

Electrical Troubleshooting

Troubleshooting Flow Chart

S 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

YES

Turn the ignition switch ON.

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

Is there battery voltage? NO

YES

Turn the ignition switch OFF.

Measure resistance between the B11 (YEL/RED) and B1 (BRN/BLK) terminals.

Is the resistance more than 100 Ω ? NO

YES

Connect the 12P connector to the control unit.

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

Is the voltage 6-12 V? YES

NO

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

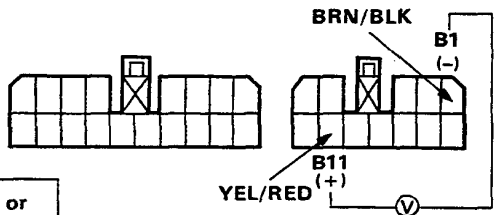
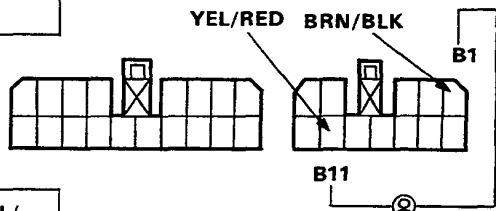
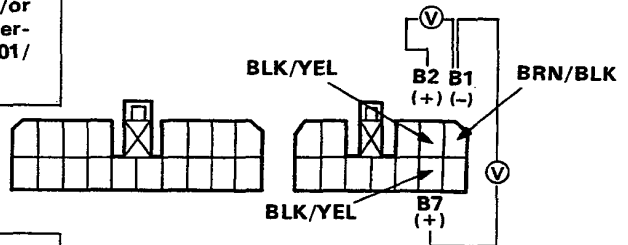
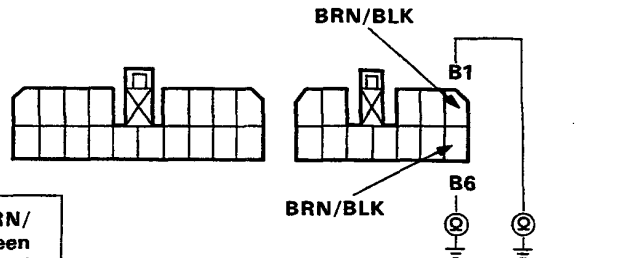
Repair open in BRN/BLK wire between the B1 terminal and G101/G151 and/or between the B6 terminal and G101/G151.

Repair open or short in BLK/YEL wire between the B2/B7 terminal and the dash fuse box.

Repair Short in YEL/RED wire between the B11 terminal and the gauge assembly.

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

View from wire side.





S₄ won't engage.

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

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

Is there continuity? YES

NO

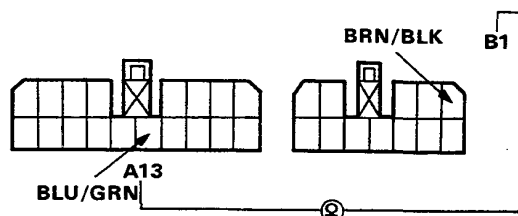
Check for continuity between the A13 (BLU/GRN) and B1 (BRN/BLK) terminals while pressing the S₄ switch.

Is there continuity? NO

YES

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

View from wire side.



Check for short in BLU/GRN wire between the A13 terminal and the S₄ switch. If wire is OK, check the S₄ Switch (page 9-39).

Check for open in BLU/GRN wire between the A13 terminal and the S₄ switch. If wire is OK, check the S₄ Switch (page 9-39).

(cont'd)

Electrical Troubleshooting

Troubleshooting Flow Chart (cont'd)

Fails to shift from 2nd to first on releasing the brake pedal when stopped in D or S.

Depress the brake pedal and check that the brake lights come on.

Do the lights come on?

NO

Repair the Brake Light Circuit (Section 16).

YES

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

Depress the brake pedal.

Measure the voltage between the A12 (GRN/WHT) and B1 (BRN/BLK) terminals.

Is there battery voltage?

