

# Electrical Troubleshooting

## Troubleshooting Flow Chart

**S4 indicator light does not come on with the ignition switch ON. (It should come on for about 2 sec.)**

Disconnect the 12 P connector from the control unit.

Check for continuity between the B1 (BRN/BLK) terminal and body ground, and between the B6 (BRN/BLK) terminal and body ground.

Is there continuity?

NO

Repair open in BRN/BLK wire between the B1 terminal and G4 and/or between the B6 terminal and G4.

YES

Turn the ignition switch ON.

Measure voltage between the B2 (YEL/BLK) and B1 (BRN/BLK) terminals, and between the B7 (YEL/BLK) and B1 terminals.

Is there battery voltage?

NO

Repair open or short in YEL/BLK wire between the B2/B7 terminal and the PGM-FI main relay.

YES

Turn the ignition switch OFF.

Connect the 12P connector to the control unit.

Turn the ignition switch ON. Be sure that the battery voltage is available for 2 sec. between the B11 (RED) terminal and B1 (BRN/BLK) terminals.

Is there battery voltage?

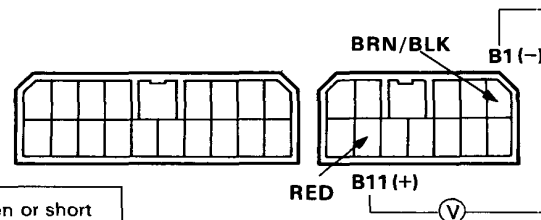
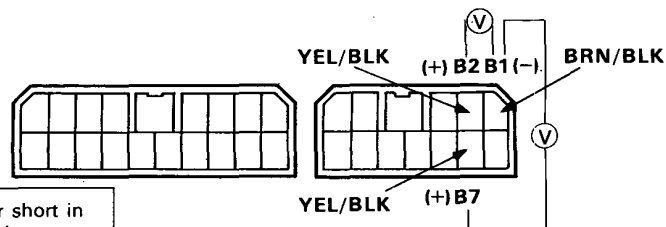
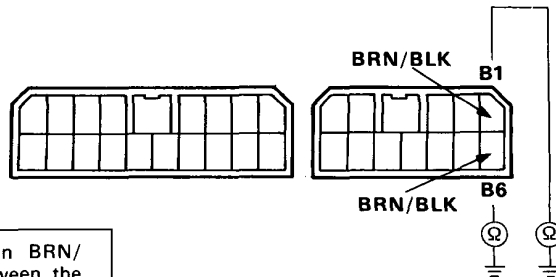
YES

Check for open or short in RED wire between the B11 terminal and the gauge assembly. If wire is OK, check the S4 Indicator Light Bulb and the Safety Indicator Circuit.

NO

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

NOTE: View from wire side.





**S<sub>4</sub> won't engage.**

Disconnect the 18P and 12P connectors from the control unit.

Check for continuity between the A13 (GRN) and B1 (BRN/BLK) terminals.

Is there continuity? YES

NO

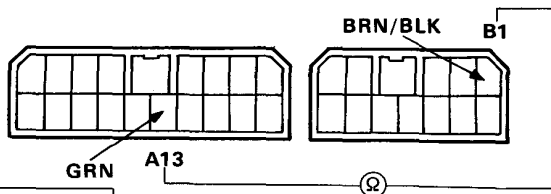
Check for continuity between the A13 (GRN) and B1 (BRN/BLK) terminals while pressing the S<sub>4</sub> switch.

Is there continuity? NO

YES

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

NOTE: View from wire side.



Check for short in GRN wire between the A13 terminal and the S<sub>4</sub> switch. If wire is OK, check the S<sub>4</sub> Switch (page 9-28).

