

Troubleshooting

Flowchart

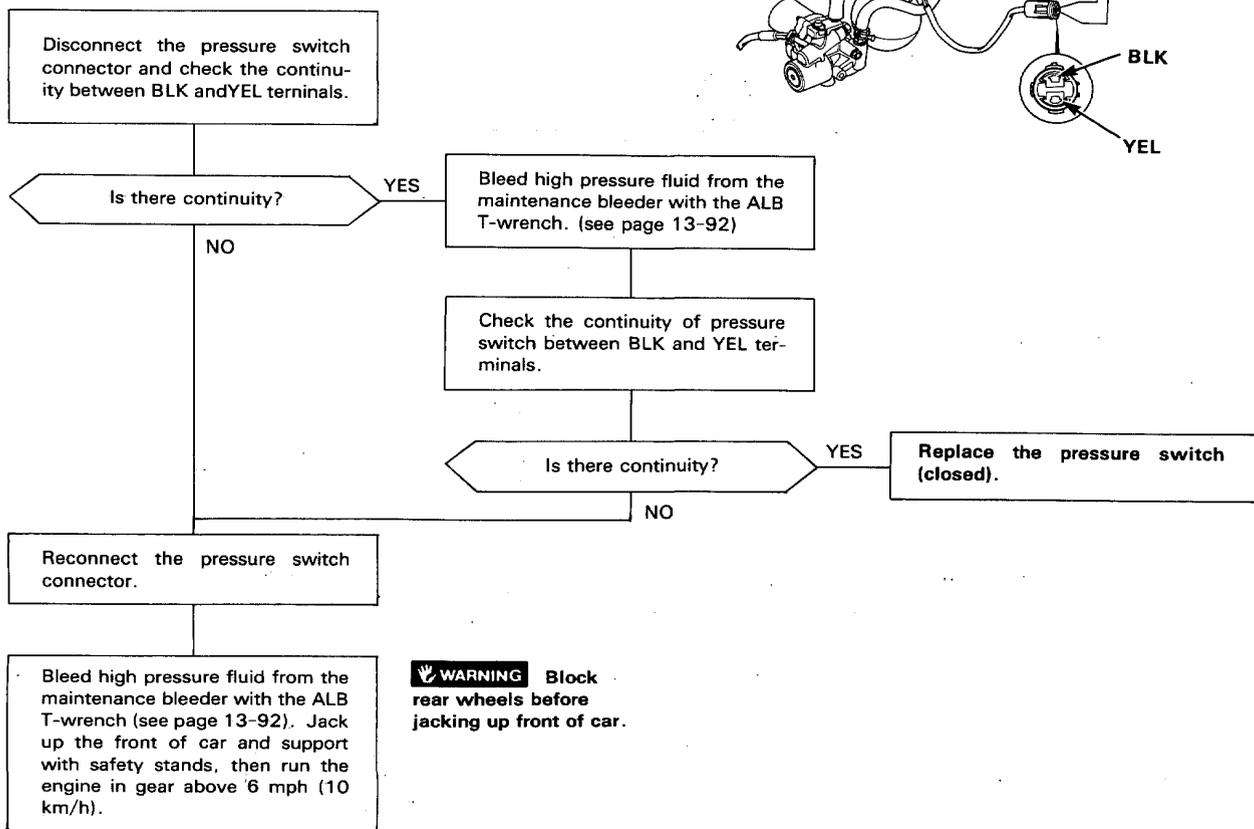
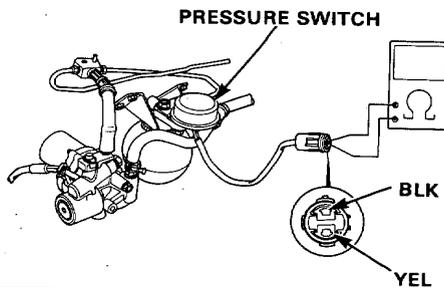
Problem Code 1: Hydraulic Controlled Components.

NOTE: The LED does not blink when the following failures occur.

- The contact points of the motor relay remain closed (the motor runs continuously even after the ignition key is removed).
- YEL/RED lead is shorted or the control unit is internally shorted (the motor stops when the ignition switch is turned lock).

Pre-test steps:

- Check No. 35 (40A) Fuse.
- Check all brake system hoses and pipes (low and high pressure) for signs of leaking bending or kinking.
- Check reservoir fluid level, and if necessary, fill to the MAX level.



(To page 13-61)

(From page 13-60)

Does the pump motor run? YES (To page 13-62)

NO

Disconnect the 18P connector from the control unit.

Check for continuity between the YEL terminal and body ground.