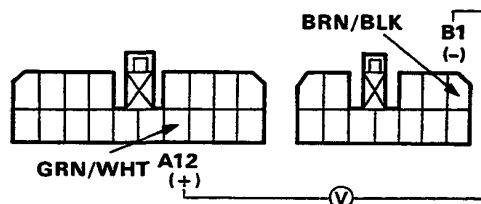
NO

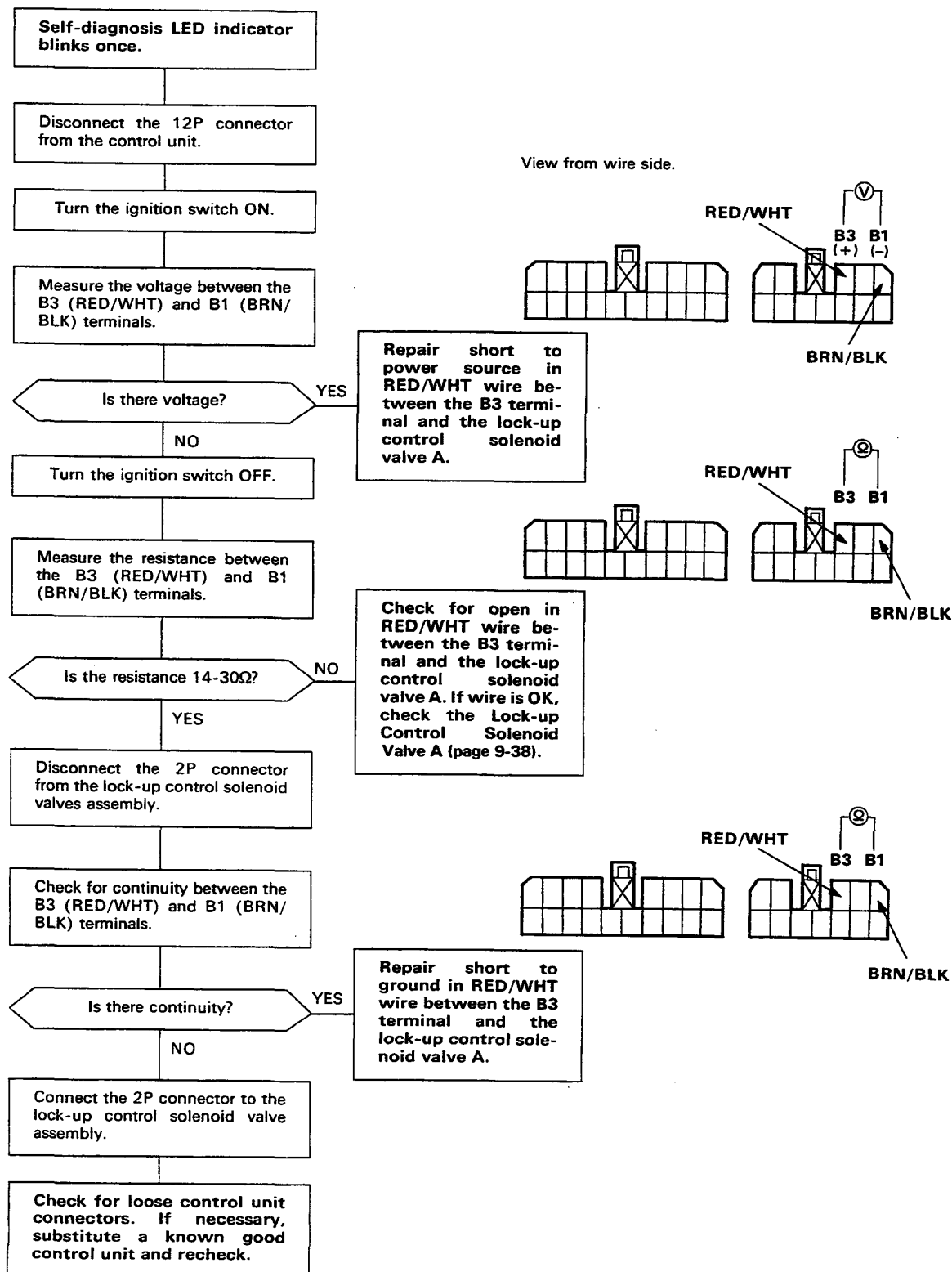
Repair open in GRN/WHT wire between the A12 and the brake light switch.

YES

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

View from wire side.





(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

NO

Turn the ignition switch OFF.

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

Is the resistance 14-30 Ω ?

NO

YES

Disconnect the 2P 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?

