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**1987**

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**BMW M3**

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**Electrical**

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**Troubleshooting**

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**Manual**

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BMW of North America, Inc.  
Montvale, New Jersey



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## **FOREWORD**

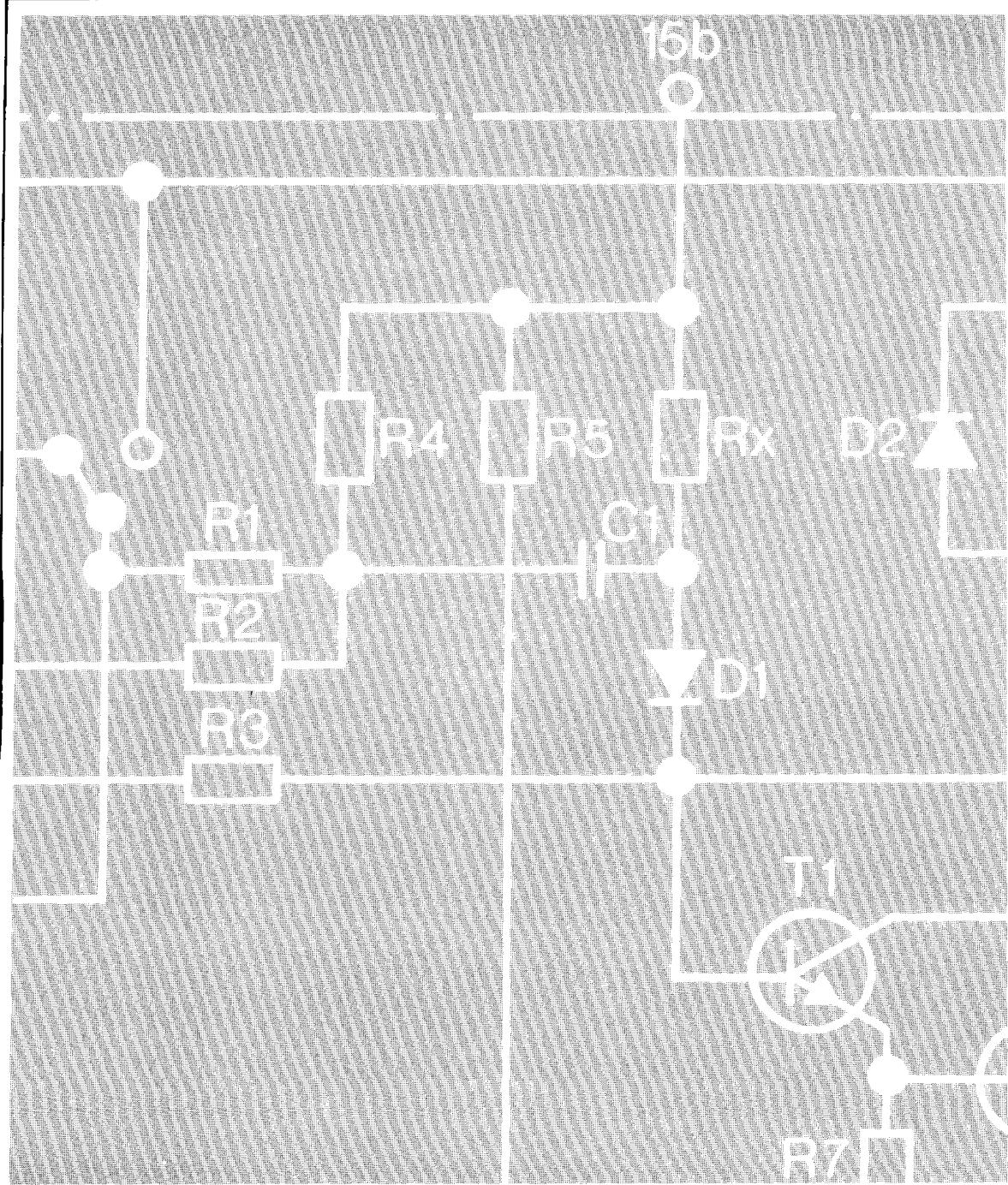
In the interests of continuing technical development work we reserve the right to modify designs and equipment.

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**1987  
BMW M3  
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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.

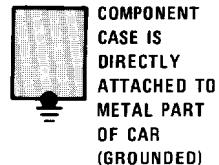
WIRE SIZE CONVERSION CHART	
METRIC (CROSSECTIONAL AREA IN MM <sup>2</sup> )	AWG (AMERICAN WIRE GAUGE)
.5	20
.75	18
1	16
1.5	14
2	14
2.5	12
4	10
6	8
8	8
16	4
20	4
25	2
32	2

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

## 4 SYMBOLS



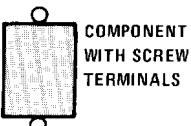
ENTIRE  
COMPONENT  
SHOWN



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



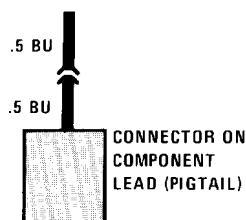
PART OF A  
COMPONENT  
SHOWN



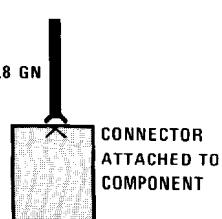
COMPONENT  
WITH SCREW  
TERMINALS



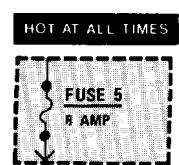
SOLID STATE  
(INCLUDES ONLY  
ELECTRONIC PARTS)



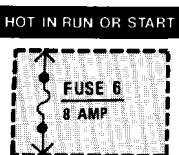
.5 BU  
CONNECTOR ON  
COMPONENT  
LEAD (PIGTAIL)



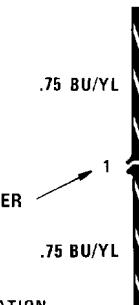
.8 GN  
CONNECTOR  
ATTACHED TO  
COMPONENT



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



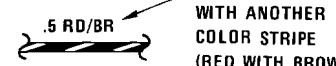
PIN NUMBER

CONNECTOR REFERENCE  
NUMBER FOR COMPONENT  
LOCATION CHART  
C104  
CHART ALSO SHOWS  
TOTAL NUMBER OF  
CONTACTS POSSIBLE:  
C103 (6 PIN)

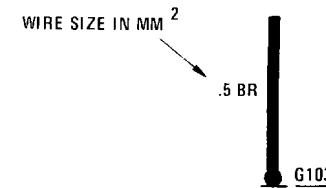


WIRE INSULATION  
IS ONE COLOR

A WAVY LINE  
MEANS A WIRE  
IS CONTINUED



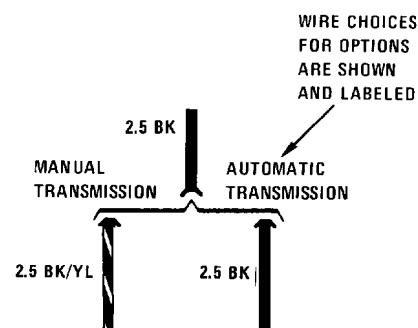
WIRE INSULATION  
IS ONE COLOR  
WITH ANOTHER  
COLOR STRIPE  
(RED WITH BROWN)



WIRE SIZE IN MM<sup>2</sup>

WIRE IS ATTACHED TO  
METAL PART OF CAR  
(GROUNDED)  
GROUND IS NUMBERED  
FOR REFERENCE ON  
COMPONENT LOCATION CHART  
G103

OTHER CIRCUITS THAT SHARE  
A GROUND ARE SHOWN  
IN GROUND DISTRIBUTION

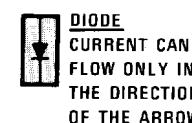


2.5 BK

MANUAL  
TRANSMISSION AUTOMATIC  
TRANSMISSION

2.5 BK/YL

2.5 BK

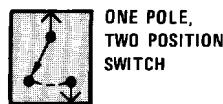


DIODE  
CURRENT CAN  
FLOW ONLY IN  
THE DIRECTION  
OF THE ARROW

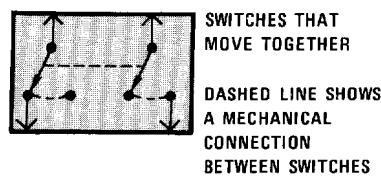
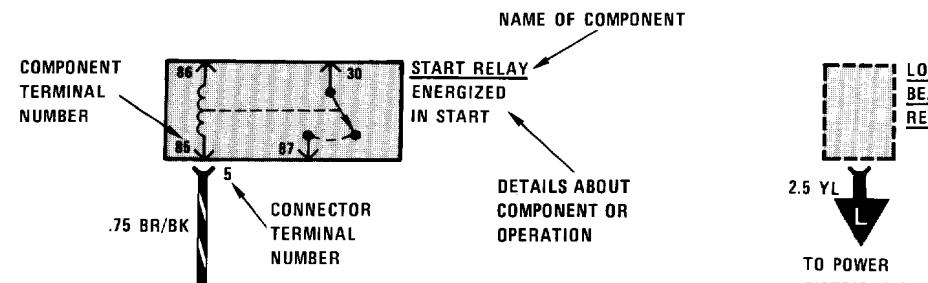
CIRCUIT REFERENCE –  
A WIRE WHICH CONNECTS  
TO ANOTHER CIRCUIT



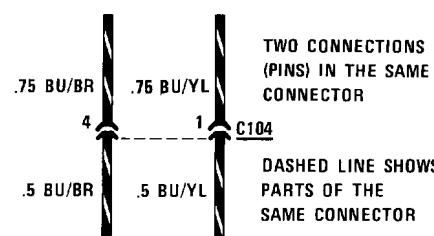
ACTIVE CHECK CONTROL



ONE POLE,  
TWO POSITION  
SWITCH

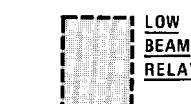
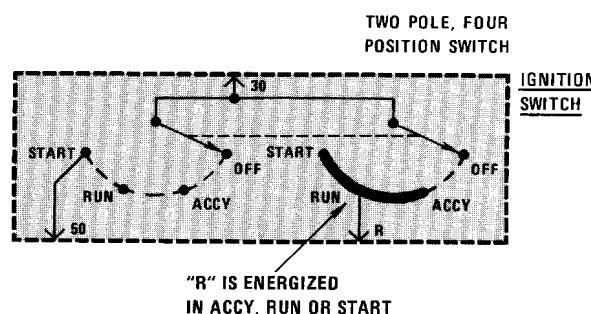


SWITCHES THAT MOVE TOGETHER  
DASHED LINE SHOWS A MECHANICAL CONNECTION BETWEEN SWITCHES



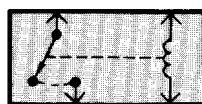
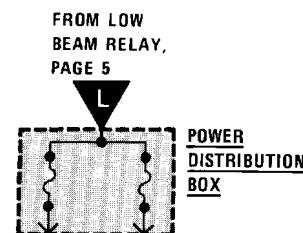
TWO CONNECTIONS (PINS) IN THE SAME CONNECTOR

DASHED LINE SHOWS PARTS OF THE SAME CONNECTOR

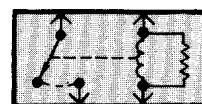


LOW BEAM RELAY  
2.5 YL  
L  
TO POWER DISTRIBUTION BOX, PAGE 1

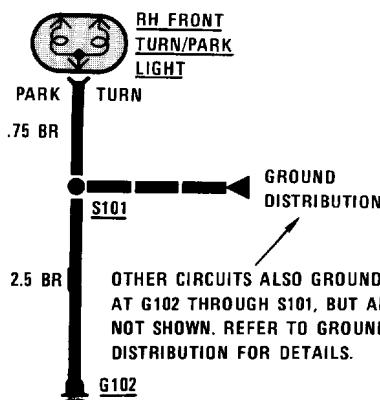
CURRENT PATH IS CONTINUED AS LABELED. THE ARROW SHOWS DIRECTION OF CURRENT FLOW AND IS REPEATED WHERE CURRENT PATH CONTINUES.



RELAY SHOWN WITH NO CURRENT FLOWING THROUGH COIL



RELAY SHOWN WITH RESISTOR ACROSS COIL  
RESISTOR ACROSS COIL IS FOR NOISE SUPPRESSION



LIGHT EMITTING DIODE

## 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

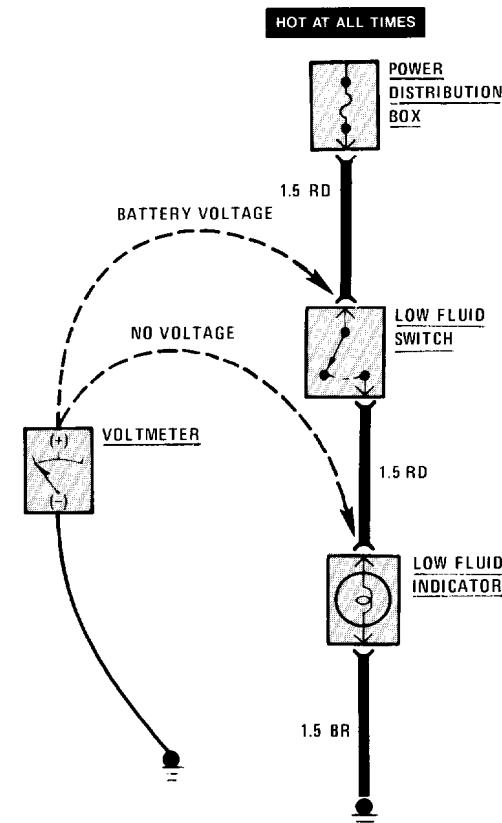
Isolating the problem (Step 3 of TROUBLESHOOTING PROCEDURES) requires the use of a **voltmeter** and/or **ohmmeter**. A voltmeter measures voltage at selected points in a circuit. An ohmmeter measures a circuit's resistance to current flow. It has an internal battery that provides current to the circuit 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.

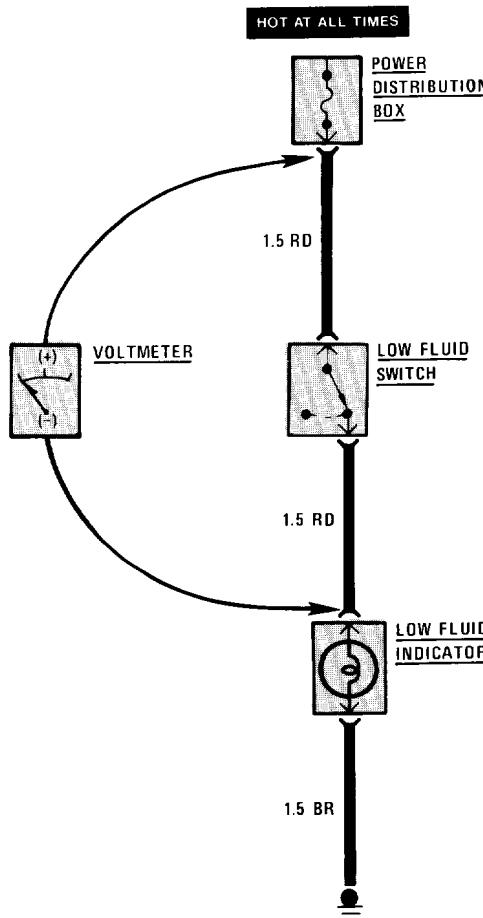


Voltage Test

### 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.

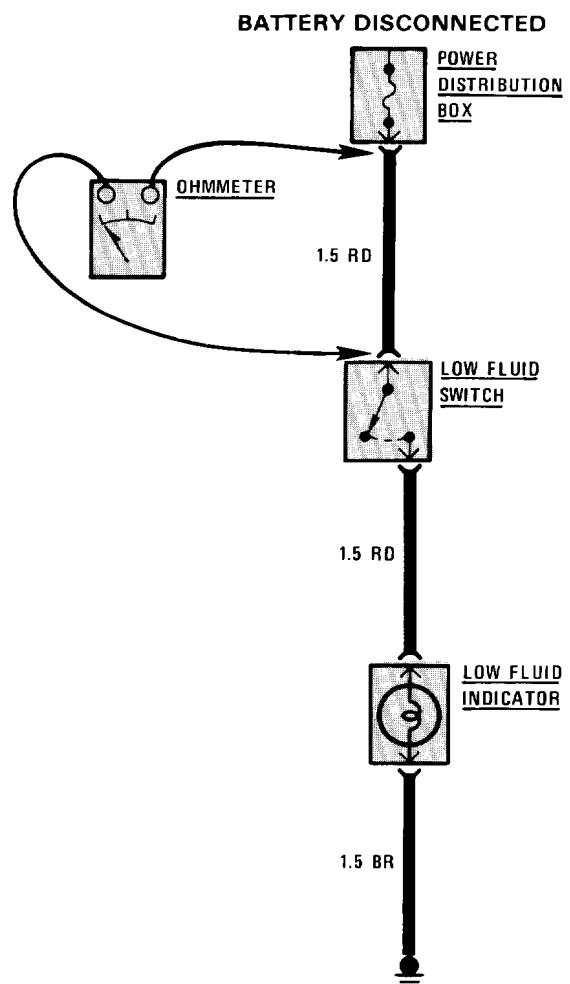
To test for voltage drop, connect the voltmeter leads to connectors at either end of the circuit's suspected problem area. The positive lead should be connected to the connector closest to the power source. The voltmeter will show the voltage drop between these two points.



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.

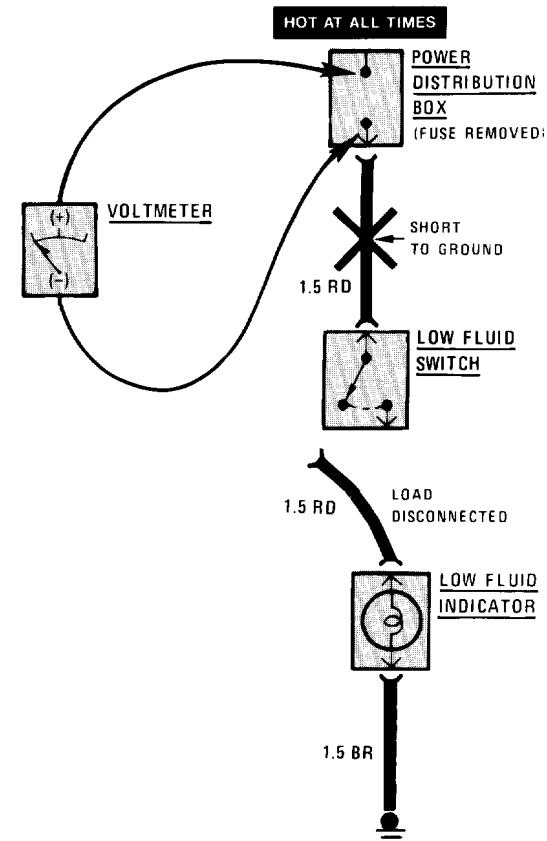


Continuity Test

### 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

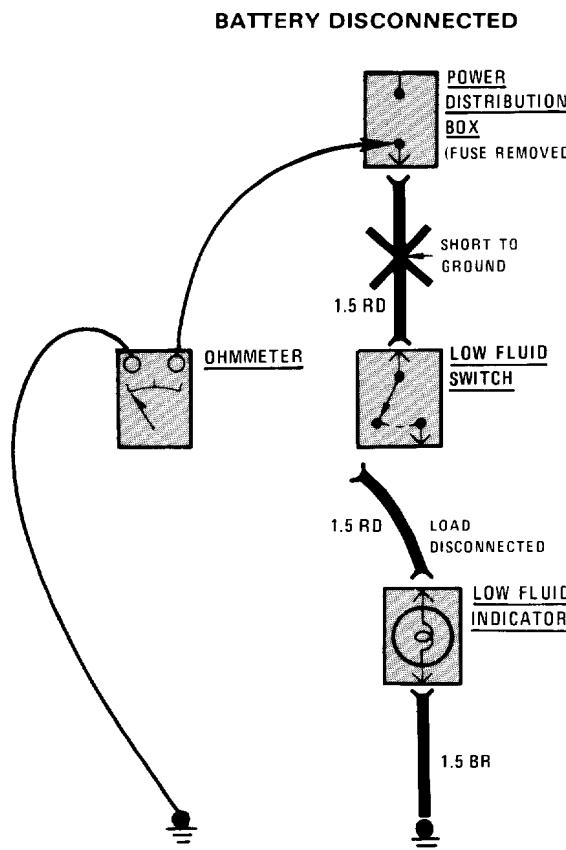
## **8 SYSTEMATIC TROUBLESHOOTING**

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### **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

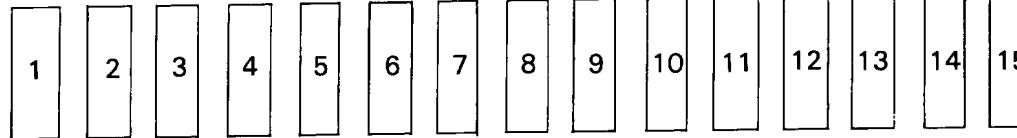
## POWER DISTRIBUTION BOX

◀ FRONT OF CAR

LOW BEAM  
CHECK RELAY  
AND RELAY NOISE  
SUPPRESSORS  
ARE PART OF  
THE PRINTED  
CIRCUIT BOARD

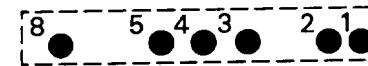
K10  
WIPER  
CONTROL UNIT

CONNECTORS  
C100, C114, AND  
C115 ARE  
LOCATED ON  
THE UNDERSIDE  
OF THE PRINTED  
CIRCUIT BOARD



FUSES

C114



LOW BEAM  
CHECK RELAY

C115

K1  
NORMAL  
SPEED  
RELAY

K2  
HORN  
RELAY

K3  
HIGH  
BEAM  
RELAY

K4  
LOW  
BEAM  
RELAY

C100

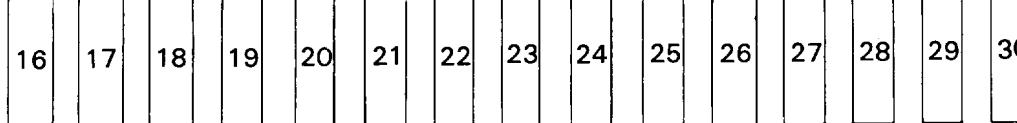
K5  
UN-  
LOADER  
RELAY

K6  
HIGH  
SPEED  
RELAY

K7  
UN-  
LOADER  
RELAY

K8  
FOG LIGHT  
RELAY

FUSES

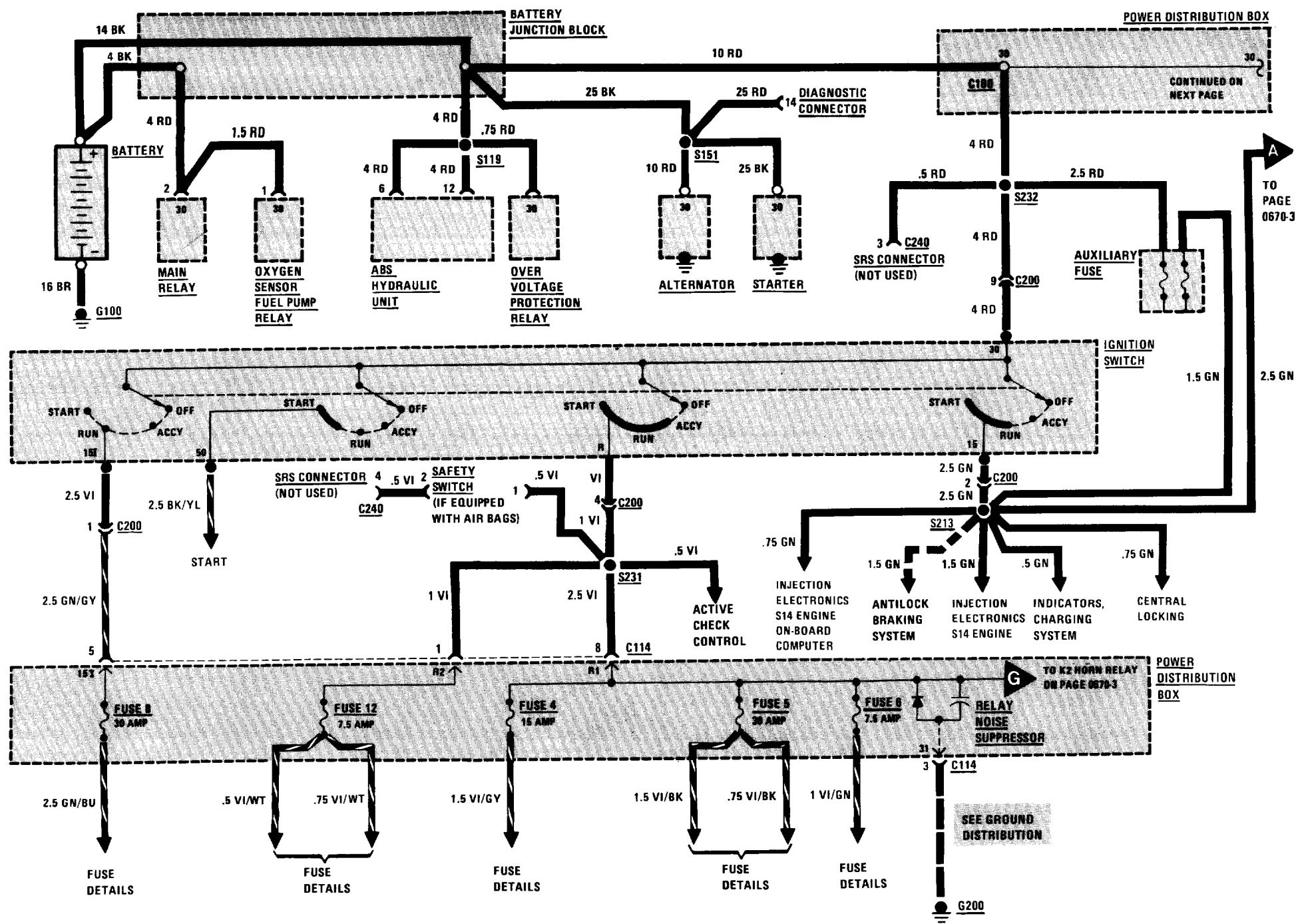


## FUSE DATA CHART

FUSE NO.	SIZE	CIRCUIT PROTECTED
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	Lights: Turn/Hazard Warning (also fuse 24); Active Check Control (also fuses 6, 10, 21, 22, 23).
5	30A	Wiper/Washer.
6	7.5A	Stop Lights/Cruise Control; Active Check Control (also fuse 4, 10, 21, 22, 23).
7	15A	Horn.
8	30A	Rear Defogger
9	15A	Idle Speed Control; Injection Electronics (also Fuse 21); Evaporative Purge Control (S14 Engine)
10	7.5A	Seatbelt Warning (also fuse 21); Service Interval Indicator (also fuse 21); Tachometer/Fuel Economy Gauges (also fuse 21); Gauges/Indicators; Brake Warning System; Back Up Lights; On-Board Computer (also fuses 12, 21, 27); Start; Active Check Control (also fuses 4, 6, 21, 22, 23).
11	15A	Fuel Delivery.
12	7.5A	Radio (also fuses 21, 27, 28); Speedometer/Indicators; On-Board Computer (also fuses 10, 21, 27).
13	7.5A	Headlights (also fuses 1, 2, 14).
14	7.5A	Headlights (also fuses 1, 2, 13).
15	—	Not Used.
16	—	Not Used.
17	30A	Sunroof; 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.

FUSE NO.	SIZE	CIRCUIT PROTECTED
20	30A	Heater/Air Conditioning; Auxiliary Fan (also fuses 3, 18, 19).
21	7.5A	Auto-Charging Flashlight; Glove Box Light; Ignition Key Warning/Seatbelt Warning; (also fuse 10); Interior Lights (also fuses 14, 22, 27); Radio (also fuses 12, 27, 28); Trunk Light; Active Check Control (also fuses 4, 6, 10, 22, 23); Service Interval Indicator (also fuse 10); On-Board Computer (also fuses 10, 12, 27); Injection Electronics (also fuse 9); Tachometer/Fuel Economy Gauge (also fuse 10);
22	7.5A	Active Check Control (also fuses 4, 6, 10, 21, 23); 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; Active Check Control (also fuses 4, 6, 10, 21, & 22);
24	15A	Lights: Turn/Hazard Warning (also fuse 4).
25	—	Not Used.
26	—	Not Used.
27	30A	Interior Lights (also fuses 6, 19, 21); Central Locking; Radio/Antenna (also fuses 12, 21, 28); On-Board Computer (also fuses 10, 12, 21, 23).
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