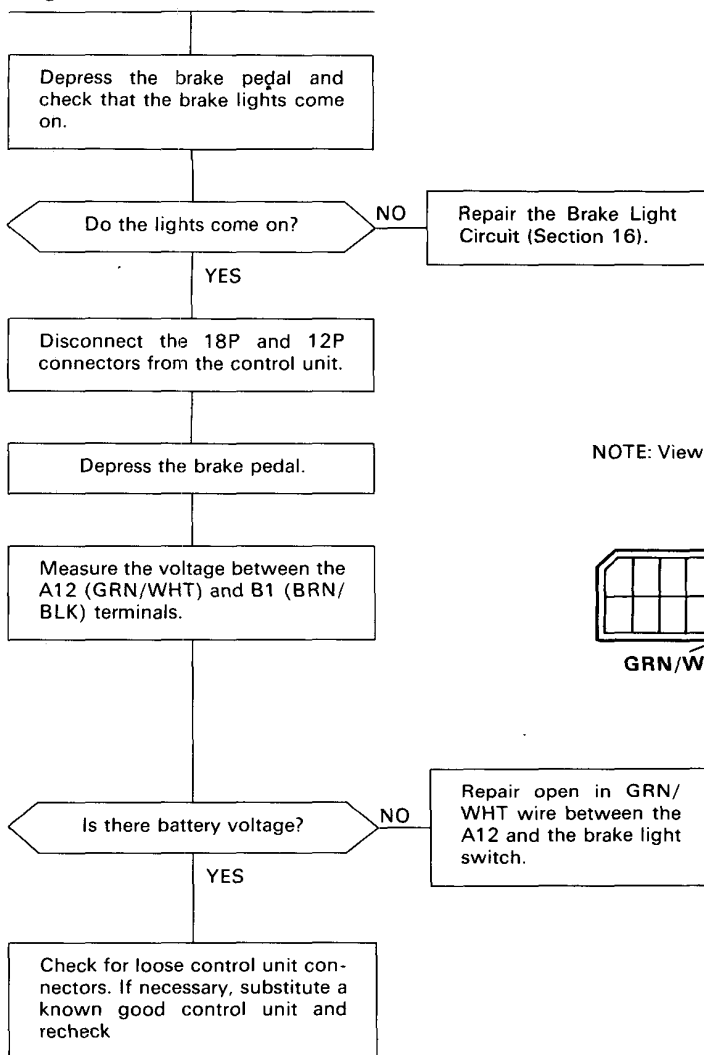
Check for open in GRN wire between the A13 terminal and the S<sub>4</sub> switch. If wire is OK, check the S<sub>4</sub> Switch (page 9-28).

(cont'd)

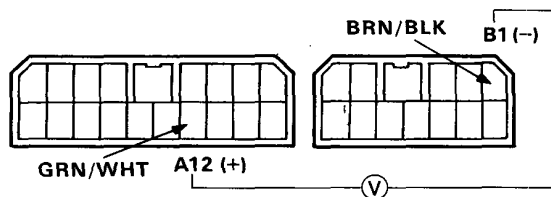
# Electrical Troubleshooting

## Troubleshooting Flow Chart (cont'd)

Fails to shift from 2nd to 1st gear when releasing the brake pedal with the shift lever in **S** or **D** range.



NOTE: View from wire side.





**Self-diagnosis LED indicator blinks once.**

Disconnect the 12P connector from the control unit.

Turn the ignition switch ON.

Measure the voltage between the B3 (RED/WHT) and B1 (BRN/BLK) terminals.

Is there voltage? YES

NO

Turn the ignition switch OFF.

Disconnect the 3P connector from the lock-up control solenoid valves assembly.

Check for continuity between the B3 (RED/WHT) and B1 (BRN/BLK) terminals.

Is there continuity? YES

NO

Connect the 3P connector to the lock-up control solenoid valve assembly.

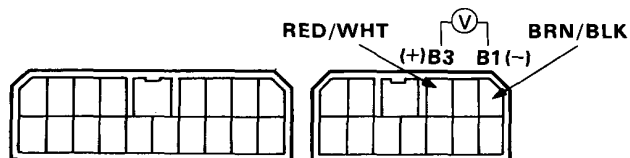
Measure the resistance between the B3 (RED/WHT) and B1 (BRN/BLK) terminals.

Is the resistance 14-30Ω? NO

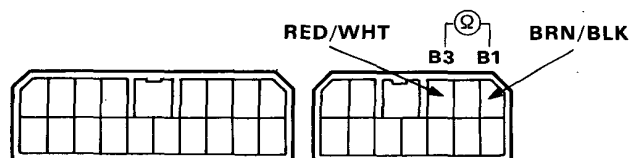
YES

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

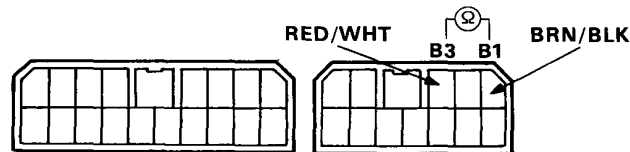
NOTE: View from wire side.