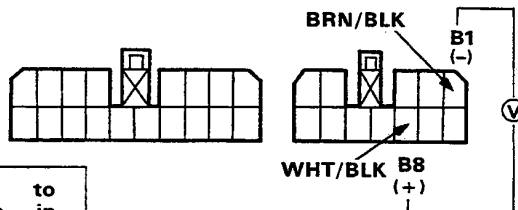
YES

NO

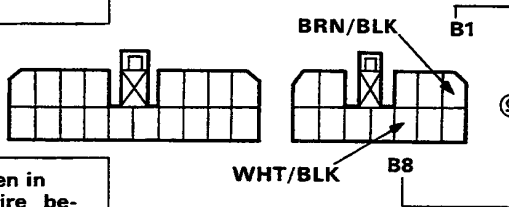
Connect the 2P connector to the lock-up control solenoid valve assembly.

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

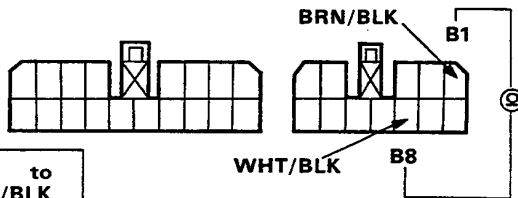
View from wire side.



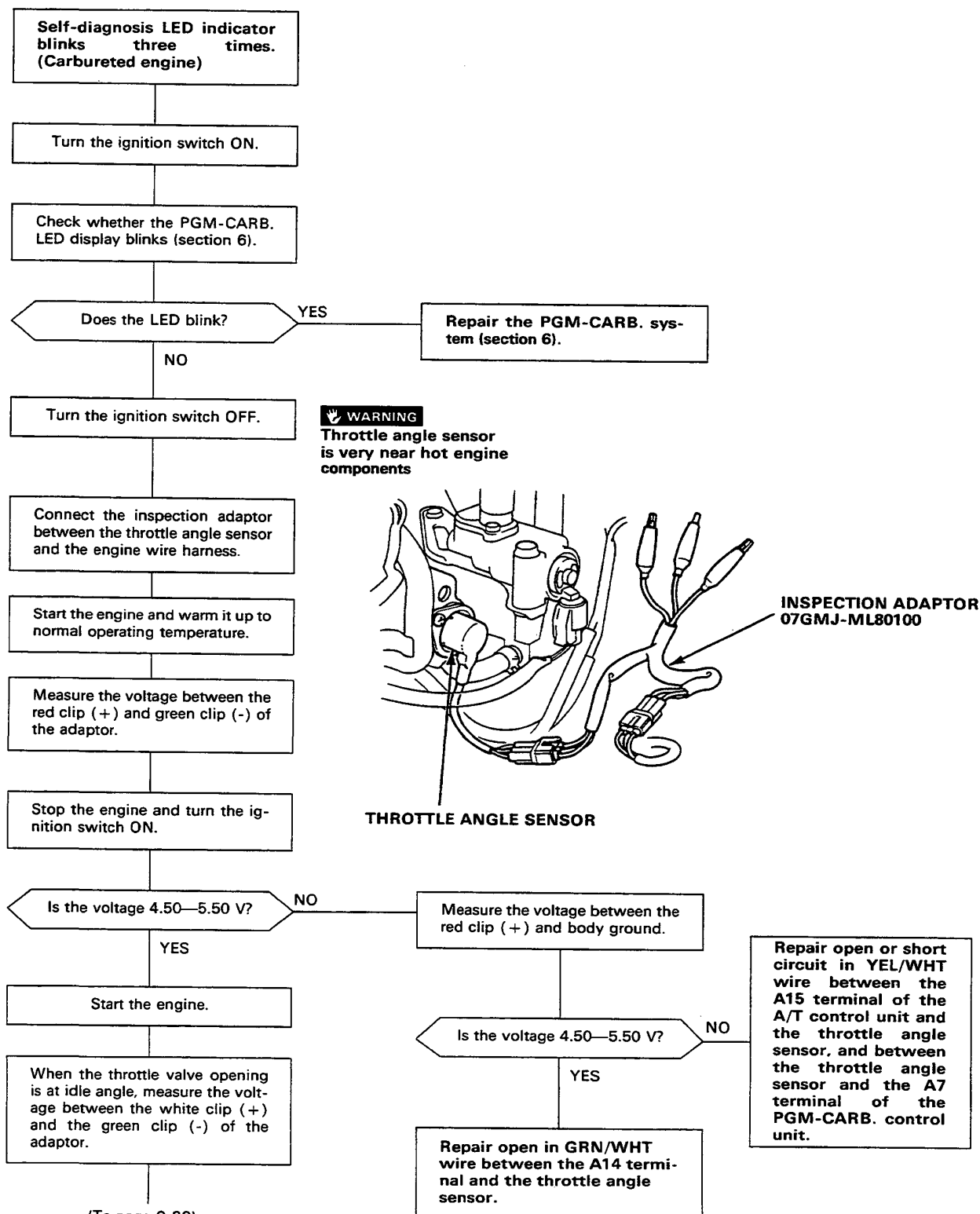
Repair short to power source in WHT/BLK wire between the B8 terminal and the lock-up control solenoid valve B.



