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**1991**

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**BMW 318i/is/ic**

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**Electrical**

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**Troubleshooting**

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**Manual**

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PRELIMINARY EDITION

BMW of North America, Inc.  
Woodcliff Lake, New Jersey

## **FOREWORD**

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**1991  
BMW 318i/is/ic  
Electrical  
Troubleshooting  
Manual**

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The purpose of this manual is to show electrical schematics in a manner that makes electrical troubleshooting easier. Electrical components which work together are shown together on one schematic. The Wiper-Washer schematic, for example, shows all of the electrical components in one diagram. At the top of the page is the fuse (positive) that powers the circuit. The flow of current is shown through all wires, connectors, switches, and motors to ground (negative) at the bottom of the page.

Within the schematic, all switches and sensors are shown "at rest," as though the Ignition Switch were off. For identification, component names are underlined and placed next to or above each component. Notes are included, describing how switches and other components work.

The power distribution schematic shows the current feed through all the connections from the Battery and Alternator to each fuse and the Ignition and Light Switches. If the Power Distribution schematic is combined with any other circuit schematic, a complete picture is made of how that circuit works. The Ground Distribution schematics show how several circuits are connected to common grounds.

All wiring between components is shown exactly as it exists in the vehicle; however, the wiring is not drawn to scale. To aid in understanding electrical operation, wiring inside complicated components has been simplified. The "Solid State" label designates electronic components.

WIRE SIZE CONVERSION CHART	
METRIC (CROSS-SECTIONAL AREA IN MM <sup>2</sup> )	AWG (AMERICAN WIRE GAUGE)
.5	20
.75	18
1	16
1.5	14
2	14
2.5	12
4	10
6	8
8	8
16	4
20	4
25	2
32	2

WIRE INSULATION	
ABBREVIATIONS	COLOR
BK	BLACK
BR	BROWN
RD	RED
YL	YELLOW
GN	GREEN
BU	BLUE
VI	VIOLET
GY	GRAY
WT	WHITE
PK	PINK
OR	ORANGE

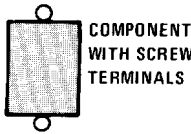
# 4 SYMBOLS



ENTIRE COMPONENT SHOWN



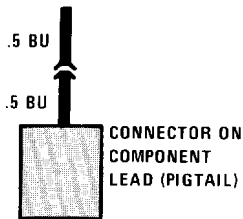
PART OF A COMPONENT SHOWN



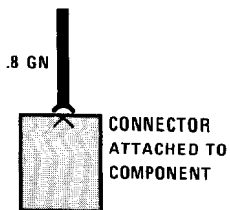
COMPONENT WITH SCREW TERMINALS



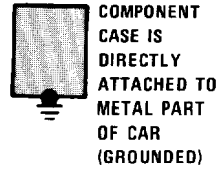
SOLID STATE (INCLUDES ONLY ELECTRONIC PARTS)



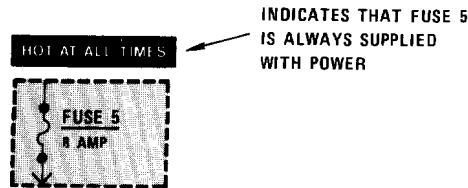
CONNECTOR ON COMPONENT LEAD (PIGTAIL)



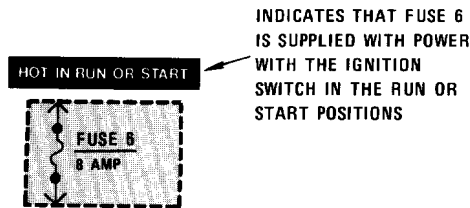
CONNECTOR ATTACHED TO COMPONENT



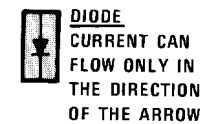
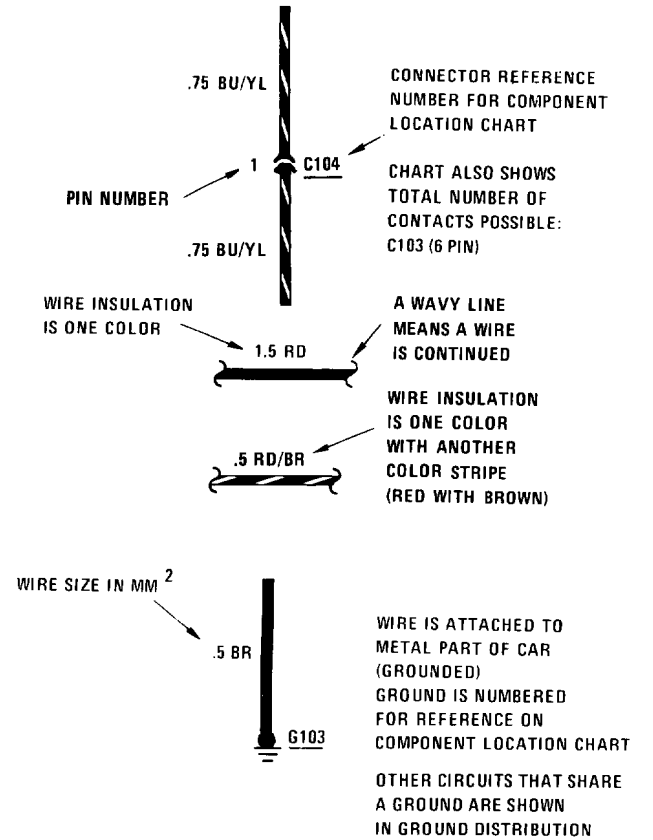
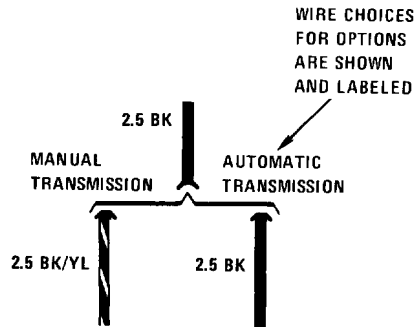
COMPONENT CASE IS DIRECTLY ATTACHED TO METAL PART OF CAR (GROUNDED)



INDICATES THAT FUSE 5 IS ALWAYS SUPPLIED WITH POWER



INDICATES THAT FUSE 6 IS SUPPLIED WITH POWER WITH THE IGNITION SWITCH IN THE RUN OR START POSITIONS

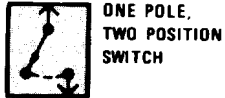


DIODE CURRENT CAN FLOW ONLY IN THE DIRECTION OF THE ARROW

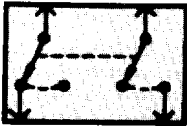
CIRCUIT REFERENCE - A WIRE WHICH CONNECTS TO ANOTHER CIRCUIT



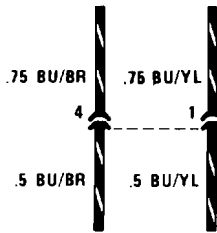
ACTIVE CHECK CONTROL



ONE POLE,  
TWO POSITION  
SWITCH

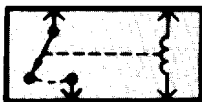


SWITCHES THAT  
MOVE TOGETHER  
DASHED LINE SHOWS  
A MECHANICAL  
CONNECTION  
BETWEEN SWITCHES



TWO CONNECTIONS  
(PINS) IN THE SAME  
CONNECTOR

DASHED LINE SHOWS  
PARTS OF THE  
SAME CONNECTOR



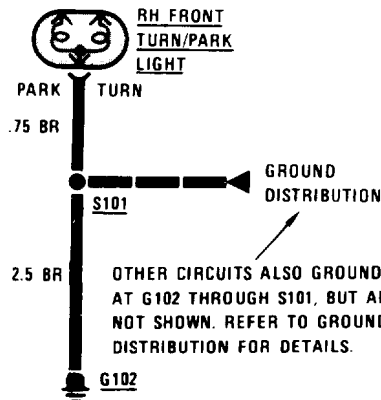
WHEN COIL IS  
ENERGIZED, SWITCH  
IS PULLED CLOSED

RELAY SHOWN  
WITH NO  
CURRENT  
FLOWING  
THROUGH  
COIL



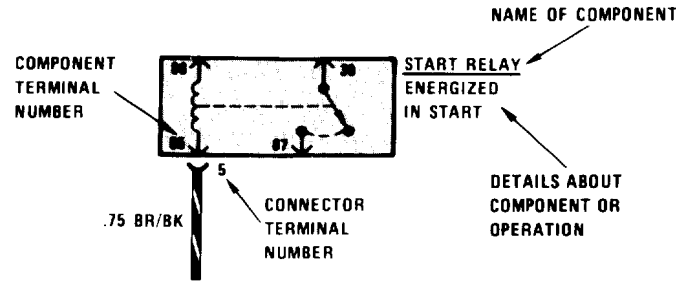
RESISTOR ACROSS COIL  
IS FOR NOISE  
SUPPRESSION

RELAY SHOWN  
WITH RESISTOR  
ACROSS COIL



GROUND  
DISTRIBUTION

OTHER CIRCUITS ALSO GROUNDED  
AT G102 THROUGH S101, BUT ARE  
NOT SHOWN. REFER TO GROUND  
DISTRIBUTION FOR DETAILS.



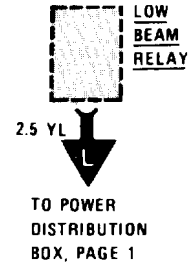
NAME OF COMPONENT

START RELAY  
ENERGIZED  
IN START

DETAILS ABOUT  
COMPONENT OR  
OPERATION

CONNECTOR  
TERMINAL  
NUMBER

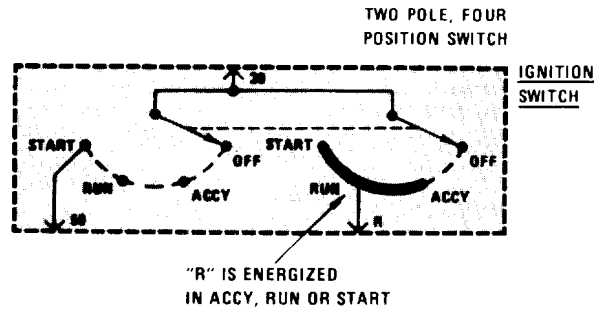
COMPONENT  
TERMINAL  
NUMBER



LOW  
BEAM  
RELAY

2.5 YL  
TO POWER  
DISTRIBUTION  
BOX, PAGE 1

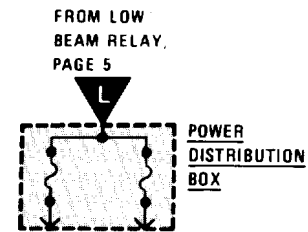
CURRENT PATH  
IS CONTINUED  
AS LABELED.  
THE ARROW SHOWS  
DIRECTION OF CURRENT  
FLOW AND IS REPEATED  
WHERE CURRENT  
PATH CONTINUES.



TWO POLE, FOUR  
POSITION SWITCH

IGNITION  
SWITCH

"R" IS ENERGIZED  
IN ACCY, RUN OR START



FROM LOW  
BEAM RELAY,  
PAGE 5

POWER  
DISTRIBUTION  
BOX



LIGHT  
EMITTING  
DIODE



INDUCTIVE  
SENSOR

## 6 SYSTEMATIC TROUBLESHOOTING

### TROUBLESHOOTING PROCEDURE

#### 1. Verify the Problem

Operate the problem circuit to check the accuracy of the complaint. Note the symptoms of the inoperative circuit.

#### 2. Analyze the Problem

Refer to the schematic of the problem circuit in the ETM. Determine how the circuit is supposed to work by tracing the current path(s) from the power feed through the circuit components to ground. Then based on the symptoms you noted in step 1 and your understanding of circuit operation, identify one or more possible causes of the problem.

#### 3. Isolate the Problem

Make circuit tests to prove or disprove the preliminary diagnosis made in step 2. Keep in mind that a logical simple procedure is the key to efficient troubleshooting. Test for the most likely cause of failure first. Try to make tests at points which are easily accessible.

#### 4. Repair the Problem

Once the specific problem is identified, make the repair using the proper tools and safe procedures.

#### 5. Check the Problem

Operate the circuit to check for satisfactory circuit operation. Good repair practice calls for rechecking all circuits you have worked on.

### TROUBLESHOOTING TOOLS

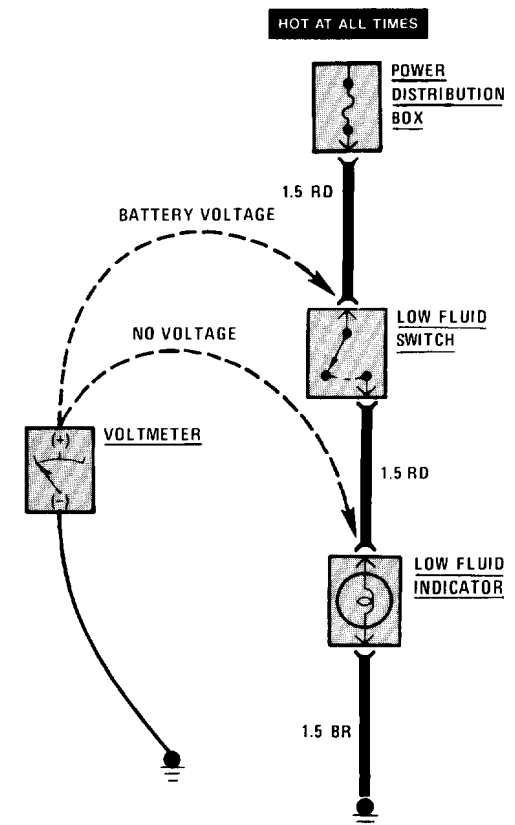
Isolating the problem (Step 3 of TROUBLESHOOTING PROCEDURES) requires the use of a **voltmeter** and/or **ohmmeter**. A voltmeter measures voltage at selected points in a circuit. An ohmmeter measures a circuit's resistance to current flow. It has an internal battery that provides current to the circuit under test. Disconnect the car battery when using an ohmmeter because the battery voltage will cause the ohmmeter to give false readings. Also, do not use an ohmmeter on solid-state components. The voltage that the ohmmeter applies to the circuit could damage these components.

### TROUBLESHOOTING TESTS

#### Voltage Test

This test measures voltage in a circuit. By taking measurements at several points (terminals or connectors) along the circuit, you can isolate the problem.

To take a voltage measurement, connect the negative lead of the voltmeter to the battery's negative terminal or other known good ground. Then connect the positive lead of the voltmeter to the point you want to test. The voltmeter will measure the voltage present at that point in the circuit.



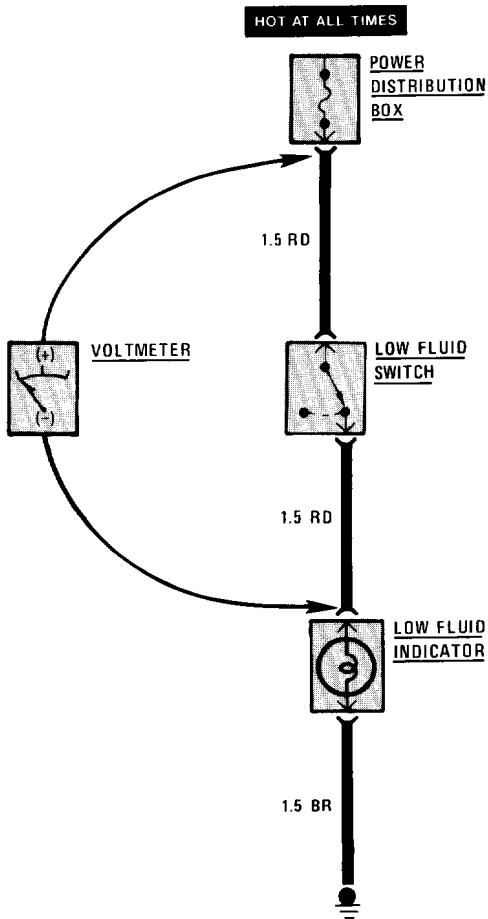
Voltage Test



Voltage Drop Test

Wires, connectors, and switches are designed to conduct current with a minimum loss of voltage. A voltage drop of more than one volt indicates a problem.

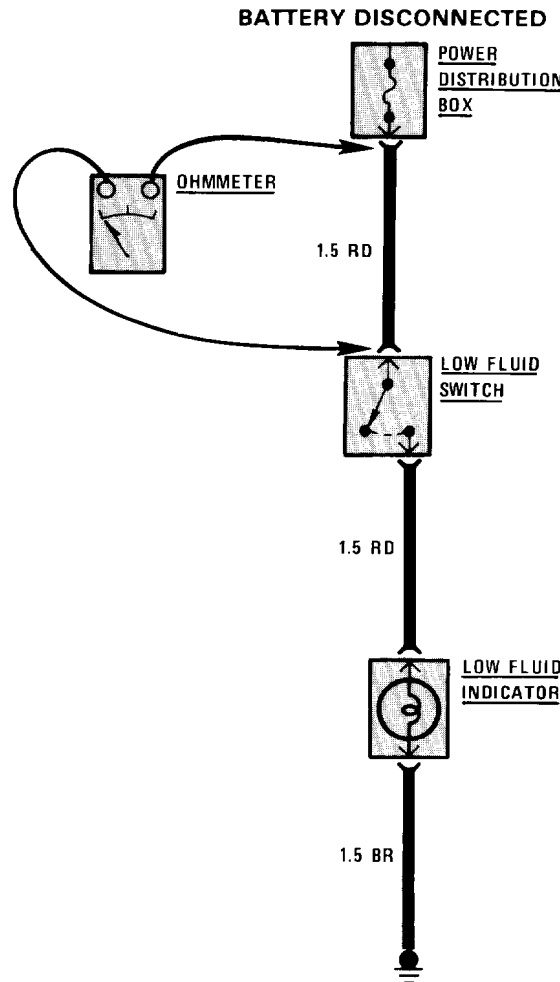
To test for voltage drop, connect the voltmeter leads to connectors at either end of the circuit's suspected problem area. The positive lead should be connected to the connector closest to the power source. The voltmeter will show the voltage drop between these two points.



Voltage Drop Test

Continuity Test

To perform a continuity test, first disconnect the car battery. Then adjust the ohmmeter to read zero while holding the leads together. Connect the ohmmeter leads to connector or terminals at either end of the circuit's suspected problem area. The ohmmeter will show the resistance across that part of the circuit.

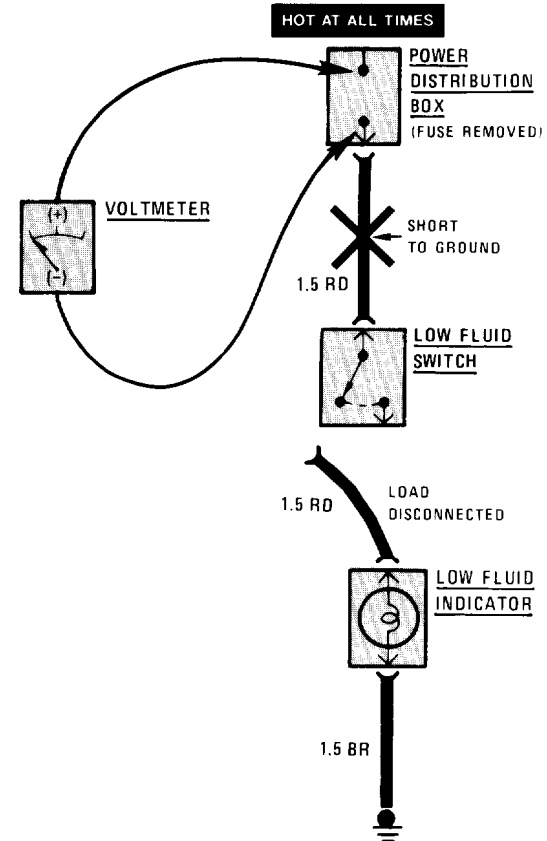


Continuity Test

Short Test Using Voltmeter

Remove the blown fuse and disconnect the load. Connect the voltmeter leads to the fuse terminals. The positive lead should be connected to the terminal closest to the power source.

Starting near the POWER DISTRIBUTION BOX, move the wire harness back and forth and watch the voltmeter reading. If the voltmeter registers a reading, there is a short to ground in the wiring. Somewhere in the area of the harness being moved, the wire insulation is worn away and the circuit is grounding.



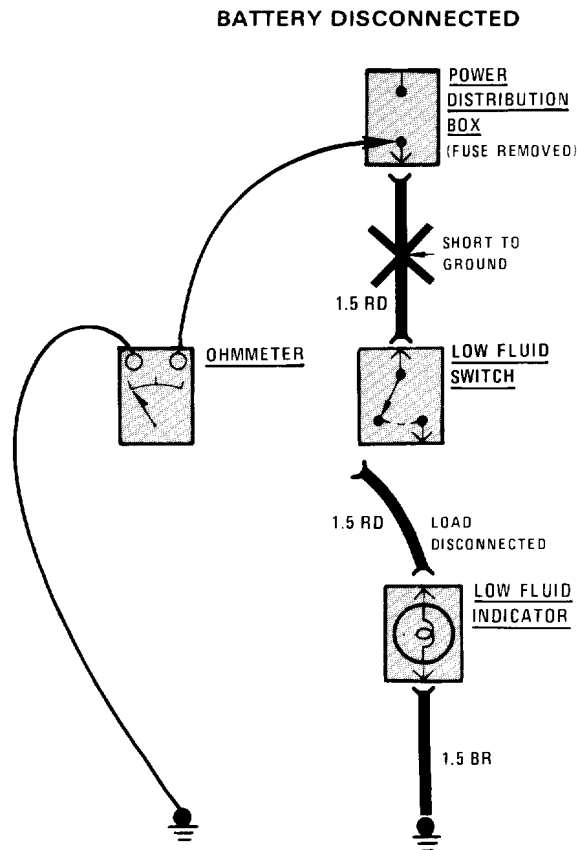
Short Test Using Voltmeter

## 8 SYSTEMATIC TROUBLESHOOTING

### Short Test Using Ohmmeter

Disconnect the battery. Adjust the ohmmeter to read zero while holding the leads together. Remove the blown fuse and disconnect the load. Connect one lead of the ohmmeter to the fuse terminal that is closest to the load. Connect the other lead to a known good ground.

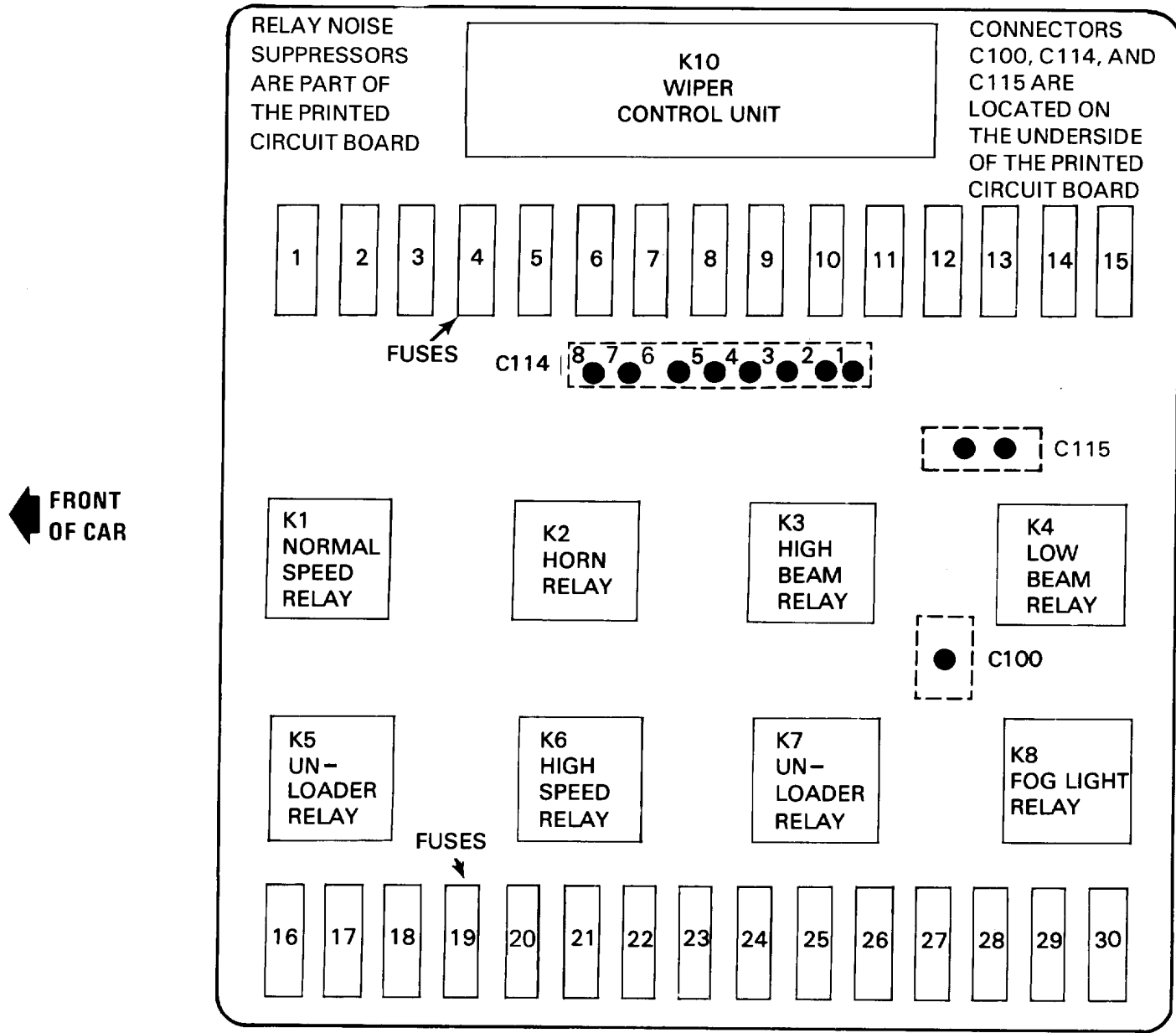
Starting near the POWER DISTRIBUTION BOX, move the wire harness back and forth and watch the ohmmeter reading. Low or no resistance indicates a short to ground in the wiring. Infinitely high resistance indicates no short.



Short Test Using Ohmmeter

# 0670-0 POWER DISTRIBUTION

## POWER DISTRIBUTION BOX

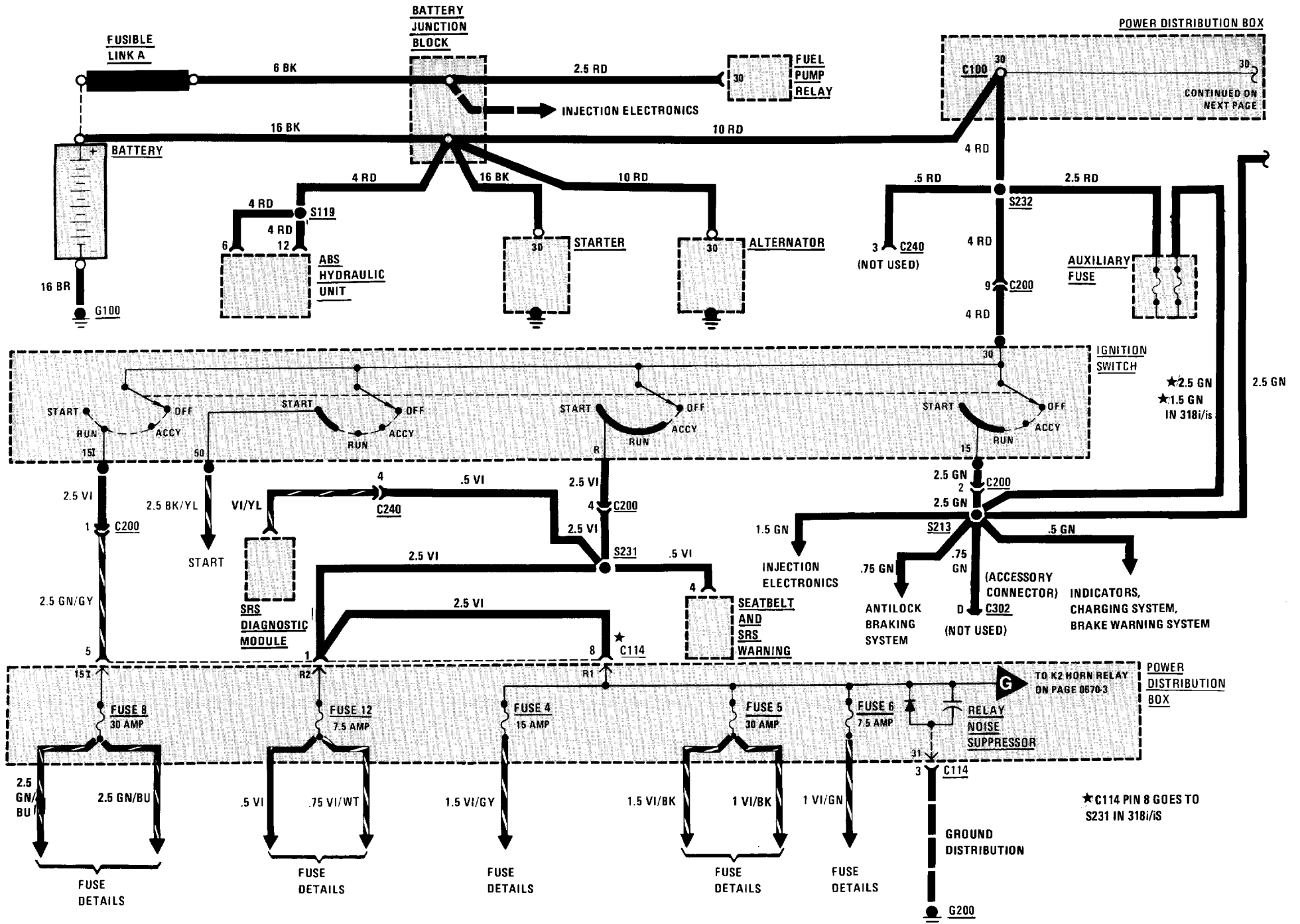


**FUSE DATA CHART**

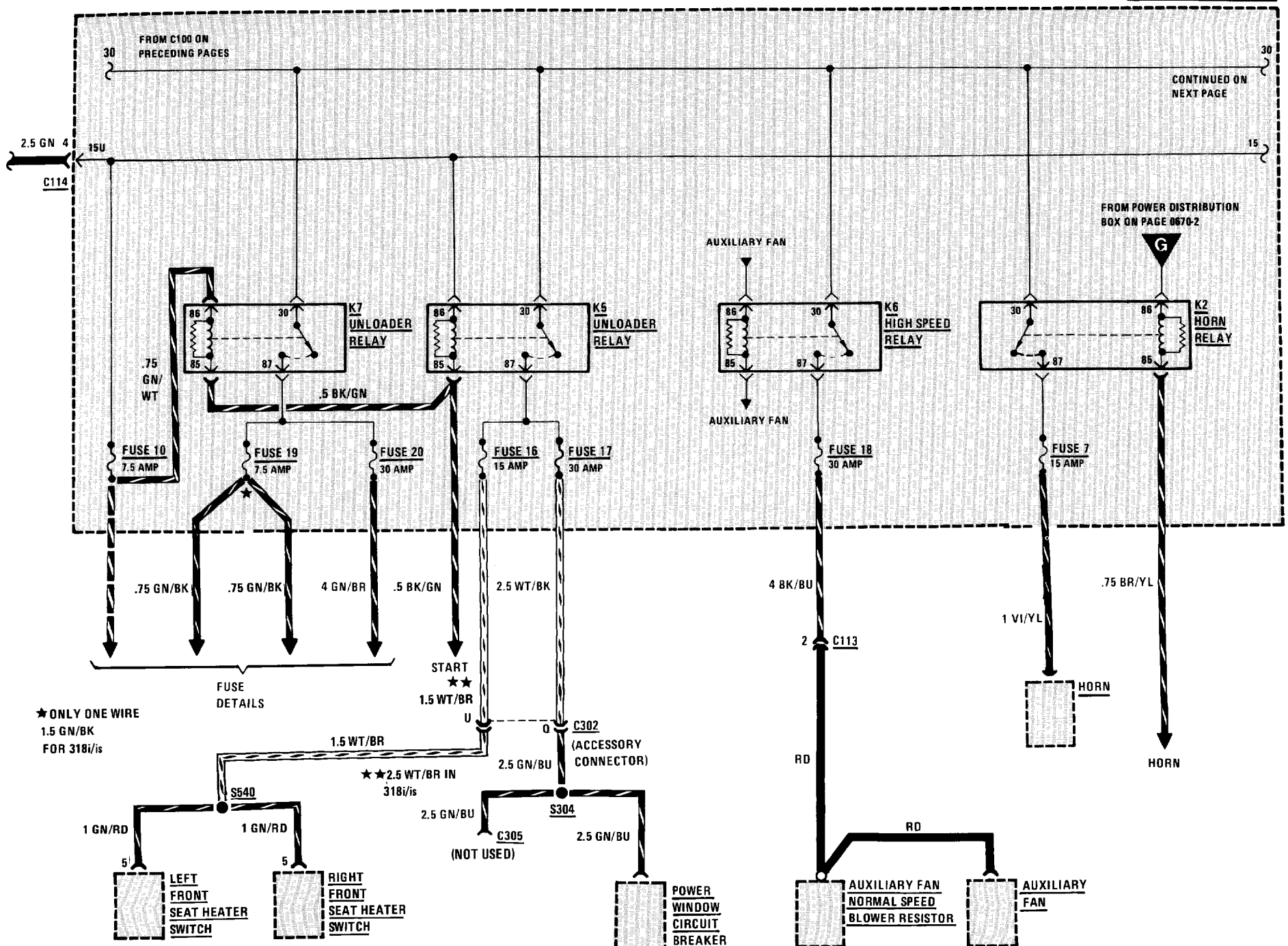
FUSE NO.	SIZE	CIRCUIT NAME
1	7.5A	Headlights (also fuses 2, 13, 14).
2	7.5A	Headlights (also fuses 1, 13, 14).
3	15A	Auxiliary Fan (also fuses 18, 19, 20).
4	15A	Glove Box Light; Lights: Turn/Hazard Warning (also fuse 24).
5	30A	Wiper/Washer.
6	7.5A	Stop Lights; Map Reading Light; Antilock Braking System.
7	15A	Horn.
8	30A	Rear Defogger (also fuse 23).
9	15A	Diagnosis Connector.
10	7.5A	Ignition Key Warning; Seatbelt Warning (also fuse 21); Service Interval Indicator (also fuse 21); Tachometer/Fuel Economy Gauges; Gauges/Indicators; Brake Warning System; Back Up Lights; Start; Injection Electronics (also fuse 11).
11	7.5A	Injection Electronics (also fuse 10).
12	7.5A	Radio/Antenna (also fuses 21, 27, 28); Speedometer/Indicators; Multi-Function Clock (also fuses 21, 23).
13	7.5A	Headlights (also fuses 1, 2, 14).
14	7.5A	Headlights (also fuses 1, 2, 13).
15		Not Used.
16	15A	Heated Seats.
17	30A	Power Windows.
18	30A	Auxiliary Fan (also fuses 3, 19, 20).
19	7.5A	Auxiliary Fan (also fuses 3, 18, 20); Interior Lights (also fuses 21, 27); Power Mirrors; A/C Compressor.

FUSE NO.	SIZE	CIRCUIT NAME
20	30A	Heater/Air Conditioning; Auxiliary Fan (also fuses 3, 18, 19).
21	7.5A	Auto-Charging Flashlight; Ignition Key Warning/Seatbelt Warning (also fuse 10); Interior Lights (also fuses 19, 27); Radio/Antenna (also fuses 12, 27, 28); Trunk Light; Multifunction Clock (also fuses 12, 23); Service Interval Indicator (also fuse 10).
22	7.5A	Lights: Front Park/Tail (also fuse 23); Lights: Front Side Marker (also fuse 23).
23	7.5A	Lights: Dash; Lights: Front Park/Tail (also fuse 22); Lights: Front Side Marker (also fuse 22); Lights: Rear Marker/License; Multifunction Clock (also fuses 12, 21); Rear Defogger (also fuse 8).
24	15A	Lights: Turn/Hazard Warning (also fuse 4).
25		Not Used.
26		Not Used.
27	30A	Interior Lights (also fuses 19, 21); Radio/Antenna (also fuses 12, 21, 28).
28	30A	Cigar Lighter; Radio/Antenna (also fuses 12, 21, 27).
29	7.5A	Fog Lights (also fuse 30).
30	7.5A	Fog Lights (also fuse 29).
POWER WINDOW CIRCUIT BREAKER		25A Power Windows

# 0670-2 POWER DISTRIBUTION

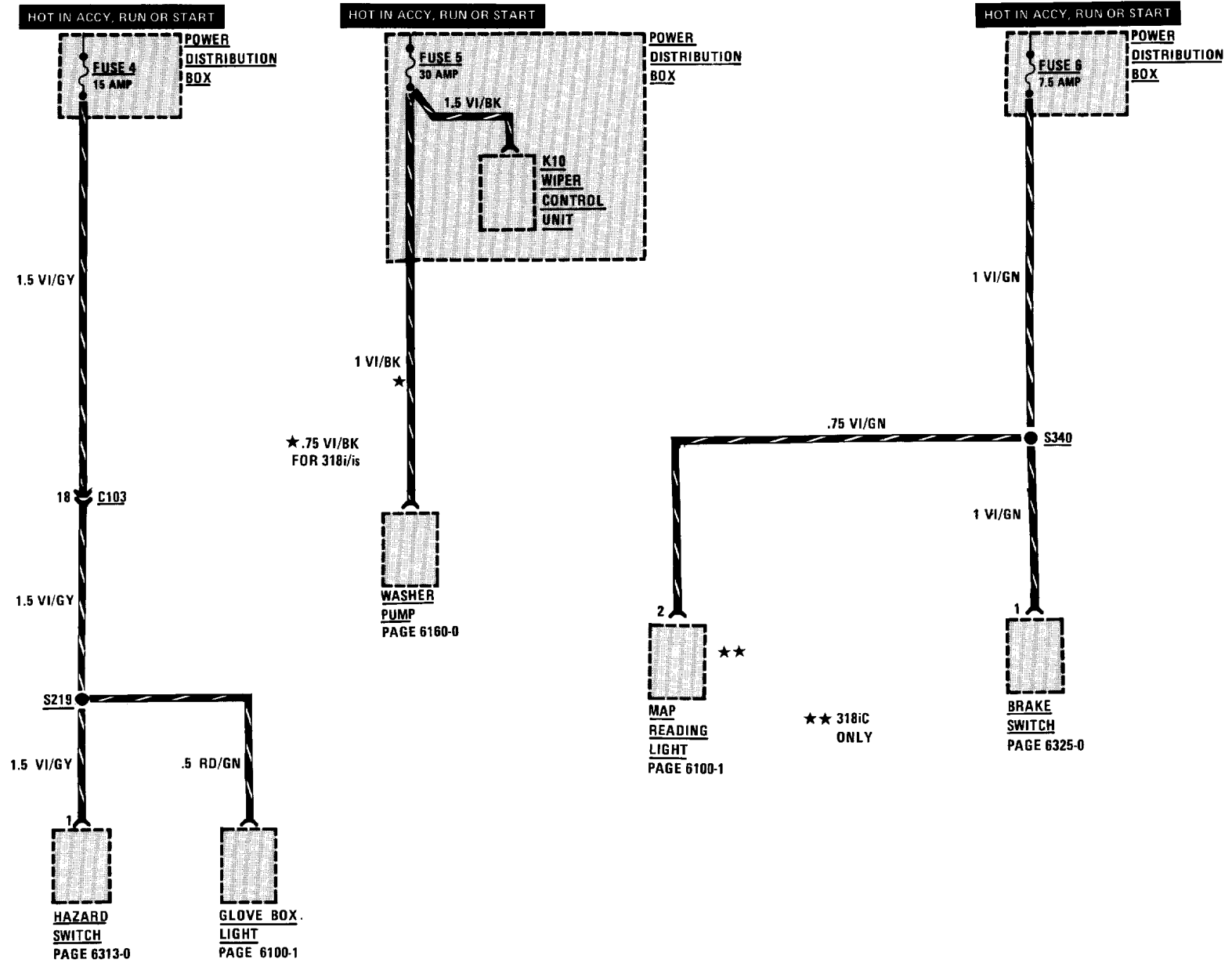


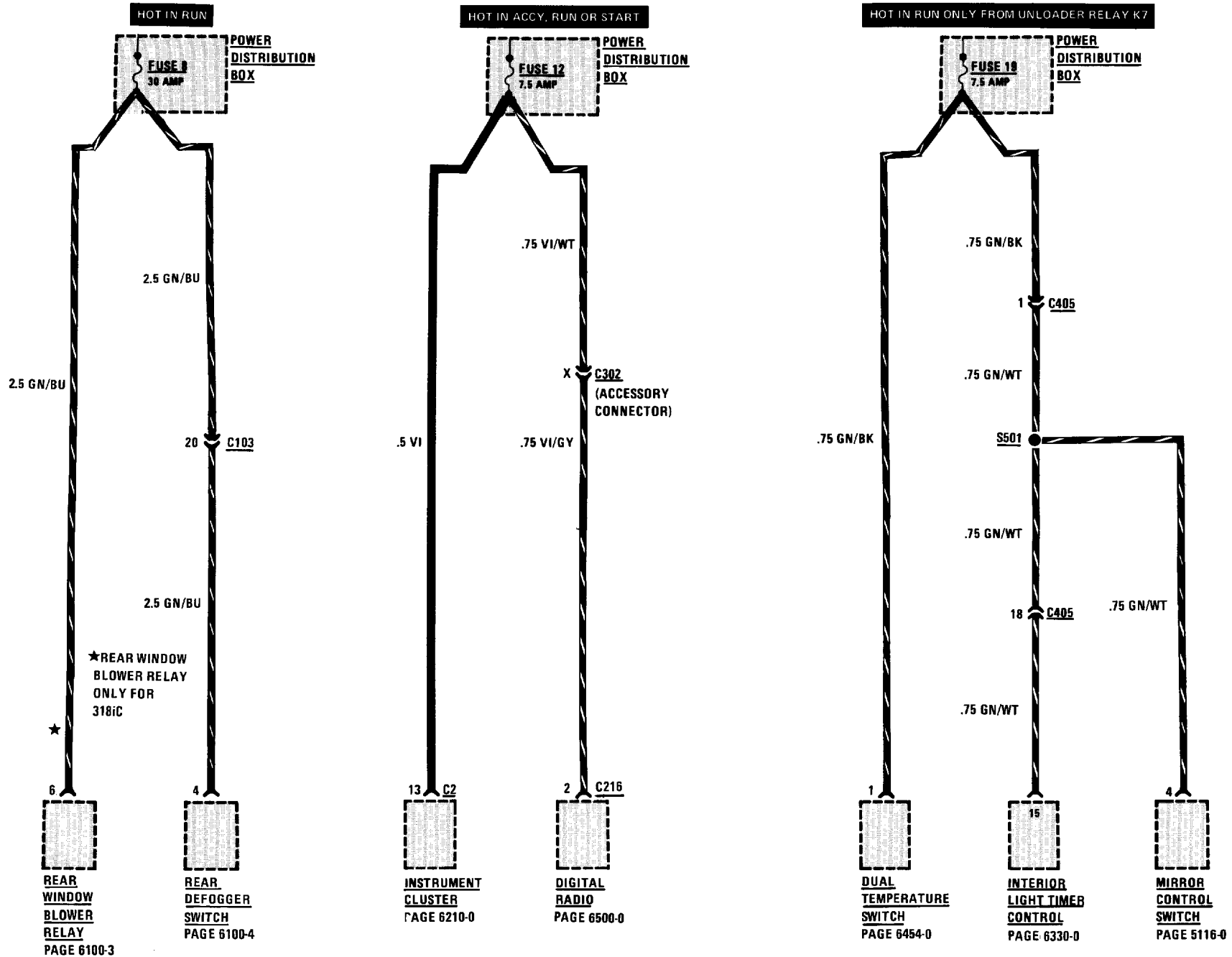
POWER DISTRIBUTION BOX



# 0670-6 POWER DISTRIBUTION

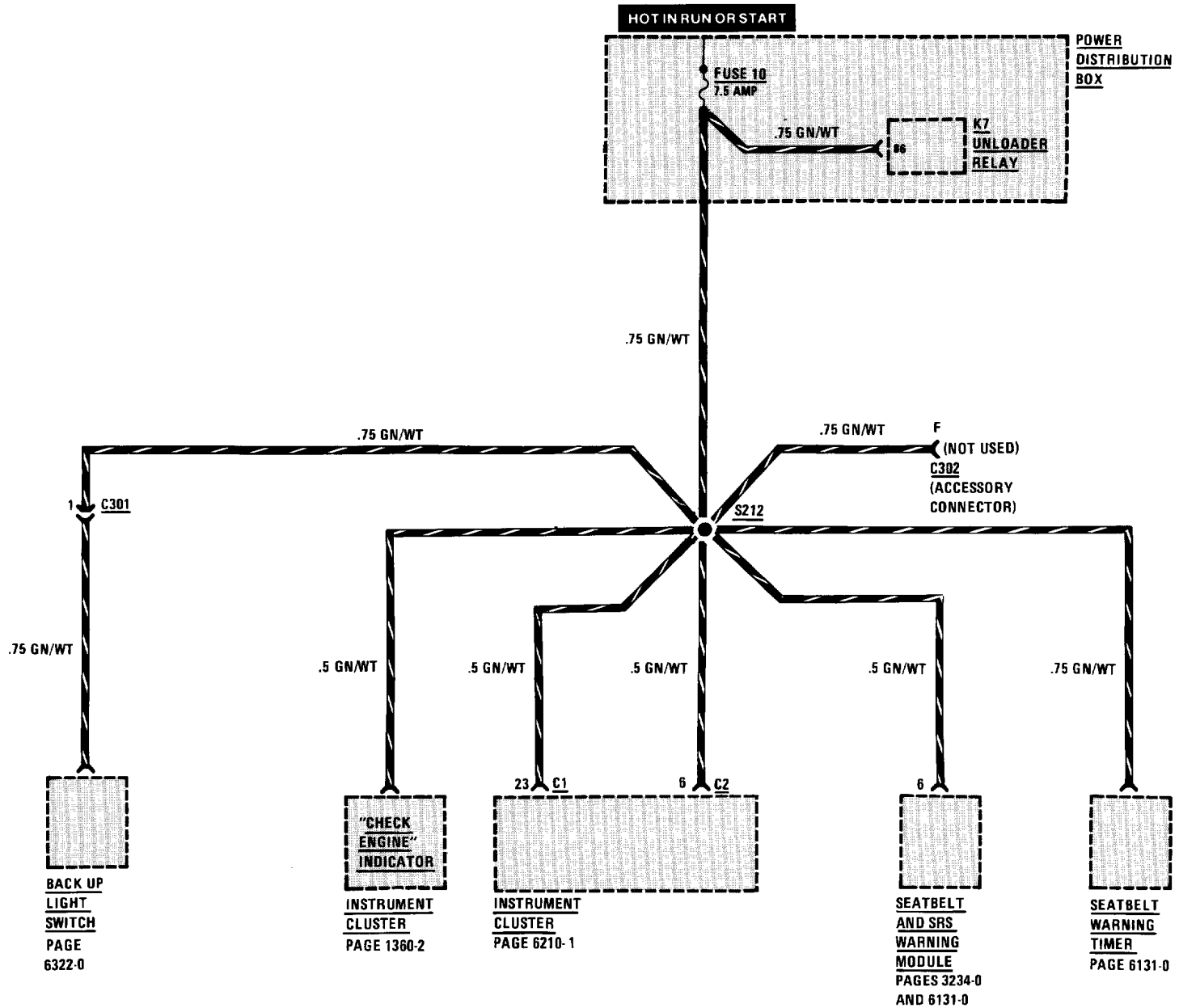
## FUSE DETAILS: FUSES 4, 5, AND 6





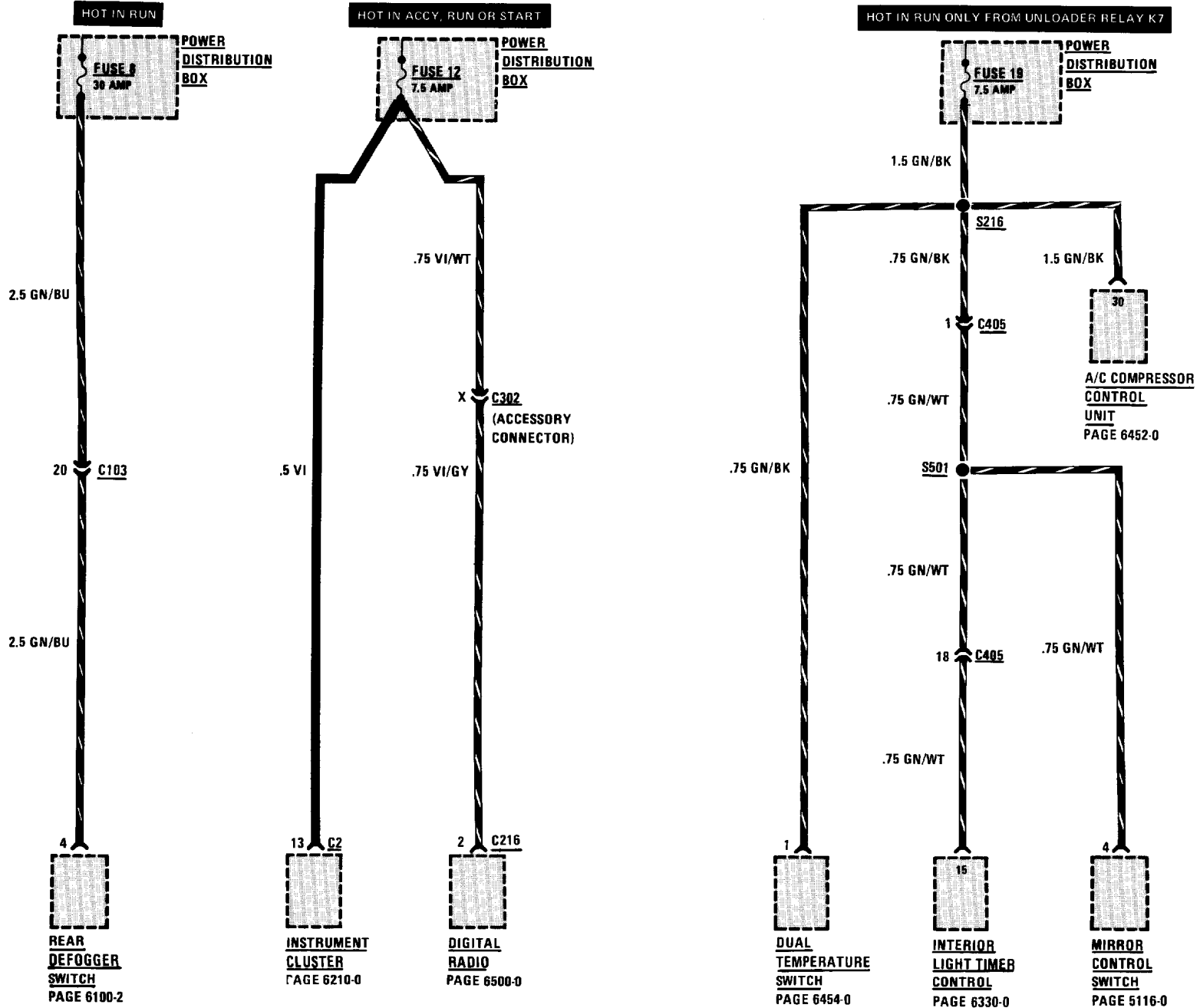


FUSE DETAILS: FUSE 10

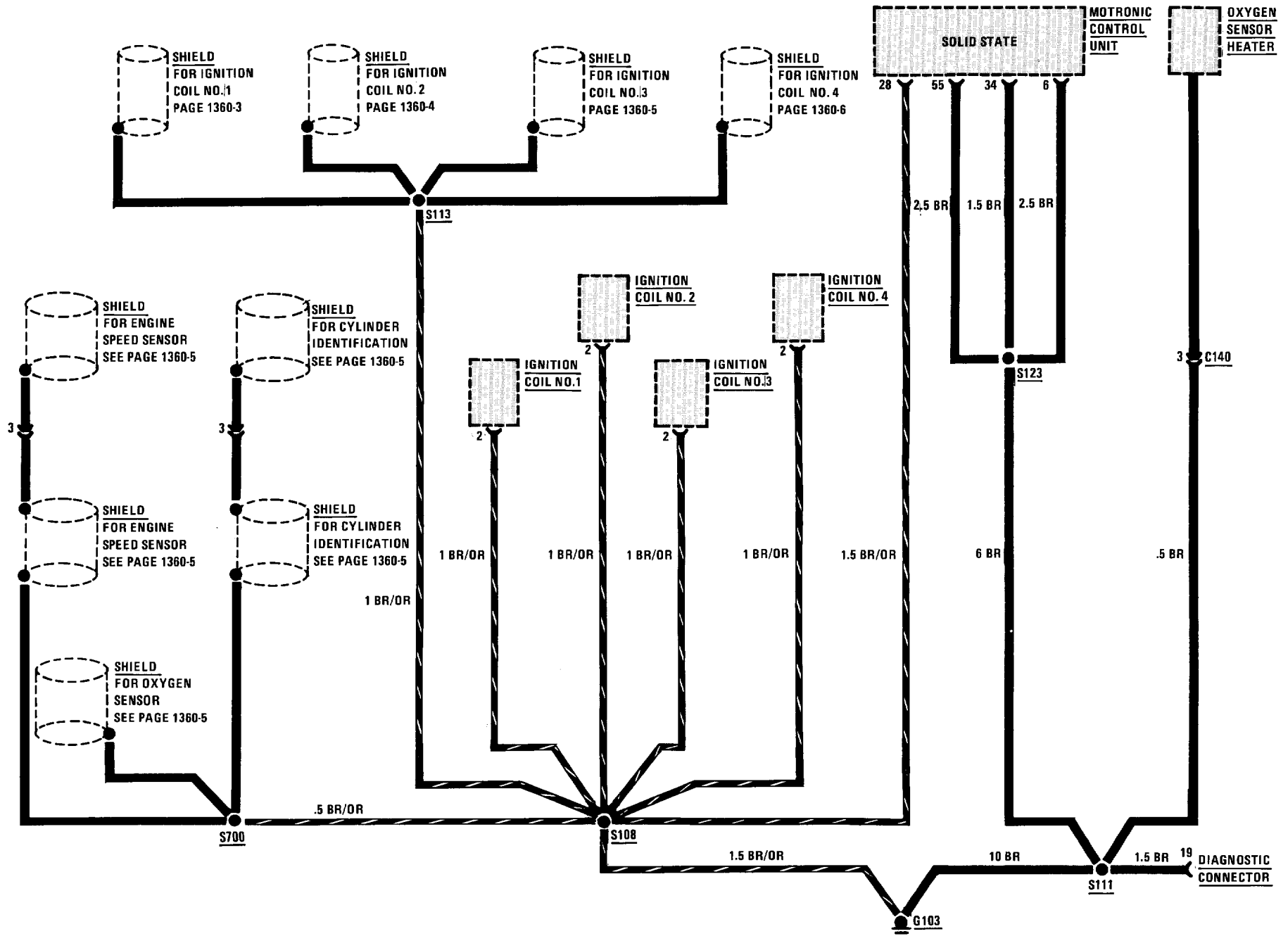


# 0670-12 POWER DISTRIBUTION

## FUSE DETAILS: FUSE 8, 12 AND 19 318i/is

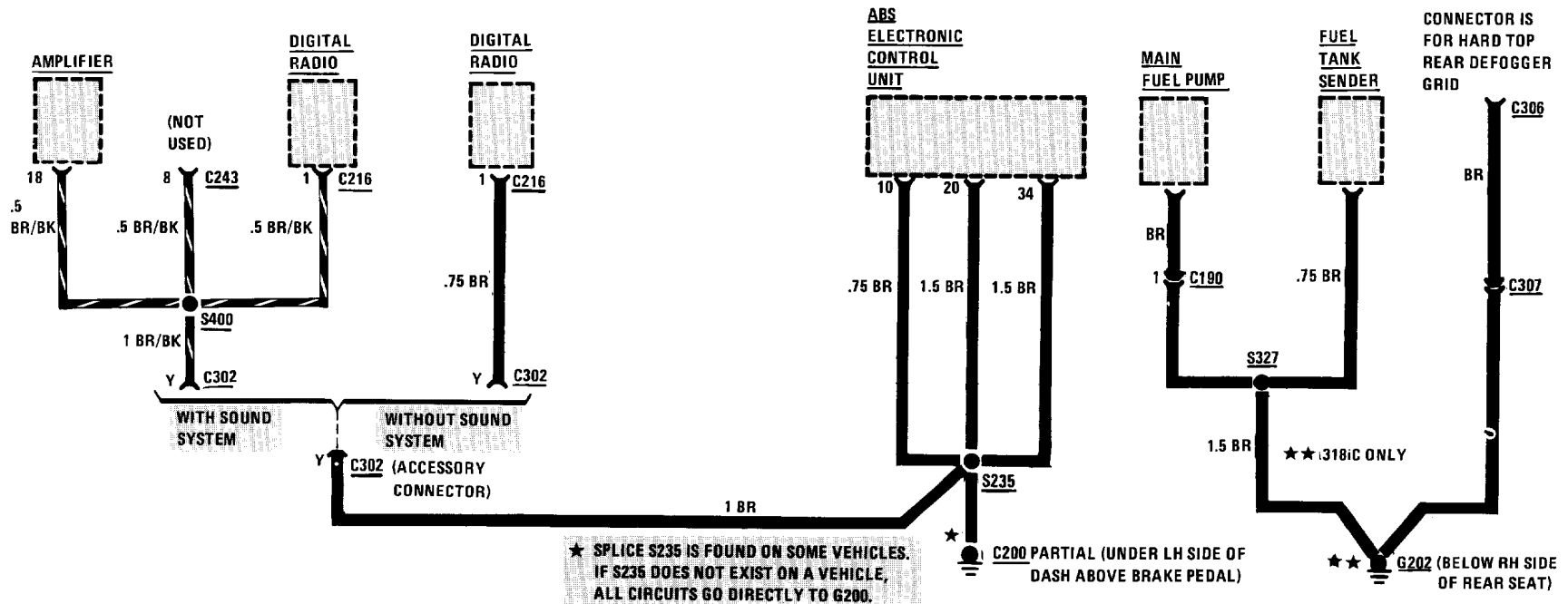
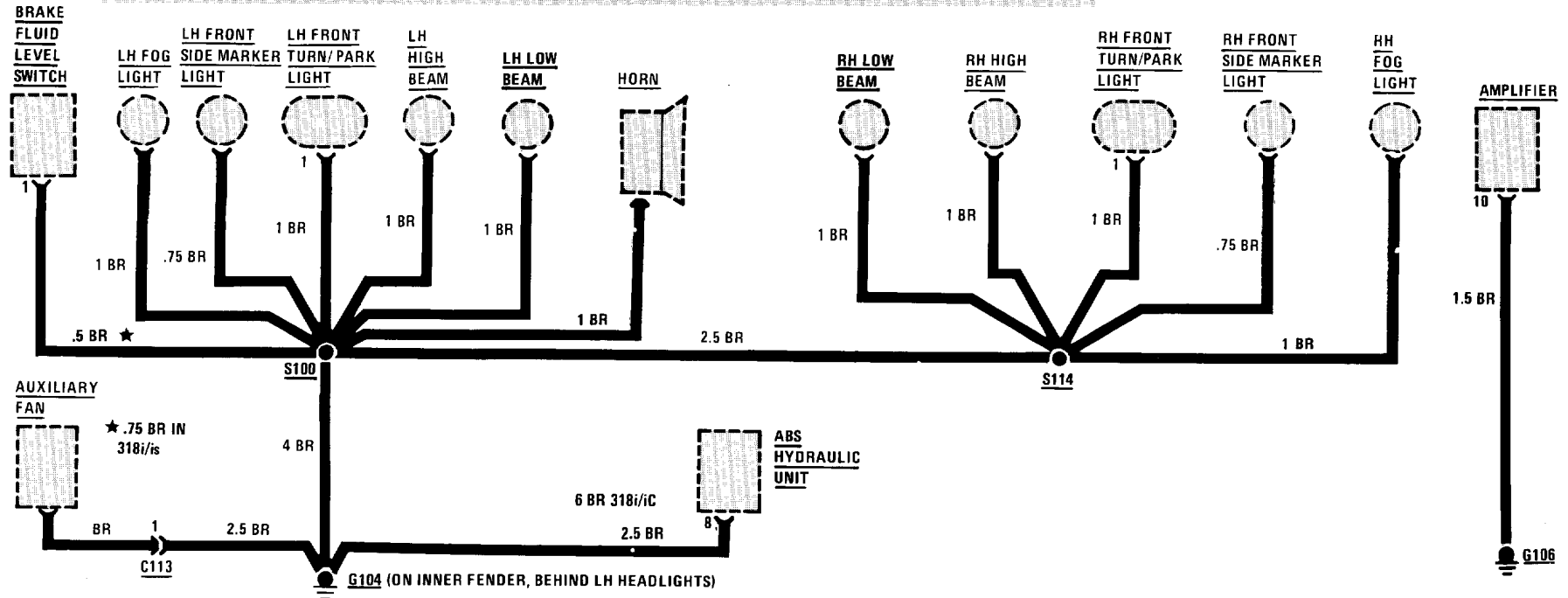