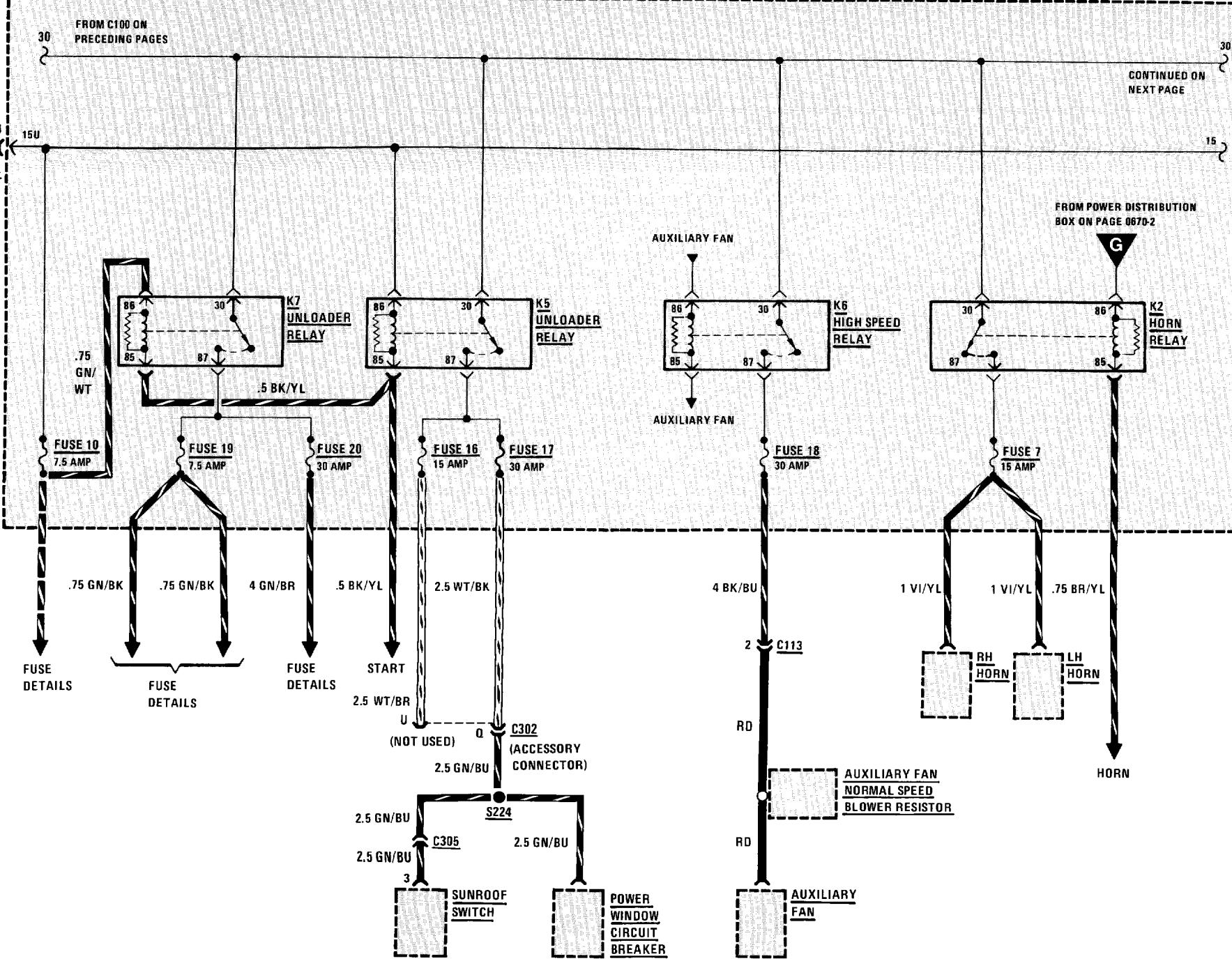
**A**  
FROM PAGE 0670-3

FROM C100 ON  
PRECEDING PAGES

30

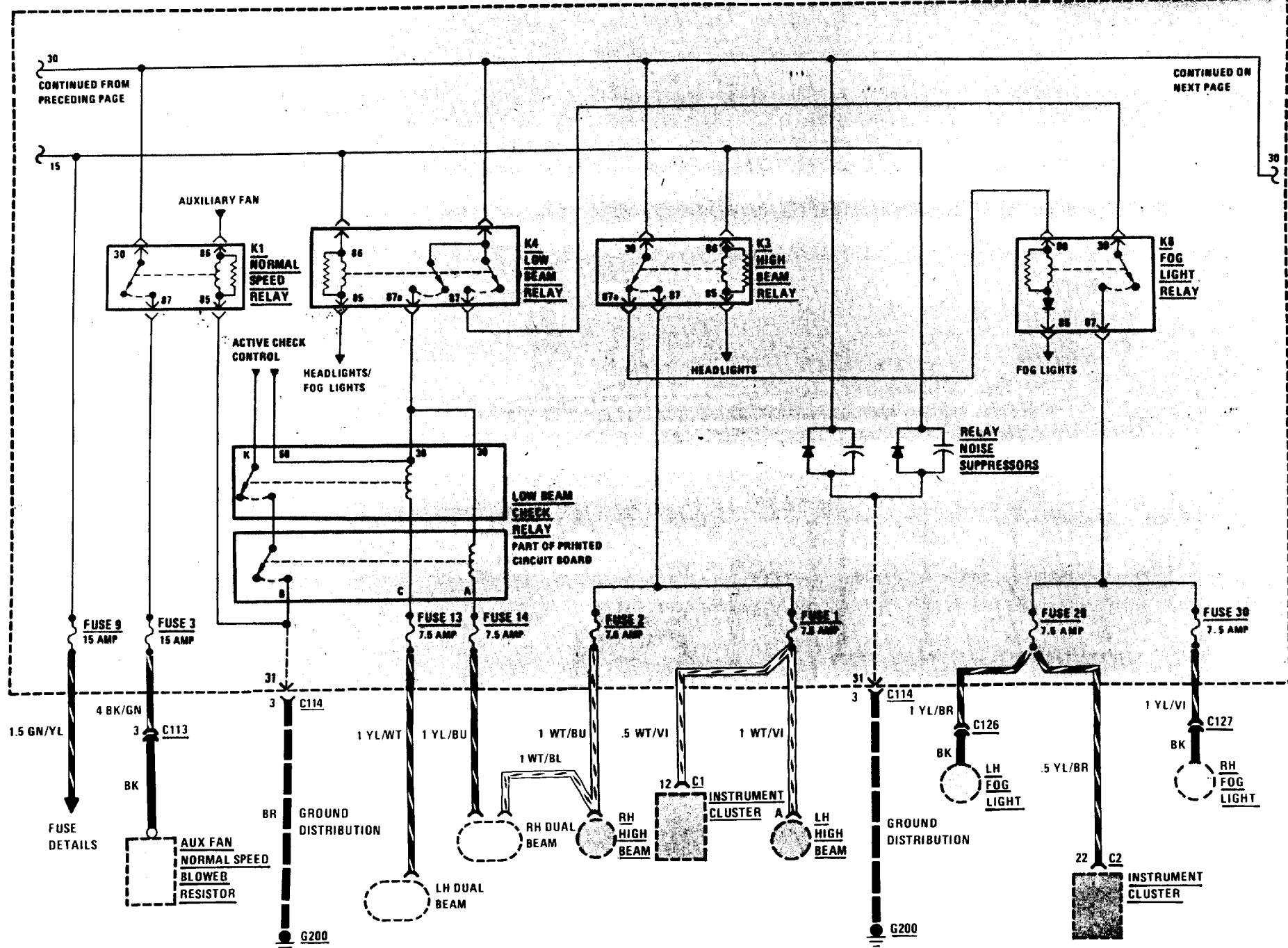
CONTINUED ON  
NEXT PAGE

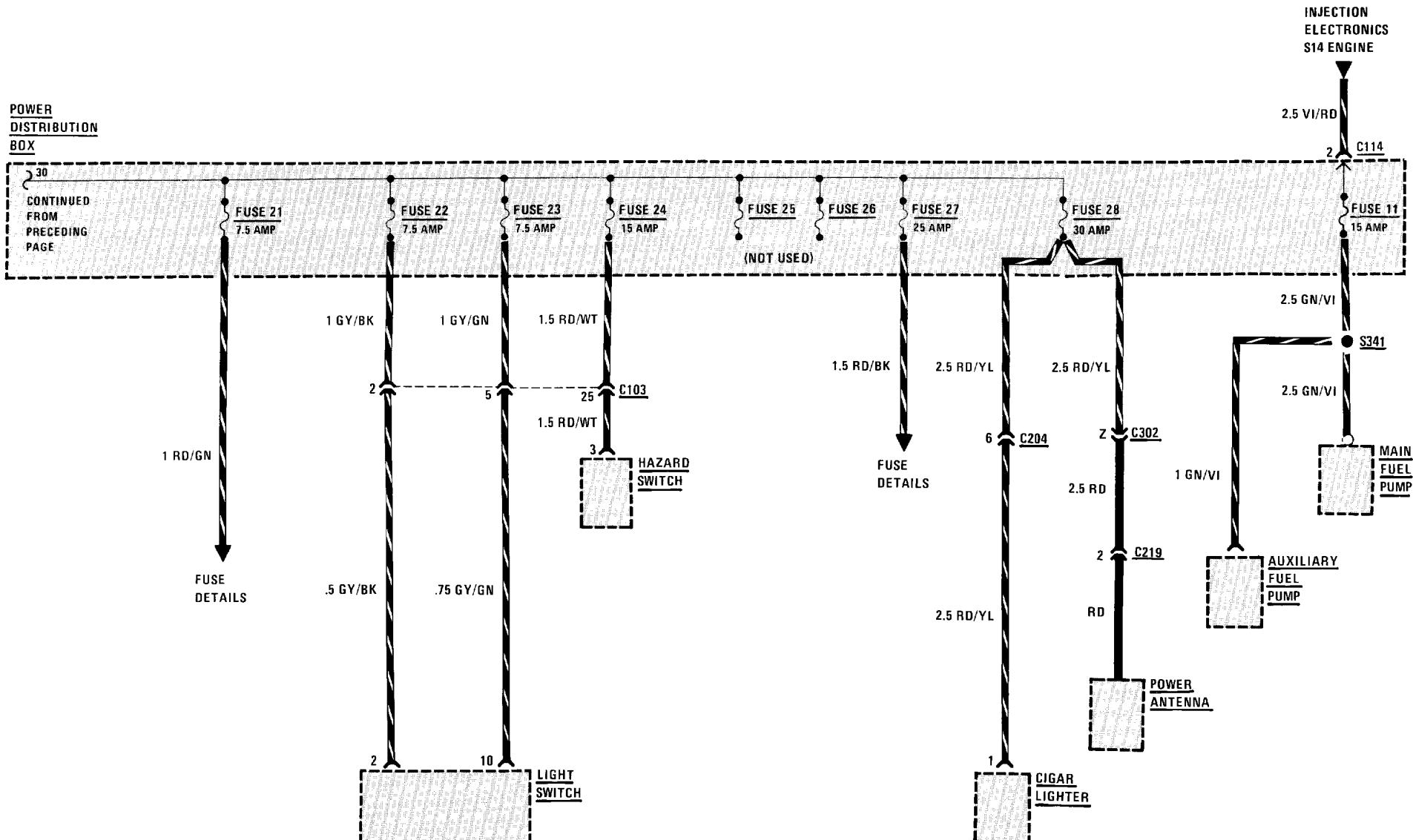
30



# 0670-4 POWER DISTRIBUTION

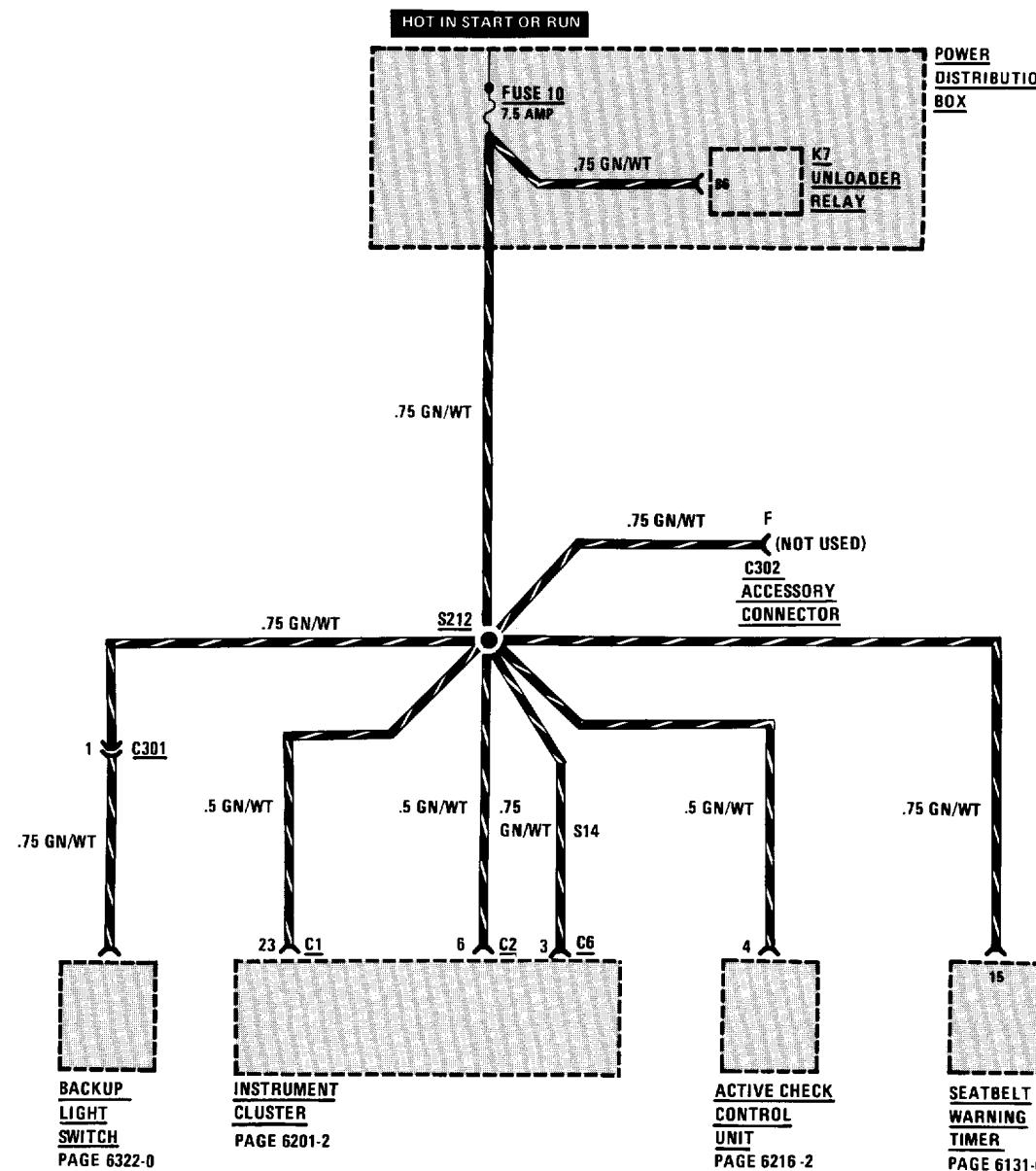
POWER DISTRIBUTION BOX



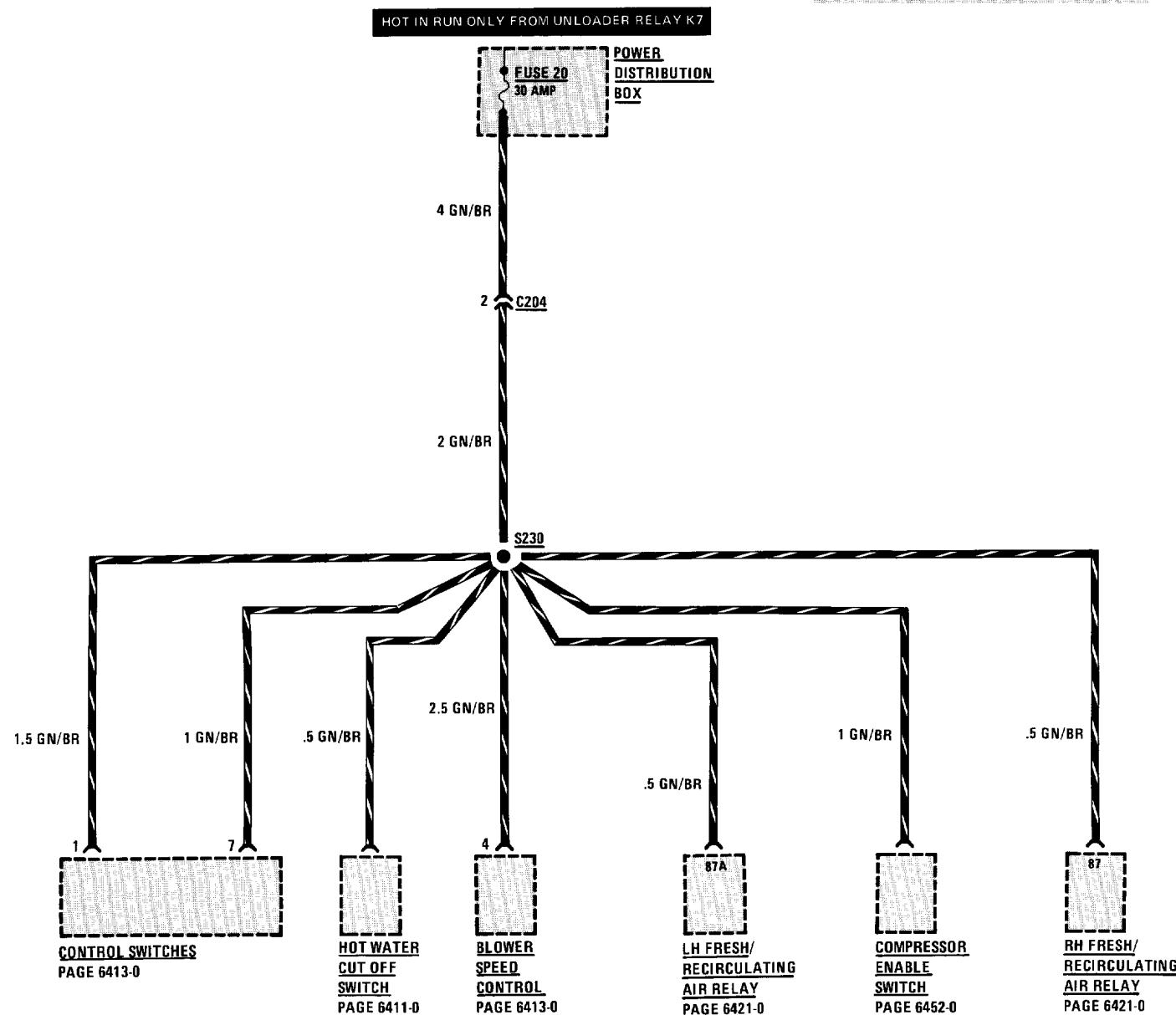


# 0670-6 POWER DISTRIBUTION

## FUSE DETAILS: FUSE 10

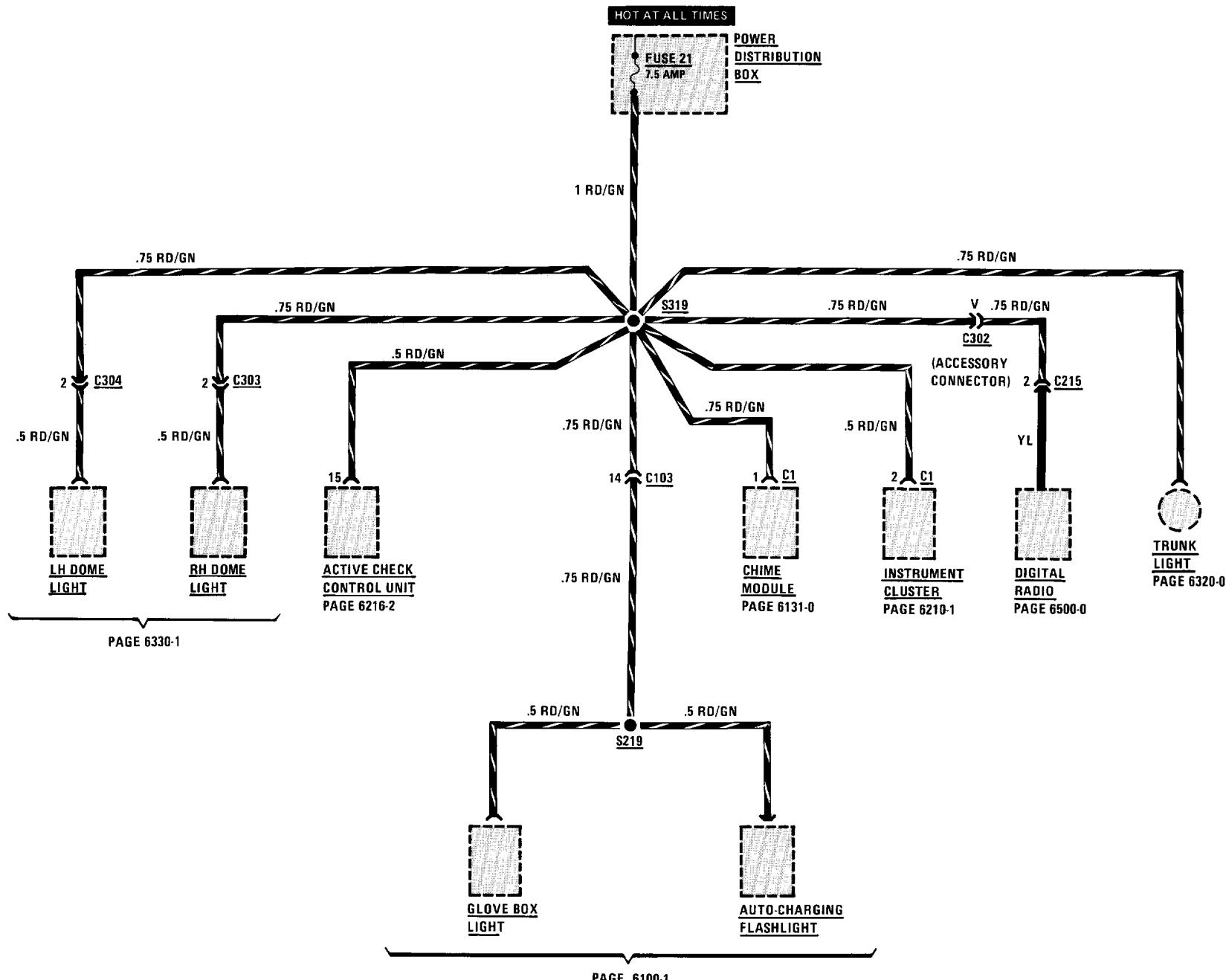


## FUSE DETAILS: FUSE 20

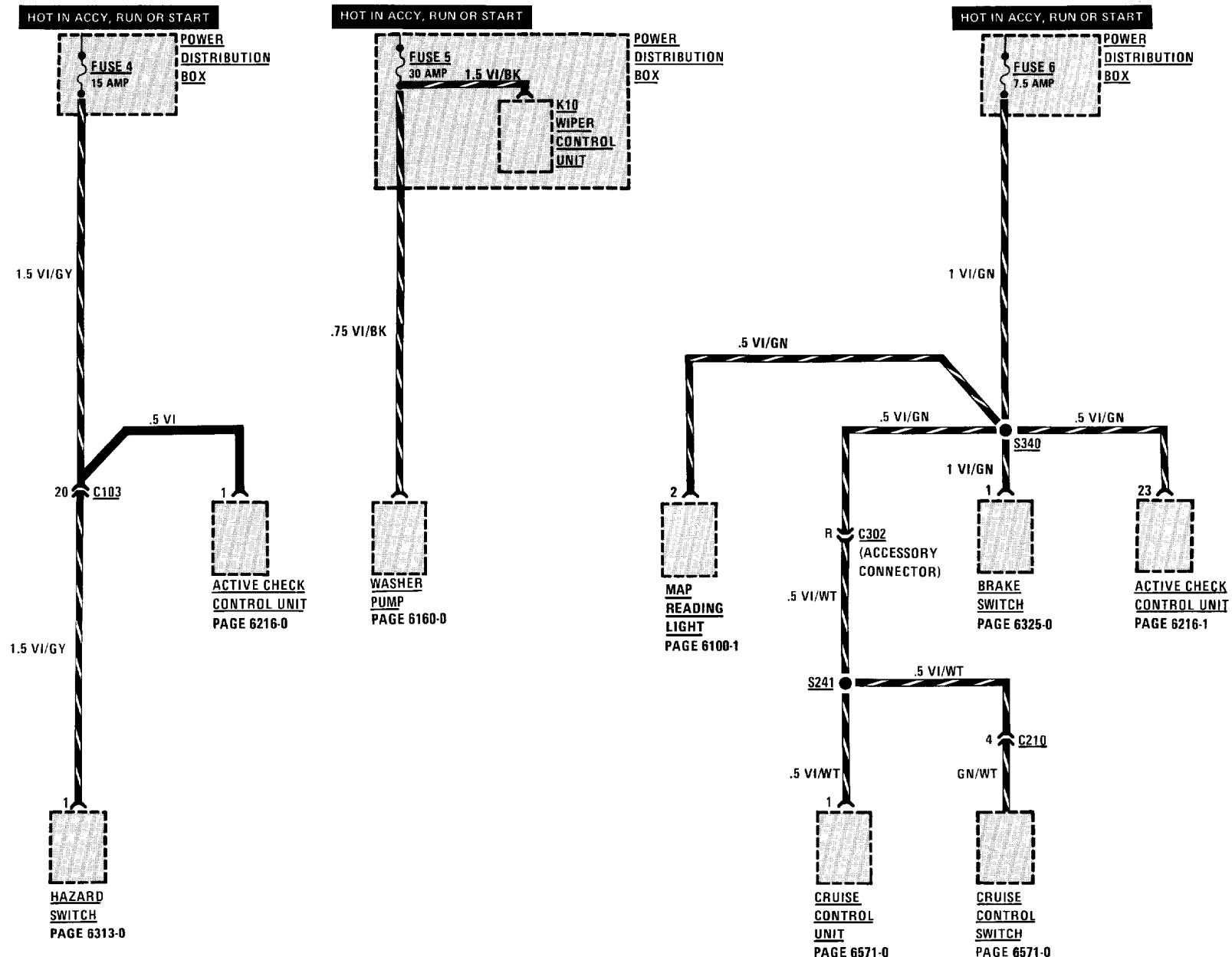


# 0670-8 POWER DISTRIBUTION

## FUSE DETAILS: FUSE 21

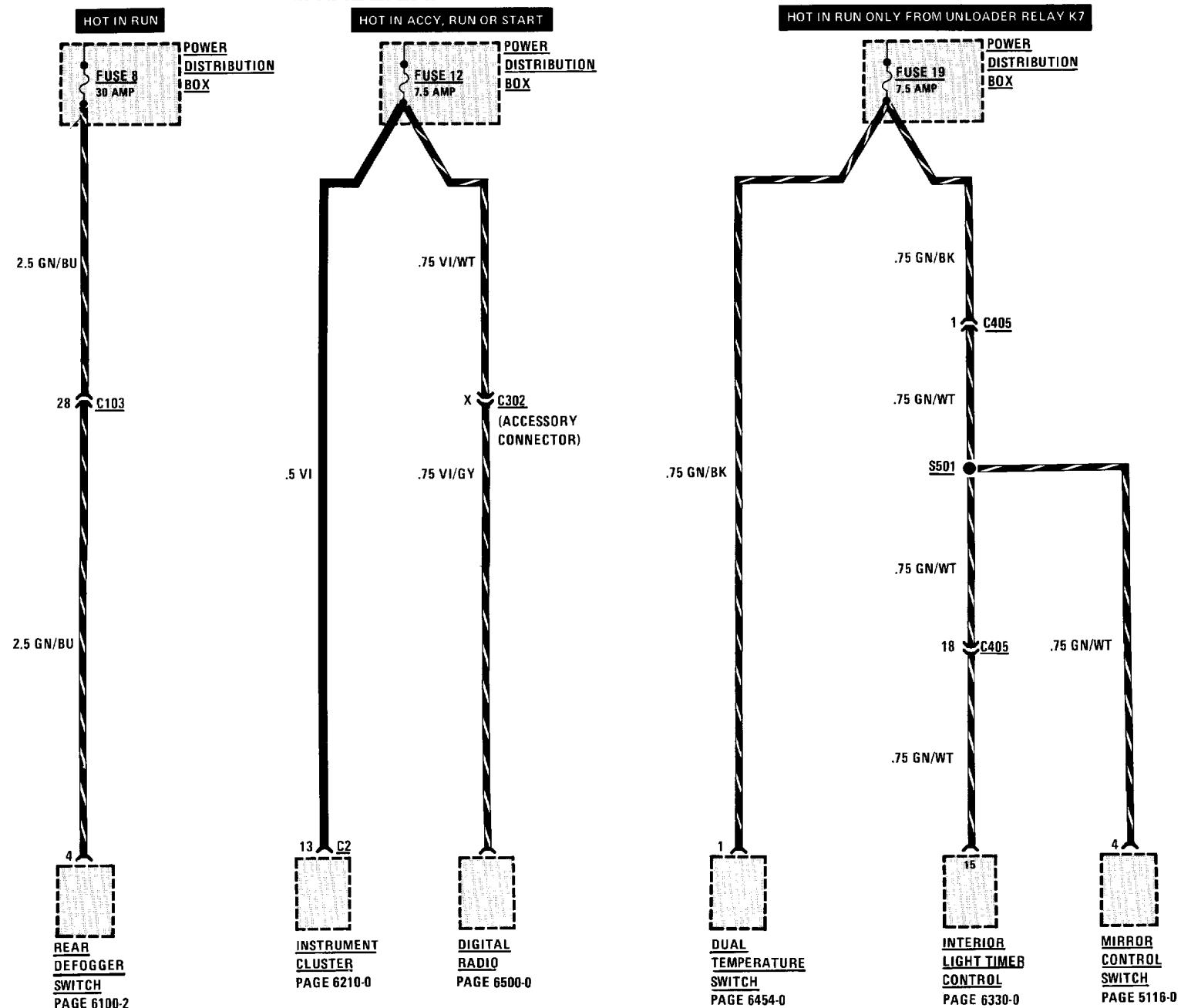


## FUSE DETAILS: FUSES 4, 5 AND 6

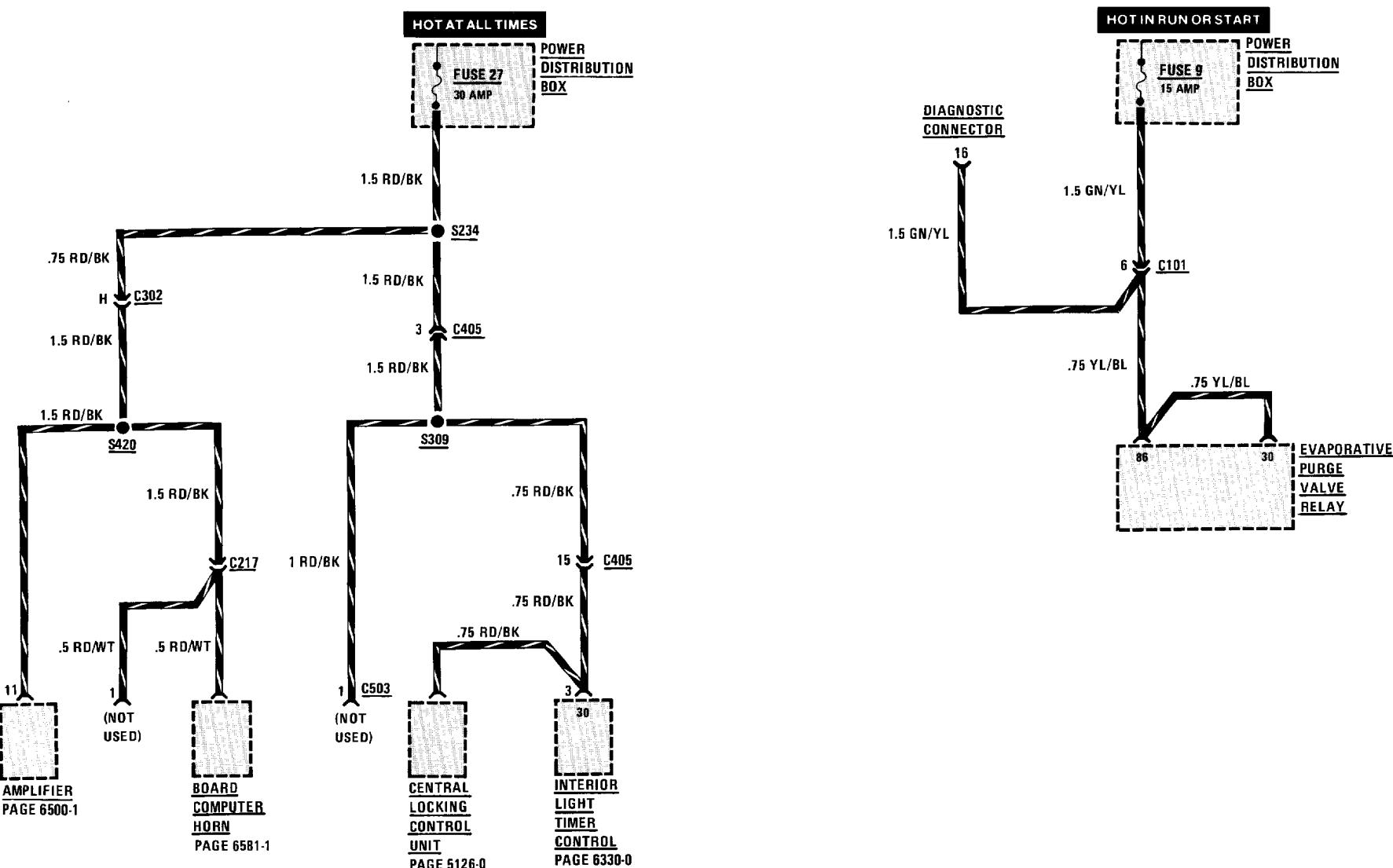


# 0670-10 POWER DISTRIBUTION

## FUSE DETAILS: FUSES 8, 12 AND 19

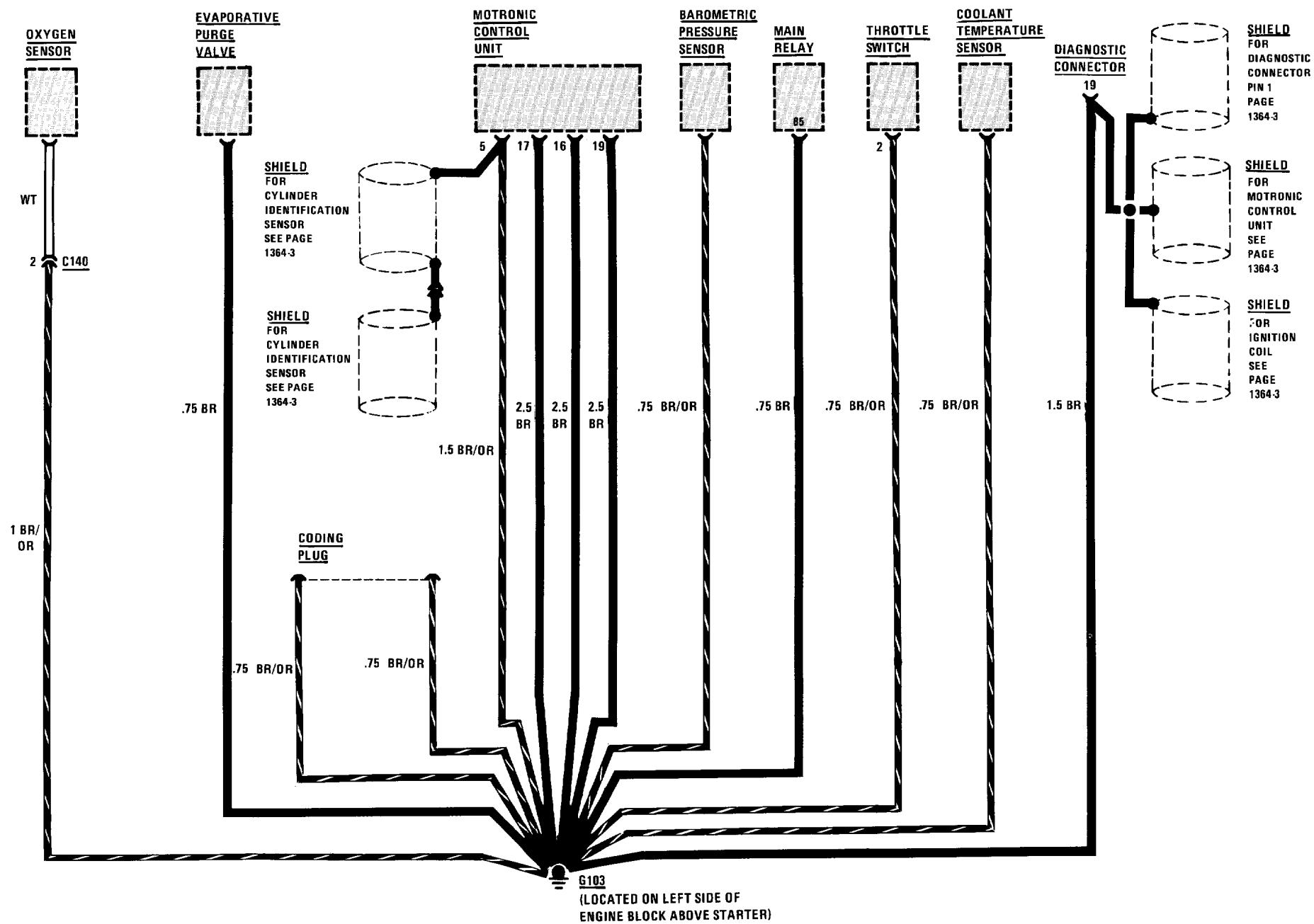


## FUSE DETAILS: FUSES 27 AND 9

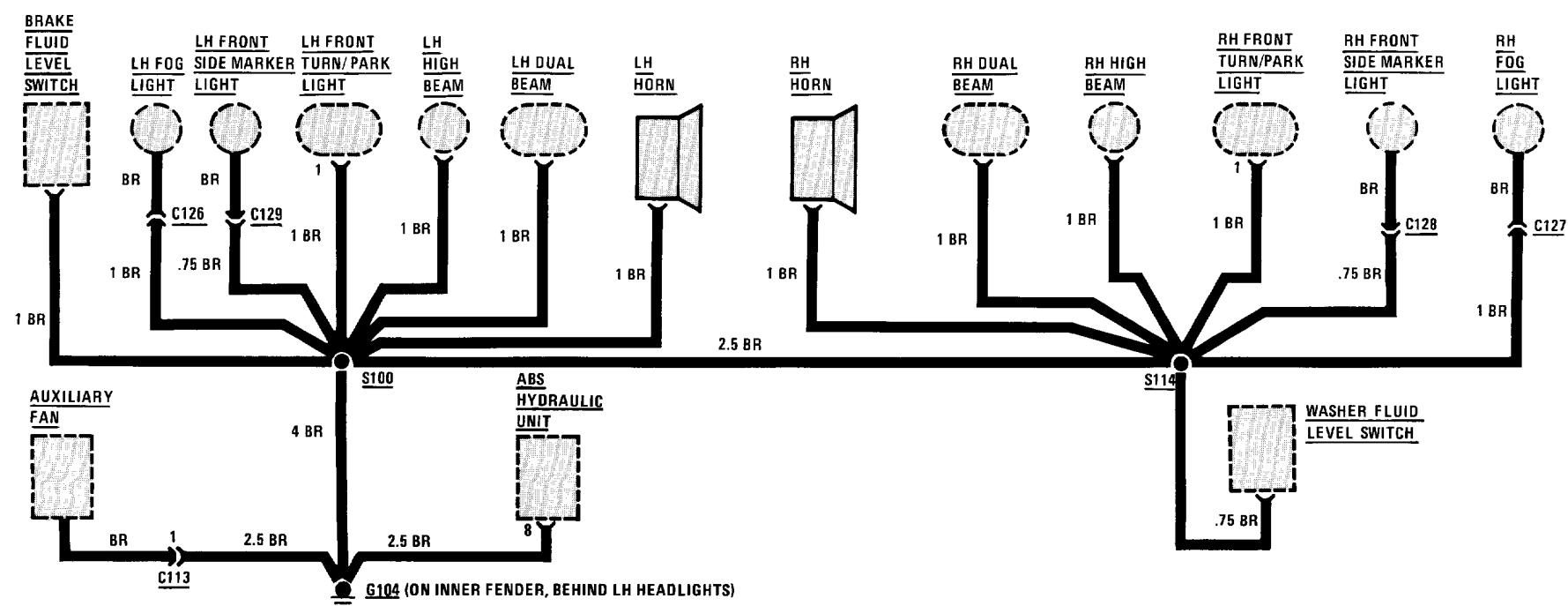
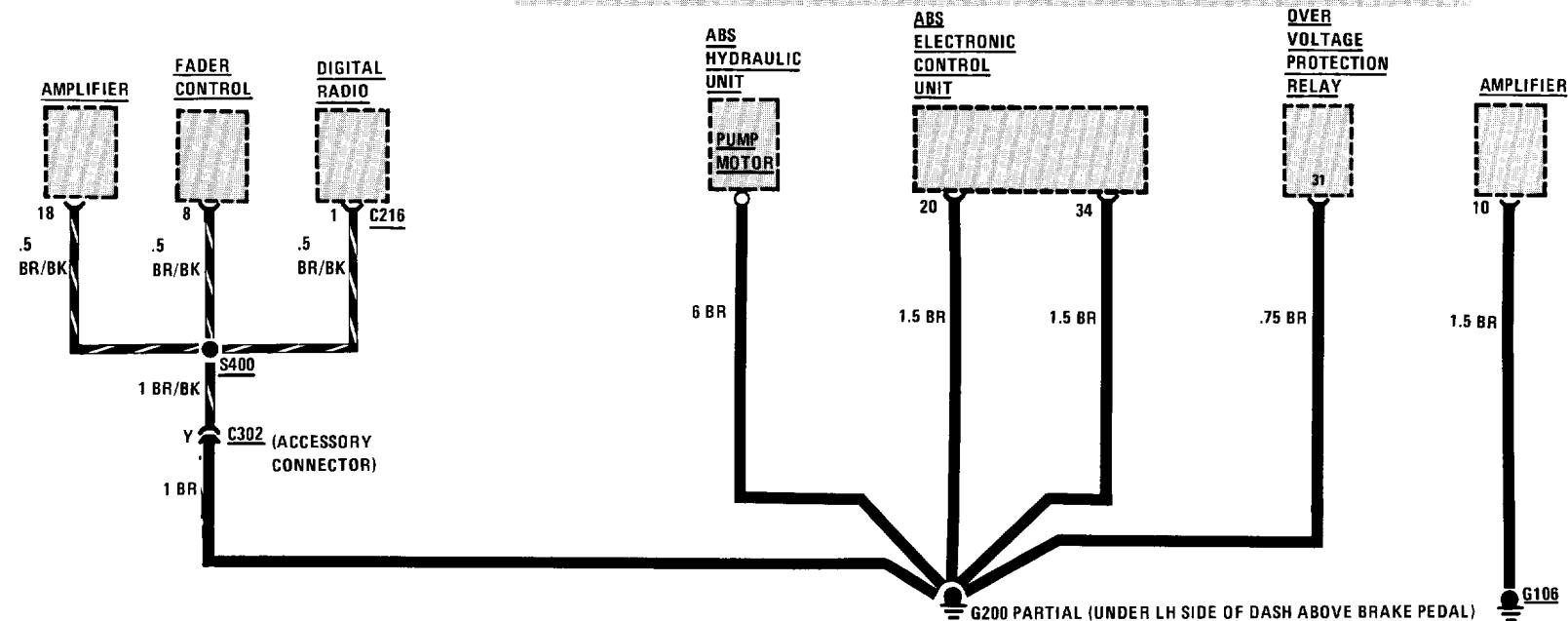