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 9-38).



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



(To page 9-22)

(cont'd)

Electrical Troubleshooting

Troubleshooting Flow Chart (cont'd)

(From page 9-21)

Is the voltage 0.40–0.57 V? *

NO

Check for short in RED/YEL wire between the A16 terminal and the throttle angle sensor. If wire is OK, check the throttle angle sensor (page 9-36).

YES

Stop the engine and turn the ignition switch ON.

When the throttle valve is fully opened, measure the voltage between the white clip (+) and the green clip (–).

Is the voltage 3.80–4.66 V? *

NO

Check the throttle angle sensor (page 9-36).

YES

Start the engine.

When the throttle valve opening is at idle angle, measure the voltage between the A16 (RED/YEL) and A14 (GRN/WHT) terminals.

Is the voltage 0.40–0.57 V? *

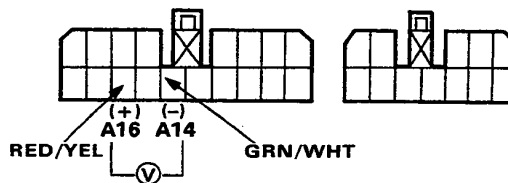
NO

Repair open 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.

View from wire side.



* $\pm 10\%$



Self-diagnosis LED indicator blinks three times. (Fuel-injected engine)

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 (Section 6).

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 (YEL/WHT) and B1 (BRN/BLK) terminals.

Is the voltage 4.75 — 5.25 V?

NO

Repair open or short in YEL/WHT wire between the A15 terminal and the A10 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

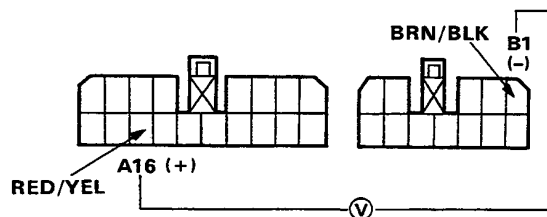
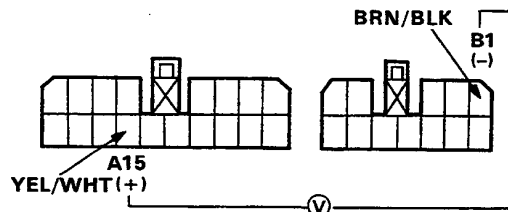
Repair open or short in RED/YEL wire between the A16 terminal and the throttle angle sensor.

YES

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

* $\pm 10\%$

View from wire side.



(cont'd)

Electrical Troubleshooting

Troubleshooting (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 and shift transmission to N.

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

Does the voltage 0 — 5 V appear alternately?

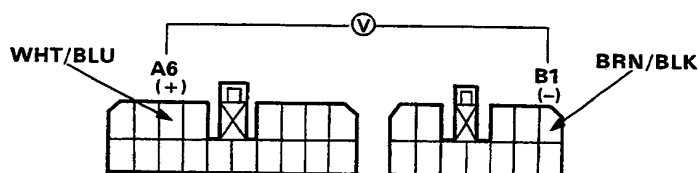
YES

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.

View from wire side.

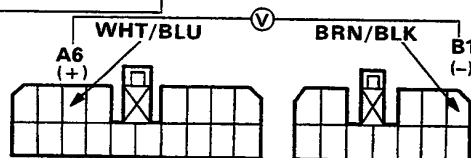


Turn the ignition switch OFF.

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

Turn the ignition switch ON.

Rotate the front wheel and check for voltage between the B1 (BRN/BLK) and A6 (WHT/BLU) terminals.



Does the voltage 0 — 5 V appear alternately?

YES

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

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



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 to other than 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 to other than 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 to other than D position.

