.

Is there voltage?

YES
Repair open in LT GRN/WHT wire between the A11 terminal and the shift position console switch.

NO

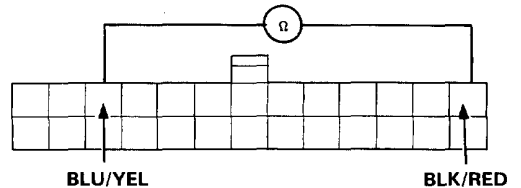
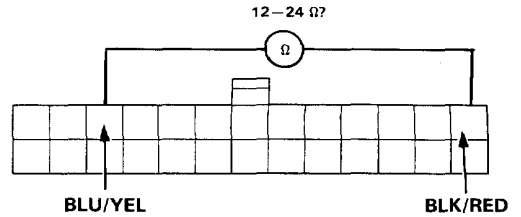
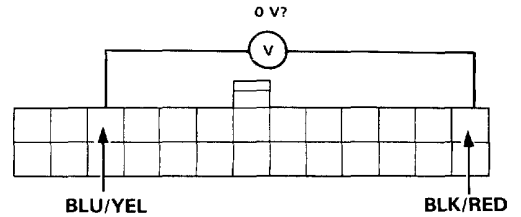
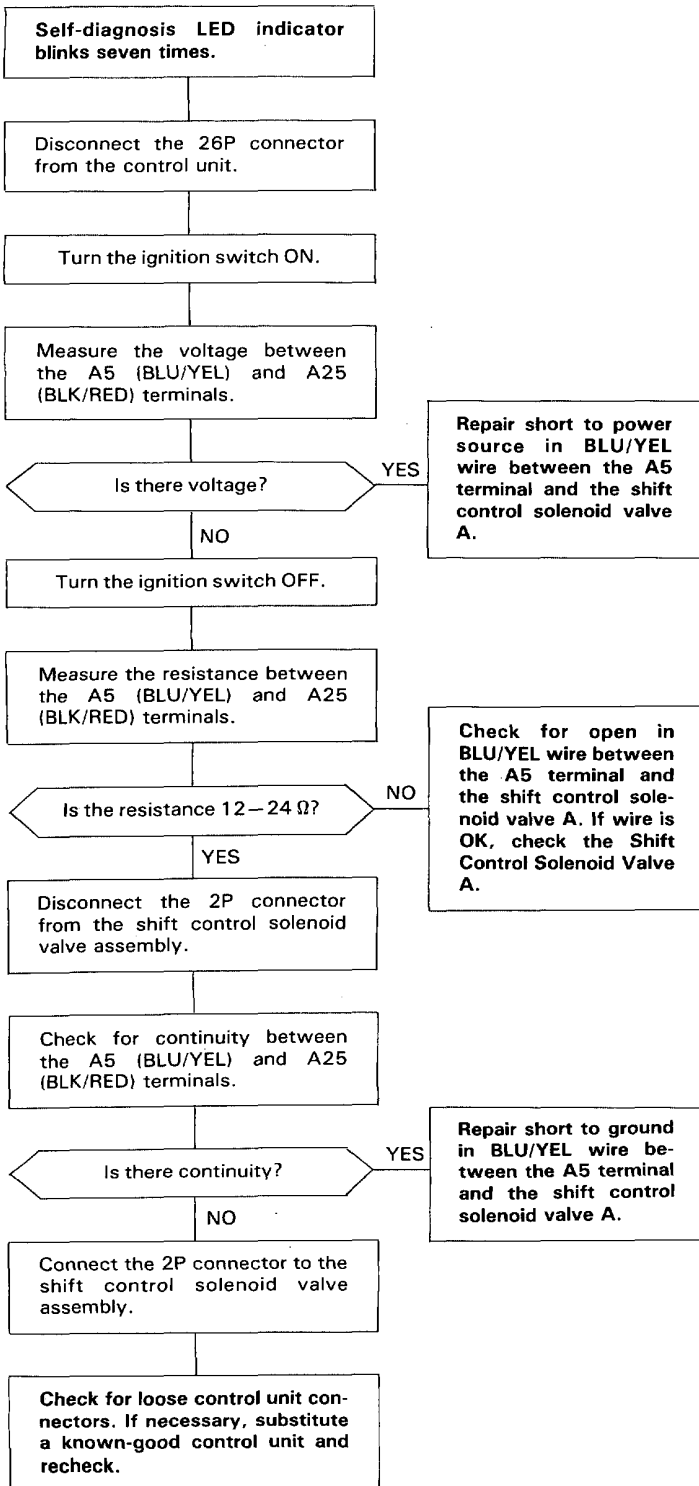
Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.



(cont'd)

Electrical Troubleshooting

Troubleshooting Flowchart (cont'd)





Self-diagnosis LED indicator blinks eight times.

Disconnect the 26P connector from the control unit.

Turn the ignition switch ON.

Measure the voltage between the A3 (GRN/WHT) and A25 (BLK/RED) terminals.

Is there voltage?

YES
Repair short to power source in GRN/WHT wire between the A3 terminal and shift control solenoid valve B.

NO

Turn the ignition switch OFF.

Measure the resistance between the A3 (GRN/WHT) and A25 (BLK/RED) terminals.

Is the resistance 12–24 Ω ?

NO
Check for open in GRN/WHT wire between the A3 terminal and the shift control solenoid valve B. If wire is OK, check the Shift Control Solenoid Valve B.

YES

Disconnect the 2P connector from the shift control solenoid valve assembly.

Check for continuity between the A3 (GRN/WHT) and A25 (BLK/RED) terminals.

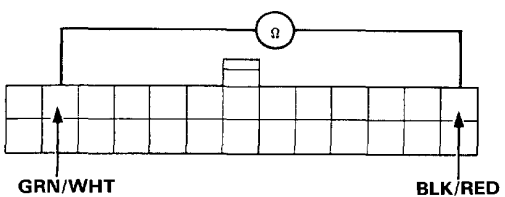
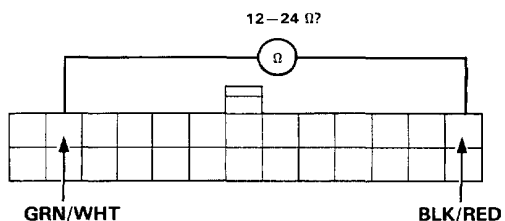
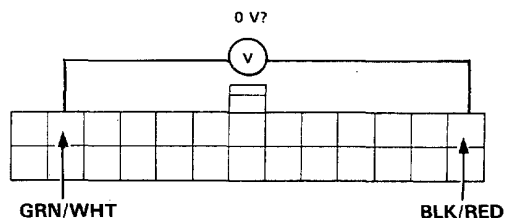
Is there continuity?

YES
Repair short to ground in GRN/WHT wire between the A3 terminal and the shift control solenoid valve B.

NO

Connect the 2P connector to the shift control solenoid valve assembly.