# 0670-12 POWER DISTRIBUTION

## GROUND DISTRIBUTION (G103)

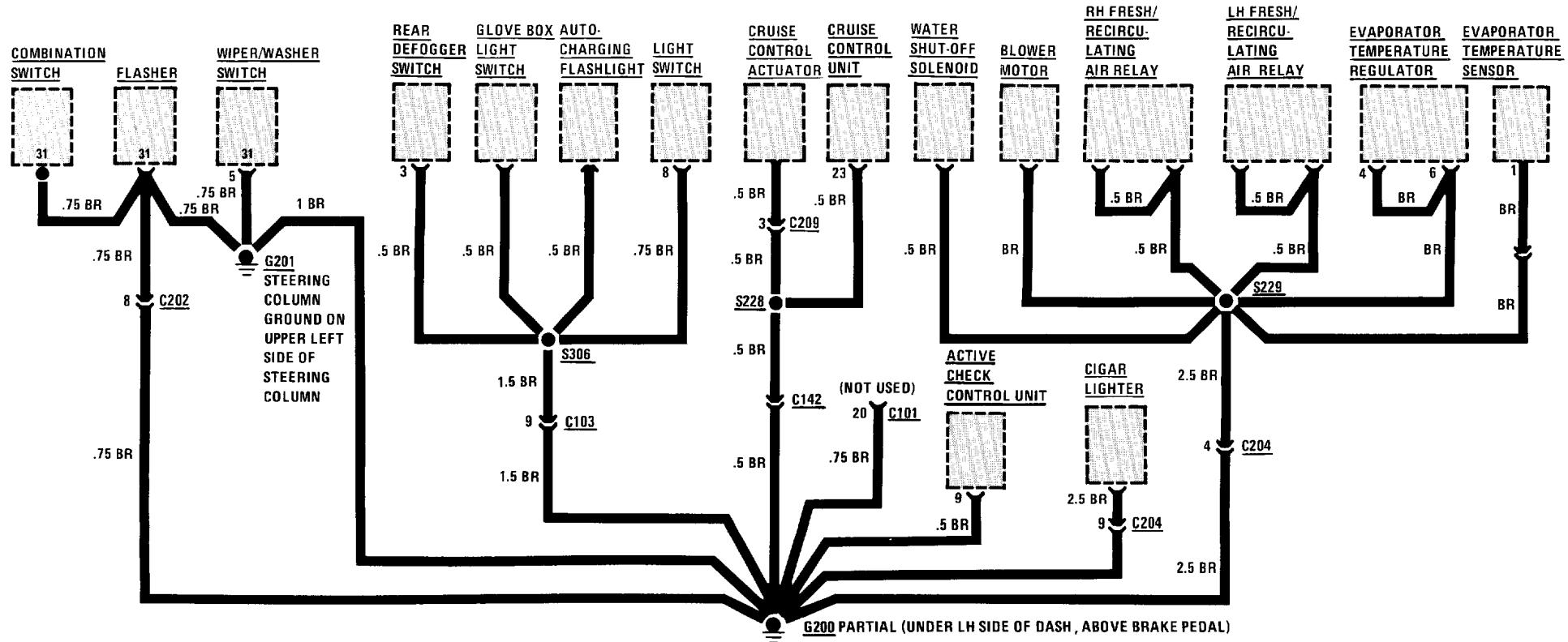
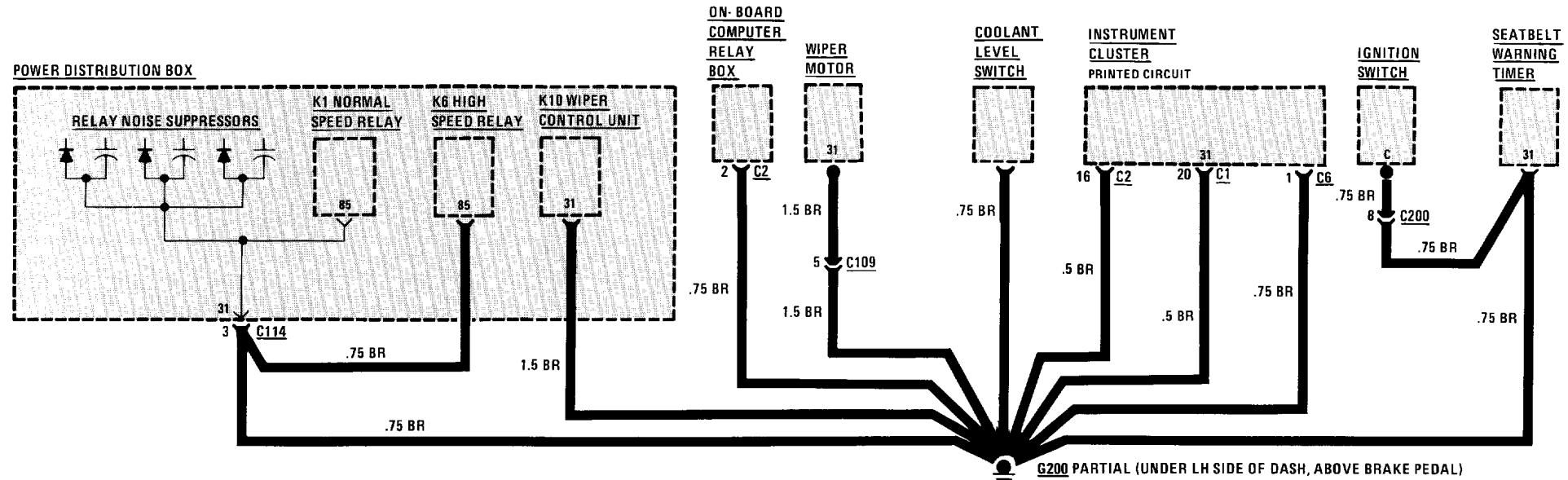


## GROUND DISTRIBUTION (G104, G106 AND G200 PARTIAL)

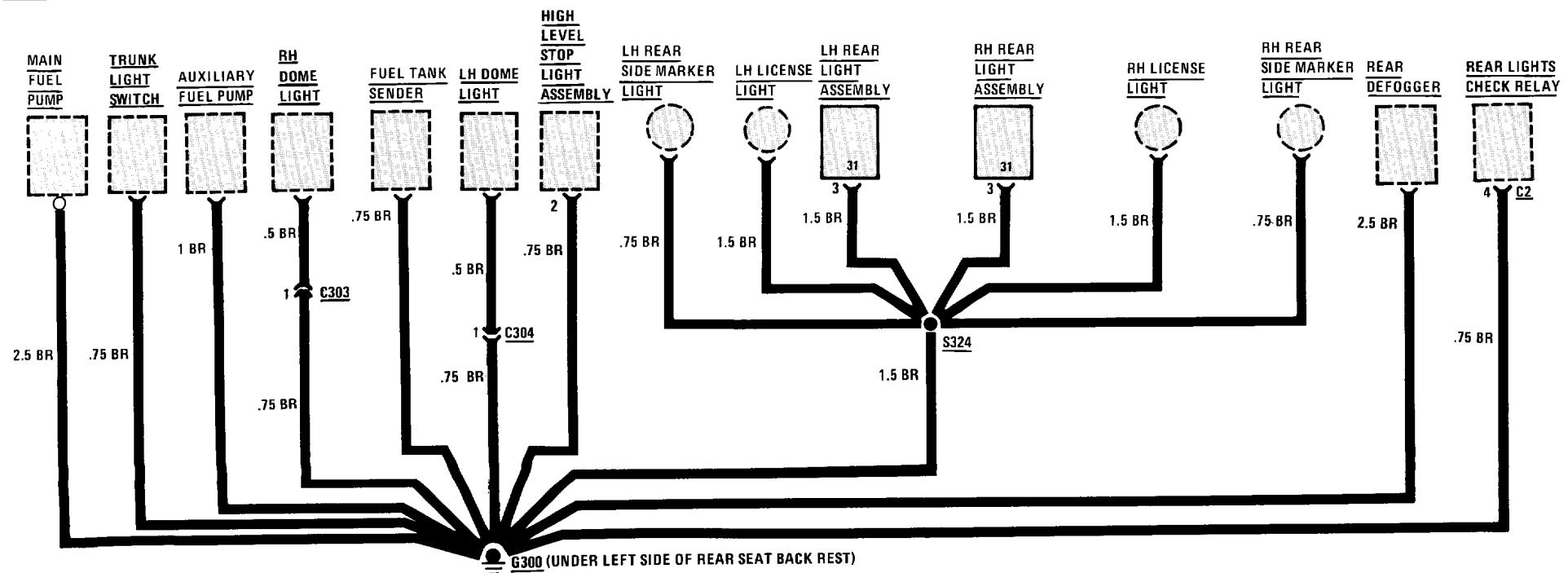
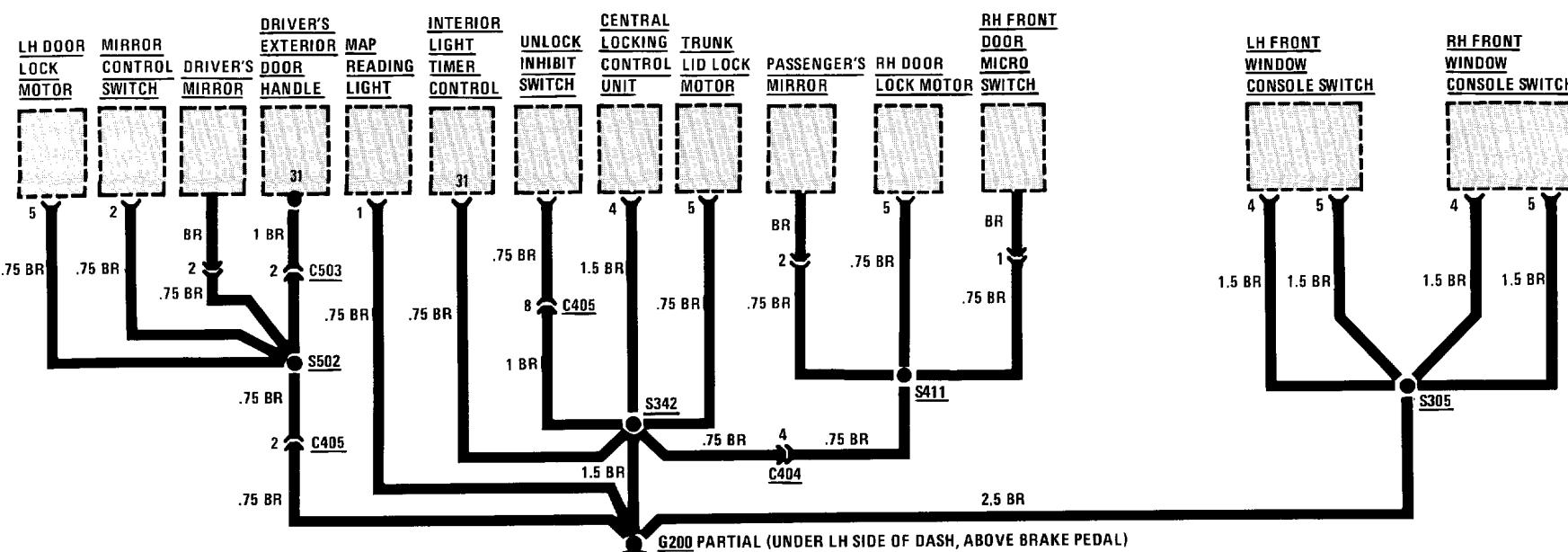


# 0670-14 POWER DISTRIBUTION

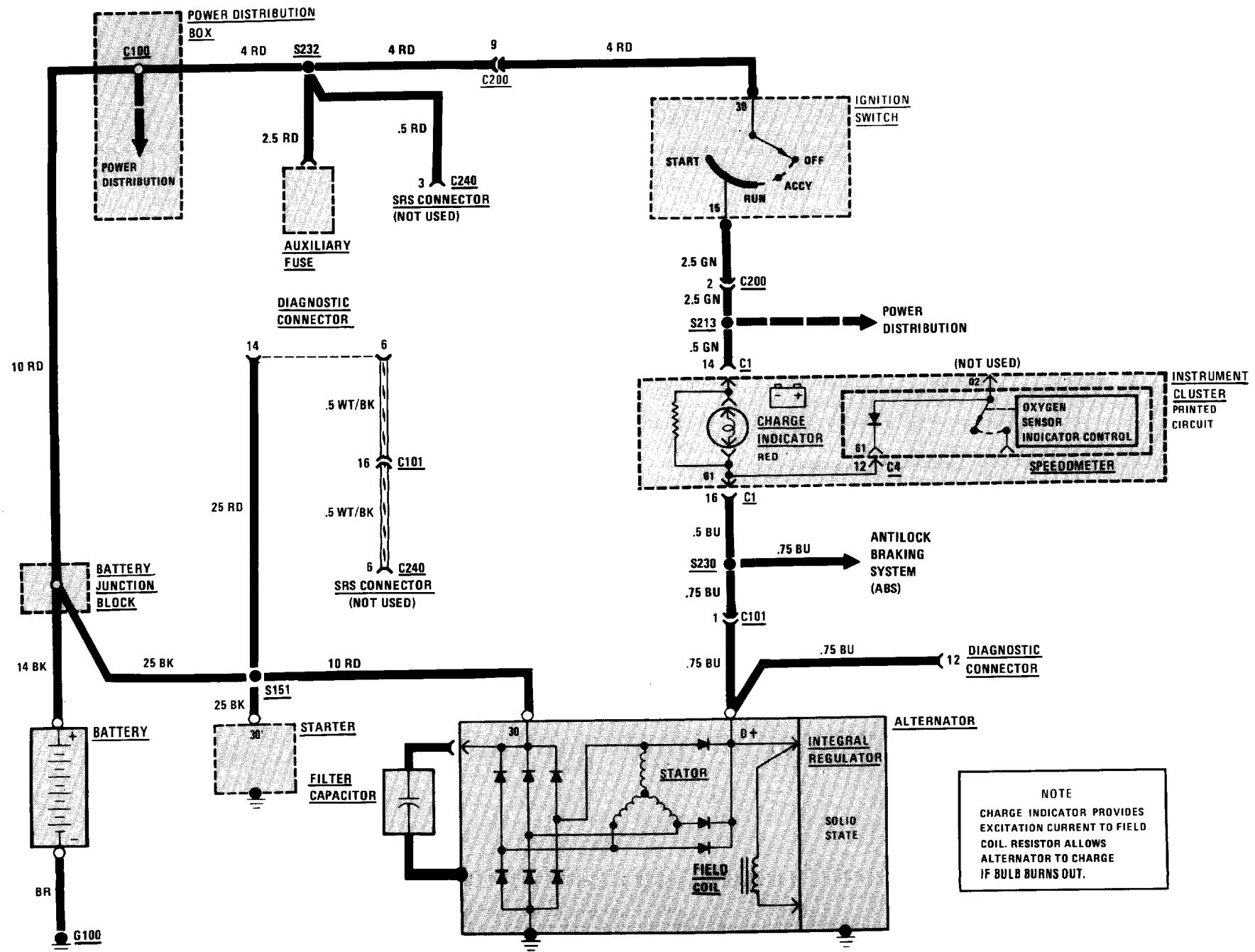
## GROUND DISTRIBUTION (G200 PARTIAL AND G201)



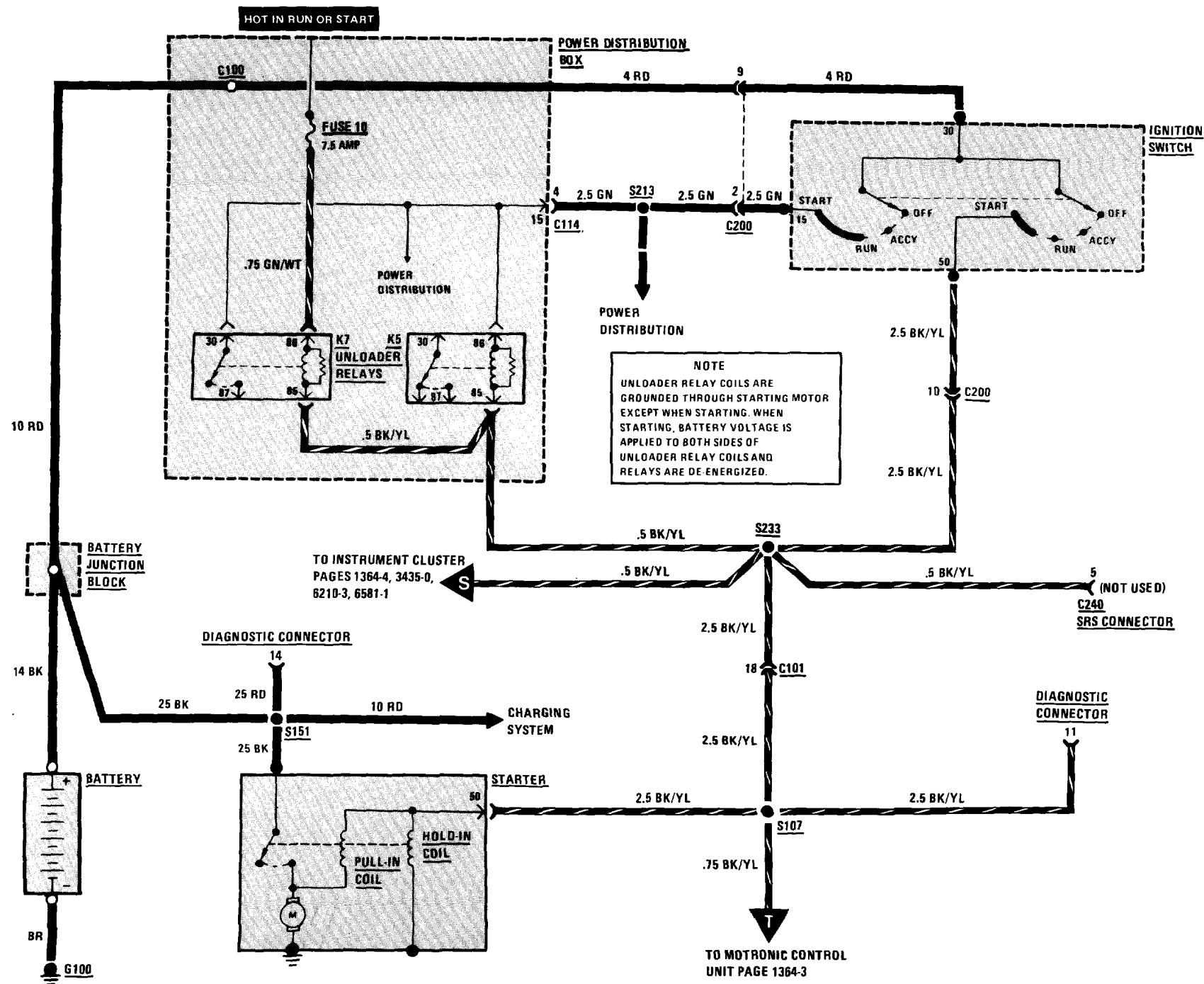
## GROUND DISTRIBUTION (G200 PARTIAL AND G300)