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

Is there battery voltage?

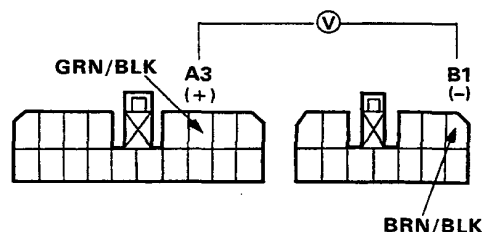
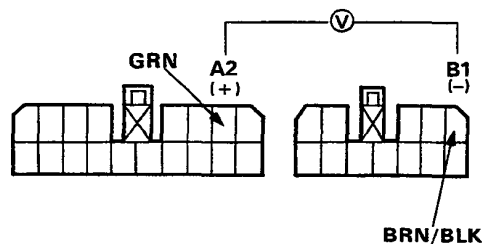
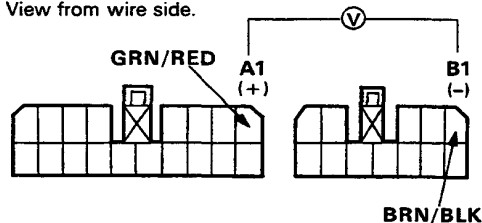
NO

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 9-26)

View from wire side.



(cont'd)

Electrical Troubleshooting

Troubleshooting Flow Chart (cont'd)

(From page 9-25)

Shift to other than S position.

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

Is there battery voltage?

NO

YES

Shift to other than 2 position.

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

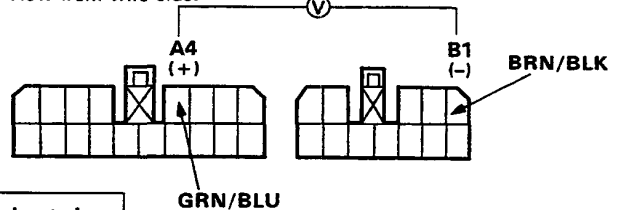
Is there battery voltage?

NO

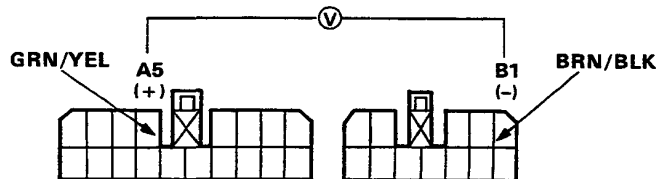
YES

Substitute a known good control unit and recheck.

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.

Turn the ignition switch ON.

Check the shift lever position indicator in gauge for operation.

Does it operate properly? **NO** **Repair the Shift Lever Position Indicator Circuit (Section 16).**

Shift to R position.

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

Is there voltage? **YES** **Repair open in GRN/RED wire between the A1 terminal and the shift position console switch.**

Shift to N position.

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

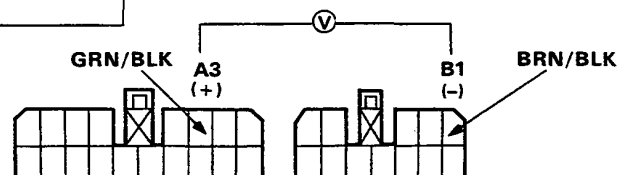
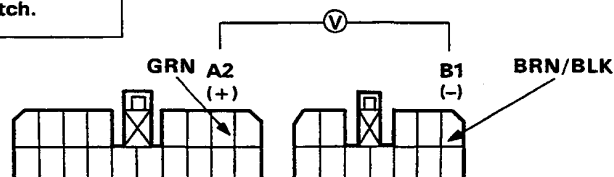
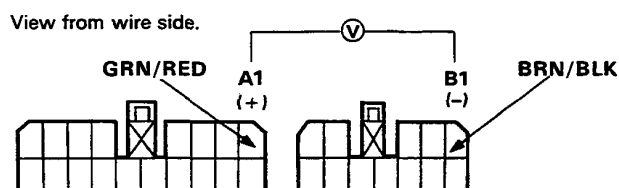
Is there voltage? **YES** **Repair open in GRN wire between the A2 terminal and the shift position console switch.**

Shift to D position.

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

Is there voltage? **YES** **Repair open in GRN/BLK wire between the A3 terminal and the shift position console switch.**

(To page 9-28)



(cont'd)

Electrical Troubleshooting

Troubleshooting Flow Chart (cont'd)

(From page 9-27)

Shift to S position.