**POWER DISTRIBUTION 0670-13**  
**GROUND DISTRIBUTION: G103**



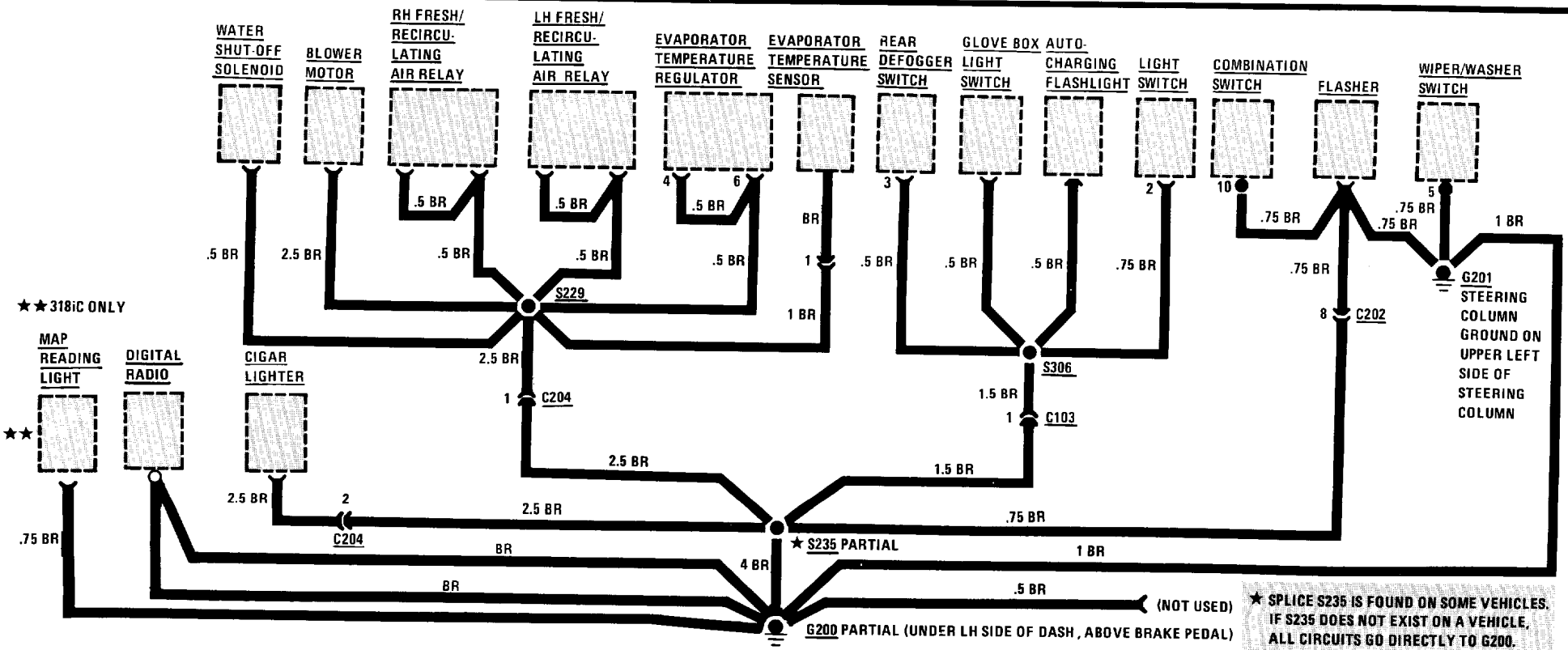
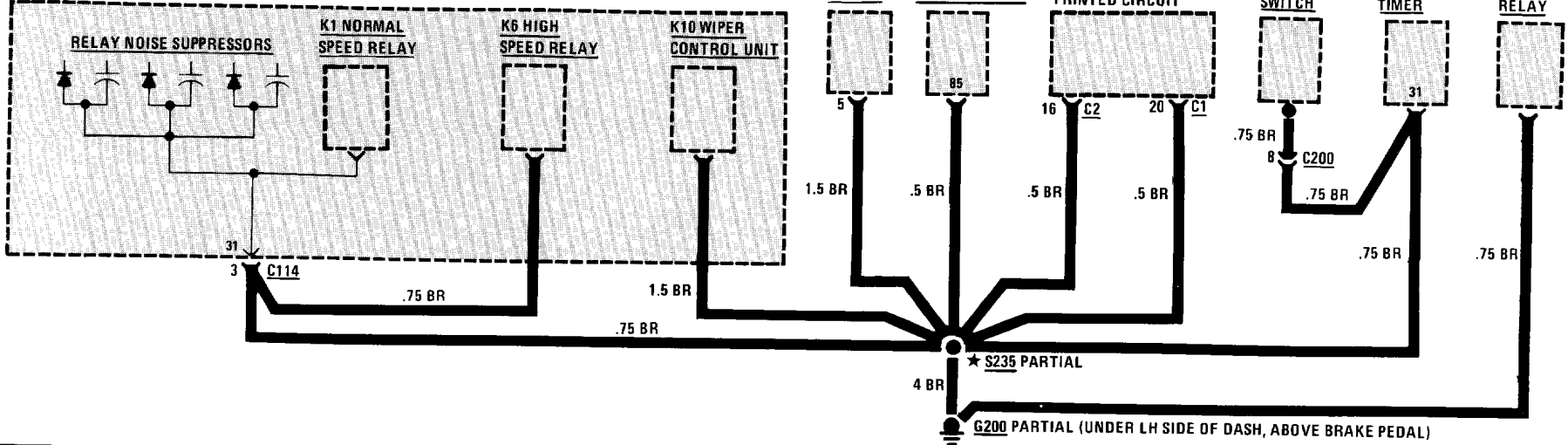
# 0670-14 POWER DISTRIBUTION

## GROUND DISTRIBUTION: G104, G106 AND G200 (PARTIAL) AND G202



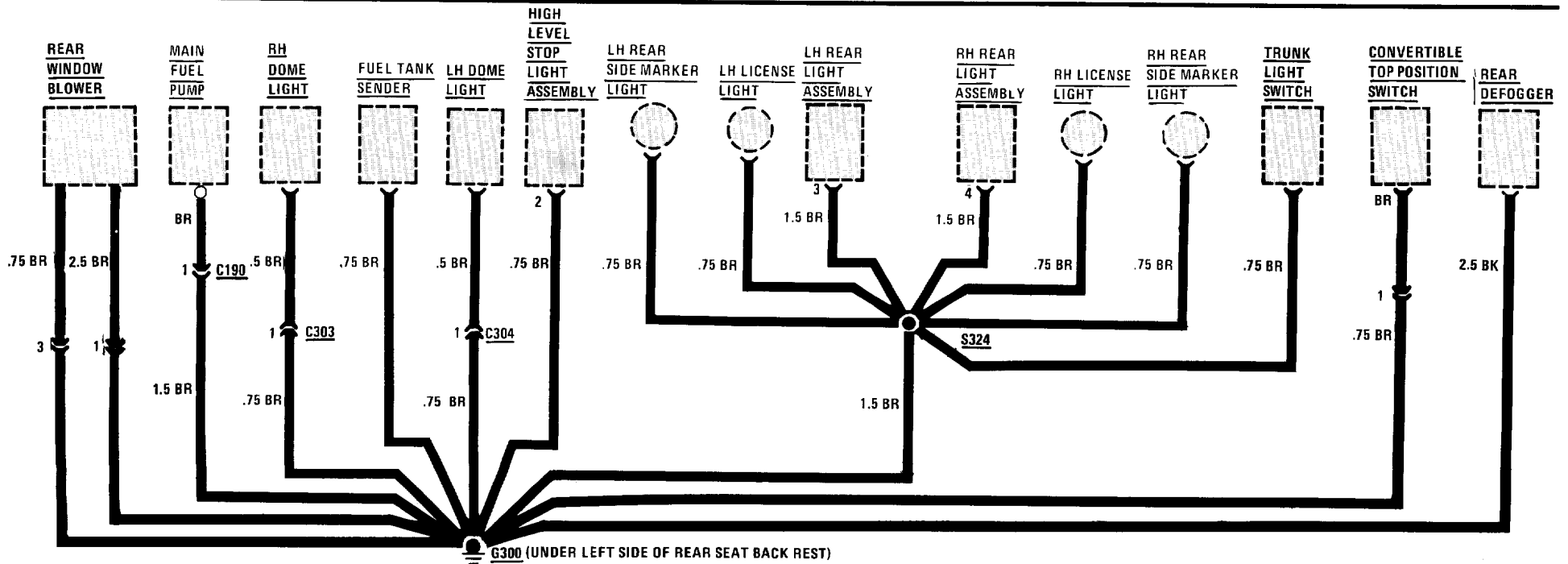
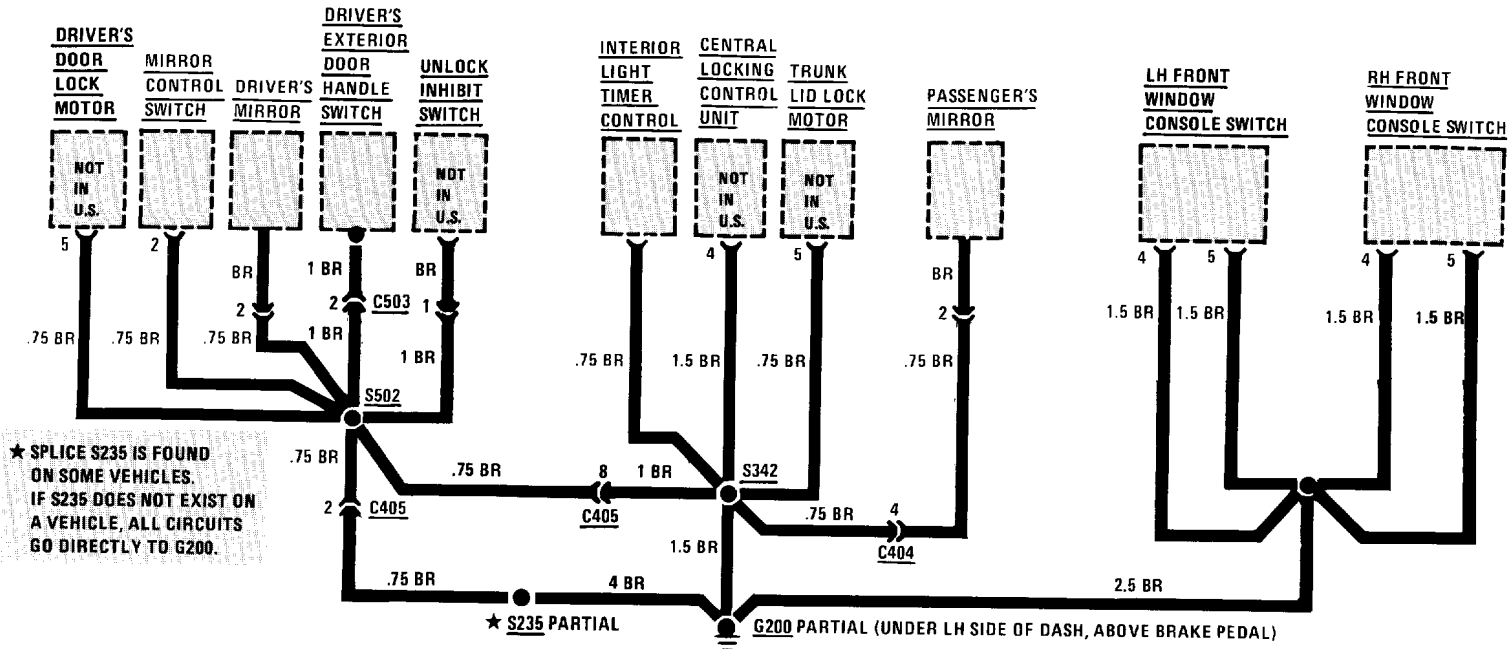
GROUND DISTRIBUTION: G200 (PARTIAL) AND G201

POWER DISTRIBUTION BOX

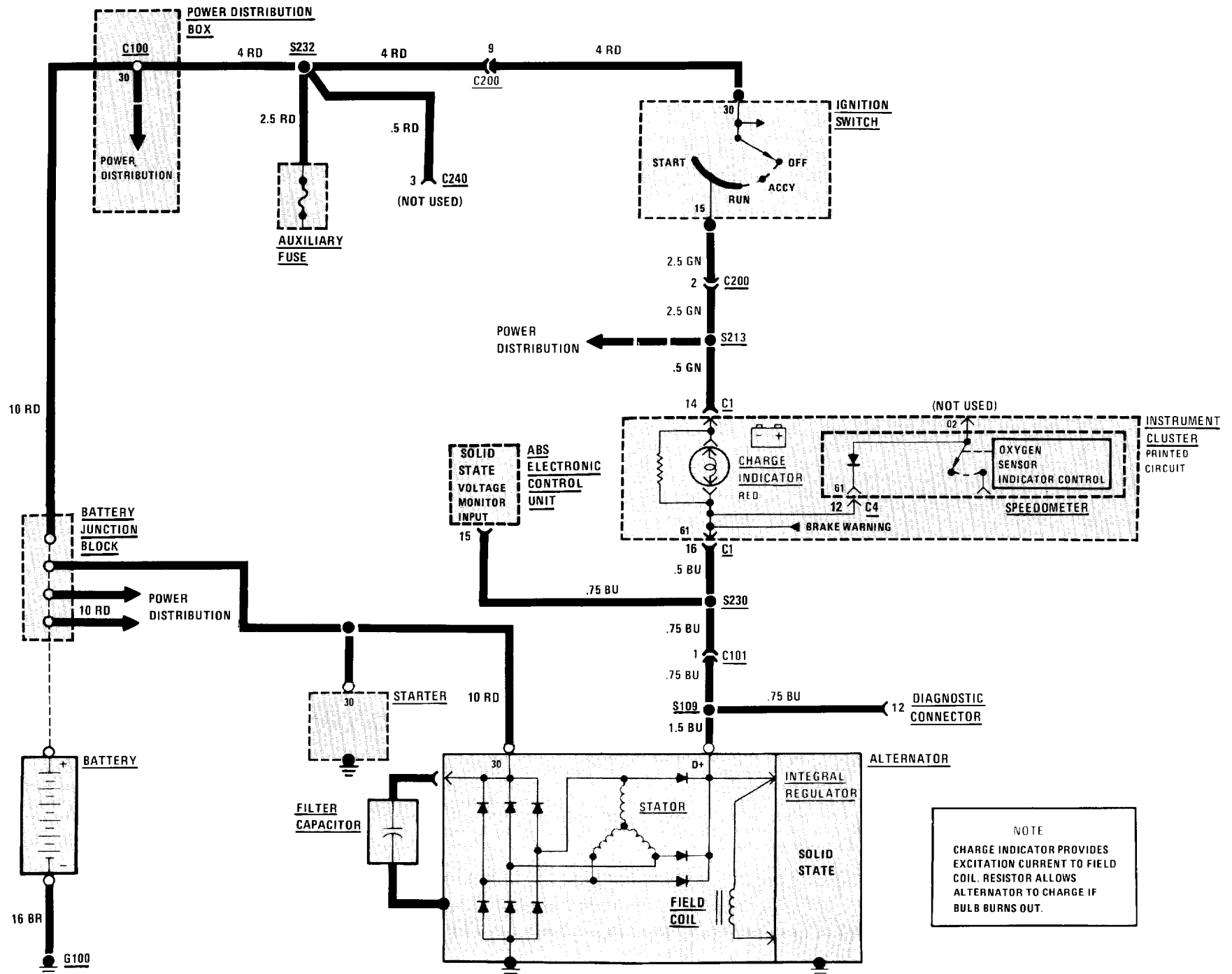


# 0670-16 POWER DISTRIBUTION

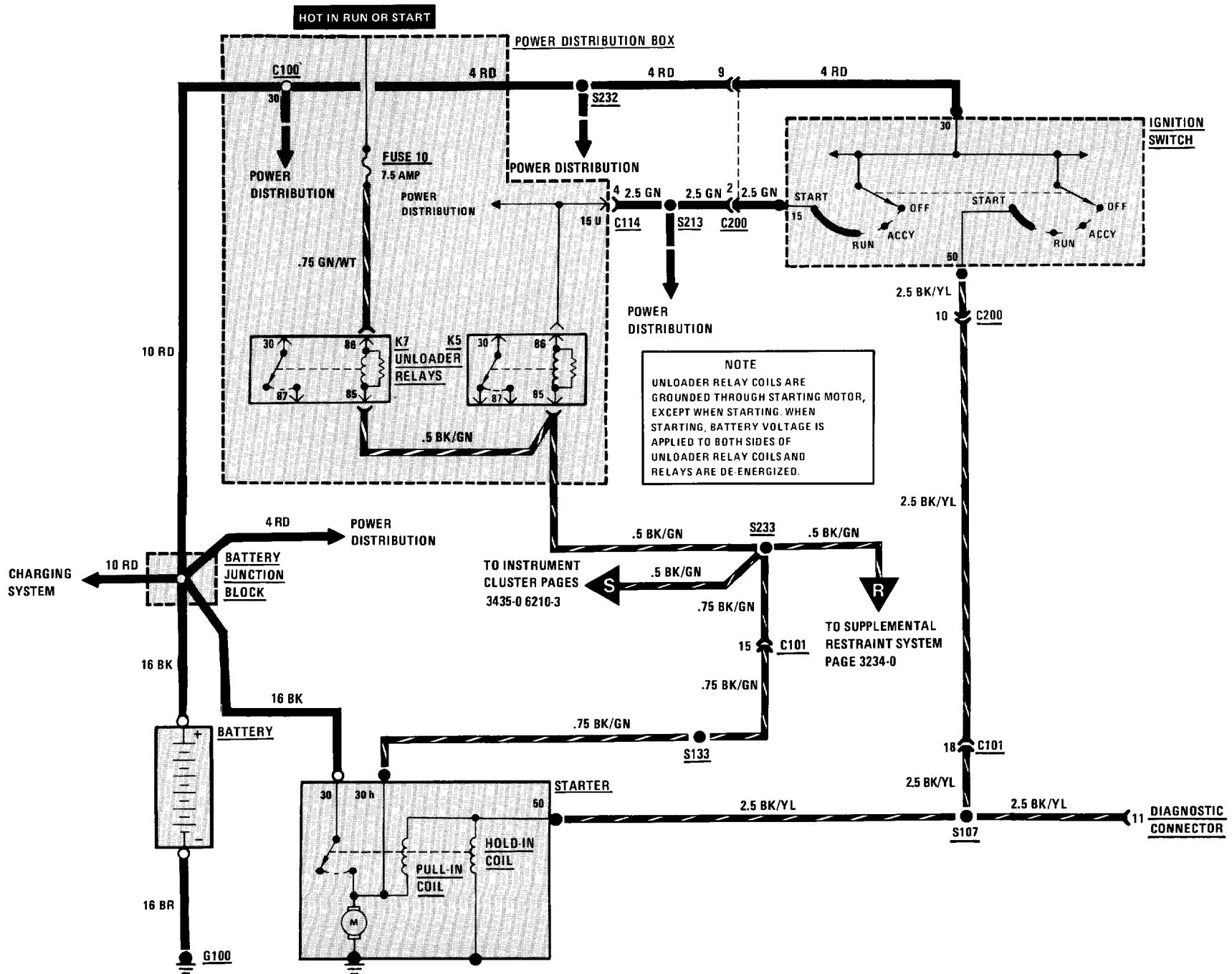
## GROUND DISTRIBUTION: G200 (PARTIAL) AND G300



# 1230-0 CHARGE



# 1240-0 START





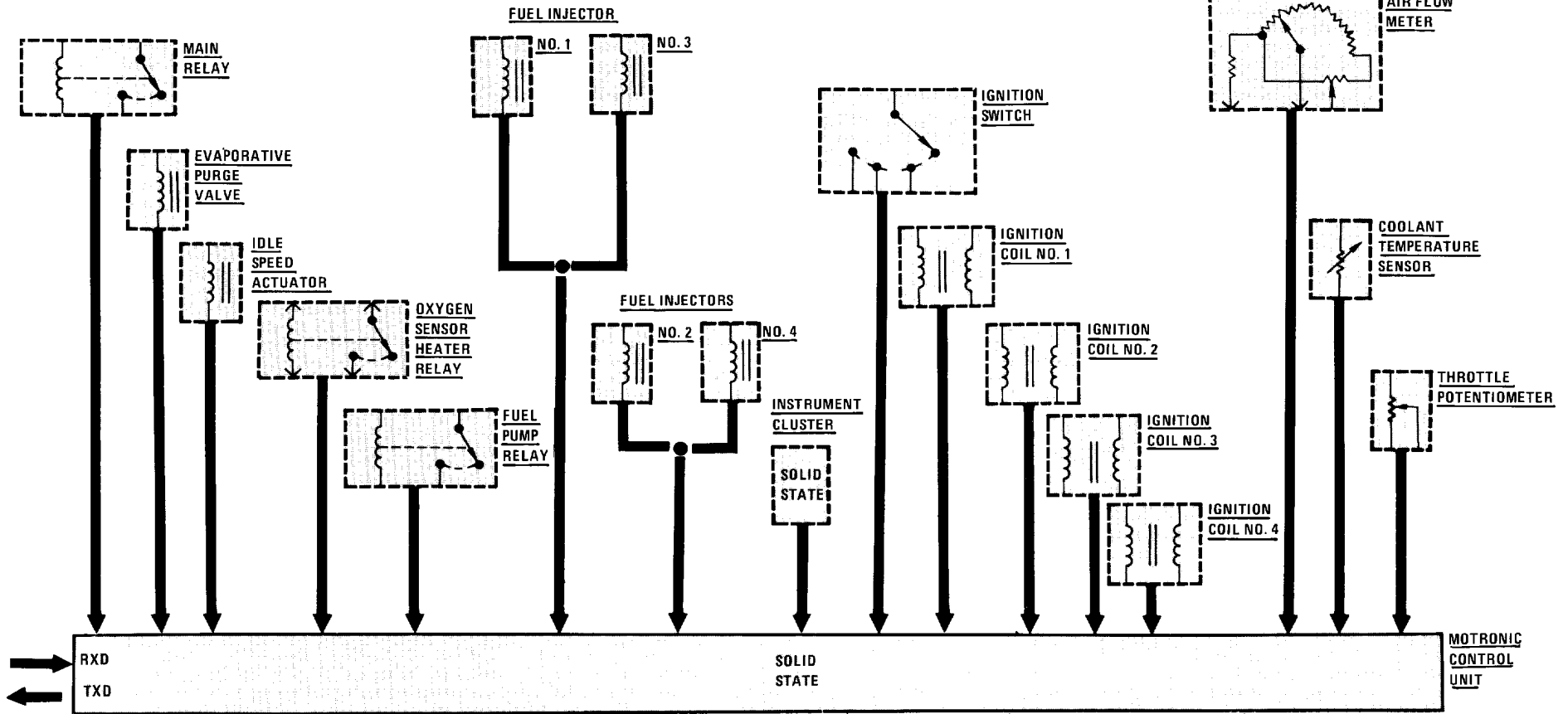
ENGINE BLOCK DIAGRAM

PAGE 1360-1

PAGE 1360-2

PAGE 1360-3

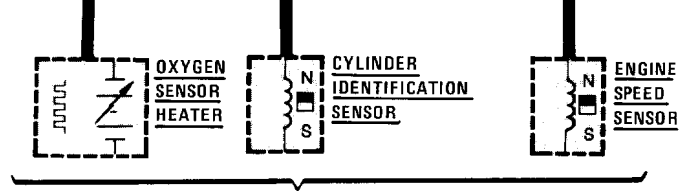
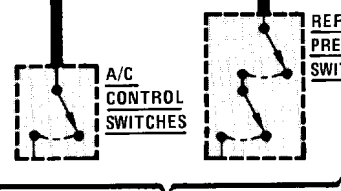
PAGE 1360-4

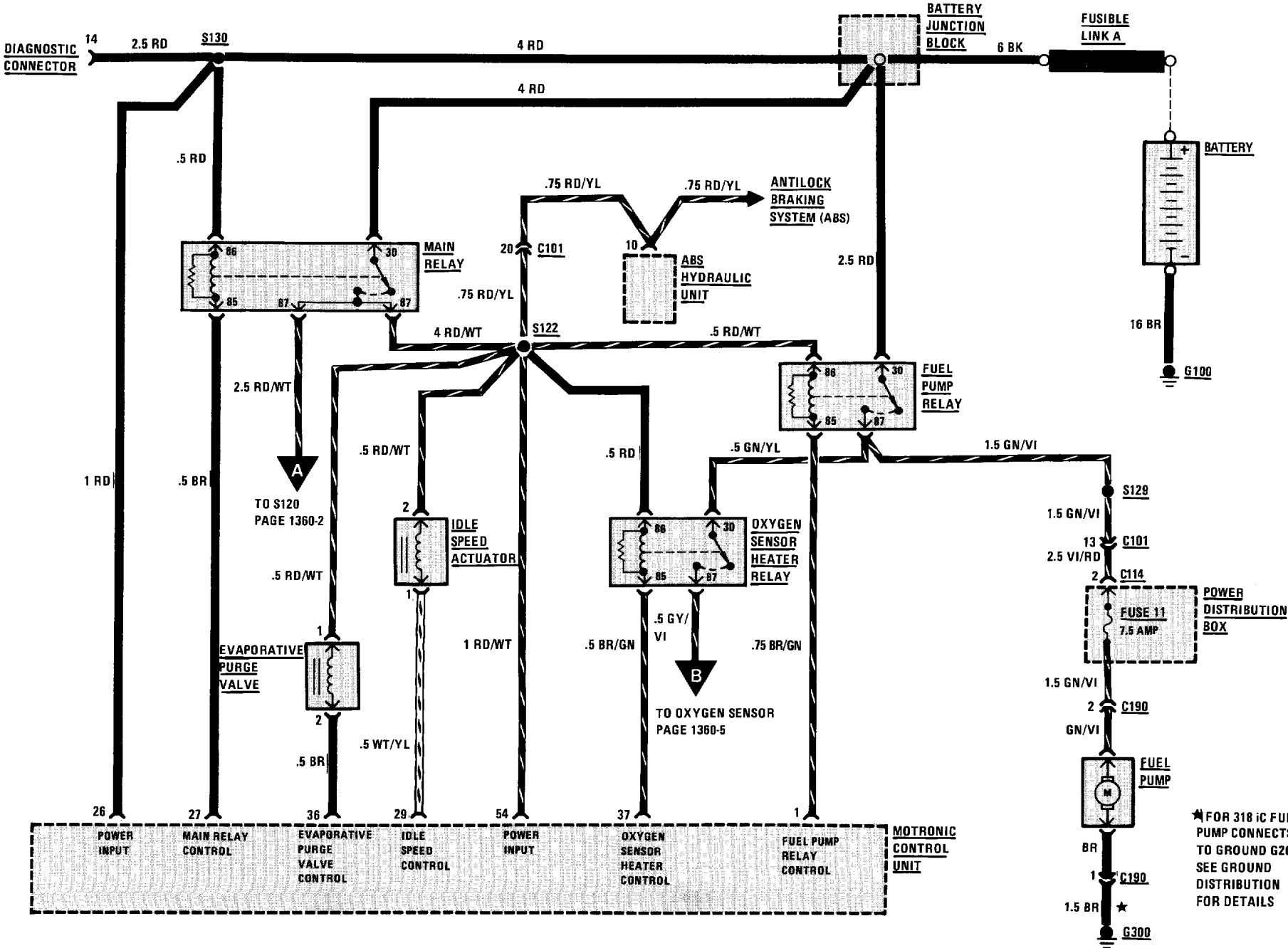


PAGE 1360-5

PAGE 1360-2

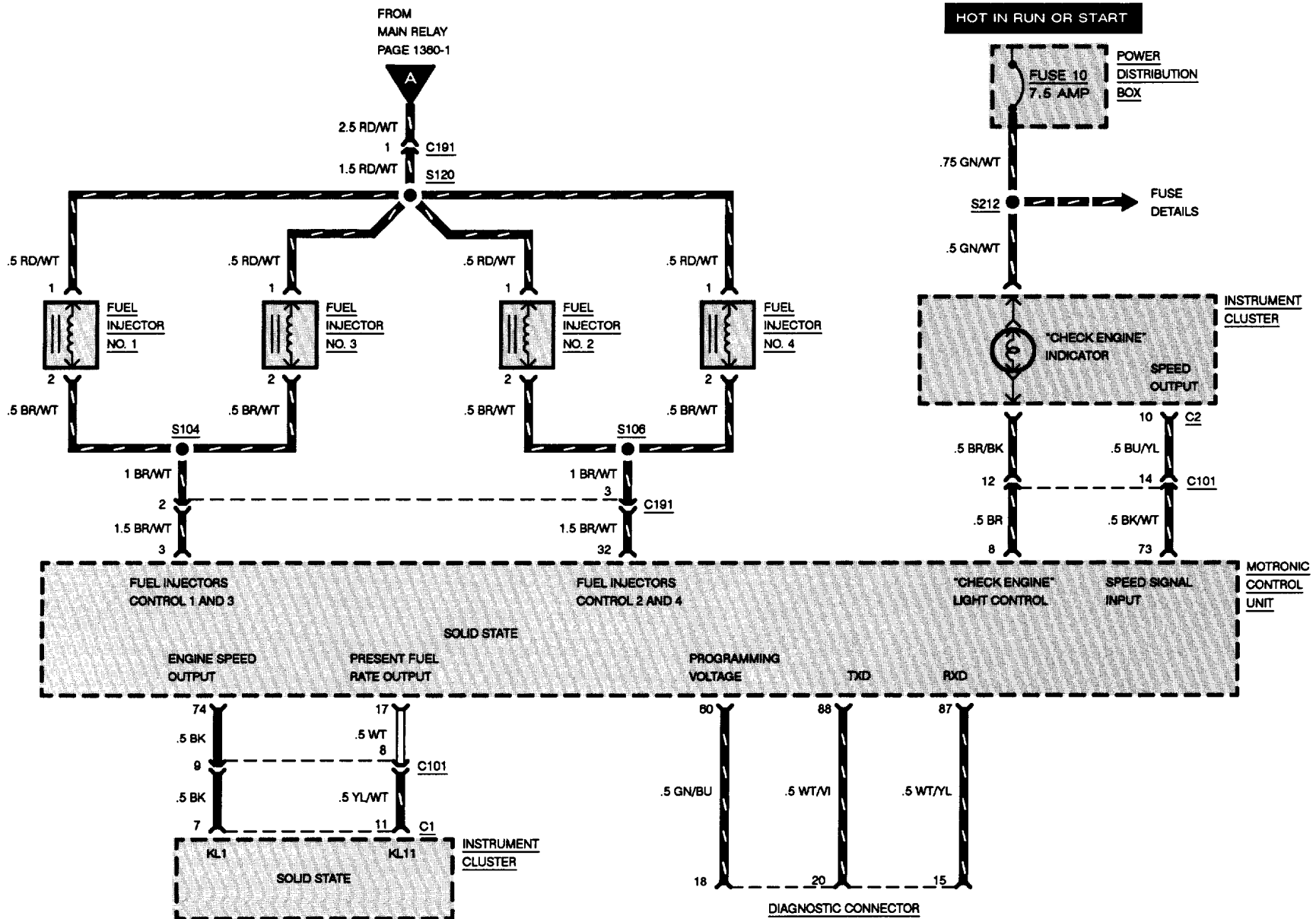
PAGE 1360-5

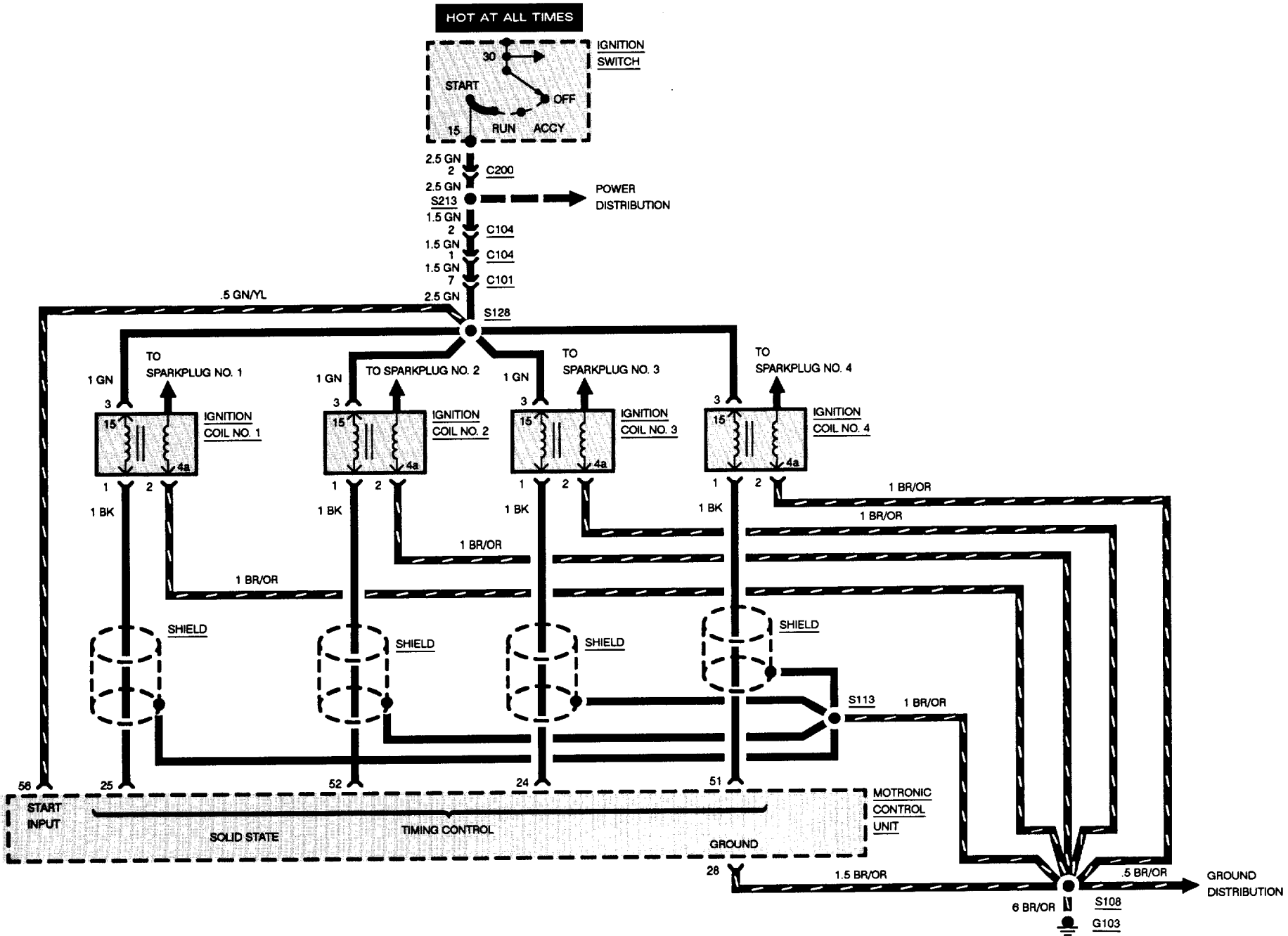




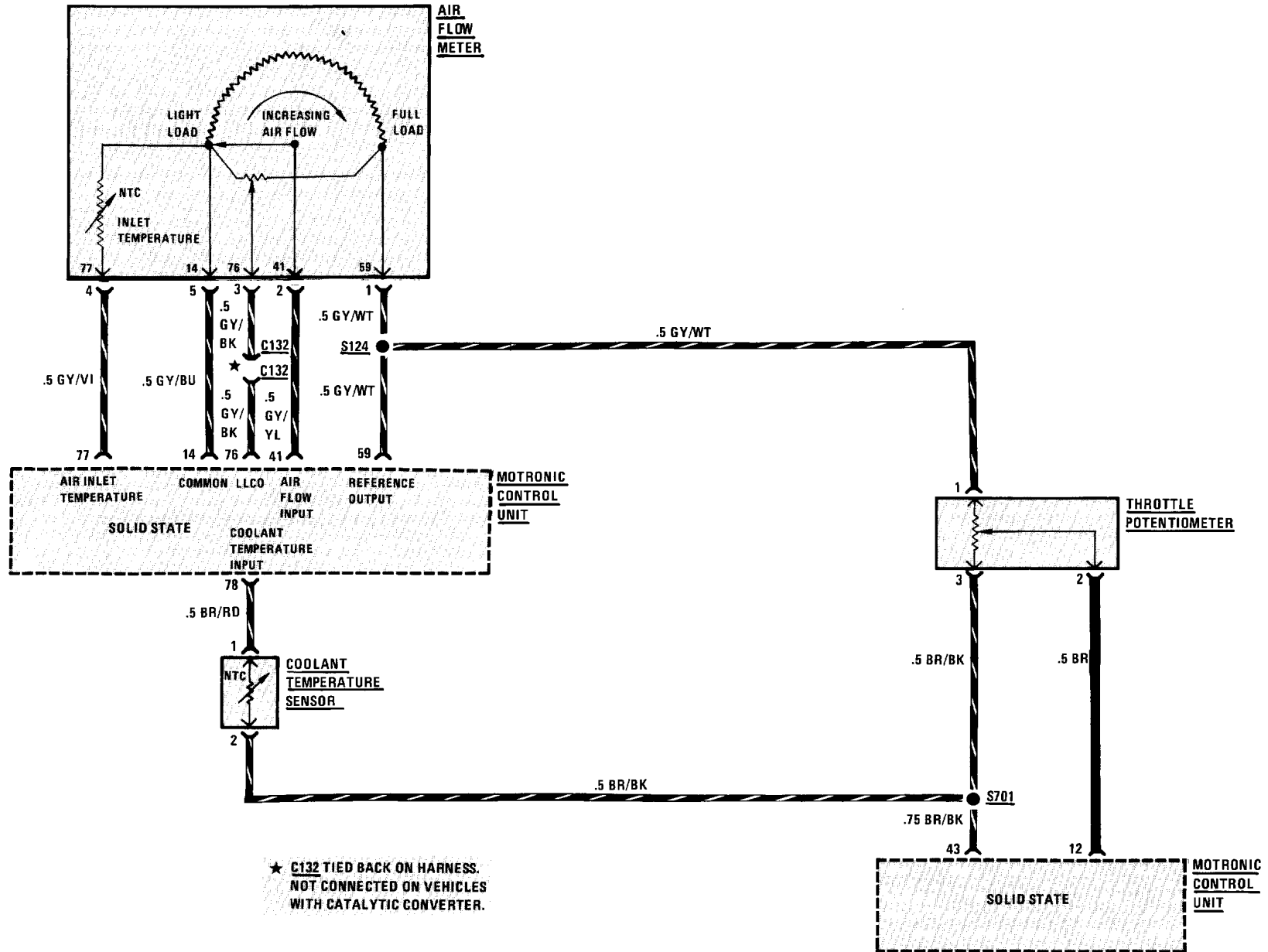
★ FOR 318 iC FUEL PUMP CONNECTS TO GROUND G202 SEE GROUND DISTRIBUTION FOR DETAILS

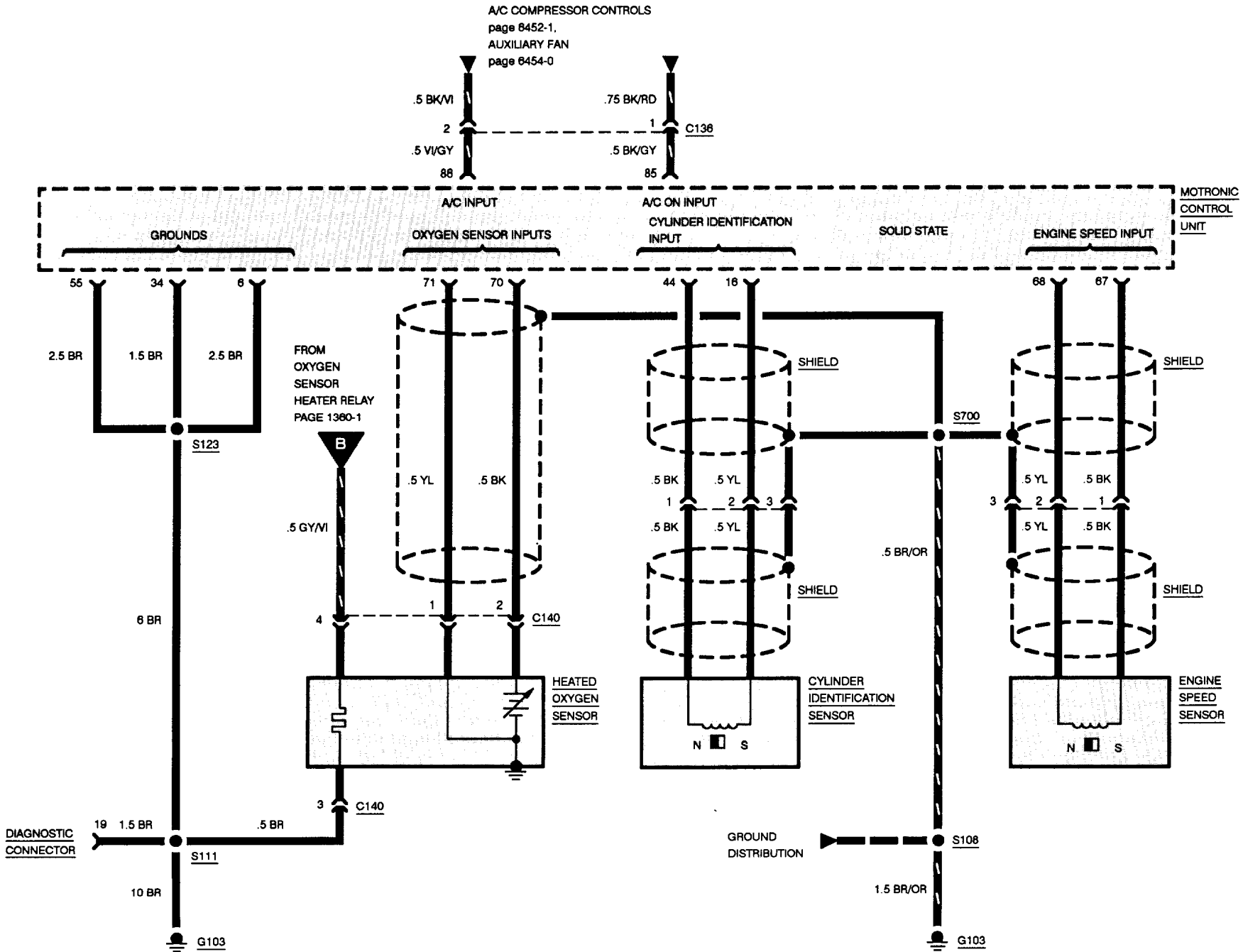
# 1360-2 INJECTION ELECTRONICS



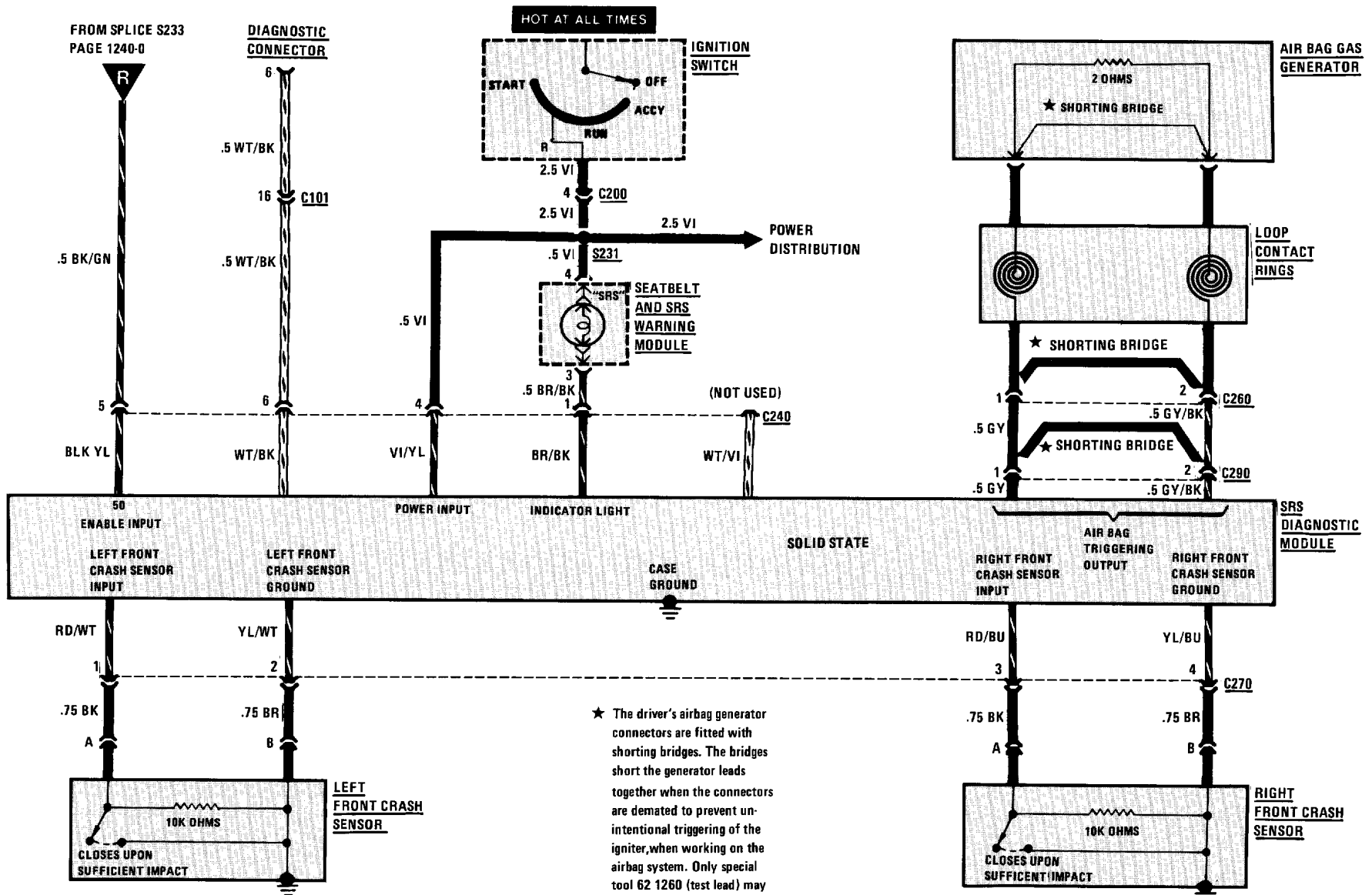


# 1360-4 INJECTION ELECTRONICS



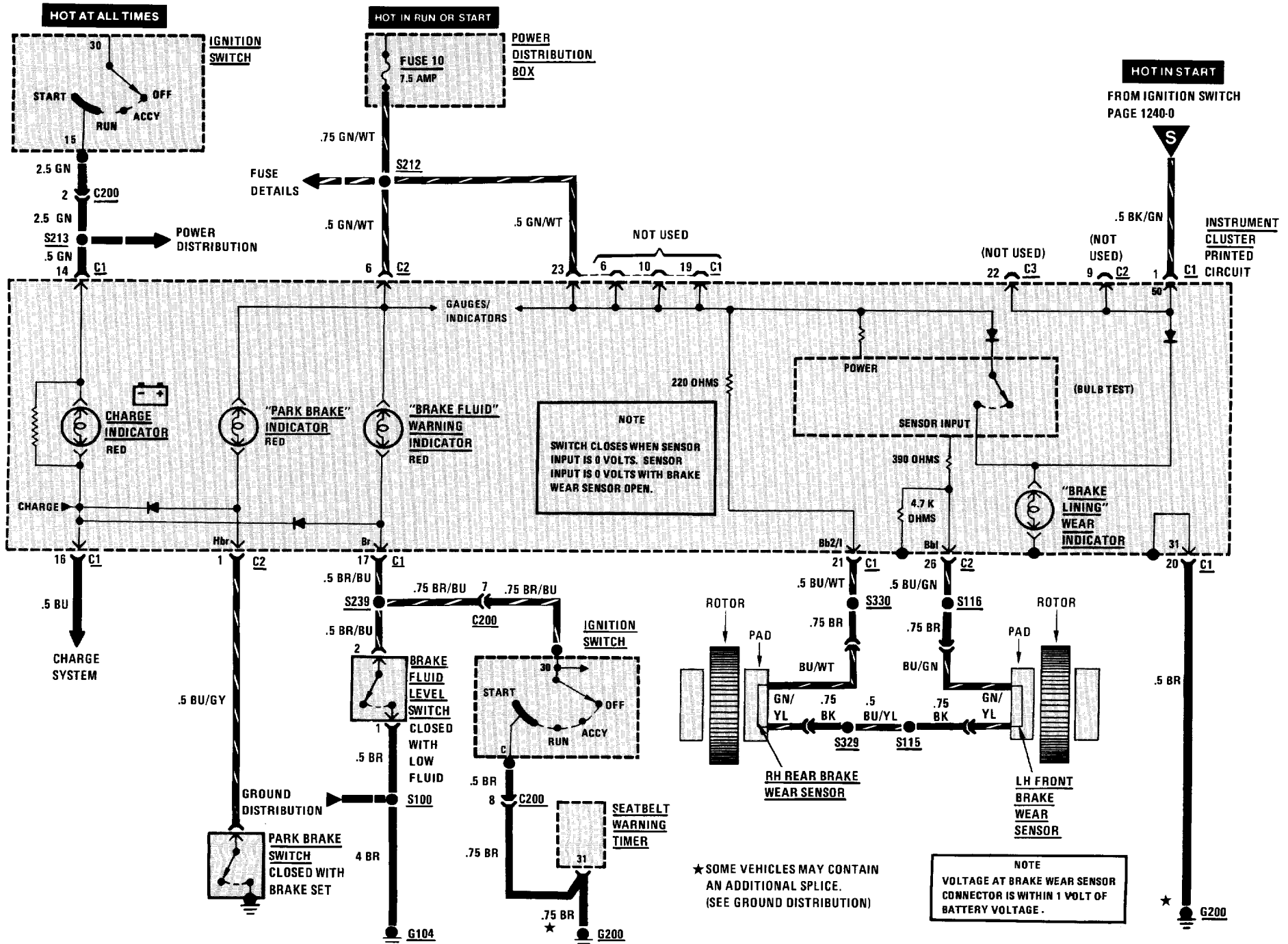


# 3234-0 SUPPLEMENTAL RESTRAINT SYSTEM (SRS)



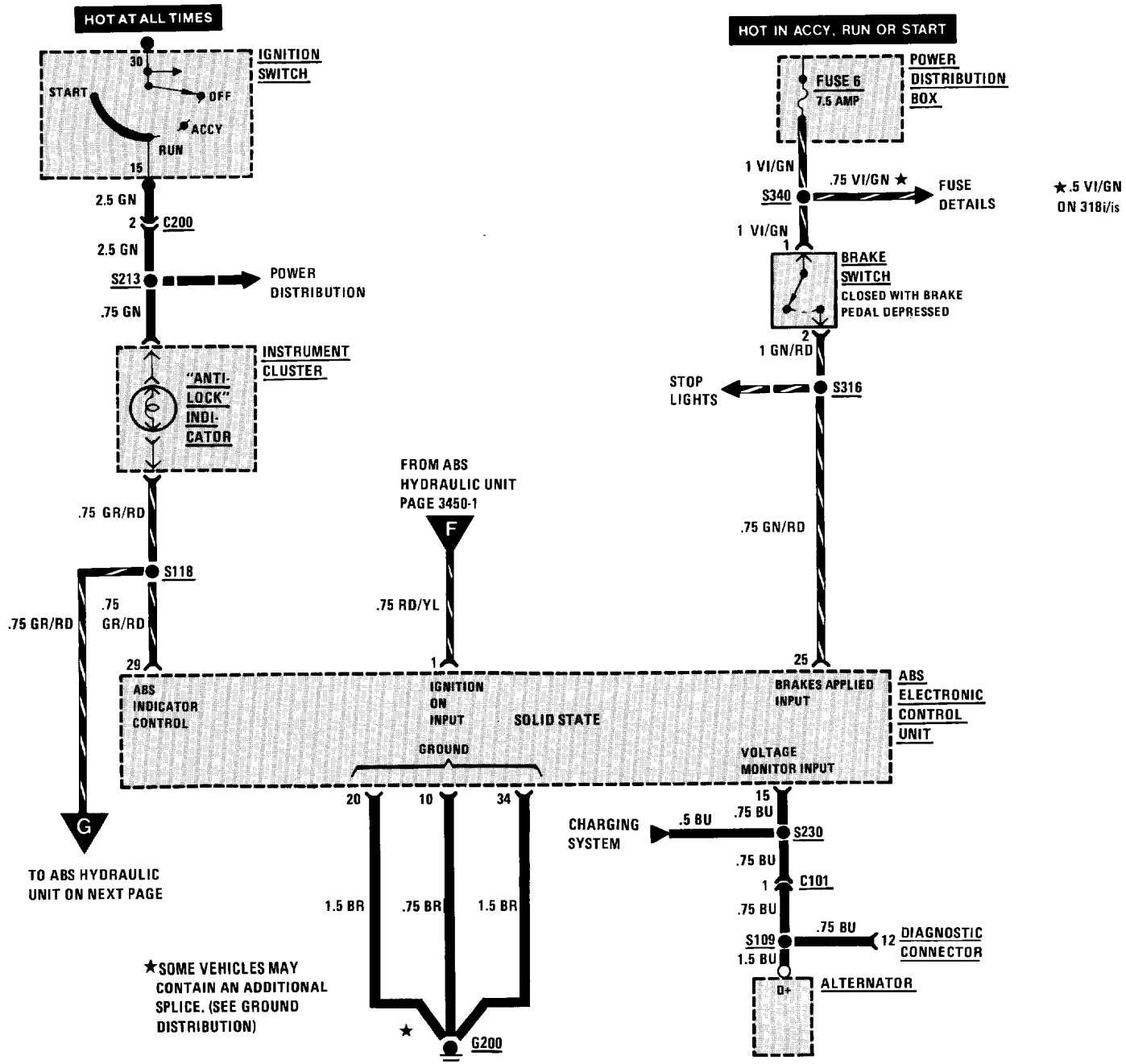
★ The driver's airbag generator connectors are fitted with shorting bridges. The bridges short the generator leads together when the connectors are demated to prevent unintentional triggering of the igniter, when working on the airbag system. Only special tool 62 1260 (test lead) may be used to check the wire loop and igniter resistance.