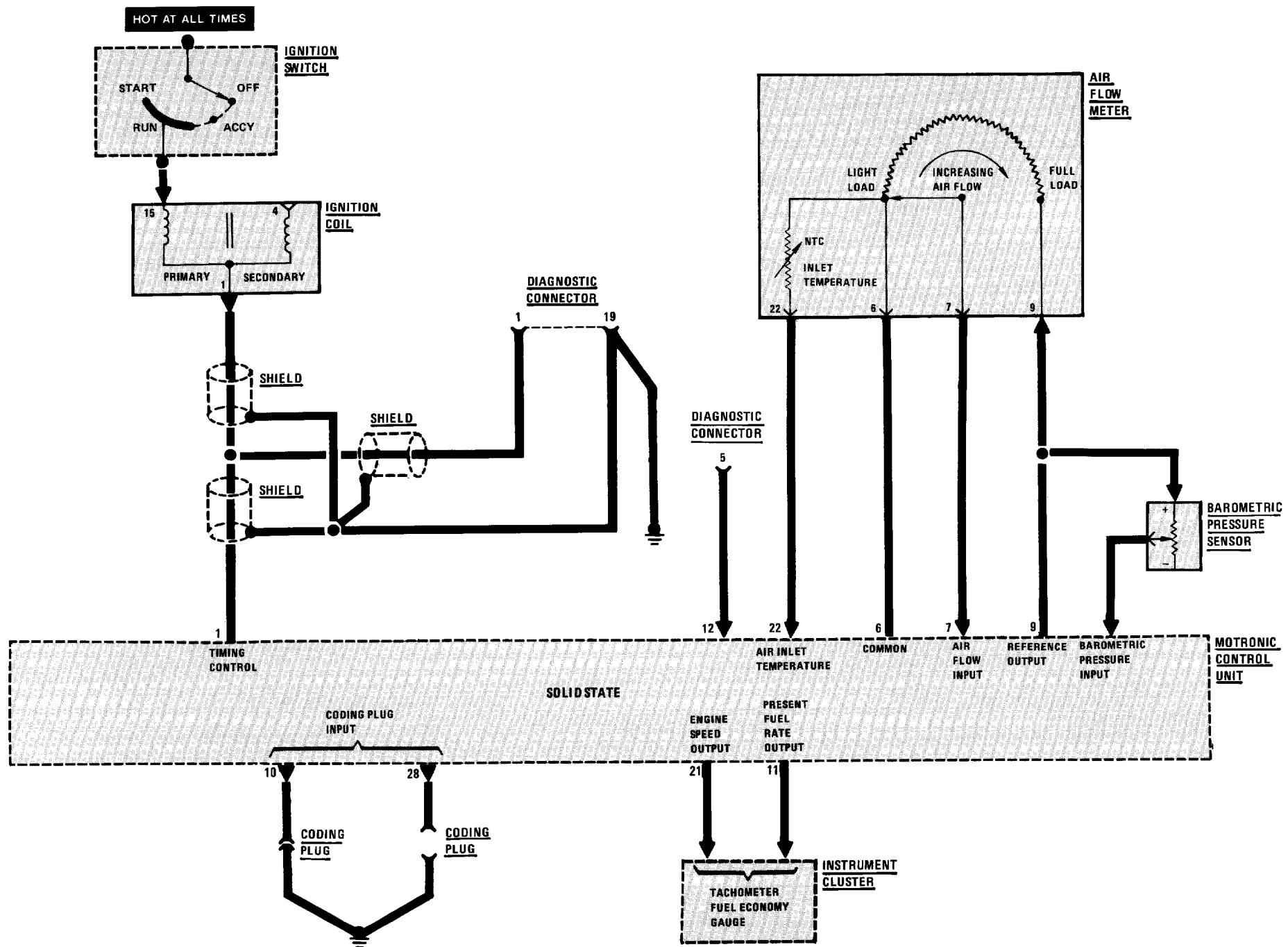
# 1230-0 CHARGE



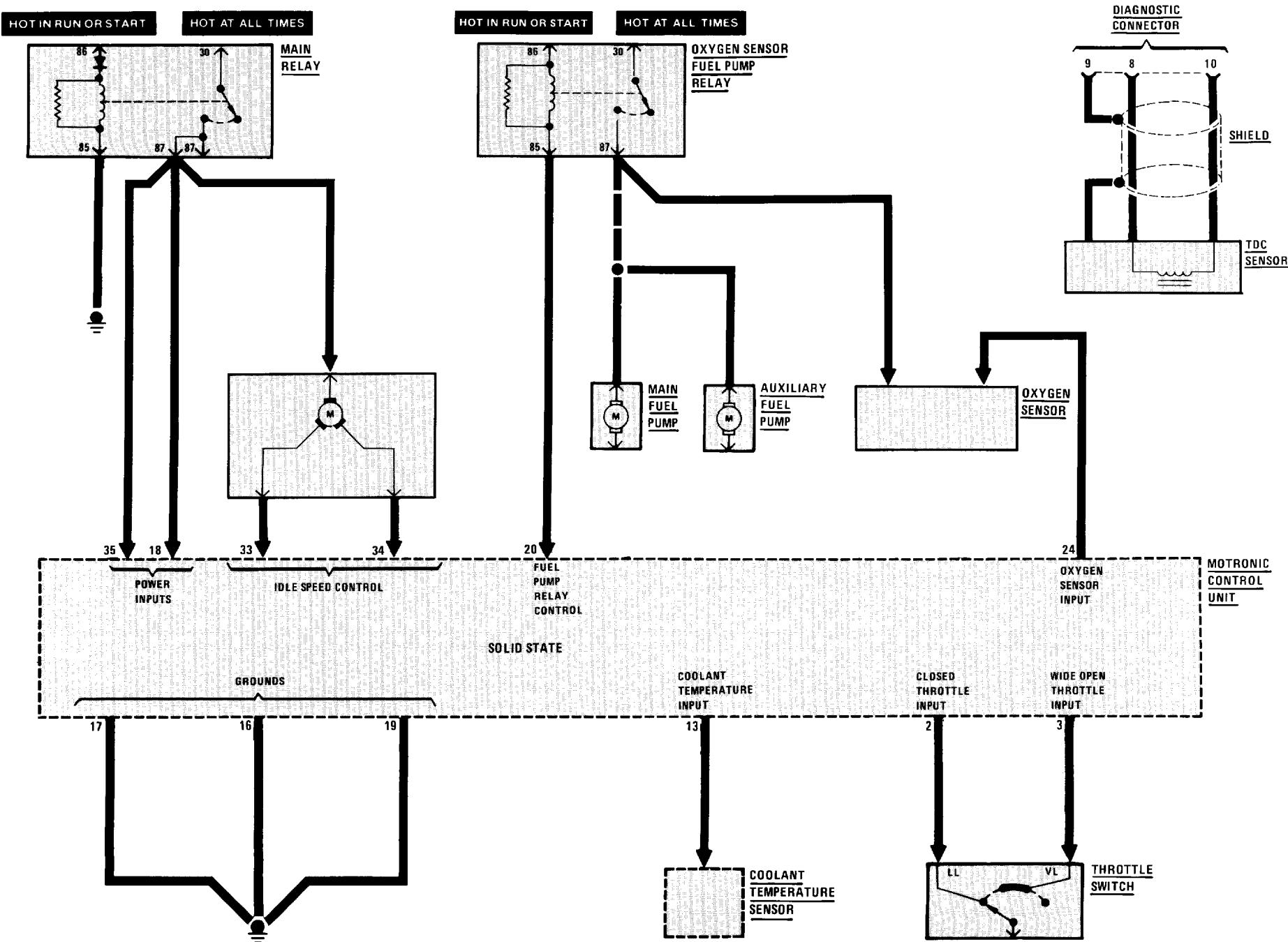
# 1240-0 START



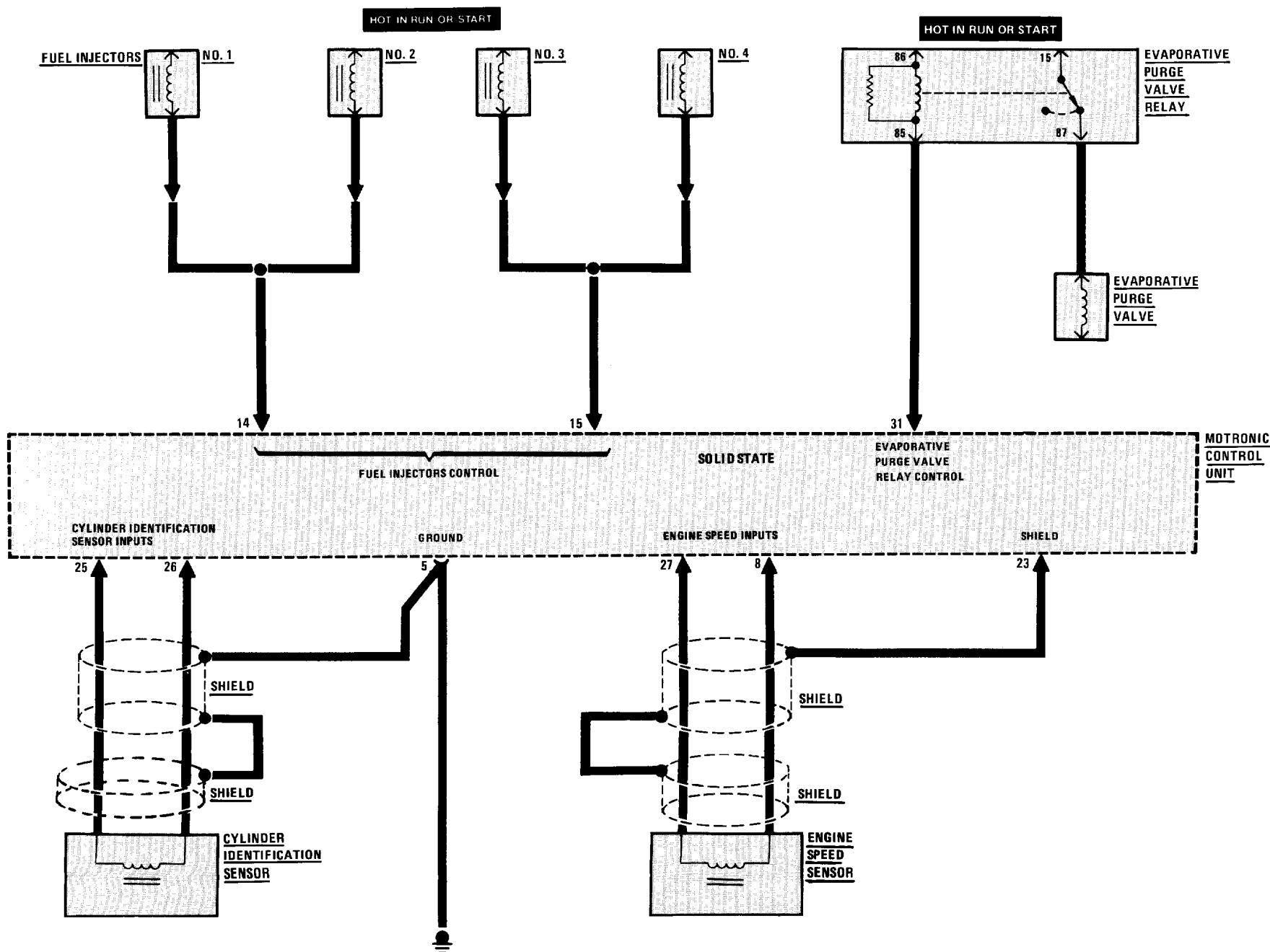
## ENGINE BLOCK DIAGRAM

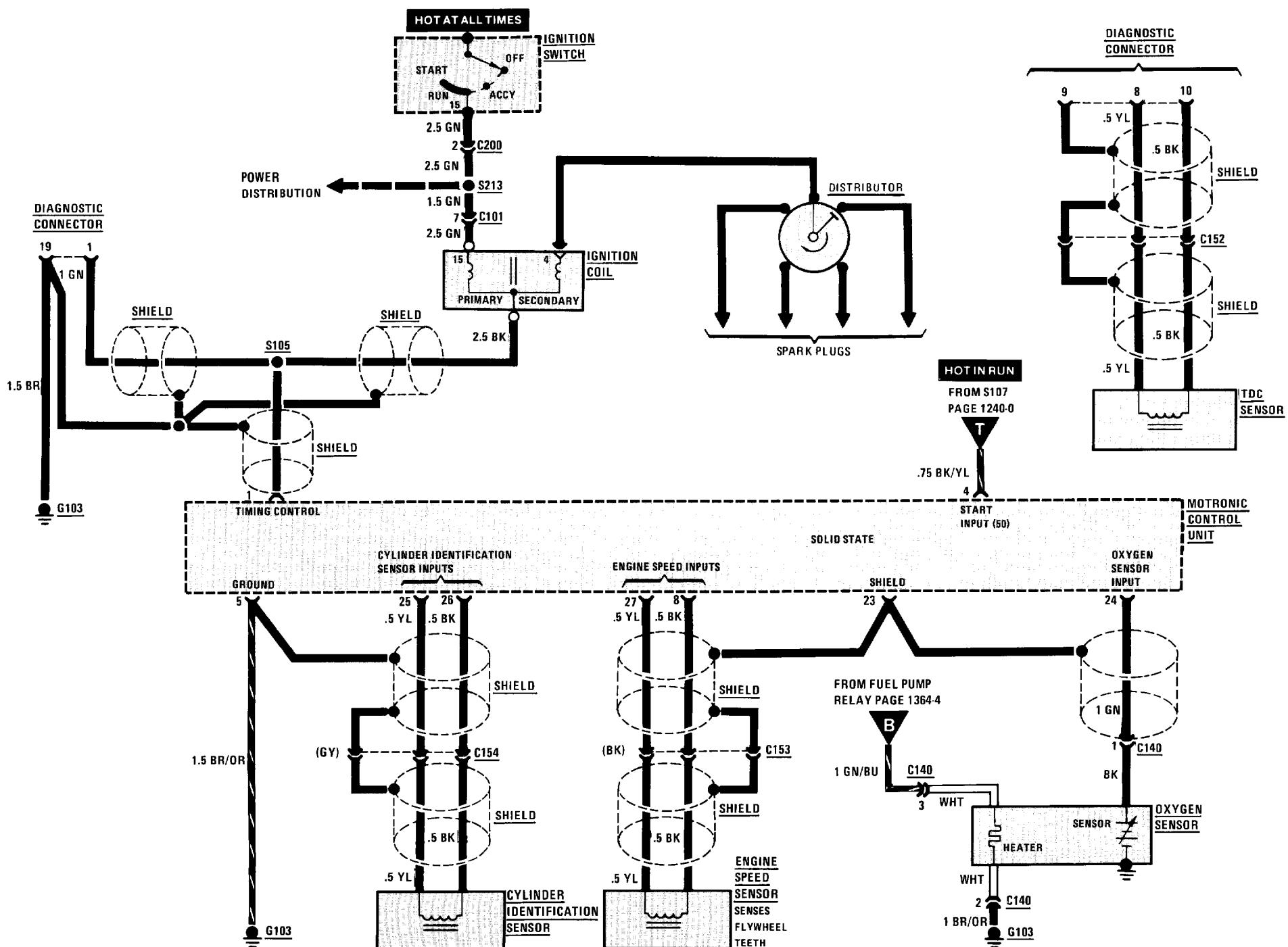


## ENGINE BLOCK DIAGRAM

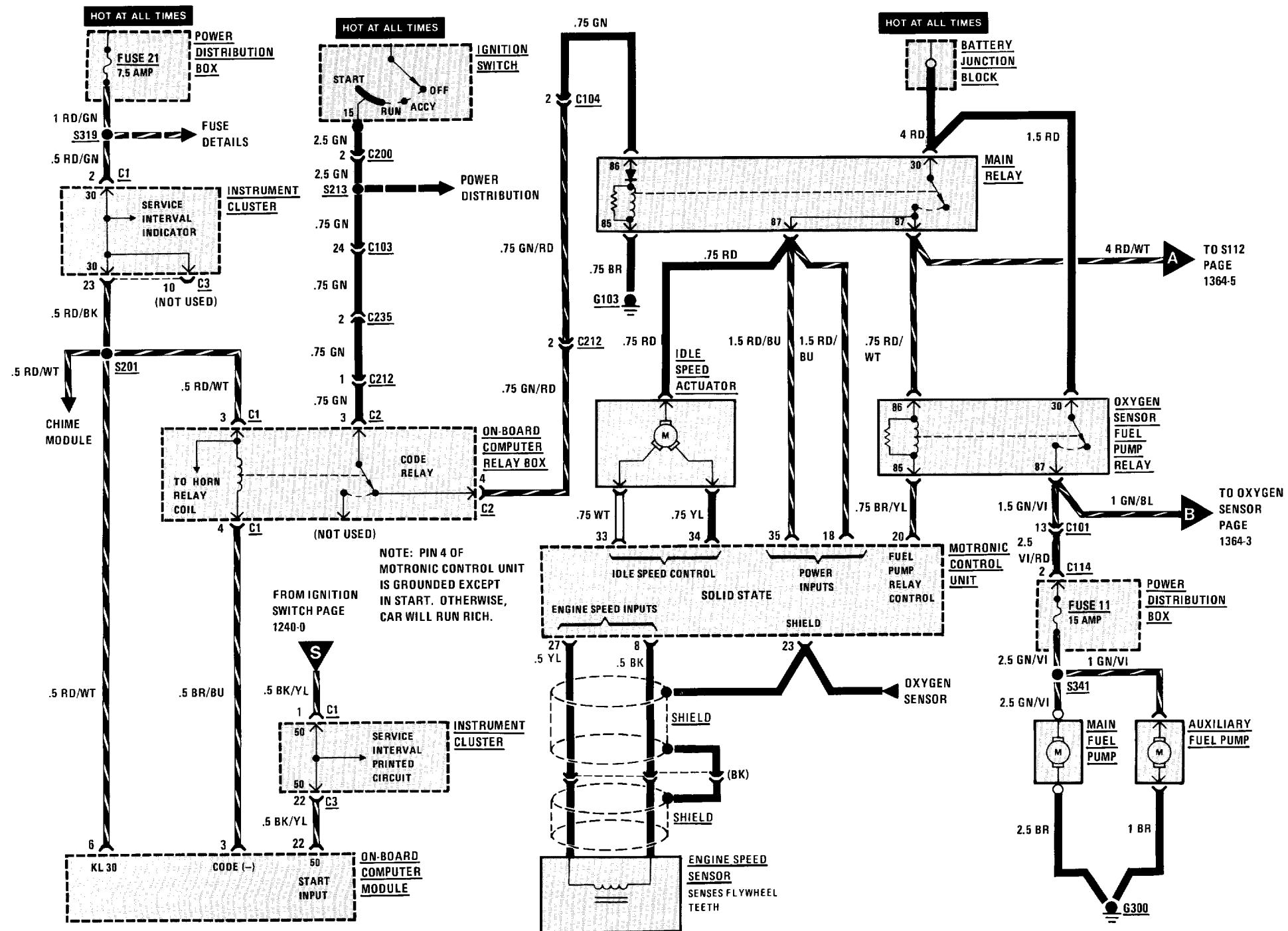


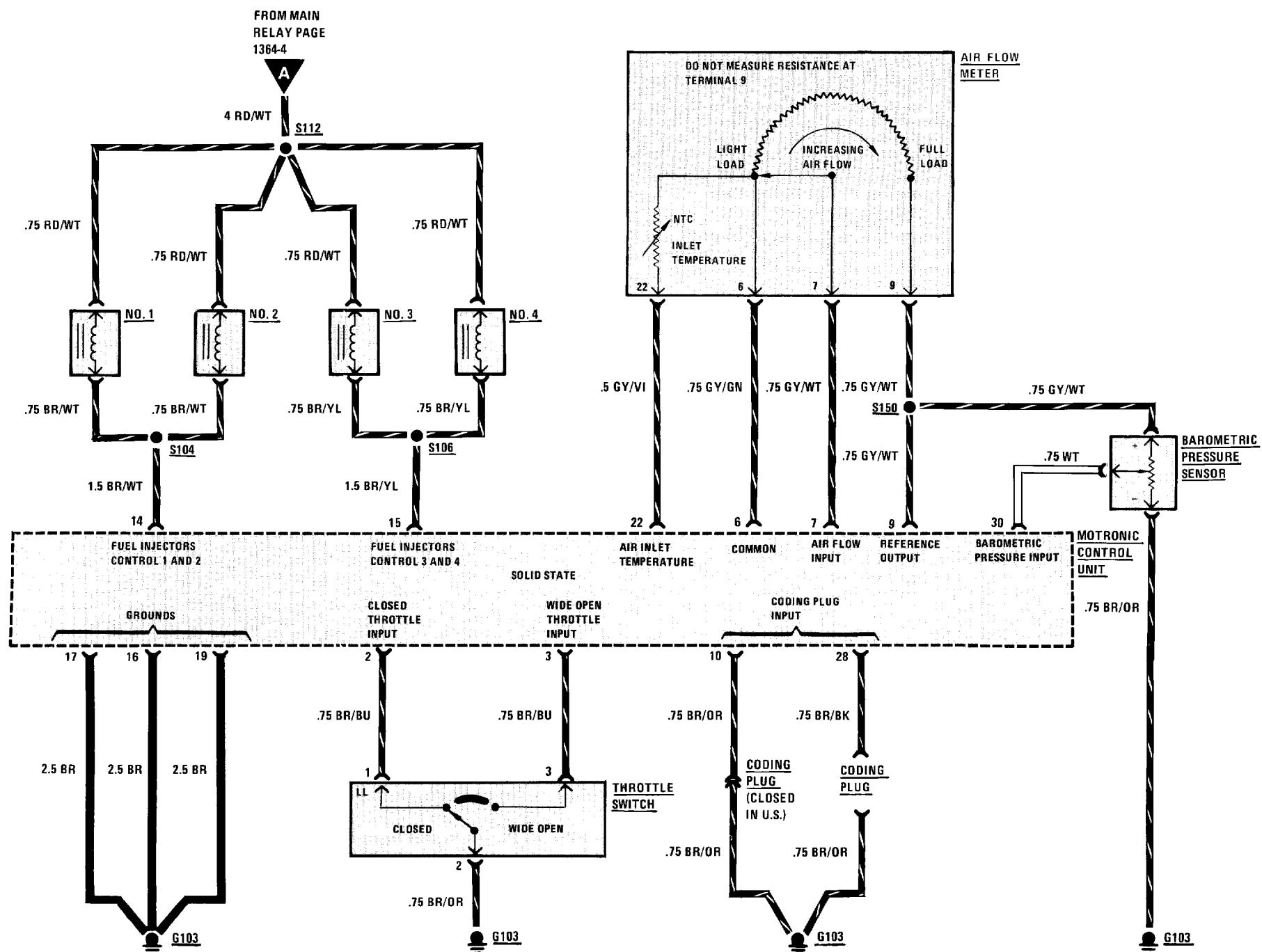
## ENGINE BLOCK DIAGRAM



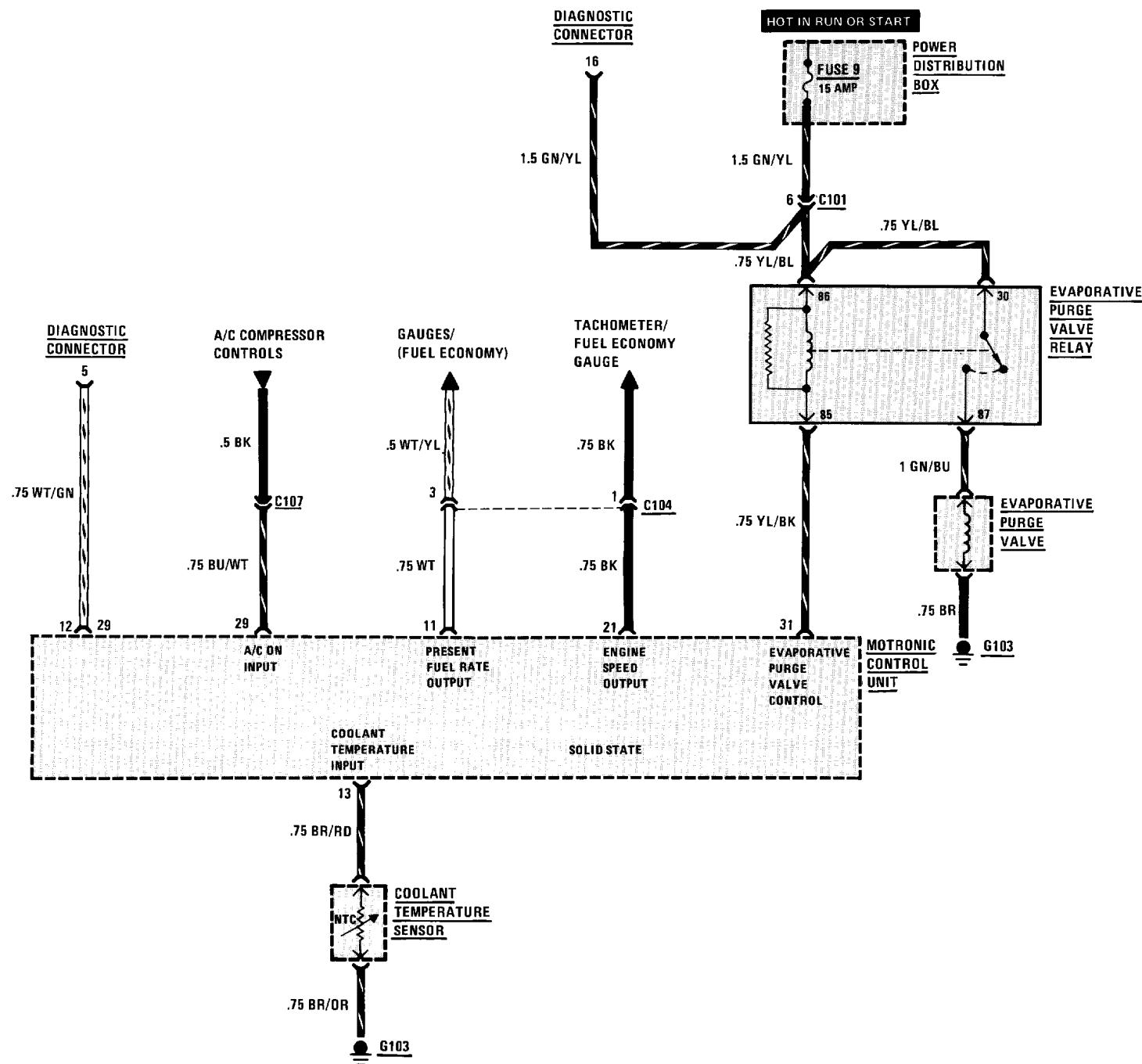


# 1364-4 INJECTION ELECTRONICS S14 ENGINE

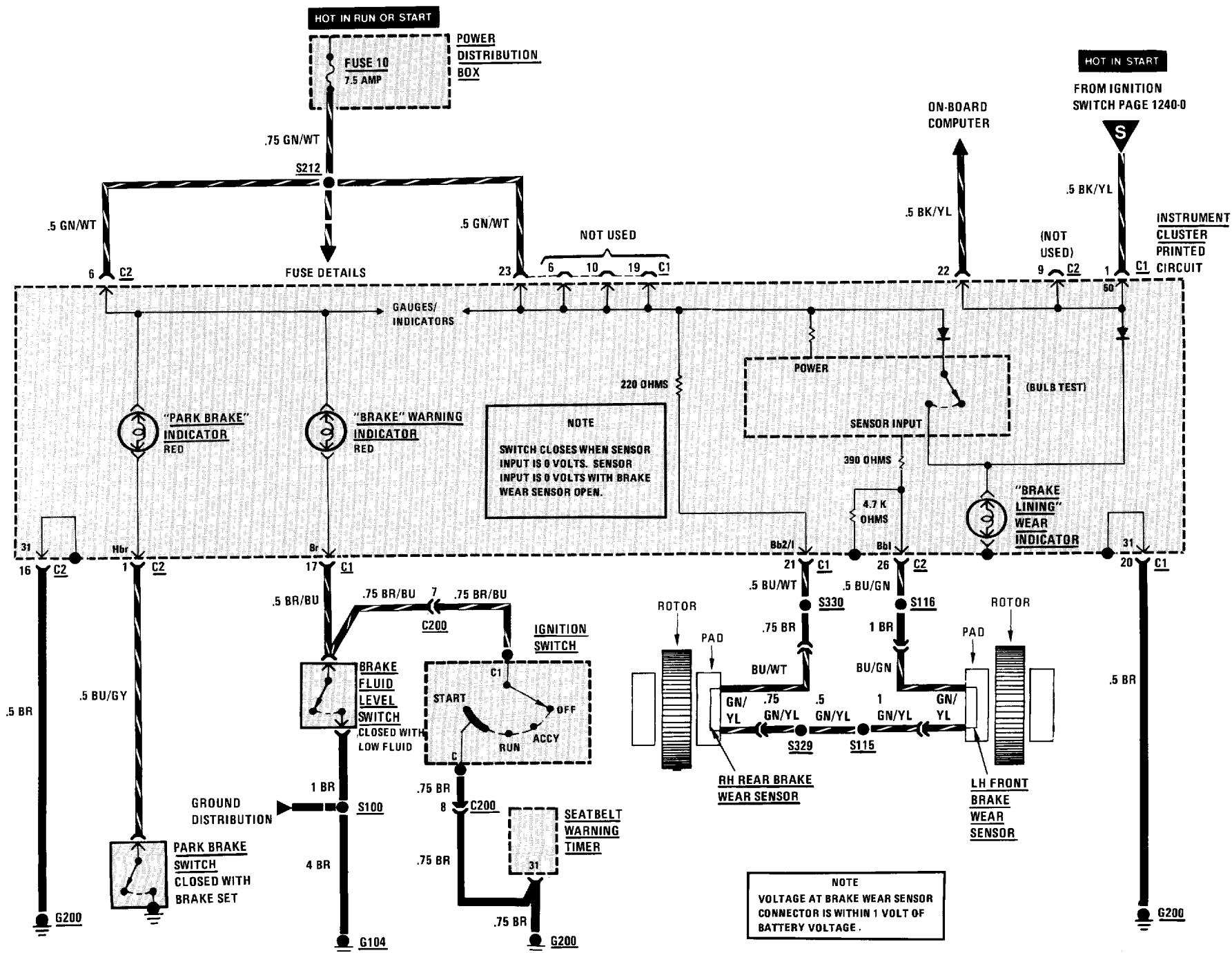




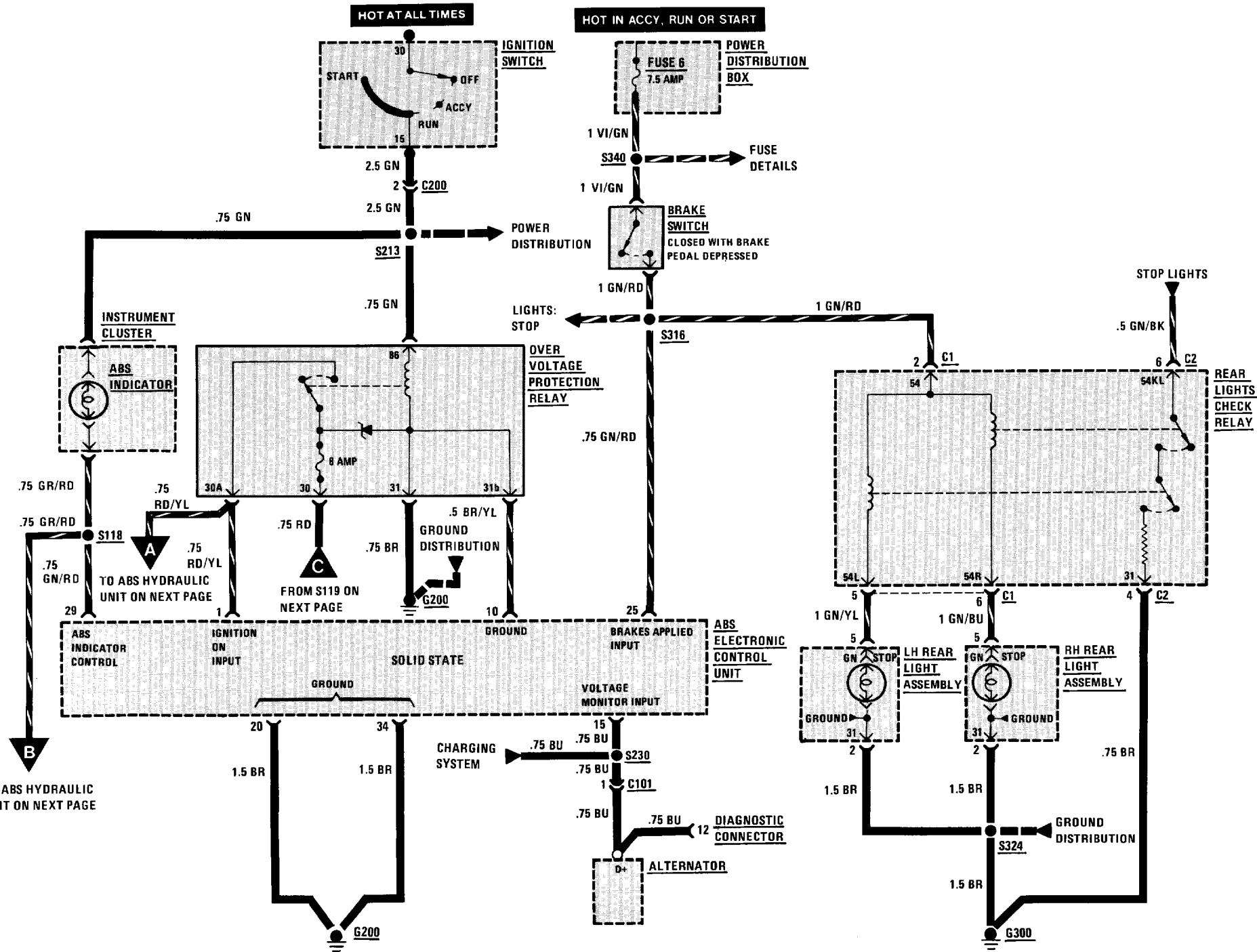
# 1364-6 INJECTION ELECTRONICS S14 ENGINE

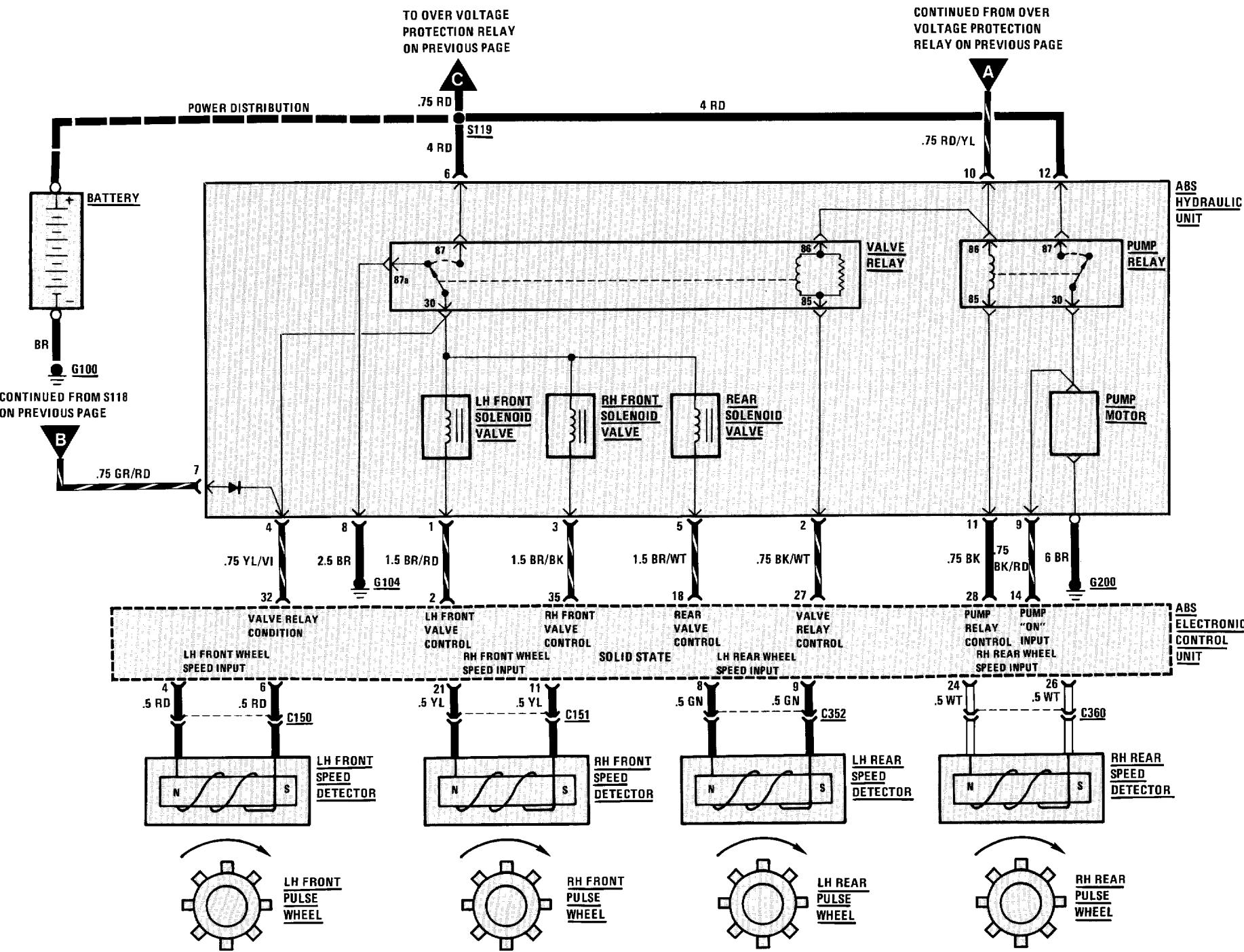


# 3435-0 BRAKE WARNING SYSTEM

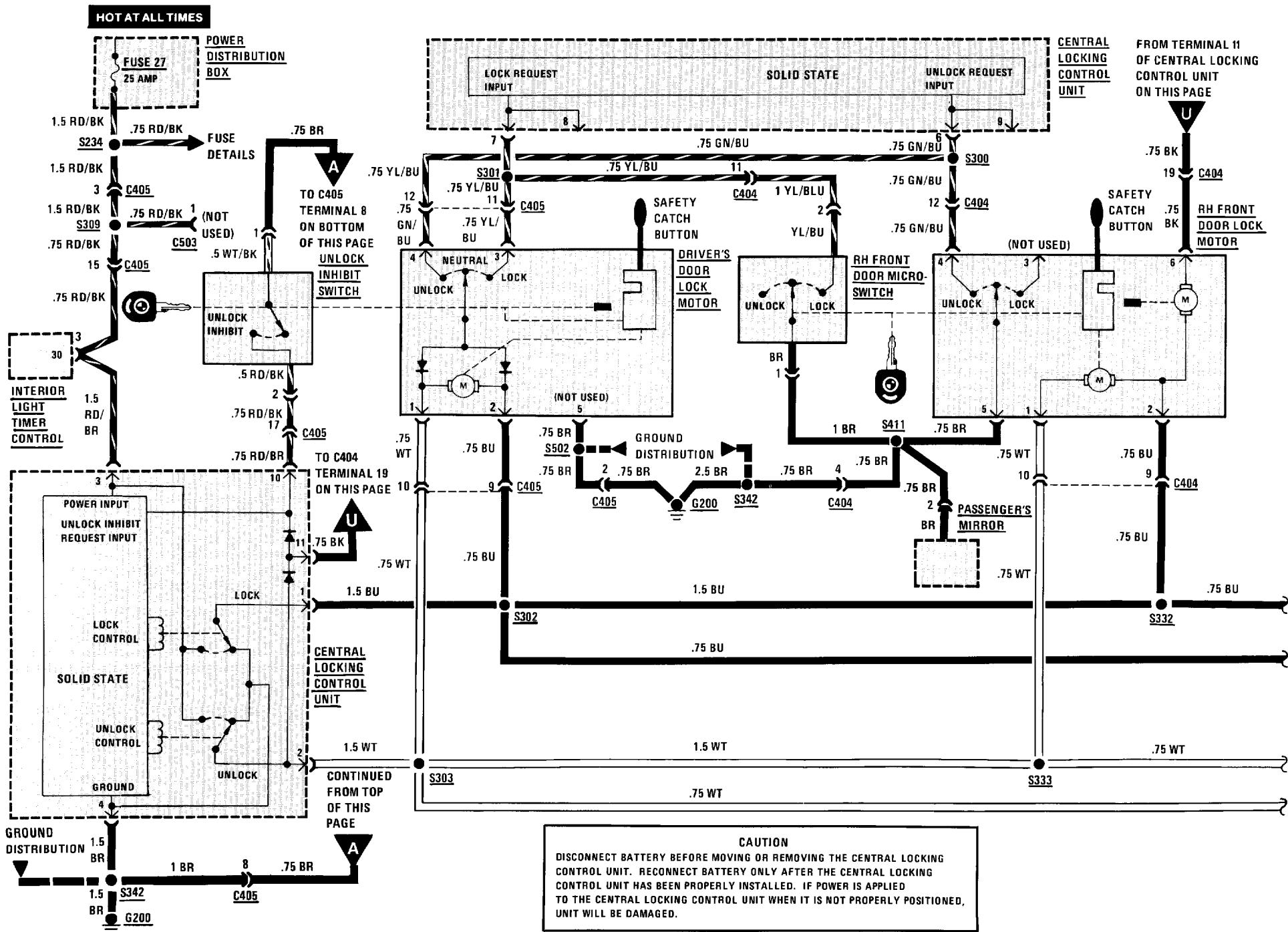


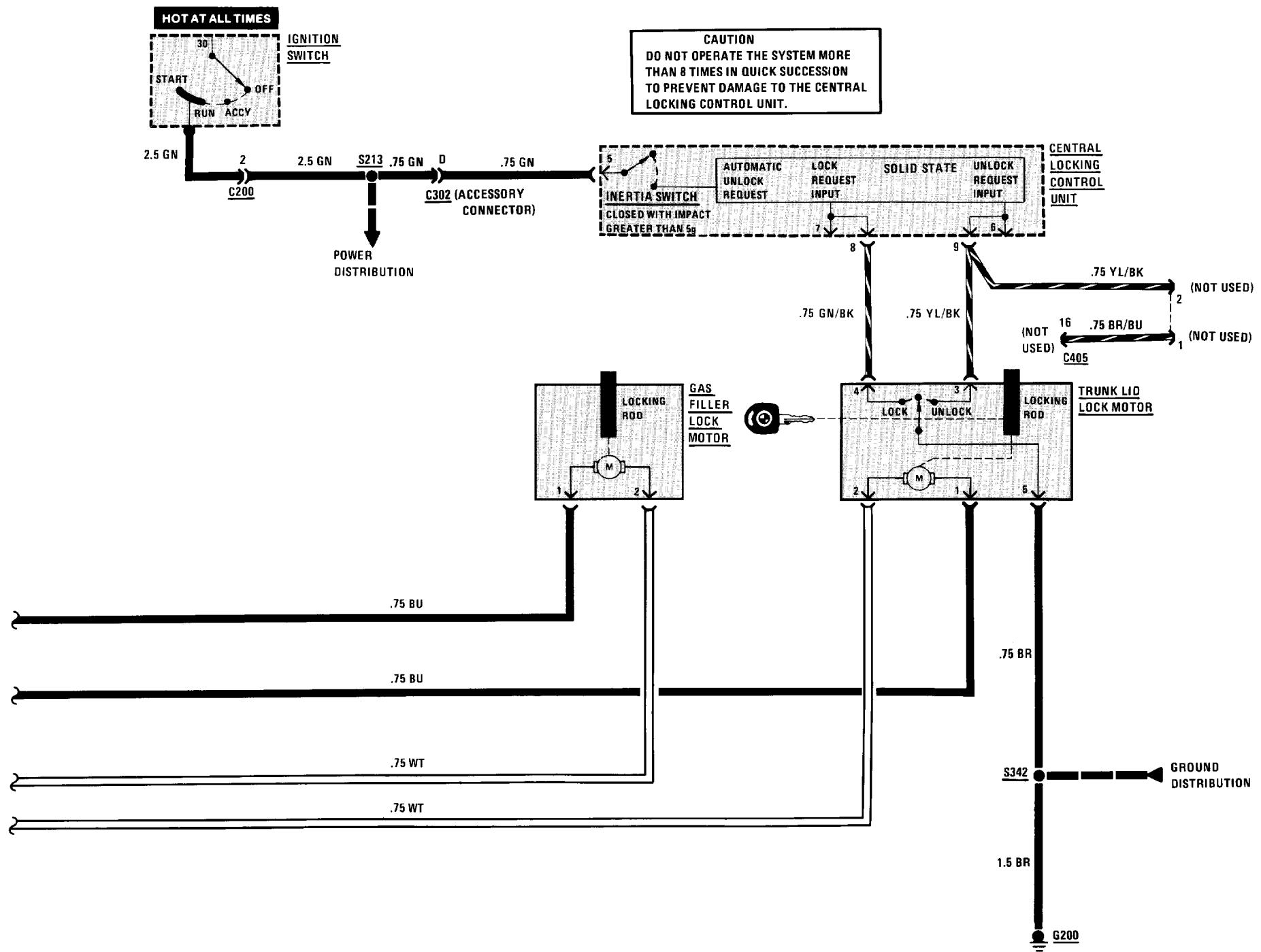
# 3450-0 ANTILOCK BRAKING SYSTEM (ABS)





# 5126-0 CENTRAL LOCKING





# 5126A-0 CENTRAL LOCKING

## TROUBLESHOOTING HINTS

1. Check Fuse by operating the Interior Light Timer for either Dome Light.

## SYSTEM CHECK

- Operate controls in sequence listed in the System Check Table.
- Refer to Repair Action for the Response received (tests follow the System Check Table).
- After any repair, repeat System Check to verify proper system operation.

**NOTE:** Before replacing any system component, check all connectors, splices, and wiring to that component.

**SYSTEM CHECK TABLE**

OPERATION	RESPONSE	REPAIR ACTION
1. Insert the key in the Driver's door and turn to LOCK	All doors lock	None, proceed to Operation 2
	Some doors lock	Repair/replace the suspect Door Lock Motor circuit
	No doors lock	Proceed to Operation 4
2. Turn the key to UNLOCK INHIBIT (clockwise until key is horizontal)	All doors double lock (Safety Catch Buttons cannot be pulled up by hand)	None, proceed to Operation 3
	Driver's door double locks and only some of the other doors double lock	Repair/replace the suspect Door Lock Motor
	Driver's door double locks but all the other doors do not double lock	Perform Test B
	Driver's door does not double lock	Mechanical problem, see BMW Troubleshooting Manual

## SYSTEM CHECK TABLE (CONT'D)

OPERATION	RESPONSE	REPAIR ACTION
3. Turn the key to UNLOCK	All doors unlock	None, proceed to Operation 4
	Some doors unlock	Repair/replace the suspect Door Lock Motor circuit
	No doors unlock	Proceed to Operation 5
4. Insert the key in the Passenger's door and turn to LOCK	All doors lock	If the doors did not lock in Operation 1, repair/replace the Driver's Door Lock Switch, otherwise proceed to Operation 5
	Some doors lock	Repair/replace the suspect Door Lock Motor circuit
	No doors lock	If all the doors locked in Operation 1, repair/replace the Right Front Door Microswitch. If the doors did not lock in Operation 1, perform Test A
5. Insert the key in the Passenger's door and turn to UNLOCK	All doors unlock	If all the doors did not unlock in Operation 3, repair/replace the Driver's Door Lock Switch, otherwise proceed to Operation 6
	Some doors unlock	Repair/replace the suspect Door Lock Motor
	No doors unlock	If all the doors unlocked in Operation 3, repair/replace the Passenger's Door Lock Switch. If the doors did not unlock in Operation 3, perform Test C
6. Get in the car and close and lock all doors Turn the Ignition Switch to RUN	Doors remain locked	None, proceed to Operation 7
	Doors unlock	Repair/replace the Central Locking Control Unit
7. Get out of the car  Insert the key in the Driver's door and turn to LOCK  Unlock each of the doors by pulling up the Safety Catch Buttons	All doors can be unlocked	None, proceed to Operation 8
	All doors remain secure	Disconnect the connector from the Central Locking Control Unit and check for a short to ground in the wires at terminal 11. • If short to ground is not present, replace the Central Locking Control Unit. • If short to ground is present isolate wiring from Door Lock Motors one at a time to find short

## 5126A-2 CENTRAL LOCKING

**SYSTEM CHECK TABLE (CONT'D)**

OPERATION	RESPONSE	REPAIR ACTION
8. Insert the key in the Trunk Cylinder Switch. Turn the key to LOCK	Trunk locks	None, proceed to Operation 9
	Trunk does not lock	If the doors lock, repair/replace the Trunk Lock Motor Circuit or Trunk Lock Motor If the doors do not lock, repair/replace the Trunk Switch Repair/replace the Central Locking Control Unit if the Trunk Switch Circuit is OK
9. Turn the key to UNLOCK	Trunk unlocks	None, proceed to Operation 10
	Trunk does not unlock	If the doors unlock, repair/replace the Trunk Lock Motor circuit or Trunk Lock Motor If the doors do not unlock, repair/replace the Trunk Switch Repair/replace the Central Locking Control Unit if the Trunk Switch Circuit is OK
10. Turn the key back to LOCK	Gas Filler locks	None, proceed to Operation 11
	Gas Filler does not lock	Repair/replace the Gas Filler Lock Motor circuit
11. Turn the key to UNLOCK	Gas Filler unlocks	None
	Gas Filler does not unlock	Repair/replace the Gas Filler Lock Motor circuit

- If all results are normal, the system is OK.

### SYSTEM DIAGNOSIS

- Do the following tests when directed by the System Check Table.

**A: CONTROL UNIT LOCK TEST  
(TABLE 1)**

Measure: VOLTAGE At: CONTROL UNIT CONNECTOR (Connected)		
Measure Between	Correct Voltage	For Diagnosis
3 & Ground	Battery	See 1
3 & 4	Battery	See 2
<ul style="list-style-type: none"> <li>• If the voltages are correct, proceed to Table 2.</li> </ul>		
<ol style="list-style-type: none"> <li>1. Check the wire to terminal 3 for an open.</li> <li>2. Check the wire from terminal 4 for an open to ground (see schematic).</li> </ol>		

**A: CONTROL UNIT LOCK TEST  
(TABLE 2)**

Connect: A FUSED JUMPER At: CONTROL UNIT CONNECTOR (Connected)		
Jumper Between	Correct Result	For Diagnosis
7 & Ground	Doors lock	See 1
<ul style="list-style-type: none"> <li>• If the result is correct, repair/replace the switches and related wiring (see schematic).</li> </ul>		
<ol style="list-style-type: none"> <li>1. Proceed to Table 3.</li> </ol>		

**A: CONTROL UNIT LOCK TEST  
(TABLE 3)**

Connect: FUSED JUMPERS At: CONTROL UNIT CONNECTOR (Disconnected)		
Jumper Between	Correct Result	For Diagnosis
1 & 3	Doors lock	See 1
2 & 4		
<ul style="list-style-type: none"><li>If the result is correct, replace the Central Locking Control Unit.</li><li>Check the wire from terminal 1 to splice and the wire from terminal 3 to splice for opens (see schematic).</li></ul>		

**B: UNLOCK INHIBIT TEST**

Connect: A FUSED JUMPER At: CONTROL UNIT CONNECTOR (Connected)		
Jumper Between	Correct Result	For Diagnosis
10 & Ground	Doors double lock	See 1
<ul style="list-style-type: none"><li>If the result is correct, check the wires from terminal 10 to ground for opens (see schematic). Replace the Unlock Inhibit Switch if the wires and connections are OK.</li><li>Check the wires from terminal 11 for opens (see schematic). Replace the Central Locking Control Unit, if the wires and connections are OK.</li></ul>		

**C: CONTROL UNIT UNLOCK TEST**

Connect: A FUSED JUMPER At: CONTROL UNIT CONNECTOR (Connected)		
Jumper Between	Correct Result	For Diagnosis
6 & Ground	Doors unlock	See 1
<ul style="list-style-type: none"><li>If the result is correct, repair/replace the switches and related wiring (see schematic).</li><li>Replace the Central Locking Control Unit.</li></ul>		

**CIRCUIT DESCRIPTION**

The Central Locking System is controlled by the Central Locking Control Unit. This unit senses when a lock switch is moved by a key, and sends the appropriate signal to drive the Motors. The Central Locking Control Unit controls the Door Locks, Gas Filler Lock and Trunk Lock. The unit also has an Inertia Switch which closes on impact greater than 5g. If in RUN or START the locks are then unlocked.