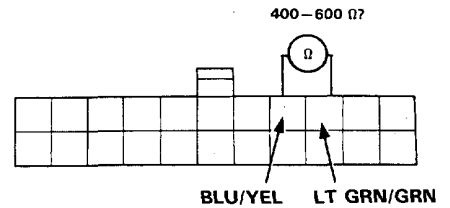
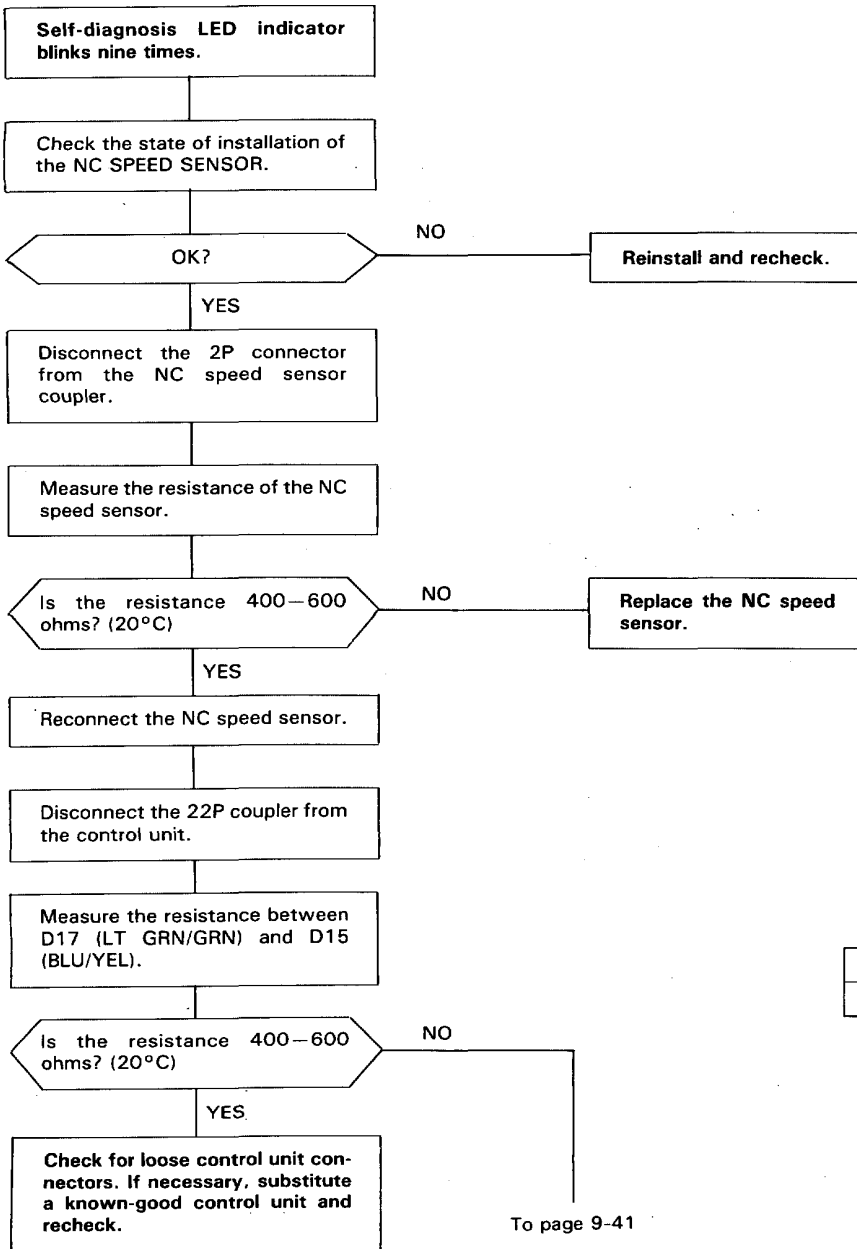
Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.



(cont'd)

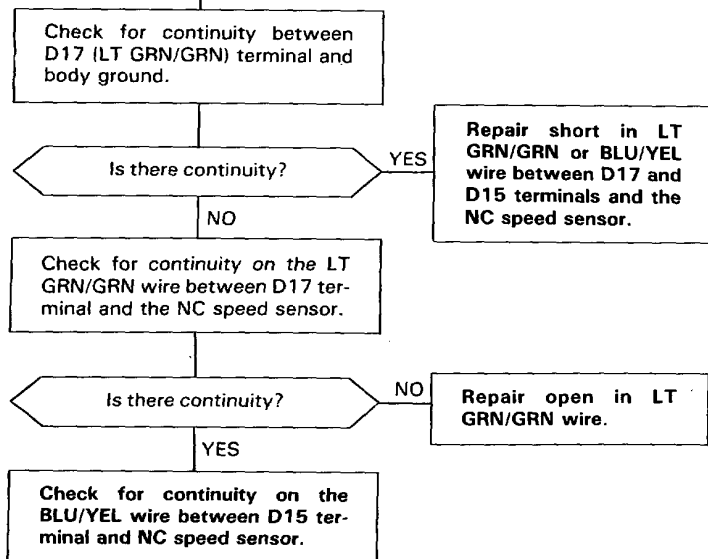
Electrical Troubleshooting

Troubleshooting Flowchart (cont'd)