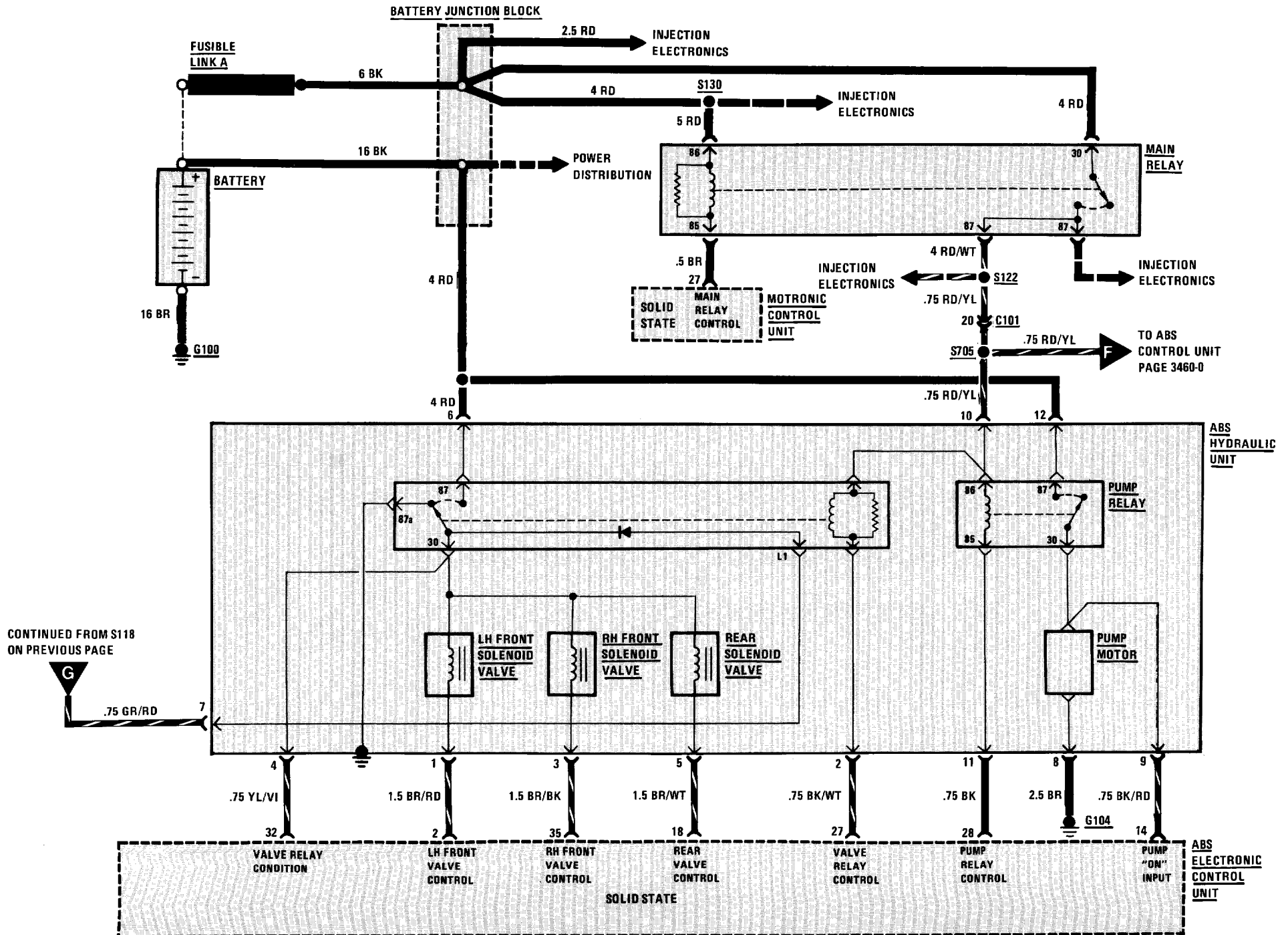
# 3435-0 BRAKE WARNING SYSTEM



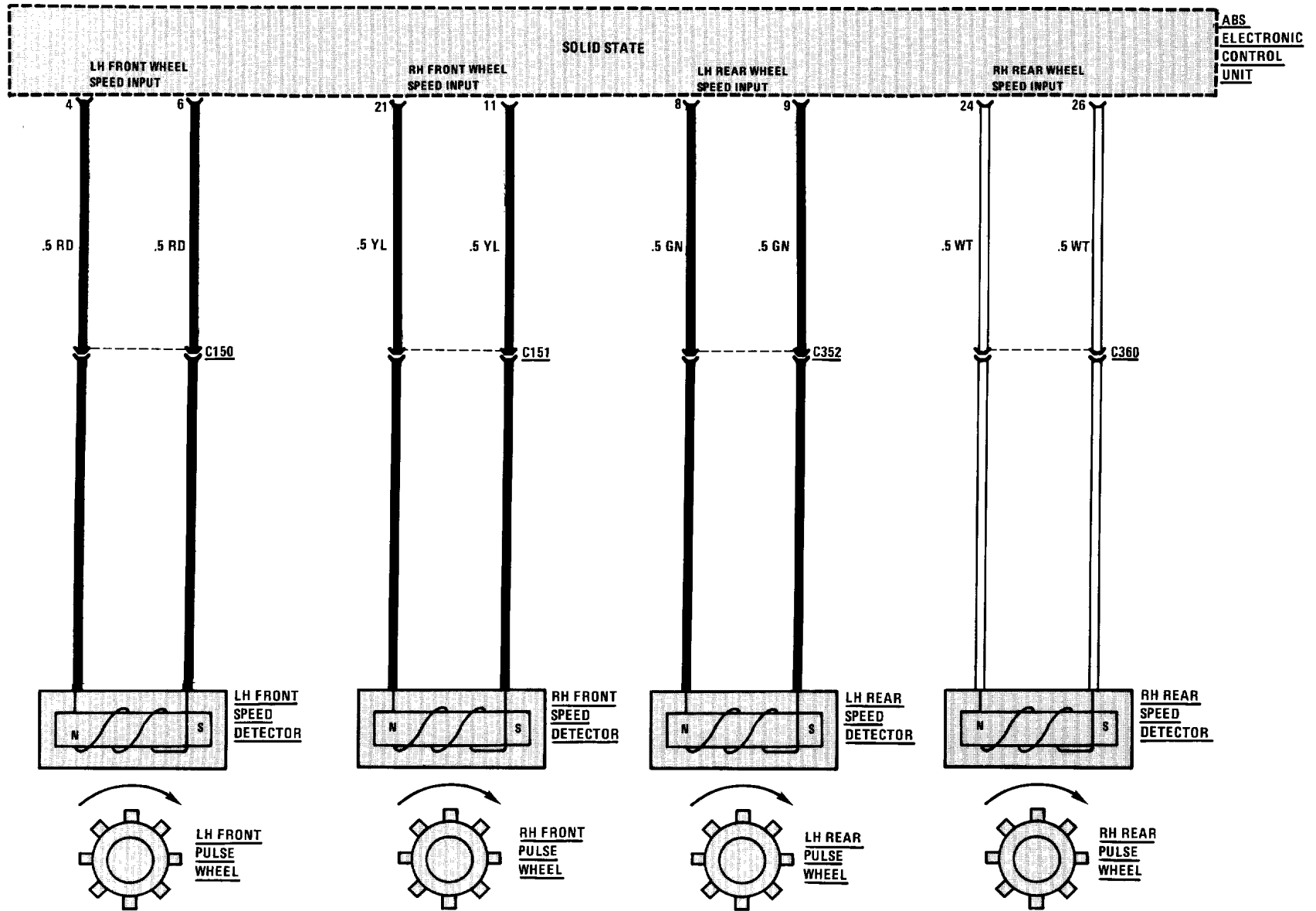


# 3450-0 ANTILOCK BRAKING SYSTEM (ABS)



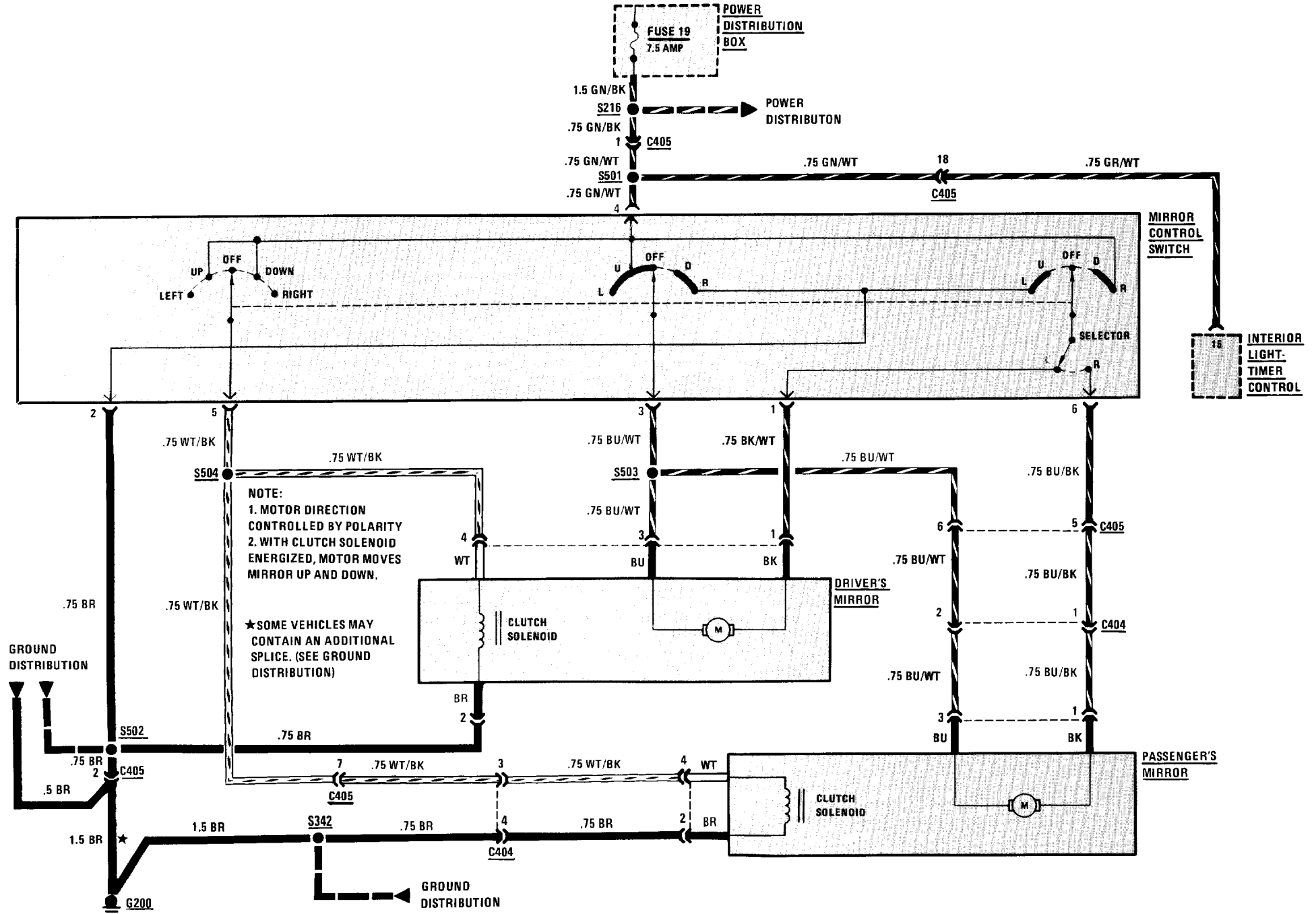


# 3450-2 ANTILOCK BRAKING SYSTEM (ABS)

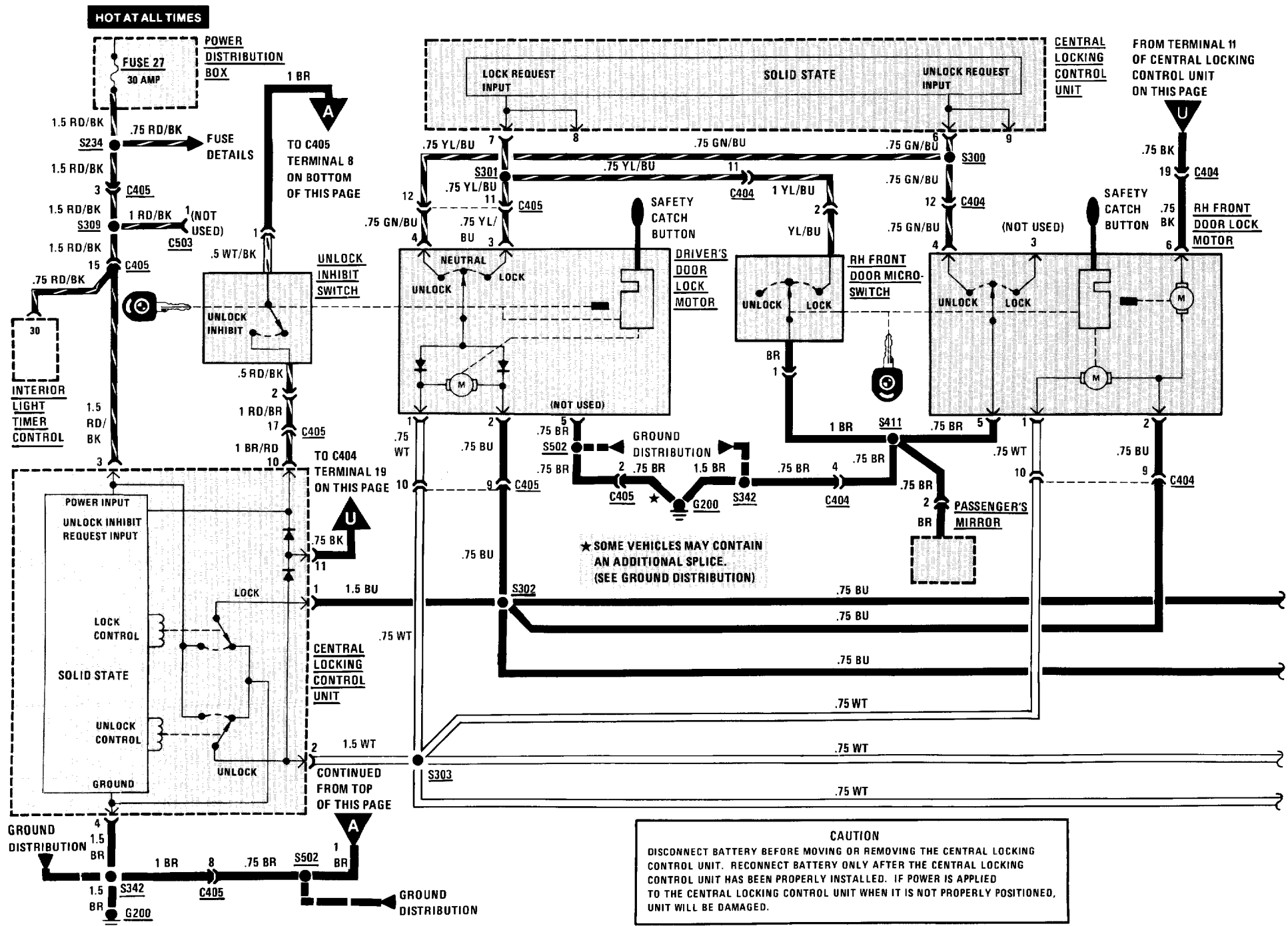


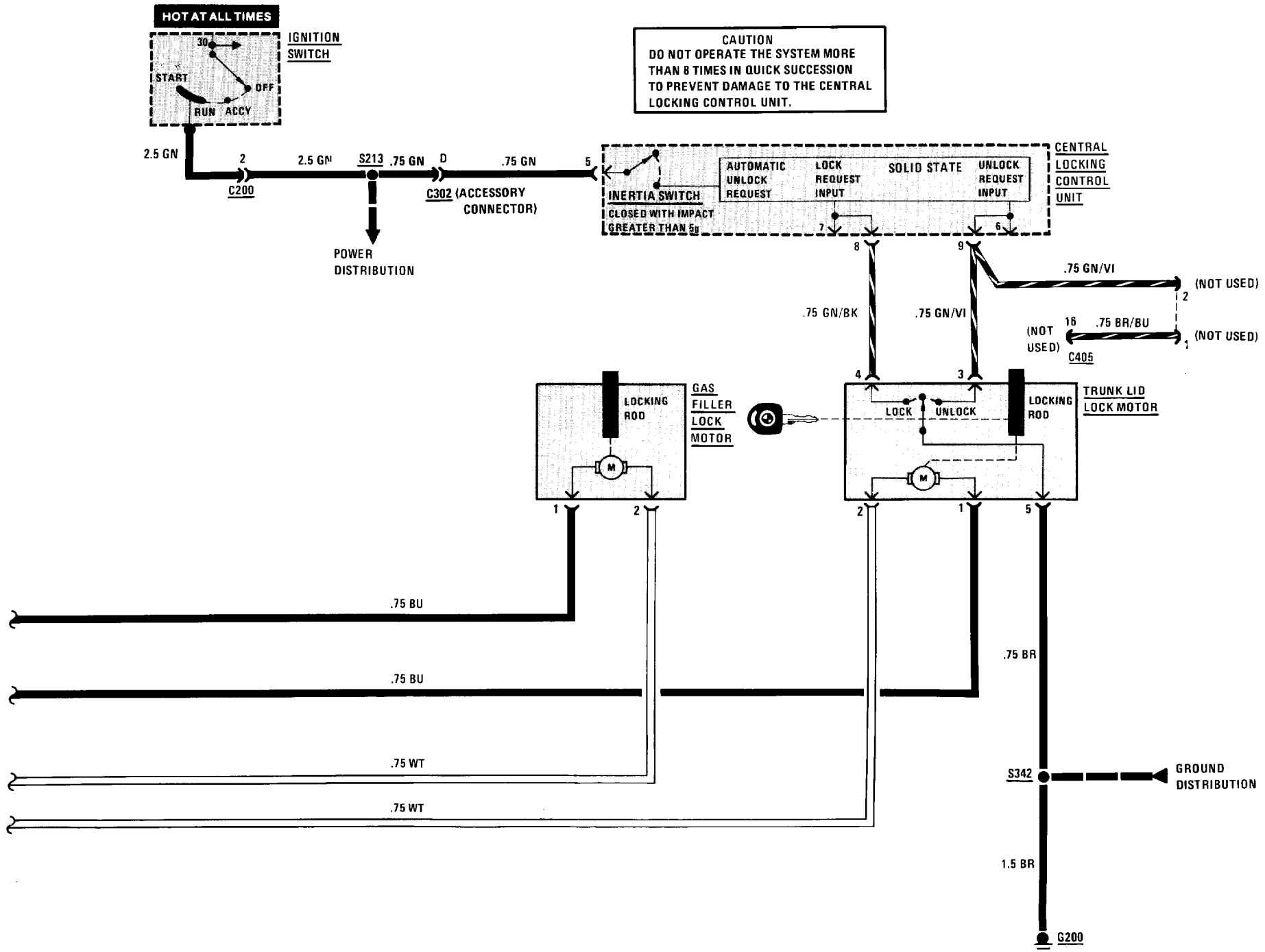
# 5116-0 POWER MIRRORS

HOT IN RUN ONLY FROM UNLOADER RELAY K7

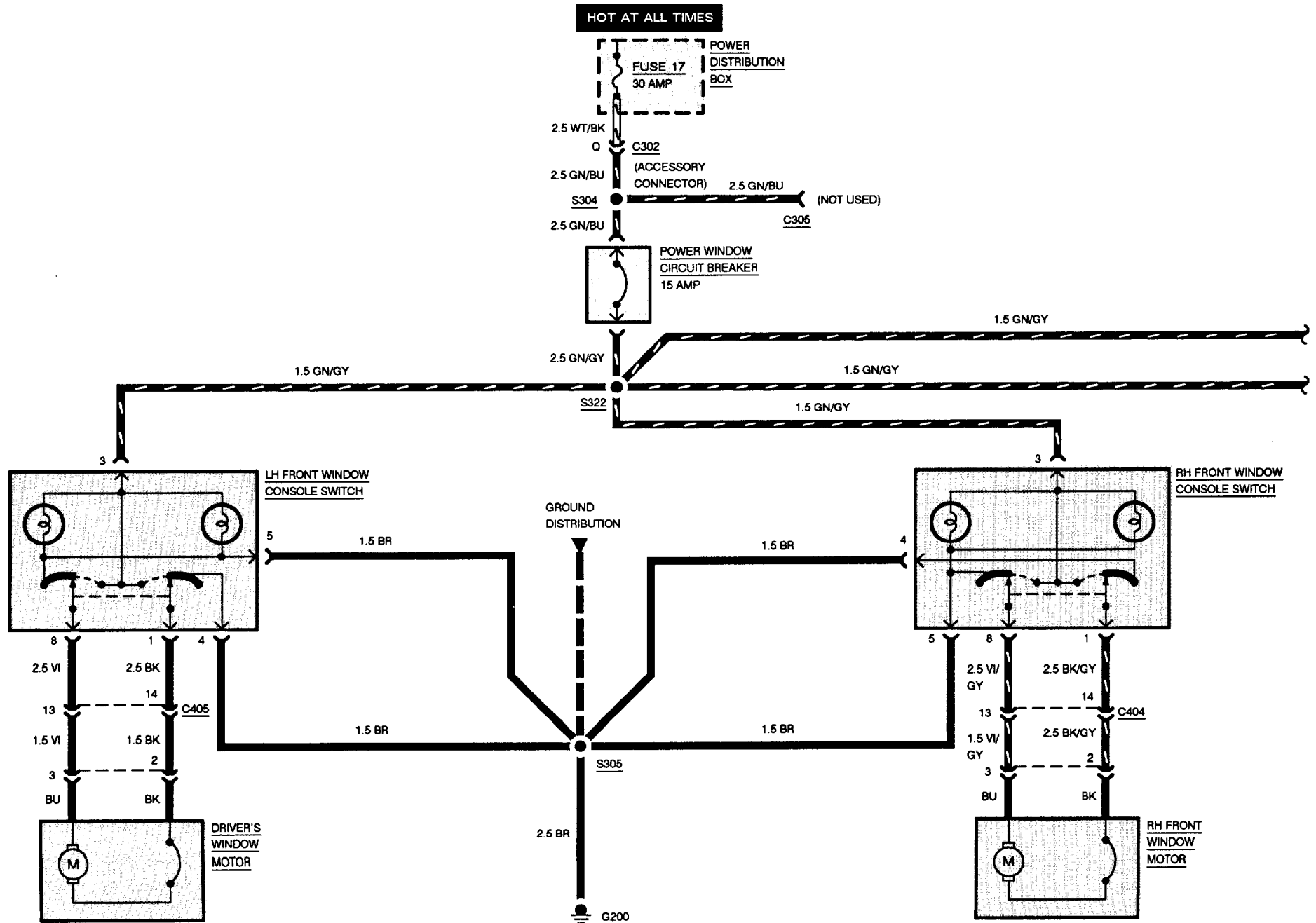


# 5126-0 CENTRAL LOCKING

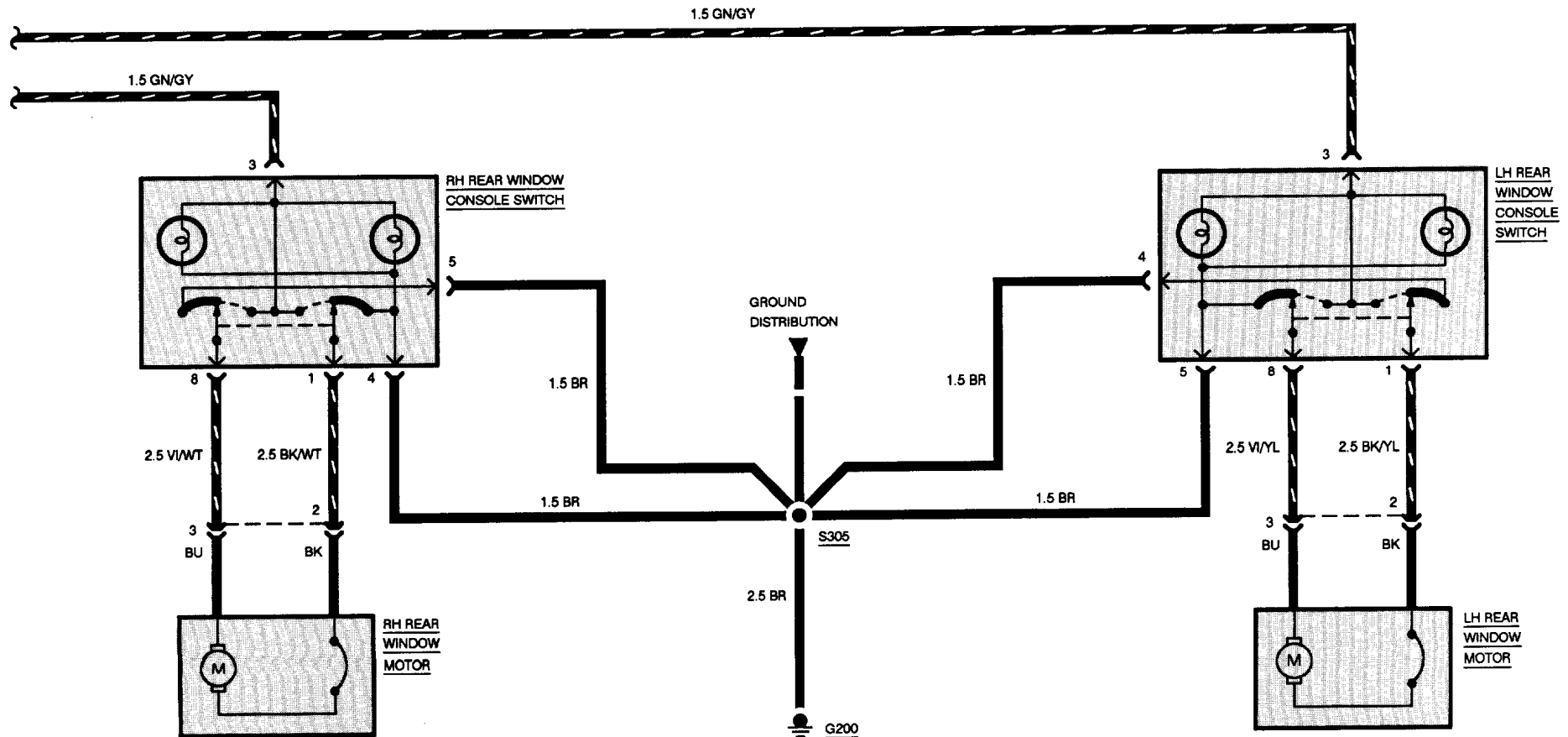




# 5133-0 POWER WINDOWS

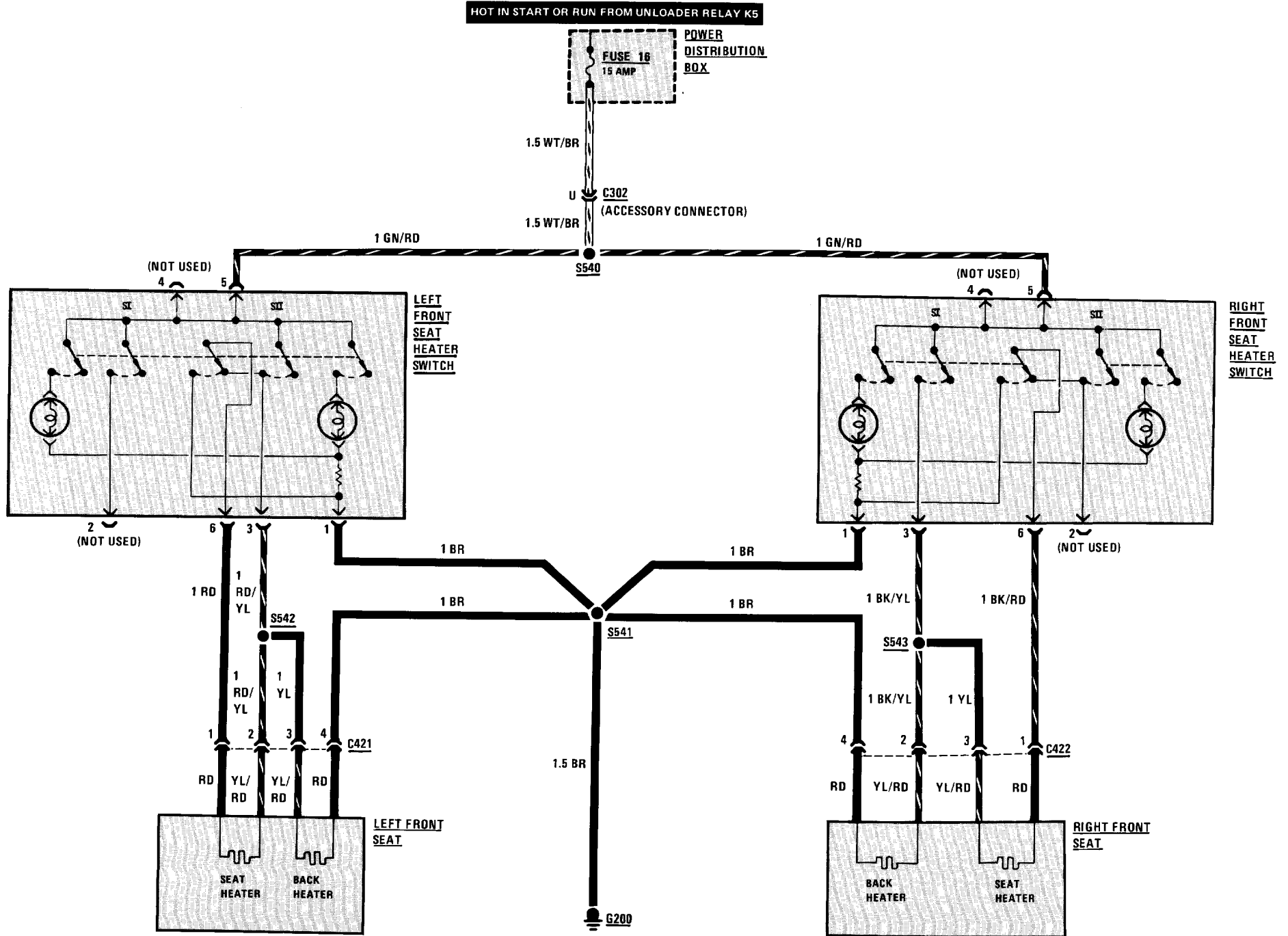


# POWER WINDOWS 5133-1



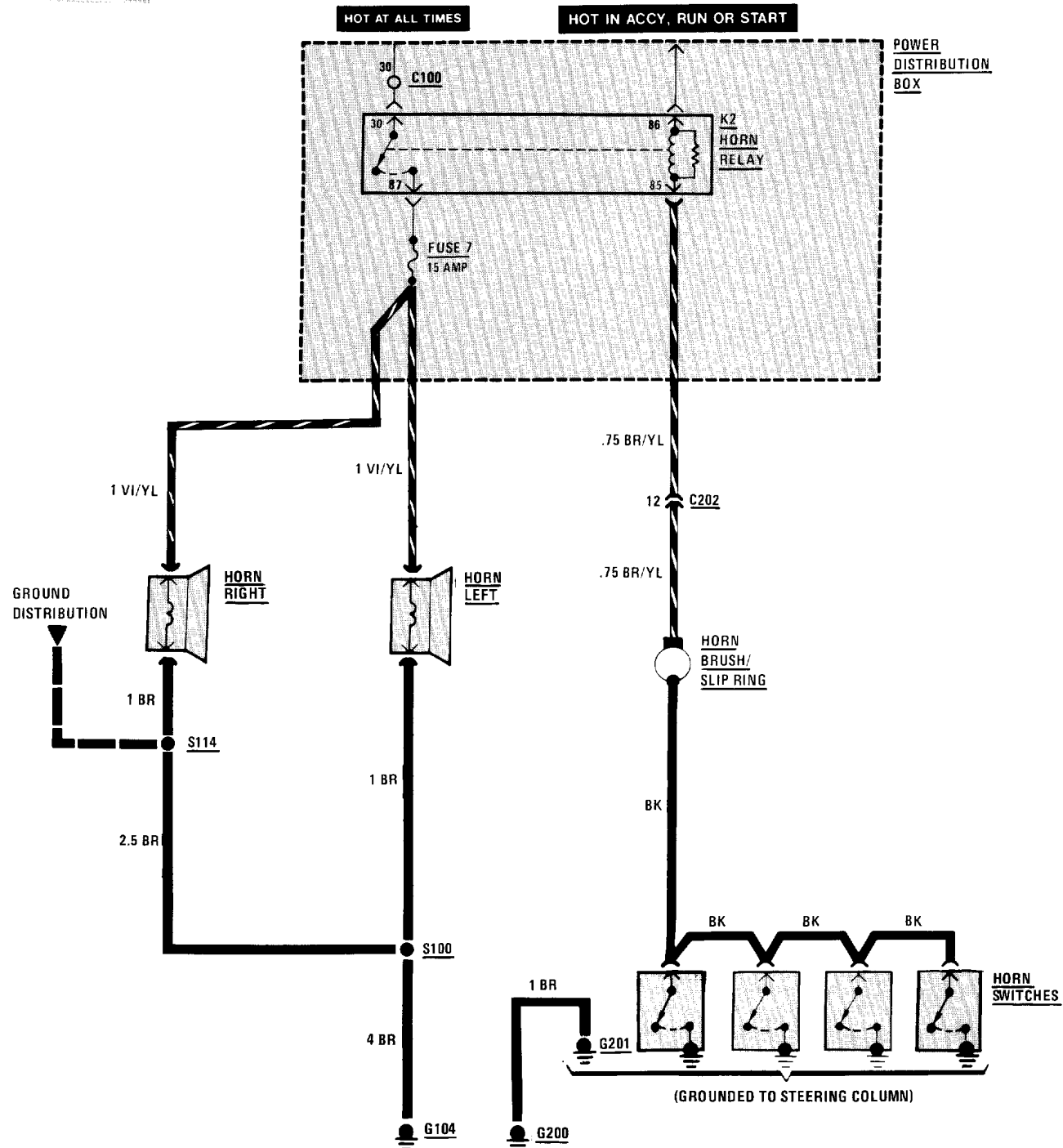


HEATED SEATS

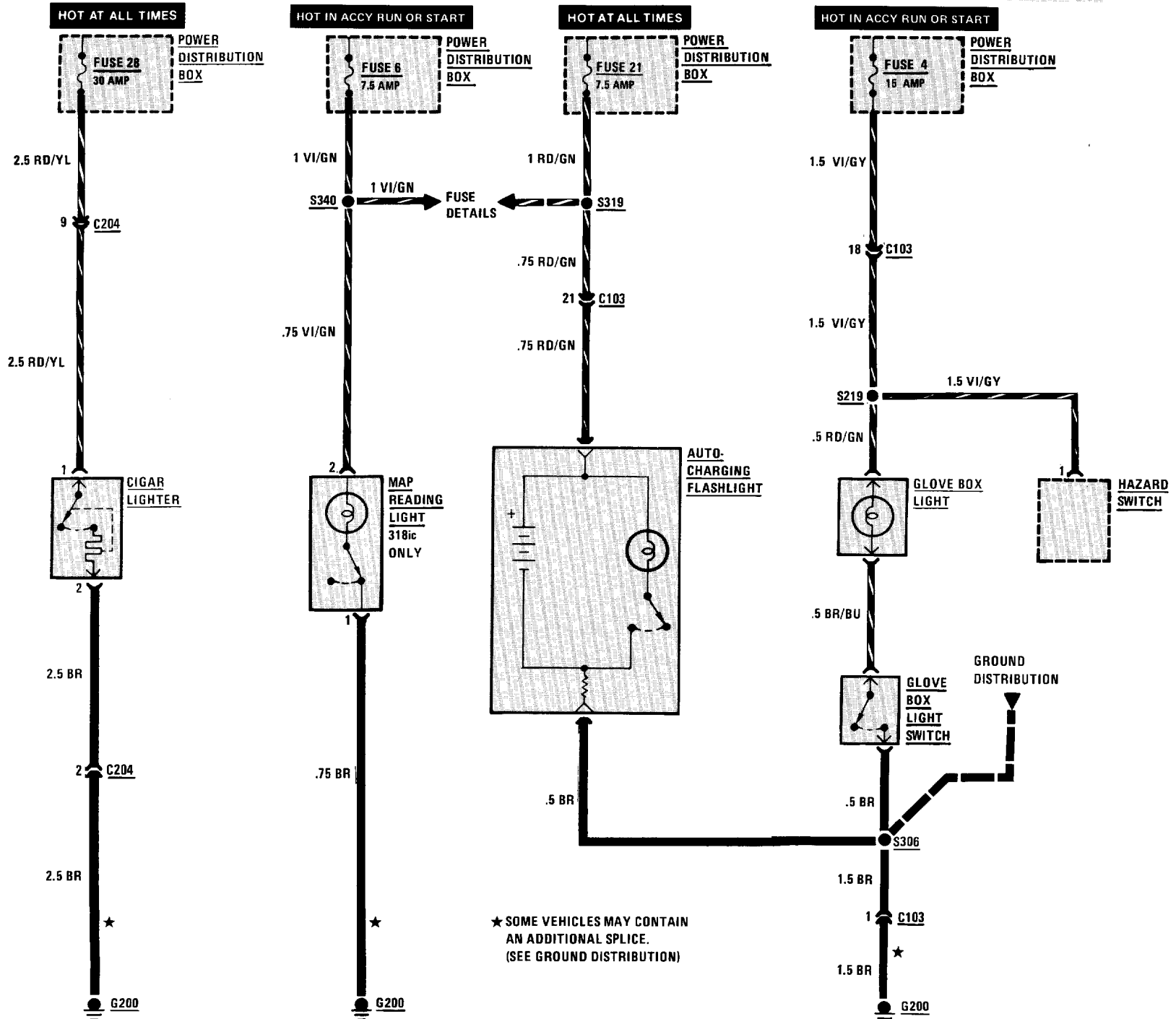


# 6100-0 BODY ELECTRICAL

## HORN

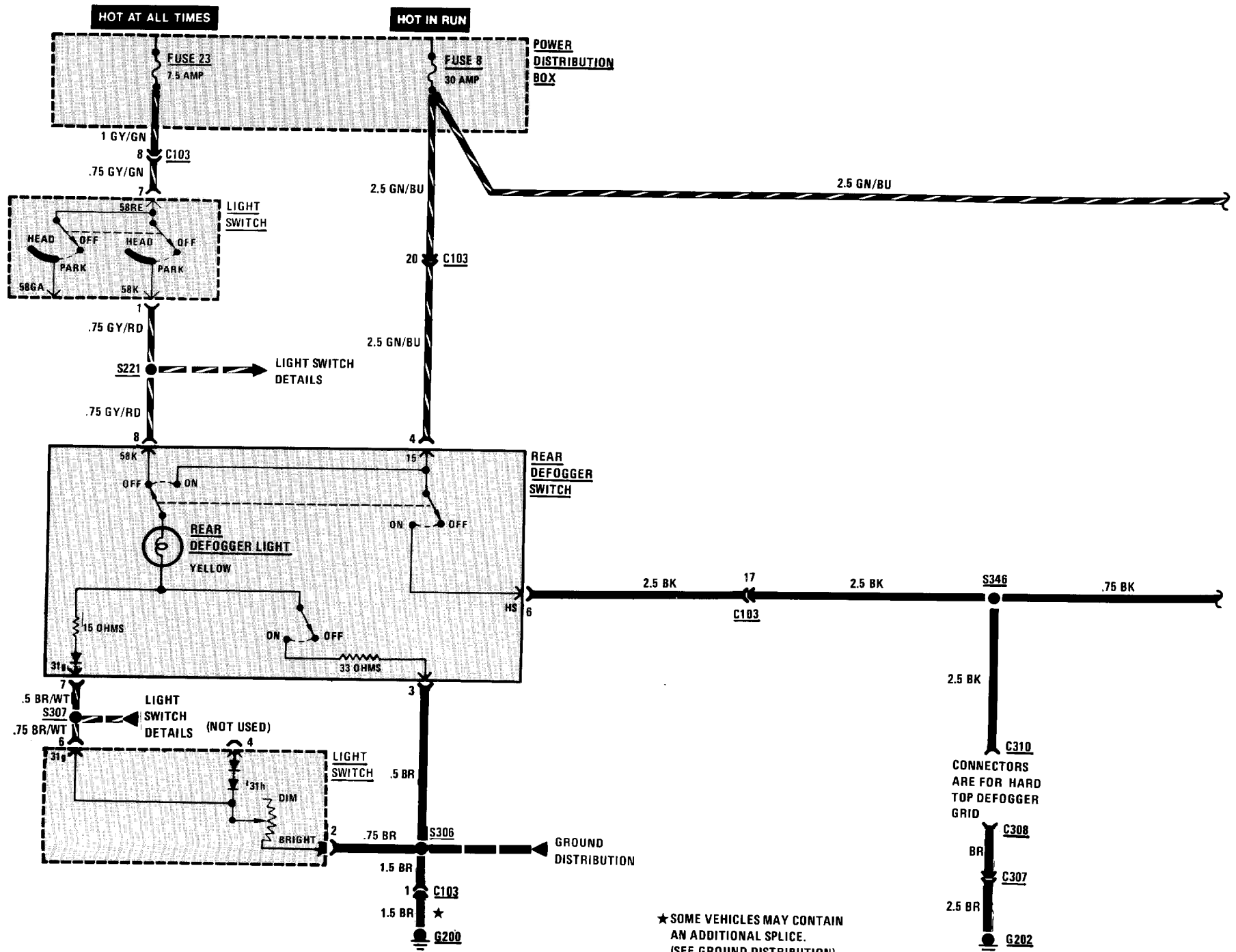


**CIGAR LIGHTER/GLOVE BOX LIGHT/AUTO-CHARGING FLASHLIGHT/MAP READING LIGHT**



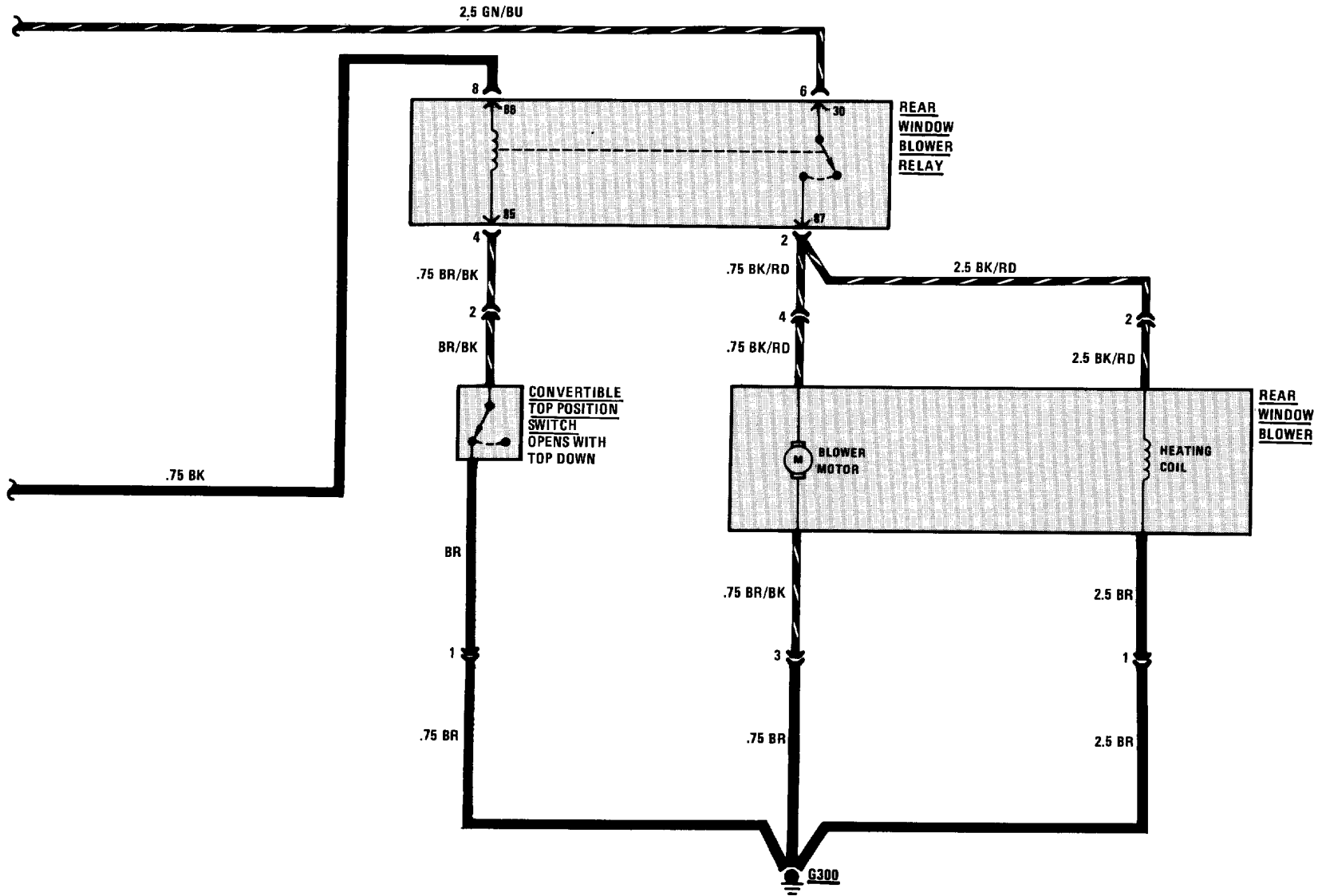
# 6100-2 BODY ELECTRICAL

## REAR DEFOGGER 318iC

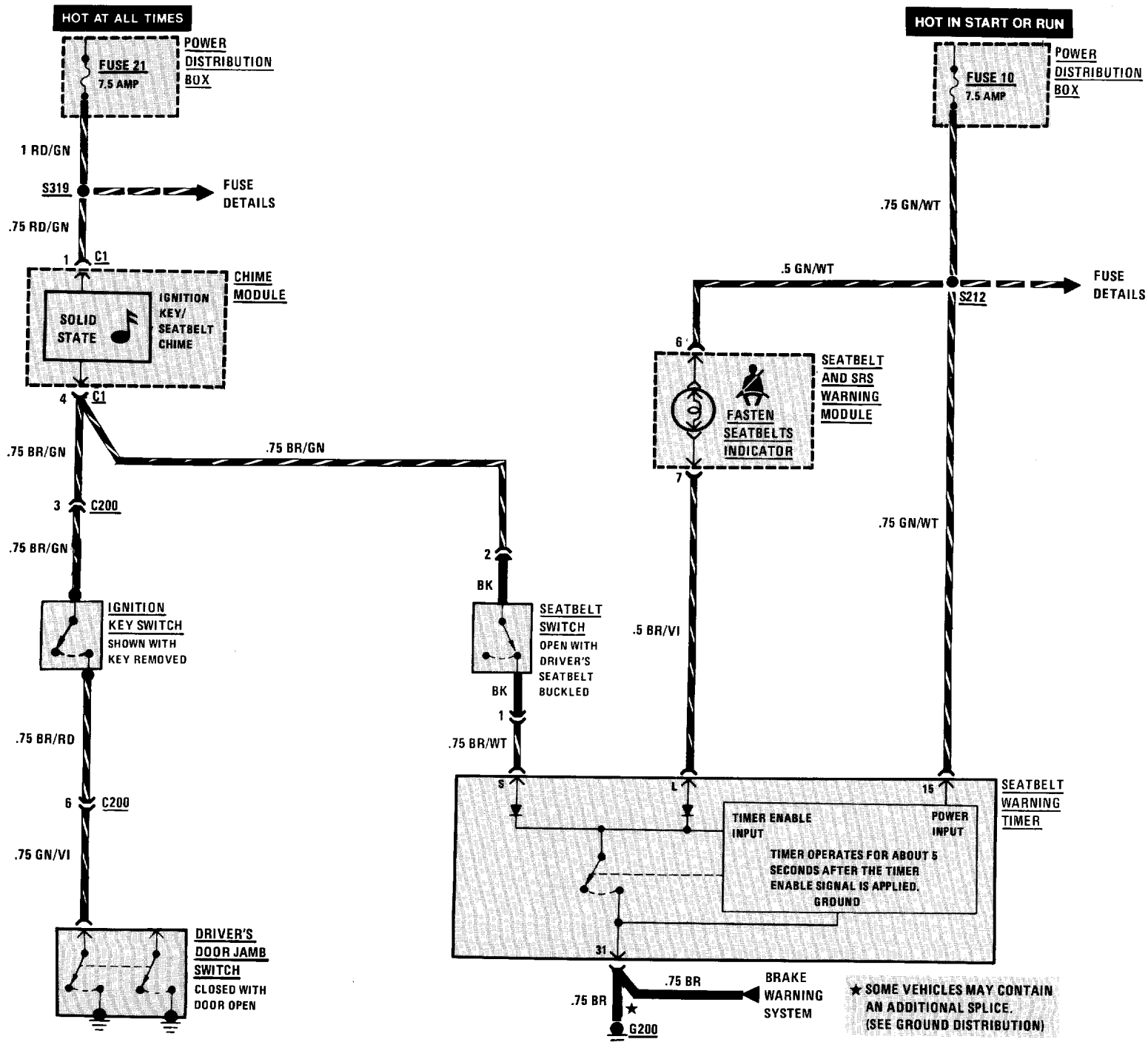


★ SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)