Repair short to power source in RED/WHT wire between the B3 terminal and the lock-up control solenoid valve A.



Repair short to ground in RED/WHT wire between the B3 terminal and the lock-up control solenoid valve A.



Check for open in RED/WHT wire between the B3 terminal and the lock-up control solenoid valve A. If wire is OK, check the Lock-up Control Solenoid Valve A (page 9-26).

(cont'd)

# Electrical Troubleshooting

## Troubleshooting Flow Chart (cont'd)

Self-diagnosis LED indicator blinks twice.

Disconnect the 12P connector from the control unit.

Turn the ignition switch ON.

Measure the voltage between the B8 (WHT/BLK) and B1 (BRN/BLK) terminals.

Is there voltage?

YES

Repair short to power source in WHT/BLK wire between the B8 terminal and the lock-up control solenoid valve B.

NO

Turn the ignition switch OFF.

Disconnect the 3P connector from the lock-up control solenoid valves assembly.

Check for continuity between the B8 (WHT/BLK) and B1 (BRN/BLK) terminals.

Is there continuity?

YES

Repair short to ground in WHT/BLK wire between the B8 terminal and the lock-up control solenoid valve B.

NO

Connect the 3P connector to the lock-up control solenoid valve assembly.

Measure the resistance between the B8 (WHT/BLK) and B1 (BRN/BLK) terminals.

Is the resistance 14-30  $\Omega$ ?

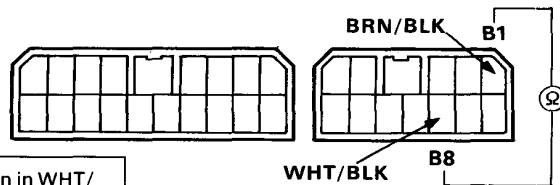
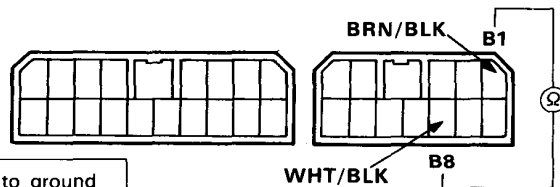
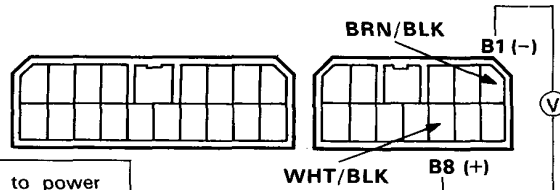
NO

Check for open in WHT/BLK wire between the B8 terminal and the lock-up control solenoid valve B. If wire is OK, check the Lock-up Control Solenoid Valve B (page 9-26).

YES

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

NOTE: View from wire side.





**Self-diagnosis LED indicator blinks three times.**

Turn the ignition switch ON.

Check whether the PGM-FI LED display blinks (page 6-22).

Does the LED blink? **YES** → Repair the PGM-FI System (page 6-22).

**NO**

Turn the ignition switch OFF.

Disconnect the 18P and 12P connectors from the control unit.

Turn the ignition switch ON.

Measure the voltage between the A15 (ORN) and B1 (BRN/BLK) terminals.

Is the voltage 4.75 — 5.25 V? **NO** → Repair open or short in ORN wire between the A15 terminal and the A9 terminal of the PGM-FI ECU.

**YES**

Turn the ignition switch OFF.

Connect the 18P and 12P connectors to the control unit.

Turn the ignition switch ON.

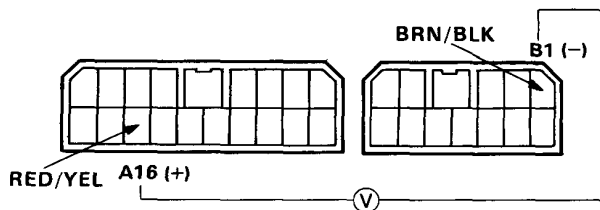
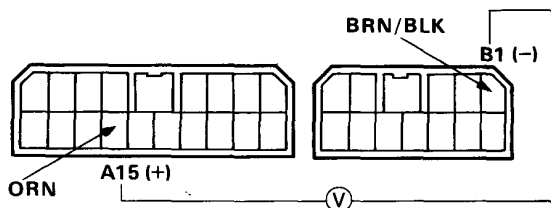
Measure the voltage between the A16 (RED/YEL) and B1 (BRN/BLK) terminals.