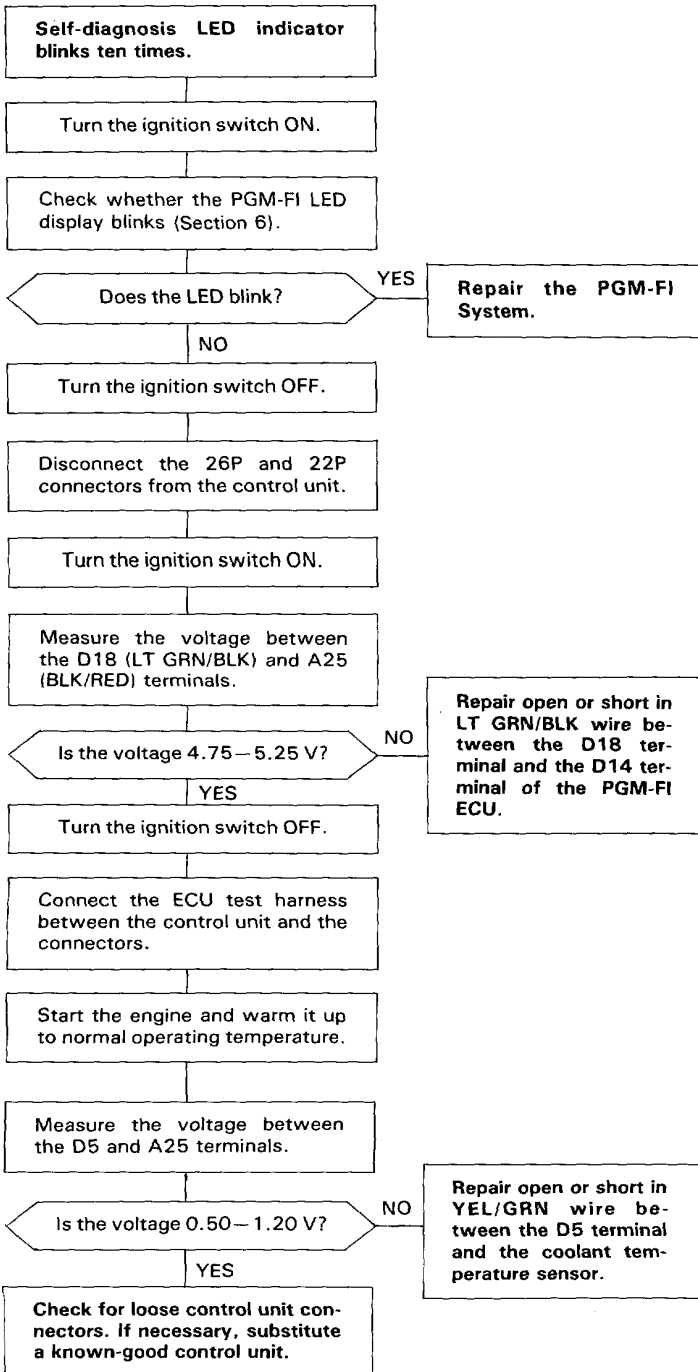
From page 9-40

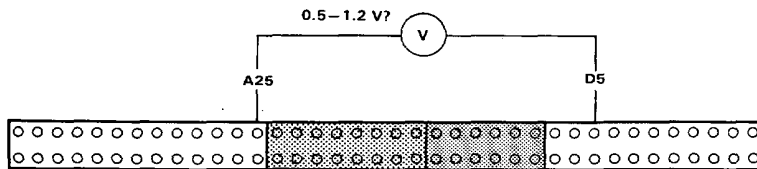
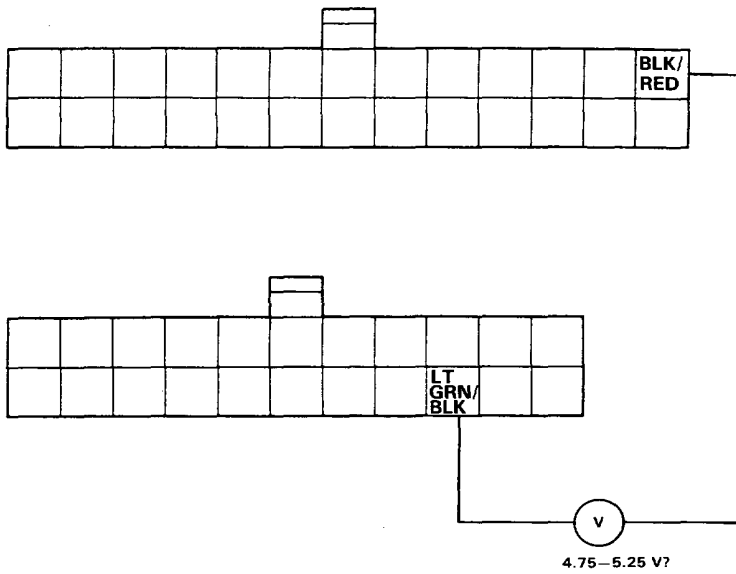


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Electrical Troubleshooting

Troubleshooting Flowchart (cont'd)

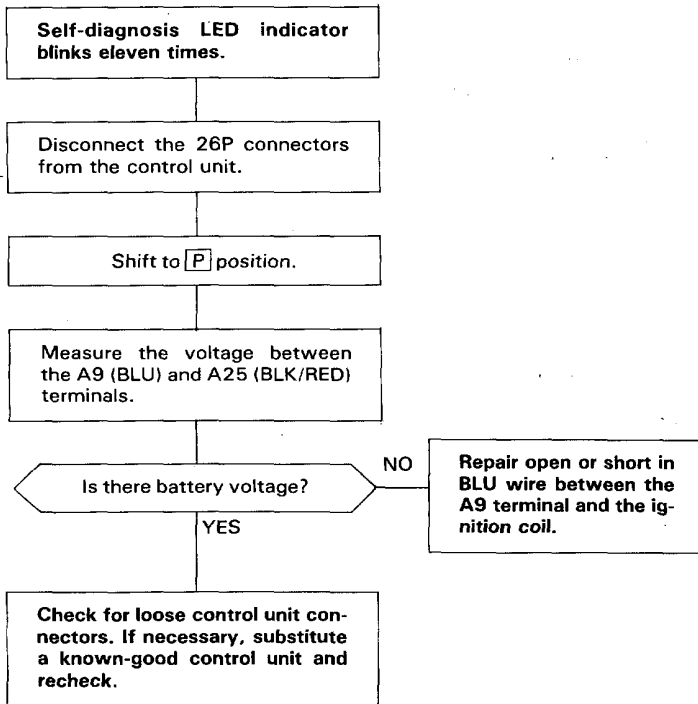


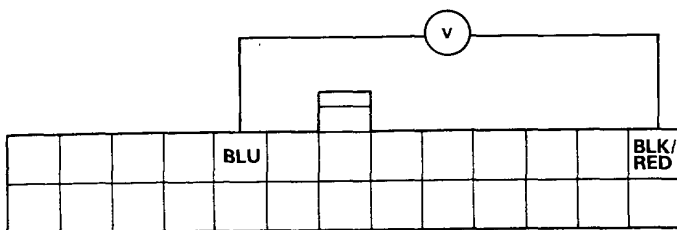


(cont'd)

Electrical Troubleshooting

Troubleshooting Flowchart (cont'd)





(cont'd)

Electrical Troubleshooting

Troubleshooting Flowchart (cont'd)

Self-diagnosis LED indicator blinks fourteen times.

Start the engine and warm it up to normal operating temperature.

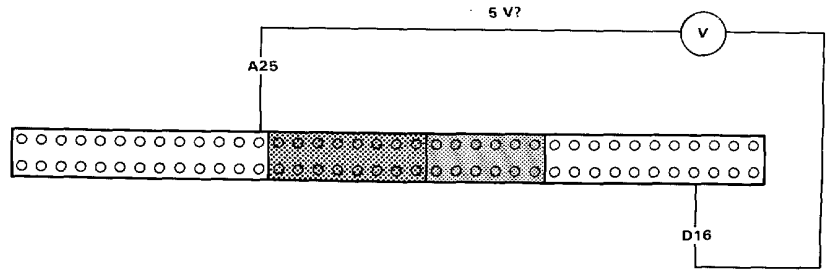
Shift to **P** position.

Turn the ignition switch OFF.

Connect the ECU test harness between the control unit and connectors.

Turn the ignition switch ON and wait for at least two seconds.

Using an analog voltmeter, measure the voltage between the D16 (+) and A25 (-) terminals.



Is there approx. 5 V for over five seconds?

YES

Jack up the front of the car.

Start the engine.

Shift to **D₄** position.

Raise the engine to over 2,000 min⁻¹ (rpm) (over 40 mph in 4th gear) for five seconds.

To page 9-47

NO Does the meter jerk from 0 V to 4 V approx. every four seconds?

YES

Refer to PGM-FI A/T Signal (Section 6).

NO

Is the Check Engine warning light on?

YES

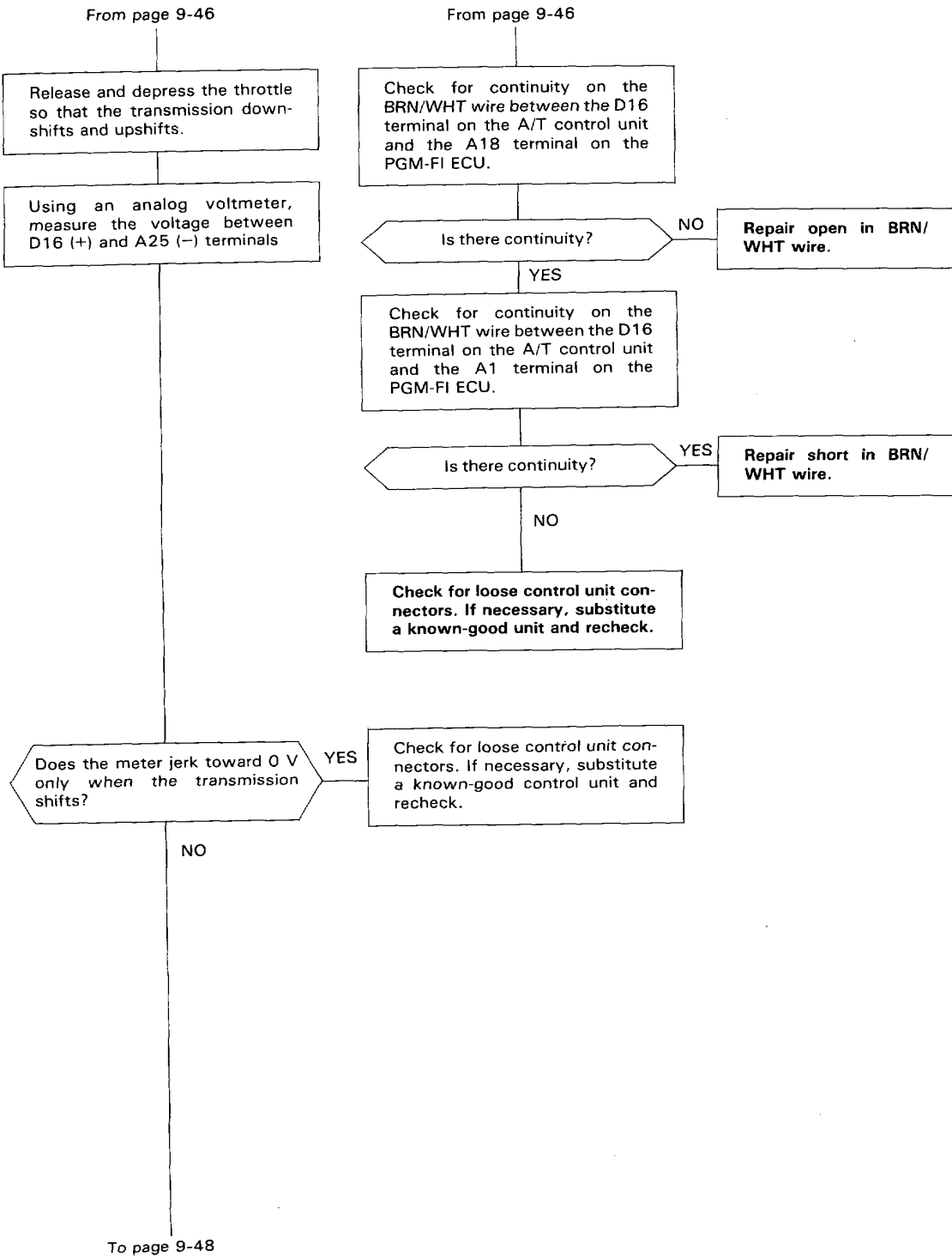
Repair the PGM-FI System (Section 6).