**Lock**

When the Key is inserted into a lock and turned clockwise, the Lock switch moves to LOCK and grounds terminal 7 of the Central Locking Control Unit. The unit then activates the Lock Relay and applies voltage from Fuse 27 to the Lock Motor, which is grounded through the Central Locking Control Unit terminal 2. The Lock Motor then pulls the lock down. The door locks also control the Trunk Lock and Gas Filler Lock.

**Unlock**

When the key is turned counterclockwise, terminal 6 of the Central Locking Control Unit is grounded through the Lock Switch. The Central Locking Control Unit then activates the Unlock Relay and applies voltage from Fuse 27, through terminal 2 to the Lock Motor. The motor is grounded through the Central Locking Control Unit terminal 1. The polarity is reversed and the motor pushes the lock up.

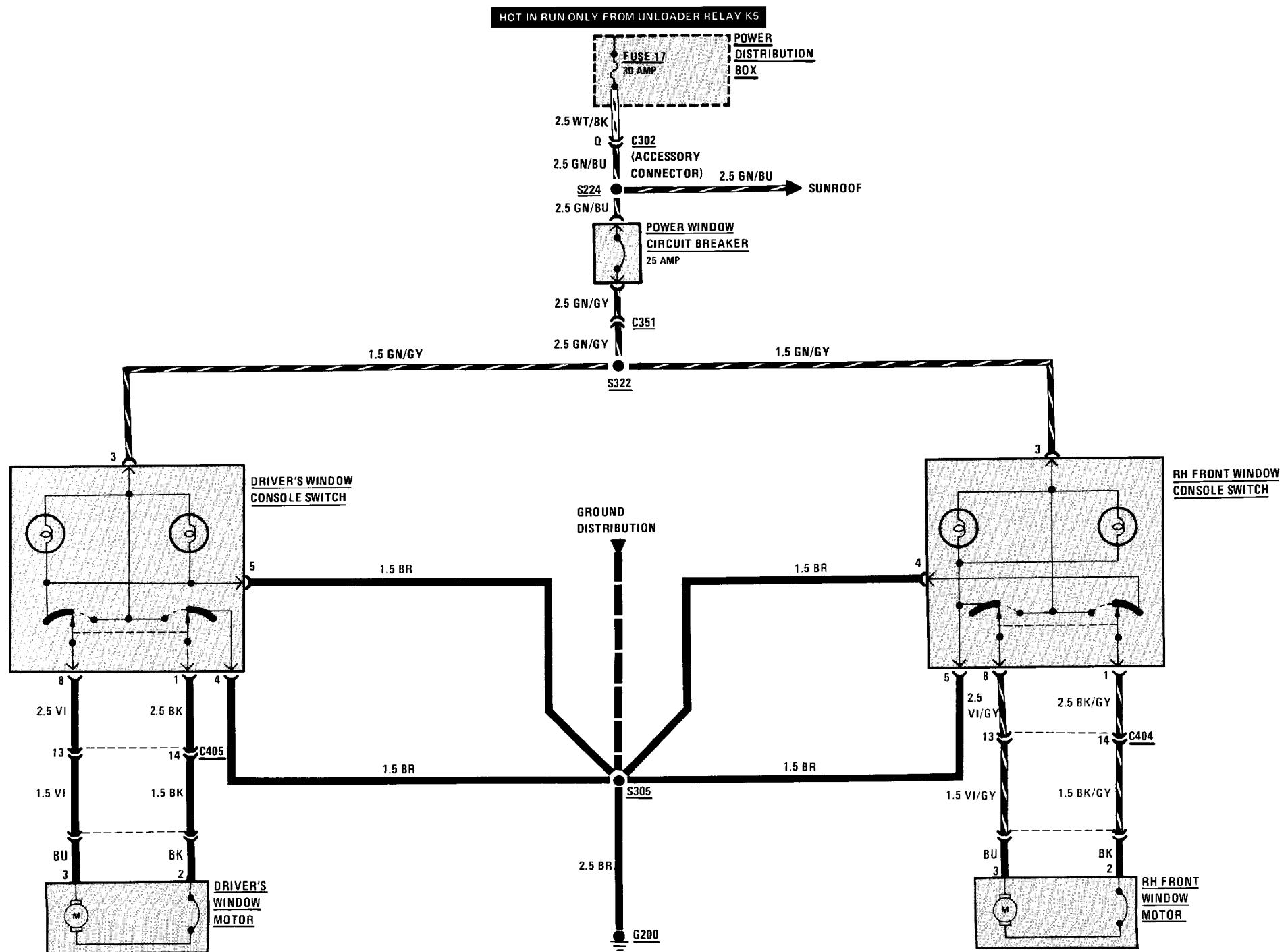
**Unlock Inhibit**

When the key is inserted into the Driver's Lock and turned clockwise past the LOCK position, the Unlock Inhibit mechanism is engaged. This mechanically inserts a bar into the driver's lock and prevents unlocking through use of the Safety Catch Button. When in the Unlock Inhibit position, ground is applied to the Unlock Inhibit motors in the other lock units. The Central Locking Control Unit is grounded at terminal 10 and then activates the Lock Relay. Voltage is applied to the Unlock Inhibit motors through terminal 1. They are now activated and engage the other Unlock Inhibit mechanisms. The direction of the motors is reversed when the doors are unlocked (see Unlock).

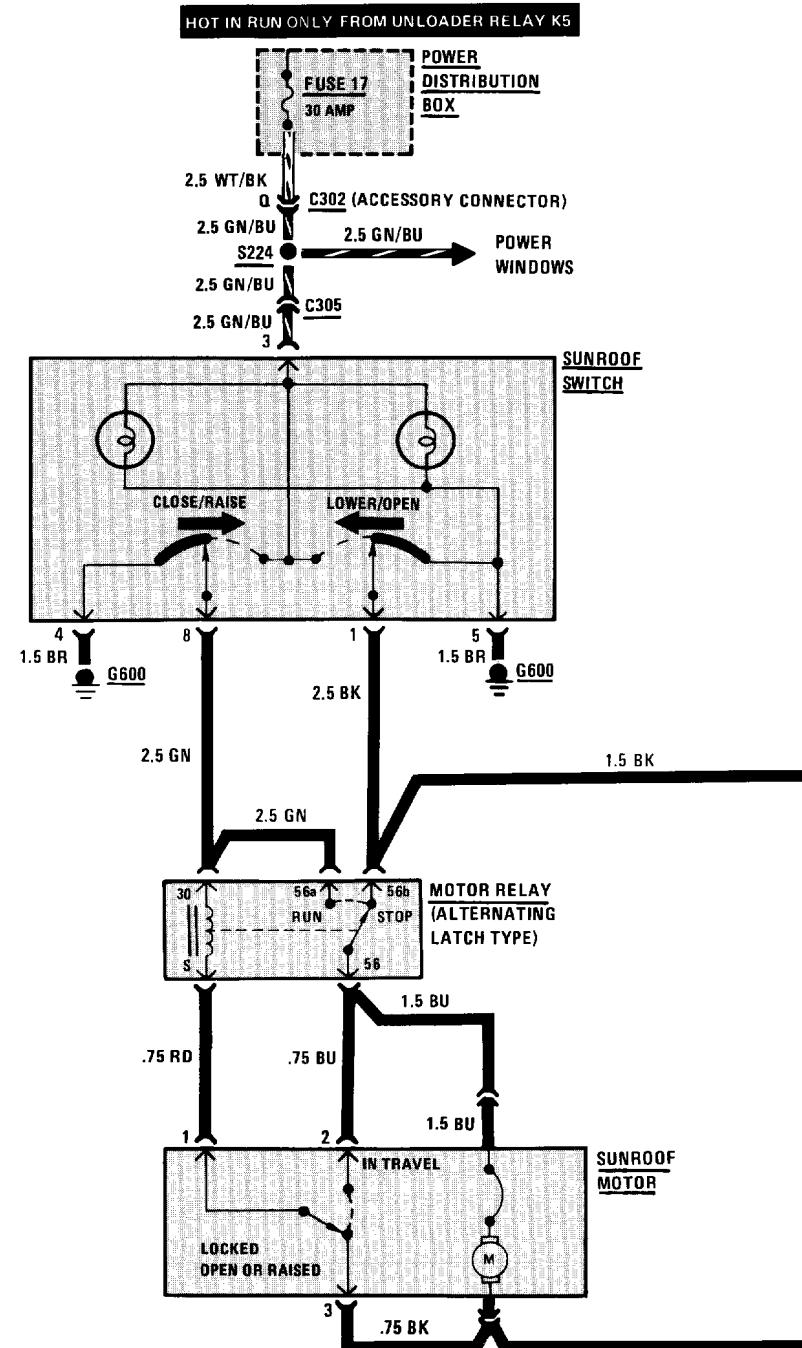
**Trunk Lock**

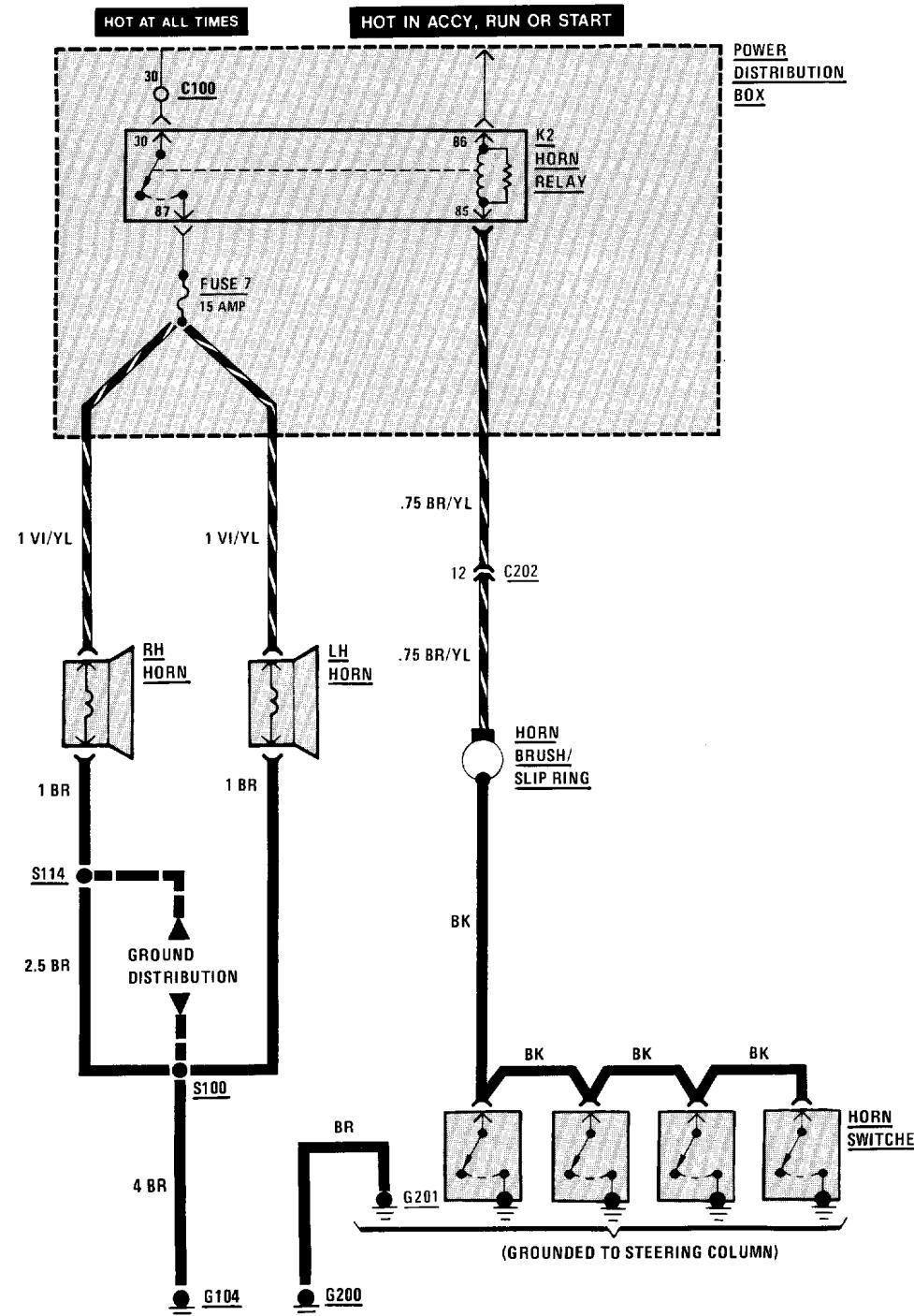
The Trunk Lock operates in a manner similar to the Door Locks.