Is the voltage 0.44 — 0.56 V? **NO** → Repair open or short in RED/YEL wire between the A16 terminal and the throttle angle sensor.

**YES**

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

NOTE: View from wire side.



(cont'd)

# Electrical Troubleshooting

## Troubleshooting Flow Chart (cont'd)

Self-diagnosis LED indicator blinks four times.

Jack up the front of the car and block one wheel.

Turn the ignition switch ON.

Rotate the front wheel and measure the voltage between the A6 (YEL/RED) and B1 (BRN/BLK) terminals.

Does the voltage 0 — 5 V appear alternately?

YES

Substitute a known good control unit and recheck.

NO

Turn the ignition switch OFF.

Disconnect the 18P and 12P connectors from the control unit.

Rotate the front wheel and check for continuity between the B1 (BRN/BLK) and A6 (YEL/RED) terminals.

Do continuity and infinity alternately appear?

YES

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

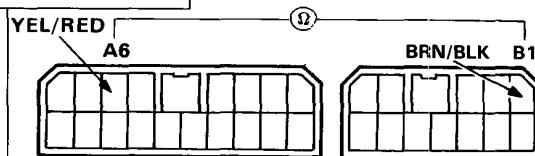
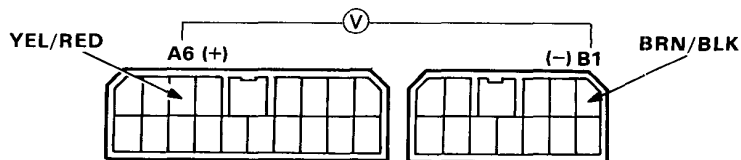
NO

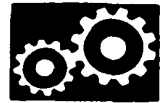
Check for short or open in YEL/RED wire between the A6 terminal and the gauge assembly. If wire is OK, check the Speed Pulser (Section 16, Cruise Control).

### WARNING

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

NOTE: View from wire side.





**Self-diagnosis LED indicator blinks five times.**

Check the shift lever position indicator in gauge for operation.

Does it operate properly? NO

Repair the Shift Lever Position Indicator Circuit (Section 16).

YES

Turn the ignition switch ON.

Shift other than in **R** position.

Measure the voltage between the A1 (GRN/RED) and B1 (BRN/BLK) terminals.

Is there battery voltage? NO

Check for short in GRN/RED wire between the A1 terminal and the shift position console switch. If wire is OK, check for loose connectors. If necessary, substitute a known good control unit and recheck.

YES

Shift other than in **N** position.

Measure the voltage between the A2 (GRN) and B1 (BRN/BLK) terminals.

Is there battery voltage? NO

Check for short in GRN wire between the A2 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.

YES

Shift other than in **D** position.

Measure the voltage between the A3 (GRN/BLK) and B1 (BRN/BLK) terminals.

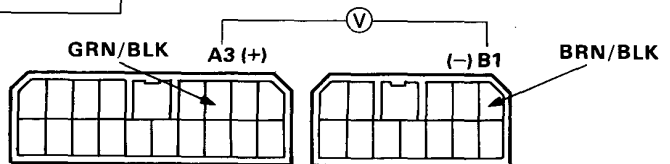
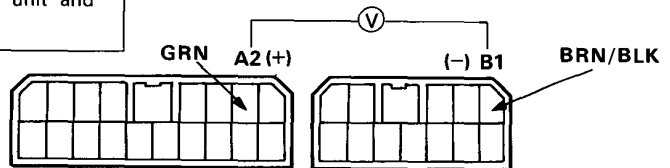
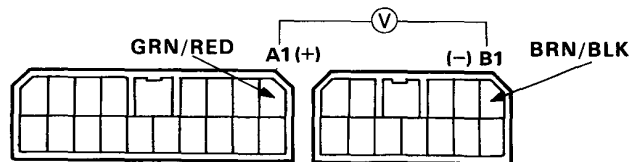
Is there battery voltage? NO

Check for short in GRN/BLK wire between the A3 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.