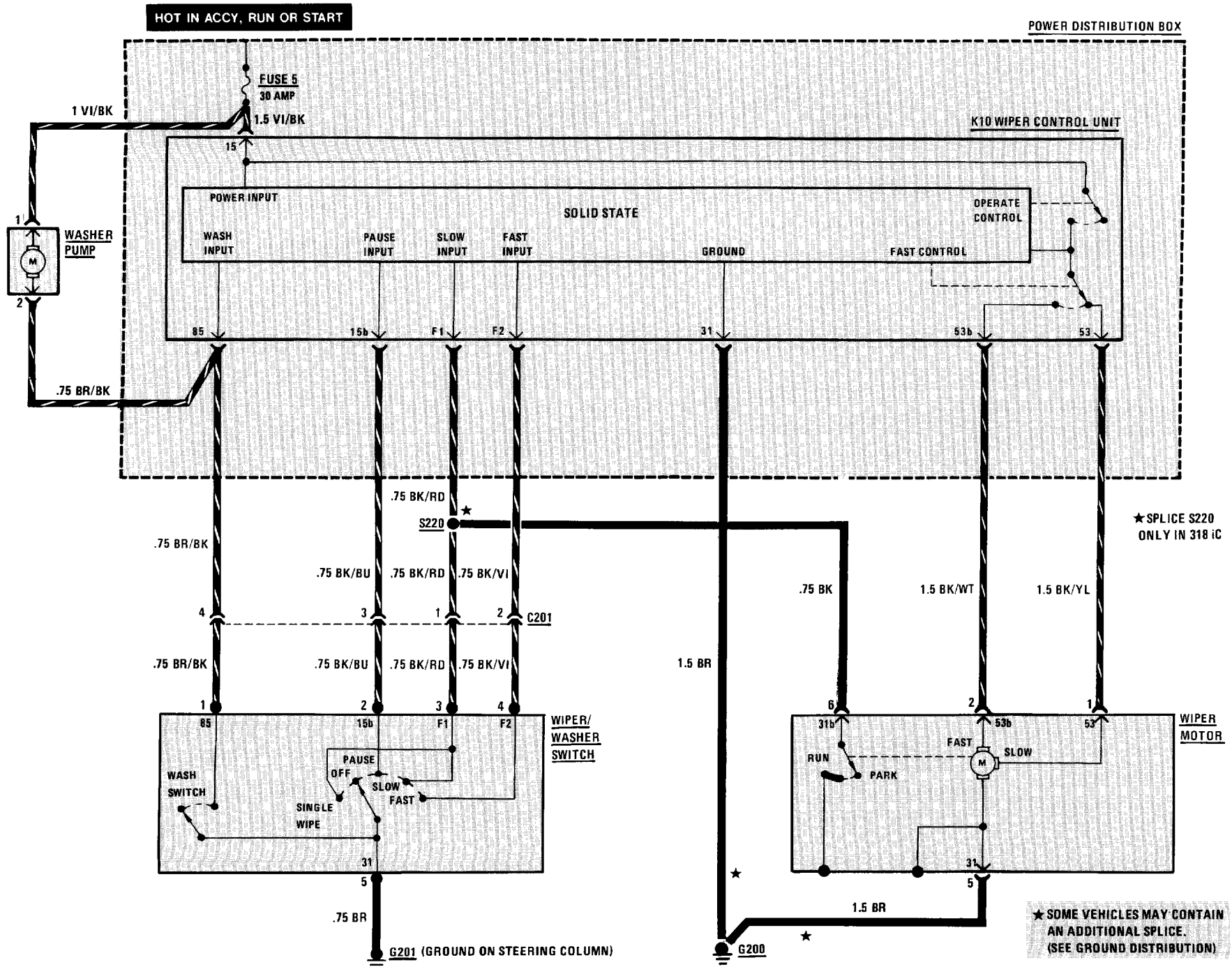
REAR DEFOGGER 318iC



# 6131-0 IGNITION KEY WARNING/SEATBELT WARNING

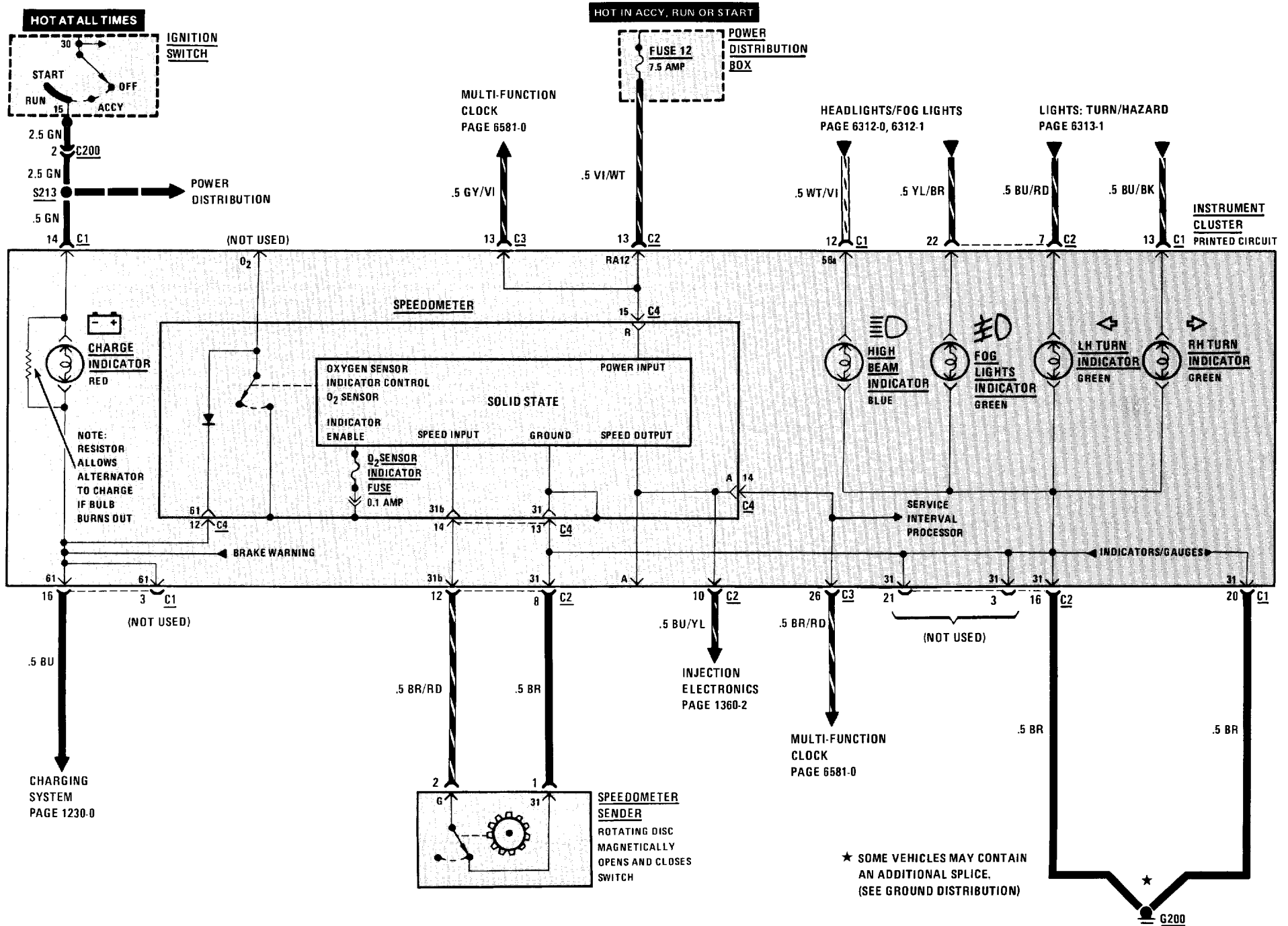


# 6160-0 WIPER/WASHER



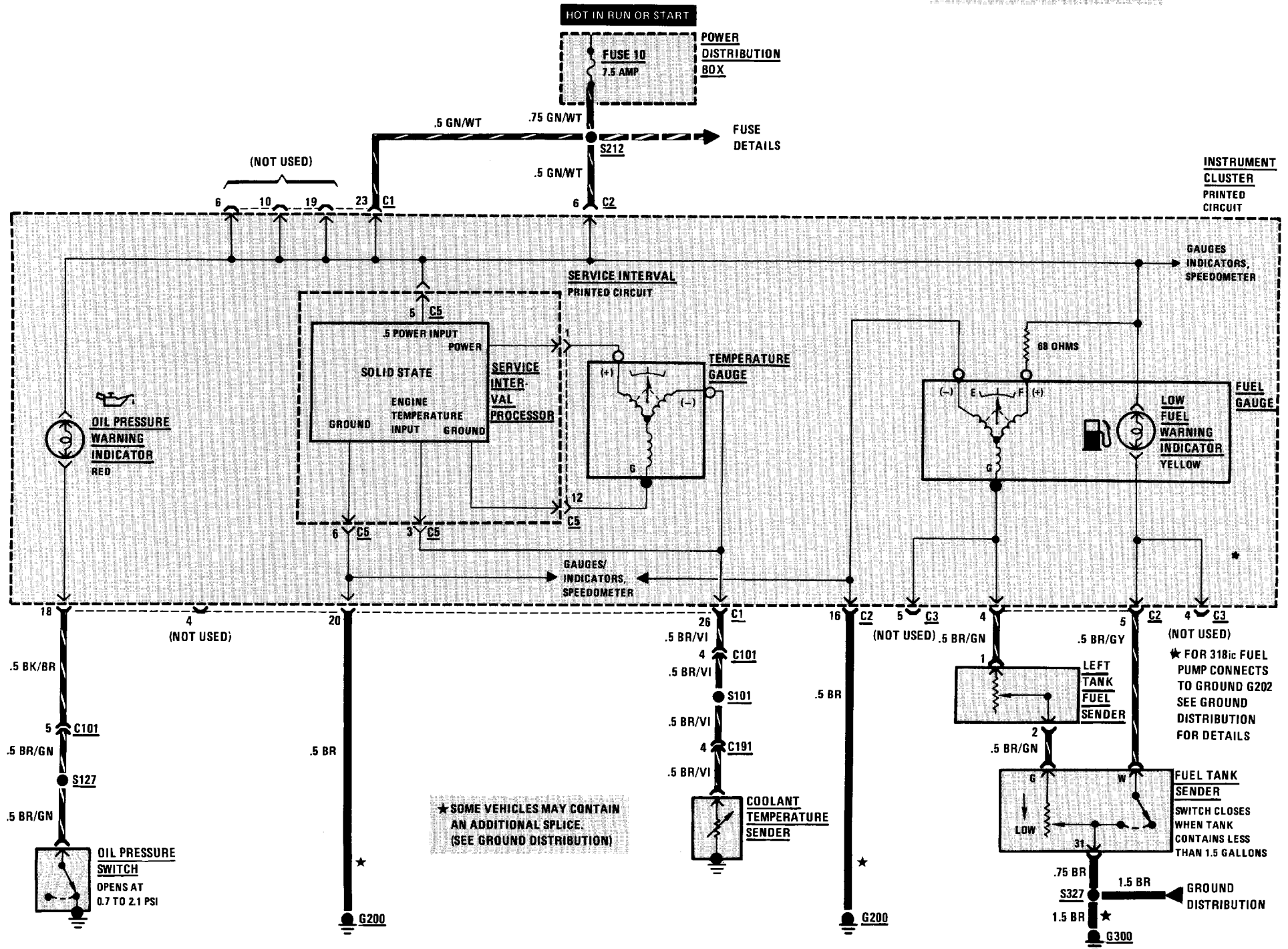
# 6210-0 INSTRUMENT CLUSTER

## SPEEDOMETER/INDICATORS



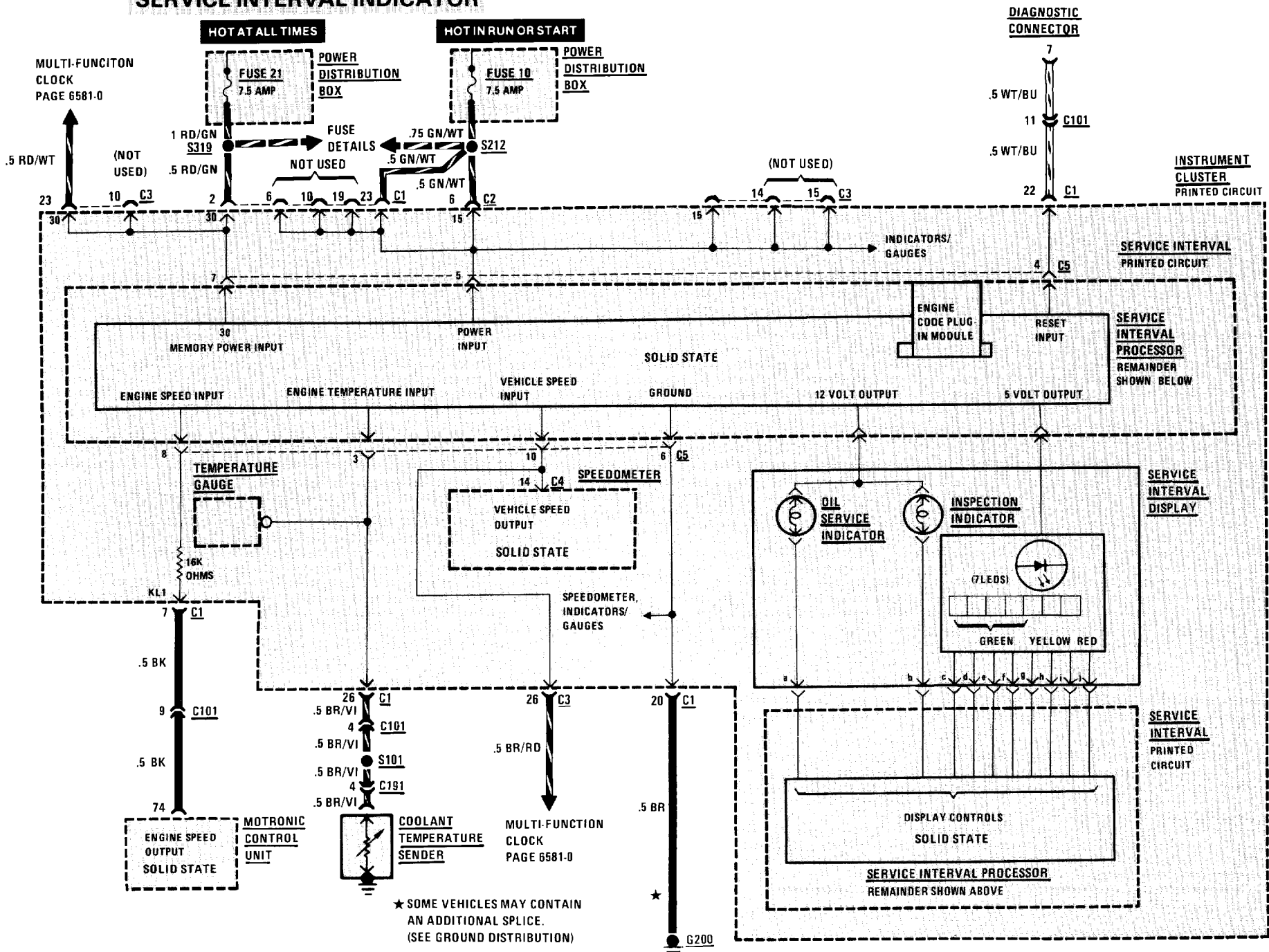


GAUGES/INDICATOR

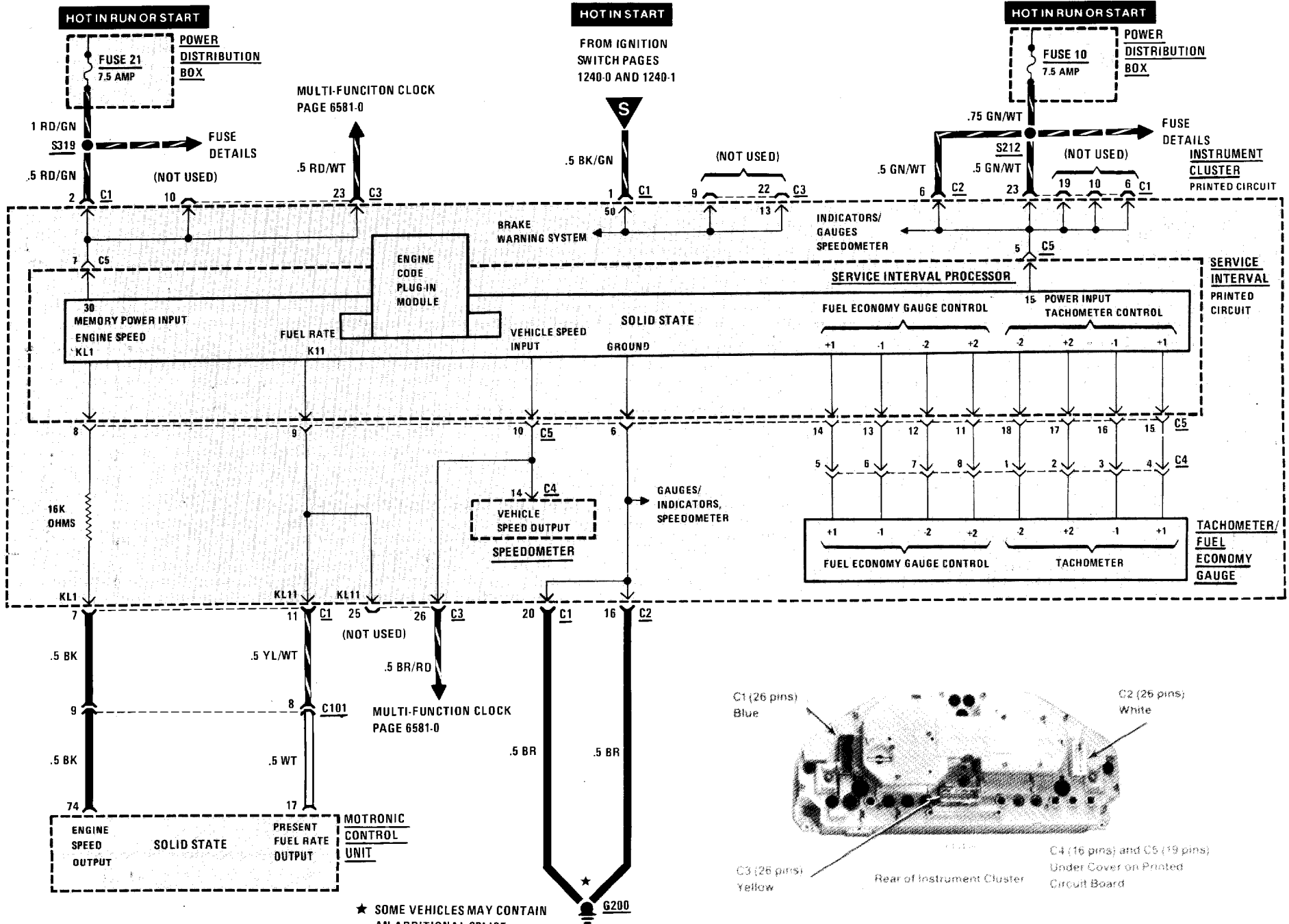


# 6210-2 INSTRUMENT CLUSTER

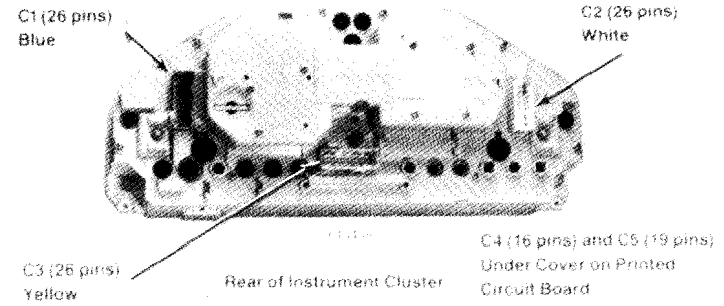
## SERVICE INTERVAL INDICATOR



TACHOMETER/FUEL ECONOMY GAUGE

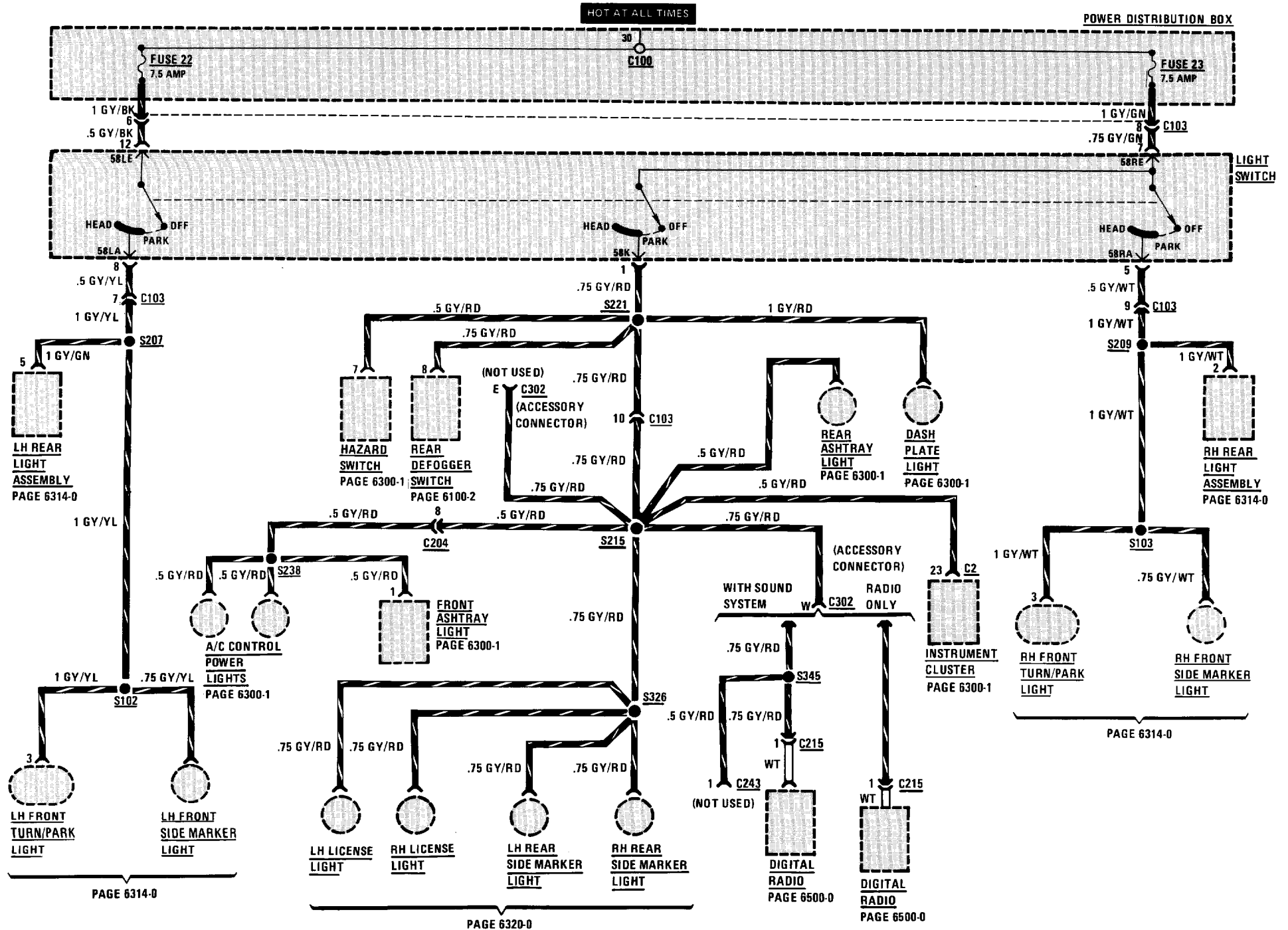


★ SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE (SEE GROUND DISTRIBUTION)

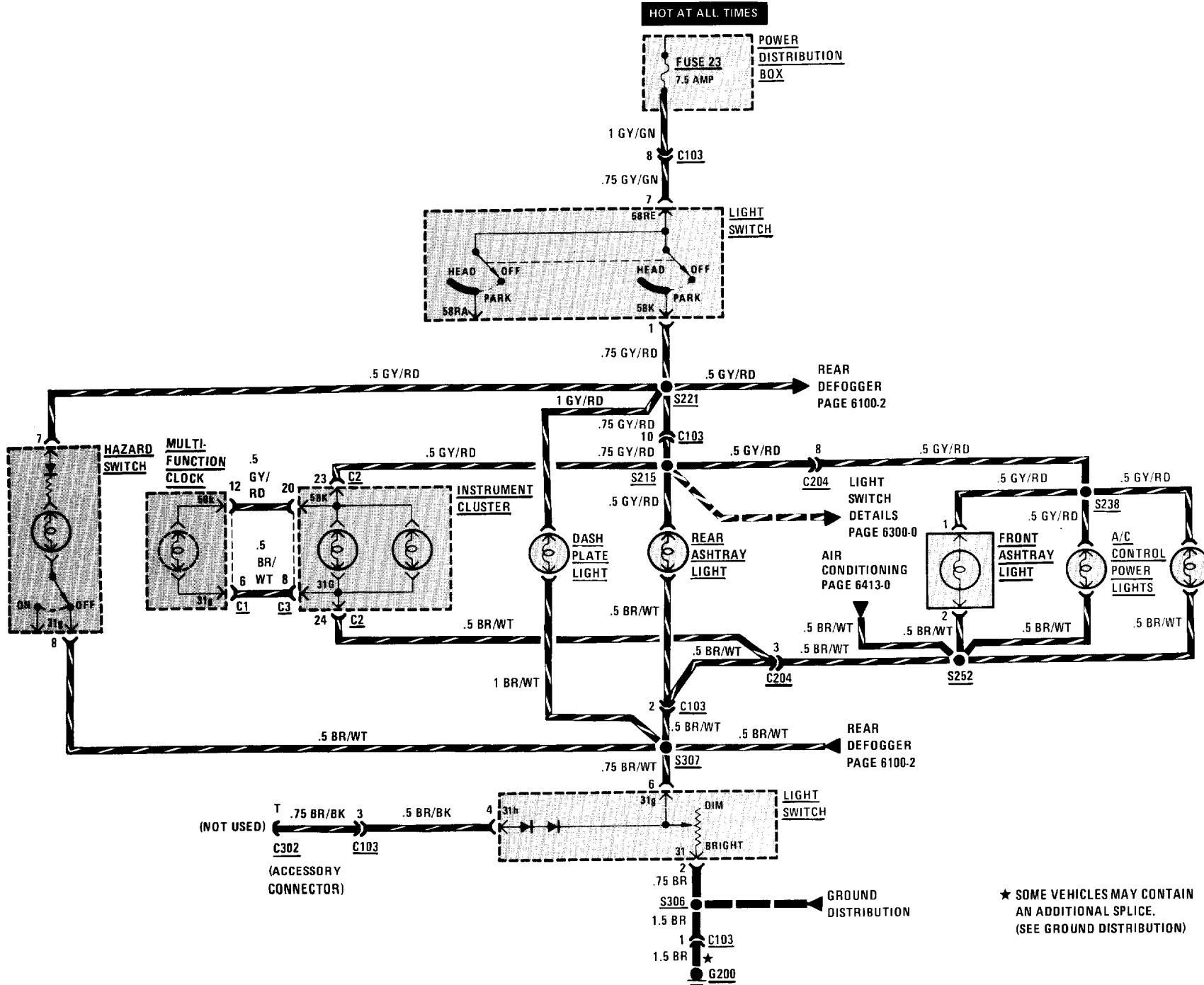


# 6300-0 LIGHT SWITCH DETAILS

318i/is

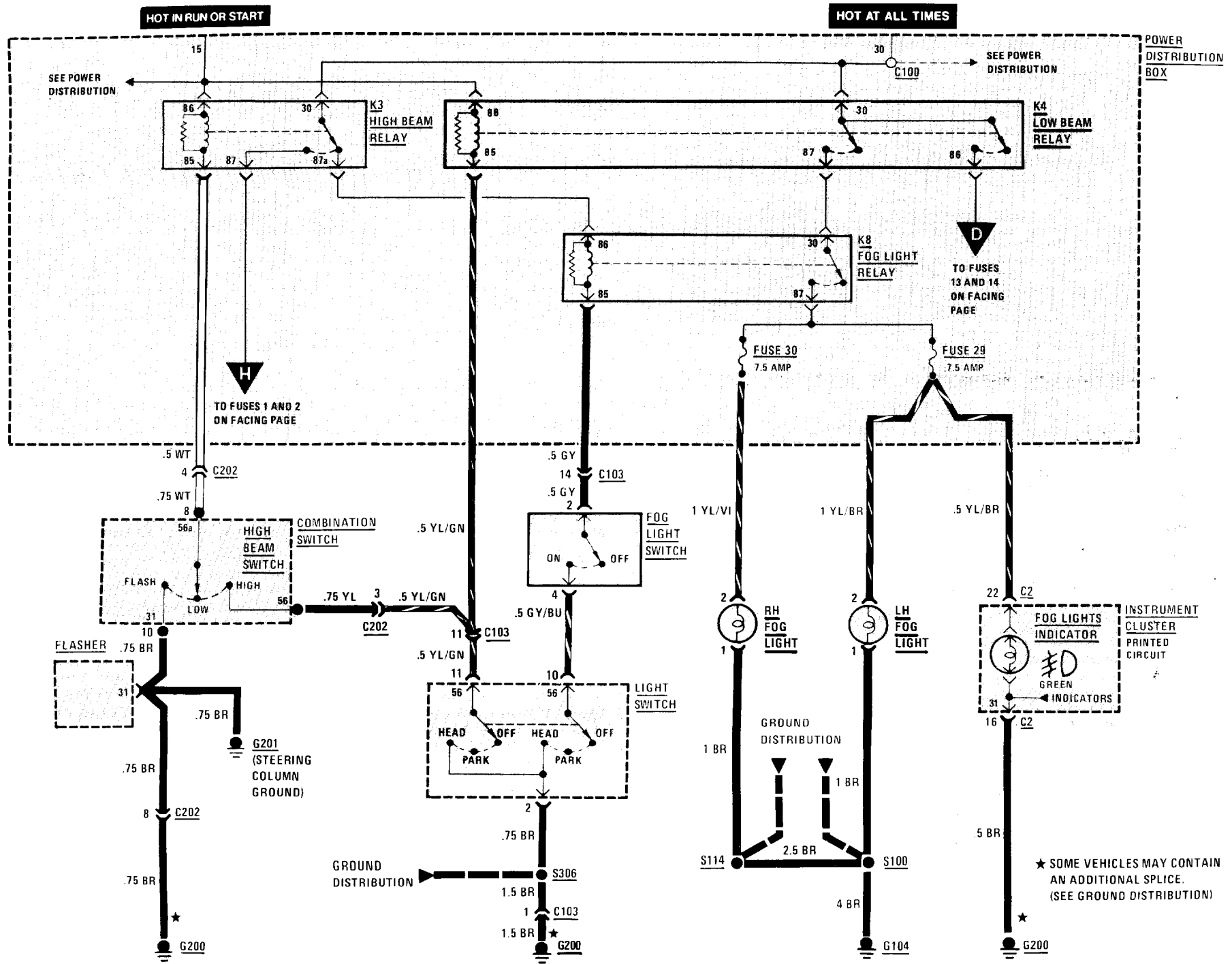


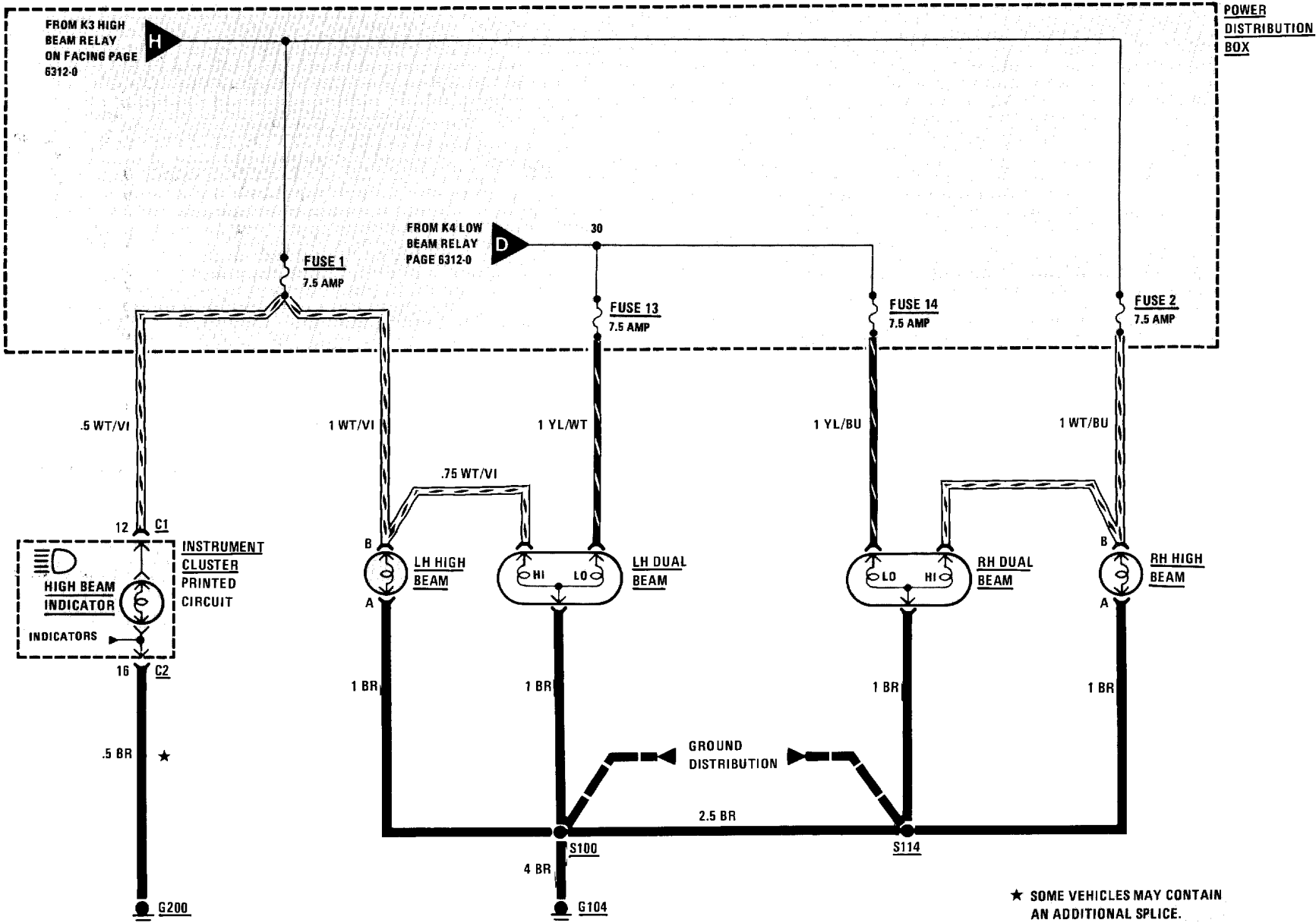
DASH LIGHTS





# 6312-0 HEADLIGHTS/FOG LIGHTS

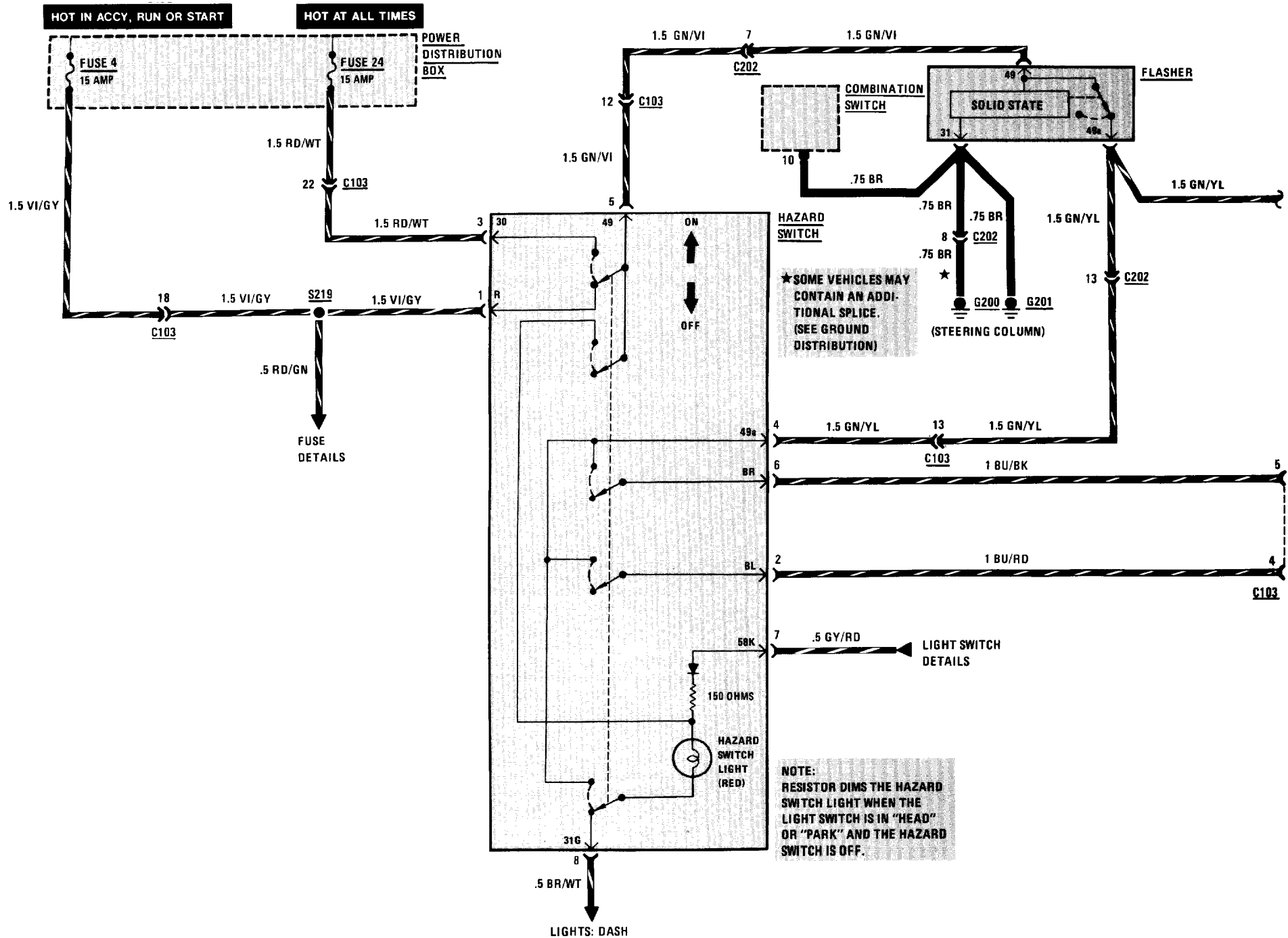


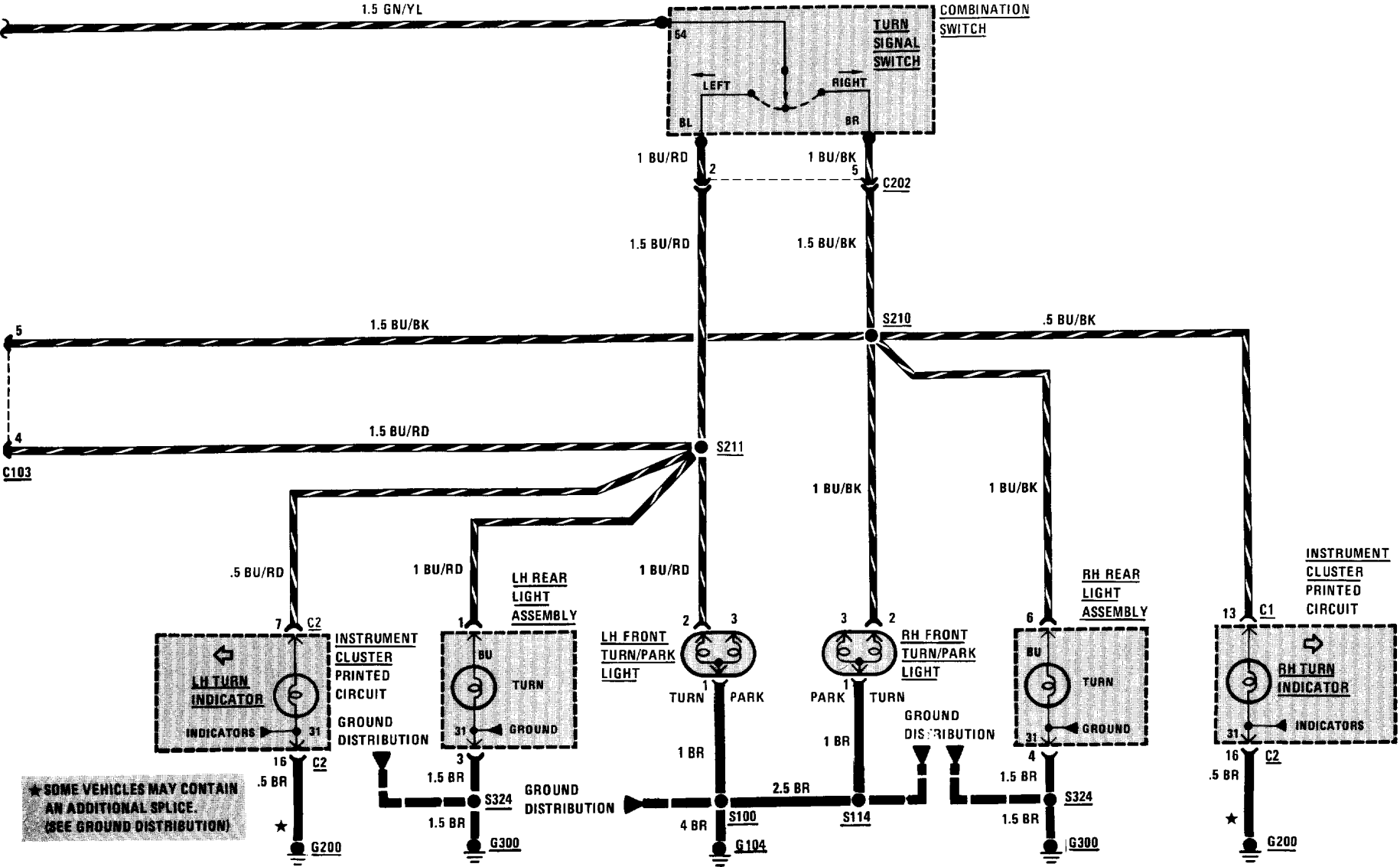


★ SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)



# 6313-0 TURN/HAZARD LIGHTS

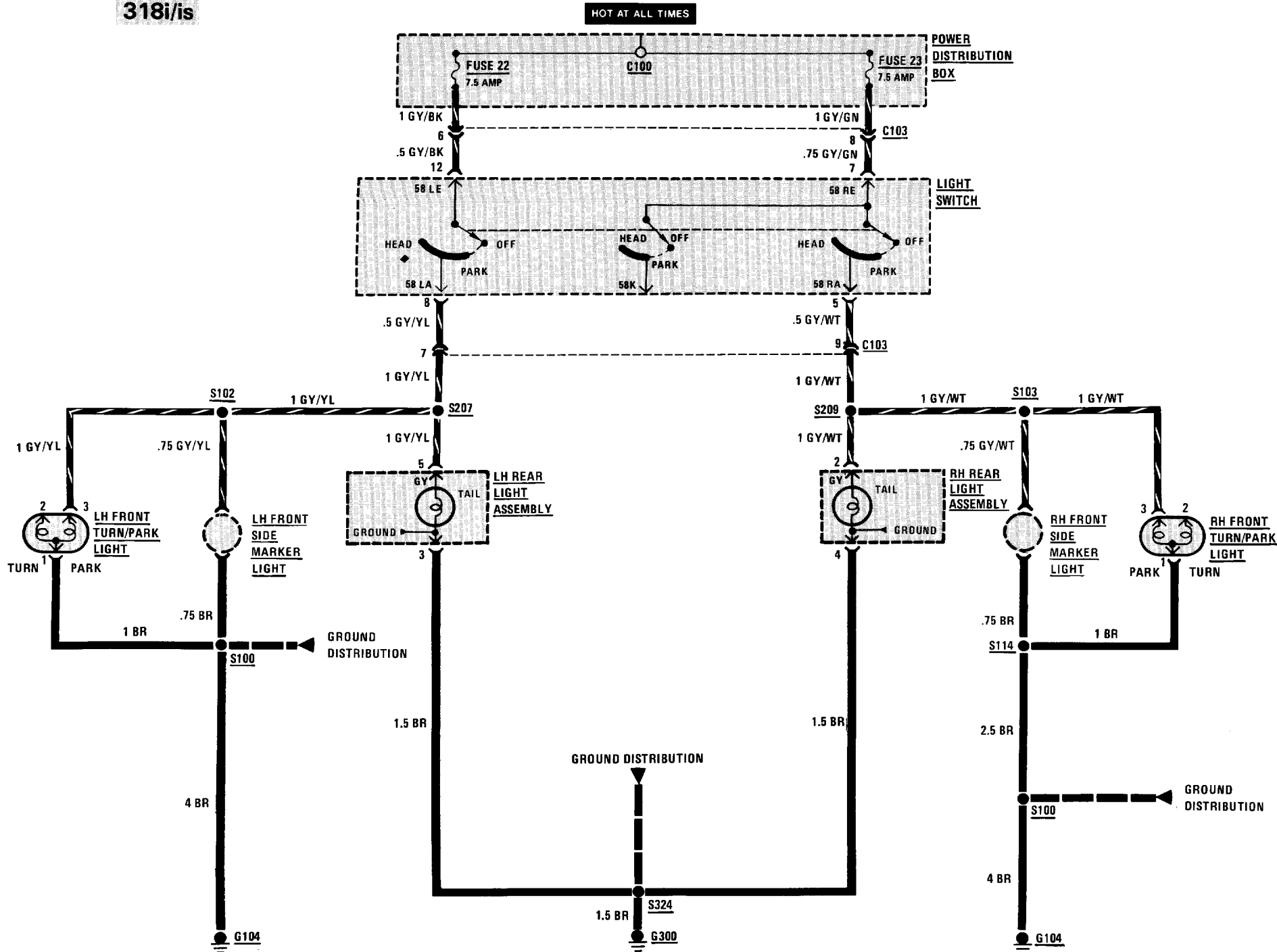




★ SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)

# 6314-0 PARK/TAIL/FRONT MARKER LIGHTS

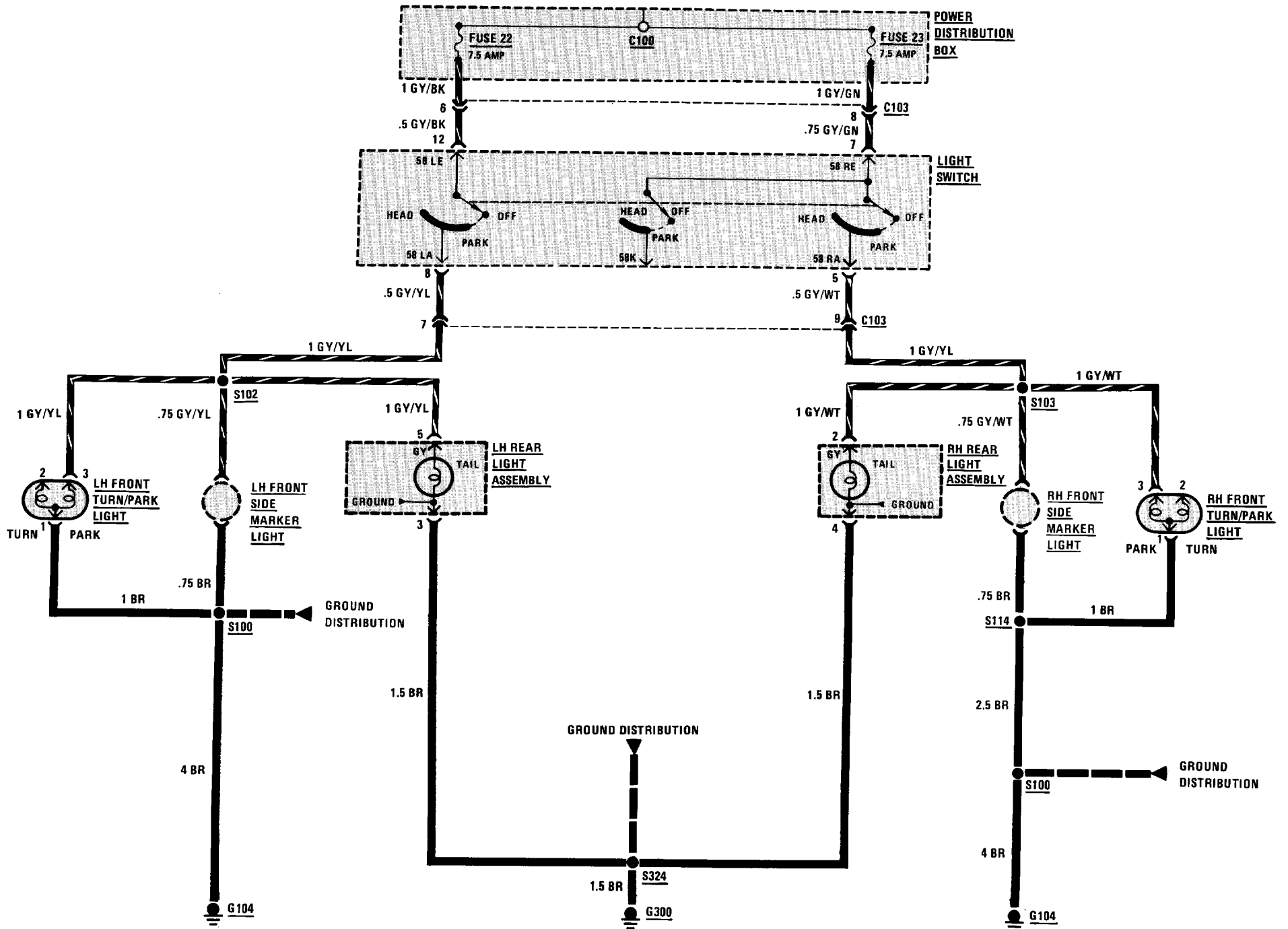
318i/is



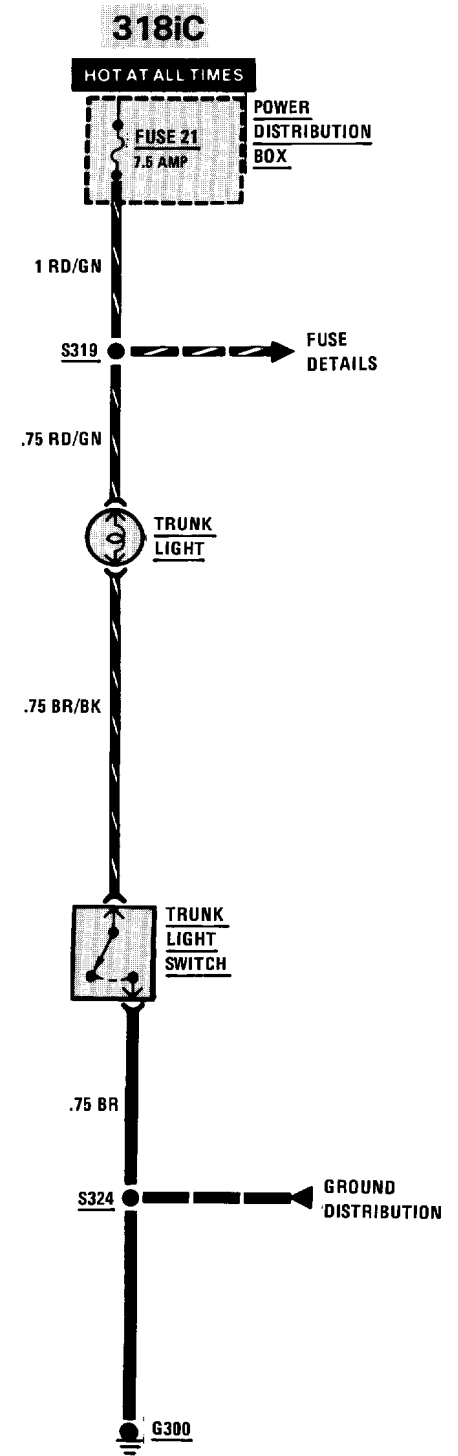
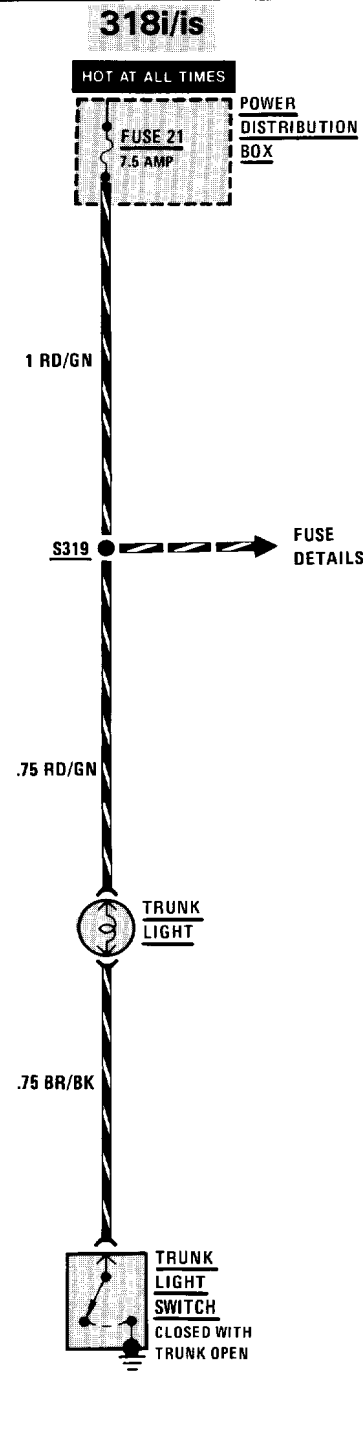
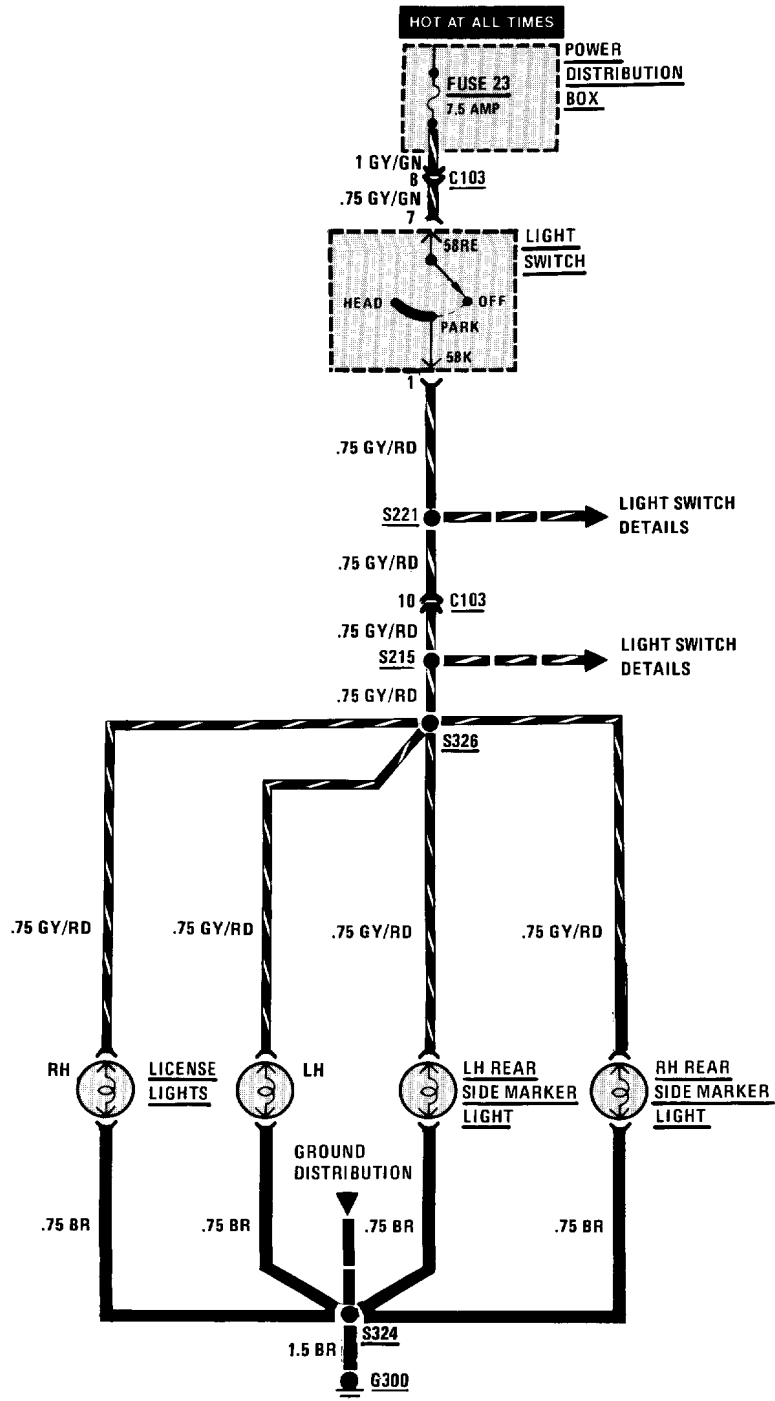
# PARK/TAIL/FRONT MARKER LIGHTS 6314-1

318iC

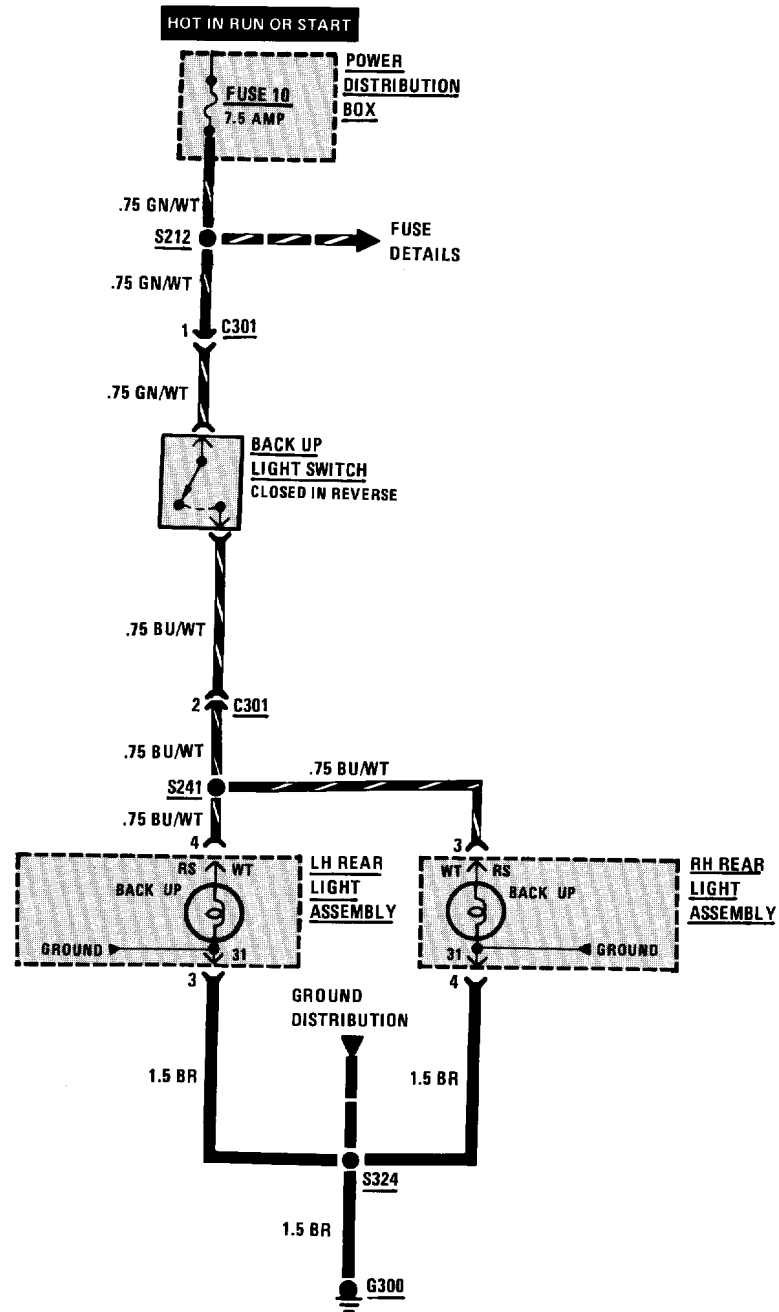
HOT AT ALL TIMES



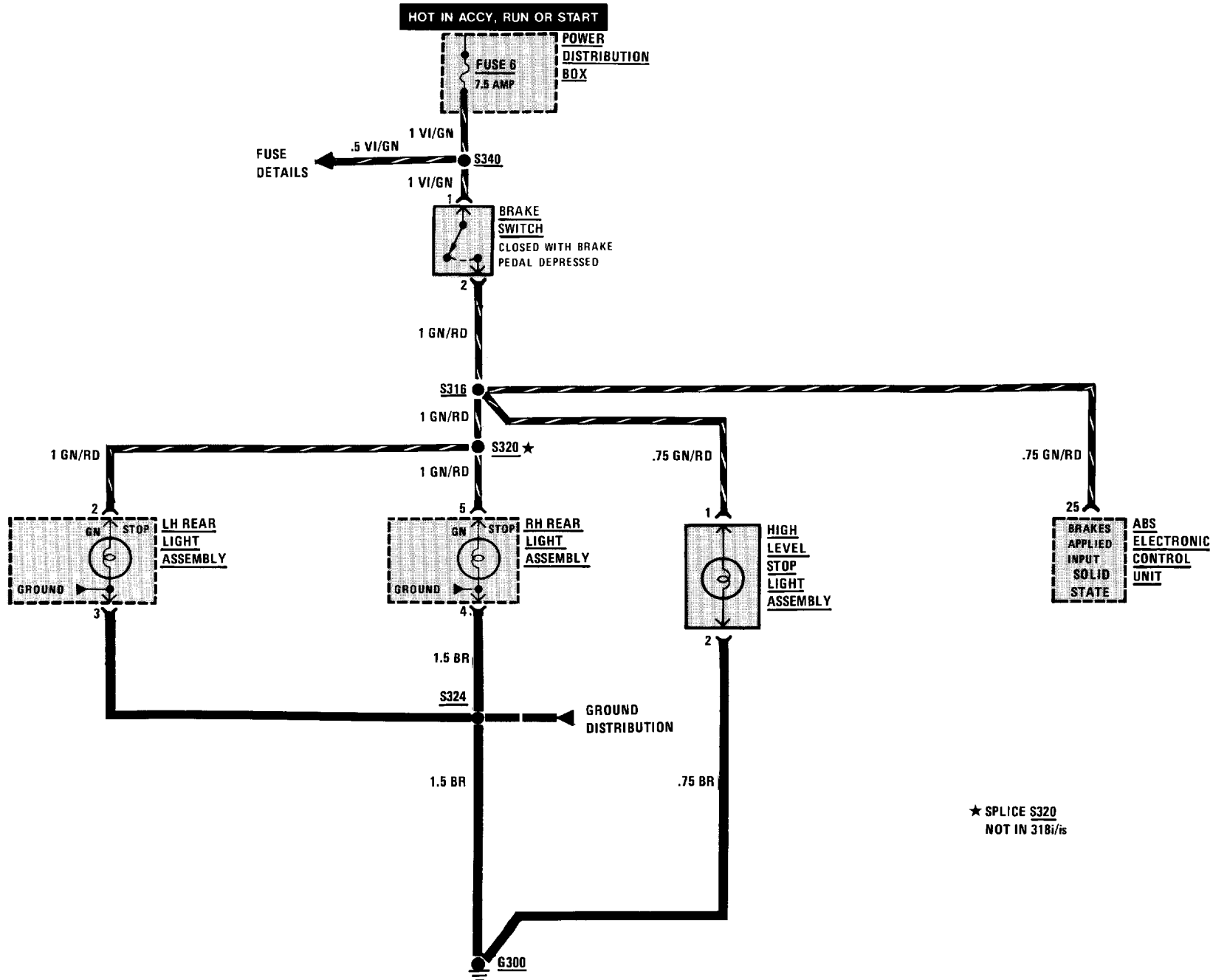
# 6320-0 REAR MARKER/LICENSE/TRUNK LIGHTS