# 5133-0 POWER WINDOWS

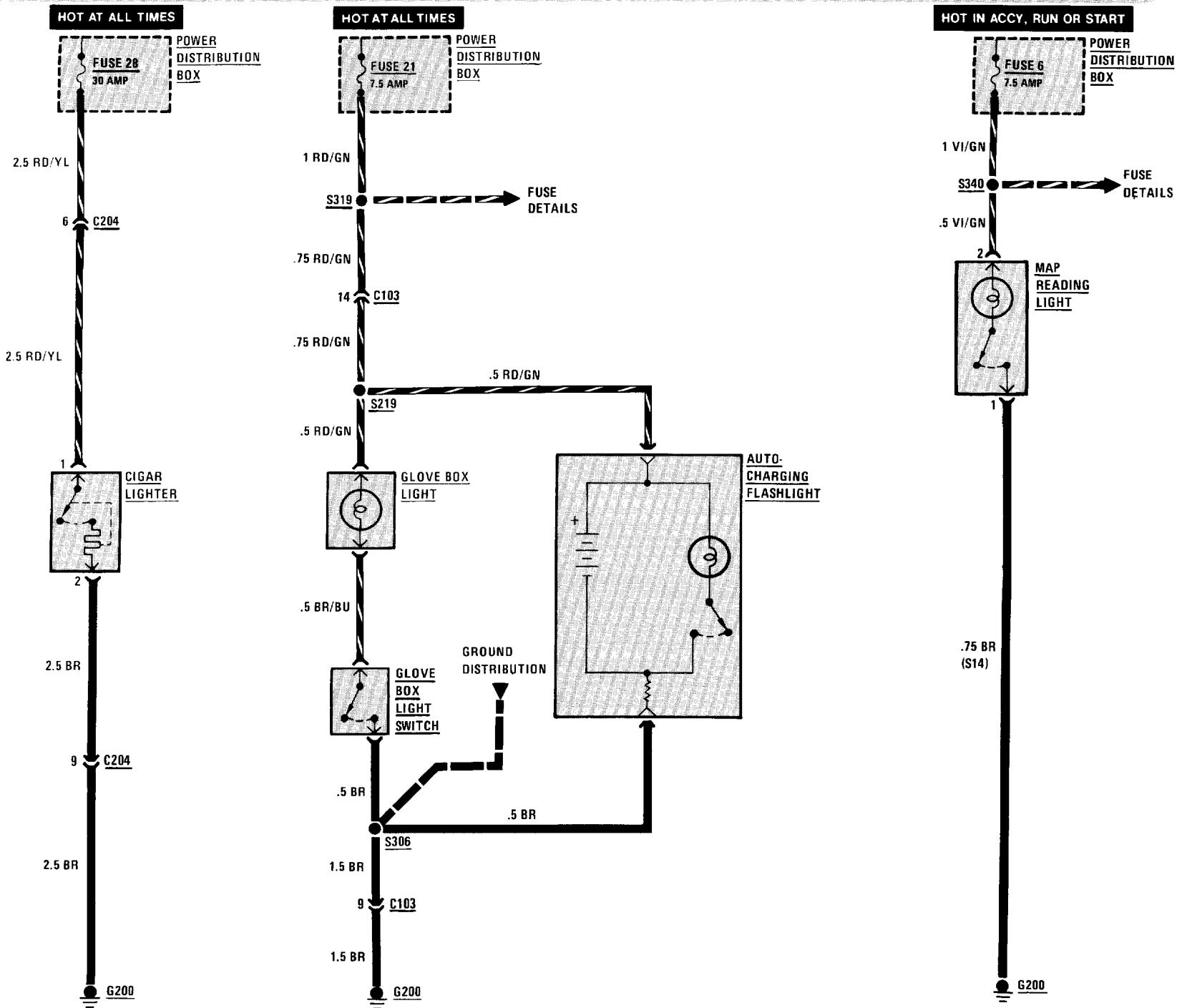


# 5413-0 SUNROOF



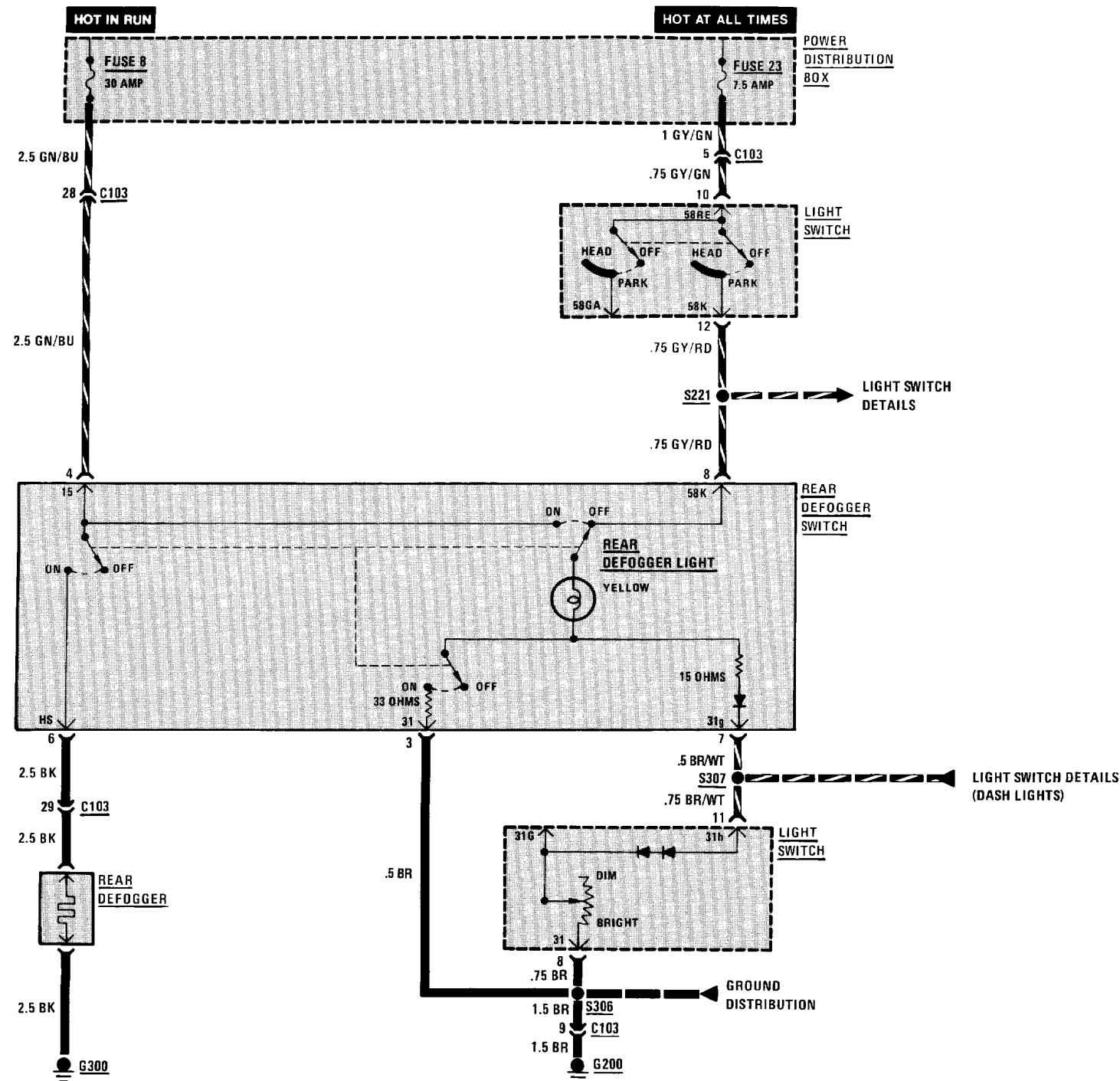
**HORNS**

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

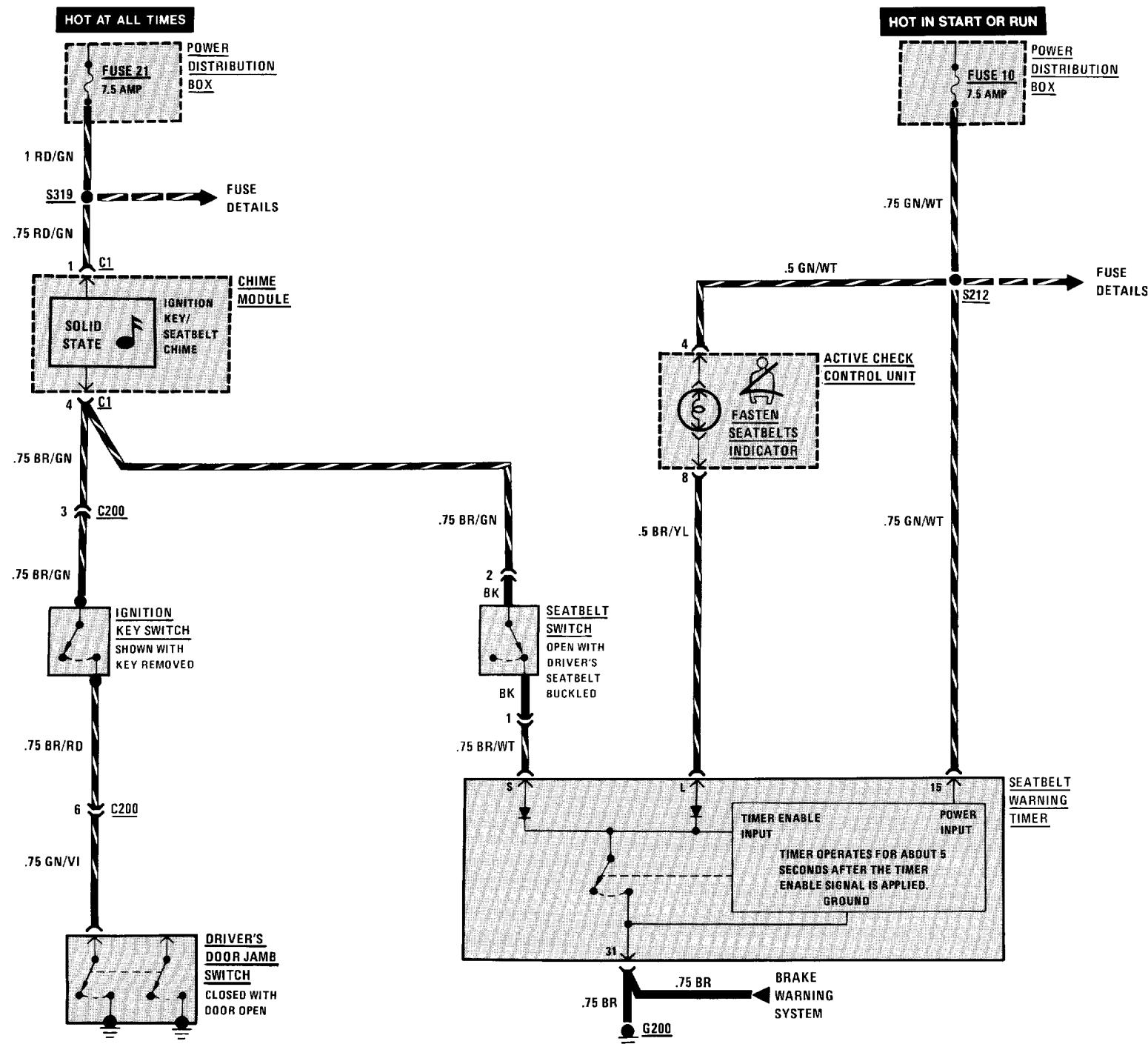


## 6100-2 BODY ELECTRICAL

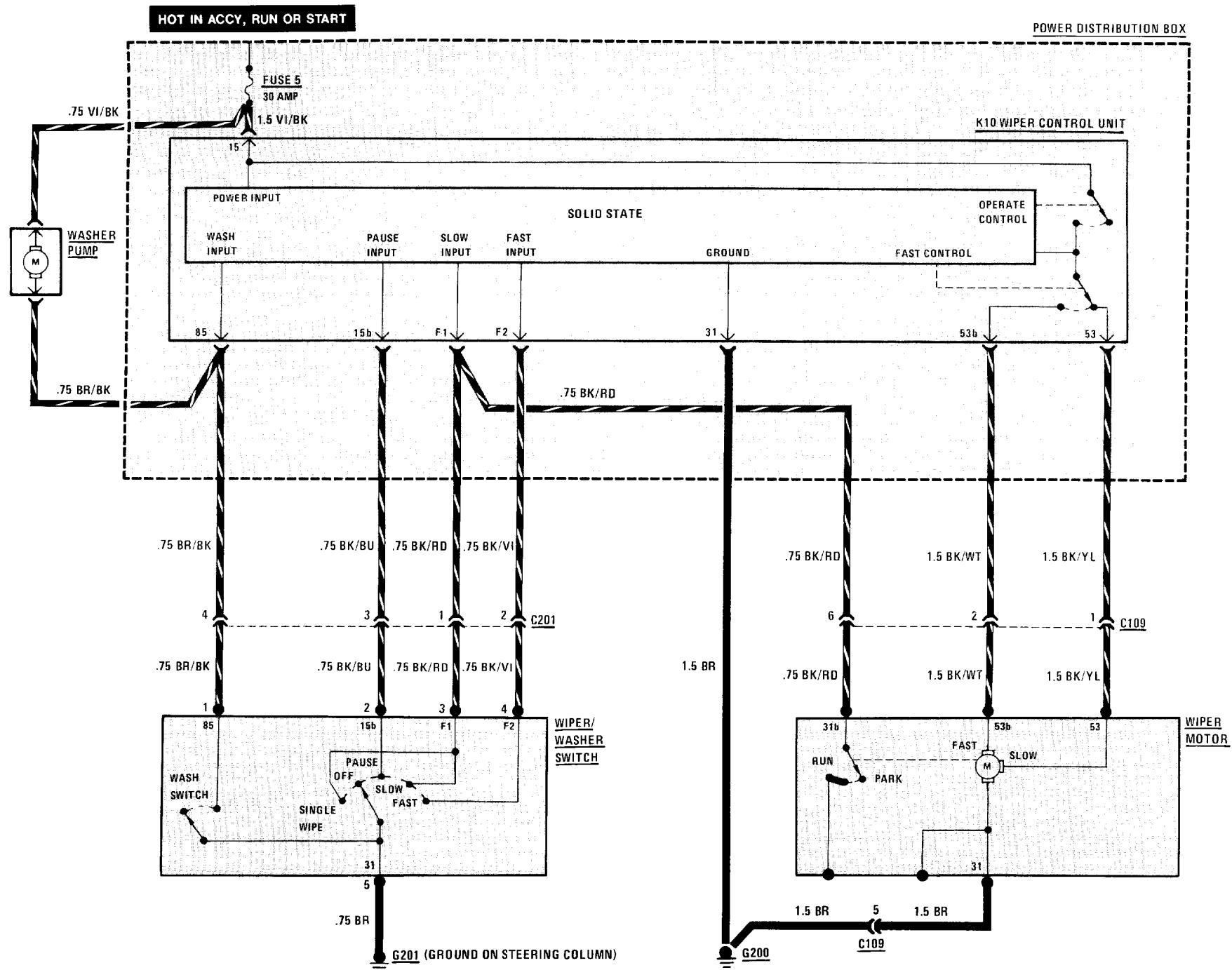
### REAR DEFOGGER



# 6131-0 IGNITION KEY WARNING/SEATBELT WARNING

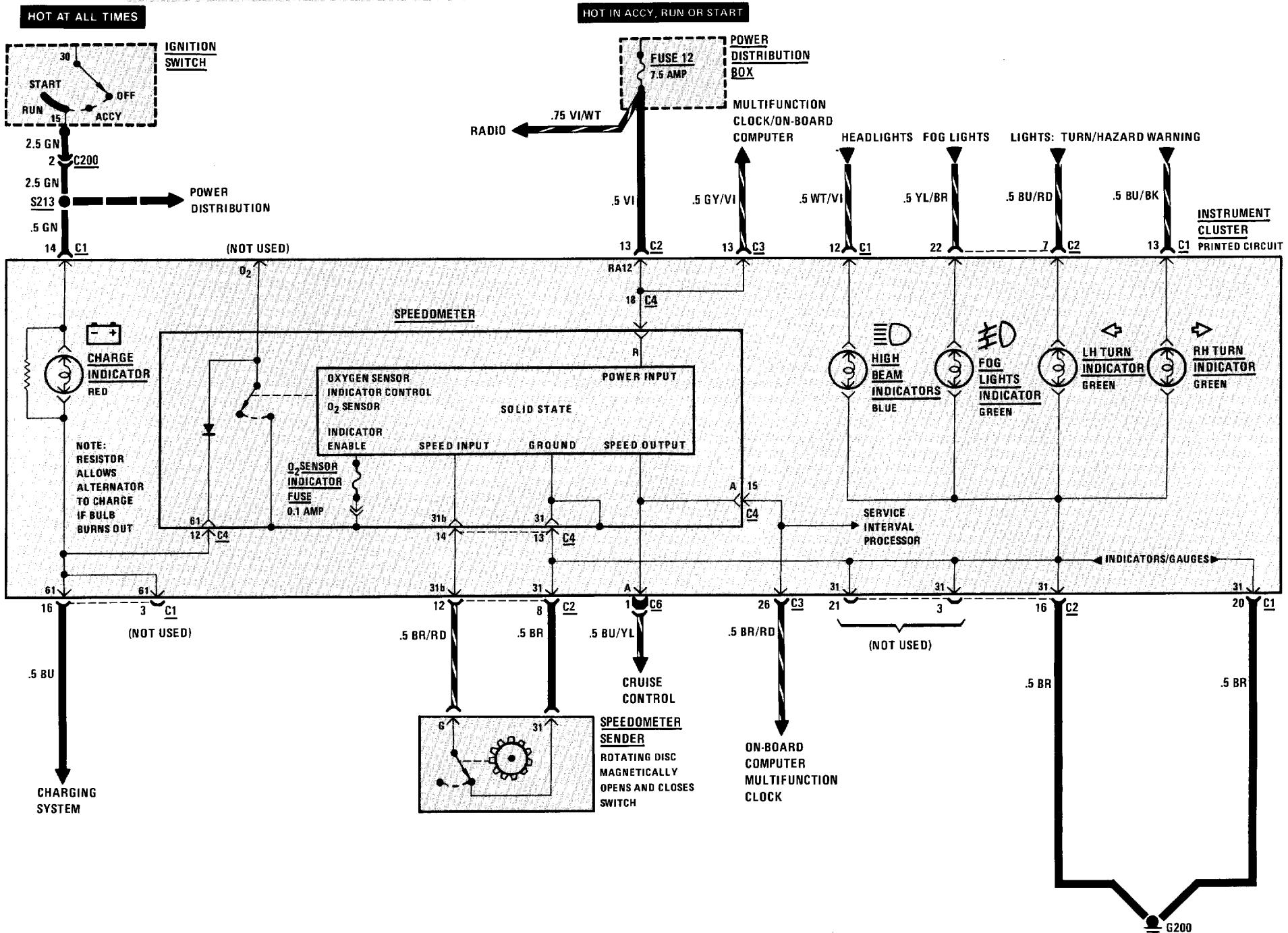


# 6160-0 WIPER/WASHER



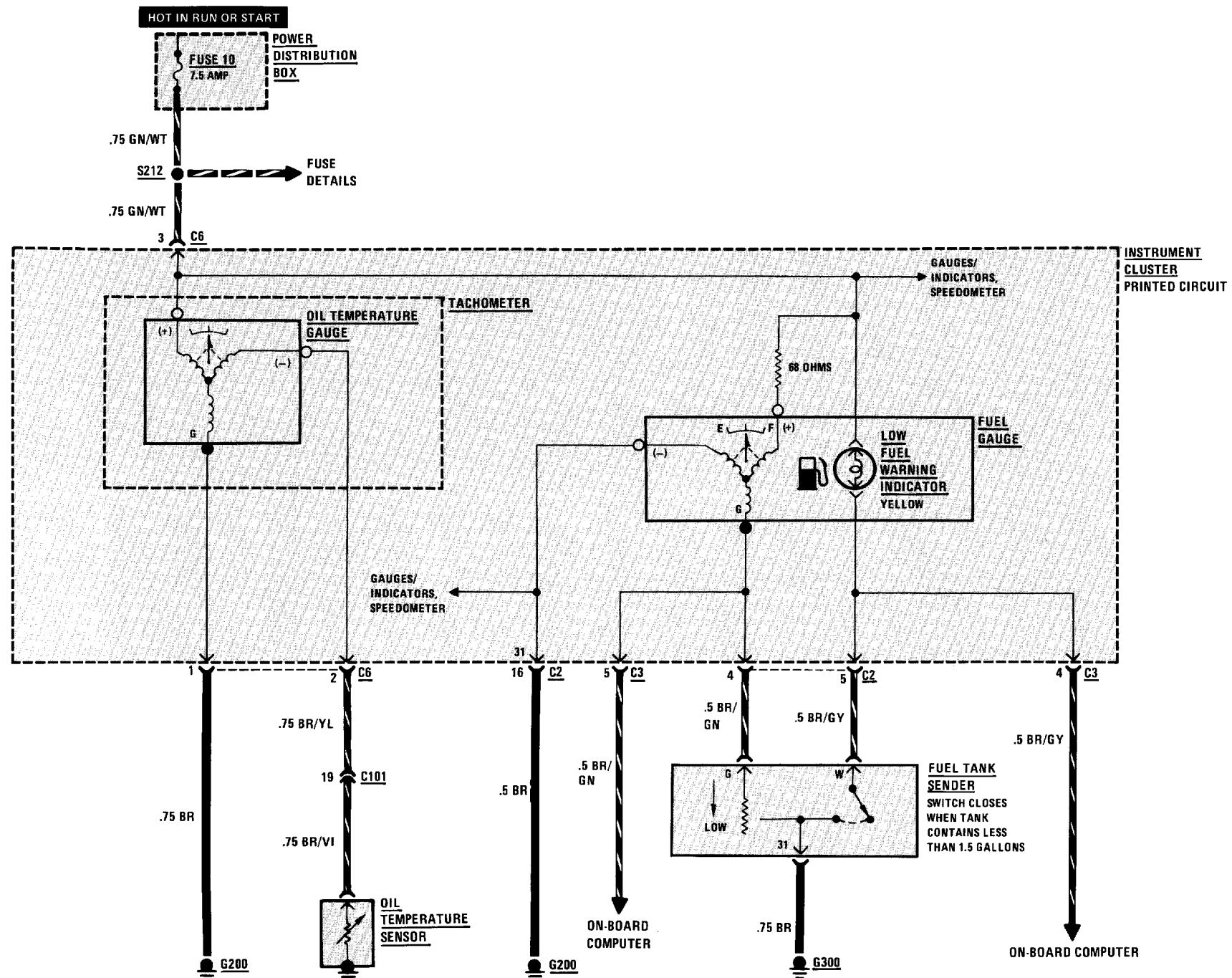
# 6210-0 INSTRUMENT CLUSTER

## SPEEDOMETER/INDICATORS

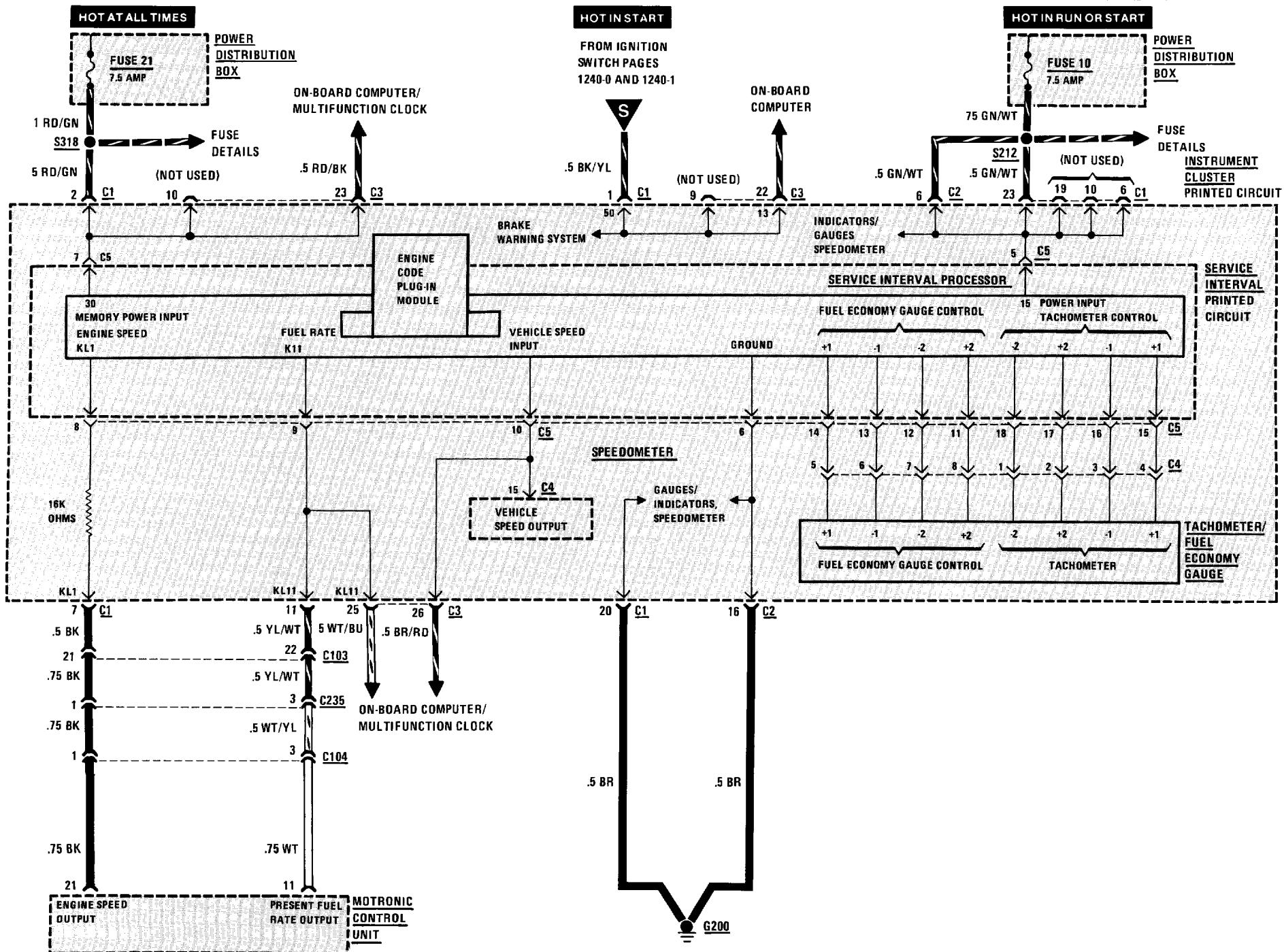


# 6210-2 INSTRUMENT CLUSTER

## GAUGES

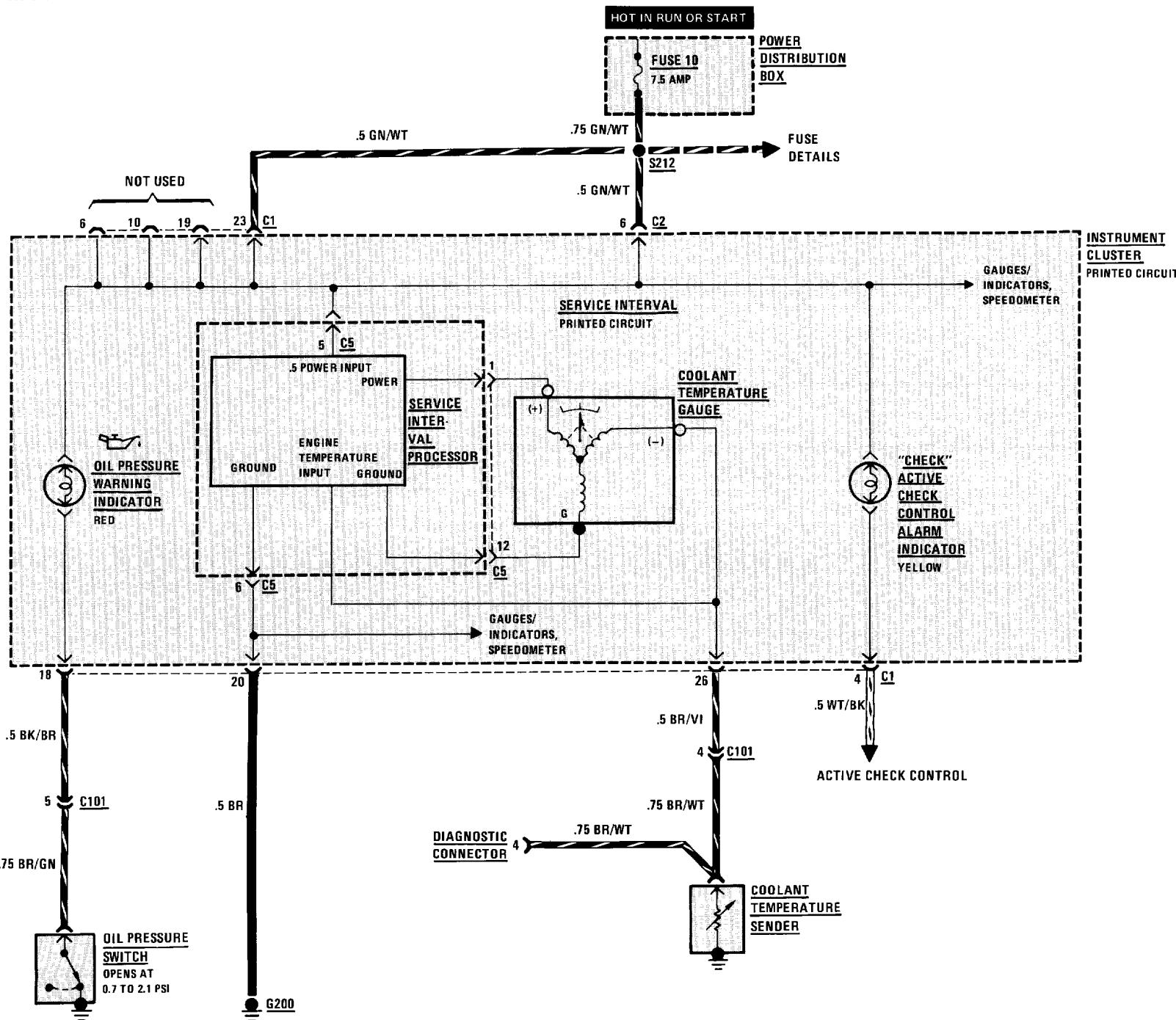


## TACHOMETER/FUEL ECONOMY GAUGE



# 6210-4 INSTRUMENT CLUSTER

## GAUGES INDICATORS



# 6216-0 ACTIVE CHECK CONTROL

## ACTIVE CHECK CONTROL

1. When the Ignition Switch is initially placed in "Run," the Active Check Control Arm Indicator flashes, and the Active Check Control Unit Brake Light LED and panel light illuminate for test purposes. Depressing the brake pedal clears the display.
2. When the Ignition Switch is placed in "Run," fault monitoring begins. To monitor the low beams, rear lights, or license lights, those circuits must be on. The brake lights are monitored only while the brake pedal is depressed.
3. When a fault occurs, the alarm indicator flashes, the appropriate LED fault indicator lights, and the panel light goes on for five seconds. Depressing the test button will clear the alarm indicator, but the LED fault indicator remains on.
4. To test the unit, depress the test button. The LED fault indicators and the panel lights should go on.

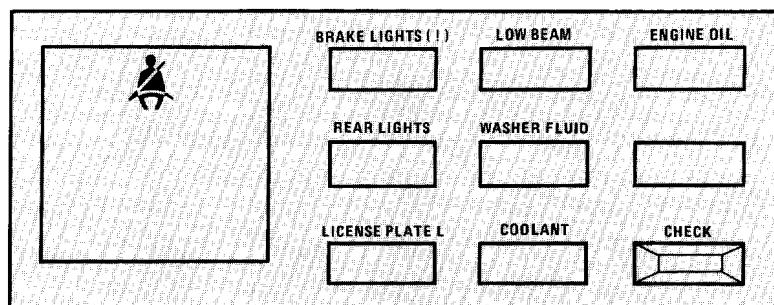
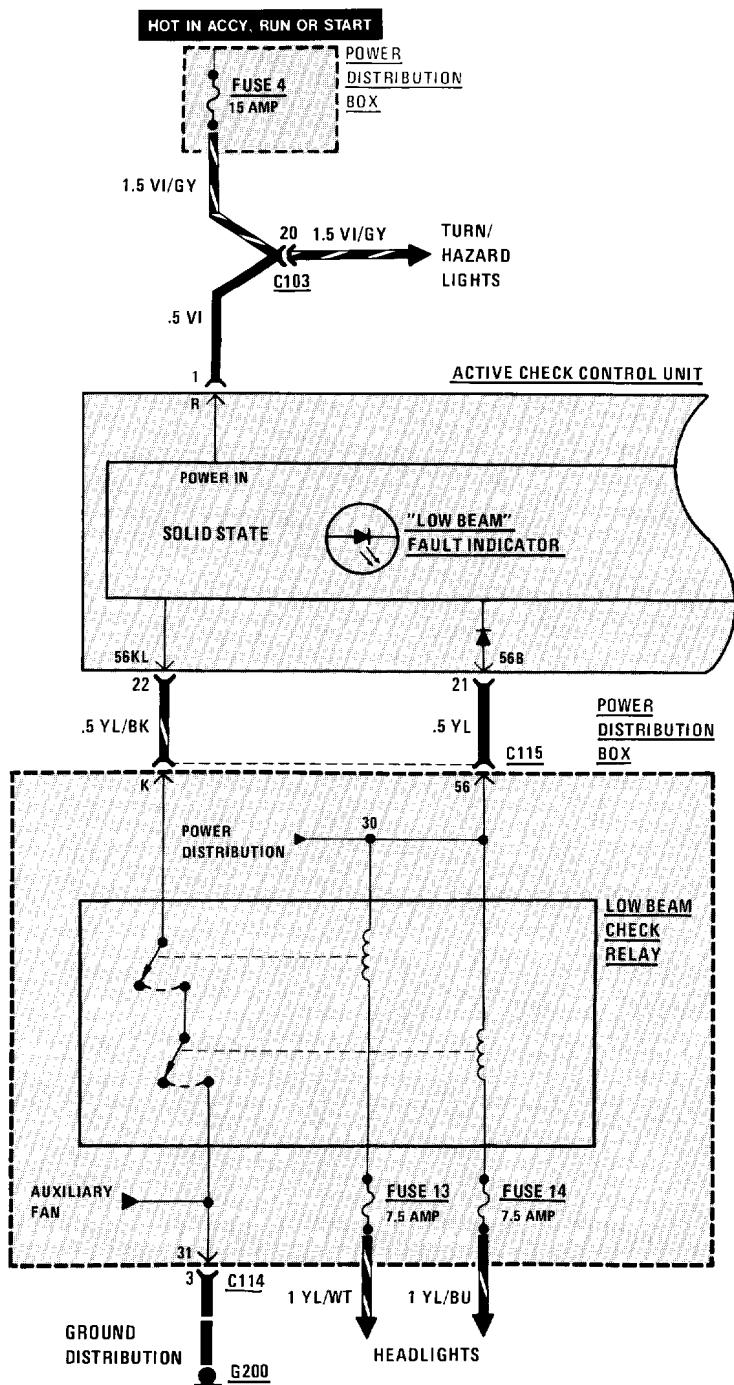
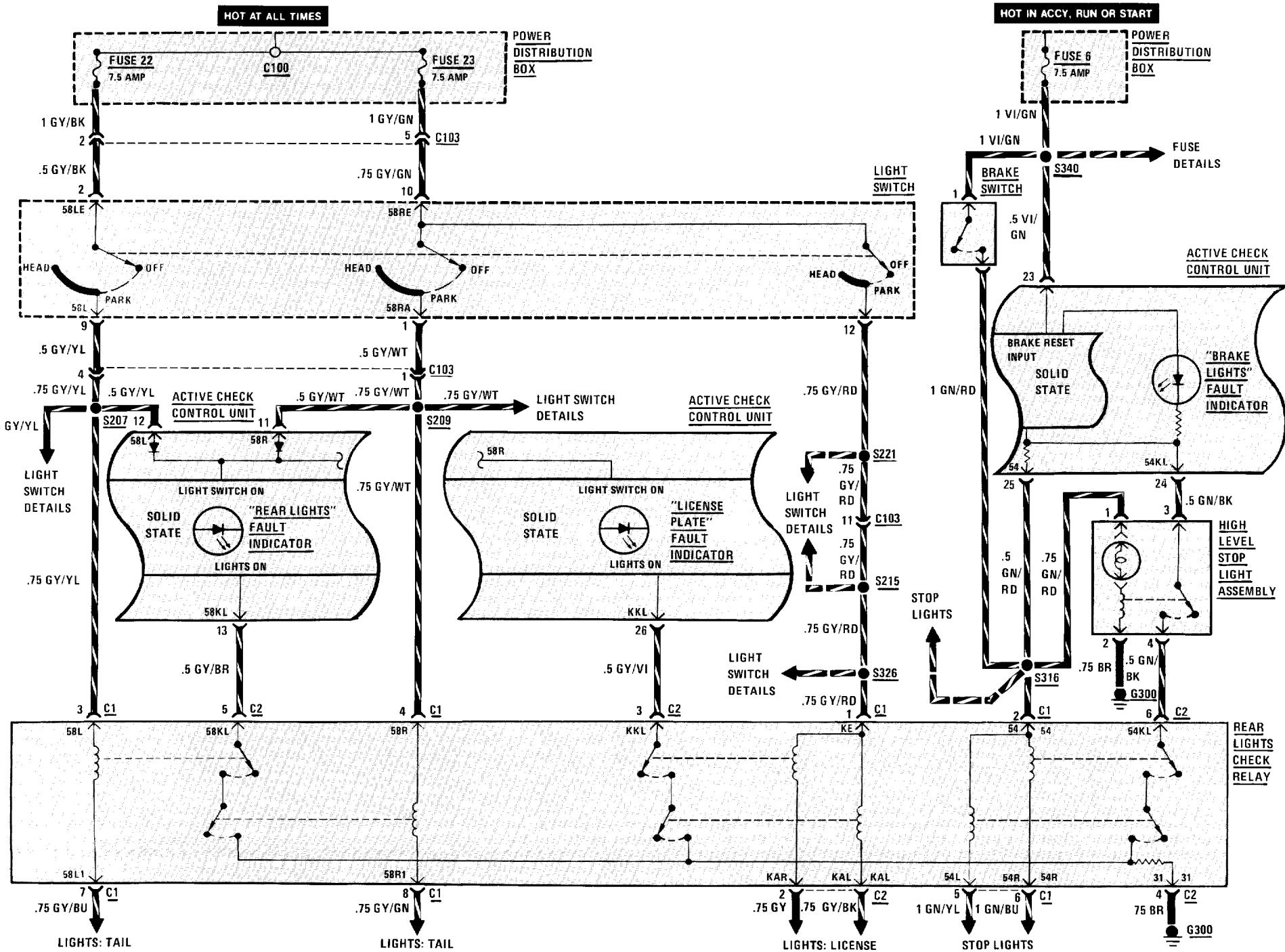
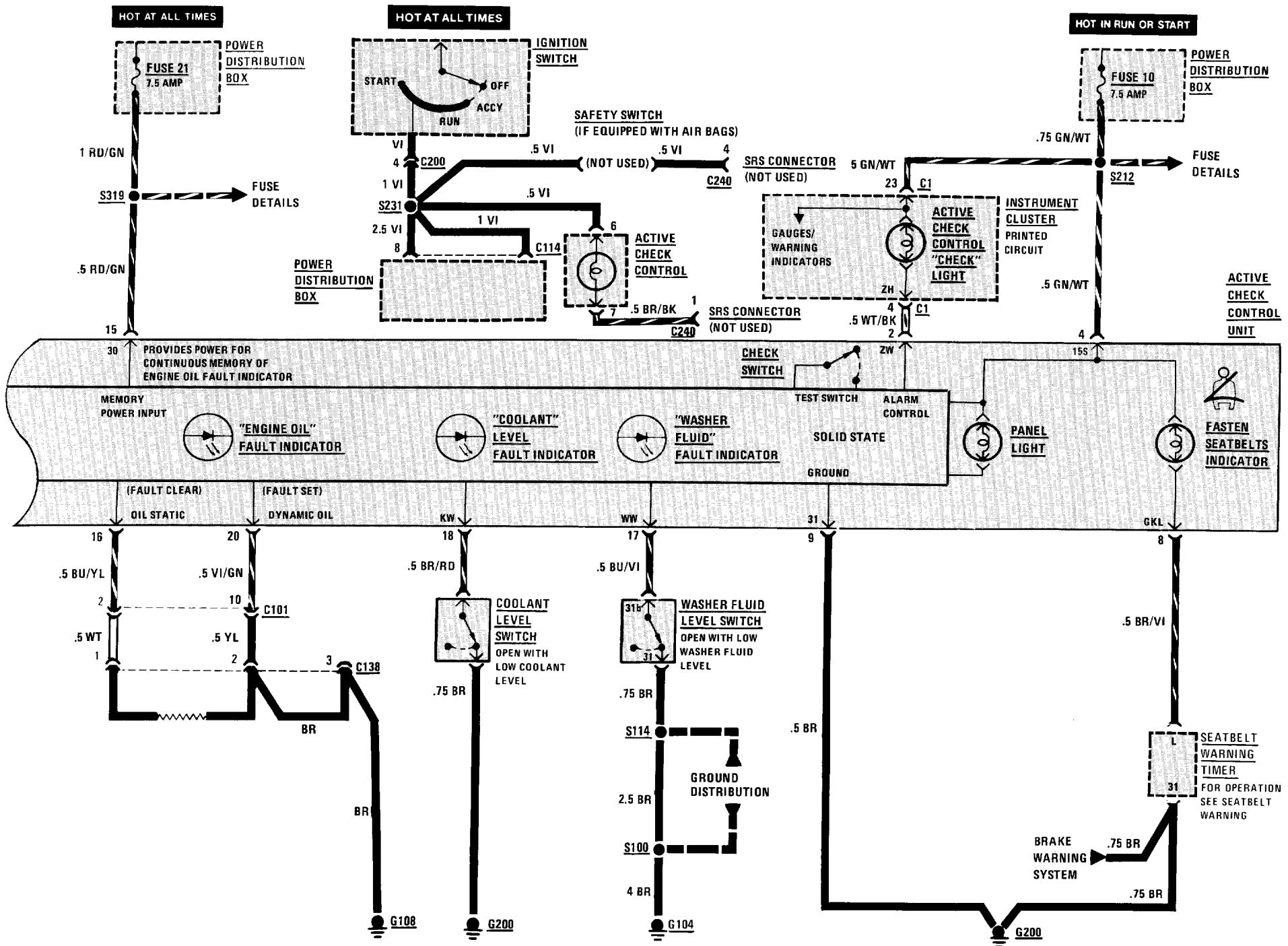