YES

(To page 9-16)

NOTE: View from wire side.





# Electrical Troubleshooting

## Troubleshooting Flow Chart (cont'd)

(From page 9-15)

Shift other than in **S** position.

Measure the voltage between the A4 (GRN/BLU) and B1 (BRN/BLK) terminals.

Is there battery voltage?

NO

YES

Shift other than in **2** position.

Measure the voltage between the A5 (GRN/YEL) and B1 (BRN/BLK) terminals.

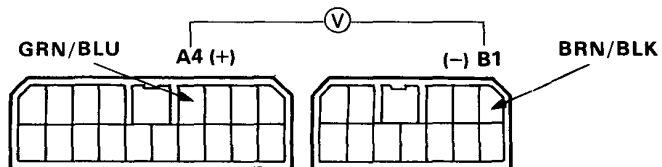
Is there battery voltage?

NO

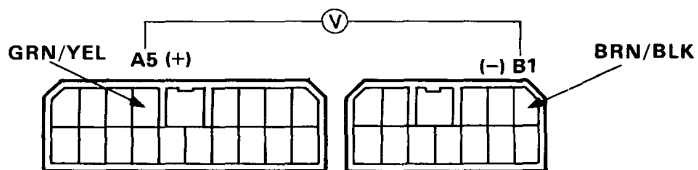
YES

Substitute a known good control unit and recheck.

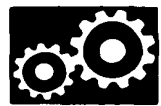
NOTE: View from wire side.



Check for short in GRN/BLU wire between the A4 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 A5 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.



**Self-diagnosis LED indicator blinks six times.**

Check the shift lever position indicator in gauge for operation.

Does it operate properly? YES

NO  
Repair the Shift Lever Position Indicator Circuit (Section 16).

Turn the ignition switch ON.

Shift in **R** position.

Measure the voltage between the A1 (GRN/RED) and B1 (BRN/BLK) terminals.

Is there voltage? YES

NO  
Repair open in GRN/RED wire between the A1 terminal and the shift position console switch.

Shift in **N** position.

Measure the voltage between the A2 (GRN) and B1 (BRN/BLK) terminals.

Is there voltage? YES

NO  
Repair open in GRN wire between the A2 terminal and the shift position console switch.

Shift in **D** position.

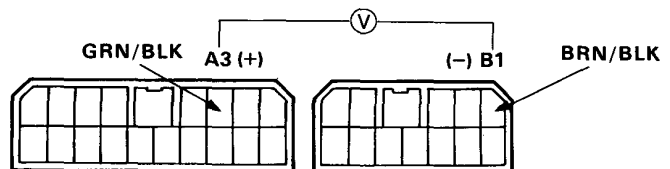
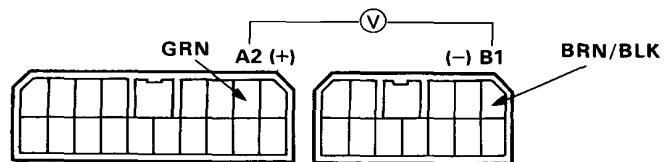
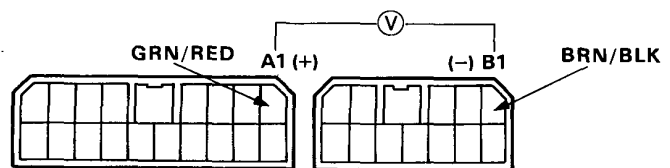
Measure the voltage between the A3 (GRN/BLK) and B1 (BRN/BLK) terminals.

Is there voltage? YES

NO  
Repair open in GRN/BLK wire between the A3 terminal and the shift position console switch.

(To page 9-18)

NOTE: View from wire side.



(cont'd)

# Electrical Troubleshooting

## Troubleshooting Flow Chart (cont'd)

(From page 9-17)

Shift in **S** position.

Measure the voltage between the A4 (GRN/BLU) and B1 (BRN/BLK) terminals.

Is there voltage?

YES

Repair open in GRN/BLU wire between the A4 terminal and the shift position console switch.

NO

Shift in **2** position.

Measure the voltage between the A5 (GRN/YEL) and B1 (BRN/BLK) terminals.