# 6322-0 BACK UP LIGHTS



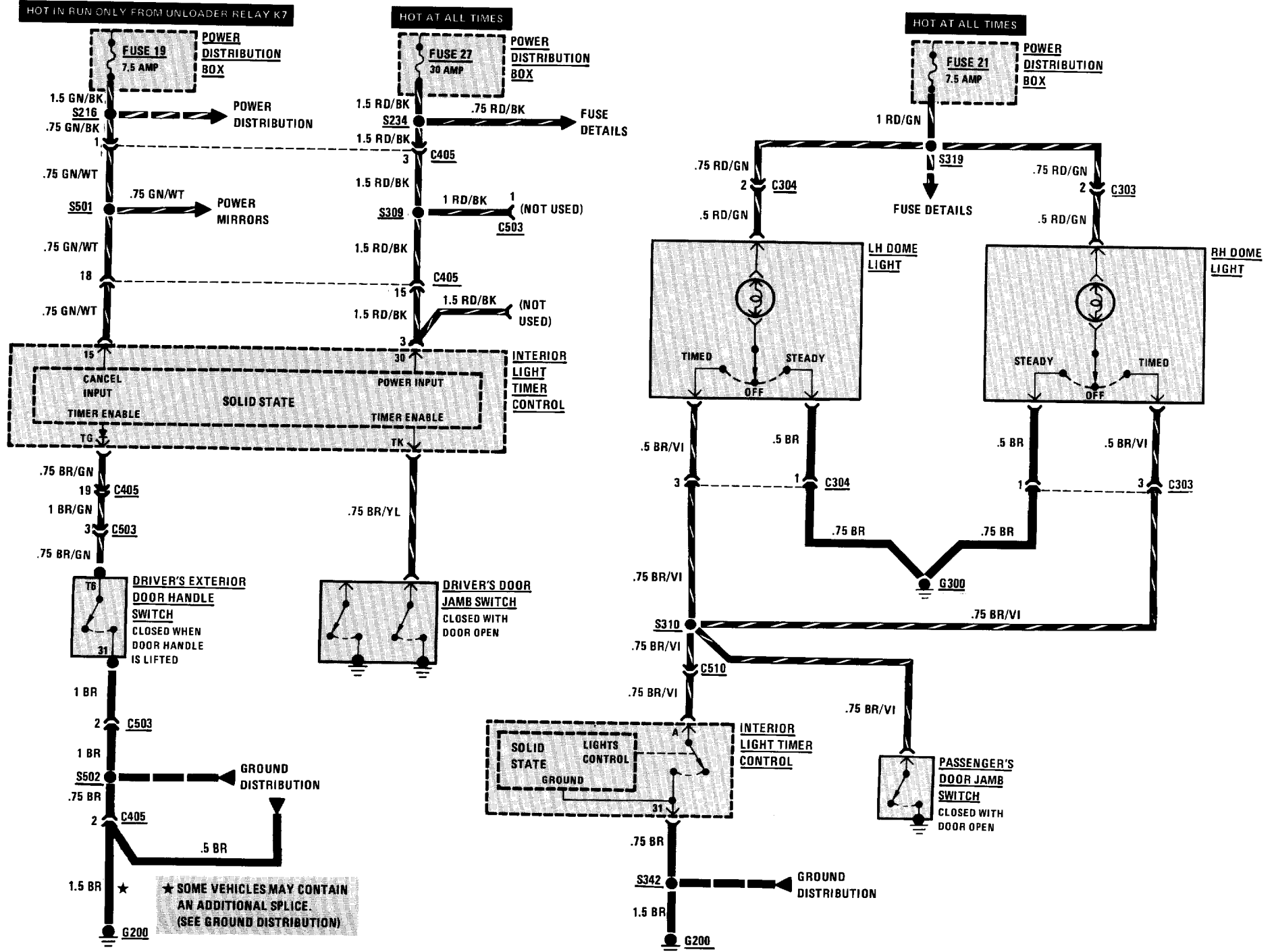
# 6325-0 STOP LIGHTS



★ SPLICE S320  
 NOT IN 318i/is

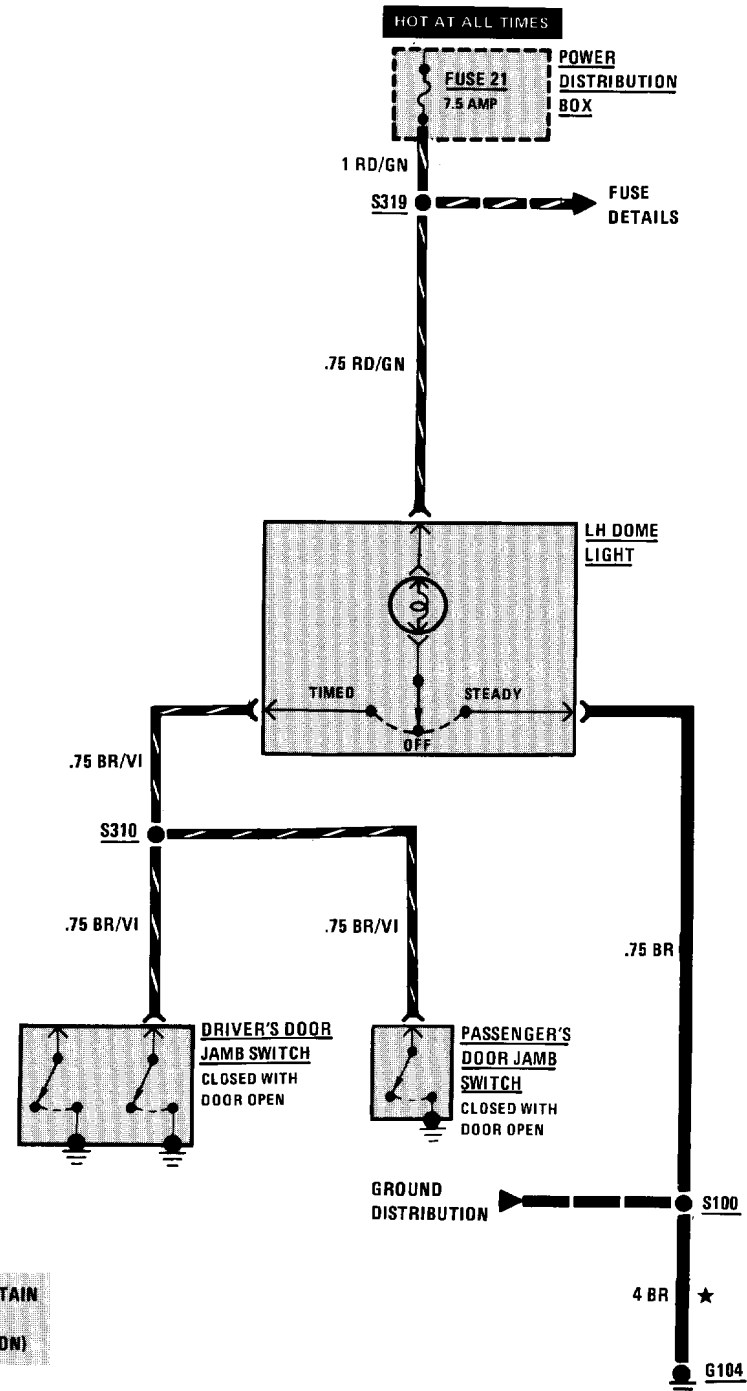
# 6330-0 INTERIOR LIGHTS

## WITH INTERIOR LIGHT TIMER CONTROL





## WITHOUT INTERIOR LIGHT TIMER CONTROL



★ SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)

**SYSTEM CHECK**

This procedure provides an overall check of the Heating and Air Conditioning System. Each of the steps can be performed without disassembly or the use of tools.

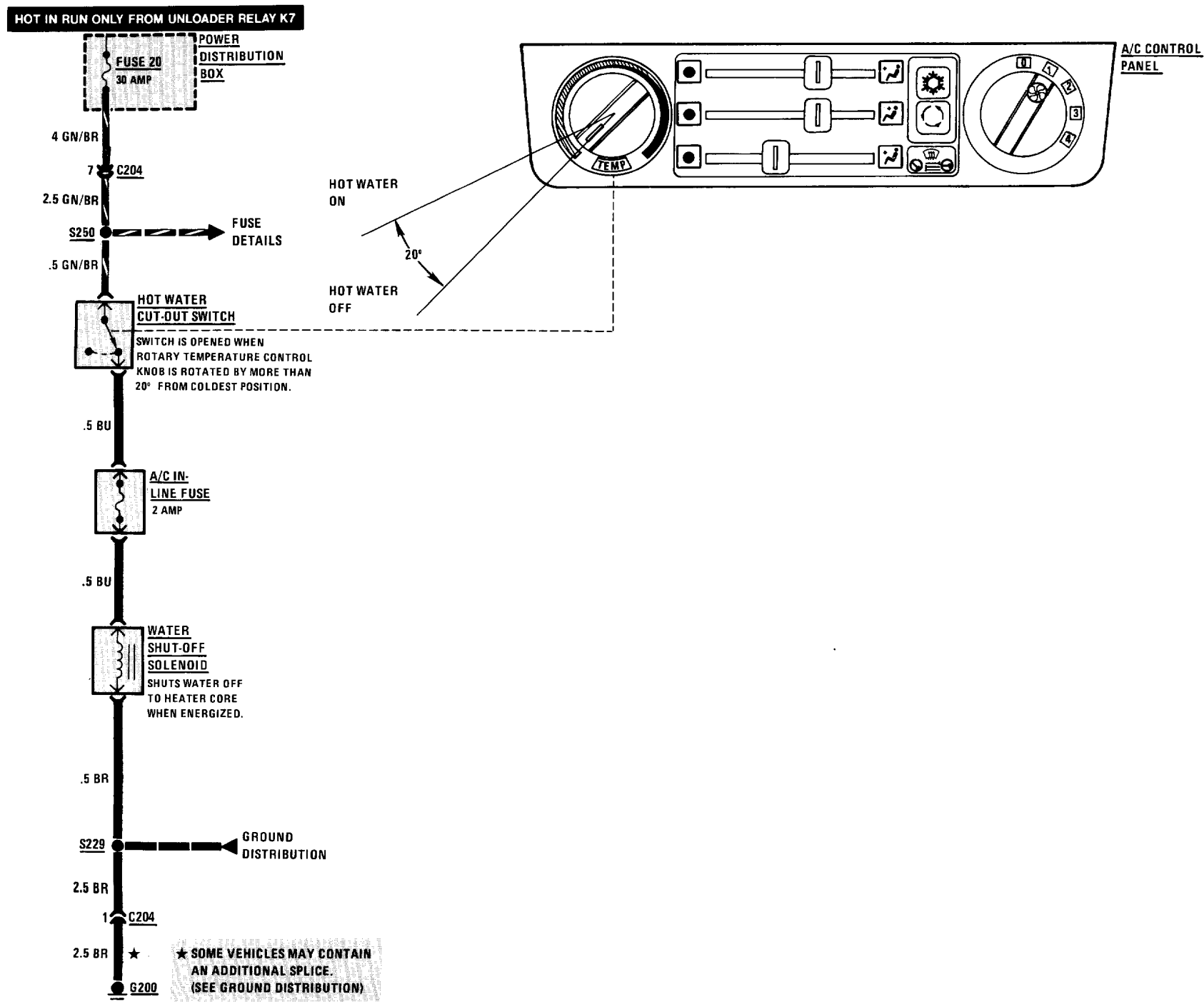
Complete this procedure with the temperature outside the car above 60 degrees F (16 degrees C) and the engine warm and running at idle.

**SYSTEM CHECK TABLE**

<b>SET: Temperature Control fully counterclockwise                      Upper and Lower Slide Levers to extreme left                      Center Slide Lever to extreme right                      Blower Speed Control at 0 (OFF)</b>	
<b>ACTION</b>	<b>NORMAL RESULT</b>
Press Fresh/Recirculating Air Switch (ON). Release A/C button (OFF).	Fresh/Recirculating pushbutton lights. Blower runs slowly.
Rotate Blower Speed Control through steps 1 to 4.	Blower speed increases at each step to maximum speed at Step 4.
Press Fresh/Recirculating Air Switch to release it (OFF).	Fresh/Recirculating button is no longer lit. Outside air is drawn into car. (The sound of Flap Door Motors may be heard repositioning flaps.)
Rotate Temperature Control at least 1/4 turn clockwise.	Air flow becomes warm.
Depress A/C button (ON).	A/C button lights. A/C Compressor runs. Auxiliary Cooling Fan runs.
Press A/C button to release it (OFF).	A/C button is no longer lit. A/C Compressor turns off. Auxiliary Cooling Fan turns off.
Set Blower Speed Control to 0 (OFF).	Blower turns off.

- If all of the steps can be completed as described, the Heating and Air Conditioning System is operating normally.

HEATING AND AIR CONDITIONING (HOT WATER CONTROL)



**CIRCUIT OPERATION**

The Water Shut-Off Solenoid controls the flow of engine coolant through the heater core. When the solenoid is energized, coolant flow is shut off to allow maximum cooling from the air conditioning system. The Water Shut-Off Solenoid is controlled by the Hot Water Cut-Off Switch, which is part of the A/C Control Panel TEMP Control.

Battery voltage is applied through Fuse 20 to the Hot Water Cut-Off Switch when the Ignition Switch is in RUN. The Hot Water Cut-Off Switch is closed when the TEMP Control is rotated fully counterclockwise (coldest position), and opens when the control is rotated more than 20 degrees in a clockwise direction. When the switch is closed, battery voltage is applied through the A/C In-Line Fuse to the Water Shut-Off Solenoid. The solenoid is energized and shuts off the coolant flow through the heater core.

The Water Shut-Off Solenoid and A/C In-Line Diode are protected by the A/C In-Line Fuse. If any failures occur in the solenoid, the Fuse will isolate them to prevent the failures from affecting other parts of the heating and air conditioning circuits.

**TROUBLESHOOTING HINTS**

- Try the following checks before doing the System Diagnosis.
- 1. Check that Water Shut-Off Solenoid connector is firmly seated.
- 2. Check the A/C In-Line Fuse.
- Go to Heating and Air Conditioning (6410-0) System Check for a guide to normal operation.
- Go to System Diagnosis for diagnostic tests.

**SYSTEM DIAGNOSIS**

- Do the following test if the Water Shut-Off Solenoid does not operate normally.

**WATER SHUT-OFF SOLENOID TEST (TABLE 1)**

<b>Measure: VOLTAGE</b> <b>At: WATER SHUT-OFF SOLENOID CONNECTOR (Disconnected)</b> <b>Conditions:</b> <ul style="list-style-type: none"> <li>• Ignition Switch: RUN</li> <li>• A/C Control Panel TEMP Control: FULLY COUNTERCLOCKWISE</li> </ul>		
Measure Between	Correct Voltage	For Diagnosis
BU & Ground	Battery	See 1
BU & or BR	Battery	See 2
<ul style="list-style-type: none"> <li>• Rotate A/C Control Panel TEMP Control to Mid-Position</li> </ul>		
BU & Ground	0 Volts	See 3

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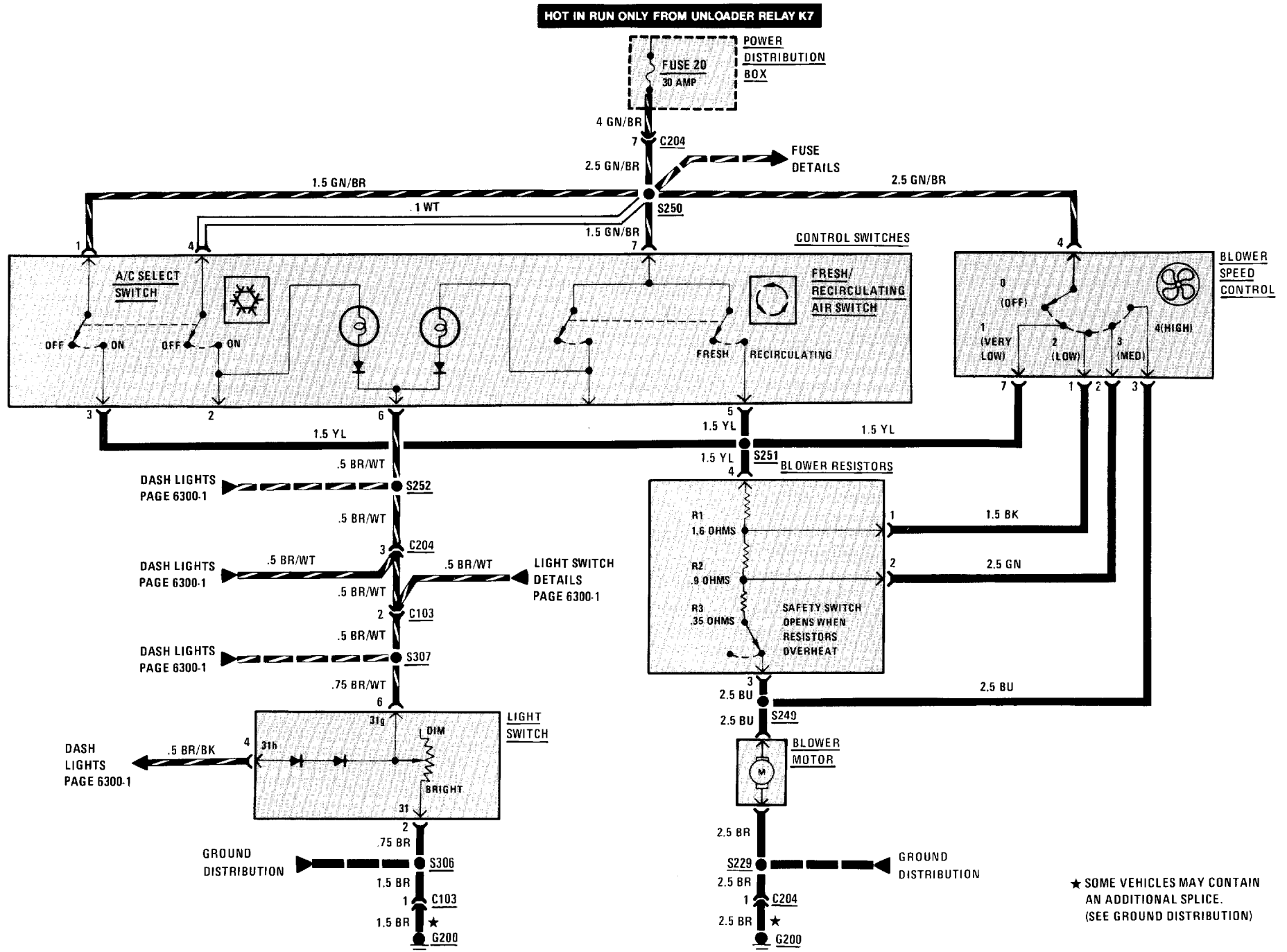
- If all voltages are correct, replace the Water Shut-Off Solenoid.
- 1. Check the BU wire and A/C In-Line Fuse for an open. If wire and Fuse are good, go to Table 2.
- 2. Check the BR wire for an open to ground. Check that connector C204 is properly mated.
- 3. Check BU wire for a wire-to-wire short to voltage. If wire is good, replace the A/C Control Panel TEMP Control.

**WATER SHUT-OFF SOLENOID TEST (TABLE 2)**

<b>Measure: VOLTAGE</b> <b>At: HOT WATER CUT-OFF SWITCH CONNECTOR (Disconnected)</b> <b>Conditions:</b> <ul style="list-style-type: none"> <li>• Ignition Switch: RUN</li> <li>• Water Shut-Off Solenoid: CONNECTED</li> </ul>		
Measure Between	Correct Voltage	For Diagnosis
GN/BR & Ground	Battery	See 1
GN/BR & BU	Battery	See 2
<ul style="list-style-type: none"> <li>• If both voltages are correct, replace the A/C Control Panel TEMP Control.</li> <li>1. Check the GN/BR wire for an open back to Fuse 20.</li> <li>2. Check the BU wire for an open.</li> </ul>		

# 6413-0 A/C BLOWER CONTROLS

## HEATING AND AIR CONDITIONING (BLOWER CONTROLS)



**CIRCUIT OPERATION**

With the Ignition Switch in RUN, battery voltage is applied to the Control Switches and the Blower Speed Control through the GN/BR wires. If either the A/C Select Switch or the Fresh/Recirculating Air Switch are ON or the Blower Speed Control is in position 1, battery voltage is applied through the YL wire to the Blower Resistors and the Blower Motor.

The Blower Motor is a variable speed motor which runs at a speed proportional to the voltage applied to it. With all of the Blower Resistors in the circuit, the voltage applied to the motor is reduced so the motor runs at a low speed.

As the Blower Speed Control is moved through positions 2 and 3, some of the resistors are bypassed, allowing more voltage to be applied to the Blower Motor, which then runs at a higher speed. When the Blower Speed Control is moved to position 4, battery voltage is applied directly to the Blower Motor, which then runs at maximum speed.

The Blower Resistors dissipate heat because of the current flowing through them. They are cooled by the air flow from the blower. If there is insufficient air flow to cool the resistors, the safety switch will open, shutting the Blower Motor off until the resistors have cooled.

**TROUBLESHOOTING HINTS**

- Try the following checks before doing the System Diagnosis.
- 1. Check Fuse 20 by visual inspection.
- 2. If Blower will run in high only, check the Blower Resistors' Safety Switch for an open.
- Go to Heating and Air Conditioning (6410-0) System Check for a guide to normal operation.
- Go to System Diagnosis for diagnostic tests.

**SYSTEM DIAGNOSIS**

- Do the tests listed for your symptom in the Symptom Table below.
- Tests follow the Symptom Table.

**SYMPTOM TABLE**

SYMPTOM	DO TEST
Blower Motor does not run in any speed setting.	B
Blower runs only in HIGH (does not run in any other speed setting).	B
Blower does not run in some modes.	A
Blower does not run with A/C ON or in Recirculating mode.	A
A/C Select Switch or Fresh/Recirculating Air Switch does not light.	A

**A: CONTROL SWITCH VOLTAGE TEST**

<b>Measure: VOLTAGE</b> <b>At: CONTROL SWITCHES CONNECTOR (Disconnected)</b> <b>Conditions:</b> <ul style="list-style-type: none"> <li>• Ignition Switch: RUN</li> <li>• Blower Speed Control: OFF</li> </ul>		
Measure Between	Correct Voltage	For Diagnosis
1 (GN/BR) & Ground	Battery	See 1
1 (GN/BR) & 3 (YL)	Battery	See 2 & 4
7 (GN/BR) & Ground	Battery	See 1
7 (GN/BR) & 5 (YL)	Battery	See 2 & 4
7 (GN/BR) & 6 (BR/WT)	Battery	See 3
<ul style="list-style-type: none"> <li>• If all voltages are correct, do Test B.</li> <li>1. Check the GN/BR wire for an open.</li> <li>2. Check the YL wire for an open.</li> <li>3. Check the BR/WT wire for an open.</li> <li>4. If voltage is not present between the GN/BR wire and both the YL wires (terminals 3 and 5), do Test B.</li> </ul>		

**B: BLOWER SPEED CONTROL TEST**

<b>Measure: VOLTAGE</b> <b>AT: BLOWER SPEED CONTROL CONNECTOR (Disconnected)</b> <b>Conditions:</b> <ul style="list-style-type: none"> <li>• Ignition Switch: RUN</li> <li>• A/C Select Switch: ON (Depressed)</li> <li>• Fresh/Recirculating Air Switch: FRESH (Not Depressed)</li> </ul>		
Measure Between	Correct Voltage	For Diagnosis
4 (GN/BR) & Ground	Battery	See 1
7 (YL) & Ground	Battery	See 2
• A/C Select Switch: OFF (Not Depressed)		
7 (YL) & Ground	0 Volts	See 3
4 (GN/BR) & 7 (YL)	Battery	See 4, 8, 9, & 10
4 (GN/BR) & 1 (BK)	Battery	See 5, 8, 9, & 10
4 (GN/BR) & 2 (GN)	Battery	See 6, 8, 9, & 10
4 (GN/BR) & 3 (BU)	Battery	See 7 & 10
<ul style="list-style-type: none"> <li>• If all voltages are correct, replace the Blower Motor.</li> </ul> <ol style="list-style-type: none"> <li>1. Check the GN/BR wire for an open.</li> <li>2. Check the YL wire for an open between Blower Speed Control and splice S231.</li> <li>3. Check the YL wire for a wire to wire short to voltage.</li> <li>4. Check the YL wire for an open between splice S231 and the Blower Resistors.</li> </ol>		

(Continued in next column)

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<ol style="list-style-type: none"> <li>5. Check the BK wire for an open.</li> <li>6. Check the GN wire for an open.</li> <li>7. Check the BU wire for an open.</li> <li>8. If voltage is not present at the YL wire, but is present at the GN wire or BK wire, replace the Blower Resistors.</li> <li>9. If voltage is not present at the YL, BK or GN wires, check for an open Blower Resistors' Safety Switch.</li> <li>10. If voltage is not present at the YL, BK, GN and BU wires, do Test C.</li> </ol>
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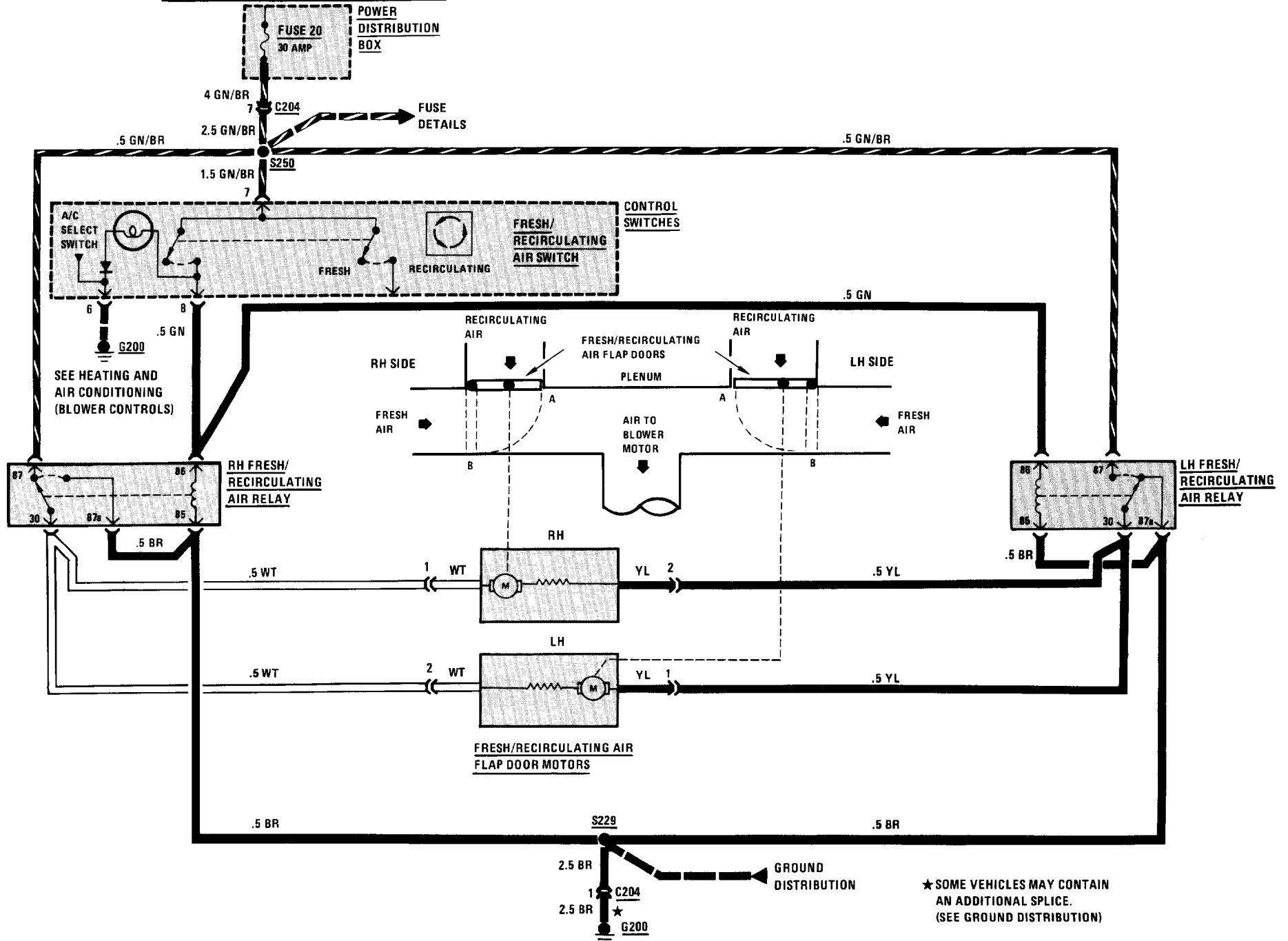
**C: BLOWER MOTOR TEST**

<b>Measure: VOLTAGE</b> <b>At: BLOWER MOTOR CONNECTOR (Disconnected)</b> <b>Conditions:</b> <ul style="list-style-type: none"> <li>• Ignition Switch: RUN</li> <li>• A/C Select Switch: ON</li> <li>• Blower Speed Control: HIGH</li> </ul>		
Measure Between	Correct Voltage	For Diagnosis
BU & Ground	Battery	See 1
BU & BR	Battery	See 2
<ul style="list-style-type: none"> <li>• If both voltages are correct, replace the Blower Motor.</li> </ul> <ol style="list-style-type: none"> <li>1. Check the BU wire for an open. If wire is good, recheck Test B.</li> <li>2. Check the BR wire to ground G200 for an open.</li> </ol>		

# 6421-0 A/C AIR DELIVERY CONTROL

## HEATING AND AIR CONDITIONING (FRESH/RECIRCULATING AIR CONTROLS)

HOT IN RUN ONLY FROM UNLOADER RELAY K7



★ SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)



**CIRCUIT OPERATION**

When the Ignition Switch is in RUN, battery voltage is applied to terminal 7 of the Control Switches, the normally open contacts of the LH Fresh/Recirculating Air Relay, and the normally closed contacts of the RH Fresh/Recirculating Air Relay. If the Fresh/Recirculating Air Switch is not depressed (open), battery voltage is applied through the normally closed contacts of the RH Fresh/Recirculating Air Relay to both Fresh/Recirculating Air Flap Door Motors and then to ground through the normally closed contacts of the LH Fresh/Recirculating Air Relay. Both motors operate and move the Fresh/Recirculating Air Flap Doors to position A, allowing fresh air to enter the blower.

When the Fresh/Recirculating Air Switch is depressed (closed), battery voltage is applied through the switch to both the LH and RH Fresh/Recirculating Air Relay coils. Both relays are energized. Battery voltage is then applied through the closed contacts of the LH Fresh/Recirculating Air Relay to the Flap Door Motors, and to ground through the closed contacts of the RH Fresh/Recirculating Air Relay. Since the voltage is now applied to the Flap Door Motors in the opposite direction, the motors reverse direction and move the Fresh/Recirculating Air Flap Doors to position B, allowing only recirculating air to enter the blower. Both of the Air Flap Door Motors remain energized continuously. When the doors reach the end of their travel, the motors stall and hold the doors in position.

**TROUBLESHOOTING HINTS**

- Try the following checks before doing the System Diagnosis.
  1. Check that LH and RH Fresh/Recirculating Air Relays are firmly seated.
  2. Check that LH and RH Fresh/Recirculating Air Relay pigtail connectors are properly mated.
- Go to Heating and Air Conditioning (6410A-0) System Check for a guide to normal operation.
- Go to System Diagnosis for diagnostic tests.

**SYSTEM DIAGNOSIS**

- Do the tests below if the Fresh/Recirculating Air Flap Doors do not operate.

**A: FRESH/RECIRCULATING AIR FLAP DOOR MOTOR VOLTAGE TEST**

Measure: VOLTAGE At: FRESH/RECIRCULATING AIR FLAP DOOR MOTOR PIGTAIL CONNECTORS (Disconnected) Conditions: <ul style="list-style-type: none"> <li>• Ignition Switch: RUN</li> <li>• Fresh/Recirculating Air Switch: RELEASED (FRESH)</li> </ul>		
Measure Between	Correct Voltage	For Diagnosis
WT and Ground	Battery	See 1
WT and YL	Battery	See 2
• Fresh/Recirculating Air Switch: DEPRESSED (RECIRCULATING)		
YL and Ground	Battery	See 3

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YL and WT	Battery	See 3
• If all voltages are correct, replace the inoperative motor.		
1. Check the WT wire for an open. If wire is good, do Test B for RH Air Relay.		
2. Check the YL wire for an open. If wire is good, do Test B for LH Air Relay.		
3. Do Test B for both Air Relays.		

**B: FRESH/RECIRCULATING AIR RELAY VOLTAGE TEST**

Measure: VOLTAGE At: FRESH/RECIRCULATING AIR RELAY CONNECTOR (Disconnected) Conditions: <ul style="list-style-type: none"> <li>• Ignition Switch: RUN</li> <li>• Fresh/Recirculating Air Switch: DEPRESSED (RECIRCULATING)</li> <li>• Fresh/Recirculating Air Flap Door Motor Connectors: CONNECTED</li> </ul>		
Measure Between	Correct Voltage	For Diagnosis
87 (GN/BR) and Ground	Battery	See 1
86 (GN) and Ground	Battery	See 2
86 (GN) and 85 (BR)	Battery	See 3
86 (GN) and 87a (BR)	Battery	See 3

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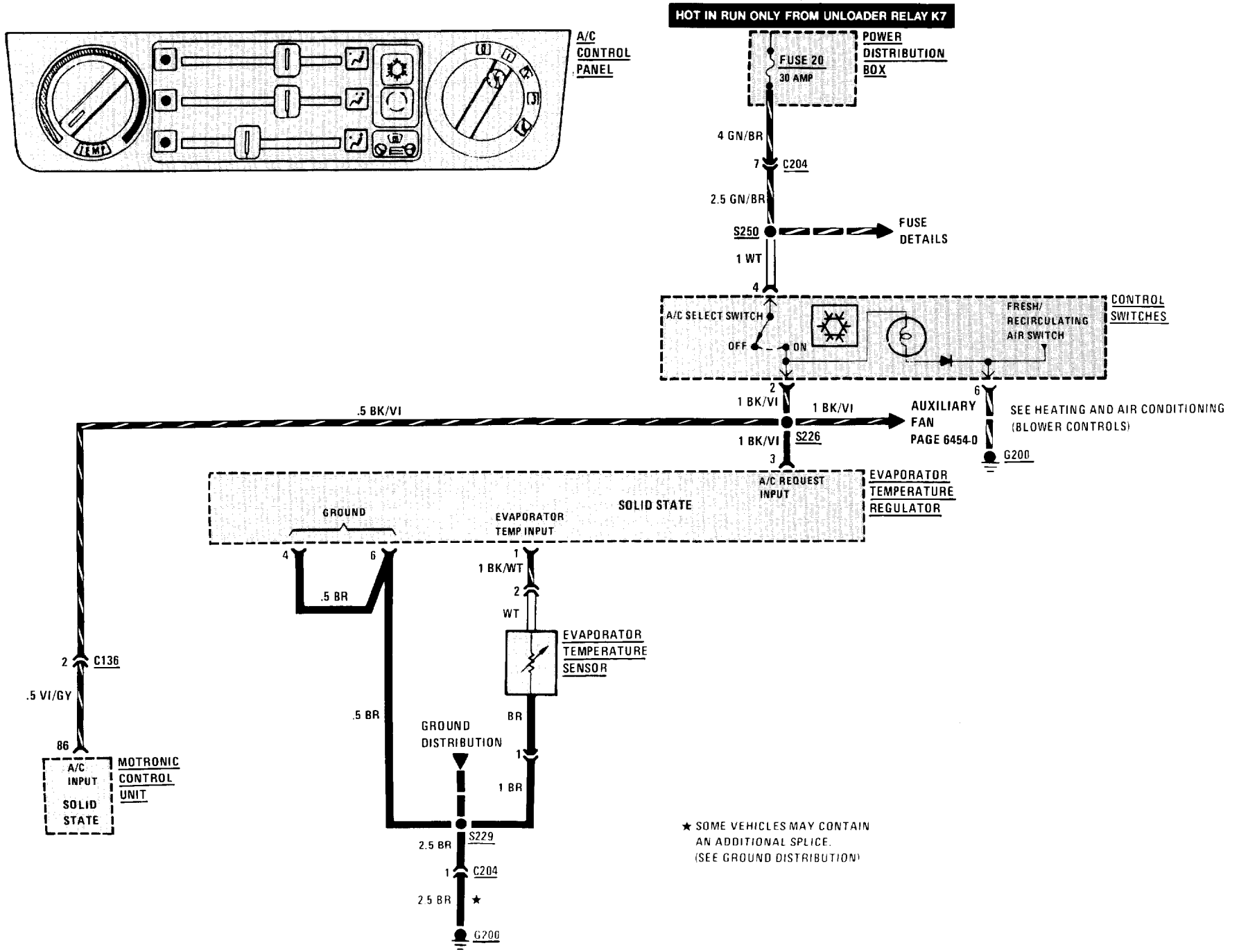
- If all voltages are correct, replace the suspect Fresh/Recirculating Air Relay.
- 1. Check the GN/BR wire for an open.
- 2. Check the GN wire back to the Control Switches for an open. If wire is good, do Test C.
- 3. Check the BR wire for an open.

**C: CONTROL SWITCHES VOLTAGE TEST**

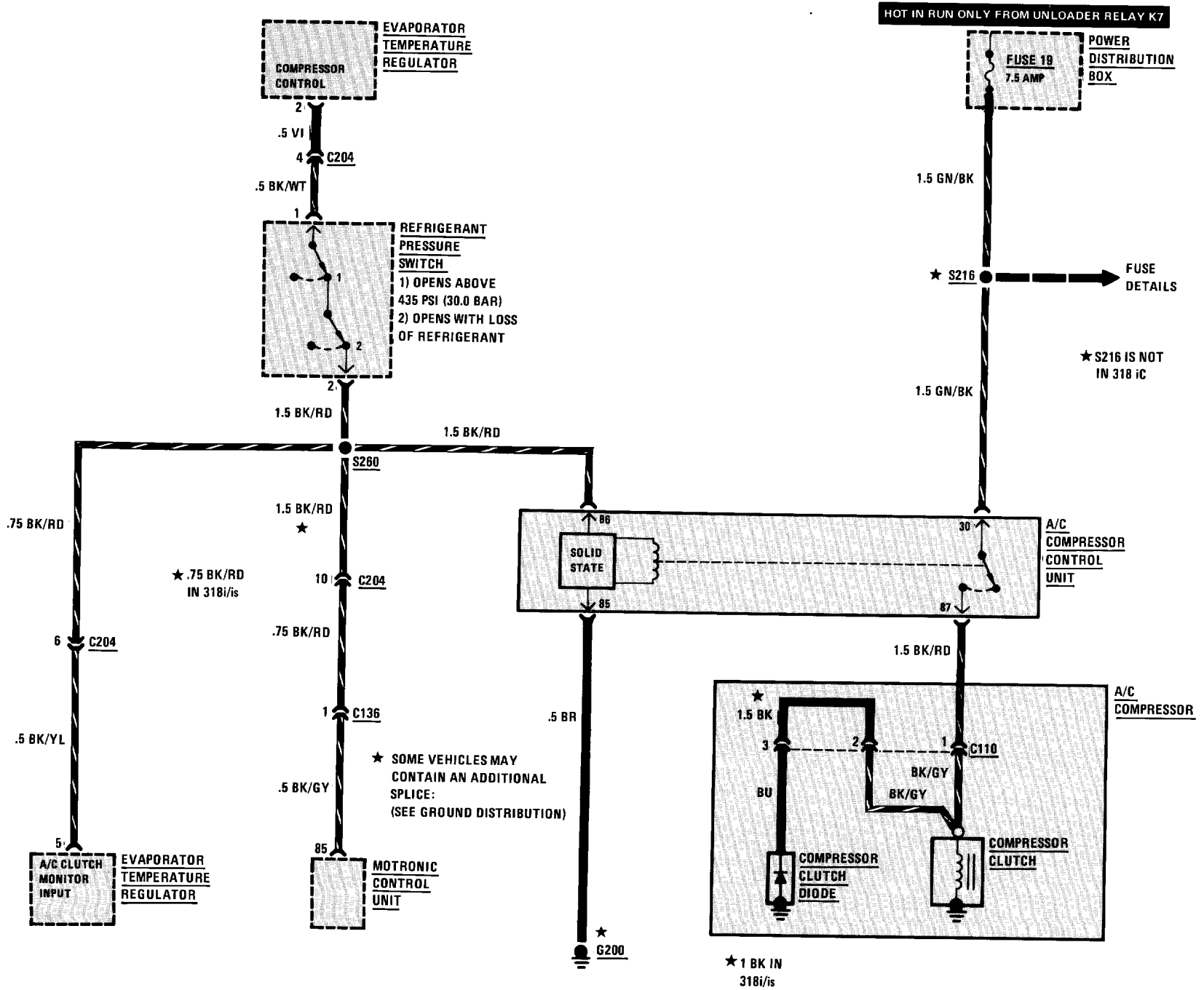
<b>Measure: VOLTAGE</b> <b>At: CONTROL SWITCHES CONNECTOR</b> (Disconnected) <b>Condition:</b> • Ignition Switch: RUN		
Measure Between	Correct Voltage	For Diagnosis
7 (GN/BR) & Ground	Battery	See 1
7 (GN/BR) & 8 (GN)	Battery	See 2
<ul style="list-style-type: none"> <li>• If both voltages are correct, replace the Control Switches.</li> <li>1. Check the GN/BR wire for an open. If wire is good, check that connector C204 is properly mated.</li> <li>2. Check the GN wire for an open between the Control Switches and the LH and RH Fresh/Recirculating Air Relays.</li> </ul>		

# 6452-0 A/C COMPRESSOR CONTROLS

## HEATING AND AIR CONDITIONING (COMPRESSOR CONTROLS)



HEATING AND AIR CONDITIONING (COMPRESSOR CONTROLS)



**CIRCUIT OPERATION**

When the Ignition Switch is in RUN, battery voltage is applied through Fuse 20 to the A/C Select Switch. When the A/C Select Switch is pressed, voltage is applied to terminal 3 of the Evaporator Temperature Regulator. The Evaporator Temperature Regulator applies voltage from terminal 2 to the coil in the A/C Compressor Control Unit through the Refrigerant Pressure Switch, allowing current to flow from Fuse 19 to the Compressor.

The Refrigerant Pressure Switch will disengage the Compressor Clutch when refrigerant pressure rises above 435 PSI (30.0 BAR) or when a loss of refrigerant brings the pressure below 21.8 PSI (1.5 BAR). The Evaporator Temperature Regulator will detect the Refrigerant Pressure Switch opening at terminal 5 and will turn off the output voltage at the Compressor Control terminal. The Evaporator Temperature Regulator will not allow the Compressor Clutch to be turned on again until circuit continuity has been restored between terminals 5 and 2. The Evaporator Temperature Regulator tests for continuity by momentarily applying voltage at the Compressor Control every 8 to 10 seconds. Voltage at the A/C Clutch Monitor Input indicates continuity. The Evaporator Temperature Regulator will continue to apply voltage at the Compressor Clutch output, which will allow the Compressor Clutch to be energized.

**Clutch Diode**

Whenever the Compressor Clutch is de-energized, the collapsing magnetic field induces a voltage in the winding. The Clutch Diode provides a path for the resulting current.

**A/C On Input**

When the Compressor Clutch is turned on, voltage is applied to terminal 29 of the Motronic Control Unit. The Motronic Control Unit uses this signal increase idle speed to compensate for the increased engine load from the Compressor Clutch engaging.

**TROUBLESHOOTING HINTS**

- Try the following checks before doing the System Diagnosis.
  1. Check Fuses 19 and 20 by visual inspection.
  2. Check that Compressor Clutch connector is firmly seated.
- Go to Heating and Air Conditioning (6410A-0) System Check for a guide to normal operation.
- Go to System Diagnosis for diagnostic tests.

**SYSTEM DIAGNOSIS**

- Do the tests listed for your symptom in the Symptom Table below.
- Tests follow the Symptom Table.

**SYMPTOM TABLE**

Compressor Clutch does not engage.	A
Engine idle speed is not high enough when Compressor Clutch engages.	D

**A: A/C ISOLATION TEST (TABLE 1)**

Measure: VOLTAGE At: EVAPORATOR TEMPERATURE REGULATOR (Disconnected) Conditions: <ul style="list-style-type: none"> <li>• Ignition Switch: RUN (Engine need not be running)</li> <li>• A/C Selector Switch: ON (Depressed)</li> </ul>		
Measure Between	Correct Voltage	For Diagnosis
3 & Ground	Battery	See 1
• If voltage is correct, go to Table 2. 1. Go to Test E.		

**A: A/C ISOLATION TEST (TABLE 2)**

Connect: FUSED JUMPER At: EVAPORATOR TEMPERATURE REGULATOR (Disconnected) Conditions: • Ignition Switch: RUN • A/C Selector Switch: ON (Depressed)		
Connect Across	Correct Result	For Diagnosis
2 & 3	Compressor Clutch Engages	See 1
• If result is correct go to Test C. 1. Go to Test B.		

**B: PRESSURE SWITCH TEST**

Measure: RESISTANCE At: EVAPORATOR TEMPERATURE REGULATOR CONNECTOR (Disconnected) Conditions: • Ignition Switch: OFF • Negative Battery Terminal: DISCONNECTED		
Measure Between	Correct Resistance	For Diagnosis
2 & Ground	Approximately 3 to 4 ohms	See 1
• If measurement is correct, replace the Evaporator Temperature Regulator. 1. Check for an open Refrigerant Pressure Switch, Compressor Control Unit, A/C Temperature Switch, or associated wiring (see schematic). If Refrigerant Pressure Switch is open, check refrigerant pressure to be sure it is normal before replacing the switch. If the switch and related wiring is OK, replace the Compressor Clutch.		

**C: EVAPORATOR TEMPERATURE REGULATOR VOLTAGE AND RESISTANCE TEST**

Measure: RESISTANCE At: EVAPORATOR TEMPERATURE REGULATOR CONNECTOR (Disconnected) Conditions: • Ignition Switch: OFF • Negative Battery Terminal: DISCONNECTED		
Measure Between	Correct Resistance	For Diagnosis
1 & Ground	Approximately 3.5K to 4.5K ohms at 70 °F (21 °C)	See 1
4 & Ground	Less than 0.5 ohms	See 2
6 & Ground	Less than 0.5 ohms	See 2
5 & 2	Less than 0.5 ohms	See 3
• If all resistances are correct but Compressor Clutch does not operate normally, replace the Evaporator Temperature Regulator. 1. Check the BK/WT wire for an open or a short to ground (see schematic). Check the BR wire for an open (see schematic). If wires are good, replace the Evaporator Temperature Sensor. 2. Check the BR wire for an open (see schematic). 3. Check BK/RD for an open between terminal 5 and the the Refrigerant Pressure Switch.		