Is there continuity? YES

Repair short in YEL wire between the control unit and pressure switch.

NO

Connect the YEL/RED terminal to body ground using a jumper wire. Turn the ignition switch ON.

Does the pump motor run? YES

Faulty control unit.

NO

Remove the pump motor relay and check the pump motor relay (page 13-93)

Connect the WHT/RED and WHT/BLU terminals using a jumper wire.

Does the pump motor run? NO (To page 13-63)

YES

Check voltage between the pump motor relay motor side ⊕ terminal and body ground (-).

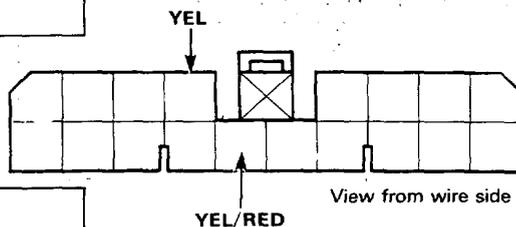
Is there battery voltage? NO

Repair open in LT GRN/SLT wire between the No.18 (10A) fuse and pump motor relay.

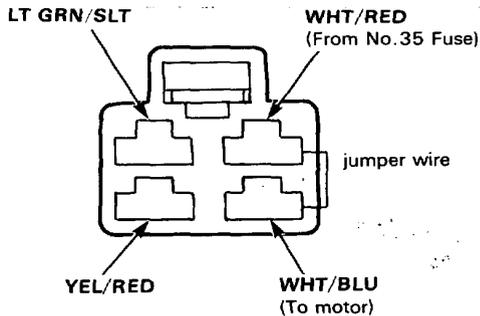
YES

Repair open in YEL/RED wire between the control unit and pump motor relay.

<CONTROL UNIT: 18P CONNECTOR>



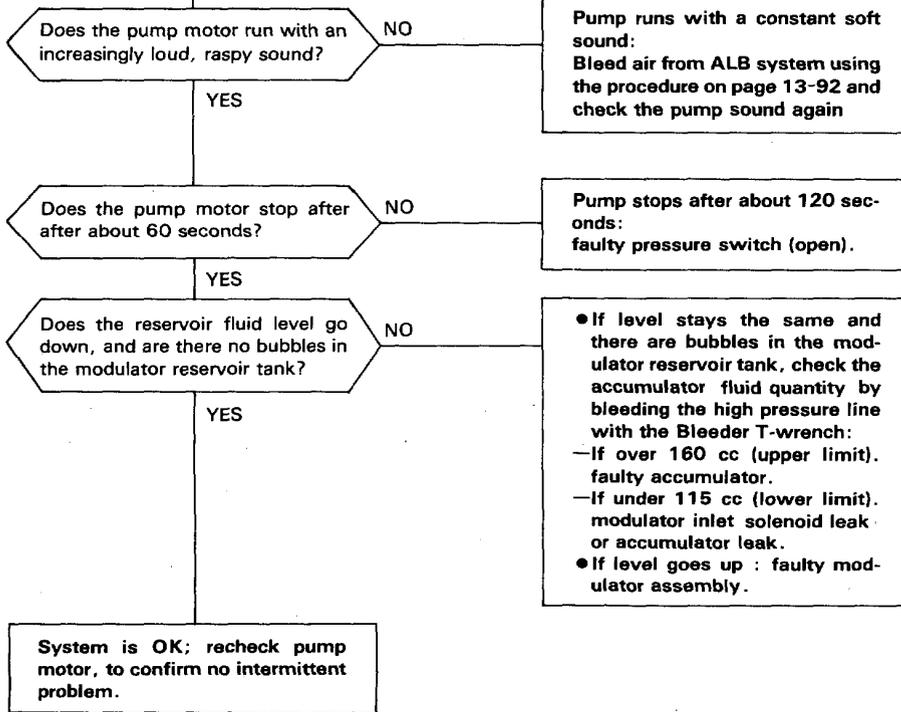
<PUMP MOTOR RELAY CONNECTOR>



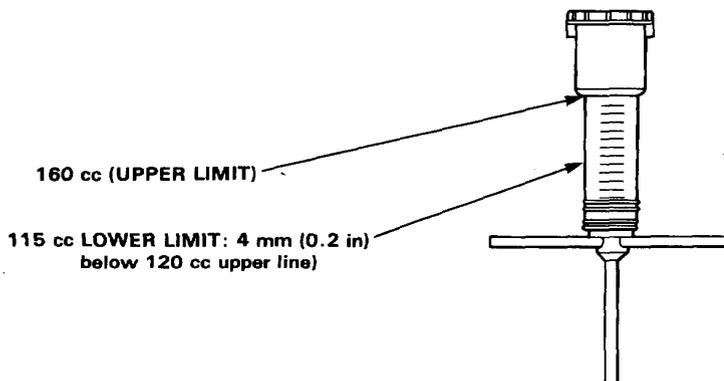
Troubleshooting

Flowchart(cont'd)