NO

Turn the ignition switch OFF.

Disconnect the A connector from the PGM-FI ECU.

To page 9-47



(cont'd)

Electrical Troubleshooting

Troubleshooting Flowchart (cont'd)

From page 9-47

Apply the brake and shift to **P** position.

Turn the ignition switch OFF.

Disconnect the A connector from the PGM-FI ECU.

Check for continuity on the BRN/WHT wire between the D16 terminal on the A/T control unit and the A18 terminal on the PGM-FI ECU.

Is there continuity?

NO

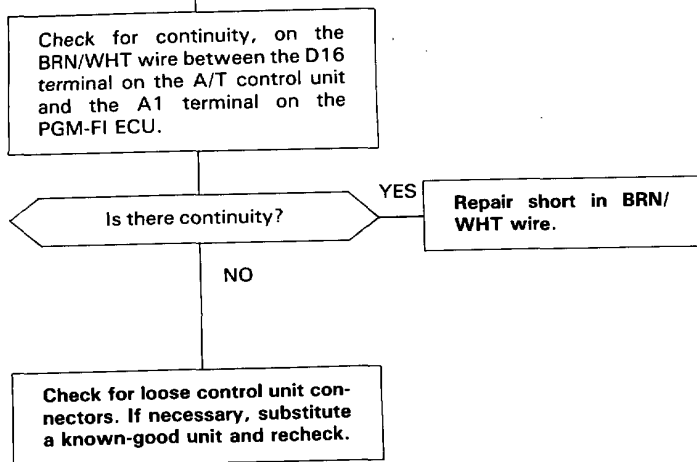
Repair open in BRN/WHT wire.

YES

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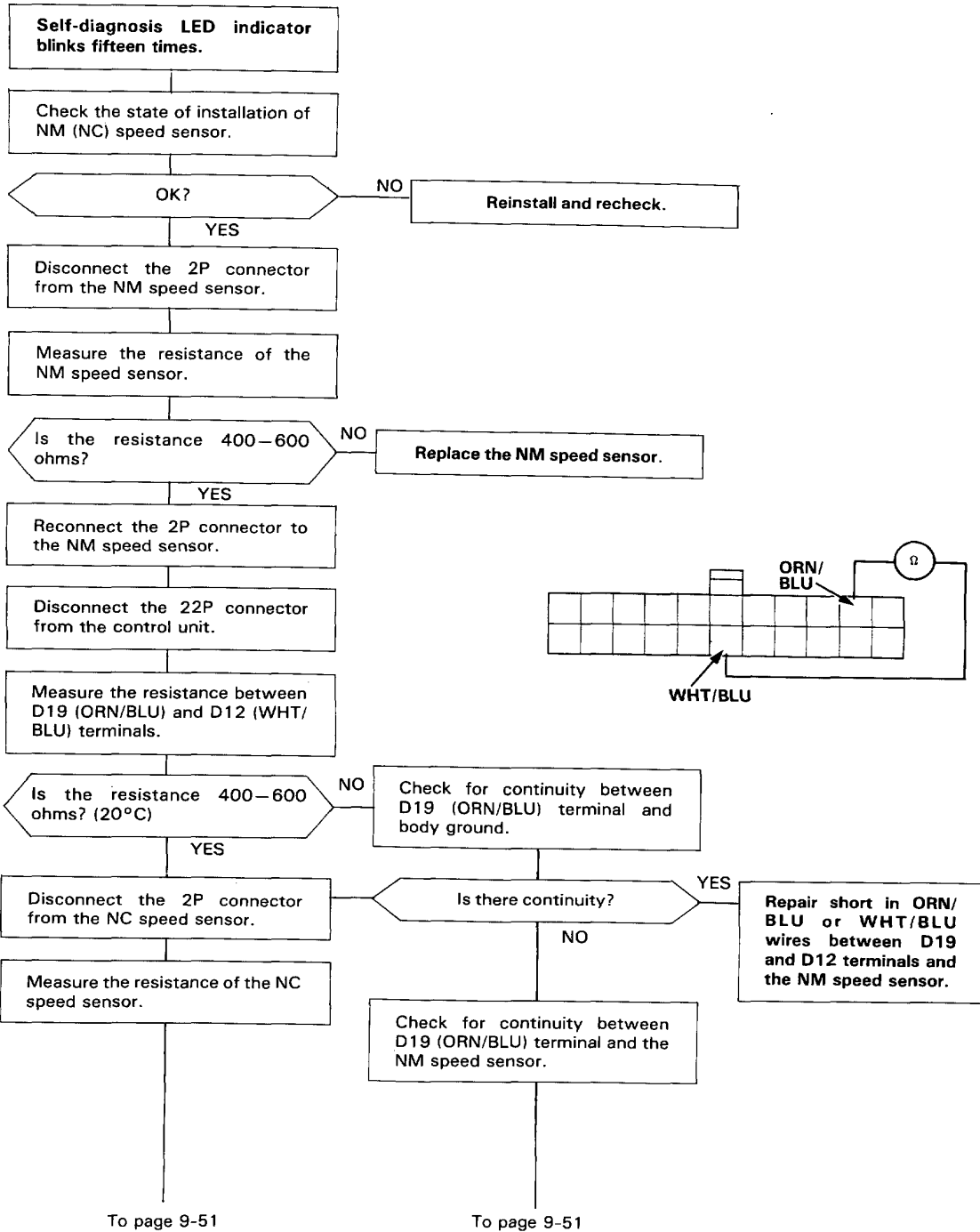
From page 9-48



(cont'd)