Is there voltage?

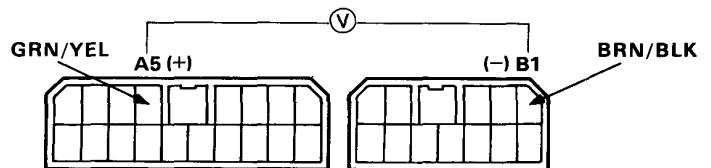
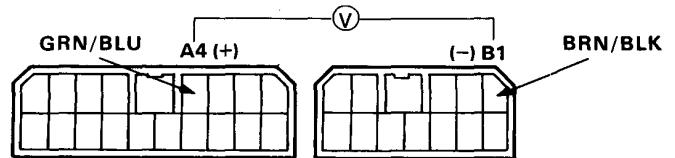
YES

Repair open in GRN/YEL wire between the A5 terminal and the shift position console switch.

NO

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

NOTE: View from wire side.





**Self-diagnosis LED indicator blinks seven times.**

Disconnect the 12P connector from the control unit.

Turn the ignition switch ON.

Measure the voltage between the B4 (BLU/YEL) and B1 (BRN/BLK) terminals.

Is there voltage?

YES

Repair short to power source in BLU/YEL wire between the B4 terminal and the shift control solenoid valve A.

NO

Turn the ignition switch OFF.

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

Check for continuity between the B4 (BLU/YEL) and B1 (BRN/BLK) terminals.

Is there continuity?

YES

Repair short to ground in BLU/YEL wire between the B4 terminal and the shift control solenoid valve A.

NO

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

Measure the resistance between the B4 (BLU/YEL) and B1 (BRN/BLK) terminals.

Is the resistance 14—30  $\Omega$ ?

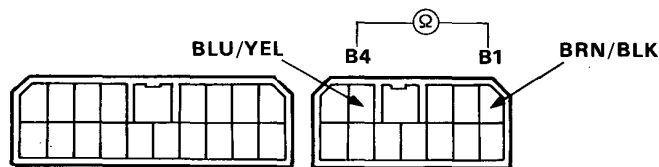
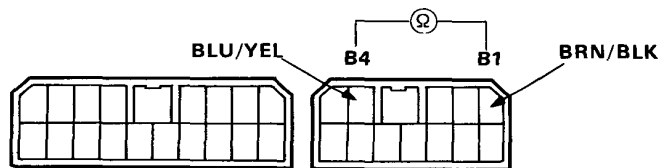
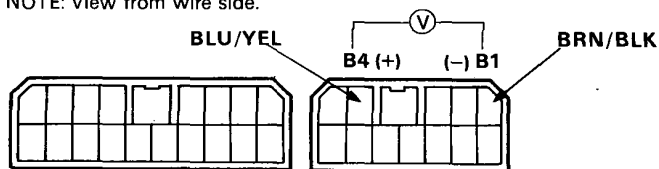
NO

Check for open in BLU/YEL wire between the B4 terminal and the shift control solenoid valve A. If wire is OK, check the Shift Control Solenoid Valve A (page 9-17).

YES

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

NOTE: View from wire side.



# Electrical Troubleshooting

## Troubleshooting Flow Chart (cont'd)

**Self-diagnosis LED indicator blinks eight times.**

Disconnect the 12P connector from the control unit.

Turn the ignition switch ON.

Measure the voltage between the B5 (GRN/WHT) and B1 (BRN/BLK) terminals.

Is there voltage?

YES

Repair short to power source in GRN/WHT wire between the B5 terminal and the shift control solenoid valve B.

NO

Turn the ignition switch OFF.

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

Check for continuity between the B5 (GRN/WHT) and B1 (BRN/BLK) terminals.

Is there continuity?

YES

Repair short to ground in GRN/WHT wire between the B5 terminal and the shift control solenoid valve B.

NO

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

Measure the resistance between the B5 (GRN/WHT) and B1 (BRN/BLK) terminals.

Is the resistance 14—30  $\Omega$ ?