Figure 1 - Active Check Control Unit Above Rear View Mirror

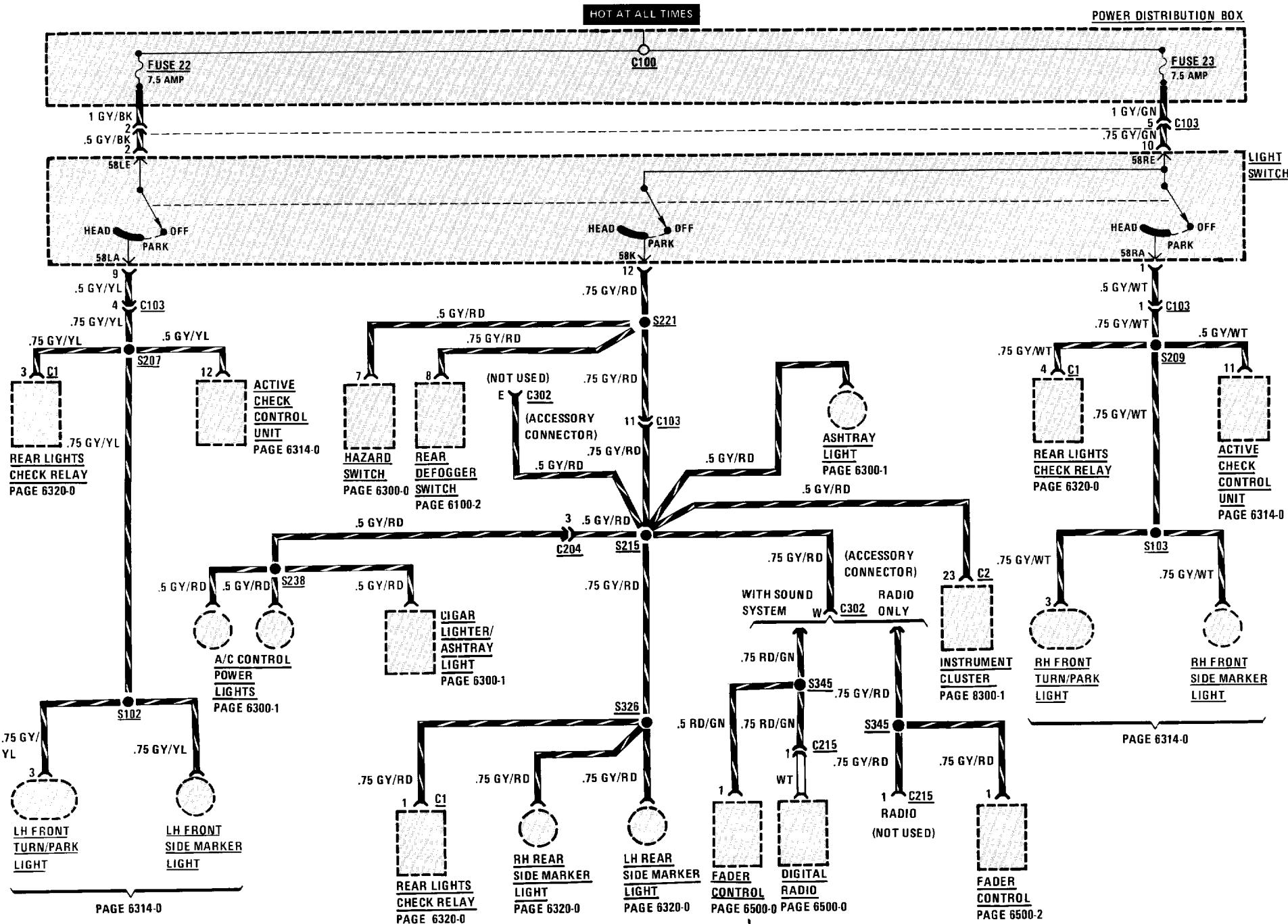




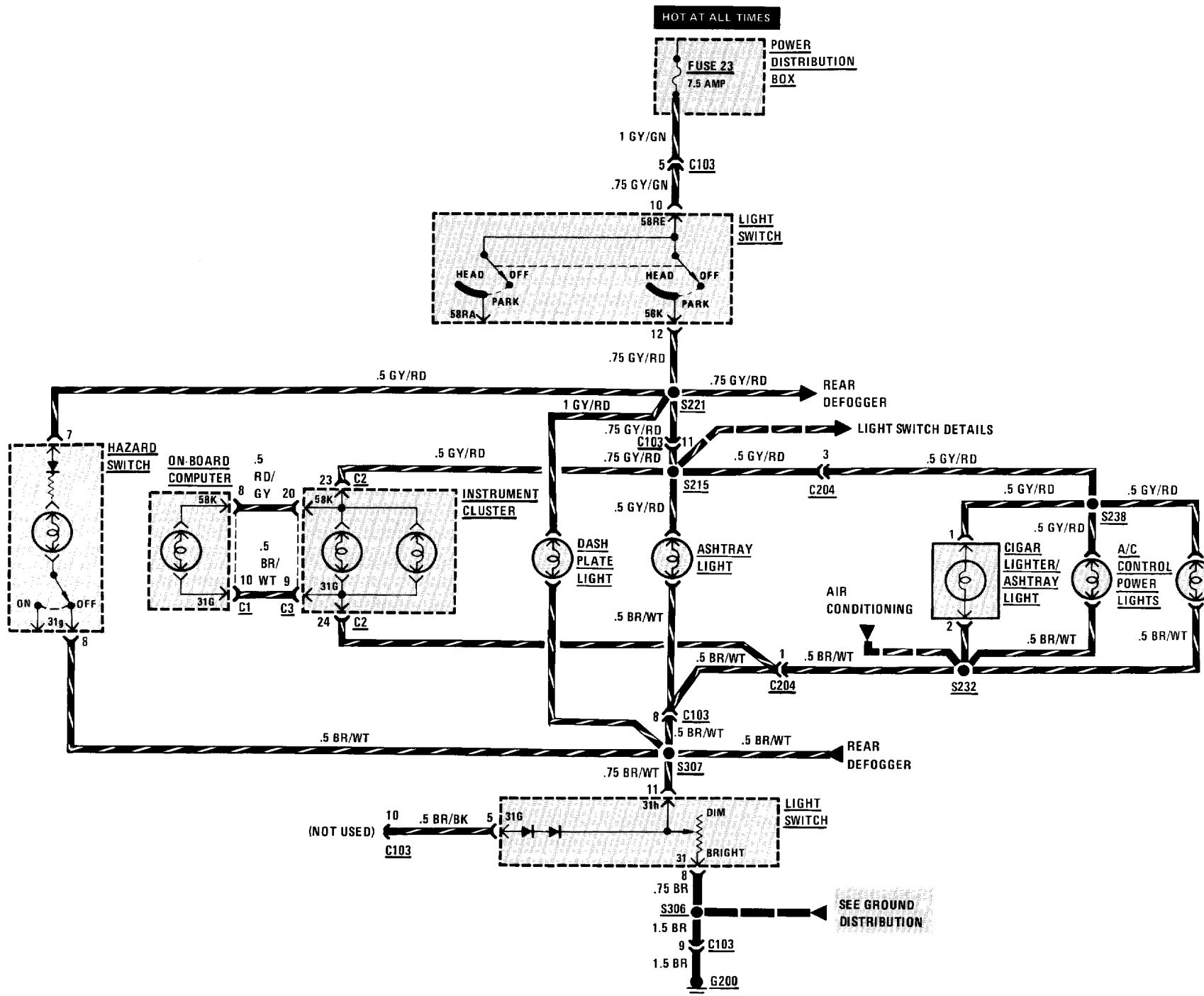
## 6216-2 ACTIVE CHECK CONTROL



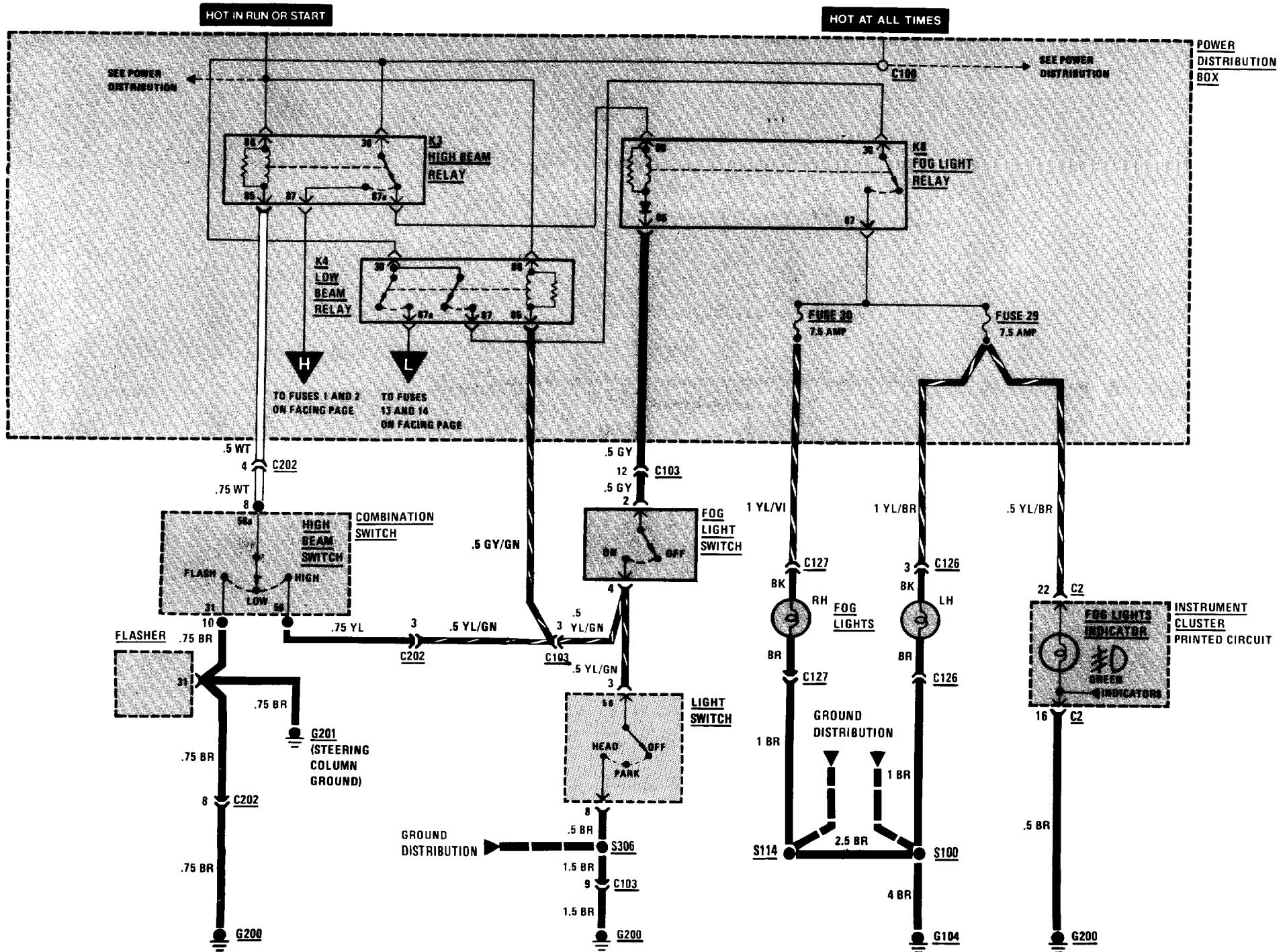
## **6300-0 LIGHT SWITCH DETAILS**

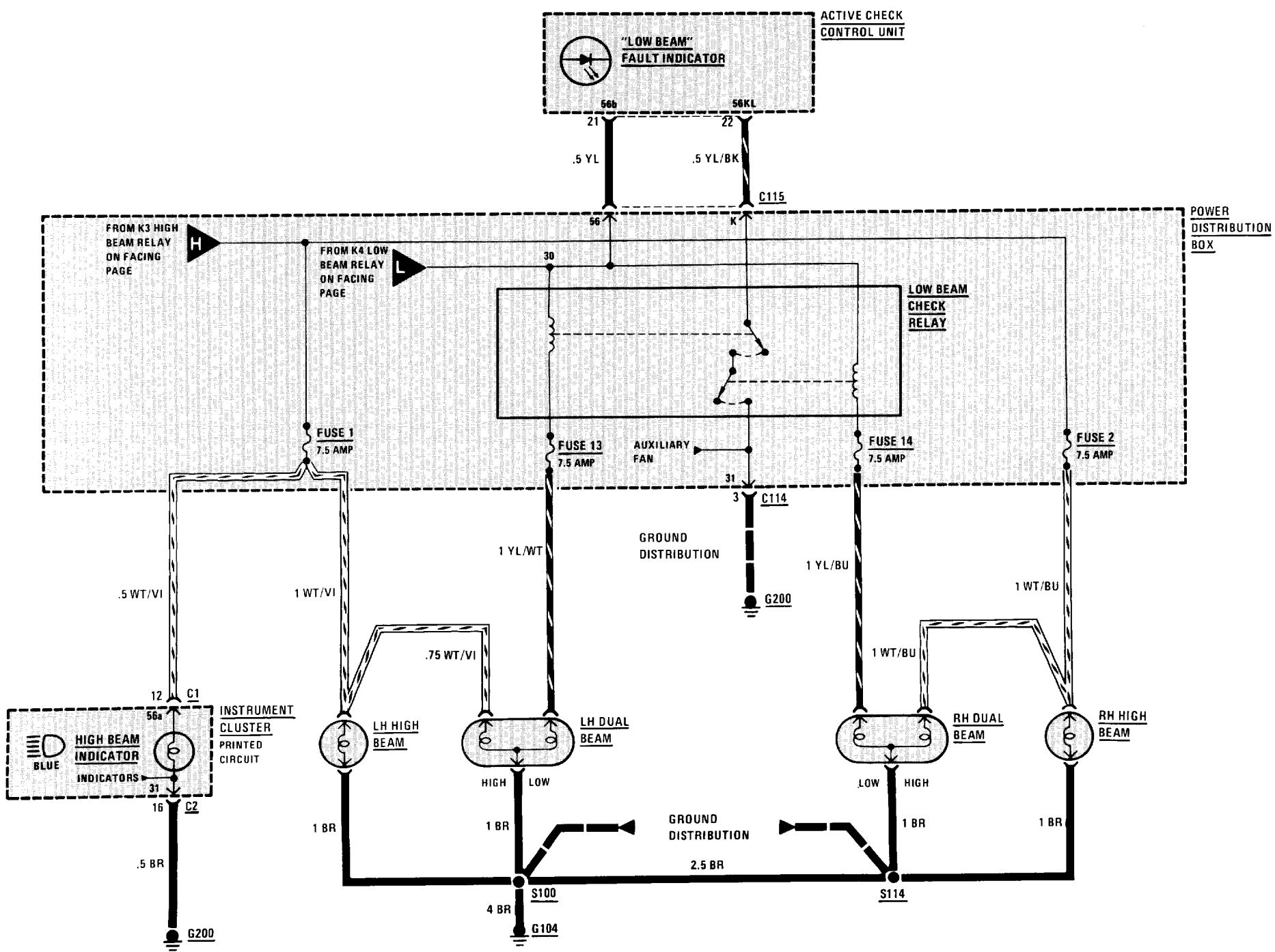


## DASH LIGHTS

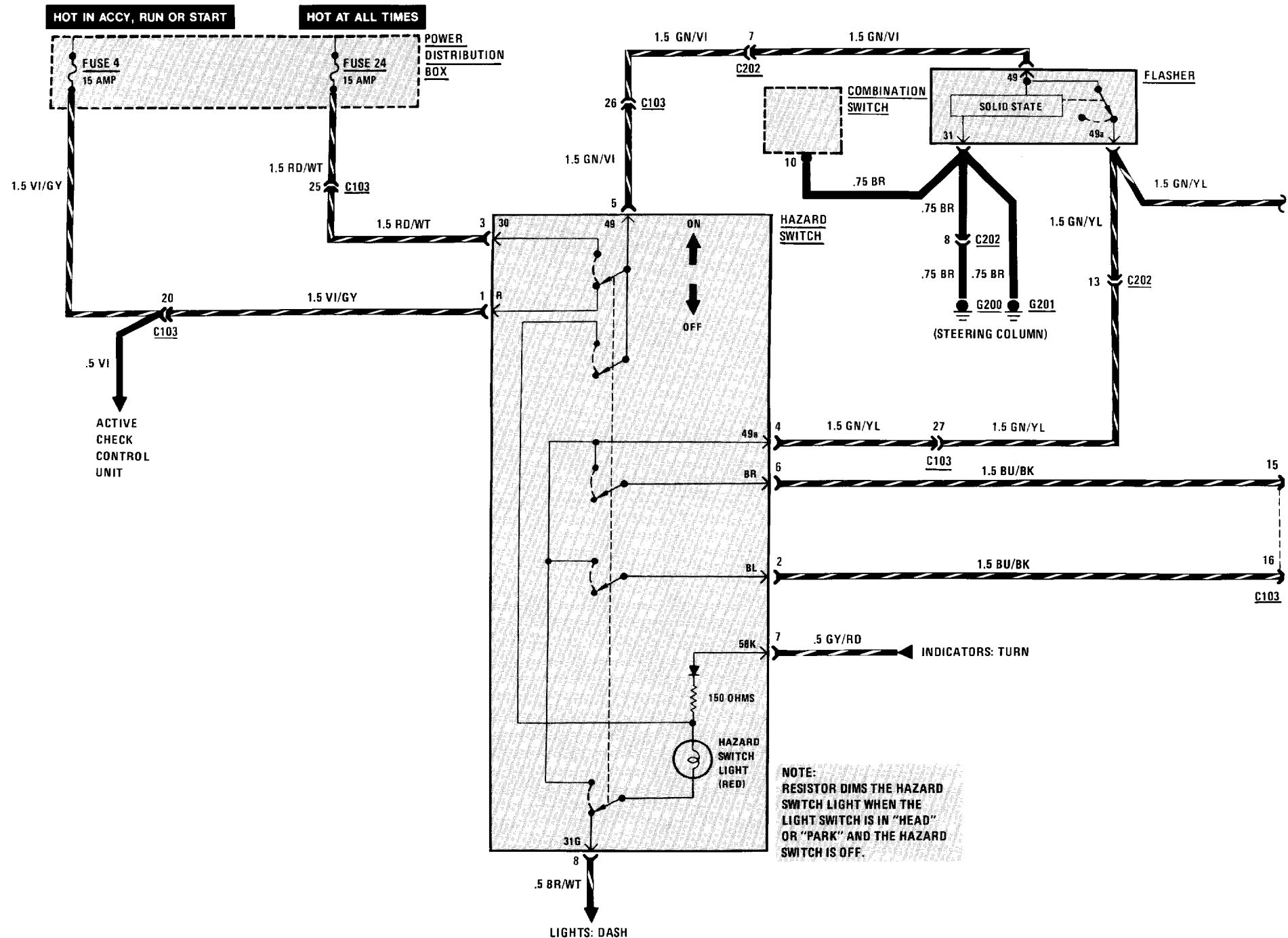


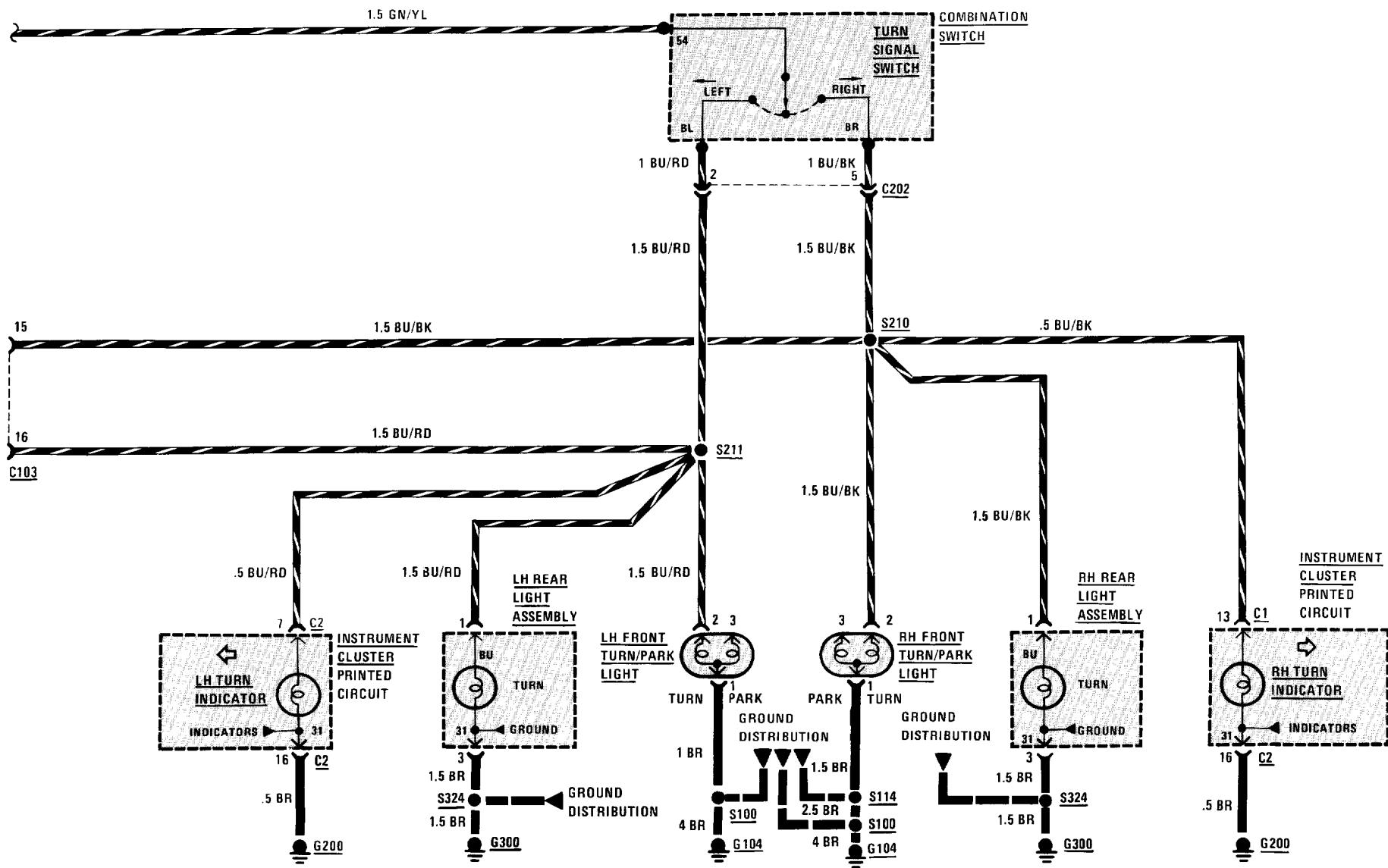
# 6312-0 HEADLIGHTS/FOG LIGHTS



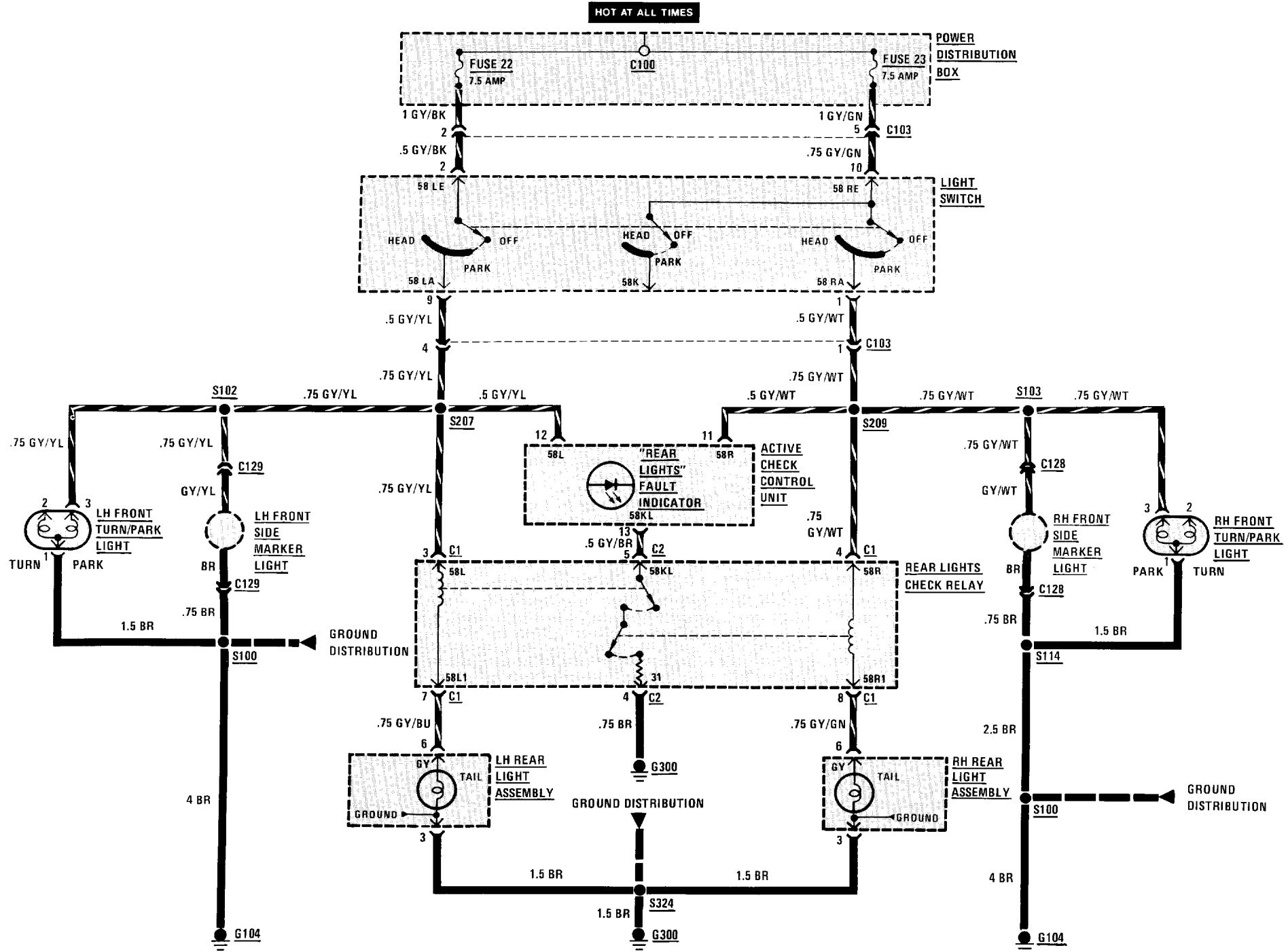


# 6313-0 TURN/HAZARD LIGHTS

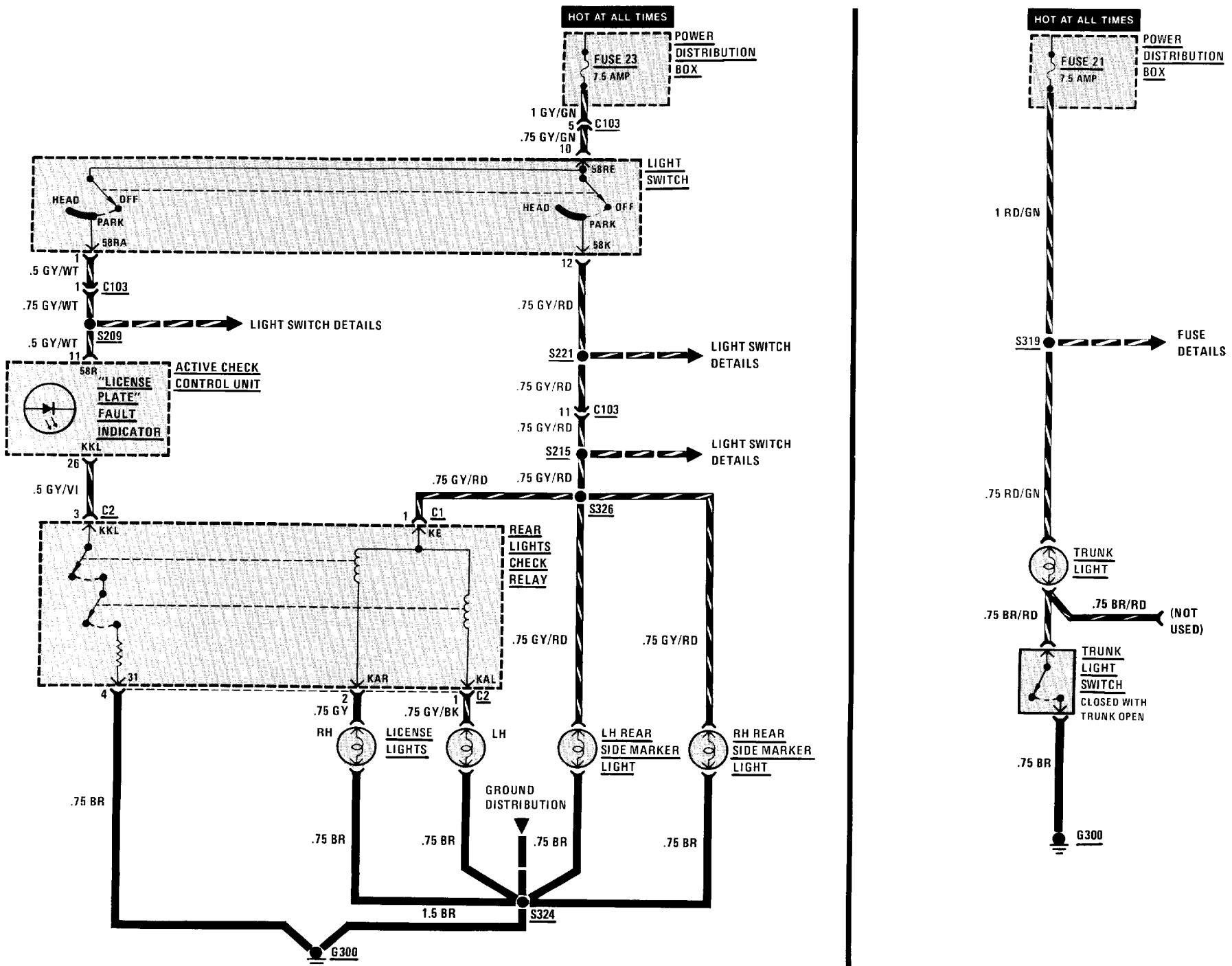




# 6314-0 PARK/TAIL/FRONT MARKER LIGHTS

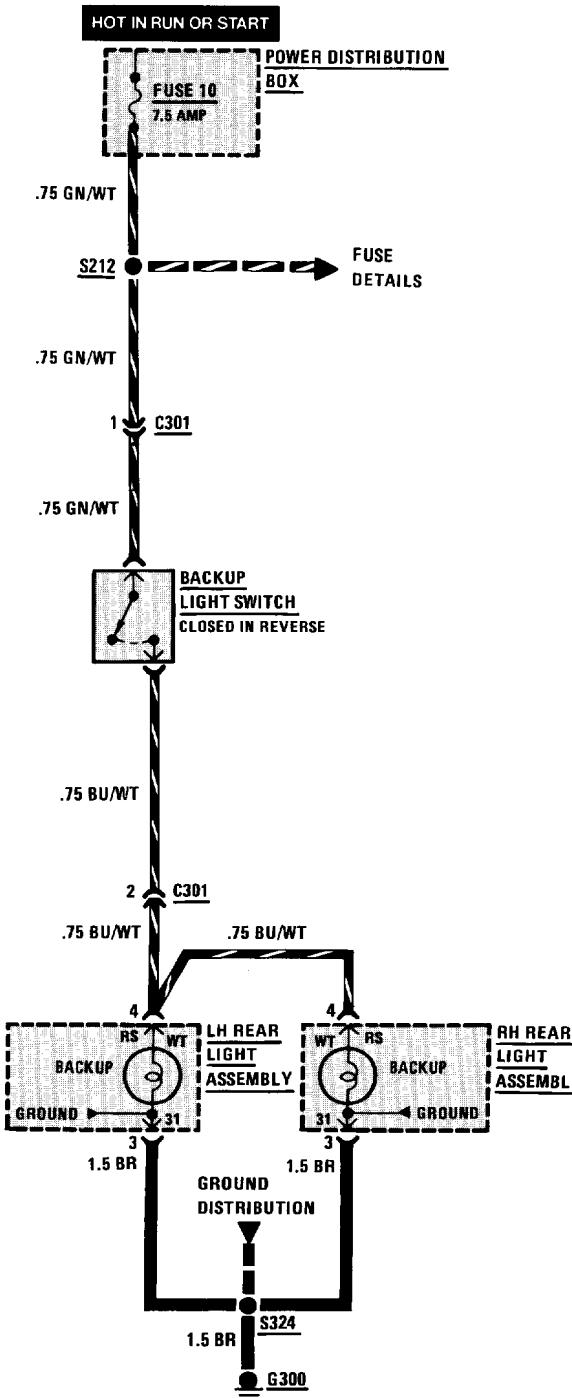


# 6320-0 REAR MARKER/LICENSE/TRUNK LIGHTS

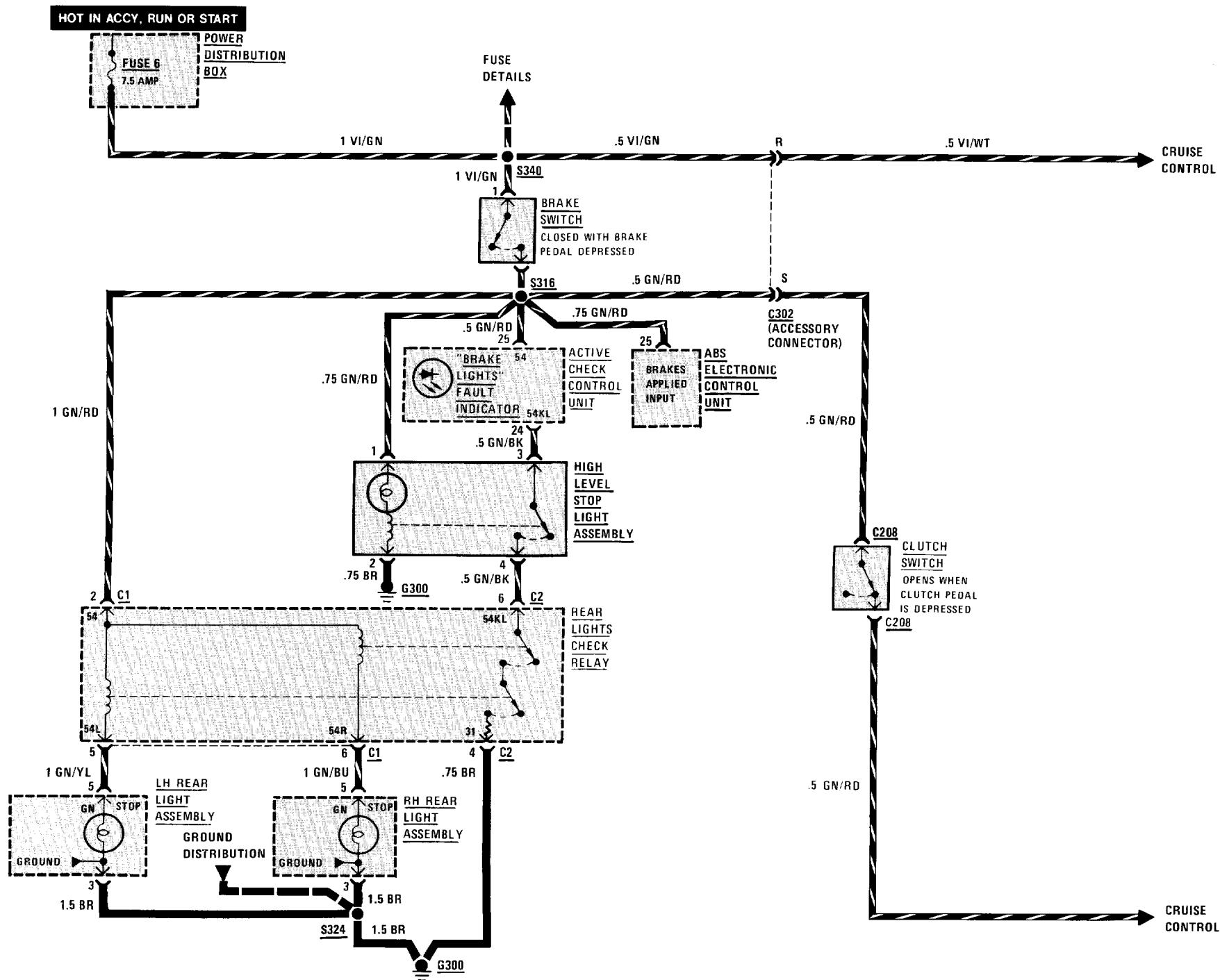


## 6322-0 BACKUP LIGHTS

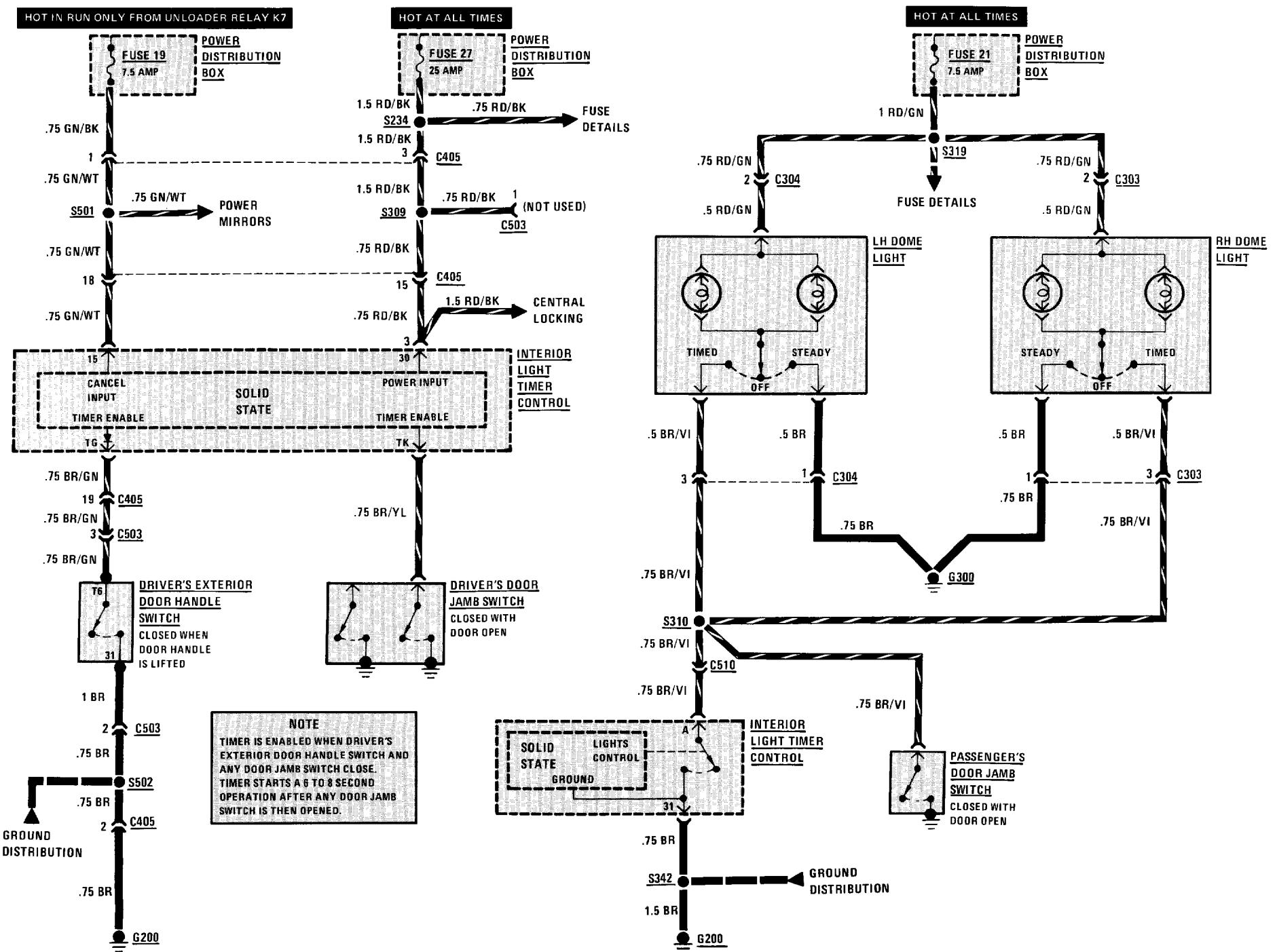
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# 6325-0 STOP LIGHTS



# 6330-0 INTERIOR LIGHTS



## 6410A-0 HEATING AND AIR CONDITIONING

### 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.

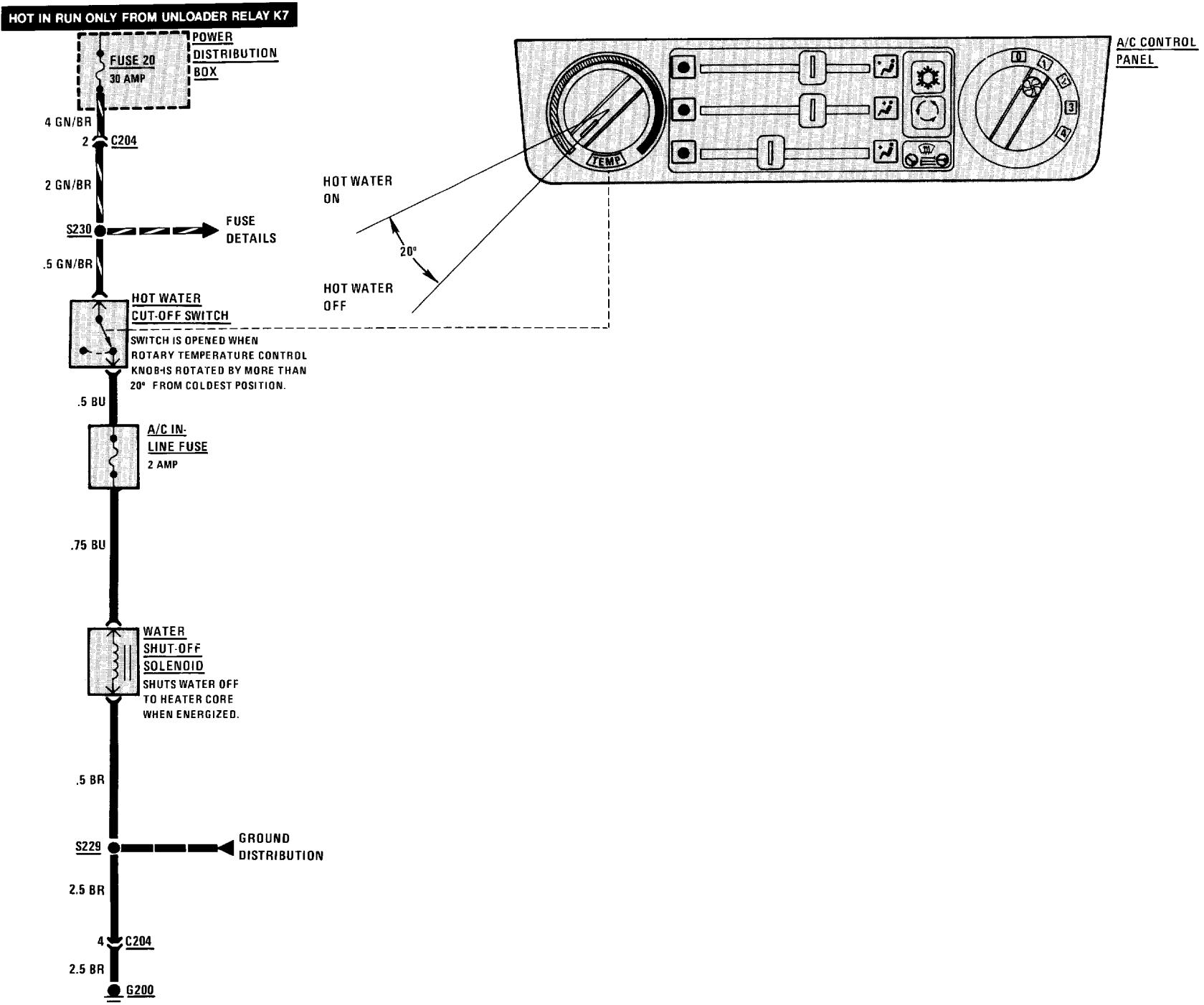
**SYSTEM CHECK TABLE**

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)	
ACTION	NORMAL RESULT
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 lighted. 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 Fans runs.
Move Center Slide Lever to the extreme left.	A/C button is no longer lighted. A/C Compressor turns off. Auxiliary Cooling Fan turns off.
Move Bottom Slide Lever to the center.	A/C button lights. A/C Compressor turns off. Auxiliary Cooling Fan runs.
Press A/C button to release it (OFF).	A/C button is no longer lighted. 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.

# 6411-0 A/C TEMPERATURE CONTROL

## 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.

Whenever the Water Shut-Off Solenoid is de-energized, the collapsing magnetic field induces high voltage in the coil. The A/C In-Line Diode, in the 325e, provides a path for the voltage so that it does not damage the contacts of the Hot Water Cut-Off Switch.

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 or Diode, the Fuse will isolate them to prevent the failure 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. If fuse is blown, check for a shorted A/C In-Line Diode.
  - 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 following test if the Water Shut-Off Solenoid does not operate normally.

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

Measure: VOLTAGE At: WATER SHUT-OFF SOLENOID CONNECTOR (Disconnected) Conditions:		
Measure Between	Correct Voltage	For Diagnosis
BU & Ground	Battery	See 1
BU & BR/RD or BR	Battery	See 2
	• Rotate A/C Control Panel TEMP Control to Mid Position	
BU & Ground	0 Volts	See 3

(Continued in next column)

(Continued from previous column)

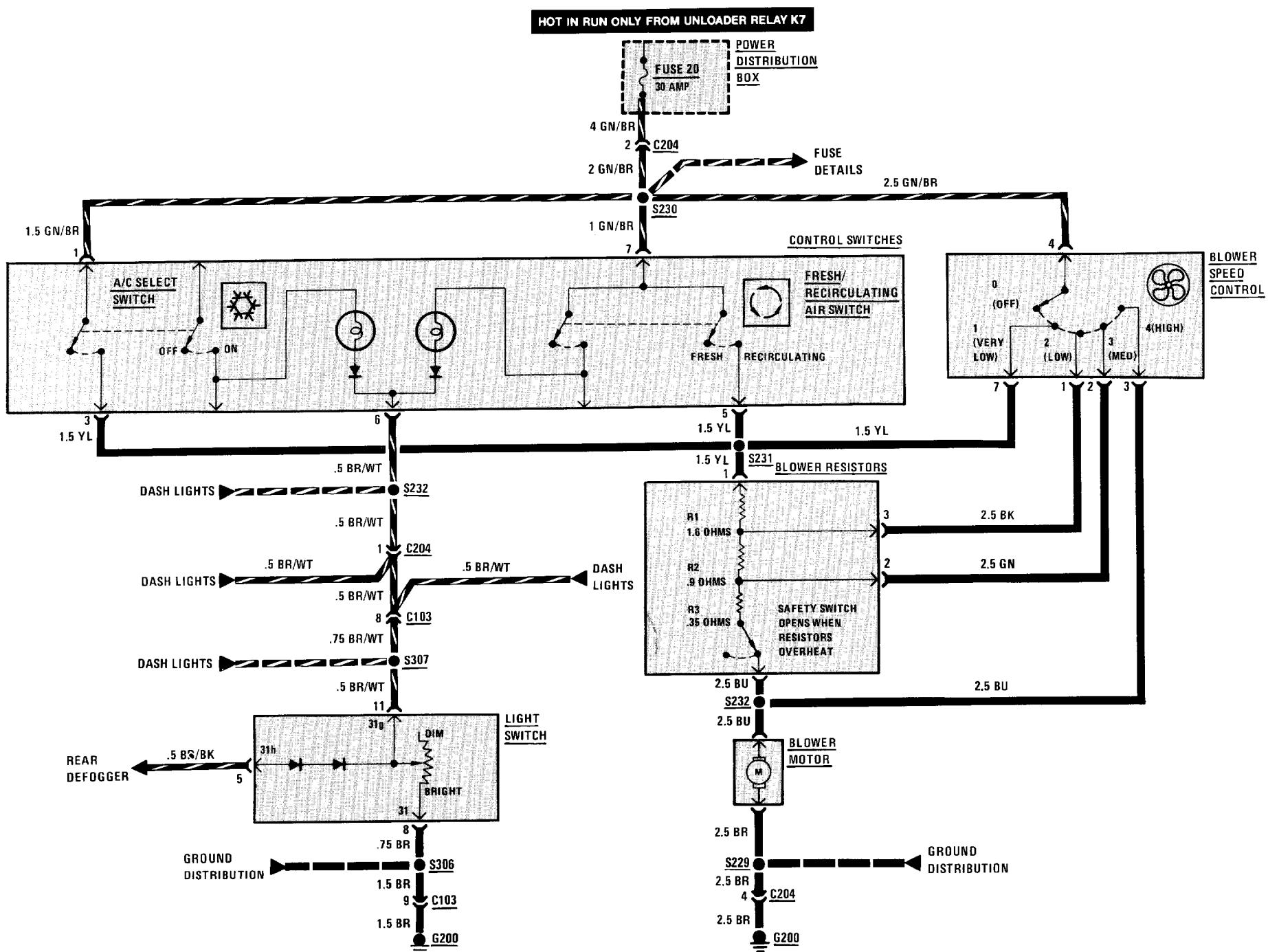
- If all voltages are correct, replace the Water Shut-Off Solenoid.
- 1. Check the BU wire and A/C In-Line Fuse for an open. If fuse is open, check that A/C In-Line Diode is not shorted. If it is, replace it. If wire, Fuse and Diode are good, go to Table 2.
- 2. Check the BR/RD or BR wire for an open 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)

Measure: VOLTAGE At: HOT WATER CUT-OFF SWITCH CONNECTOR (Disconnected)	Conditions:	
	• Ignition Switch: RUN • Water Shut-Off Solenoid: CONNECTED	
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> </ul>		
1. Check the GN/BR wire for an open back to Fuse 20.		
2. Check the BU wire for an open.		