Electrical Troubleshooting

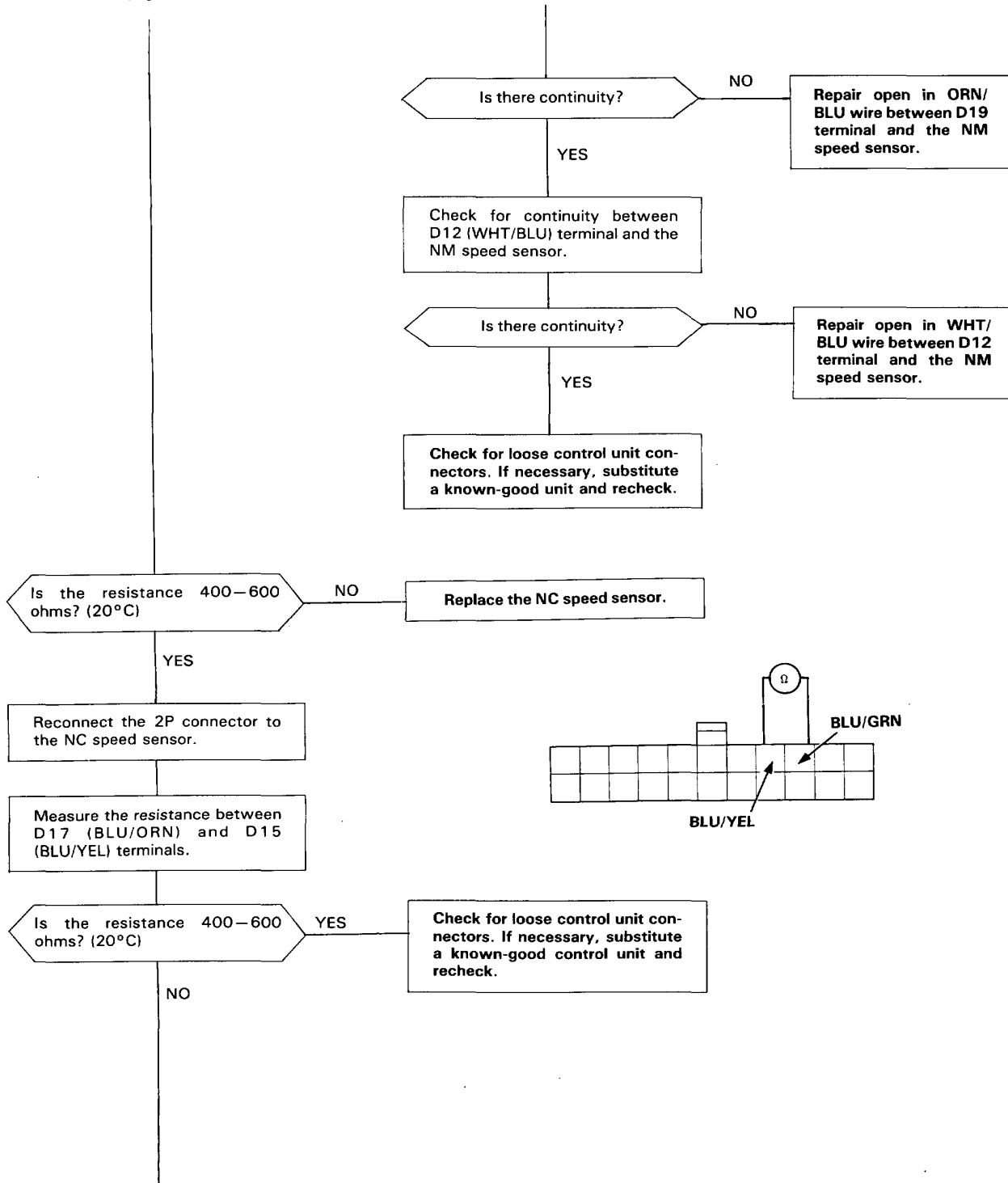
Troubleshooting Flowchart (cont'd)





From page 9-50

From page 9-50



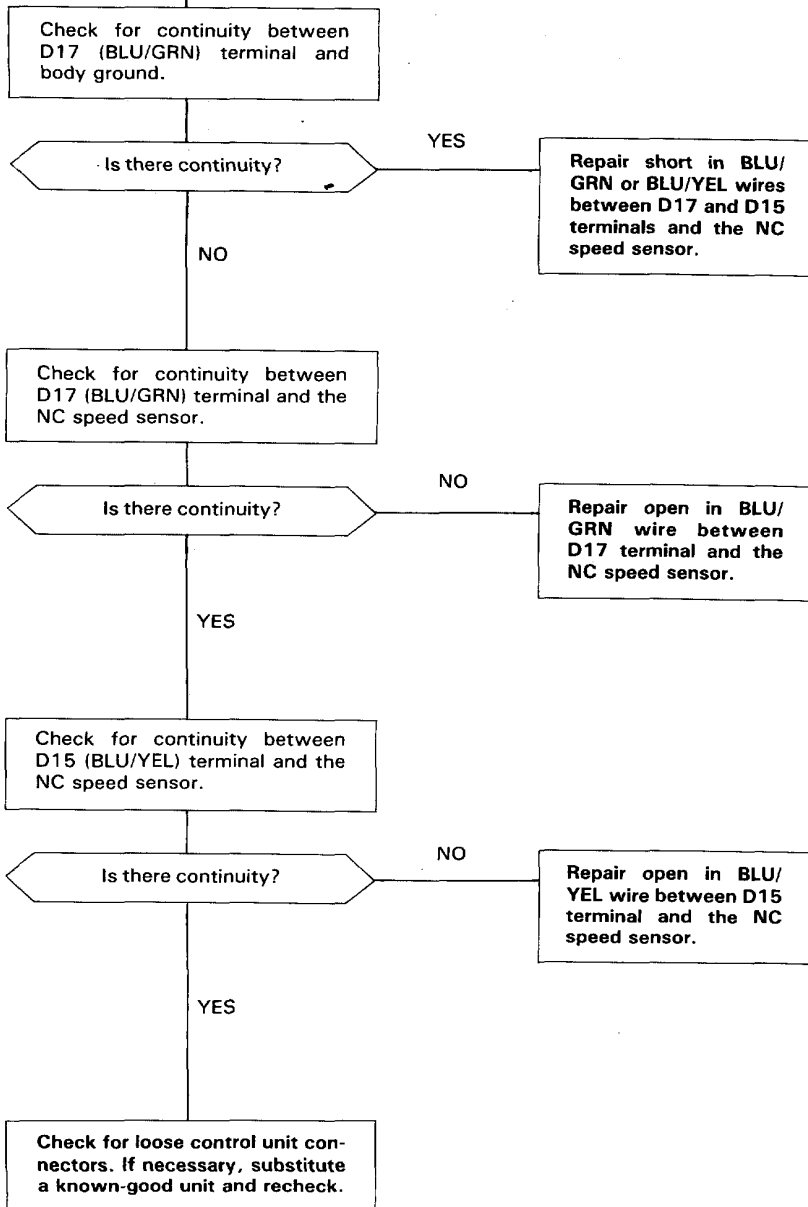
To page 9-52

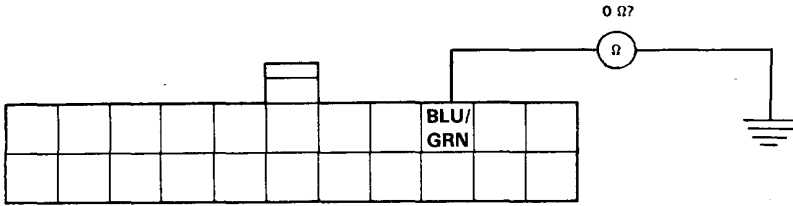
(cont'd)

Electrical Troubleshooting

Troubleshooting Flowchart (cont'd)