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

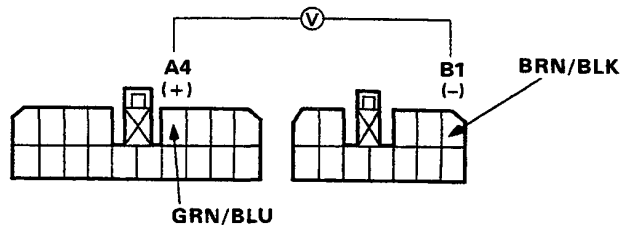
Is there voltage?

YES

NO

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

View from wire side.



Shift to 2 position.

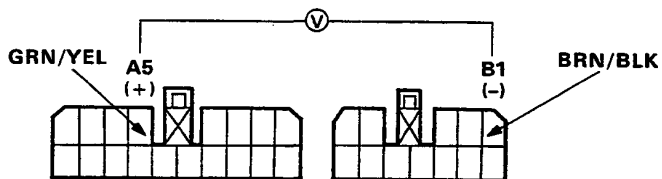
Measure the voltage between the A5 (GRN/YEL) and B1 (BRN/BLK) terminals.

Is there voltage?

YES

NO

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



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



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

NO

Turn the ignition switch OFF.

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

Is the resistance 12-24 Ω ?

NO

YES

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?

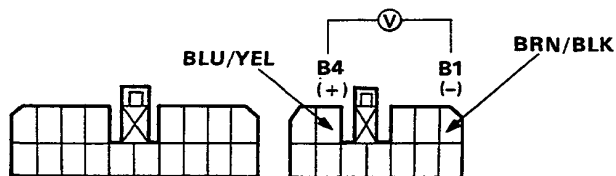
YES

NO

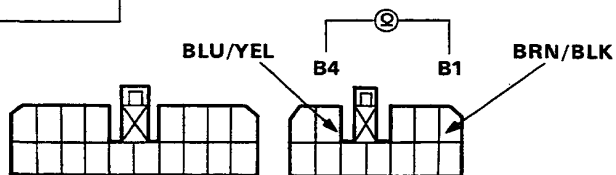
Connect the 2P connector to the shift control solenoid valves assembly.

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

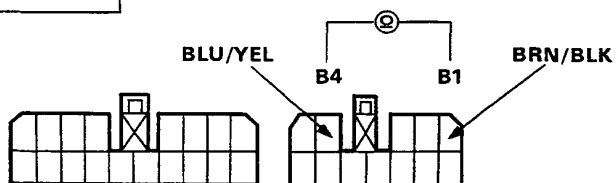
View from wire side.



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



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 9-39).



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

(cont'd)

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

NO

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

Turn the ignition switch OFF.

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

Is the resistance 12-24 Ω ?

NO

YES

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 9-39).

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

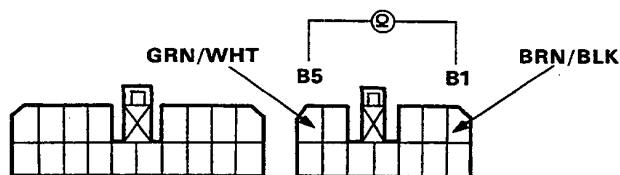
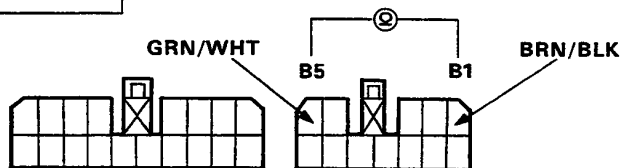
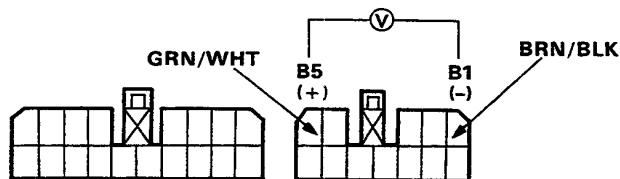
NO

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

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.

View from wire side.





Self-diagnosis LED indicator blinks nine times.

Jack up the front of the car.

WARNING

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

Turn the ignition switch ON.