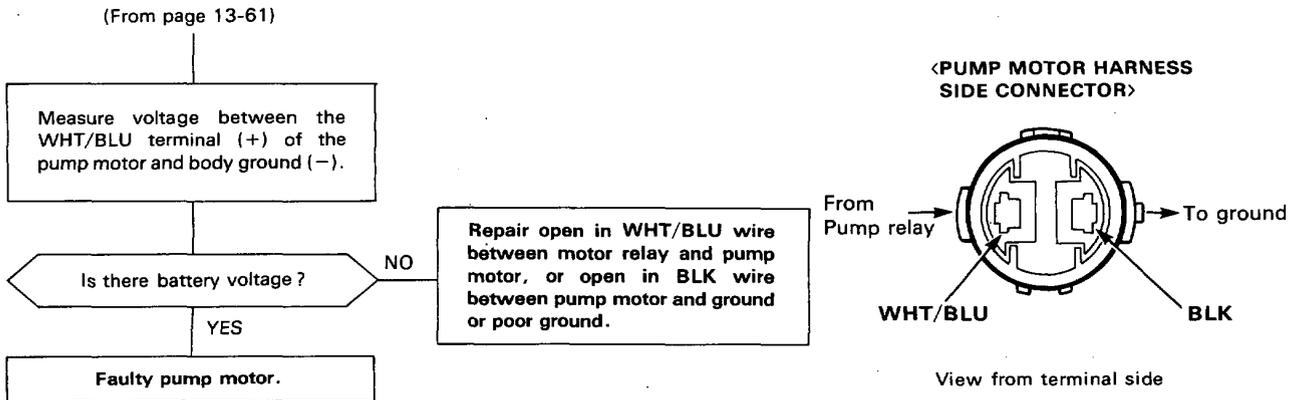
(From page 13-61)



**BLEEDER T-WRENCH
07HAA-SG00100**



NOTE: The fluid enters the reservoir under pressure; wait 1 or 2 minutes for air bubbles to disappear and level to stabilize.



Problem code 2: Parking Brake Switch Related Problem

If the parking brake has been released, the following items are possible causes. If they are OK, check the control unit connectors for good connection. If not loose or disconnected, substitute a known-good control unit and recheck.

NOTE: Before Troubleshooting Problem Code 2, remove the ALB 2 fuse for three seconds to clear the control unit's memory, then test drive the car.

If the dash warning light and LED stay off, the probability is that the car was driven with the parking brake applied.

- The parking brake is applied for more than 30 seconds while driving.
- The brake fluid level in the master cylinder is too low.
- WHT/BLU lead is shorted between the **BRAKE** warning light and parking brake switch.
- WHT/BLU lead is shorted between the **BRAKE** warning light and brake fluid level switch.
- The **BRAKE** warning light is blown.
- WHT/BLU has an open between the **BRAKE** warning light and parking brake.
- WHT/BLU has an open between the parking brake switch and control unit.

(cont'd)

Troubleshooting

Flowchart (cont'd)

Problem Code 4-1 to 4-8: Speed Sensor

NOTE: Control unit will only indicate the higher number sub-code.

Ignition switch: OFF

Disconnect wire harness from speed sensor.

Check for resistance between sensor terminals.

Is there 500-1,000Ω?

NO

Faulty speed sensor.

YES

Disconnect the 18P connector from the control unit.

Check each wire for continuity between the sensor and control unit:
 GRN/BLK: Front Right Positive
 GRN/BLU: Front Left Positive
 GRN/YEL: Rear Right Positive
 BLU: Rear Left Positive
 GRN: Front Right Negative
 BRN: Front Left Negative
 BLU/YEL: Rear Right Negative
 SLT: Rear Left Negative

Is there continuity?