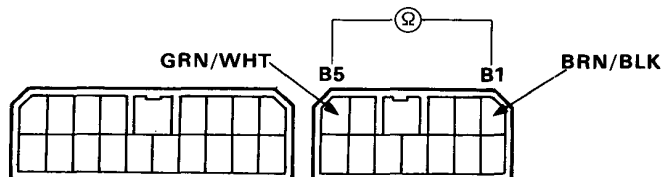
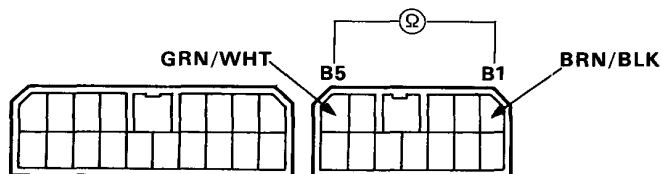
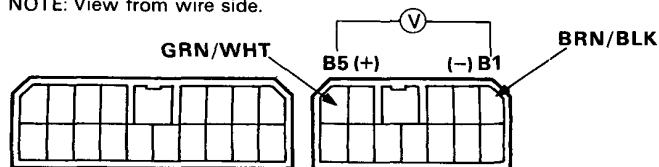
NO

Check for open in GRN/WHT wire between the B5 terminal and the shift control solenoid valve B. If wire is OK, check the Shift Control Solenoid Valve B (page 9-27).

YES

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

NOTE: View from wire side.





Self-diagnosis LED indicator blinks nine times.

Jack up the front of the car.

Turn the ignition switch ON.

Rotate the front wheels and measure the voltage between the A7 (GRY) and B1 (BRN/BLK) terminals.

Does the voltage 0 — 5 V appear alternately?

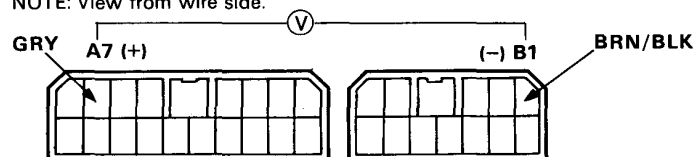
YES

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.

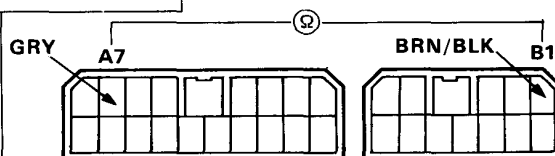
NOTE: View from wire side.



Turn the ignition switch OFF.

Disconnect the 18P and 12P connectors from the control unit.

Rotate the front wheels and check for continuity between the A7 (GRY) and B1 (BRN/BLK) terminals.



Do continuity and infinity alternately appear?