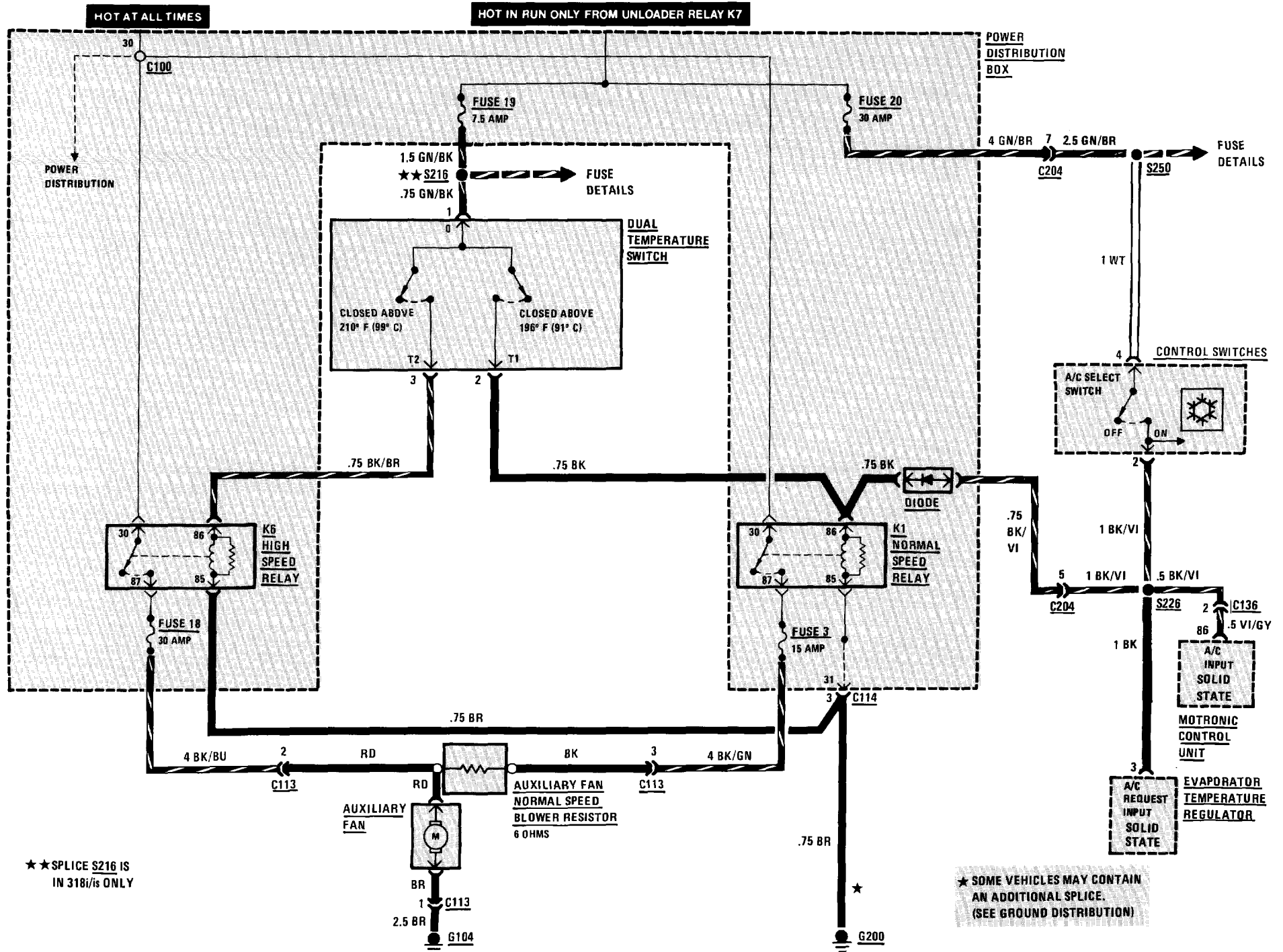
**D: IDLE SPEED CONTROL VOLTAGE TEST**

Measure: VOLTAGE At: MOTRONIC CONTROL UNIT CONNECTOR (Connected – Universal Adapter) Conditions: <ul style="list-style-type: none"> <li>• Ignition Switch: RUN</li> <li>• A/C Control Panel: A/C ON</li> <li>• Temperature Outside Car: Above 60 degrees F (16 degrees C)</li> </ul>		
Measure Between	Correct Voltage	For Diagnosis
85 (BK/GY) & Ground	Battery	See 1
86 (VI/GY) & Ground	Battery	See 2
<ul style="list-style-type: none"> <li>• If the voltage is correct, repair/replace the Motronic Control Unit.</li> </ul> <ol style="list-style-type: none"> <li>1. Check for an open in the BL/WT and BK/RD wires.</li> <li>2. Check for an open in the VI/GY and BK/VI wires.</li> </ol>		

**E: A/C SELECT SWITCH VOLTAGE TEST**

Measure: VOLTAGE At: CONTROL SWITCHES CONNECTOR (Connected) Conditions: <ul style="list-style-type: none"> <li>• Ignition Switch: RUN</li> <li>• A/C Control Panel: A/C ON</li> <li>• Temperature Outside Car: Above 60 degrees F (16 degrees C)</li> </ul>		
Measure Between	Correct Voltage	For Diagnosis
4 (WT) & Ground	Battery	See 1
2 (BK/VI) & Ground	Battery	See 2
<ul style="list-style-type: none"> <li>• If both voltages are correct, check connections at Evaporator Temperature Regulator.</li> </ul> <ol style="list-style-type: none"> <li>1. Check for an open in the WT and GN/BR wires.</li> <li>2. Replace the A/C Select Switch.</li> </ol>		

# 6454-0 AUXILIARY FAN



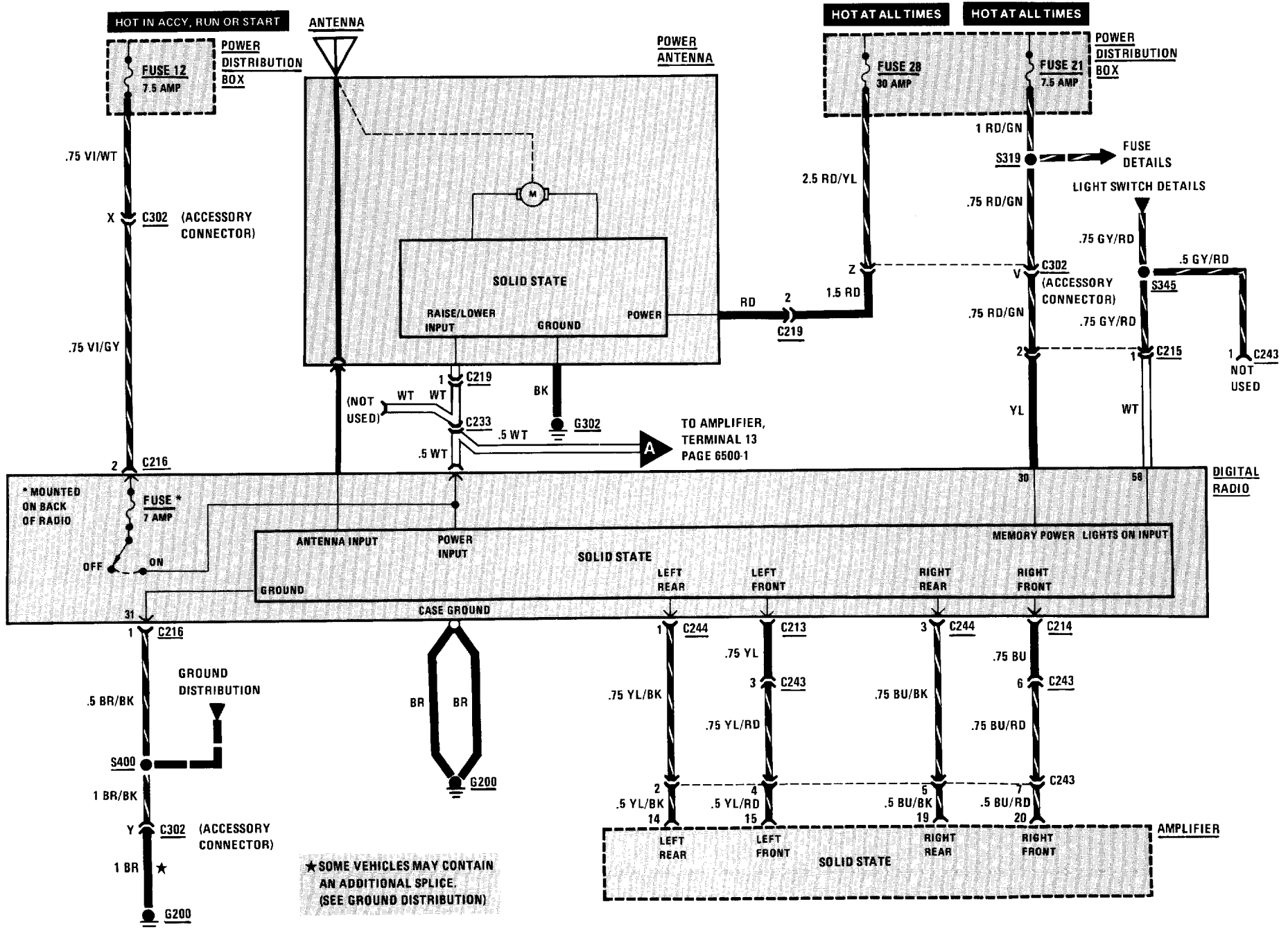
★★ SPLICE S216 IS IN 318i/IS ONLY

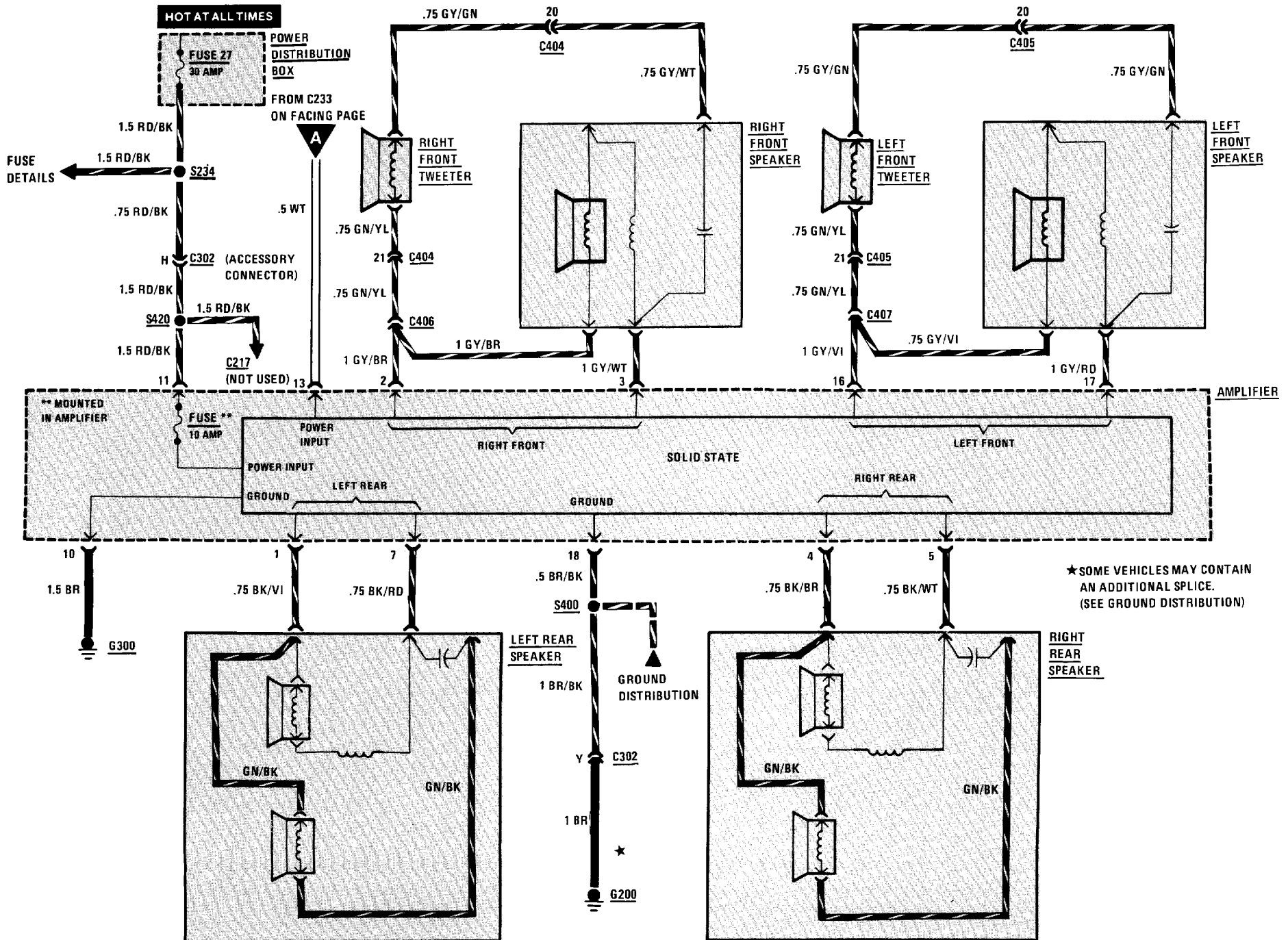
★ SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)



# 6500-0 RADIO/ANTENNA

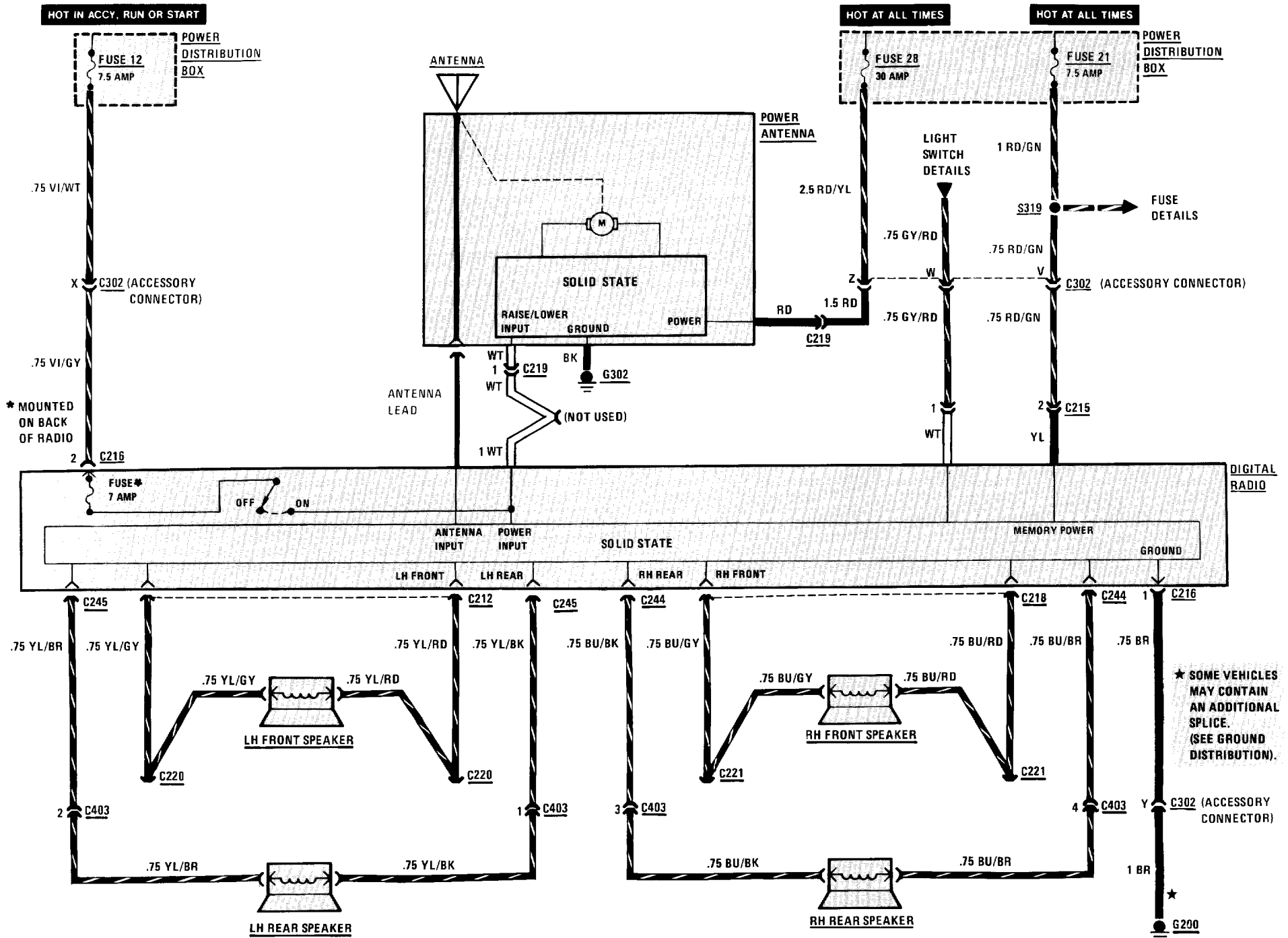
## WITH SOUND SYSTEM





# 6500-2 RADIO/POWER ANTENNA

## RADIO ONLY



# 6500A-0 RADIO/ANTENNA

## CIRCUIT OPERATION

With the Ignition Switch in ACCY, RUN or START, Fuse 12 provides voltage to turn on the three components in the system. When the Radio Switch is on, voltage is applied to the Radio, the Power Antenna Raise/Lower Input, and the Amplifier. This voltage is used to control the individual unit's main power supply.

When the Raise/Lower Input of the Power Antenna receives voltage, power is supplied from Fuse 28 to run the motor and raise the Antenna. When voltage is no longer present at the Raise/Lower Input, the Antenna is lowered.

Fuse 21 constantly supplies voltage to the Memory Power Input of the Radio. This allows the Radio to maintain the present settings while it is turned off.

The Amplifier receives constant power at terminal 11 from Fuse 27. When the Radio is on, voltage is applied to terminal 13 to enable the Amplifier.

The actual Radio signal originates at the Antenna. It is supplied to the Radio, processed, and output from the Left Channel and Right Channel Outputs. The signal is then input to the Left Front, Left Rear, Right Front and Right Rear Inputs to the Amplifier. After amplification, the signal is output to the corresponding speakers.

## TROUBLESHOOTING HINTS

- Try the following checks before doing the System Check.
  1. Check power input to the Radio by observing if Instrument Cluster Indicators light.
  2. Check power input to Antenna by observing the Cigar Lighter.
  3. Check memory power to Radio by checking operation of the Glove Box Light.
  4. Check power input to the Amplifier.
  5. Check that the Antenna is properly connected.
  6. Before troubleshooting a suspect Speaker, check all connections to that Speaker.
  7. If display shows "CODE" and Radio will not operate, the individual Anti-Theft Code must be entered. Refer to "Anti-Theft" instruction booklet.
  8. Check Radio Fuse located on back of Radio.
  9. Check Amplifier Fuse located on back of Amplifier.
  10. For Radios without sound system: If a speaker is inoperative, switch with a good speaker. If still inoperative, check related wiring. Remove Radio for service if wiring is OK.

## SYSTEM CHECK

- Use the System Check Table as a guide to normal operation.
- Refer to System Diagnosis for a list of symptoms and diagnostic steps.

### SYSTEM CHECK TABLE

ACTION	NORMAL RESULT
With Ignition Switch in RUN, turn Radio ON.	Antenna extends. Digital display lights. Sound is emitted from all Speakers.
Operate Fader Control.	Sound volume varies from front to rear.

- Refer to System Diagnosis when a result is not normal.

## SYSTEM DIAGNOSIS

- Do the tests listed for your symptom in the Symptom Table below.
- Tests follow the Symptom Table.

### SYMPTOM TABLE

SYMPTOM	FOR DIAGNOSIS
Radio does not work (no display, no sound).	Do Test A
Digital display lights, but there is no sound.	Do Test B
LH Speakers or RH Speakers do not operate.	Do Test C

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Antenna does not extend or retract.	Check ground wire for an open. Make sure ground G302 is clean and tight. Check wire to Power Antenna for opens. If OK, replace Power Antenna.
An individual Speaker does not operate.	Do Test D
Excessive noise comes from all Speakers.	Do Test E

**A: RADIO POWER TEST**

<b>Measure: VOLTAGE</b> <b>At: RADIO CONNECTOR C216 (Disconnected) or CONNECTOR C215 (Disconnected)</b> <b>Condition:</b> • Ignition Switch: RUN		
Measure Between	Correct Voltage	For Diagnosis
C216 & Ground	Battery	See 1
C216/2 & C216/1	Battery	See 2
C215/2 & Ground	Battery	See 3
• If all voltages are correct, check wire from connector C215 to Radio for an open. If wire is OK, remove Radio for service. 1. Check power input wire for an open 2. Check ground wire for an open to ground. Make sure ground G200 is clean and tight. 3. Check memory power supply wire for an open.		

**B: AMPLIFIER POWER TEST**

<b>Measure: VOLTAGE</b> <b>At: AMPLIFIER CONNECTOR (Disconnected)</b> <b>Conditions:</b> • Ignition Switch: RUN • Radio: ON		
Measure Between	Correct Voltage	For Diagnosis
11 & Ground	Battery	See 1
11 & 18	Battery	See 2
13 & Ground	Battery	See 3
11 & 10	Battery	See 4
• If all voltages are correct, go to Test C. 1. Check power supply wire for an open. 2. Check Amplifier ground to Amplifier for an open to ground. Make sure ground G200 is clean and tight. 3. Check Amplifier "Radio On" wire for an open. 4. Check wire from terminal 10 for an open to ground. Make sure ground G302 is clean and tight.		

**C: FADER SIGNAL TEST (WITH SOUND SYSTEM)**

<b>Measure: VOLTAGE</b> <b>At: AMPLIFIER CONNECTOR (Disconnected)</b> <b>Conditions:</b> • Ignition Switch: RUN • Radio: ON		
Measure Between	Correct Voltage	For Diagnosis
14 & Ground	Approximately 6 Volts	See 1
15 & Ground	Approximately 6 Volts	See 1
19 & Ground	Approximately 6 Volts	See 1
20 & Ground	Approximately 6 Volts	See 1
• If all voltages are correct but sound was not present, remove Amplifier for service. 1. Check between Radio and Amplifier for an open in the wiring. If wire is OK, remove Radio for service.		

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## 6500A-2 RADIO/ANTENNA

### D: SUSPECT SPEAKER TEST

<b>Connect: OHMMETER</b> <b>At: SUSPECT SPEAKER (Disconnected)</b> <b>Condition:</b> <ul style="list-style-type: none"> <li>• Ohmmeter set on Rx 1 scale or Diode Check Scale</li> </ul>		
Action	Correct Result	For Diagnosis
Connect Ohmmeter across Speaker Terminals	Speaker "pops"	See 1
<ul style="list-style-type: none"> <li>• If the result is correct, check wires to the Amplifier or Radio for opens or shorts. If OK, check wires between Amplifier (if equipped) and the Radio. Remove Radio for service.</li> </ul>		
<ol style="list-style-type: none"> <li>1. Replace the suspect Speaker.</li> </ol>		

### E: NOISE DIAGNOSIS

With Radio on and noise present, unplug the Antenna at the back of the Radio.

- If noise is no longer present, it was being picked up by the Antenna. Perform Antenna Noise Test.
- If noise persists, it is coming in the Radio wiring. Refer to the following Noise Symptom Table.

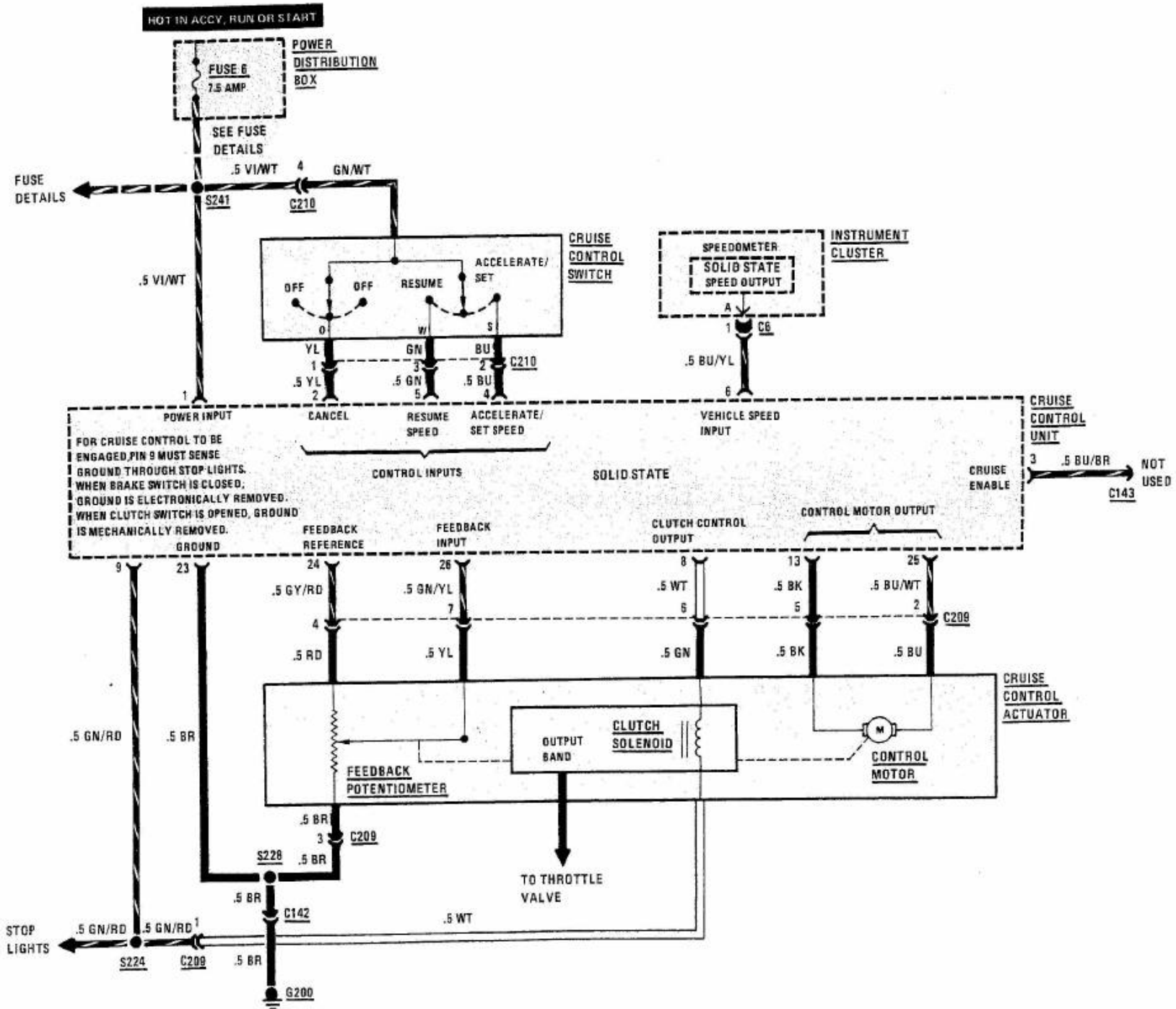
### ANTENNA NOISE TEST

<b>Measure: RESISTANCE</b> <b>At: ANTENNA</b>		
Measure Between	Correct Resistance	For Diagnosis
Antenna Plug Base & Ground	Less than 3 Ohms	See 1
Antenna Plug Tip & Antenna Plug Base	Greater than 1 Megohm (open circuit)	See 2
<ul style="list-style-type: none"> <li>• If both resistances are correct, check the hood ground strap. If OK, substitute different Antenna at Radio. If good, replace Antenna. If noise is still present, refer to Noise Symptom Table.</li> </ul>		
<ol style="list-style-type: none"> <li>1. Check ground contact at Antenna base. If necessary, install a braided ground strap from the Antenna Base to Chassis ground. Check for an open in the Antenna Cable.</li> <li>2. Check for a short to ground at the Antenna or Antenna cable.</li> </ol>		

**NOISE SYMPTOM TABLE**

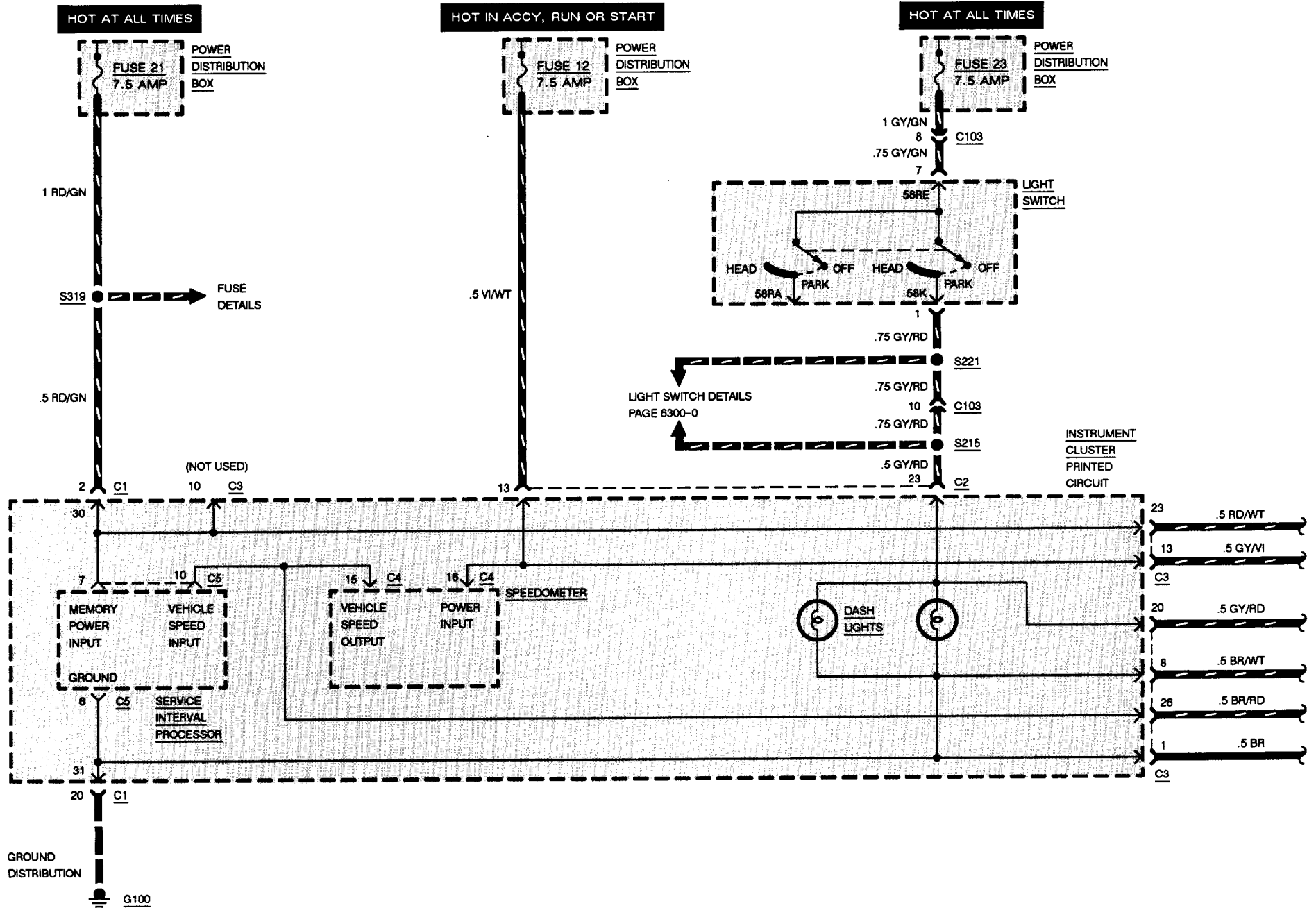
SYMPTOM	POSSIBLE CAUSE	REPAIR ACTION
Harsh popping or crackling noise present when ignition on-changes with engine rpm.	Ignition Noise	<ul style="list-style-type: none"> <li>• Check for proper ignition coil shielding.</li> <li>• Check shielding ground strap. If not present, install.</li> <li>• Check for defective spark plug or spark plug wire.</li> <li>• Reroute spark plug wires laying against anything that could be transmitting noise to the Radio (wiring or sensor leads traveling into the passenger compartment).</li> <li>• Check engine/firewall ground strap and engine hood/body ground strap.</li> <li>• Check if engine hood is closing properly.</li> <li>• Connect dedicated ground strap to Radio.</li> </ul>
High whine or howling that changes with engine rpm.	Alternator noise	<ul style="list-style-type: none"> <li>• Connect dedicated ground strap to Radio.</li> <li>• Run a direct wire from Battery to Alternator.</li> </ul>
AM only is weak and noisy.	AM alignment	<ul style="list-style-type: none"> <li>• Remove Radio for service.</li> </ul>
FM only is weak and noisy.	FM alignment	<ul style="list-style-type: none"> <li>• Remove Radio for service.</li> </ul>

# 6571-0 CRUISE CONTROL

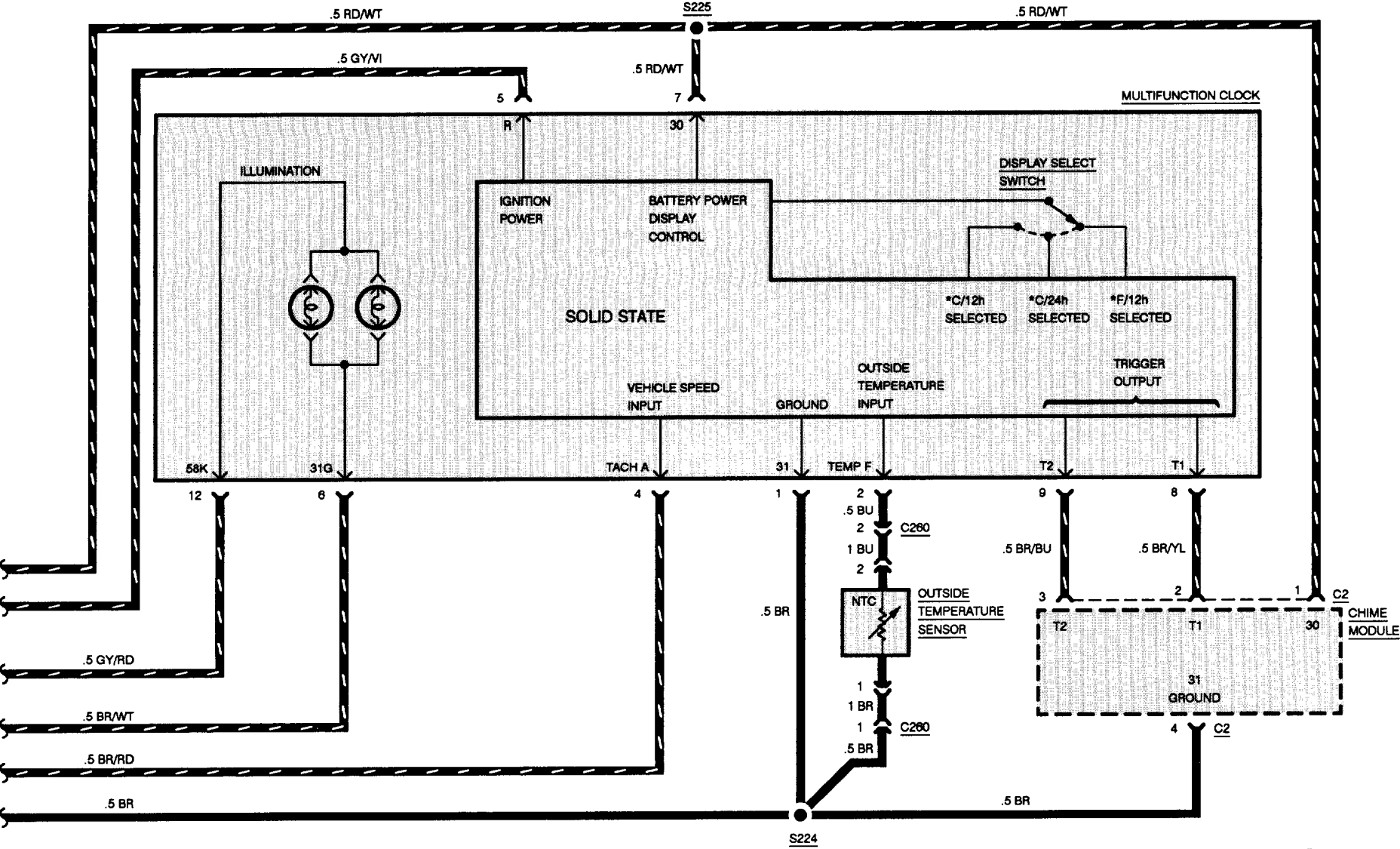




# 6581-0 MULTIFUNCTION CLOCK



MULTIFUNCTION CLOCK 6581-1



NOTE: SEE PAGE 6131-0 FOR REMAINING CHIME MODULE WIRING.

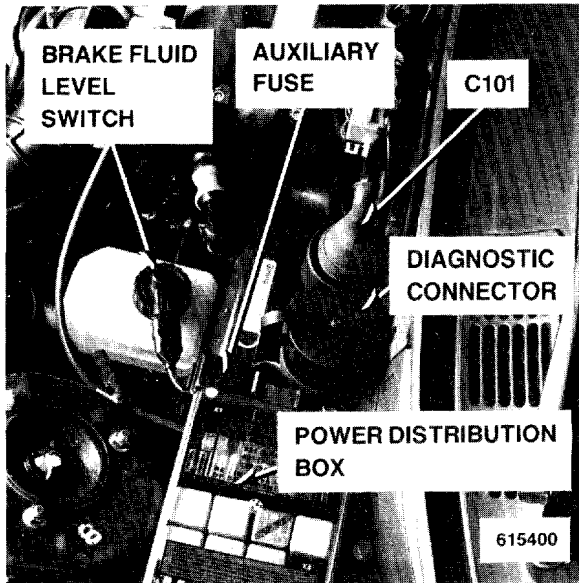


Figure 1 - LH Rear of Engine Compartment

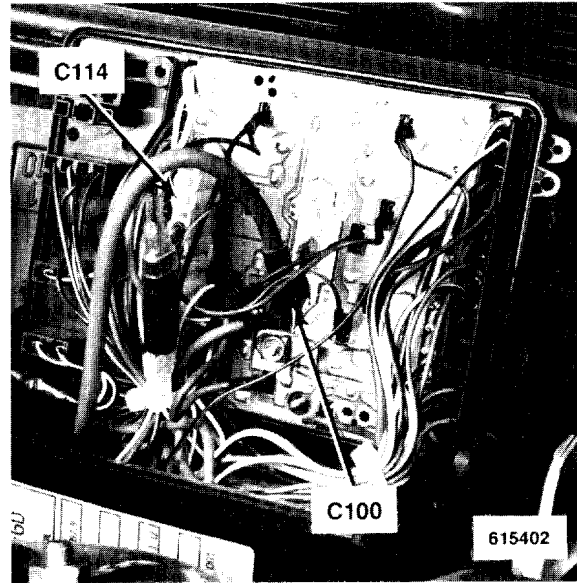


Figure 3 - LH Rear of Engine Compartment (Inside Power Distribution Box)

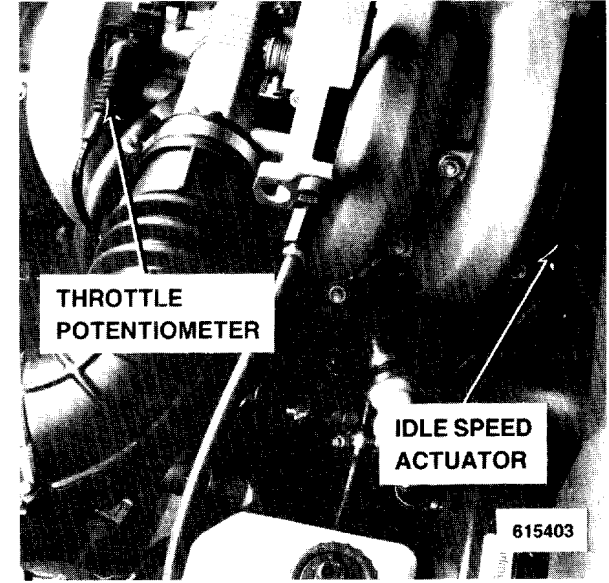


Figure 5 - LH Side of Engine

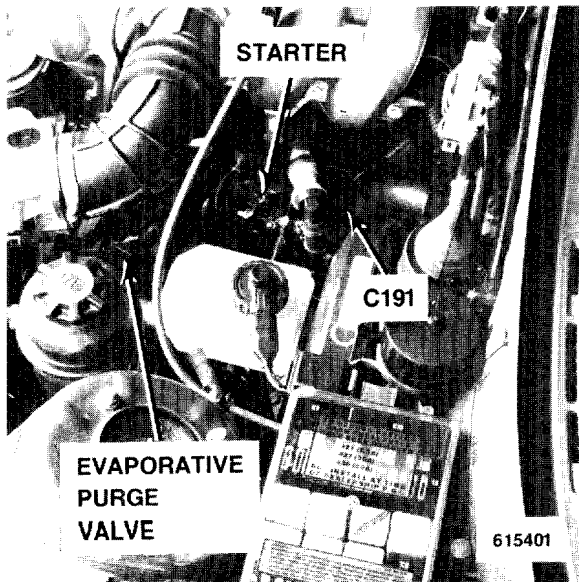


Figure 2 - LH Rear of Engine Compartment

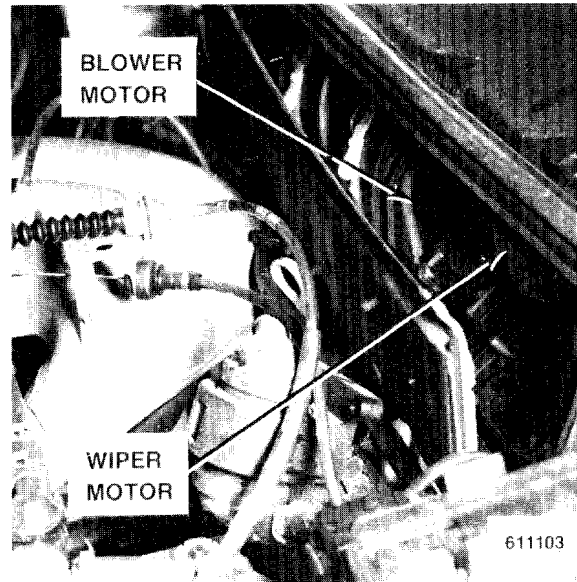


Figure 4 - Behind Fresh Air Intake Cowl

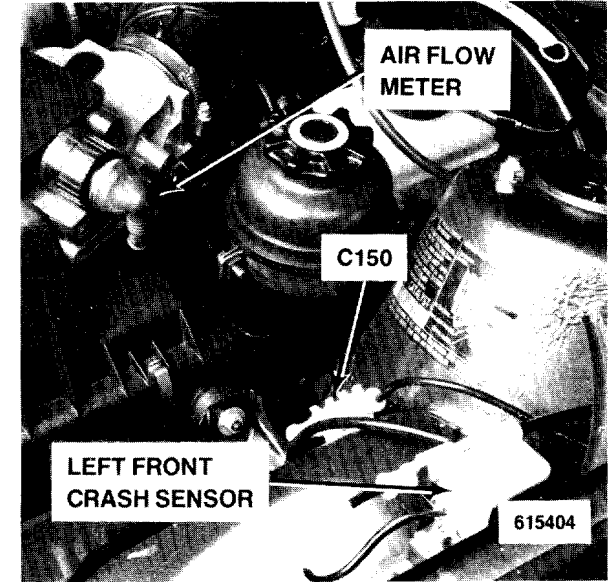


Figure 6 - LH Side of Engine Compartment

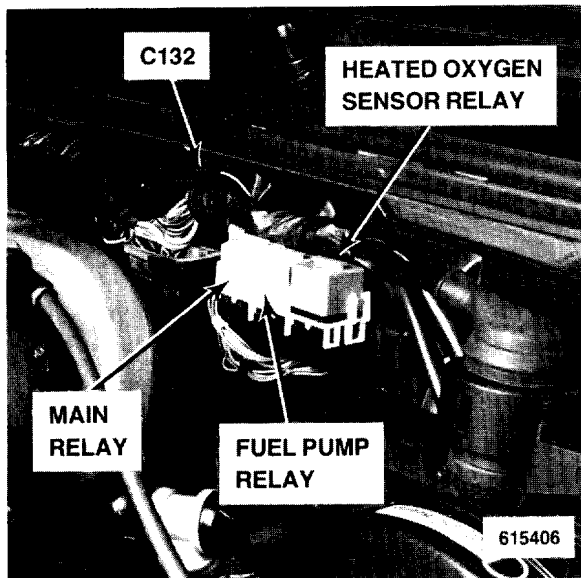


Figure 1 - Center Rear of Engine Compartment

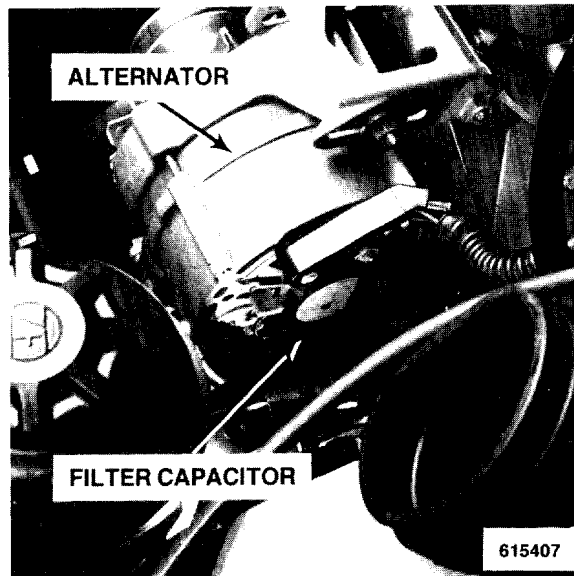


Figure 3 - Lower LH Front of Engine

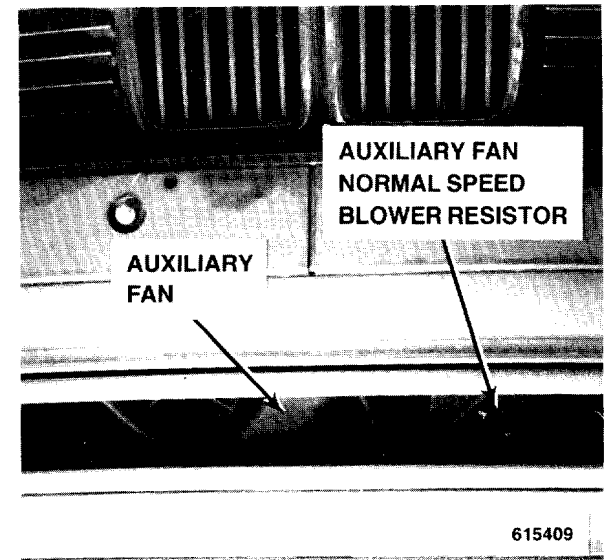


Figure 5 - Behind Center of Front Bumper

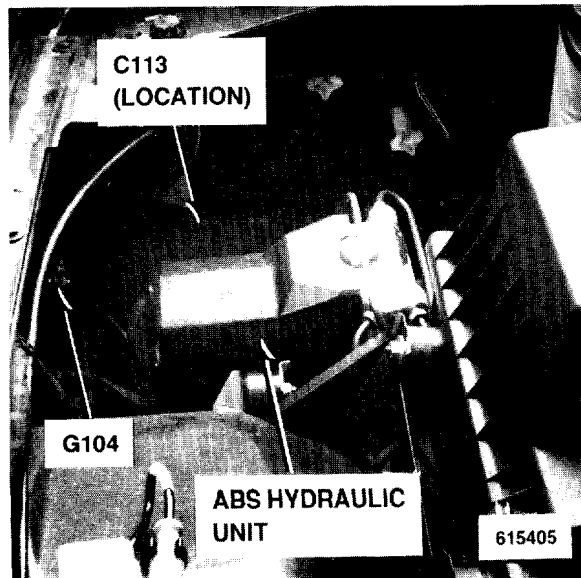


Figure 2 - LH Front Corner of Engine Compartment

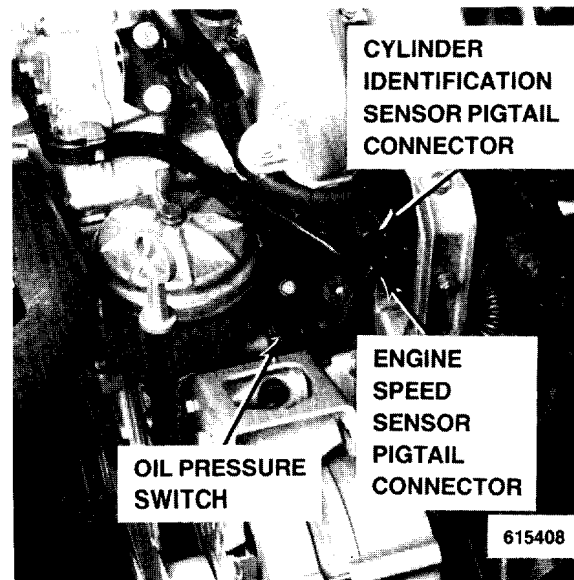


Figure 4 - Lower LH Front of Engine

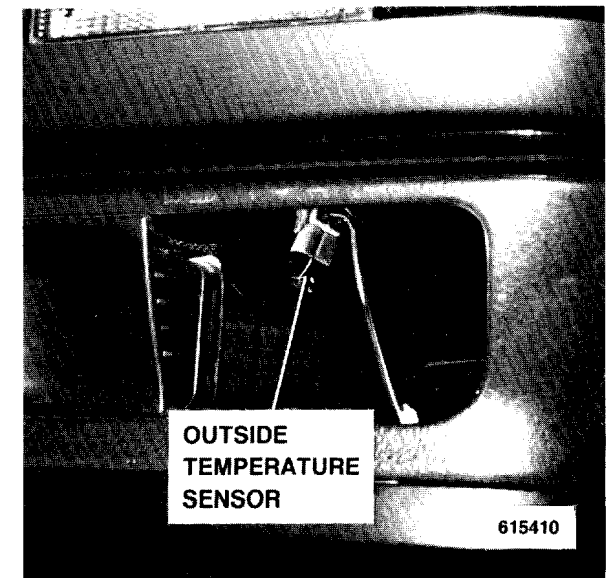


Figure 6 - Inside Lower LH Side of Bumper (Inside Air Intake)

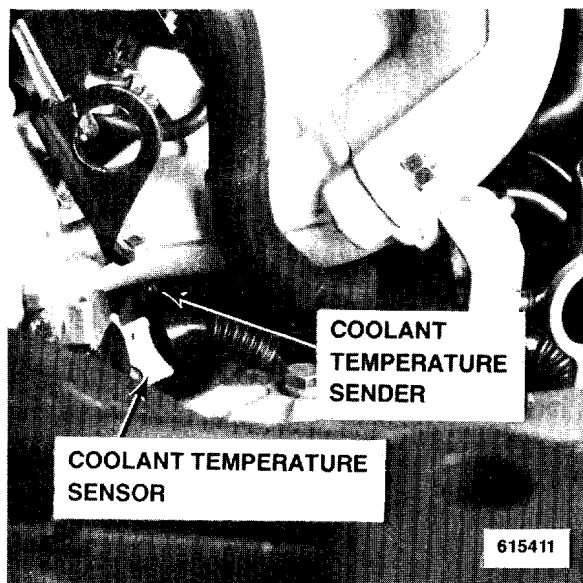


Figure 1 - Lower LH Side of Engine

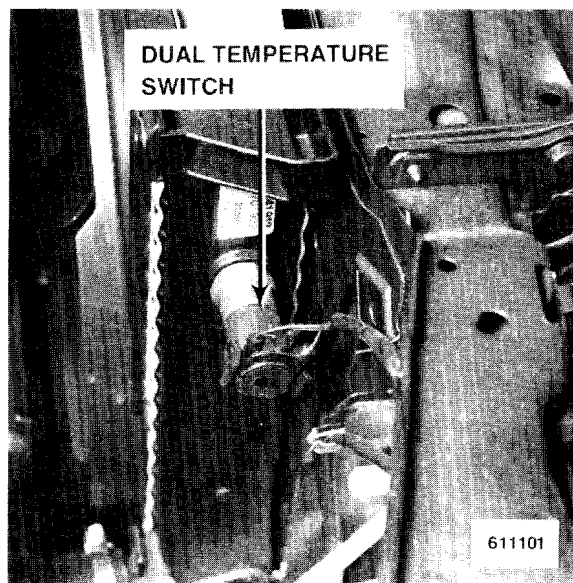


Figure 3 - Top RH Side of Radiator

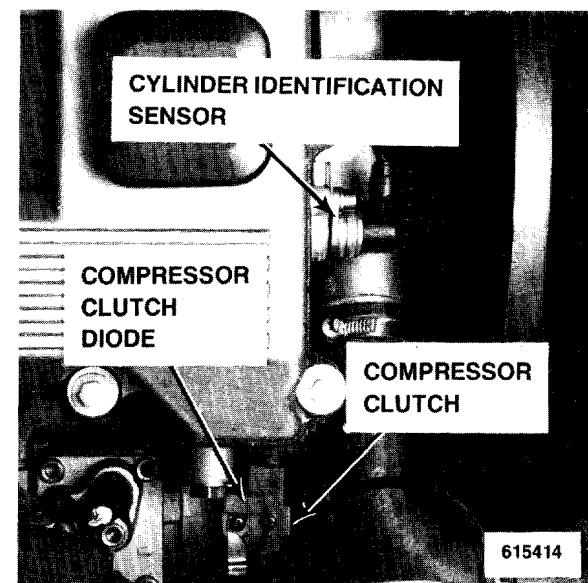


Figure 5 - Lower RH Front of Engine

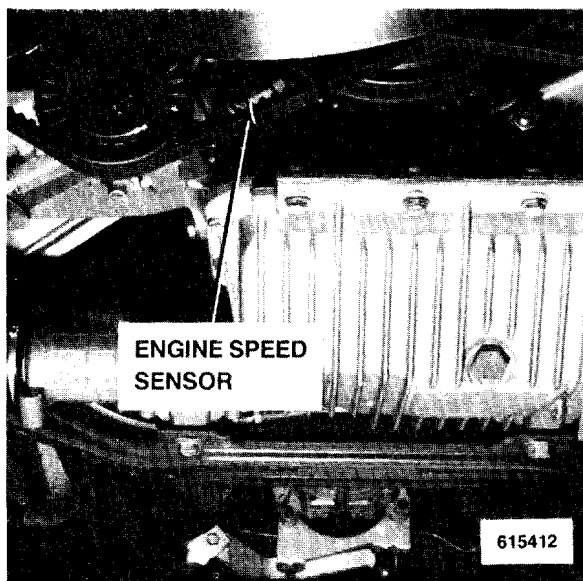


Figure 2 - Lower Front of Engine

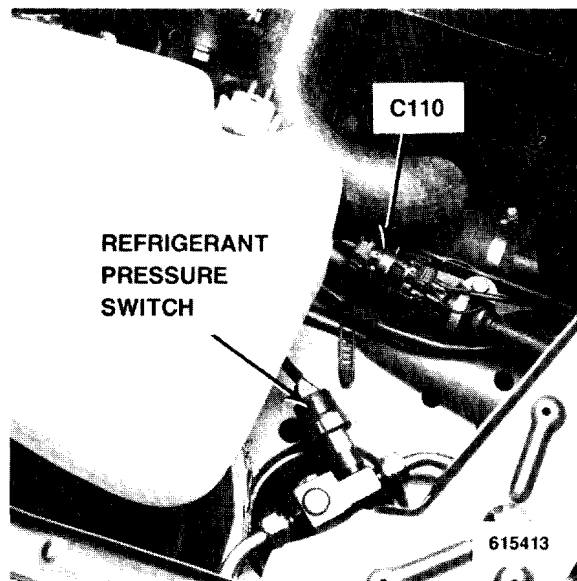


Figure 4 - RH Front Corner of Engine Compartment

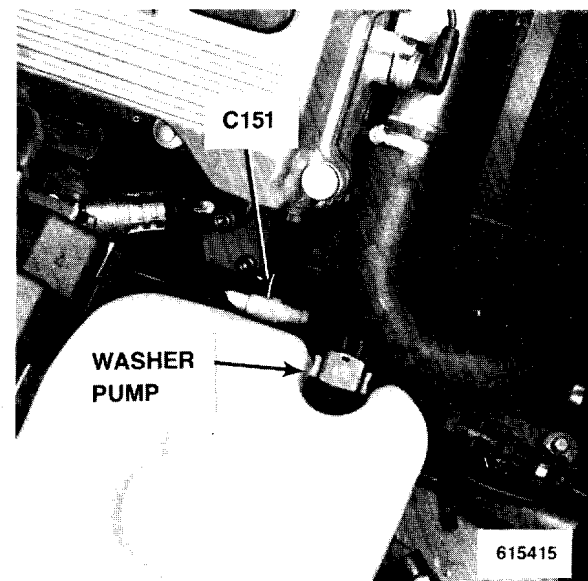


Figure 6 - RH Front Side of Engine Compartment

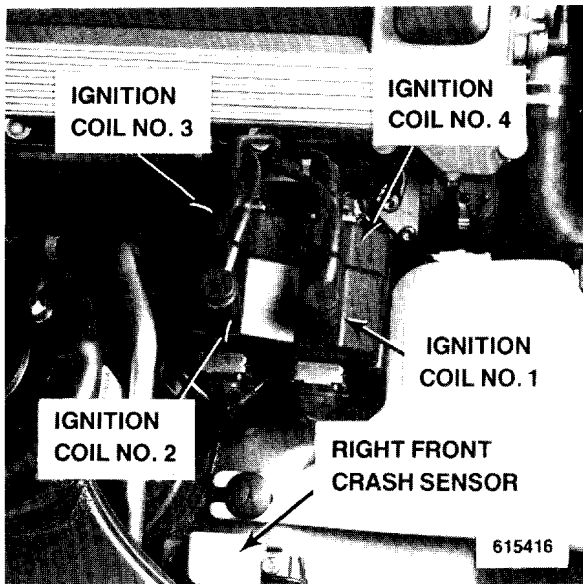


Figure 1 - RH Side of Engine Compartment

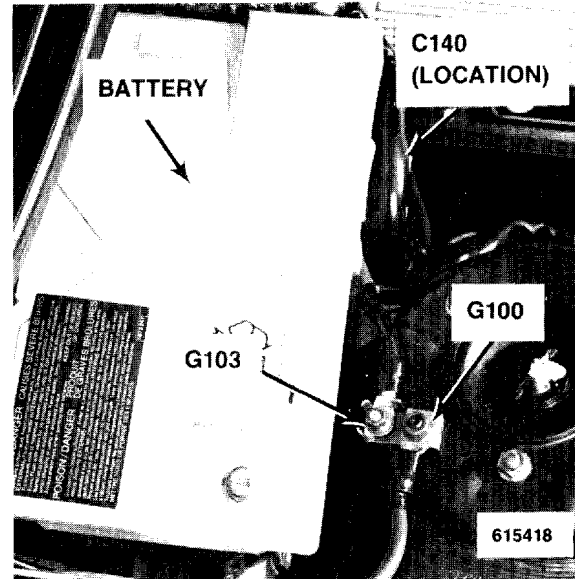


Figure 3 - RH Rear Corner of Engine Compartment

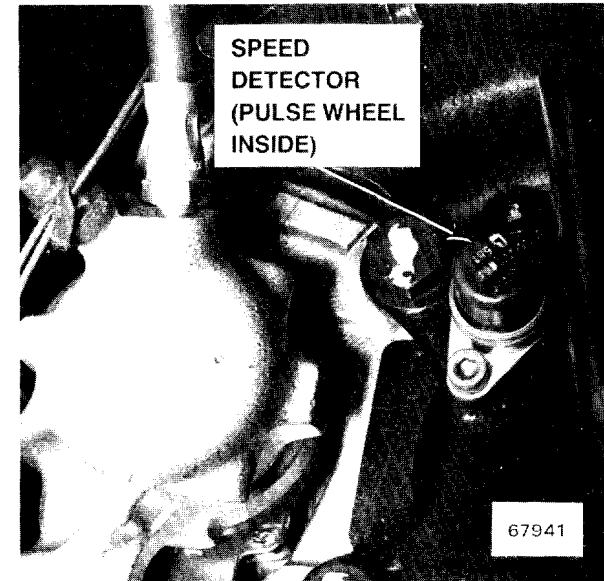


Figure 5 - LH Front Spindle Assembly (All Others Similar)

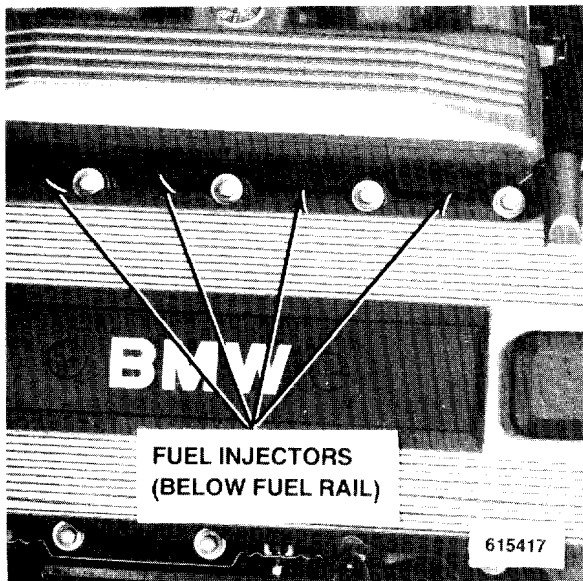


Figure 2 - RH Side of Engine

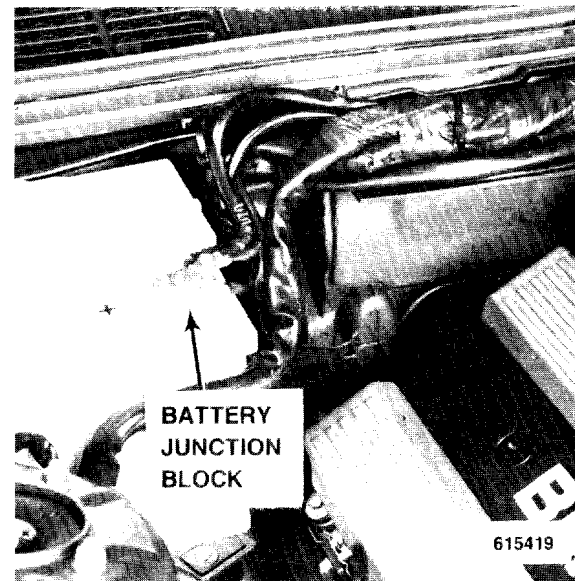


Figure 4 - RH Rear Corner of Engine Compartment

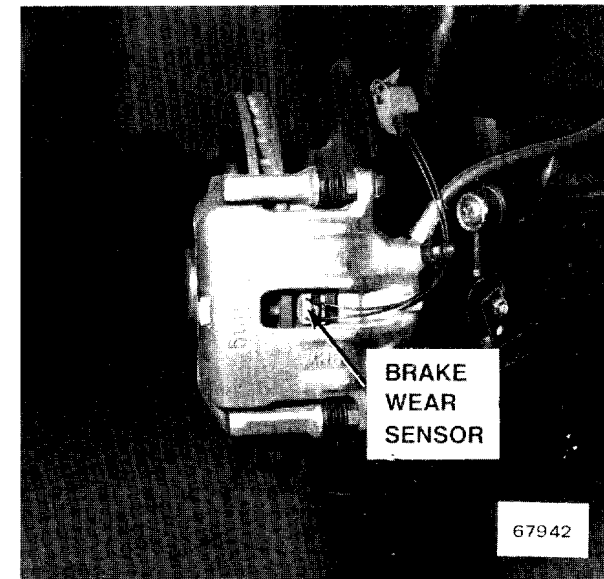


Figure 6 - LH Front Brake Assembly (Wheel Removed) (RH Rear Similar)