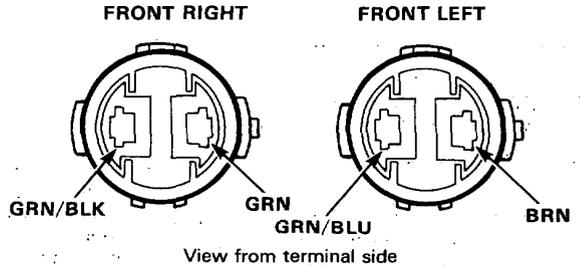
NO

Repair open in sensor wire:

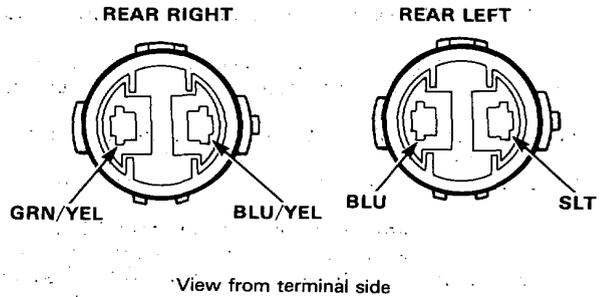
GRN/BLK: Front Right Positive	GRN: Front Right Negative
GRN/BLU: Front Left Positive	BRN: Front Left Negative
GRN/YEL: Rear Right Positive	BLU/YEL: Rear Right Negative
BLU: Rear Left Positive	SLT: Rear Left Negative

Faulty control unit

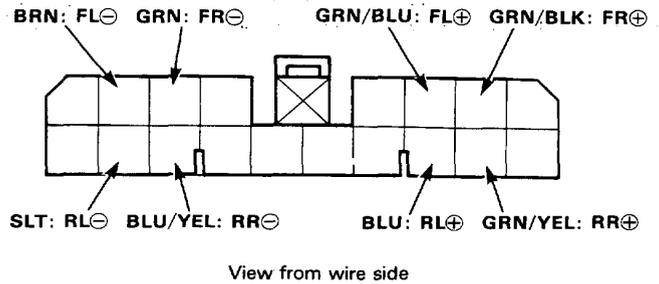
<SENSOR SIDE CONNECTOR>



<SENSOR SIDE CONNECTOR>



<CONTROL UNIT 18P CONNECTOR>



Problem Code 5 to 5-4, 5-8: Speed Sensor(s)

Disconnect wire harness from speed sensor.

Check for resistance between sensor terminals.

Is there 500—1000 Ω ?

YES

Disconnect the 18P connector from the control unit.

Check each wire for continuity between the sensor and control unit:
 GRN/BLK: Front Right Positive
 GRN/BLU: Front Left Positive
 GRN/YEL: Rear Right Positive
 BLU: Rear Left Positive
 GRN: Front Right Negative
 BRN: Front Left Negative
 BLU/YEL: Rear Right Negative
 SLT: Rear Left Negative

Is there continuity?

YES

Reconnect the 18P connector to the control unit and connectors to the speed sensors.

Connect ALB checker to inspection connector.

Check ALB function in MODE 2 and 3.

Does it work properly?

YES

- Incorrect the air gap (page 13-94)
- Faulty control unit.

NO

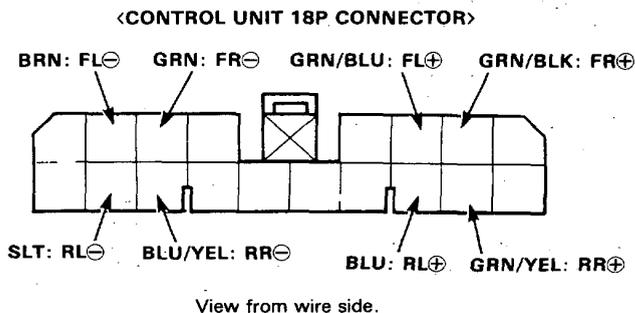
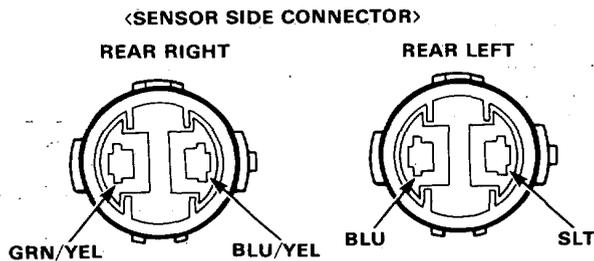
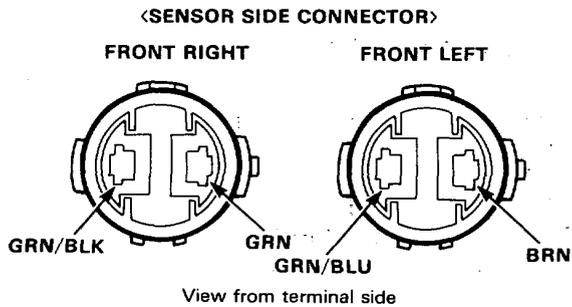
Faulty speed sensor.