YES

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

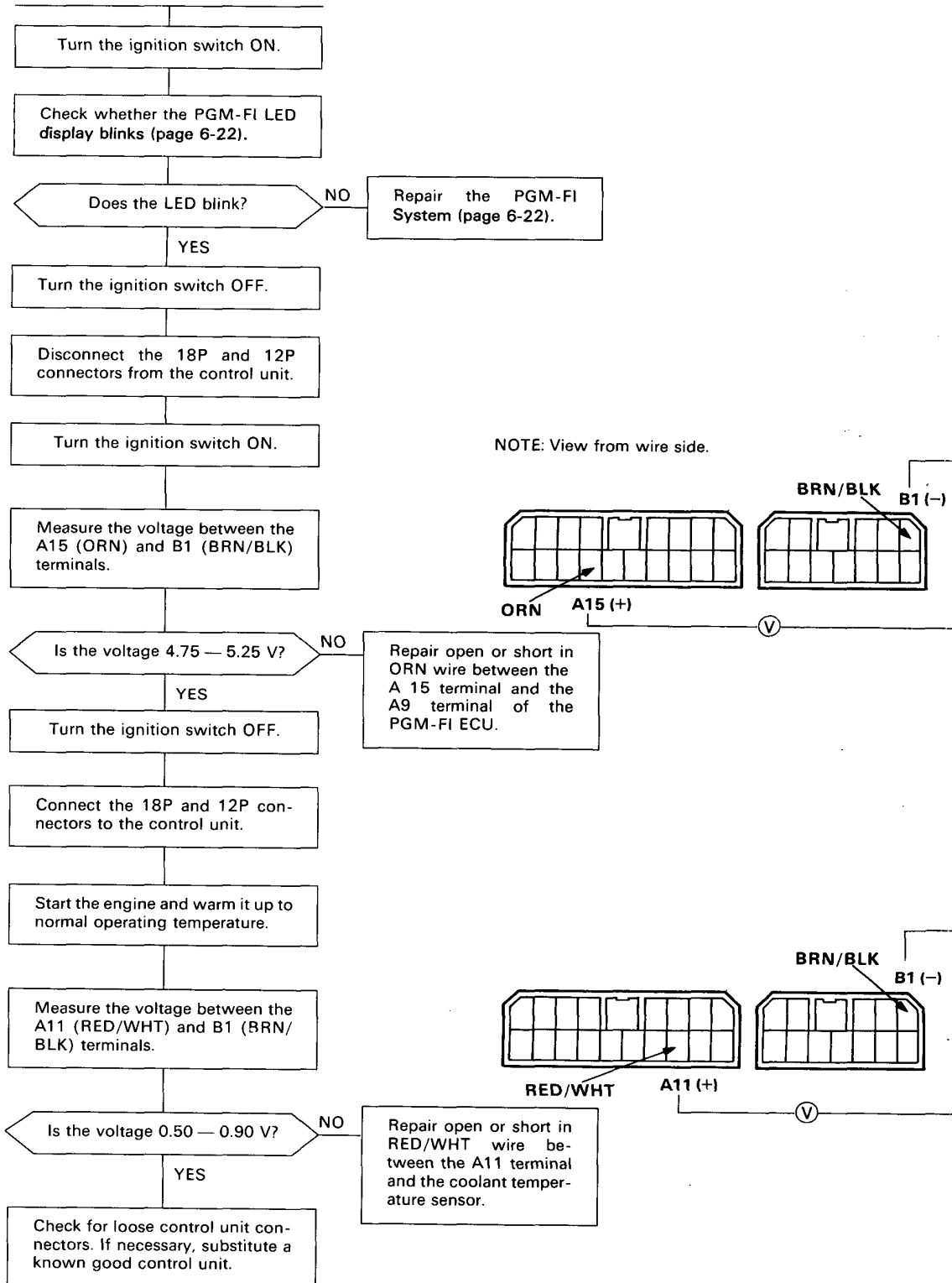
Check for open or short in GRY wire between the A7 terminal and the A/T speed pulser. If wire is OK, check the A/T Speed Pulser (page 9-25).

(cont'd)

# Electrical Troubleshooting

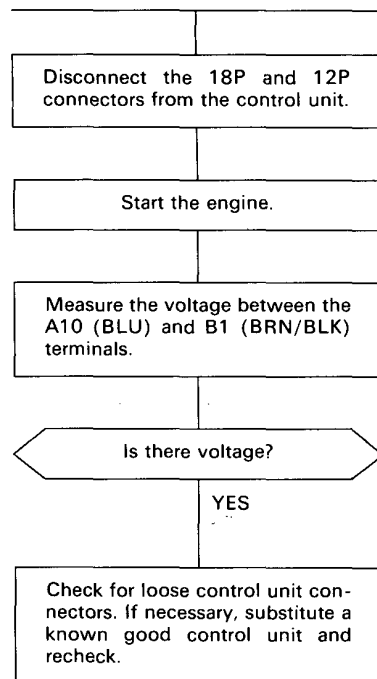
## Troubleshooting Flow Chart (cont'd)

Self-diagnosis LED indicator blinks ten times.

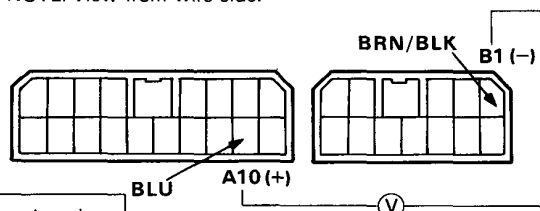




**Self-diagnosis LED indicator blinks eleven times.**



NOTE: View from wire side.



(cont'd)



# Electrical Troubleshooting

## Troubleshooting Flow Chart (cont'd)

Self-diagnosis LED indicator blinks twelve times.

Turn the ignition switch ON.

Measure the voltage between the A8 (YEL) and B1 (BRN/BLK) terminals.

Is there battery voltage?

NO

Repair short in YEL wire between the A8 terminal and the cooling fan control unit.

YES

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

NOTE: View from wire side.