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

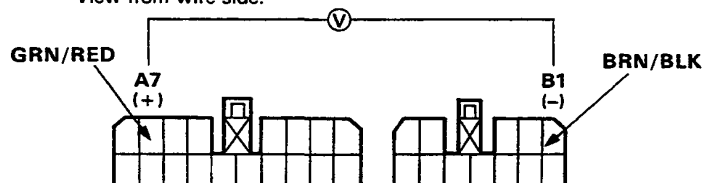
Do 0 and approx. 5 V appear alternately?

NO

YES

Substitute a known good control unit and recheck.

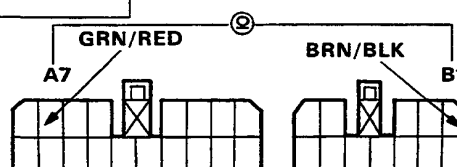
View from wire side.



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 (GRN/RED) and B1 (BRN/BLK) terminals.



Do continuity and infinity alternately appear?

NO

YES

Check for open or short in GRN/RED wire between the A7 terminal and the A/T speed pulser. If wire is OK, check the A/T Speed Pulser (page 9-37).

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

(cont'd)

Electrical Troubleshooting

Troubleshooting Flow Chart (cont'd)

Self-diagnosis LED indicator blinks ten times. (Carbureted engine)

Turn the ignition switch ON.

Check whether the PGM-CARB. LED display blinks (section 6).

Does the LED blink?

NO

Repair the PGM-CARB. System (section 6).

YES

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 (YEL/WHT) and B1 (BRN/BLK) terminals.

Is the voltage 4.50 — 5.50 V?

NO

Repair open or short in YEL/WHT wire between the A15 terminal and the A7 terminal of the PGM-CARB. CONTROL UNIT.

YES

Turn the ignition switch OFF.

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

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

Measure the voltage between the A11 (YEL/GRN) and B1 (BRN/BLK) terminals.

Is the voltage 0.70 — 1.60 V?

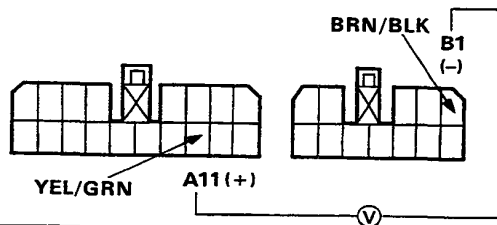
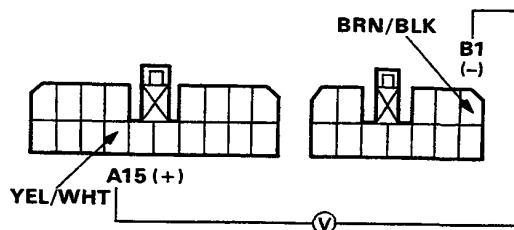
NO