NO

Repair open in sensor wire:

GRN/BLK: Front Right Positive	GRN: Front Right Negative
GRN/BLU: Front Left Positive	BRN: Front Left Negative
GRN/YEL: Rear Right Positive	BLU/YEL: Rear Right Negative
BLU: Rear Left Positive	SLT: Rear Left Negative

Faulty modulator.



Troubleshooting

Flowchart (cont'd)

Problem Code 6-1: Front Fail Safe Relay Circuit

Remove front fail safe relay

Check relay function (page 13-93)

Does it work properly?

NO
Faulty the front fail safe relay.

YES

Check for continuity between BLK lead of relay connector and body ground.

Is there continuity?

NO
Repair open in BLK wire between the fail safe relay and ground or poor ground.

YES

Turn ignition switch ON.

Check for voltage between LT GRN/SLT lead (+) and body ground (-).

Is battery voltage available?

NO
Repair open in LT GRN/SLT wire between the fail safe relay and No. 18 fuse (10 A).

YES

Turn ignition switch OFF.

Disconnect the 3P connectors from the front solenoids.

Check for continuity in BRN/BLK lead between fail safe relay and solenoids.

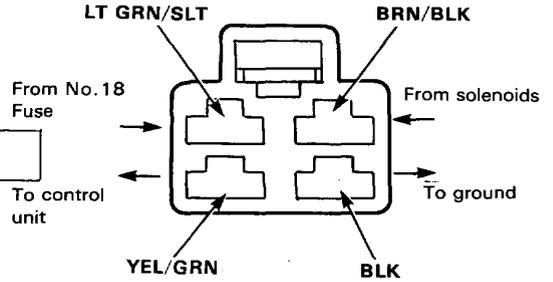
Is there continuity?

NO
Repair open in BRN/BLK wire between the solenoids and fail safe relay.

YES

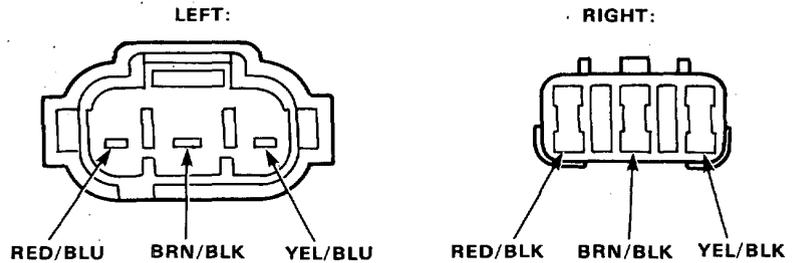
(To page 13-67)

<FRONT FAIL SAFE RELAY CONNECTOR HARNESS SIDE>



View from terminal side

<FRONT SOLENOIDS CONNECTOR HARNESS SIDE>



View from terminal side

(From page 13-66)

Check for resistance between RED and BLK terminals of front solenoids.

Is there 1-3 Ω ?

NO

Faulty solenoid.

YES

Check for resistance between YEL and BLK terminals of front solenoids.

Is there 1-3 Ω ?

NO

Faulty solenoid.

YES

Disconnect the 12P connector from the control unit.

Check for continuity between control unit and front solenoid.
 RED/BLK: Front Right Inlet
 YEL/BLK: Front Right Outlet
 RED/BLU: Front Left Inlet
 YEL/BLU: Front Left Outlet.

Is there continuity?

NO

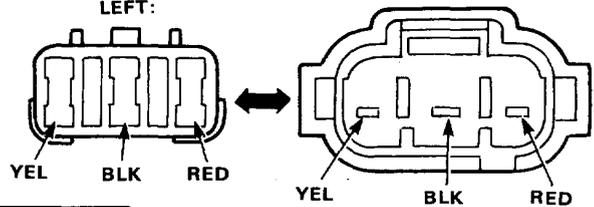
Repair open in wire:
 RED/BLK: Front Right Inlet
 YEL/BLK: Front Right Outlet
 RED/BLU: Front Left Inlet
 YEL/BLU: Front Left Outlet

• Faulty control unit.
 • Incorrect air gap (page 13-94)

<FRONT SOLENOID CONNECTOR>

RIGHT:

LEFT:

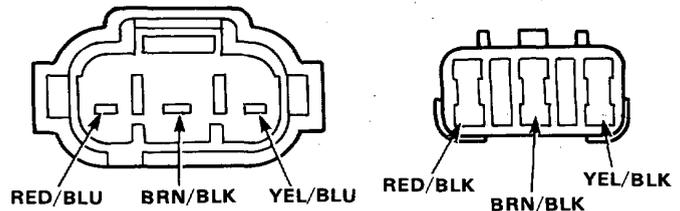


View from terminal side

<FRONT SOLENOIDS CONNECTOR HARNESS SIDE>

LEFT:

RIGHT:

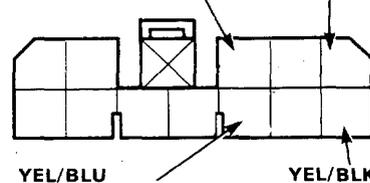


View from terminal side

<CONTROL UNIT 12P CONNECTOR>

RED/BLU

RED/BLK

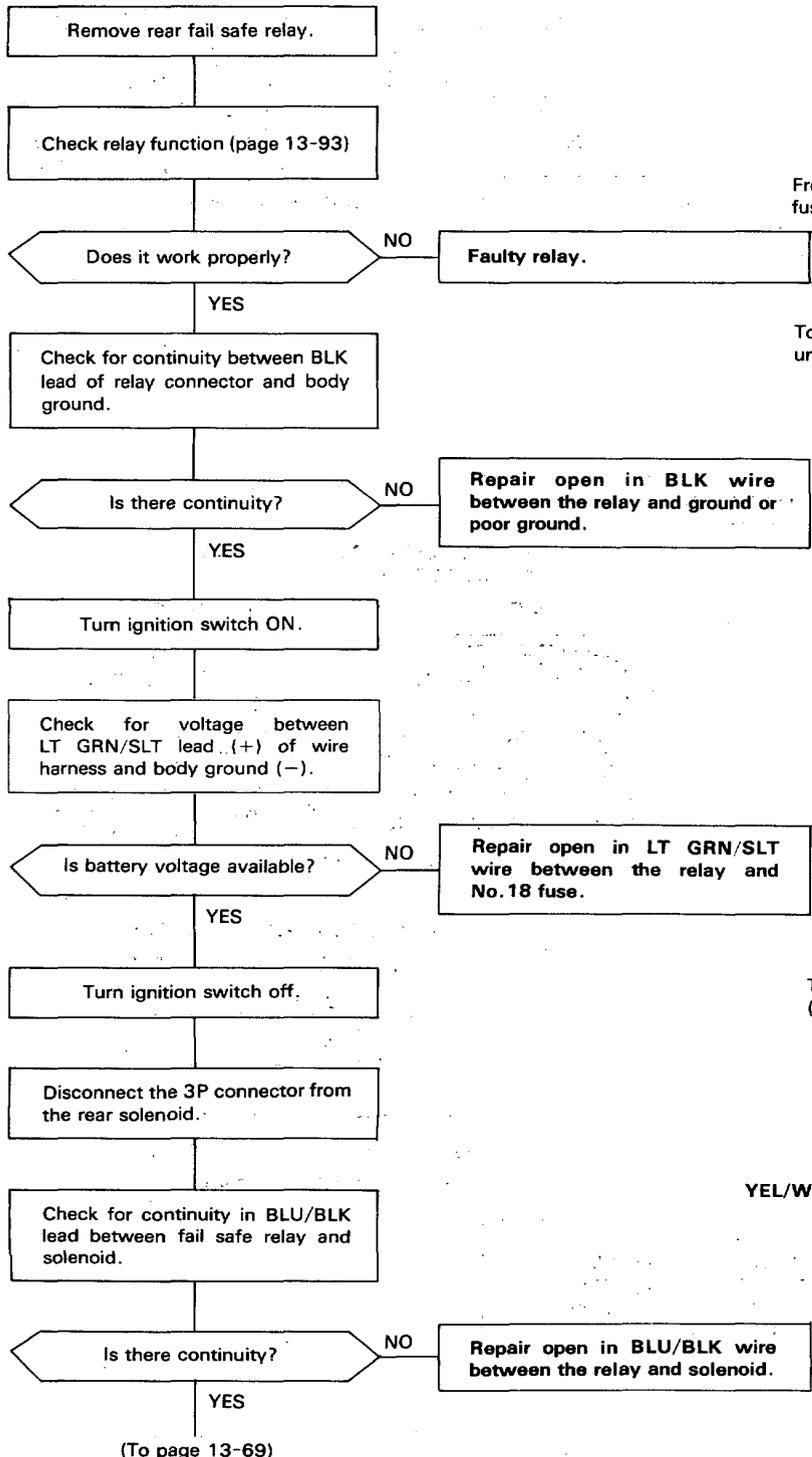


View from wire side.