From page 9-51

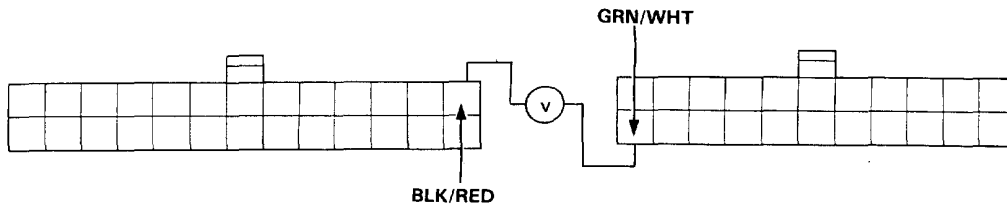
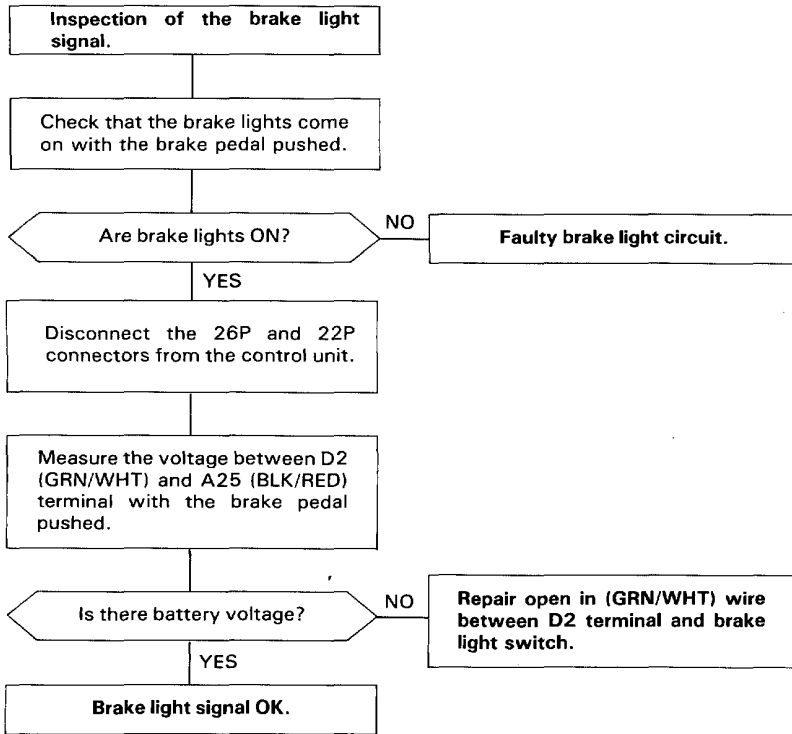




(cont'd)

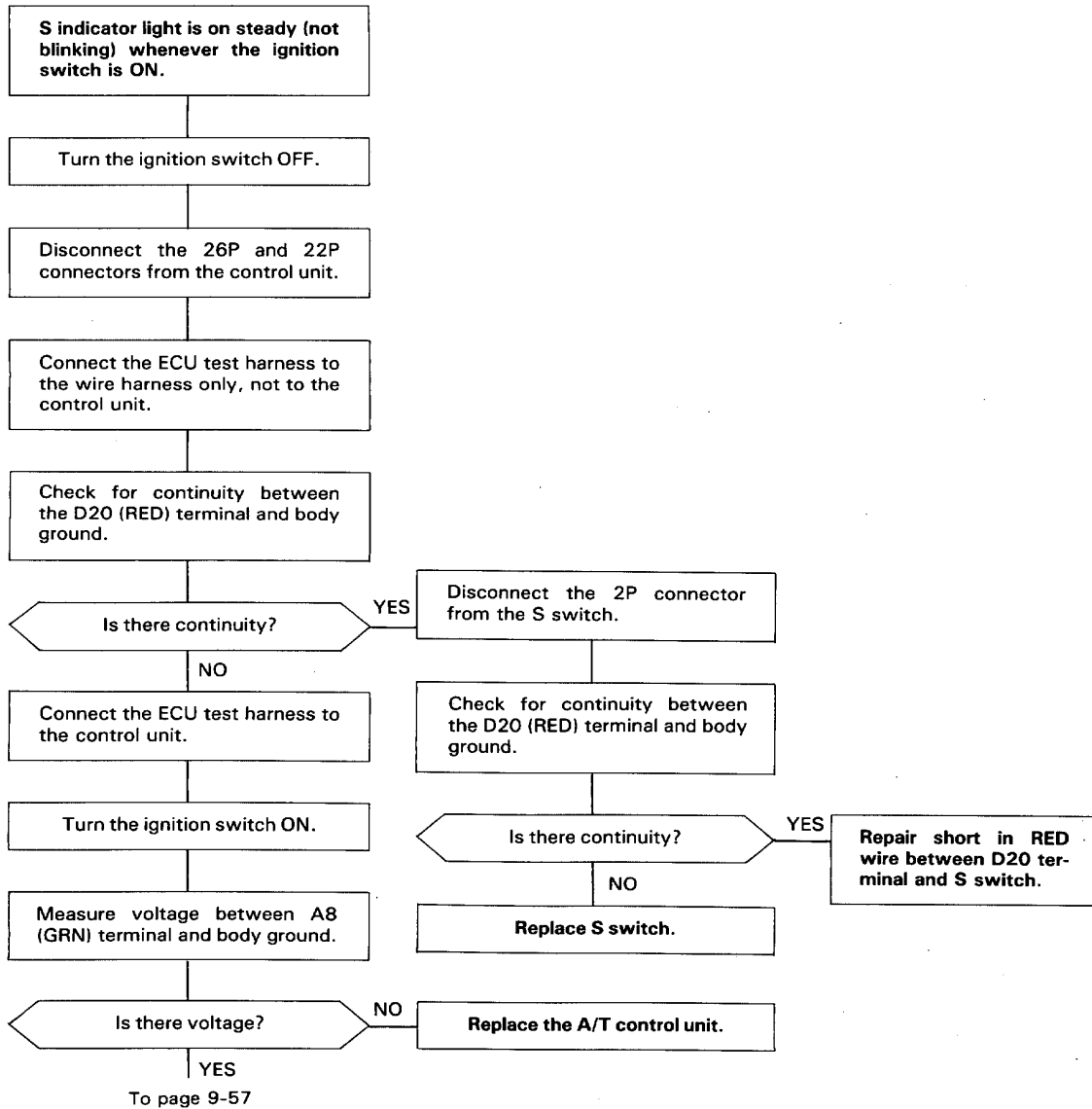
Electrical Troubleshooting

Troubleshooting Flowchart (cont'd)



Electrical Troubleshooting

Troubleshooting Flowchart (cont'd)





From page 9-56

Measure voltage between the GRN wire at the gauge assy. to body ground.

Is there voltage?

NO

Replace faulty shift position indicator.