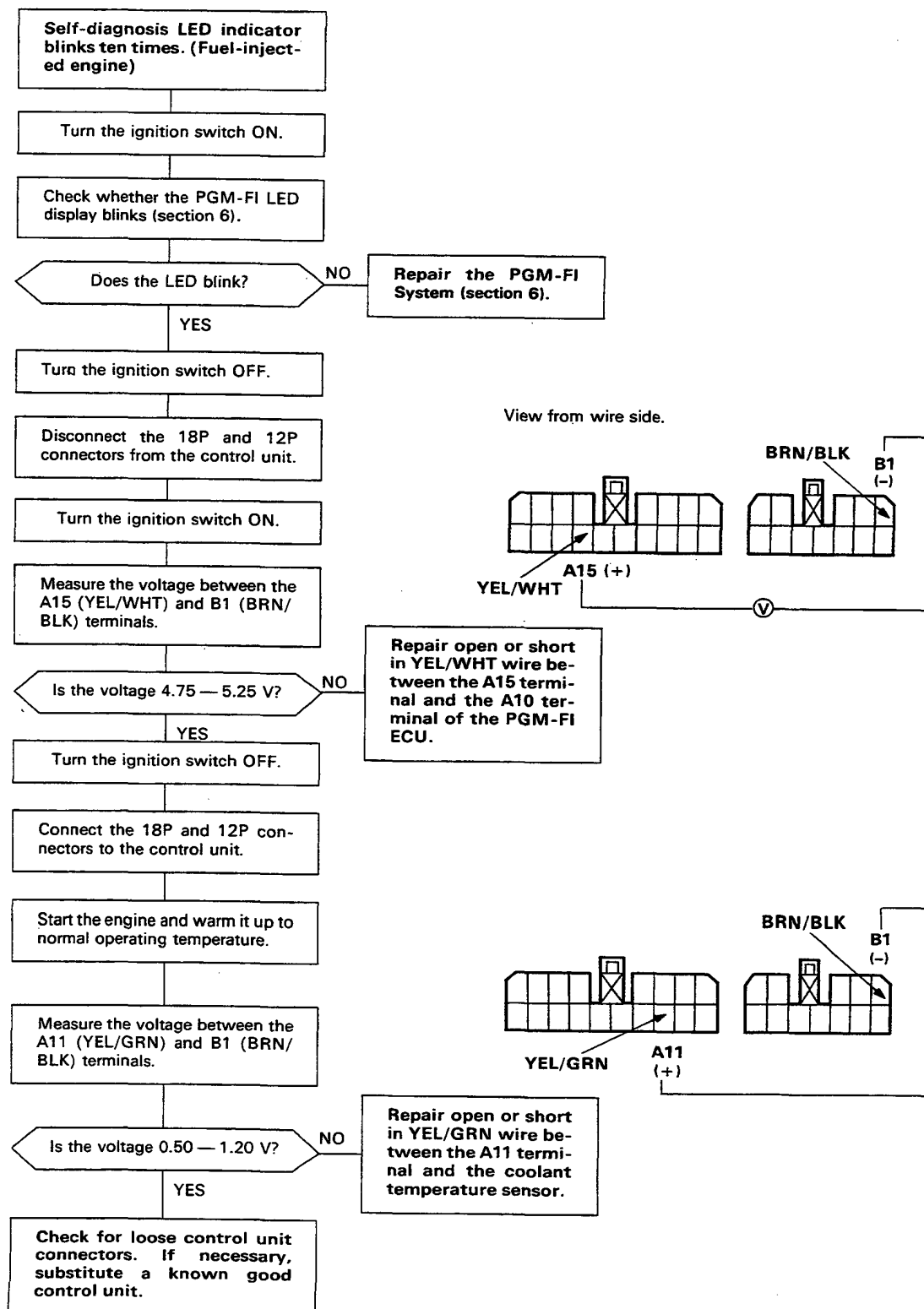
Repair open or short in YEL/GRN wire between the A11 terminal and the coolant temperature sensor.

YES

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

View from wire side.

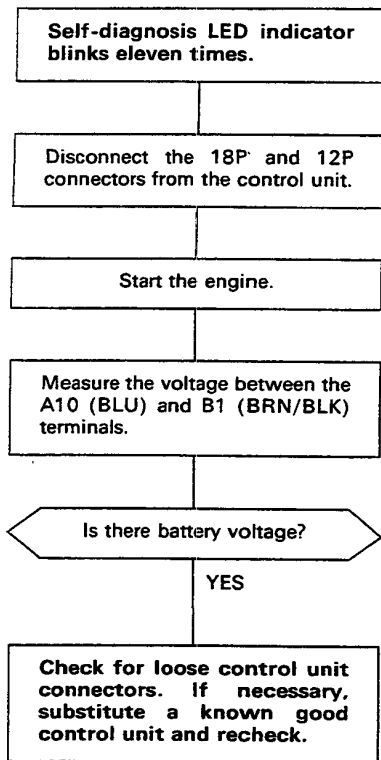




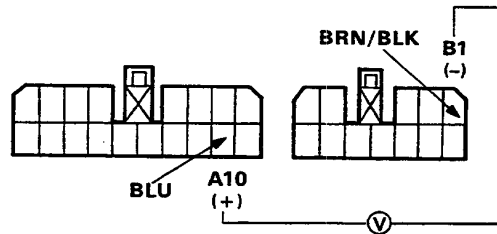
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Electrical Troubleshooting

Troubleshooting Flow Chart (cont'd)



View from wire side.





**A/C IDLE BOOST solenoid valve
driving signal inspection (Car-
bureted engine)**

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

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

Turn on the air conditioner.

Measure the voltage between the
A9 (RED) and B1 (BRN/BLK)
terminals when the air condi-
tioner is operating (air compres-
sor is ON).

Is there battery voltage?

YES

Driving signal is normal.

NO

Check for open circuit in
RED wire between the A9
terminal and the B10 termi-
nal of the PGM-CARB. con-
trol unit. If wire is OK, check
the PGM-CARB. control unit
(section 6).

View from wire side.