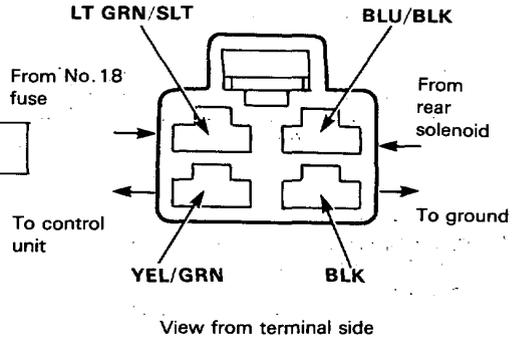
Troubleshooting

Flowchart(cont'd)

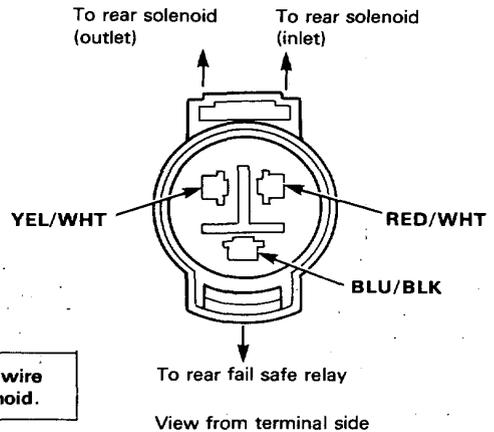
Problem Code 6-4: Rear Fail Safe Relay Circuit



⟨REAR FAIL SAFE RELAY CONNECTOR HARNESS SIDE⟩



⟨REAR SOLENOID CONNECTOR HARNESS SIDE⟩



(From page 13-68)

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

Check for continuity in YEL/GRN lead between fail safe relay and control unit.

Is there continuity?

NO

Repair open in YEL/GRN wire between the relay and control unit.

YES

Check for continuity between control unit and rear solenoid.
RED/WHT: Rear Inlet
YEL/WHT: Rear Outlet

Is there continuity:

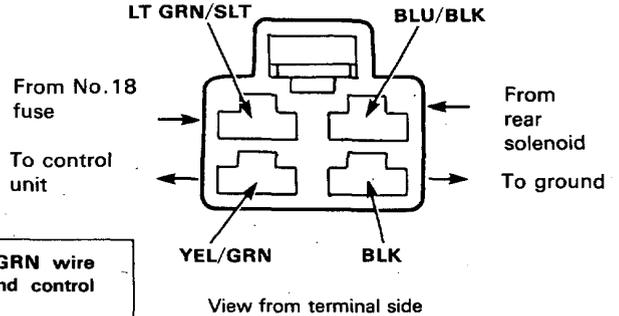
NO

Repair open in wire between the solenoid and control unit:
RED/WHT: Rear Inlet
YEL/WHT: Rear Outlet.

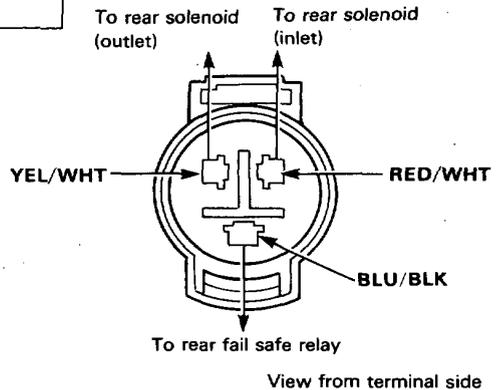
YES

Faulty control unit.

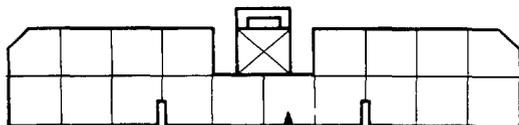
<REAR FAIL SAFE RELAY CONNECTOR HARNESS SIDE>



<REAR SOLENOID CONNECTOR HARNESS SIDE>



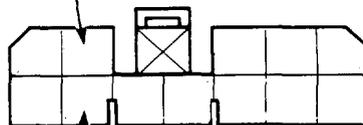
<CONTROL UNIT 18P CONNECTOR>



YEL/GRN: from FAIL SAFE RELAY

<CONTROL UNIT 12P CONNECTOR>

RED/WHT: from REAR IN SOL.



YEL/WHT: from REAR OUT SOL.

View from wire side

Troubleshooting

Flowchart (cont'd)

Problem Code 7-1 and 7-2 Front Solenoid Related Problem

Disconnect wire harness from front solenoids

Check for resistance between RED and BLK terminals of front solenoid.

Is there 1-3 Ω ?

NO: **Faulty solenoid.**

YES

Check for resistance between YEL and BLK terminals of front solenoid.

Is there 1-3 Ω ?

NO: **Faulty solenoid.**

YES

Disconnect the 12P connector from the control unit.

Check for continuity between control unit and front solenoid:
 RED/BLK: Front Right Inlet
 YEL/BLK: Front Right Outlet
 RED/BLU: Front Left Inlet
 YEL/BLU: Front Left Outlet.