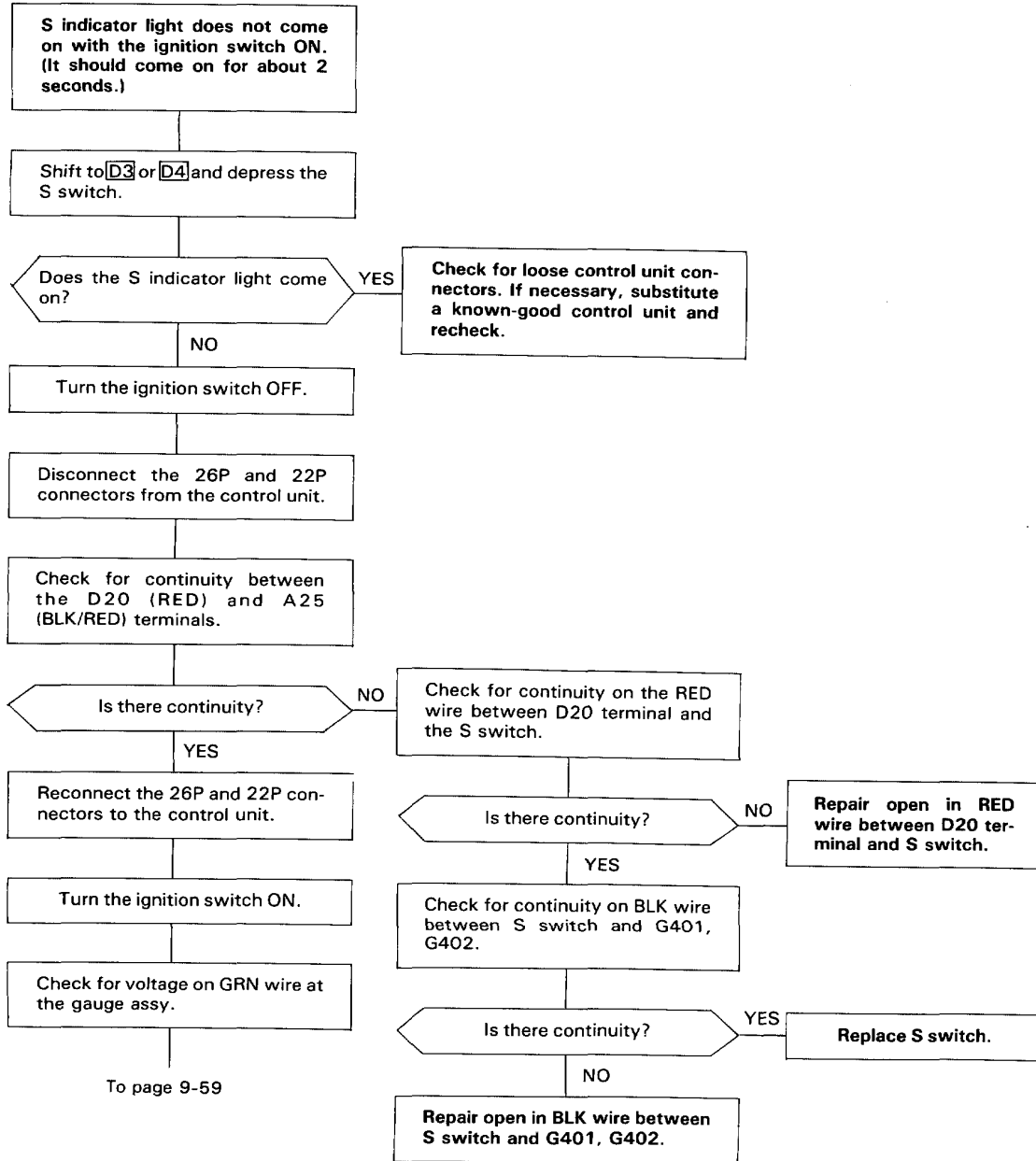
YES

Repair short to power source on GRN wire between A8 terminal and gauge assy.

(cont'd)

Electrical Troubleshooting

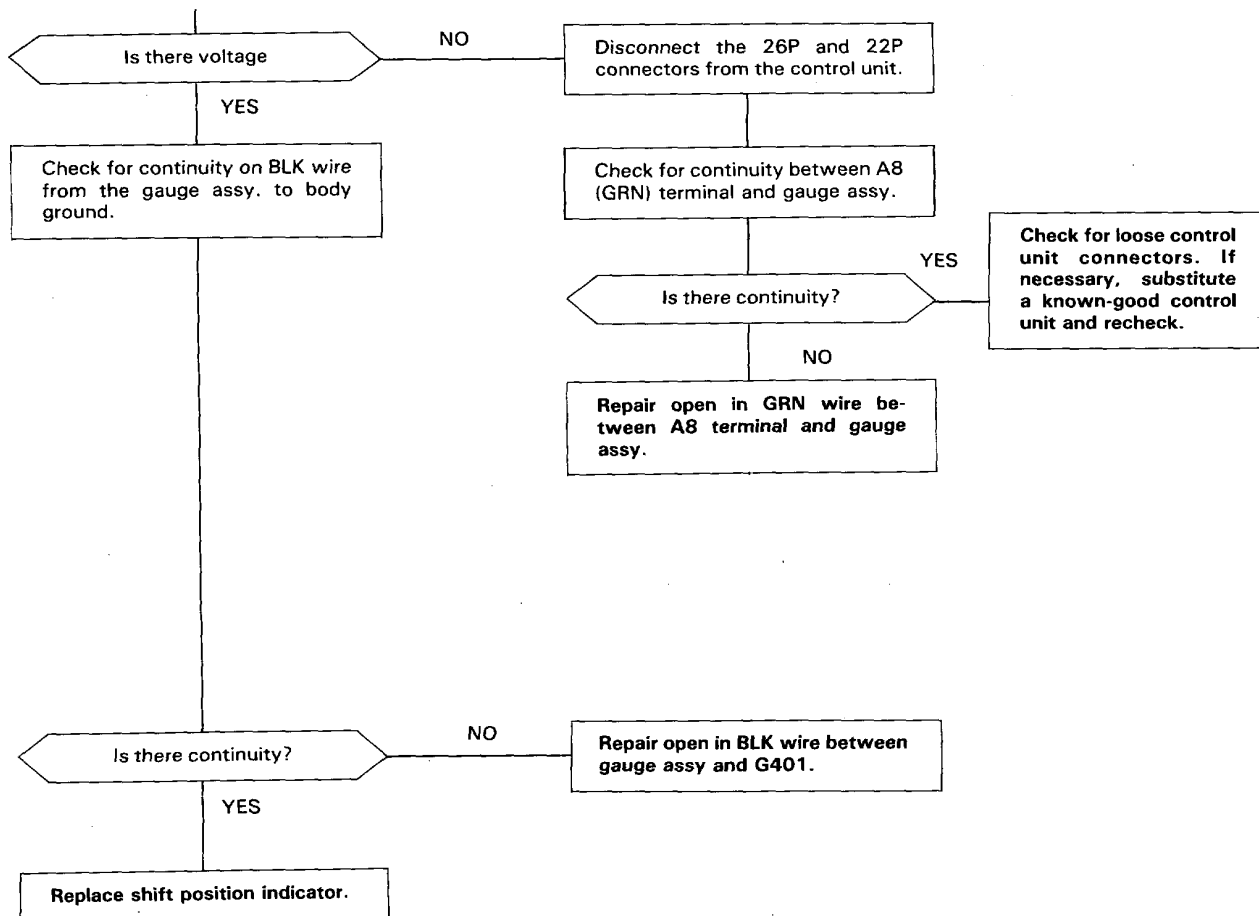
Troubleshooting Flowchart (cont'd)



To page 9-59



From page 9-58



Lock-up Control Solenoid Valve A/B

Test

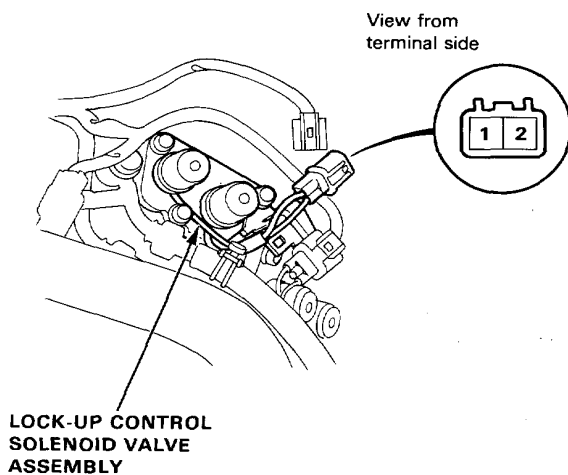
NOTE: Lock-up control solenoid valves A and B must be removed/replaced as an assembly.

1. Disconnect the connector from the lock-up control solenoid valve A/B.

NOTE: Do not remove the lock-up control solenoid valve A/B stay.

2. Measure the resistance between the No.1 terminal (SOL. V A) of the lock-up control solenoid valve connector and body ground and between the No. 2 terminal (SOL. V B) and body ground.