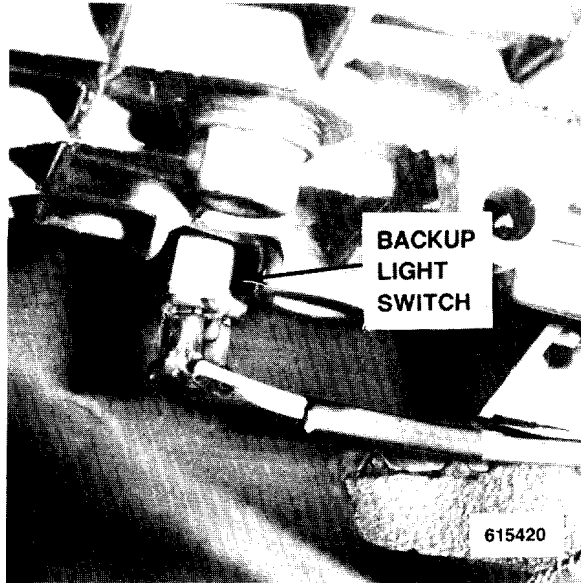


Figure 1 - RH Side of Transmission

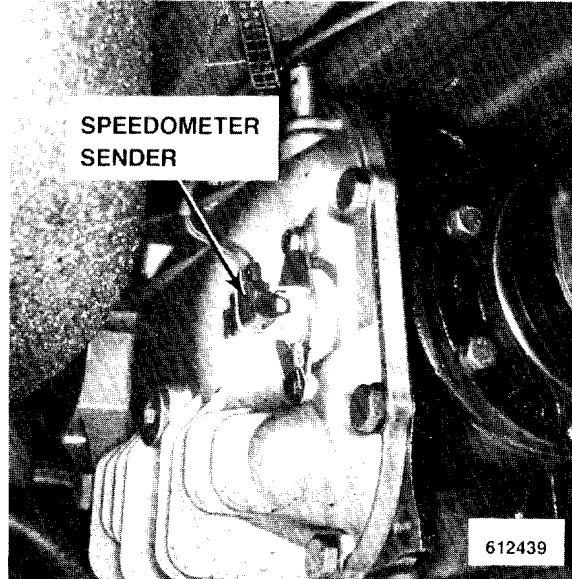


Figure 3 - Rear of Rear Differential

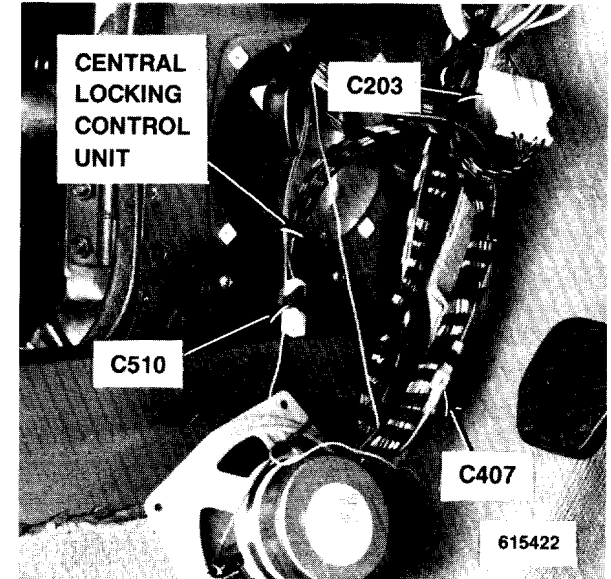


Figure 5 - LH Kick Panel (Speaker Removed)

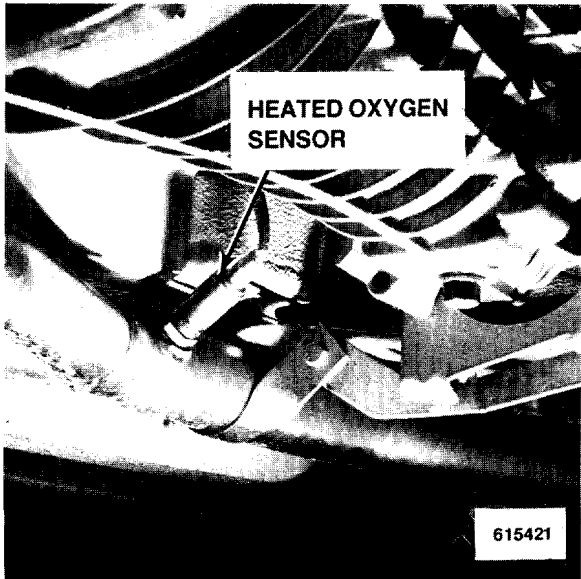


Figure 2 - Under Center of Car on Exhaust Pipe

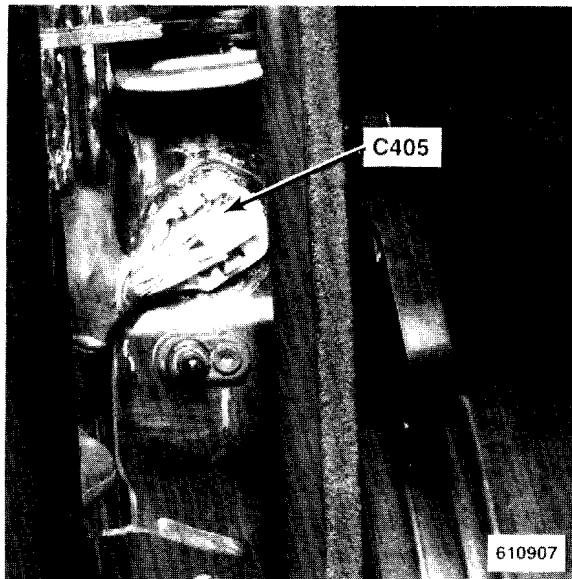


Figure 4 - Above LH Front Door Jamb Switch

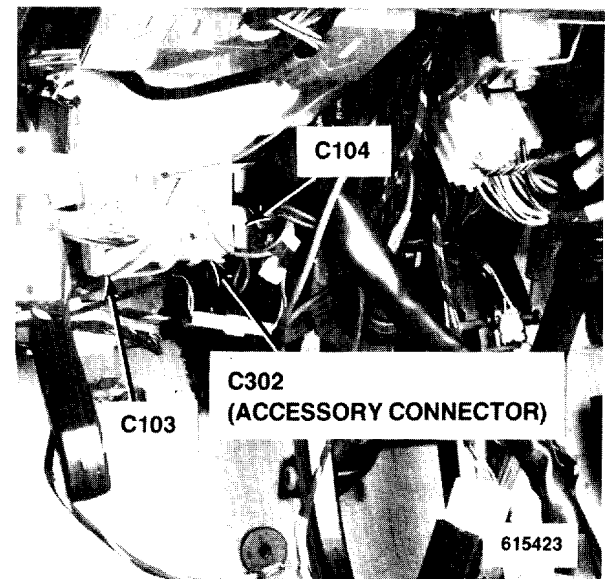


Figure 6 - Below LH Side of Dash, Left of Steering Column

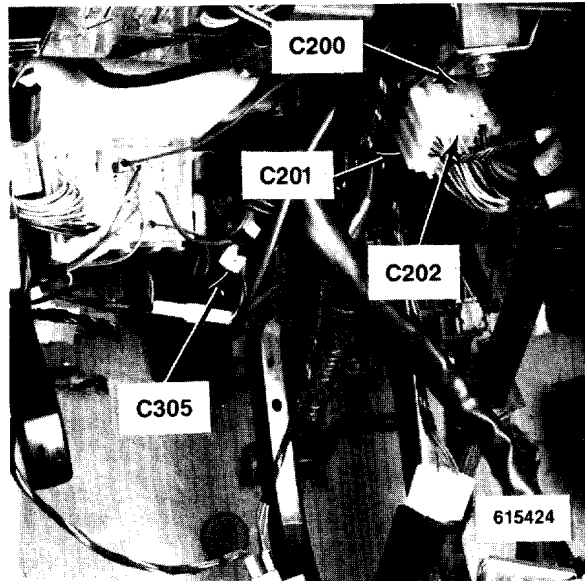


Figure 1 - Below LH Side of Dash, Left of Steering Column

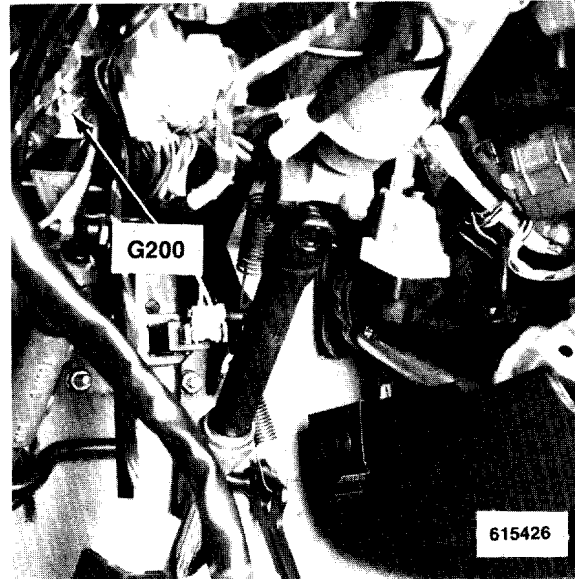


Figure 3 - Below LH Side of Dash, Left of Steering Column

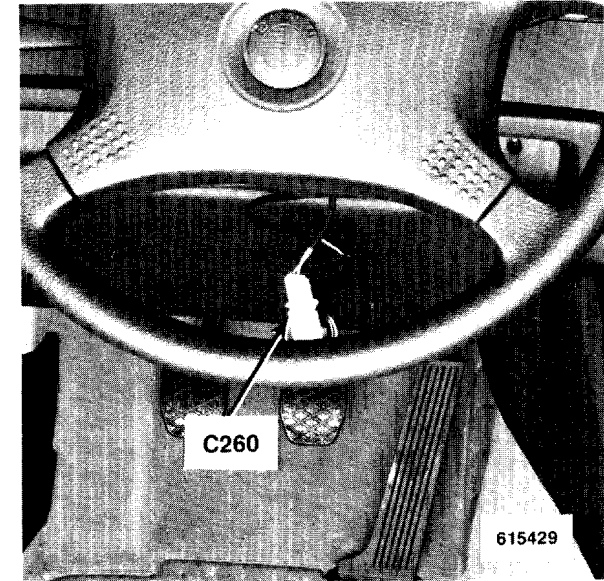


Figure 5 - Underside of Steering Column

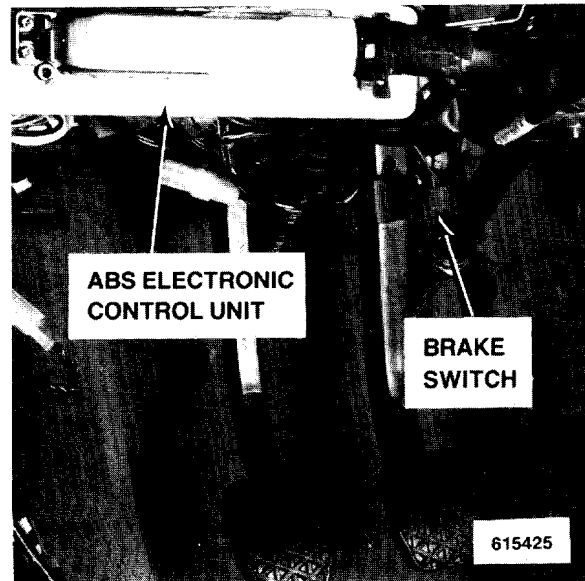


Figure 2 - Below LH Side of Dash, Left of Steering Column

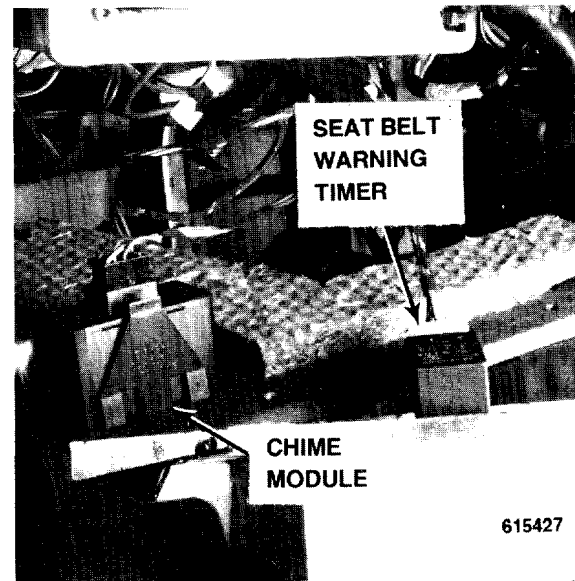


Figure 4 - Below LH Side of Dash, Left of Steering Column

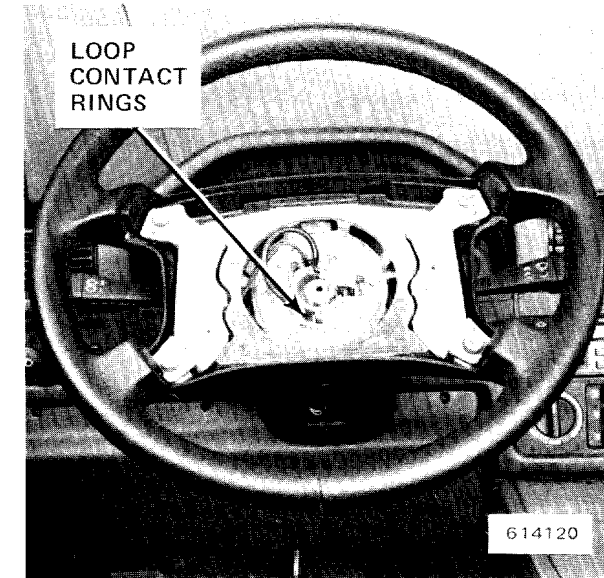


Figure 6 - Top of Steering Column (Air Bag Gas Generator Removed)



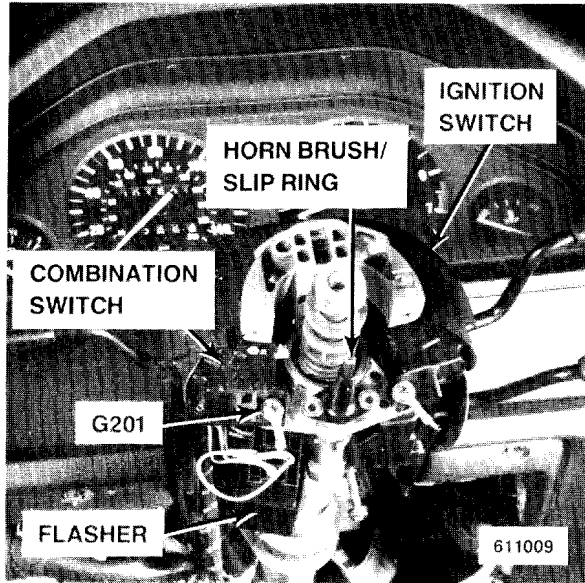


Figure 1 - Top of Steering Column  
(Steering Wheel Removed)

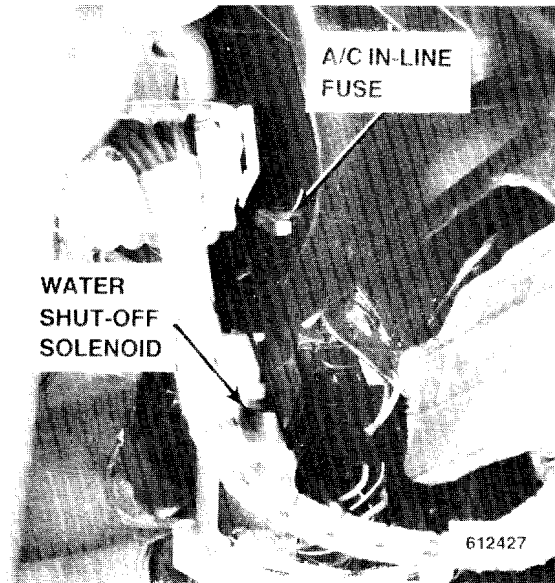


Figure 3 - LH Side of Evaporator Housing

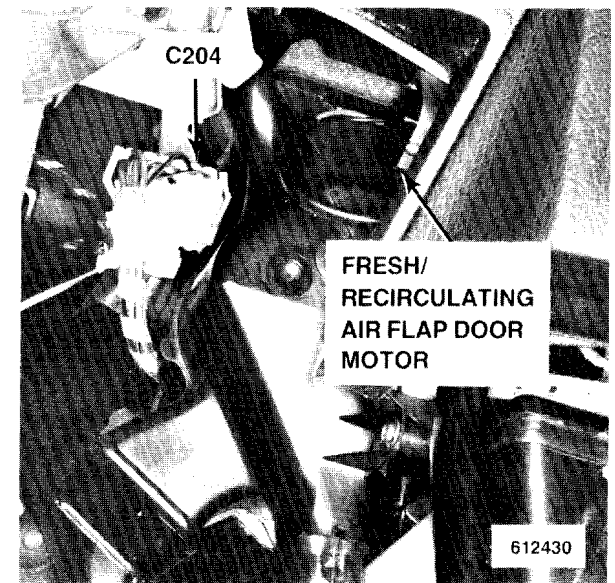


Figure 5 - LH Side of Evaporator Housing

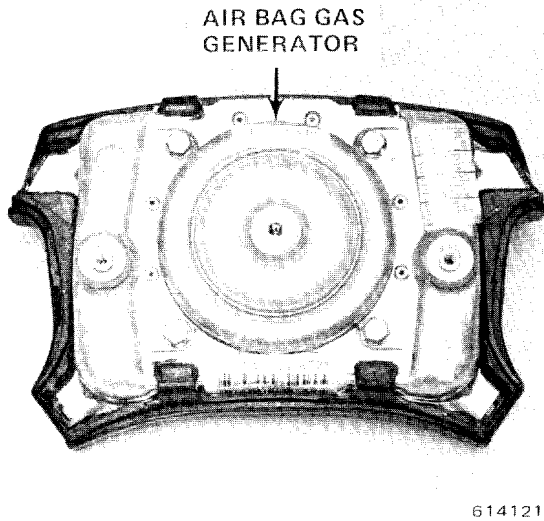


Figure 2 - Inside Steering Wheel  
(Removed From Car)

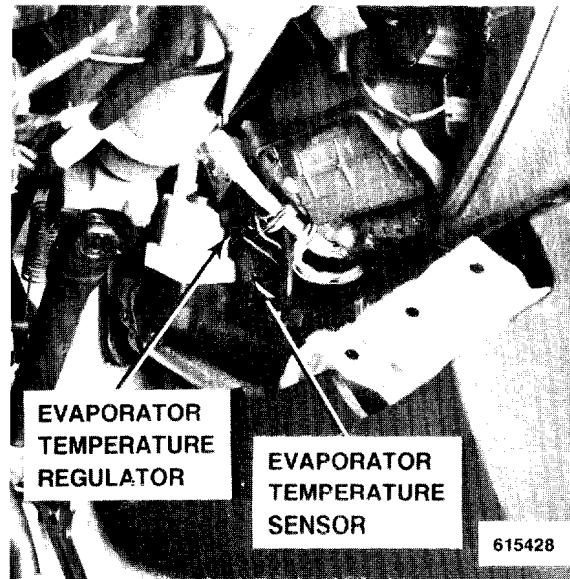


Figure 4 - LH Side of Evaporator Housing

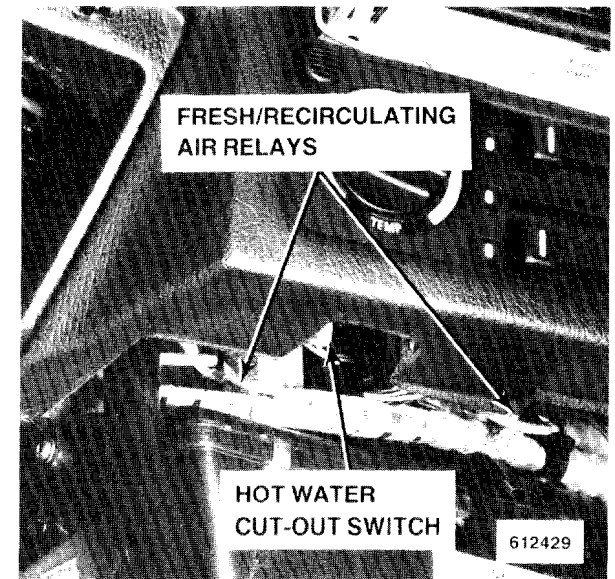


Figure 6 - Behind Center of Dash

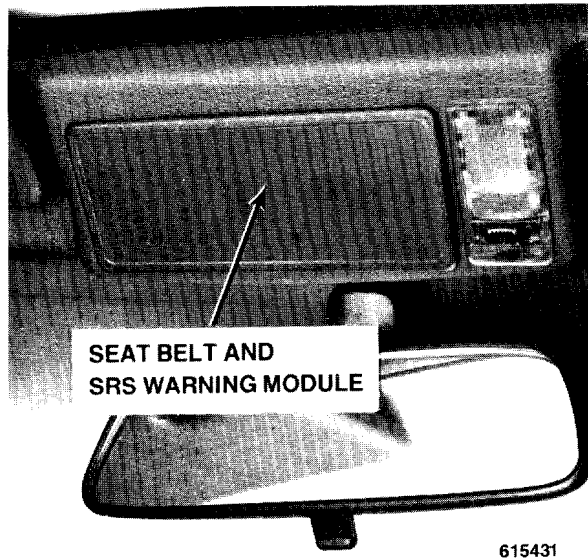


Figure 1 - Center of Windshield Header

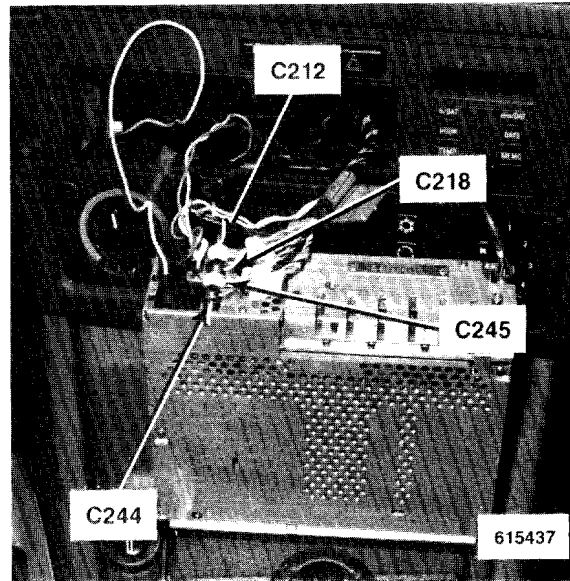


Figure 3 - Behind Center of Dash (Radio Only)

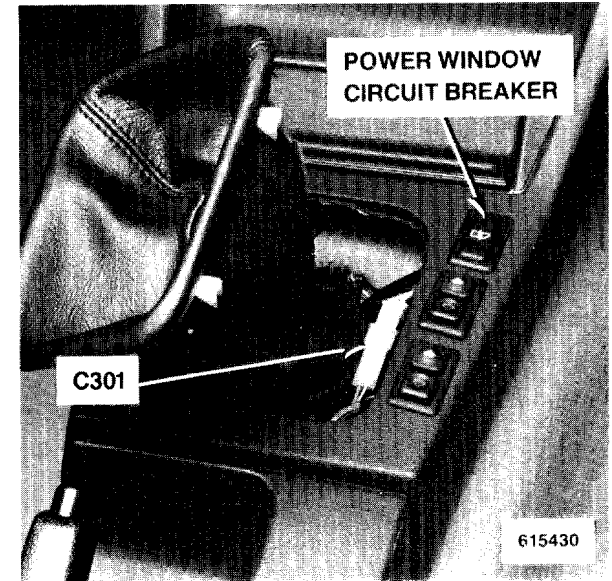


Figure 5 - Below Center Console

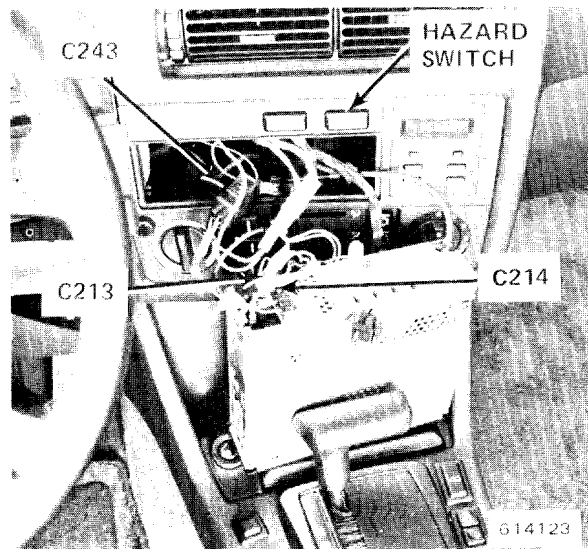


Figure 2 - Behind Center of Dash (With Sound System) (325i shown; 318ic Similar)

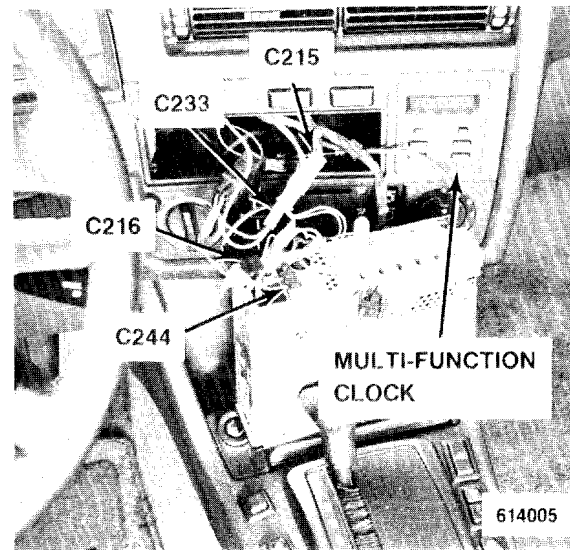


Figure 4 - Behind Center of Dash (325i shown; 318ic Similar)

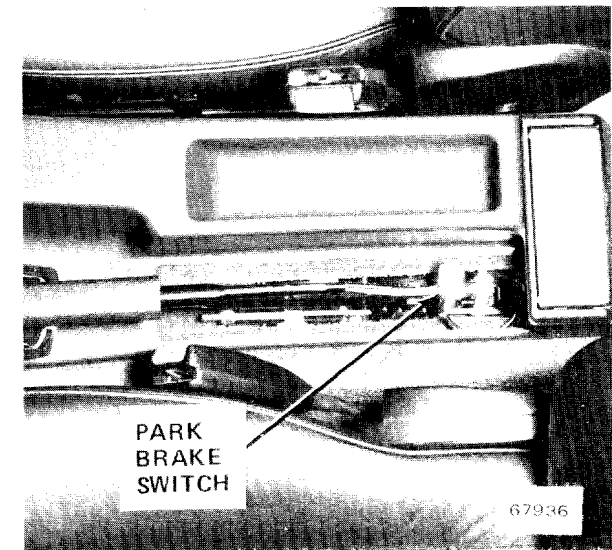


Figure 6 - Below Rear of Center Console

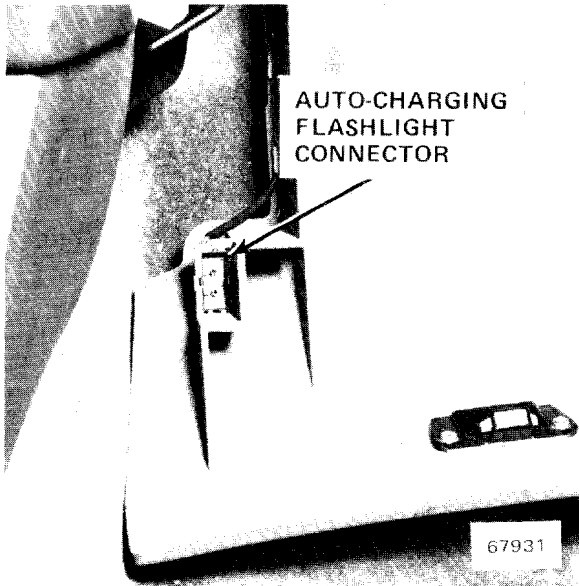


Figure 1 - LH Side of Glove Box

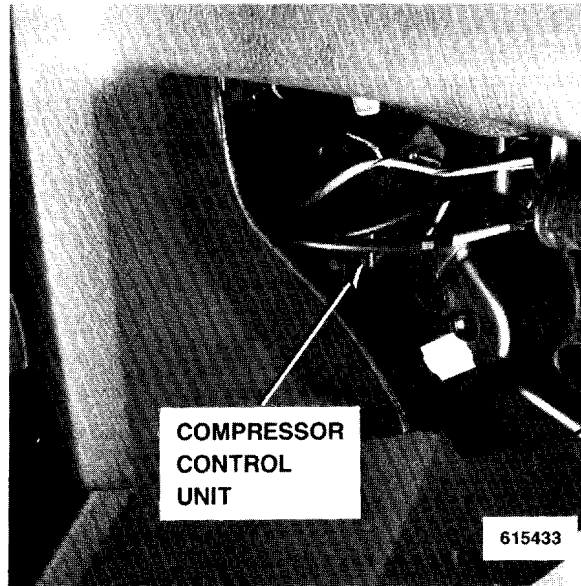


Figure 3 - RH Side of Evaporative Housing

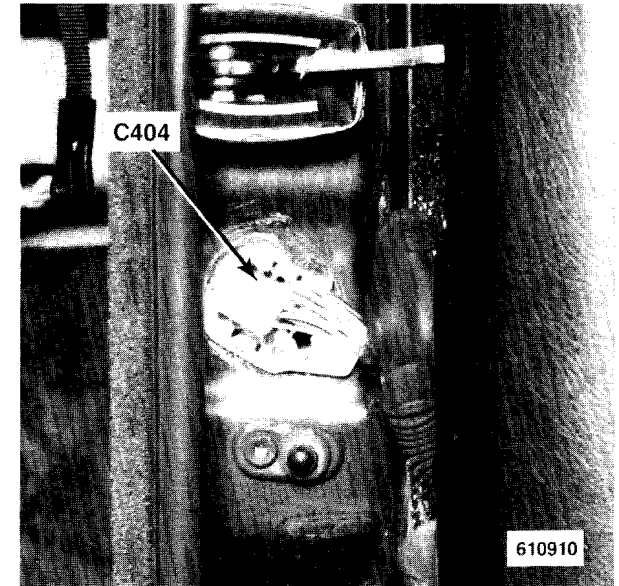


Figure 5 - Above RH Front Door Jamb Switch

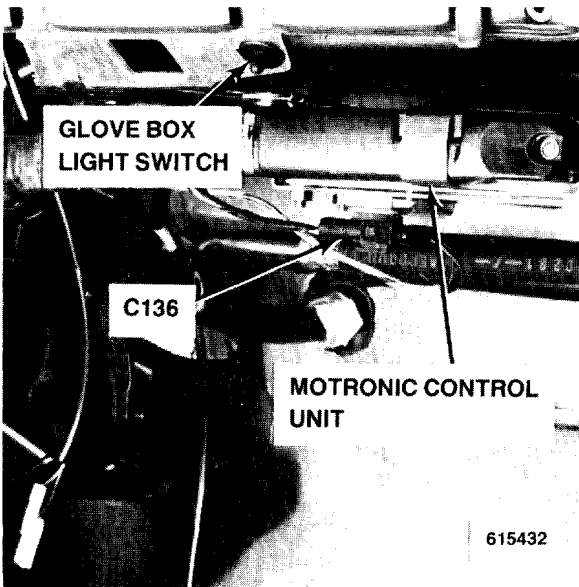


Figure 2 - Below RH Side of Dash, Above Glove Box

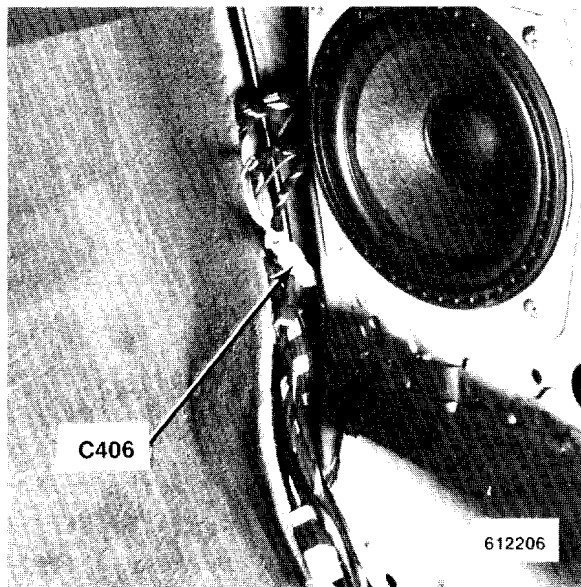


Figure 4 - RH Kick Panel

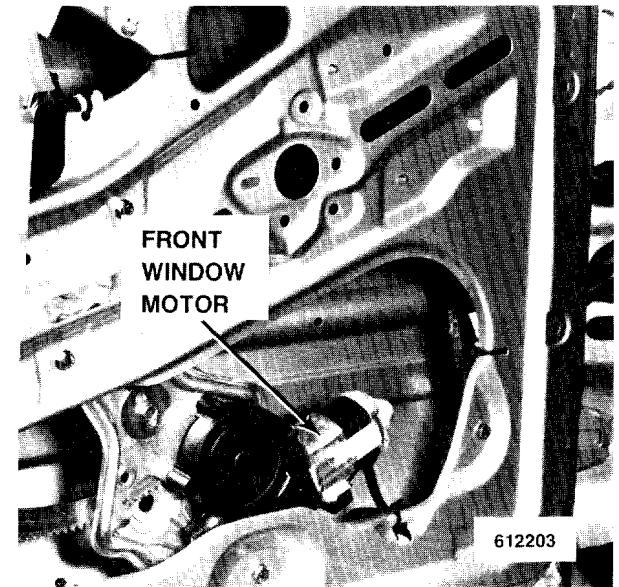


Figure 6 - Inside Front of LH Front Door (RH Similar)

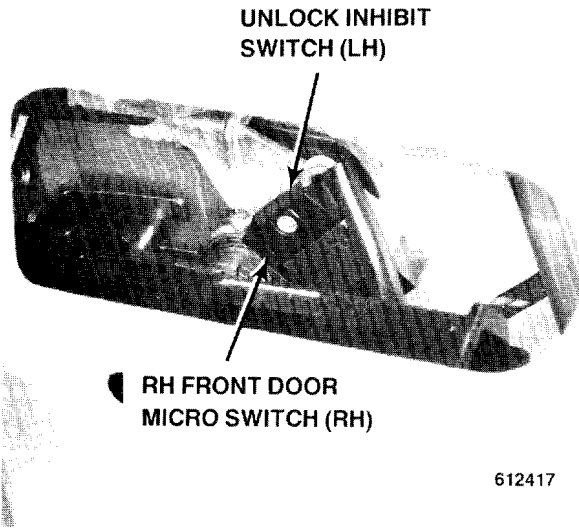


Figure 1 - Inside Rear of LH Front Door (RH Similar)

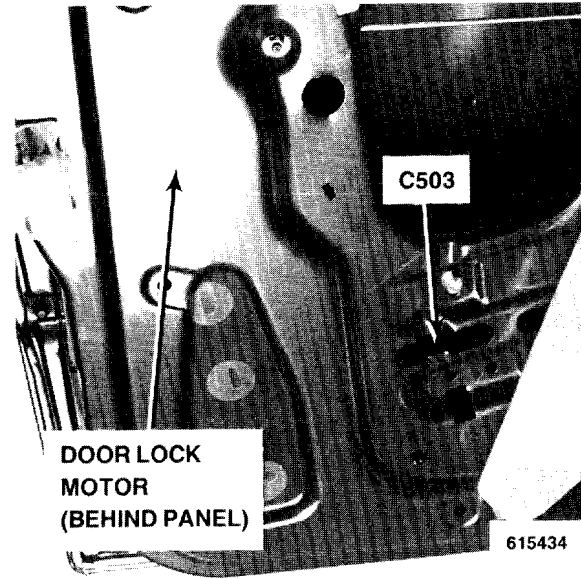


Figure 3 - Inside Rear of LH Front Door (RH Similar)

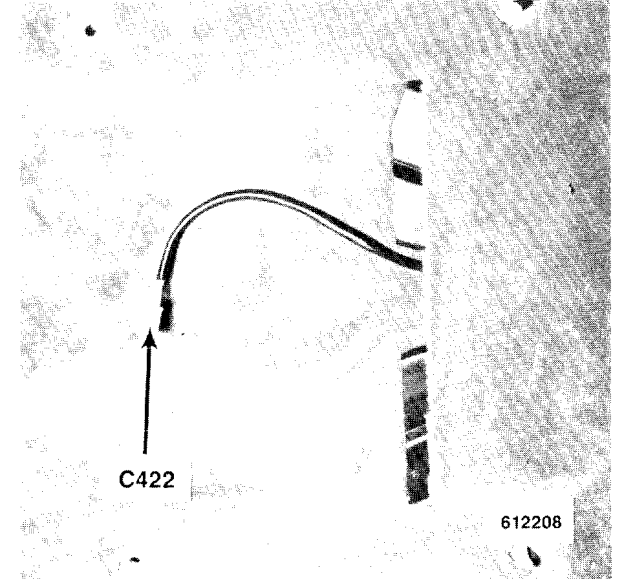


Figure 5 - Below RH Front Seat



Figure 2 - Inside Rear of LH Front Door

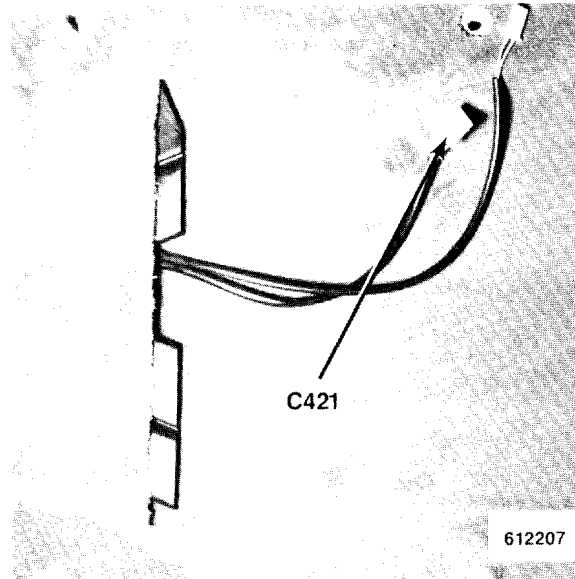


Figure 4 - Below LH Front Seat

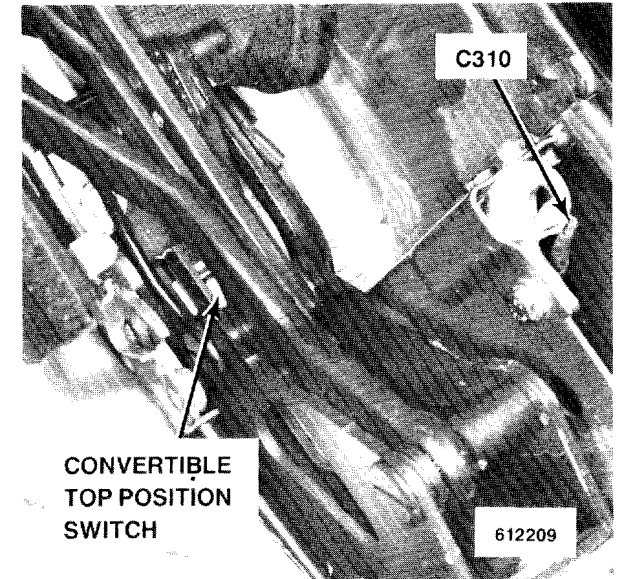


Figure 6 - LH Side of Soft Top Stowage Compartment

# 7000-10 COMPONENT LOCATION VIEWS

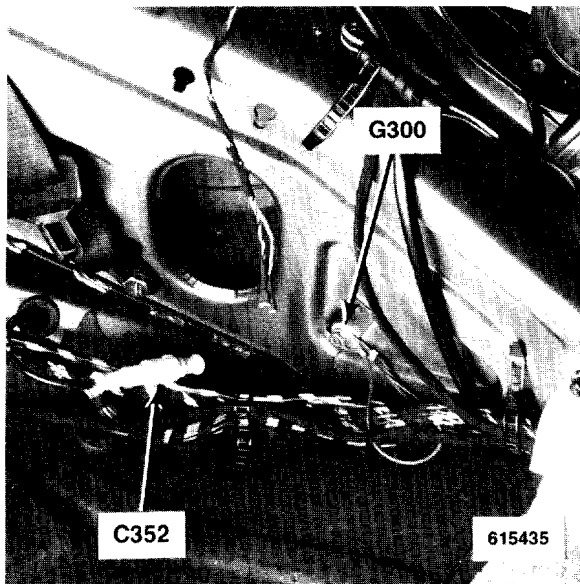


Figure 1 - Below LH Side of Rear Seat

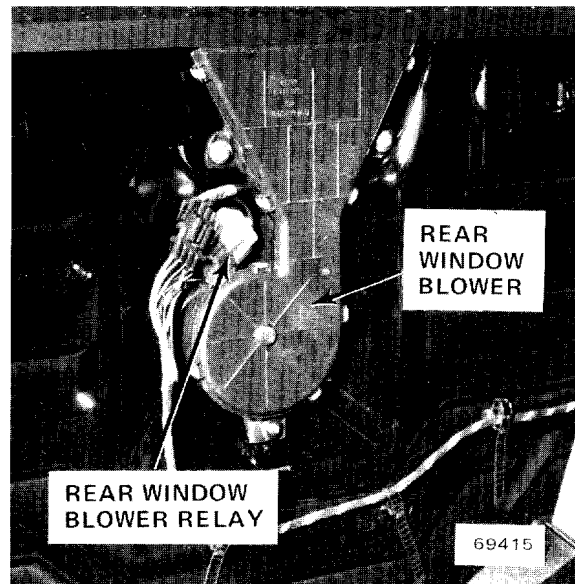


Figure 3 - Behind Center of Rear Seat

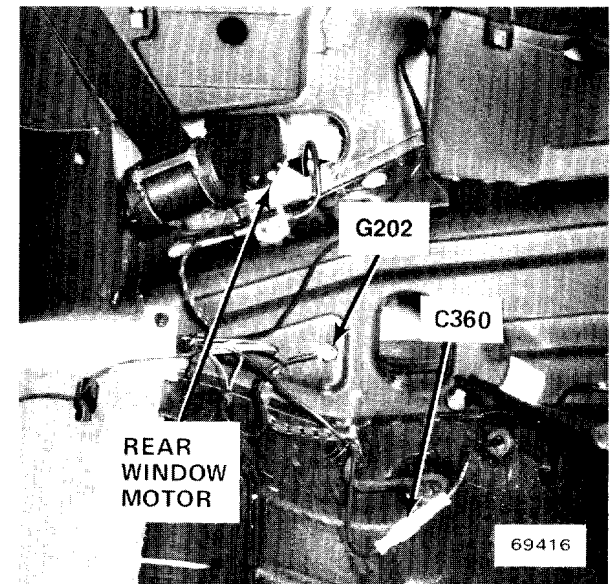


Figure 5 - RH Rear of Passenger Compartment (LH Similar)

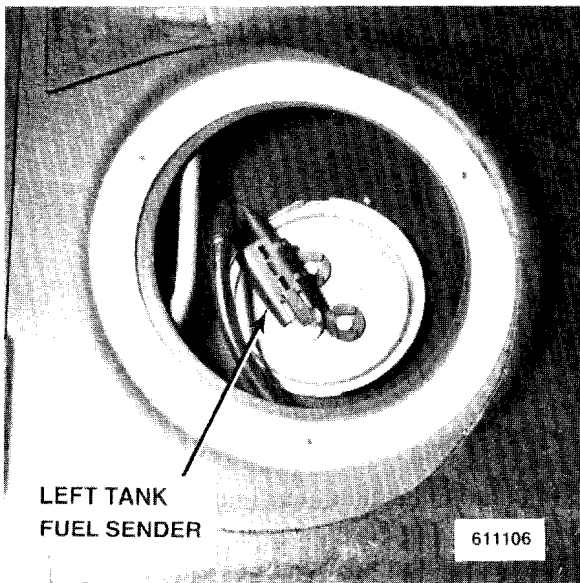


Figure 2 - Below LH Side of Rear Seat

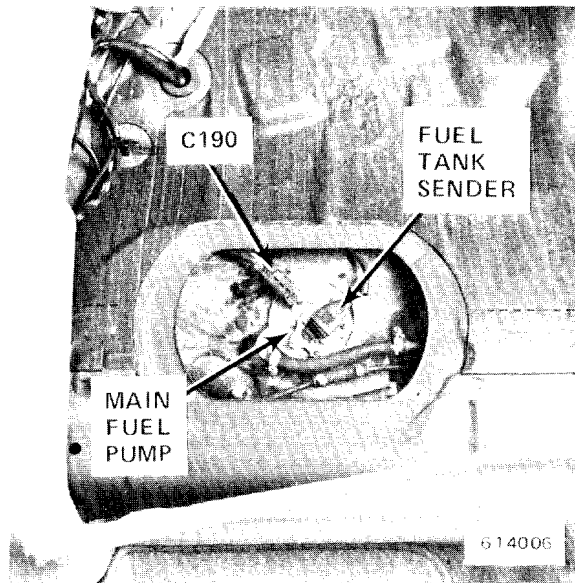


Figure 4 - Below RH Side of Rear Seat



Figure 6 - RH Side of Soft Top Stowage Compartment

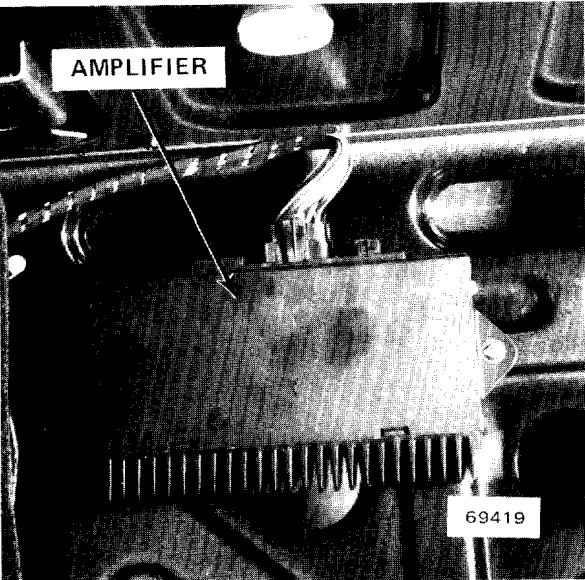


Figure 1 - LH Front of Trunk

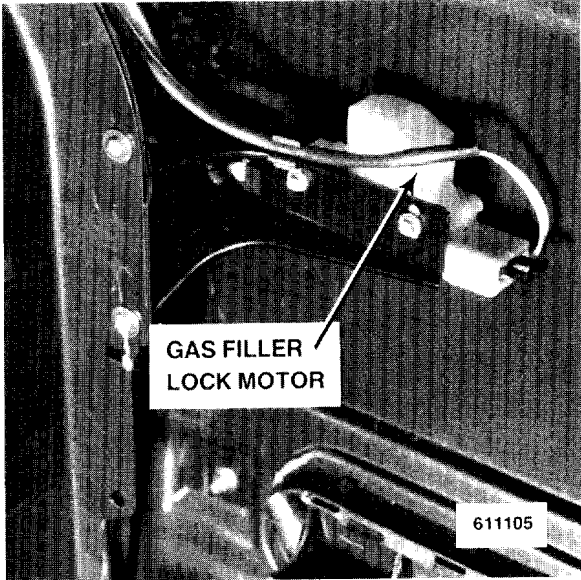


Figure 3 - RH Side of Trunk

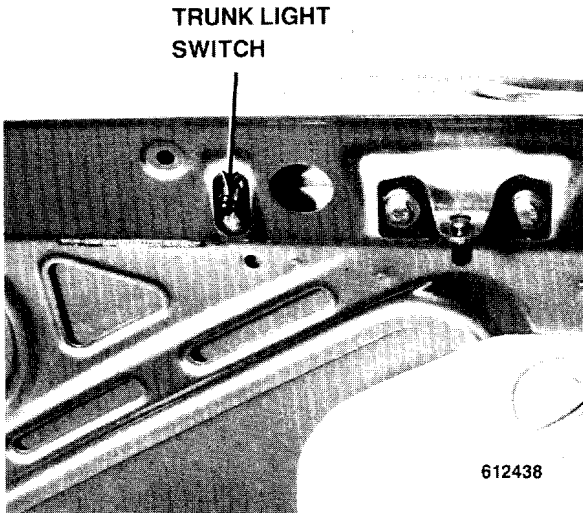


Figure 5 - LH Rear of Trunk

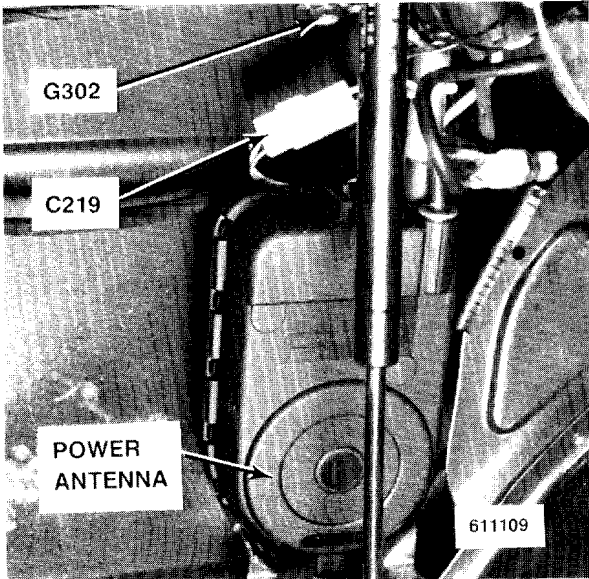


Figure 2 - LH Side of Trunk



Figure 4 - Center Rear of Trunk

## 8000-0 SPLICE LOCATION VIEWS

### INDEX

This index lists all the splices in the vehicle, the harness location of each splice, and the page on which each splice appears. The drawings after the index show how the harnesses are routed through the vehicle and the location of the splices on the harnesses.