Is there continuity?

NO: **Repair open in wire:**
 RED/BLK: Front Right Inlet
 YEL/BLK: Front Right Outlet
 RED/BLU: Front Left Inlet
 YEL/BLU: Front Left Outlet

YES

Check for continuity between control unit and body ground.
 RED/BLK: Front Right Intel
 YEL/BLK: Front Right Outlet
 RED/BLU: Front Left Intel
 YEL/BLU: Front Left Outlet

Is there continuity?

YES: **Repair short in wire:**
 RED/BLK: Front Right Inlet
 YEL/BLK: Front Right Outlet
 RED/BLU: Front Left Intel
 YEL/BLU: Front Left Outlet

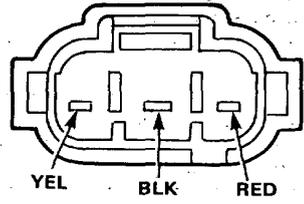
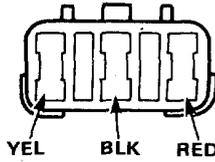
NO

• **Faulty control unit.**
 • **Incorrect air gap (page 13-94)**

◀FRONT SOLENOID CONNECTOR▶

LEFT:

RIGHT:

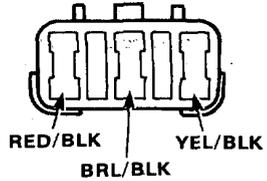
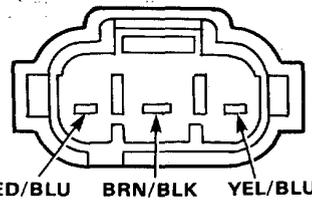


View from terminal side

◀FRONT SOLENOIDS CONNECTOR HARNESS SIDE▶

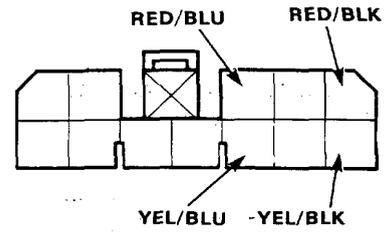
LEFT:

RIGHT:



View from terminal side

◀CONTROL UNIT 12P CONNECTOR▶



Problem Code 7-4: Rear Solenoid Related Problem

Disconnect wire harness from rear solenoid

Check for resistance between RED and BLK terminals of rear solenoid.

Is there 1-3 Ω ?

NO **Faulty solenoid.**

YES

Check for resistance between YEL and BLK terminals of rear solenoid.

Is there 1-3 Ω ?

NO **Faulty solenoid.**

YES

Disconnect the 12P connector from the control unit.

Check for continuity between control unit and rear solenoid.
RED/WHT: Rear Inlet
YEL/WHT: Rear Outlet

Is there continuity?

NO **Repair open in wire between the rear solenoid and control unit:
RED/WHT: Rear Inlet
YEL/WHT: Rear Outlet**

YES

Check for continuity between control unit and baby ground.
RED/BLK: Front Right Inlet
YEL/BLK: Front Right Outlet
RED/BLU: Front Left Inlet
YEL/BLU: Front Left Outlet

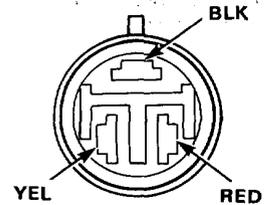
Is there continuity?

YES **Repair short in wire:
RED/WHT: Rear Inlet
YEL/WHT: Rear Outlet**

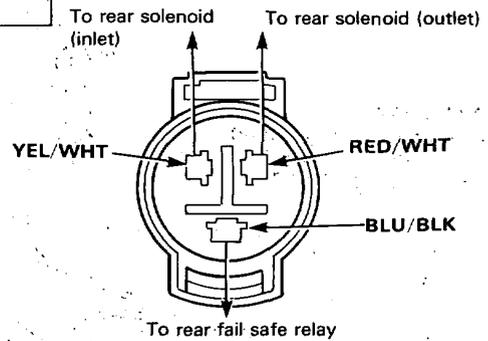
NO

Faulty control unit.

<REAR SOLENOID CONNECTOR>

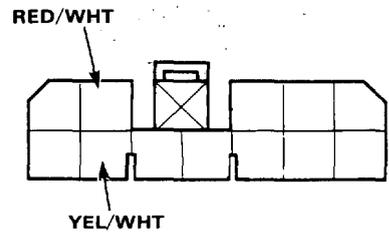


<REAR SOLENOID CONNECTOR HARNESS SIDE>



View from terminal side.

<CONTROL UNIT 12P CONNECTOR>



View from wire side.