STANDARD: 14–16 Ω (25°C)



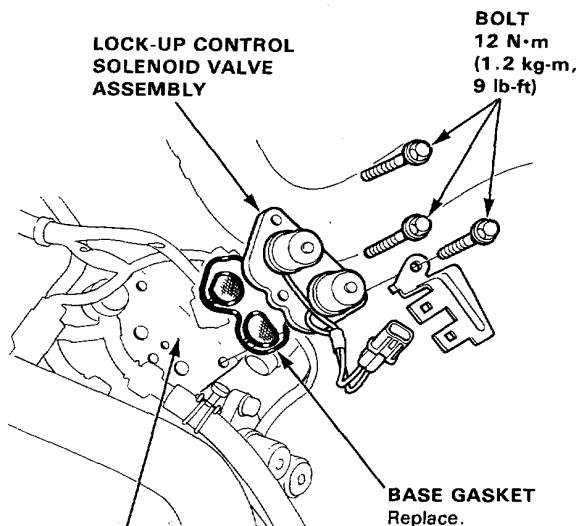
3. Replace the lock-up control solenoid valve assembly if the resistance is out of specification.
4. Connect the No.1 terminal of the lock-up control solenoid valve connector to the battery positive terminal. Connect the No.2 terminal to the battery positive terminal.
A clicking sound should be heard each time the connection is made.
5. If not, check for continuity between the A/T control unit A24 or A25 harness and body ground. (page 9-30, 31).
6. Replace the lock-up control solenoid valve assembly if there is continuity between the A/T control unit A 24 or A 25 harness and body ground. (page 9-30, 31)

Replacement

1. Remove the mounting bolts and lock-up control solenoid valve assembly.

NOTE: Be sure to remove or replace the lock-up control solenoid valves A and B as an assembly.

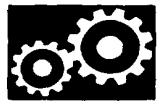
2. Check the lock-up control solenoid valve oil passages for dust or dirt and replace as an assembly, if necessary.



Clean the mounting surface and oil passages.

3. Clean the mounting surface and oil passages of the lock-up control solenoid valve assembly and install a new base gasket.
4. Check the connector for rust, dirt or oil and reconnect it securely.

Shift Control Solenoid Valve A/B



Test

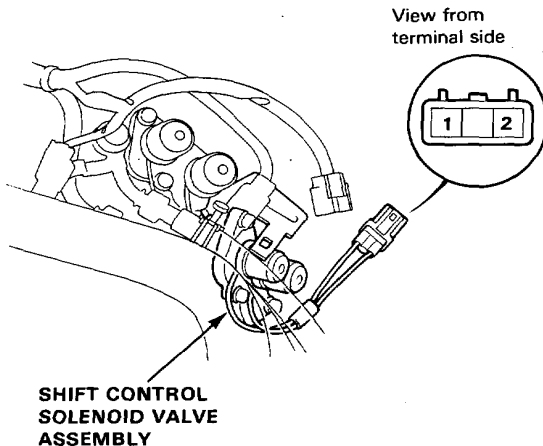
NOTE: Shift control solenoid valves A and B must be removed/replaced as an assembly.

1. Disconnect the connector from the shift control solenoid valve A/B.

NOTE: Do not remove the shift control solenoid valve A/B stay.

2. Measure the resistance between the No.1 terminal (SOL. V A) of the shift control solenoid valve connector and body ground and between the No.2 terminal (SOL. V B) and body ground.

STANDARD: 14–16 Ω (25°C)



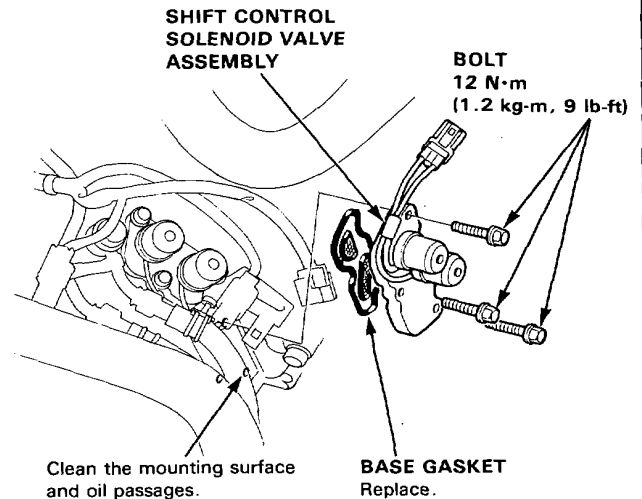
3. Replace the shift control solenoid valve assembly if the resistance is out of specification.
4. Connect the No.1 terminal of the shift control solenoid valve connector to the battery positive terminal. Connect the No.2 terminal to the battery positive terminal. A clicking sound should be heard each time the connection is made.
5. If not, check for continuity between the A/T control unit A11 or A12 harness and body ground. (page 9-38, 39).
6. Replace the shift control solenoid valve assembly if there is continuity between the A/T control unit A11 or A12 harness and body ground. (page 9-38, 39)

Replacement

1. Remove the mounting bolts and shift control solenoid valve assembly.

NOTE: Be sure to remove or replace the shift control solenoid valves A and B as an assembly.

2. Check the shift control solenoid valve oil passages for dust or dirt and replace as an assembly, if necessary.

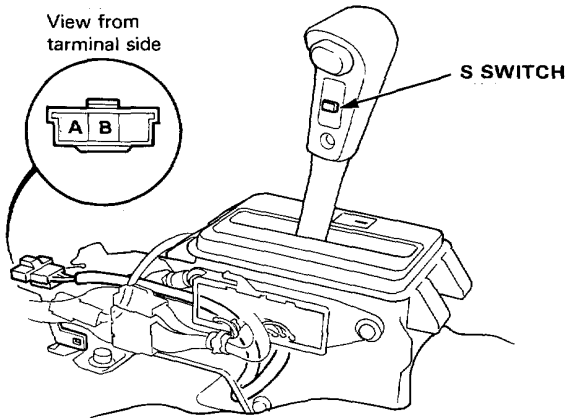


3. Clean the mounting surface and oil passages of the shift control solenoid valve assembly and install a new base gasket.
4. Check the connector for rust, dirt or oil and reconnect it securely.

S Switch

Test

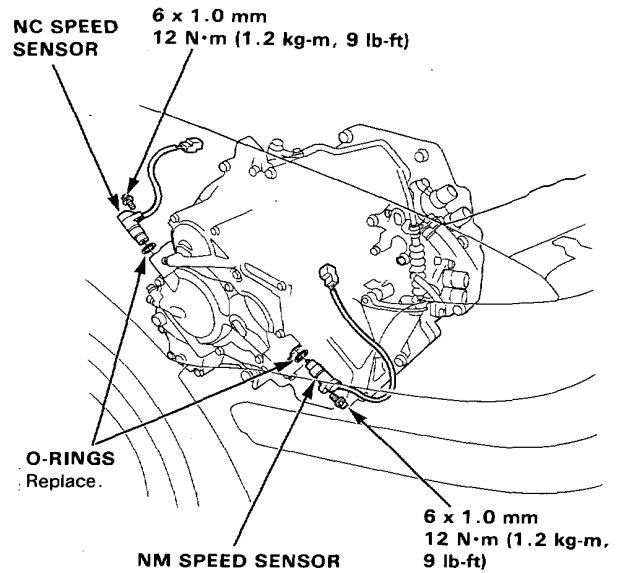
1. Remove the center console.
2. Disconnect the switch connector.
3. Check for continuity between A and B terminals. There should be continuity when the switch is pressed.



A/T Speed Sensor

Replacement

1. Remove the 6 mm bolt from the transmission housing and remove the A/T speed sensor assembly.



2. Replace the O-ring with a new one before reassembling the A/T speed sensor.

CAUTION: Carefully inspect the A/T speed sensor before installing. Do not install if it shows signs of being dropped or improperly handled.