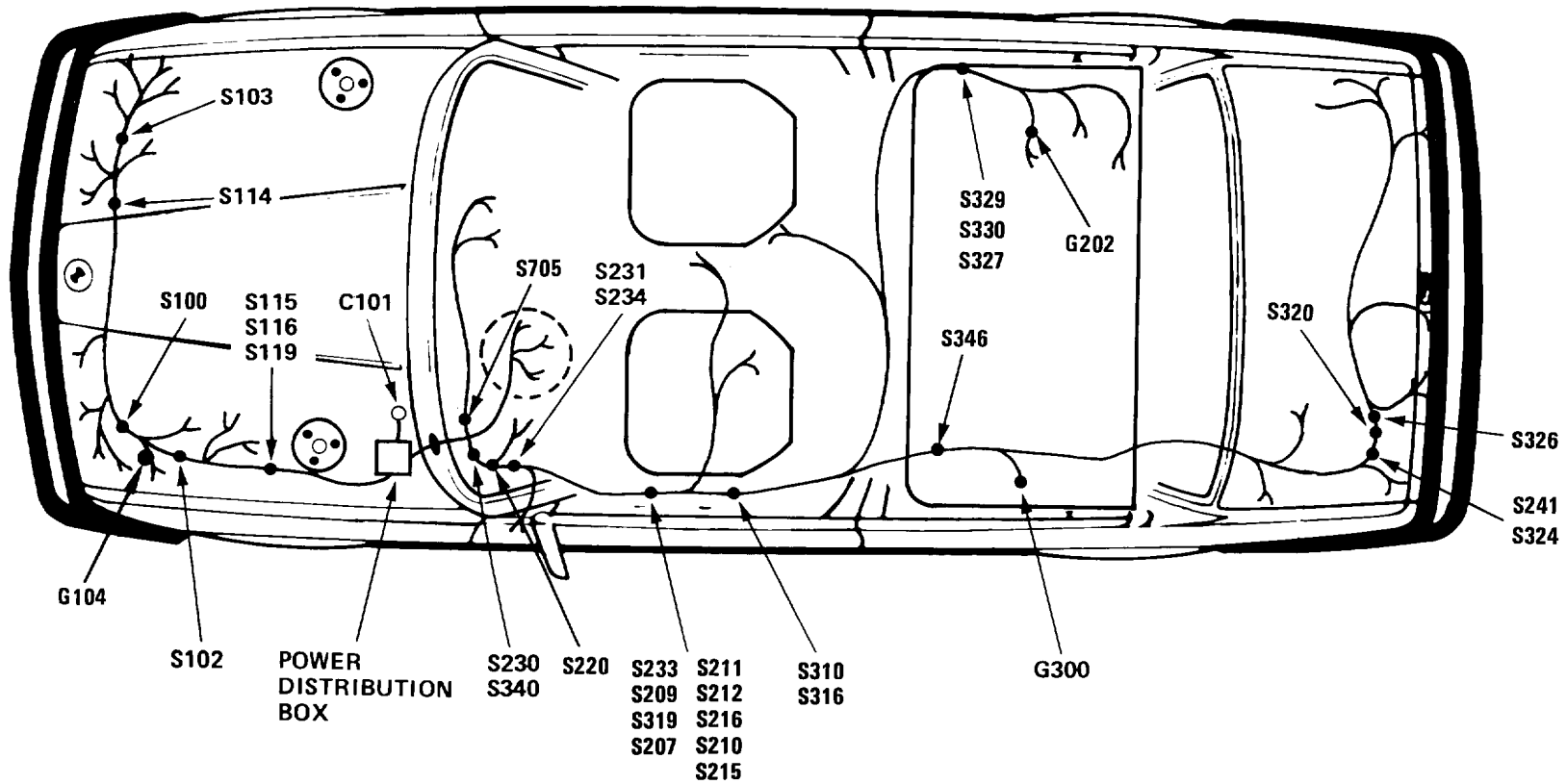
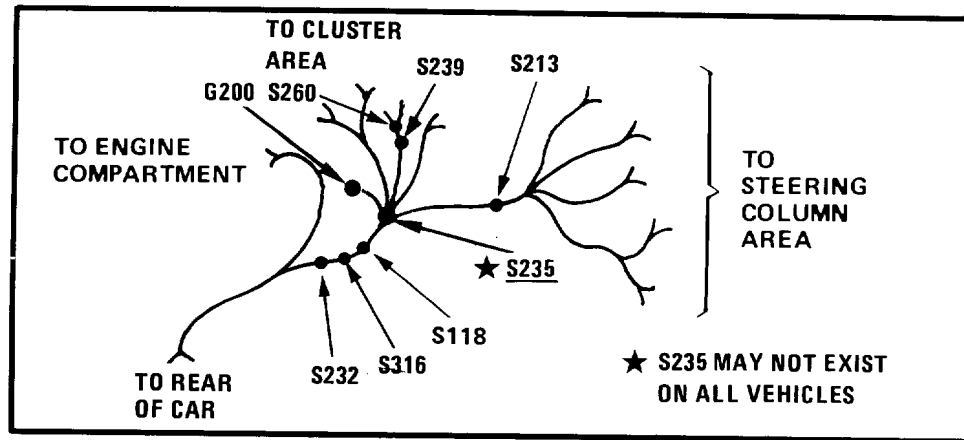
SPLICE	HARNESS	PAGE NUMBER	SPLICE	HARNESS	PAGE NUMBER
S100	MAIN	8000-2	S219	INSTRUMENT	8000-5
S101	ENGINE	8000-3		PANEL	
S102	MAIN	8000-2	S220	MAIN	8000-2
S103	MAIN	8000-2	S221	INSTRUMENT	8000-5
S104	ENGINE	8000-3		PANEL	
S106	ENGINE	8000-3	S224	MULTI-	NOT SHOWN
S107	ENGINE	8000-3		FUNCTION	
S108	ENGINE	8000-3		CLOCK	
S110	A/C	NOT SHOWN	S225	MULTI-	NOT SHOWN
S111	ENGINE	8000-3		FUNCTION	
S113	ENGINE	8000-3		CLOCK	
S114	MAIN	8000-2	S226	A/C	NOT SHOWN
S115	MAIN	8000-2	S229	A/C	NOT SHOWN
S116	MAIN	8000-2	S230	MAIN	8000-2
S118	MAIN	8000-2	S231	MAIN	8000-2
S119	MAIN	8000-2	S232	MAIN	8000-2
S120	ENGINE	NOT SHOWN	S233	MAIN	8000-2
S122	ENGINE	NOT SHOWN	S234	MAIN	8000-2
S123	ENGINE	NOT SHOWN	S235	MAIN	8000-2
S124	ENGINE	NOT SHOWN	S238	MAIN	NOT SHOWN
S127	ENGINE	NOT SHOWN	S239	MAIN	8000-2
S128	ENGINE	NOT SHOWN	S240	A/C	NOT SHOWN
S129	ENGINE	NOT SHOWN	S241	MAIN	8000-2
S130	ENGINE	NOT SHOWN	S250	A/C	NOT SHOWN
S133	ENGINE	NOT SHOWN	S251	A/C	NOT SHOWN
S207	MAIN	8000-2	S252	A/C	NOT SHOWN
S209	MAIN	8000-2	S260	MAIN	8000-2
S210	MAIN	8000-2	S300	DOOR	8000-4
S211	MAIN	8000-2	S301	DOOR	8000-4
S212	MAIN	8000-2	S302	DOOR	8000-4
S213	MAIN	8000-2	S303	DOOR	8000-4
S215	MAIN	8000-2	S304	DOOR	8000-4
S216	MAIN	8000-2	S305	DOOR	8000-4

<b>SPLICE</b>	<b>HARNESS</b>	<b>PAGE NUMBER</b>	<b>SPLICE</b>	<b>HARNESS</b>	<b>PAGE NUMBER</b>
S306	INSTRUMENT PANEL	8000-5	S504	DOOR	8000-4
S307	INSTRUMENT PANEL	8000-5	S540	HEATED SEATS	NOT SHOWN
S309	DOOR	8000-4	S541	HEATED SEATS	NOT SHOWN
S310	MAIN	8000-2	S542	HEATED SEATS	NOT SHOWN
S313	RADIO	NOT SHOWN	S543	HEATED SEATS	NOT SHOWN
S316	MAIN	8000-2	S700	ENGINE	8000-3
S319	MAIN	8000-2	S701	ENGINE	8000-3
S320	MAIN	8000-2	S705	MAIN	8000-2
S322	DOOR	8000-4			
S323	DOOR	8000-4			
S324	MAIN	8000-2			
S326	MAIN	8000-2			
S327	MAIN	8000-2			
S329	MAIN	8000-2			
S330	MAIN	8000-2			
S332	DOOR	8000-4			
S333	DOOR	8000-4			
S340	MAIN	8000-2			
S341	MAIN	8000-2			
S342	DOOR	8000-4			
S345	RADIO	NOT SHOWN			
S346	MAIN	8000-2			
S400	RADIO	NOT SHOWN			
S402	DOOR	8000-4			
S403	RADIO	NOT SHOWN			
S404	RADIO	NOT SHOWN			
S420	RADIO	NOT SHOWN			
S501	DOOR	8000-4			
S502	DOOR	8000-4			
S503	DOOR	8000-4			

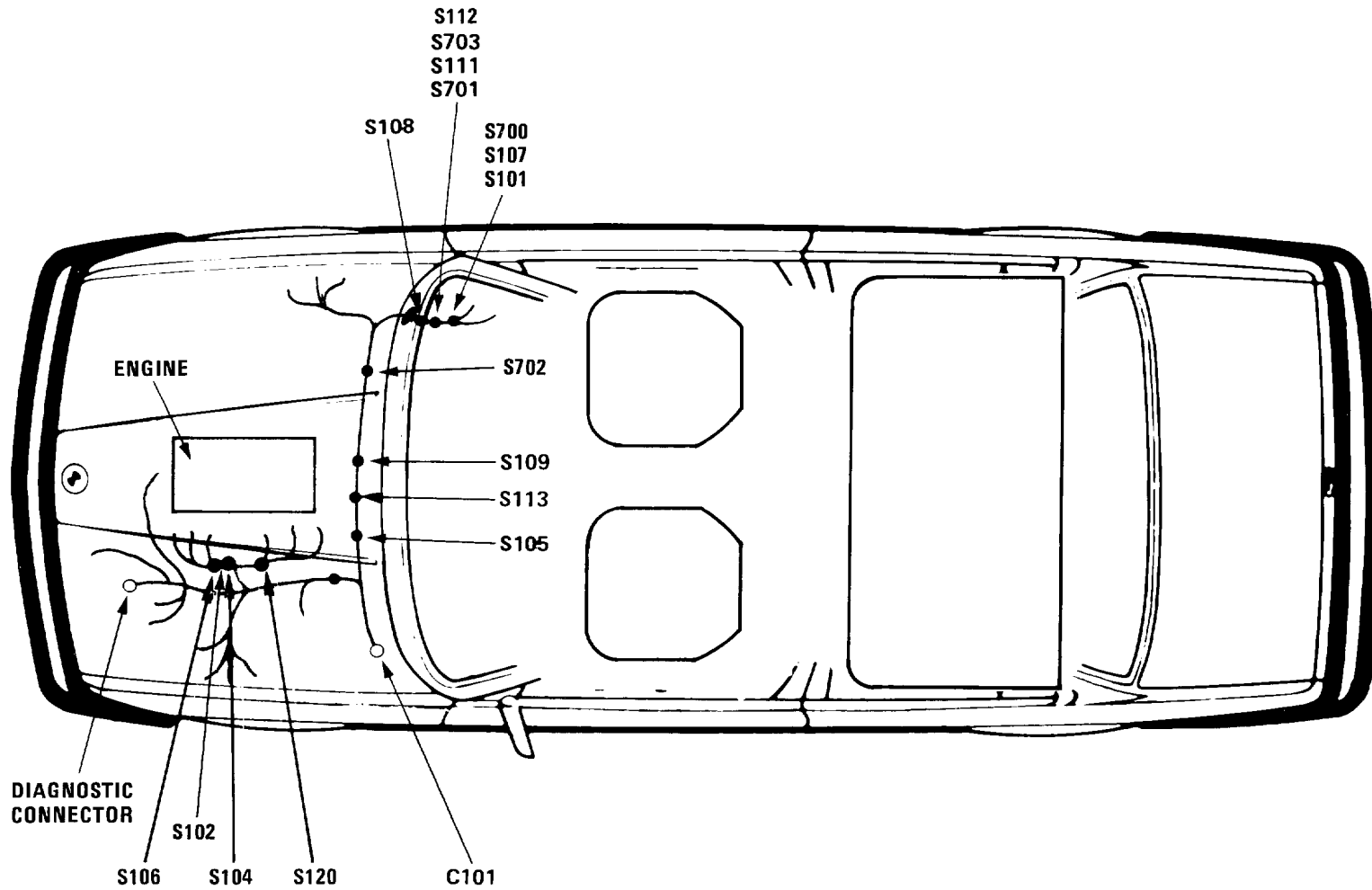


# 8000-2 SPLICE LOCATION VIEWS

## MAIN HARNESS SPLICE LOCATIONS

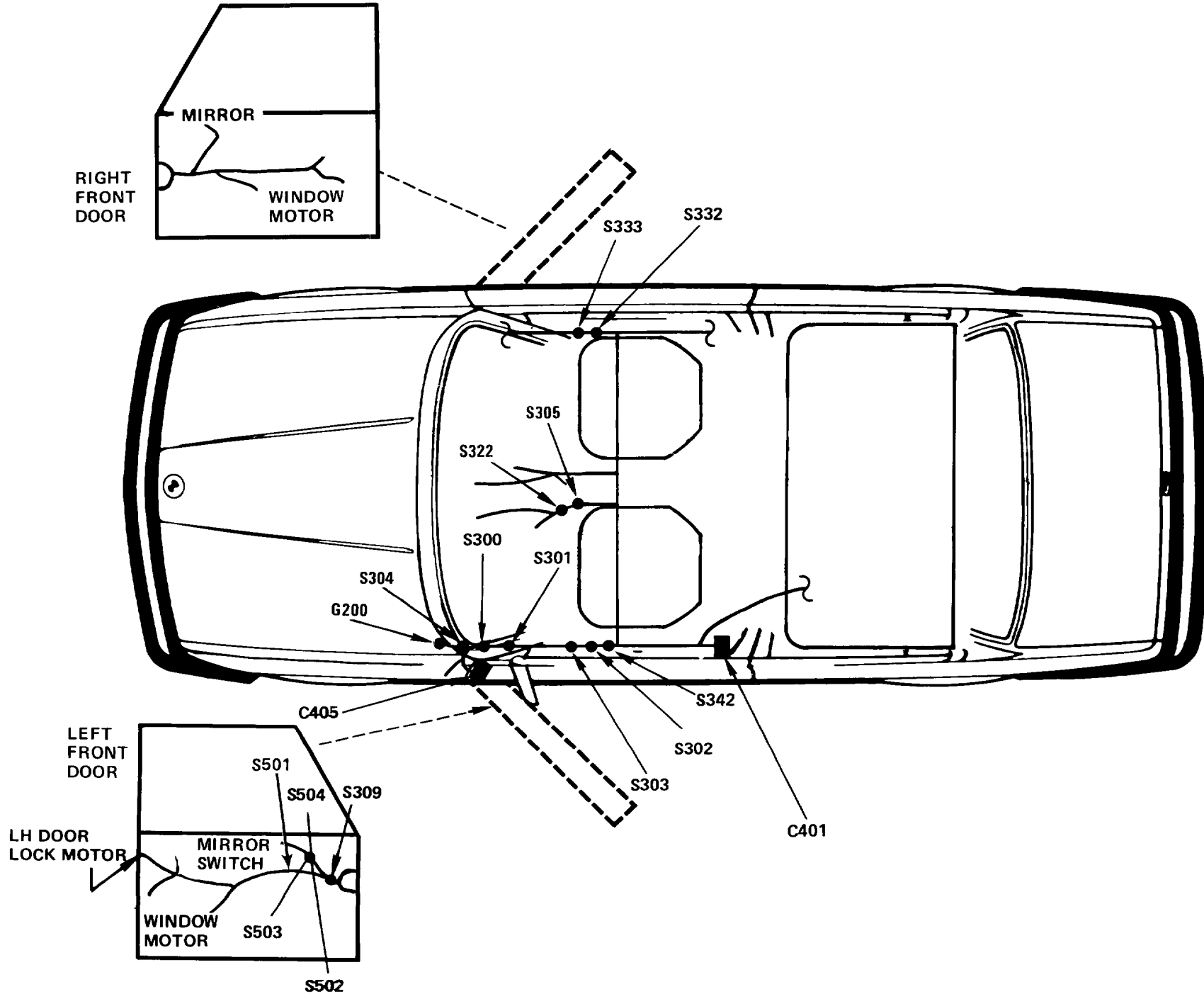


ENGINE HARNESS SPLICE LOCATIONS

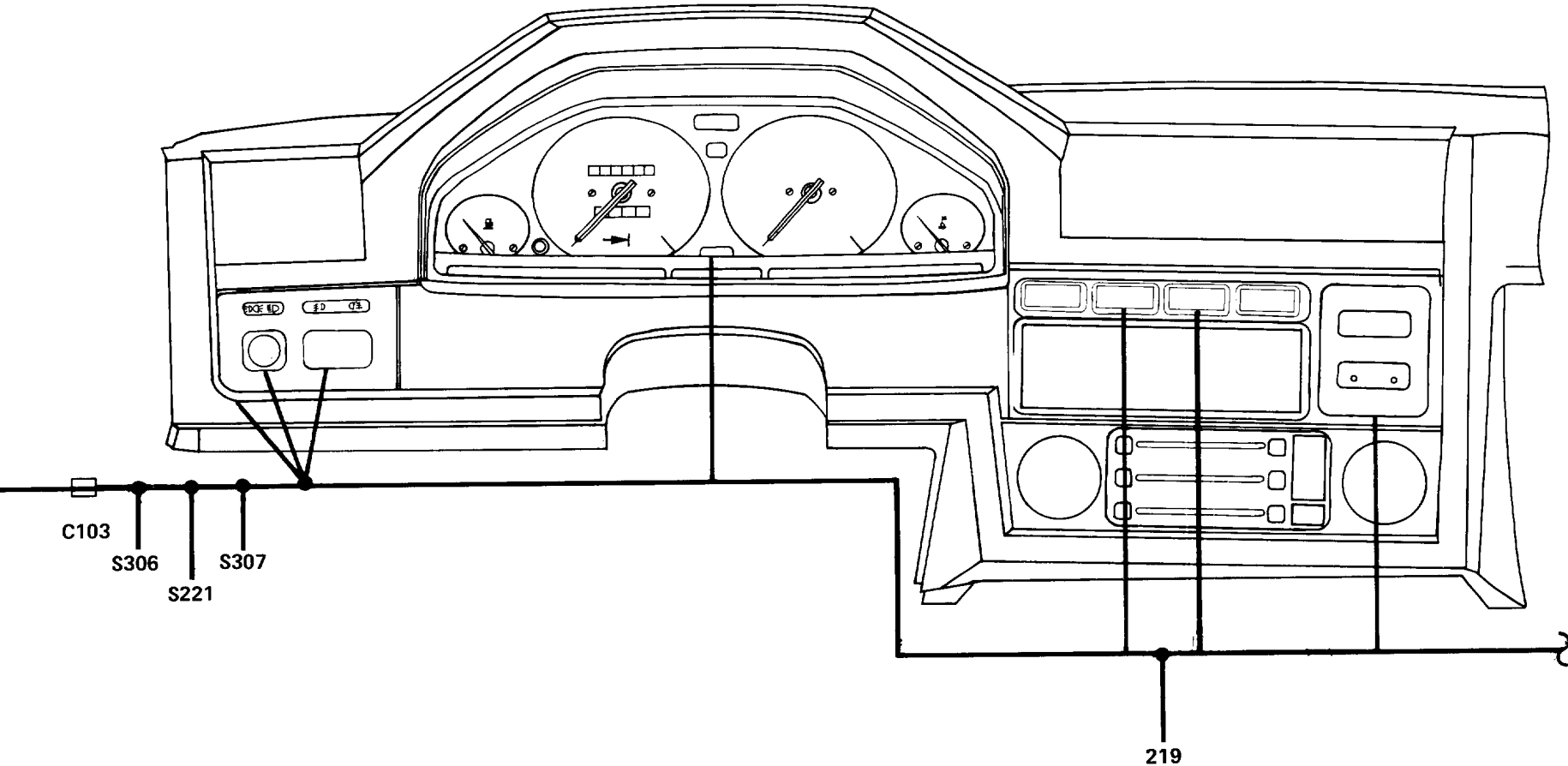


# 8000-4 SPLICE LOCATION VIEWS

## DOOR HARNESS SPLICE LOCATIONS

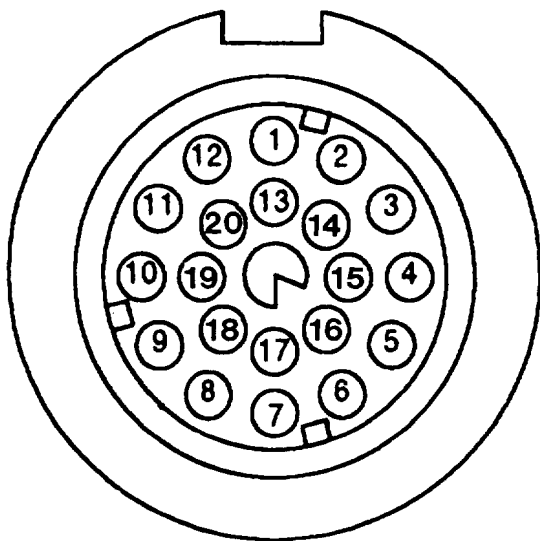


INSTRUMENT PANEL HARNESS SPLICE LOCATIONS



# 8500-0 CONNECTOR VIEWS

## DIAGNOSTIC CONNECTOR



DIAGNOSTIC CONNECTOR FACE

Pin	Wire Size	Wire Color	Circuit and Component Connected
1	1	BK	Ignition Coil, Motronic Control Unit
6	.5	WT/BK	SRS Connector
7	.5	WT/BU	Service Interval Indicator, Service Interval Processor (Reset)
11	2.5	BK/YL	Starter, Start Signal (50)
12	.75	BU	Charge, Alternator (D+)
14	2.5	RD	Battery (+)
15	.5	BK/YL	Motronic Control Unit (RXD)
16	1.5	GN/WT	Oxygen Sensor/Power (318is)
18	.5	GN/BU	Motronic Control Unit (Programming Voltage)
19	1.5	BR	Ground Distribution (G103)
20	.5	WT/VI	Motronic Control Unit (TXD)

## ACCESSORY CONNECTOR

## CIRCUITS USING C302 (ACCESSORY CONNECTOR)

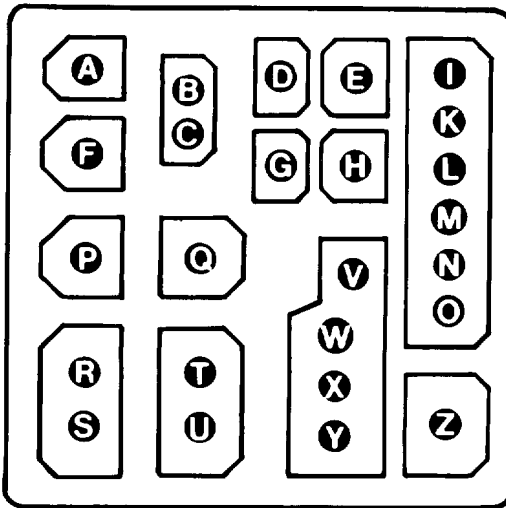
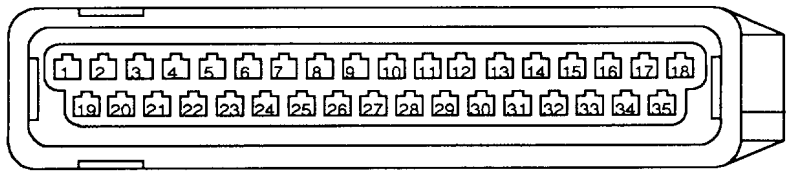


Figure 1-C302 (Accessory Connector)  
Front View—Under LH Side  
of Dash Ahead of Pedal Assembly

TERMINAL	CIRCUIT	TERMINAL	CIRCUIT
A	Not Used	N	Not Used
B	Not Used	O	Not Used
C	Anti-Lock Braking 318is	P	Not Used
D	Central Lock 318is	Q	Power Windows
E	Not Used	R	Sunroof 318i/is
F	Not Used	S	Anti-Lock Braking 318i/is
G	Anti-Lock Braking 318is	T	Cruise Control 318i/is
H	Radio/Amplifier	U	Not Used
I	On Board Computer	V	Heated Seats
K	Multifunction Clock	W	Radio
L	318i/is	X	Radio
M	Not Used	Y	Radio/Ground
		Z	Power Antenna

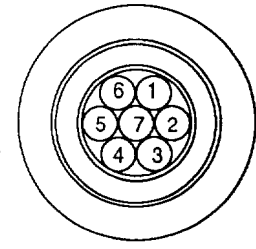
**8500-2 CONNECTOR VIEWS**

B350002.04



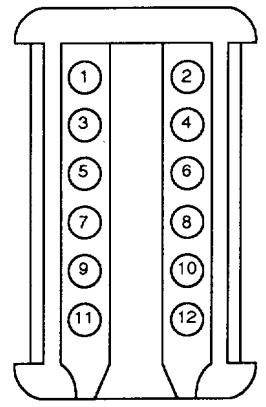
Mating Face  
**ABS CONTROL UNIT**

B070008.00



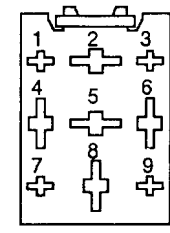
Mating Face  
**AIR FLOW METER**  
318is

B120014

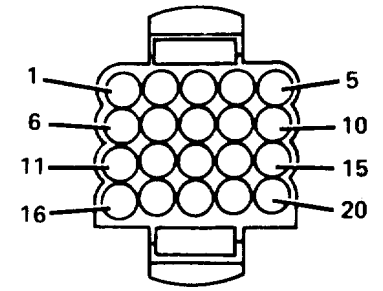


Wiring Face  
**ABS HYDRAULIC UNIT**

B090001.14

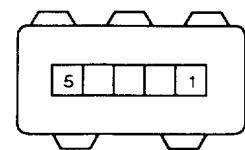


Mating Face  
**ABS NEUTRAL INPUT RELAY**



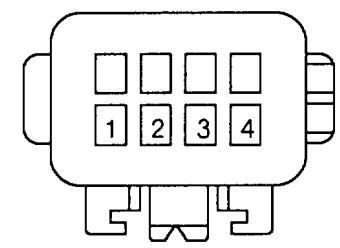
Wiring Face  
**AMPLIFIER**  
(SOUND SYSTEM)

B050010.00



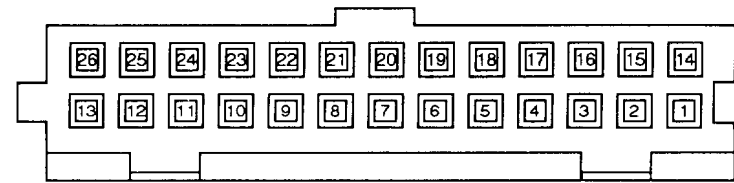
Mating Face  
**AIR FLOW METER**  
325i/is, M3, 325ix, 325ic

B080012



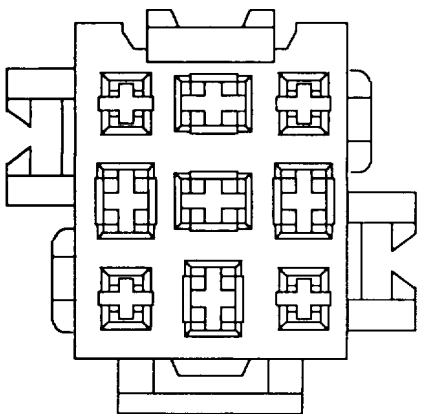
Wiring Face  
**AUXILIARY FUSE**

B260002.01



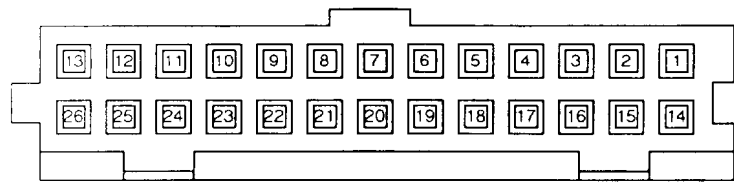
Mating Face  
**ACTIVE CHECK CONTROL**

B090005



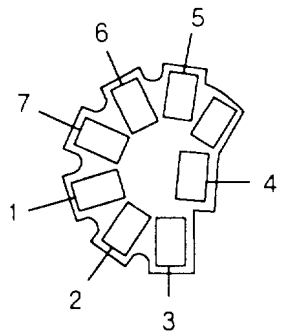
Mating Face  
A/C COMPRESSOR CONTROL UNIT

B260002.03



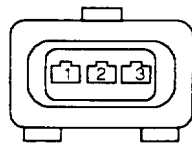
Wiring Face  
CRUISE CONTROL UNIT

B080014.00

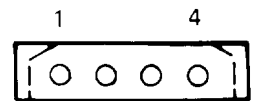


Wiring Face  
BLOWER SPEED CONTROL

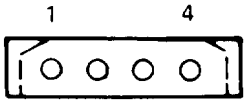
B030015.03



Wiring Face  
BAROMETRIC PRESSURE SENSOR

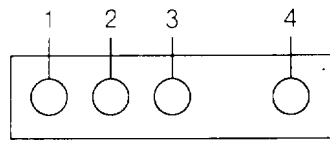


Wiring Face  
CHIME MODULE (C1)

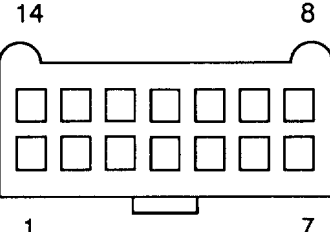


Wiring Face  
BLOWER RESISTORS

B040013



Wiring Face  
CHIME MODULE (C2)

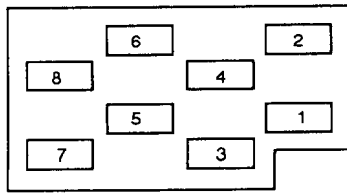


Wiring Face  
CENTRAL LOCKING CONTROL UNIT



# 8500-4 CONNECTOR VIEWS

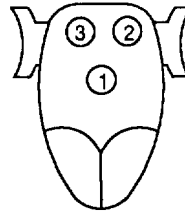
B080013.00



Wiring Face

CONTROL SWITCHES

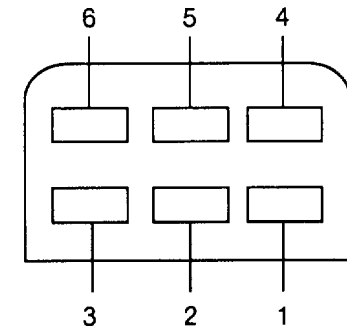
B030019.00



Wiring Face

DUAL TEMPERATURE SWITCH

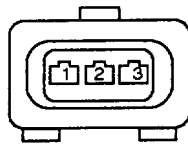
B060024



Wiring Face

EVAPORATOR TEMPERATURE REGULATOR

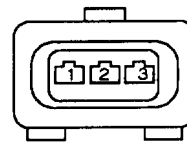
B030015.05



Mating Face

CYLINDER IDENTIFICATION SENSOR

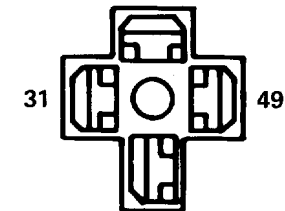
B030015.04



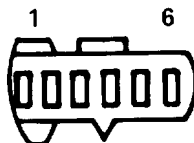
Wiring Face

ENGINE SPEED SENSOR

49A



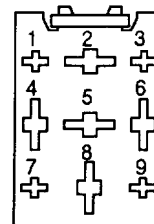
Wiring Face  
FLASHER



Wiring Face

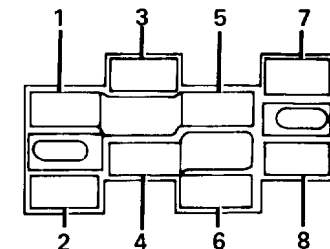
DOOR LOCK MOTOR

B090001.04



Mating Face

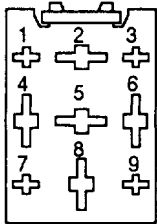
EVAPORATIVE PURGE VALVE RELAY



Wiring Face

FOG LIGHT SWITCH

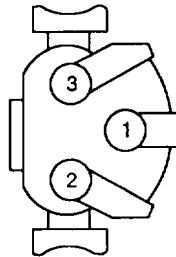
B090001.17



Mating Face

FRESH/RECIRCULATING AIR RELAY

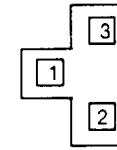
B030025.00



Mating Face

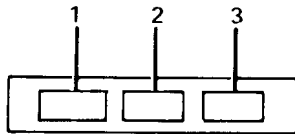
FRONT TURN/PARK LIGHT

B030020.00



Wiring Face

INSTRUMENT CLUSTER (C6)

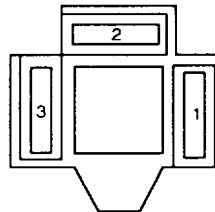


Wiring Face

FRONT TURN/PARK LIGHT

325ic, M3

B030015.09

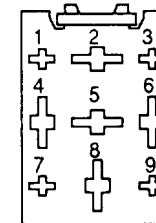


Mating Face

HEADLIGHTS

Low and High Beams

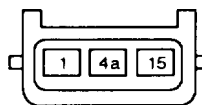
B090001.16



Mating Face

INTERIOR LIGHT TIMER CONTROL

B030015.08

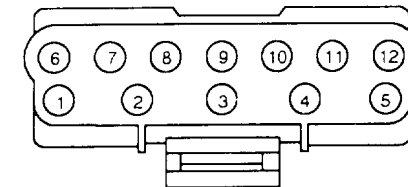


Mating Face

IGNITION COILS

318is

B120006.00

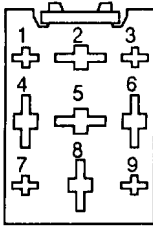


Wiring face

LIGHT SWITCH

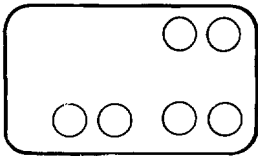
# 8500-6 CONNECTOR VIEWS

B090001.06



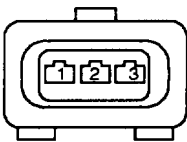
Mating Face  
MAIN RELAY

2 6



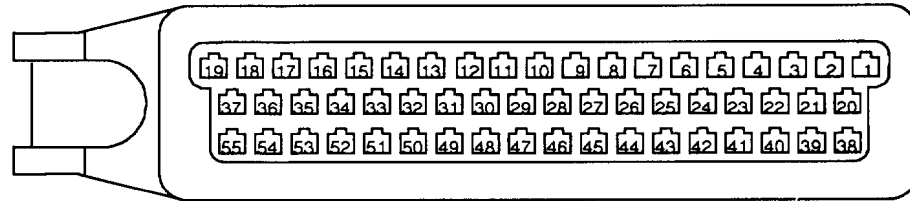
Mating Face  
MIRROR CONTROL SWITCH

B030015.06



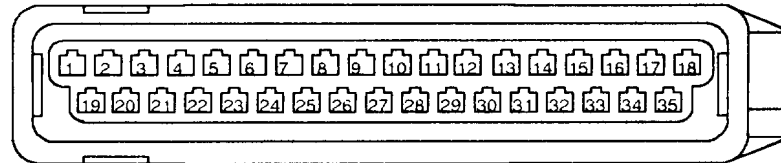
Wiring Face  
OIL LEVEL SENSOR

B550001.02



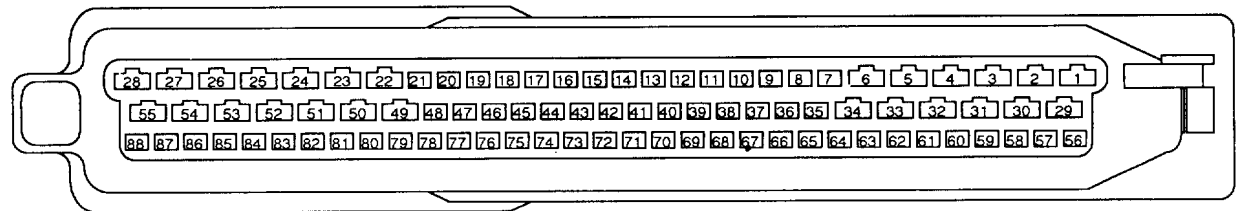
Mating Face  
MOTRONIC CONTROL UNIT  
All except M3 and 318is

B350002



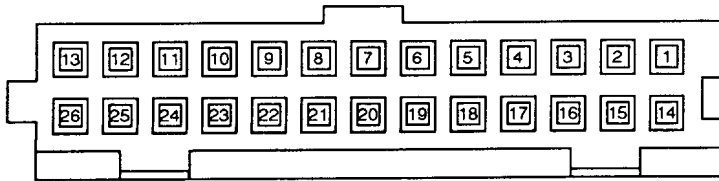
Mating Face  
MOTRONIC CONTROL UNIT

B880002.00



Mating Face  
MOTRONIC CONTROL UNIT  
318is

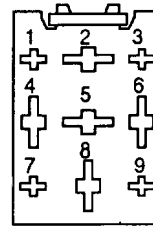
B260002.00



Wiring Face

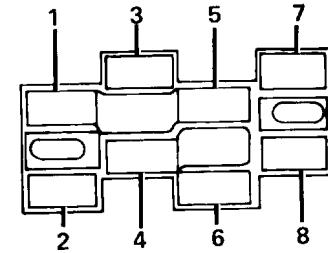
ON - BOARD COMPUTER MODULE

B090001.05



Mating Face

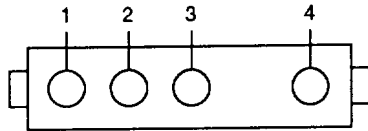
OXYGEN SENSOR HEATER RELAY



Wiring Face

REAR DEFOGGER SWITCH

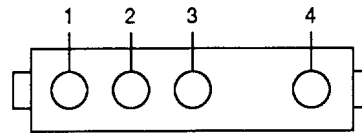
B040012.02



Wiring Face

ON - BOARD COMPUTER  
RELAY BOX (C2)

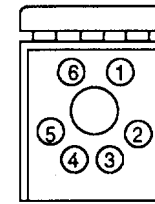
B040012.01



Wiring Face

POWER MIRRORS

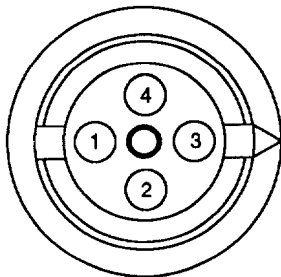
B060027.00



Wiring Face

REAR LIGHT ASSEMBLY

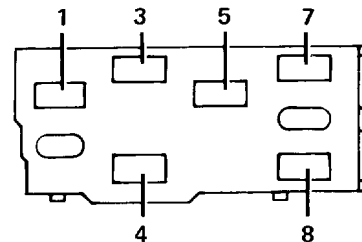
B040018



Mating Face

OXYGEN SENSOR HEATER

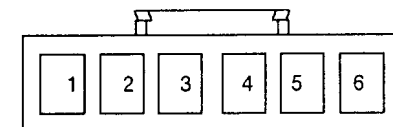
318is



Wiring Face

POWER WINDOW SWITCHES

B060033.00

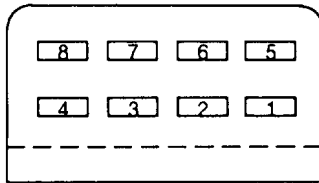


Wiring Face

REAR LIGHT ASSEMBLY

# 8500-8 CONNECTOR VIEWS

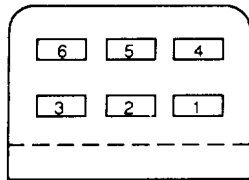
B080015.01



Wiring Face

REAR LIGHTS CHECK RELAY (C1)

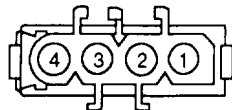
B060028 .01



Wiring Face

REAR LIGHTS CHECK RELAY (C2)

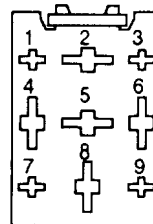
B0400002.03



Mating Face

REAR WINDOW  
BLOWER

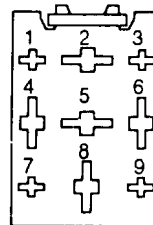
B090001.14



Mating Face

REAR WINDOW BLOWER RELAY

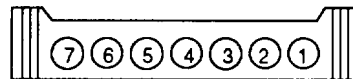
B090001.05



Mating Face

SEATBELT WARNING TIMER

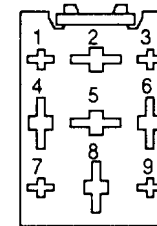
B070009.00



Mating Face

SEATBELT AND SRS WARNING MODULE

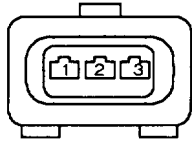
B090001.00



Wiring Face

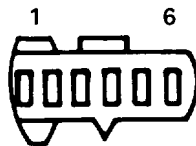
START RELAY

B030015.07



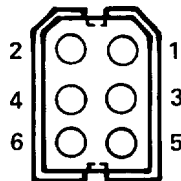
Wiring Face

THROTTLE SWITCH, POTENTIOMETER



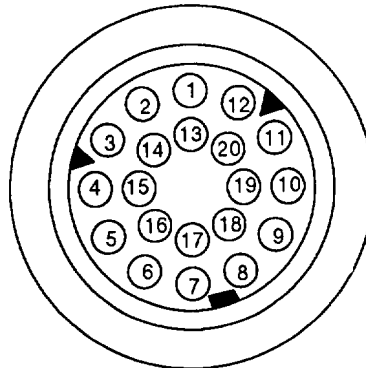
Wiring Face

TRUNK LID LOCK MOTOR



Wiring Face  
WIPER MOTOR

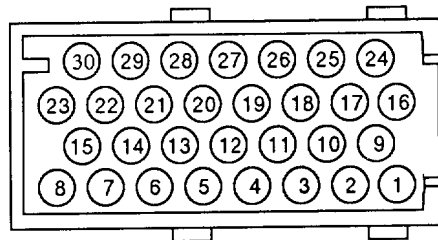
B200002.00



Wiring Face

C101

B300001.00



Wiring Face

C103

B030004.02



Mating Face

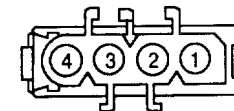
C110

C113



Wiring Face  
C114

B040002.00



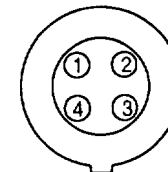
Wiring Face

C107

C131

C136

B040006.01

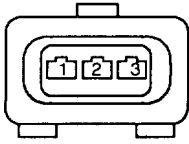


Wiring Face

C140

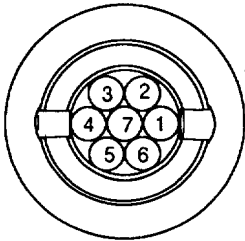
8500-10 CONNECTOR VIEWS

B030015.06

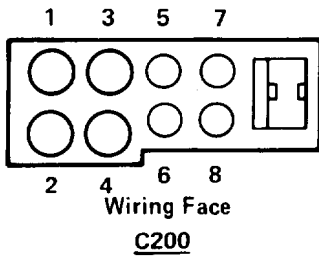


Wiring Face  
C152, C153, C154

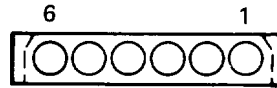
B070002.00



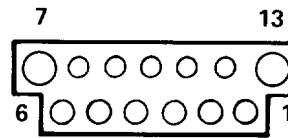
Wiring Face  
C191



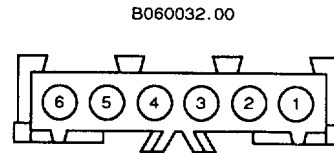
Wiring Face  
C200



Wiring Face  
C201

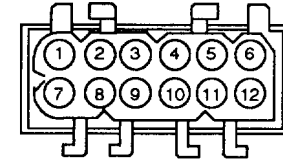


Wiring Face  
C202

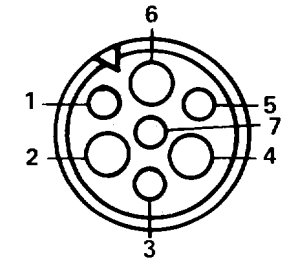


Wiring Face  
C203

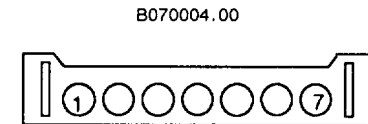
B120004.00



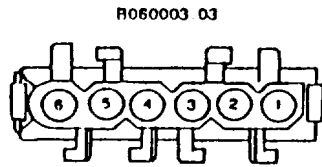
Wiring Face  
C204



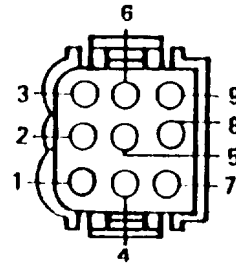
Wiring Face  
C209



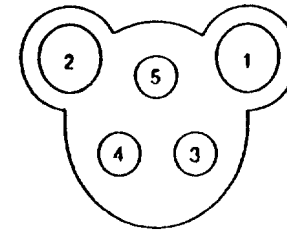
Wiring Face  
C210



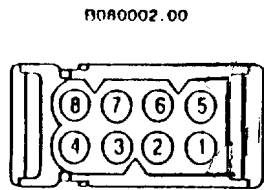
R060003.03  
 Mating Face  
C75  
C242



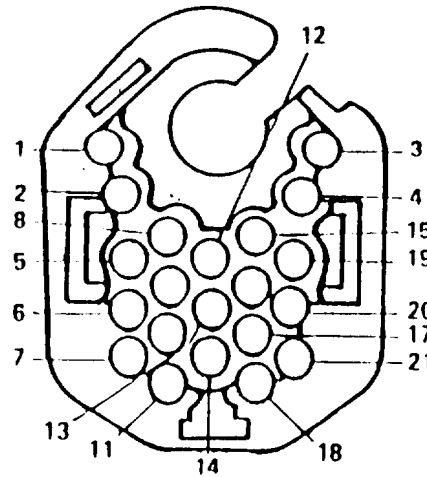
Wiring Face  
C306



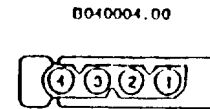
Wiring Face  
C413



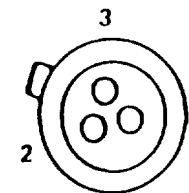
B080002.00  
 Mating Face  
C243  
C280



B030001.01  
 Wiring Face  
C303  
C304



B040004.00  
C421  
C422



Wiring Face  
C503



## 9000-0 COMPONENT LOCATION CHART

COMPONENTS		Page-Figure
A/C In-Line Fuse . . . . .	LH rear side of evaporator housing . . . . .	7000- 6-3
ABS Electronic Control Unit . . .	Behind LH side of dash, above hood release . . . . .	7000- 5-2
ABS Hydraulic Unit . . . . .	LH front corner of engine compartment . . . . .	7000- 1-2
Air Bag Gas Generator . . . . .	Center of steering wheel . . . . .	7000- 6-2
Air Flow Meter . . . . .	LH front of engine compartment, behind air cleaner .	7000- 0-6
Alternator . . . . .	Lower LH front of engine . . . . .	7000- 1-3
Amplifier . . . . .	LH front corner of trunk . . . . .	7000-11-1
Auto-Charging Flashlight . . . . .	Inside LH side of glove box . . . . .	7000- 8-1
Auxiliary Fan . . . . .	In front of radiator . . . . .	7000- 1-5
Auxiliary Fan Normal Speed Blower Resistor . . . . .	In front of radiator, LH side of auxiliary fan . . . . .	7000- 1-5
Auxiliary Fuse . . . . .	LH rear of engine compartment, on power distribution box . . . . .	7000- 0-1
Back Up Light Switch . . . . .	Top RH side of transmission . . . . .	7000- 4-1
Battery . . . . .	RH rear corner of engine compartment . . . . .	7000- 3-3
Battery Junction Block . . . . .	At positive terminal of battery . . . . .	7000- 3-4
Blower Motor . . . . .	Inside fresh air intake cowl . . . . .	7000- 0-4
Blower Resistors . . . . .	Inside fresh air intake cowl, inside blower motor housing	
Brake Fluid Level Switch . . . . .	LH rear of engine compartment, on brake fluid reservoir . . . . .	7000- 0-1
Brake Switch . . . . .	Behind LH side of dash, on brake pedal support . . .	7000- 5-2
Brake Wear Sensors . . . . .	On LH front and RH rear brake calipers . . . . .	7000- 3-6
Central Locking Control Unit . . .	Inside LH kick panel, below LH front speaker . . . . .	7000- 4-5
Chime Module . . . . .	Mounted on LH dash hush panel . . . . .	7000- 5-4
Combination Switch . . . . .	Upper LH side of steering column . . . . .	7000- 6-1
Compressor Clutch . . . . .	Lower RH front of engine, on A/C compressor . . . . .	7000- 2-5
Compressor Clutch Diode . . . . .	Lower RH front of engine, on A/C compressor . . . . .	7000- 2-5
Compressor Control Unit . . . . .	Behind center of dash, on RH side of evaporator housing . . . . .	7000- 8-3
Convertible Top Position Switch	LH side of soft top stowage compartment . . . . .	7000- 9-6
Coolant Temperature Sender . . .	Top LH side of engine, below intake manifold . . . . .	7000- 2-1
Coolant Temperature Sensor . . .	Top LH front of engine, below intake manifold . . . . .	7000- 2-1

Cylinder Identification Sensor . . .	Top RH front of engine, near distributor . . . . .	7000- 2-5
Diagnostic Connector . . . . .	LH rear of engine compartment, right of power distribution box . . . . .	7000- 0-1
Door Lock Motors . . . . .	Rear part of each door. . . . .	7000- 9-3
Driver's Exterior Door Handle Switch . . . . .	In top rear of LH front door . . . . .	7000- 9-2
Dual Temperature Switch . . . . .	Top RH side of radiator . . . . .	7000- 2-3
Engine Speed Sensor . . . . .	Lower front of engine . . . . .	7000- 2-2
Evaporative Purge Valve . . . . .	Lower LH side of engine . . . . .	7000- 0-2
Evaporator Temperature Regulator . . . . .	On LH side of evaporator housing . . . . .	7000- 6-4
Evaporator Temperature Sensor .	On LH side of evaporator housing . . . . .	7000- 6-4
Filter Capacitor . . . . .	Lower LH front of engine, on alternator . . . . .	7000- 1-3
Flasher . . . . .	Upper part of steering column . . . . .	7000- 6-1
Fresh/Recirculating Air Flap Door Motors . . . . .	Behind A/C face plate, on either side of evaporator housing. . . . .	7000- 6-5
Fresh/Recirculating Air Relays . .	Behind A/C face plate . . . . .	7000- 6-6
Front Window Motors . . . . .	Forward part of each door . . . . .	7000- 8-6
Fuel Injectors . . . . .	Below intake manifold, at each cylinder . . . . .	7000- 3-2
Fuel Pump Relay . . . . .	Center rear of engine compartment, on bracket. . . .	7000- 1-1
Fuel Tank Sender . . . . .	Below RH side of rear seat, top of fuel tank . . . . .	7000-10-4
Gas Filler Lock Motor . . . . .	RH side of trunk, behind RH wheel well . . . . .	7000-11-3
Glove Box Light Switch . . . . .	Behind RH side of dash, above glove box . . . . .	7000- 8-2
Hazard Switch . . . . .	In center of dash, above digital radio . . . . .	7000- 7-2
Heated Oxygen Sensor . . . . .	Under center of car, on LH side of exhaust pipe. . . .	7000- 4-2
Heated Oxygen Sensor Relay . .	Center rear of engine compartment, on bracket. . . .	7000- 1-1
Horn Brush/Slip Ring . . . . .	In upper part of steering column . . . . .	7000- 6-1
Hot Water Cut-Out Switch . . . .	Behind center of dash, near rotary temperature control . . . . .	7000- 6-6
Idle Speed Actuator . . . . .	Center rear of engine . . . . .	7000- 0-5
Ignition Coil No.1 . . . . .	On RH front wheel well, forward of shock tower. . .	7000- 3-1
Ignition Coil No.2 . . . . .	On RH front wheel well, forward of shock tower. . .	7000- 3-1
Ignition Coil No.3 . . . . .	On RH front wheel well, forward of shock tower. . .	7000- 3-1
Ignition Coil No.4 . . . . .	On RH front wheel well, forward of shock tower. . .	7000- 3-1

## 9000-2 COMPONENT LOCATION CHART

Ignition Key Switch . . . . .	Part of ignition switch, in upper part of steering column	
Ignition Switch . . . . .	Top RH side of steering column . . . . .	7000- 6-1
Left Front Crash Sensor . . . . .	LH side of engine compartment, front of shock tower . . . . .	7000- 0-6
Left Horn . . . . .	Behind LH corner of front bumper	
Left Tank Fuel Sender . . . . .	Below LH side of rear seat . . . . .	7000-10-2
Loop Contact Rings . . . . .	Inside steering wheel, below air bag gas generator . . . . .	7000- 5-6
Main Fuel Pump . . . . .	Below RH side of rear seat, in fuel tank . . . . .	7000-10-4
Main Relay . . . . .	Center rear of engine compartment, on bracket. . . . .	7000- 1-1
Motronic Control Unit . . . . .	Behind RH side of dash, above glove box . . . . .	7000- 8-2
Multi-Function Clock . . . . .	Center of dash, RH side of digital radio . . . . .	7000- 7-4
Oil Pressure Switch . . . . .	Lower LH front of engine, below oil filter . . . . .	7000- 1-4
Outside Temperature Sensor . . . . .	Behind LH corner of front bumper, in air intake . . . . .	7000- 1-6
Park Brake Switch . . . . .	At base of parking brake . . . . .	7000- 7-6
Power Antenna . . . . .	LH side of trunk, behind LH wheel well . . . . .	7000-11-2
Power Distribution Box . . . . .	LH rear corner of engine compartment . . . . .	7000- 0-1
Power Window Circuit Breaker . . . . .	On center console, near gear shift lever . . . . .	7000- 7-5
Pulse Wheels . . . . .	On respective wheels, in brake housing . . . . .	7000- 3-5
Rear Window Blower . . . . .	Behind center of rear seat back. . . . .	7000-10-3
Rear Window Blower Relay . . . . .	Behind center of rear seat back, on rear window blower . . . . .	7000-10-3
Rear Window Motors . . . . .	Inside front of each rear quarter panel, behind trim panel . . . . .	7000-10-5
Refrigerant Pressure Switch . . . . .	Behind RH headlight, on receiver dryer. . . . .	7000- 2-4
RH Front Door Micro Switch . . . . .	In top rear of RH front door . . . . .	7000- 9-1
Right Front Crash Sensor . . . . .	RH side of engine compartment, front of shock tower . . . . .	7000- 3-1
Right Horn . . . . .	Behind RH side of front bumper	
Seatbelt and SRS Warning Module . . . . .	Center of windshield header. . . . .	7000- 7-1
Seatbelt Switch . . . . .	In driver's seatbelt buckle assembly	
Seatbelt Tensioner Generator . . . . .	Right side of rear seat, behind trim panel	
Seatbelt Warning Timer . . . . .	Behind LH side of dash, on kick panel . . . . .	7000- 5-4
Speed Detectors . . . . .	On respective wheels, in brake housing . . . . .	7000- 3-5

Speedometer Sender . . . . .	On rear of rear differential . . . . .	7000- 4-3
SRS Diagnostic Module . . . . .	Behind LH side of dash, above ABS electronic control unit	
Starter . . . . .	Lower LH rear of engine . . . . .	7000- 0-2
Throttle Potentiometer . . . . .	Top LH side of engine . . . . .	7000- 0-5
Trunk Lid Lock Motor . . . . .	On trunk lock center support . . . . .	7000-11-4
Trunk Light Switch . . . . .	Top center of trunk lid . . . . .	7000-11-5
Unlock Inhibit Switch . . . . .	In top rear of LH front door . . . . .	7000- 9-1
Washer Pump . . . . .	Ahead of RH front wheel well, on washer fluid reservoir . . . . .	7000- 2-6
Water Shut-Off Solenoid . . . . .	LH side of evaporator housing . . . . .	7000- 6-3
Wiper Motor . . . . .	Inside LH side of fresh air intake cowl . . . . .	7000- 0-4

**CONNECTORS**

C75 . . . . .	Behind LH side of dash, on SRS diagnostic module bracket	
C100 . . . . .	LH rear corner of engine compartment, in power distribution box . . . . .	7000- 0-3
C101 (20 pins) . . . . .	LH rear of engine compartment, mounted on engine dash . . . . .	7000- 0-1
C103 (30 pins) . . . . .	Behind LH side of dash, on body electrical bracket . . . . .	7000- 4-6
C104 (2 pins) . . . . .	Behind LH side of dash, taped to harness, near accessory connector C302 . . . . .	7000- 4-6
C110 (3 pins) . . . . .	RH front of engine compartment . . . . .	7000- 2-4
C113 (3 pins) . . . . .	LH front corner of engine compartment . . . . .	7000- 1-2
C114 (8 pins) . . . . .	LH rear corner of engine compartment, on power distribution box . . . . .	7000- 0-3
C132 (1 pin) . . . . .	Center rear of engine compartment . . . . .	7000- 1-1
C136 (4 pins) . . . . .	Behind RH side of dash, above glove box . . . . .	7000- 8-2
C140 (4 pins) . . . . .	Lower RH rear of engine compartment, under battery tray . . . . .	7000- 3-3
C150 (2 pins) . . . . .	Front of LH front shock tower, on bracket . . . . .	7000- 0-6
C151 (2 pins) . . . . .	Front of RH front wheel well . . . . .	7000- 2-6
C190 (2 pins) . . . . .	Below RH side of rear seat . . . . .	7000-10-4
C191 (7 pins) . . . . .	Lower LH side of engine . . . . .	7000- 0-2

## 9000-4 COMPONENT LOCATION CHART

C200 (10 pins)	Behind LH side of dash, on steering column	7000- 5-1
C201 (6 pins)	Behind LH side of dash, on steering column	7000- 5-1
C202 (13 pins)	Behind LH side of dash, on steering column	7000- 5-1
C203 (6 pins)	Behind LH side of dash, near LH kick panel	7000- 4-5
C204 (12 pins)	Behind LH side of dash, RH side of steering column	7000- 6-5
C212 (2 pins)	Behind center of dash, on digital radio	7000- 7-3
C213 (1 pin)	Behind center of dash, on digital radio	7000- 7-2
C214 (1 pin)	Behind center of dash, on digital radio	7000- 7-2
C215 (2 pins)	Behind center of dash, behind digital radio	7000- 7-4
C216 (2 pins)	Behind center of dash, on digital radio	7000- 7-4
C217 (1 pin)	Behind LH side of dash, near accessory connector	
C218 (2 pins)	Behind center of dash, on digital radio	7000- 7-3
C219 (2 pins)	LH side of trunk, above LH wheel well	7000-11-2
C220 (2 pins)	Inside LH kick panel	
C221 (2 pins)	Inside RH kick panel	
C233 (1 pin)	Behind center of dash, near digital radio	7000- 7-4
C240 (6 pins)	Behind LH side of dash, on SRS diagnostic module bracket	
C243 (8 pins)	Behind center of dash, near digital radio	7000- 7-2
C244 (2 pins) (Without Sound System)	Behind center of dash, on digital radio	7000- 7-3
C244 (4 pins) (With Sound System)	Behind center of dash, on digital radio	7000- 7-4
C245 (2 pins)	Behind center of dash, on digital radio	7000- 7-3
C260 (2 pins)	Underside of steering column, above access panel	7000- 5-5
C270 (4 pins)	Behind LH side of dash, on SRS diagnostic module bracket	
C280 (8-pins)	Behind LH side of dash, on SRS diagnostic module bracket	
C290 (2 pins)	Behind LH side of dash, on SRS diagnostic module bracket	
C301 (2 pins)	Below center console, near gear shift lever	7000- 7-5
C302 (25 pins) Accessory Connector	Behind LH side of dash, on body electrical bracket	7000- 4-6
C303 (3 pins)	Lower rear of RH door sill, below carpet	

C304 (3 pins) . . . . .	Lower rear of LH door sill, below carpet	
C305 (1 pin) . . . . .	Behind LH side of dash, near accessory connector . .	7000- 5-1
C307 (1 pin) . . . . .	RH side of soft top stowage compartment, on hard top mounting post . . . . .	7000-10-6
C308 (1 pin) . . . . .	RH side of soft top stowage compartment, on hard top mounting post . . . . .	7000-10-6
C310 (1 pin) . . . . .	LH side of soft top stowage compartment, on hard top mounting post . . . . .	7000- 9-6
C352 (2 pins) . . . . .	Below LH side of rear seat . . . . .	7000-10-1
C360 (2 pins) . . . . .	Below RH side of rear seat . . . . .	7000-10-5
C404 (21 pins) . . . . .	Above RH front door jamb switch . . . . .	7000- 8-5
C405 (21 pins) . . . . .	Above LH front door jamb switch . . . . .	7000- 4-4
C406 (1 pin) . . . . .	Below RH front speaker . . . . .	7000- 8-4
C407 (1 pin) . . . . .	Below LH front speaker . . . . .	7000- 4-5
C421 (4 pins) . . . . .	Below LH front seat assembly . . . . .	7000- 9-4
C422 (4 pins) . . . . .	Below RH front seat assembly . . . . .	7000- 9-5
C503 (3 pins) . . . . .	In lower rear of LH front door . . . . .	7000- 9-3
C510 (1 pin) . . . . .	Inside LH kick panel, above LH front speaker . . . . .	7000- 4-5

**GROUND S**

G100 . . . . .	On RH shock tower . . . . .	7000- 3-3
G103 . . . . .	On RH shock tower . . . . .	7000- 3-3
G104 . . . . .	On inner fender, behind LH headlight . . . . .	7000- 1-2
G200 . . . . .	Behind LH side of dash, above clutch pedal . . . . .	7000- 5-3
G201 . . . . .	Upper LH side of steering column . . . . .	7000- 6-1
G202 . . . . .	Below RH side of rear seat . . . . .	7000-10-5
G300 . . . . .	Below LH side of rear seat . . . . .	7000-10-1
G302 . . . . .	LH side of trunk, behind LH wheel well . . . . .	7000-11-2

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