# 6413-0 A/C BLOWER CONTROLS

## HEATING AND AIR CONDITIONING (BLOWER CONTROLS)





(Continued from previous page)

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> <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 fr 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>		

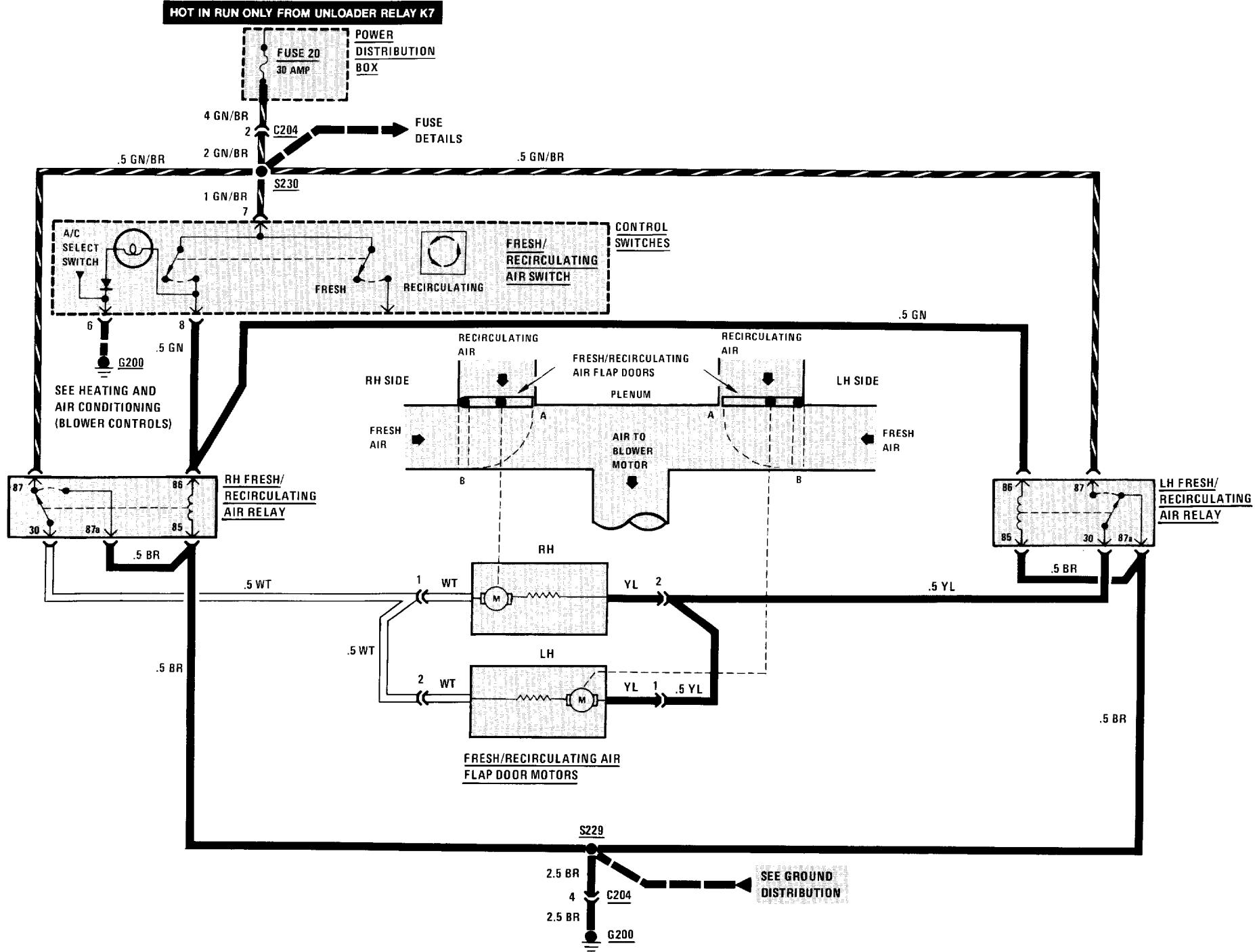
**C: BLOWER MOTOR TEST****Measure: VOLTAGE****At: BLOWER MOTOR CONNECTOR  
(Disconnected)****Conditions:**

- Ignition Switch: RUN
- A/C Select Switch: ON
- Blower Speed Control: HIGH

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)



## 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)		
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:**

- Ignition Switch: RUN
- Fresh/Recirculating Air Switch: DEPRESSED (RECIRCULATING)
- Fresh/Recirculating Air Flap Door Motor Connectors: CONNECTED

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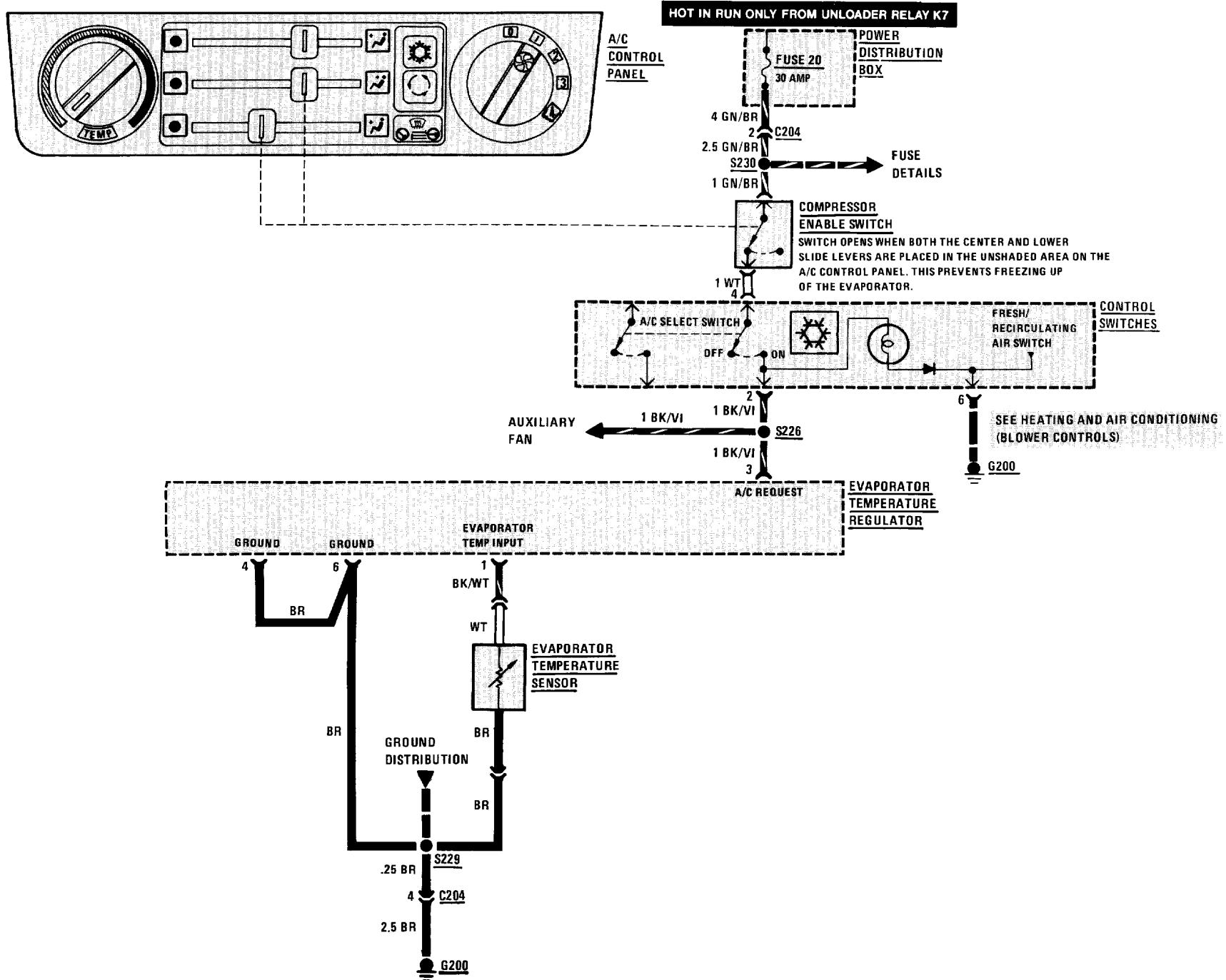
- If all voltages are correct, replace the suspect Fresh/Recirculating Air Relay.
- 1. Check the GN/BR wire for an open.
- 2. Check the GN wire back to the Control Switches for an open. If wire is good, do Test C.
- 3. Check the BR wire for an open.

**C: CONTROL SWITCHES VOLTAGE TEST**

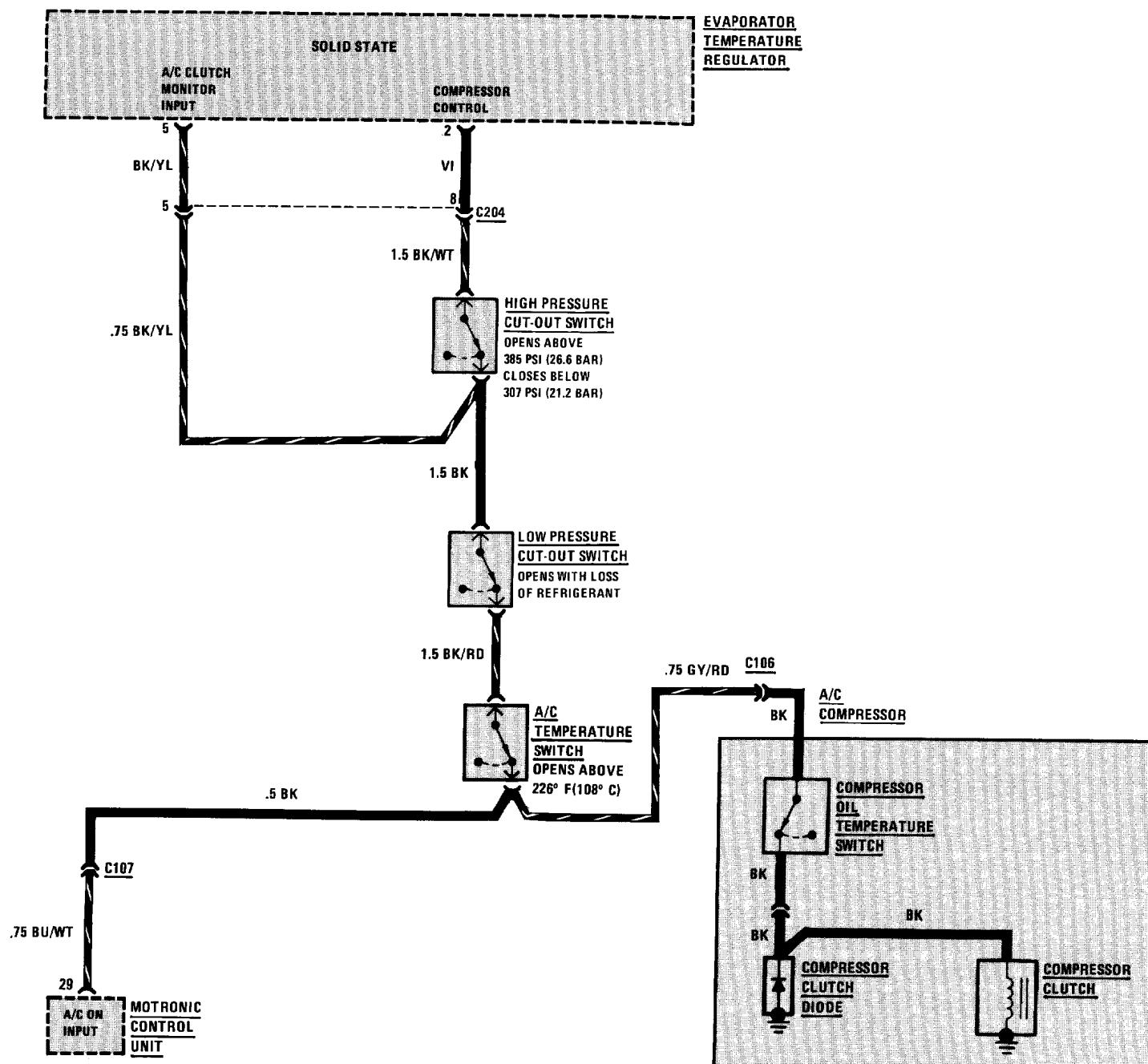
<b>Measure: VOLTAGE</b> <b>At: CONTROL SWITCHES CONNECTOR</b> <b>(Disconnected)</b>		
<b>Condition:</b> <ul style="list-style-type: none"><li>• Ignition Switch: RUN</li></ul>		
Measure Between	Correct Voltage	For Diagnosis
7 (GN/BR) & Ground	Battery	See 1
7 (GN/BR) & 8 (GN)	Battery	See 2
<ul style="list-style-type: 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)



## 6452A-0 A/C COMPRESSOR CONTROLS

### CIRCUIT OPERATION

When the Ignition Switch is in RUN, battery voltage is applied through Fuse 20 to the Compressor Enable Switch. This Switch is located in the A/C Control Panel and is closed when either the center or lower slide levers are moved about  $\frac{1}{4}$  of the distance away from the left position. This ensures that the A/C Compressor does not run unless there is enough air flow to prevent freezing of the evaporator.

#### 325e Engine

When the A/C Select Switch on the A/C Control Panel is pressed and the Compressor Enable Switch is closed, voltage is applied to the Compressor Clutch through the normally closed Evaporator Temperature Switch, the Low Pressure Cut-Out Switch and the High Pressure Cut-Out Switch.

The Evaporator Temperature Switch opens if the evaporator temperature drops low enough for freezing to begin. The Low Pressure Cut-Out Switch opens if the refrigerant pressure drops low enough that operation of the A/C System would be likely to damage the Compressor. The High Pressure Cut-Out Switch opens if refrigerant pressure rises to a point that is too high for normal operation.

#### 325i and M3 Engines

When the A/C Select Switch is pressed and the Compressor Enable Switch is closed, voltage is applied to terminal 3 of the Evaporator Temperature Regulator. The Evaporator Temperature Regulator applies voltage from terminal 2 to the Compressor Clutch through the High Pressure Cut-Out Switch, the Low Pressure Cut-Out Switch, and the Temperature Switch (M3 engine).

The High Pressure Cut-Out Switch opens if refrigerant pressure rises to a value which is too high for normal operation. The Temperature Switch (M3 Engine) opens to remove the Compressor load from the engine if the engine coolant temperature rises above 226 °F (108 °C). The Evaporator Temperature Sensor signals the Evaporator Temperature Regulator to de-energize the Compressor Clutch when evaporator temperature is low enough that freezing may result.

#### 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.

### TROUBLESHOOTING HINTS

- Try the following checks before doing the System Diagnosis.
  1. Check Fuse 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 325e Engine

Compressor Clutch does not engage but Auxiliary Cooling Fan runs	A B
Compressor Clutch does not engage and Auxiliary Cooling Fan does not run	C
Engine idle speed is not high enough when Compressor Clutch engages	D

#### SYMPTOM TABLE 325i and M3 Engines

Compressor Clutch does not engage	E
Engine idle speed is not high enough when Compressor Clutch engages (325i engine only)	H

## A: LOW PRESSURE CUT-OUT SWITCH VOLTAGE TEST

<b>Measure:</b> VOLTAGE		
<b>At:</b> LOW PRESSURE CUT-OUT SWITCH CONNECTOR (Disconnected)		
<b>Conditions:</b>		
• Ignition Switch: RUN (Engine need not be running)		
• A/C Control Panel: A/C ON		
• Temperature Outside Car: Above 60 degrees F (16 degrees C)		
<b>Measure Between</b>	<b>Correct Voltage</b>	<b>For Diagnosis</b>
BK/WT & Ground	Battery	See 1
• If voltage is correct, do Test B.		
1. Do Test C.		

## B: COMPRESSOR CLUTCH VOLTAGE TEST

<b>Measure:</b> VOLTAGE		
<b>At:</b> COMPRESSOR CLUTCH CONNECTOR (Disconnected)		
<b>Conditions:</b>		
• Ignition Switch: RUN (Engine need not be running)		
• A/C Control Panel: A/C ON		
• Temperature Outside Car: Above 60 degrees F (16 degrees C)		
<b>Measure Between</b>	<b>Correct Voltage</b>	<b>For Diagnosis</b>
BK & Ground	Battery	See 1
• If the voltage is correct, replace the Compressor Clutch.		

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1. Check for an open Low Pressure Cut-Out Switch, High Pressure Cut-Out Switch or associated wiring. If High Pressure Cut-Out Switch is open, replace it. If Low Pressure Cut-Out Switch is open, check refrigerant pressure to be sure it is normal before replacing the Switch.

## C: A/C SELECT SWITCH VOLTAGE TEST

<b>Measure:</b> VOLTAGE		
<b>At:</b> CONTROL SWITCHES CONNECTOR (Connected)		
<b>Conditions:</b>		
• Ignition Switch: RUN		
• A/C Control Panel: A/C ON		
• Temperature Outside Car: Above 60 degrees F (16 degrees C)		
<b>Measure Between</b>	<b>Correct Voltage</b>	<b>For Diagnosis</b>
4 (WT) & Ground	Battery	See 1
2 (VI) & Ground	Battery	See 2
• If both voltages are correct, check that the Evaporator Temperature Switch is closed. If the Evaporator Temperature Switch is open, replace it. If the Evaporator Temperature Switch is closed, check for an open in the VI and BK/WT wires.		

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1. Check that the Compressor Enable Switch is closed. If the Compressor Enable Switch is open, replace the A/C Control Panel. If the Compressor Enable Switch is closed, check for an open in the WT and GN/BR wires.
2. Replace the A/C Select Switch.

## D: IDLE SPEED CONTROL UNIT VOLTAGE TEST

<b>Measure:</b> VOLTAGE		
<b>At:</b> IDLE SPEED CONTROL UNIT CONNECTOR (Connected)		
<b>Conditions:</b>		
• Ignition Switch: RUN		
• A/C Control Panel: A/C ON		
• Temperature Outside Car: Above 60 degrees F (16 degrees C)		
<b>Measure Between</b>	<b>Correct Voltage</b>	<b>For Diagnosis</b>
9 (BU/WT) & Ground	Battery	See 1
• If the voltage is correct, repair/replace the Idle Speed Control Unit.		
1. Check for an open in the BU/WT and VI wires.		

## 6452A-2 A/C COMPRESSOR CONTROLS

### E: A/C ISOLATION TEST

Measure: VOLTAGE At: HIGH PRESSURE CUT-OUT SWITCH HARNESS CONNECTOR (Disconnected)		
Conditions: <ul style="list-style-type: none"><li>• Ignition Switch: RUN (Engine need not be running)</li><li>• A/C Selector Switch: Depressed (ON)</li></ul>		
Measure Between	Correct Voltage	For Diagnosis
BK/WT & Ground	Battery	See 1
<ul style="list-style-type: none"><li>• If voltage is correct, go to Test F.</li><li>1. Go to Test G.</li></ul>		

### F: COMPRESSOR CLUTCH VOLTAGE TEST

Measure: VOLTAGE At: COMPRESSOR CLUTCH HARNESS CONNECTOR (Disconnected)		
Conditions: <ul style="list-style-type: none"><li>• Ignition Switch: RUN (Engine need not be running)</li><li>• A/C Control Panel: A/C ON</li><li>• Temperature outside car: Above 60 °F (16 °C)</li></ul>		
Measure Between	Correct Voltage	For Diagnosis
BK or GY/WT wire & Ground (See Schematic)	Battery	See 1

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- If the voltage is correct, but Compressor Clutch does not engage, replace the Compressor Clutch.
- 1. Check for an open Low Pressure Cut-Out Switch, High Pressure Cut-Out Switch, A/C Temperature Switch, or associated wiring (see Schematic). If High Pressure Cut-Out Switch is open, replace it. If Low Pressure Cut-Out Switch is open, check refrigerant pressure to be sure it is normal before replacing the Switch. Replace the A/C Temperature Switch if it is open and engine coolant temperature is below 226 °F (108 °C).

### G: EVAPORATOR TEMPERATURE REGULATOR VOLTAGE AND RESISTANCE TEST (TABLE 2)

Measure: VOLTAGE At: EVAPORATOR TEMPERATURE REGULATOR CONNECTOR (Disconnected)		
Conditions: <ul style="list-style-type: none"><li>• Ignition Switch: RUN</li><li>• A/C Selector Switch: ON</li></ul>		
Measure Between	Correct Voltage	For Diagnosis
3 & Ground	Battery	See 1
3 & 4	Battery	See 2
3 & 6	Battery	See 3
• A/C Selector Switch: OFF		
3 & Ground	0 Volts	See 4
• If all voltages are correct, go to Table 2.		

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- 1. Check the BK/VI wire for an open (see schematic). If wire is good, do Test C.
- 2. Check the BR wire from terminal 4 for an open (see schematic).
- 3. Check BR wire for an open.
- 4. Check the BK/VI wire for a wire-to-wire short to voltage. If wire is good, replace the A/C Selector Switch.

### G: EVAPORATOR TEMPERATURE REGULATOR VOLTAGE AND RESISTANCE TEST (TABLE 2)

Measure: RESISTANCE At: EVAPORATOR TEMPERATURE REGULATOR CONNECTOR (Disconnected)		
Conditions: <ul style="list-style-type: none"><li>• Ignition Switch: OFF</li><li>• Negative Battery Terminal: DISCONNECTED</li></ul>		
Measure Between	Correct Resistance	For Diagnosis
2 & Ground	Approximately 3 to 4 Ohms	See 1
1 & Ground	Approximately 3.5K to 4.5K ohms at 70 °F (21 °C)	See 2
5 & 2	Less than 0.5 ohms	See 3

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- If all resistances are correct, but Compressor Clutch does not operate normally, replace the Evaporator Temperature Regulator.

  1. Check the VI wire for an open between the Evaporator Temperature Regulator terminal 2 and High Pressure Cut-Out Switch (see schematic).
  2. Check the BK/WT wire for an open or a short to ground (see schematic). Check the BR wire from terminal 6 to splice S229 for an open (see schematic). If wires are good, replace the Evaporator Temperature Sensor.
  3. Check BK/YL wire at terminal 5 for an open between terminal 5 and High Pressure Cut-Out Switch.

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- If the voltage is correct, repair/replace the Motronic Control Unit.

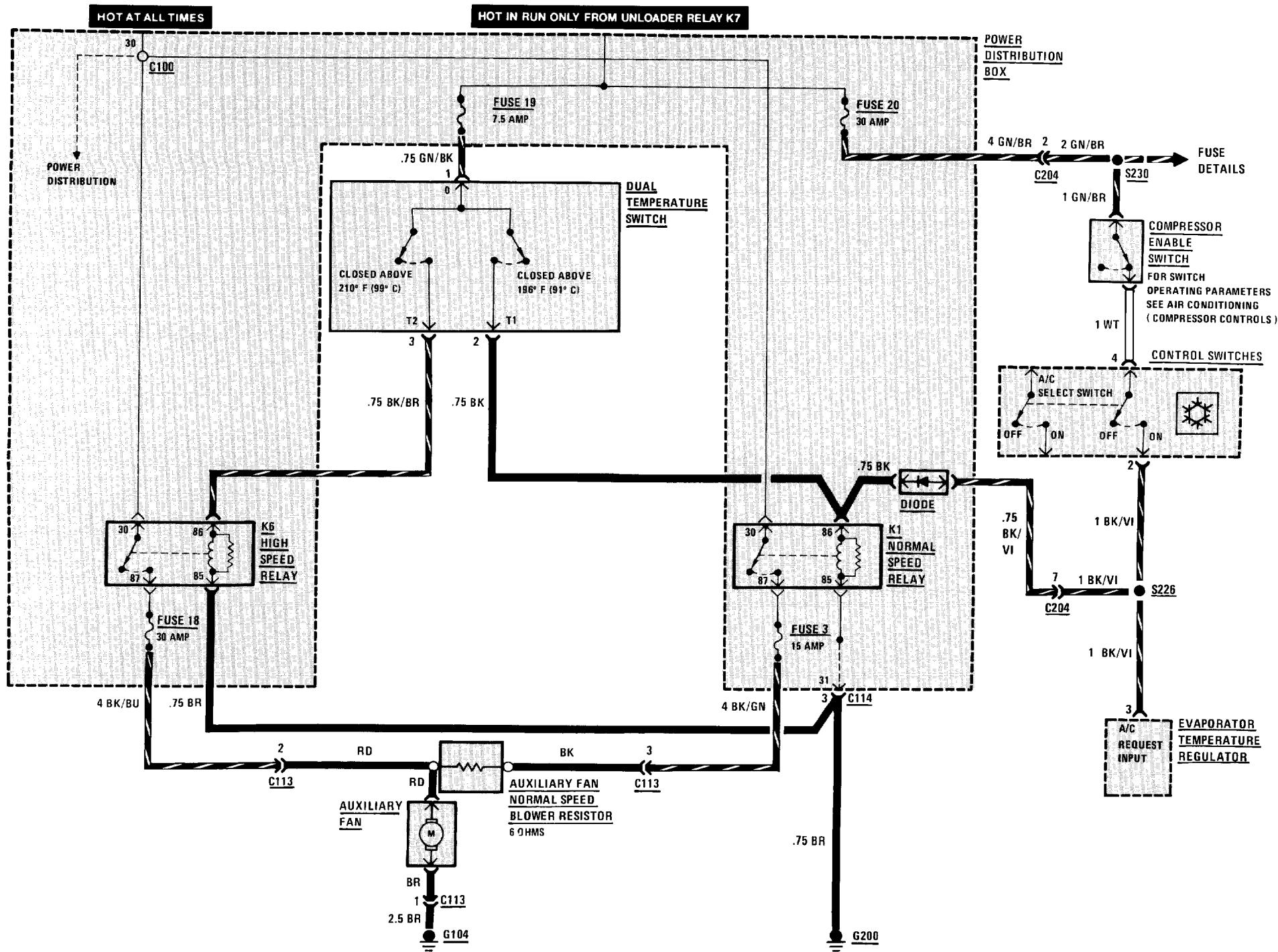
  1. Check for an open in the BU/WT and BK/RD wires.

## H: IDLE SPEED CONTROL VOLTAGE TEST

<b>Measure:</b> VOLTAGE		
<b>At:</b> MOTRONIC CONTROL UNIT CONNECTOR (Connected)		
<b>Conditions:</b>		
<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
40 (BU/WT) & Ground	Battery	See 1

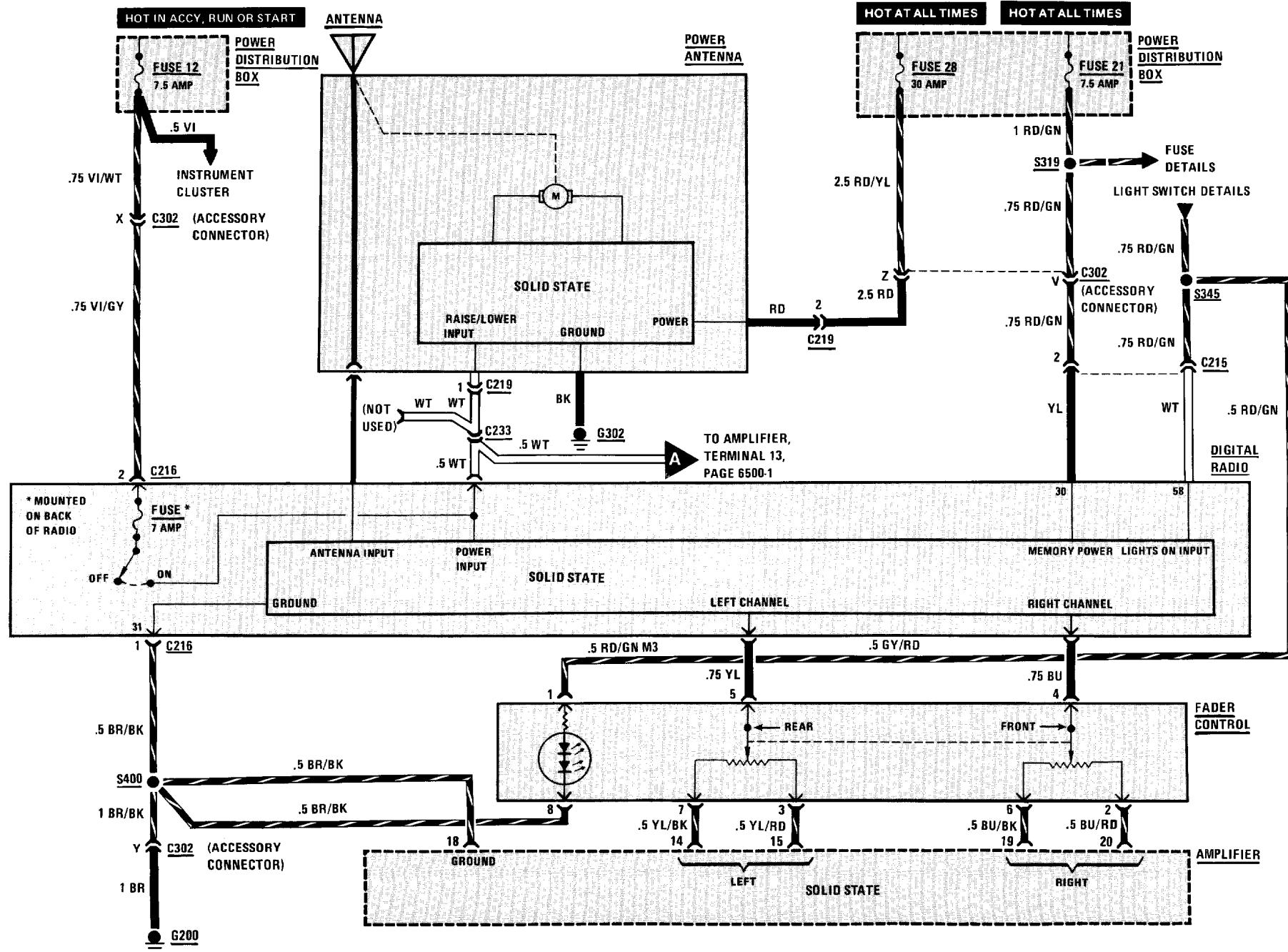
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# 6454-0 AUXILIARY FAN

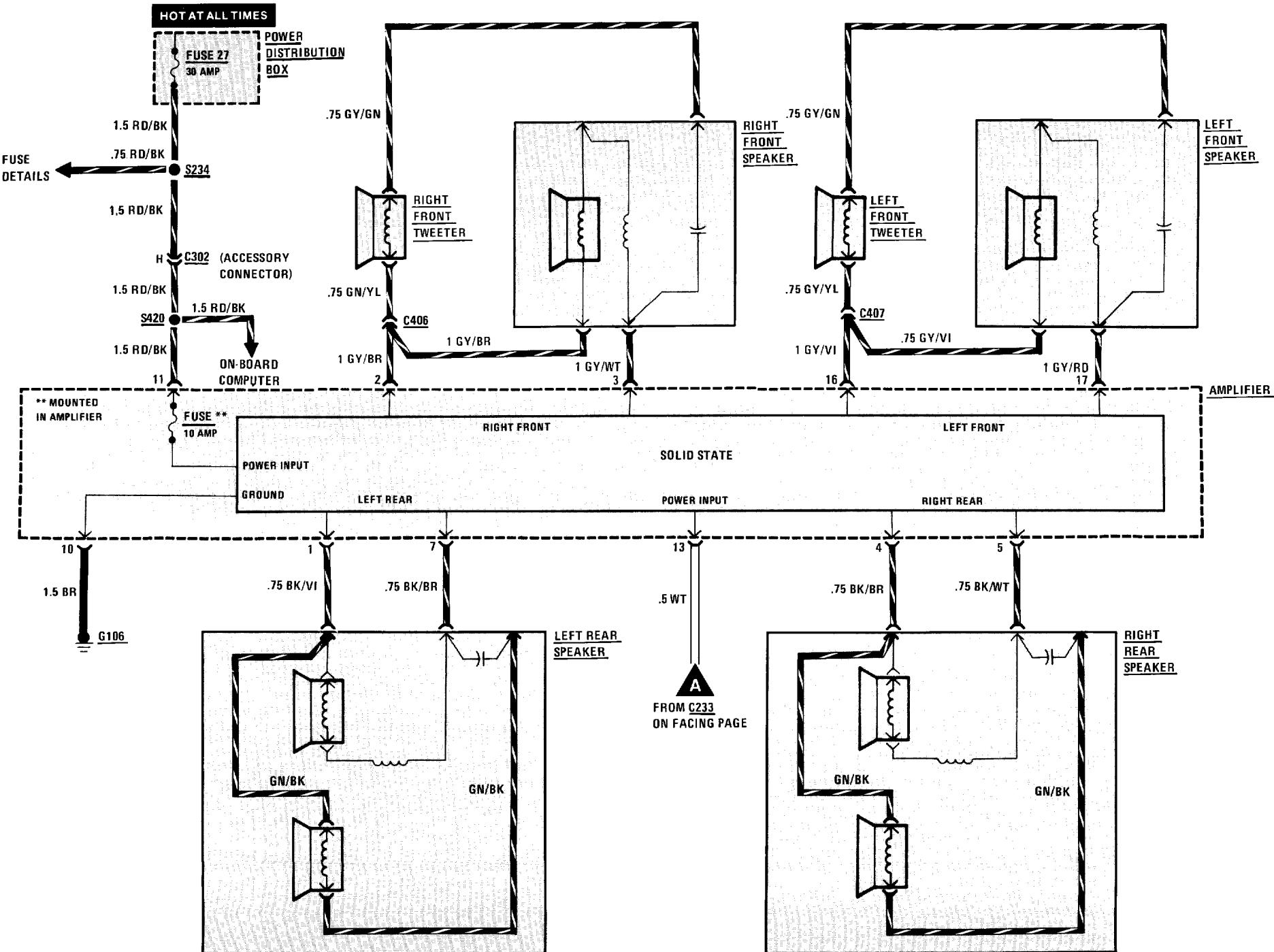


# 6500-0 RADIO/ANTENNA

## WITH SOUND SYSTEM



## WITH SOUND SYSTEM



## 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 28. 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 to the Fader Control. The Fader Control alters the front to rear volume by decreasing the resistance to the desired higher volume 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. If Fader Control has no effect, but sound is heard from all speakers, replace the Fader Control.
  6. Check that the Antenna is properly connected.
  7. Before troubleshooting a suspect Speaker, check all connections to that Speaker.
  8. If display shows "CODE" and Radio will not operate, the individual Anti-Theft Code must be entered. Refer to "Anti-Theft" instruction booklet.
  9. Check Radio Fuse located on back of Radio.
  10. Check Amplifier Fuse located on back of Amplifier.
- Go to System Check for a guide to normal operation.
- Go to System Diagnosis for diagnostic tests.

## 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**

Measure: VOLTAGE At: RADIO CONNECTOR C1 (Disconnected) or CONNECTOR C215 (Disconnected) Condition: • Ignition Switch: RUN	Measure Between	Correct Voltage	For Diagnosis
C1/2 & Ground	Battery	See 1	
C1/2 & C1/1	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**

Measure: VOLTAGE At: AMPLIFIER CONNECTOR (Disconnected) Conditions: • 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 (TABLE 1)**

Measure: VOLTAGE At: FADER CONTROL CONNECTOR (Disconnected) Conditions: • Ignition Switch: RUN • Radio: ON	Measure Between	Correct Voltage	For Diagnosis
3 & Ground	Approximately 6 Volts	See 1	
6 & Ground	Approximately 6 Volts	See 2	

• If both voltages are correct, check for AC voltage at Radio outputs with Radio tuned to a strong signal. If AC voltage is present, go to Table 2. Remove Radio for service if AC voltage is not present.

1. Check wire from Left Channel on Radio for an open. If wire is good, remove Radio for service.
2. Check wire from Right Channel on Radio for an open. If wire is good, remove Radio for service.

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# 6500A-2 RADIO/ANTENNA

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## C: FADER SIGNAL TEST (TABLE 2)

Measure: VOLTAGE At: AMPLIFIER CONNECTOR (Disconnected) Conditions: • Ignition Switch: RUN • Radio: ON		
Measure Between	Correct Voltage	For Diagnosis
14 & Ground	Approximately 6 Volts	See 1
15 & Ground	Approximately 6 Volts	See 2
19 & Ground	Approximately 6 Volts	See 3
20 & Ground	Approximately 6 Volts	See 4
<ul style="list-style-type: none"> <li>If all voltages are correct but sound was not present, remove Amplifier for service.</li> </ul> <ol style="list-style-type: none"> <li>Check between pin 2 (Fader) to pin 14 (Amplifier) for an open in the wiring. If wire is OK, replace Fader Control.</li> <li>Check between pin 4 (Fader) to pin 15 (Amplifier) for an open in the wiring. If wire is OK, replace Fader Control.</li> <li>Check between pin 5 (Fader) to pin 19 (Amplifier) for an open in the wiring. If wire is OK, replace Fader Control.</li> <li>Check between pin 7 (Fader) to pin 20 (Amplifier) for an open in the wiring. If wire is OK, replace Fader Control.</li> </ol>		

## D: SUSPECT SPEAKER TEST

Connect: OHMMETER  
At: SUSPECT SPEAKER (Disconnected)

### Condition:

- Ohmmeter set on Rx 1 scale or Diode Check Scale

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 for opens or shorts. If wires are OK, check the related wire between Fader and Amplifier.</li> <li>Replace the suspect Speaker.</li> </ul>		

## 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

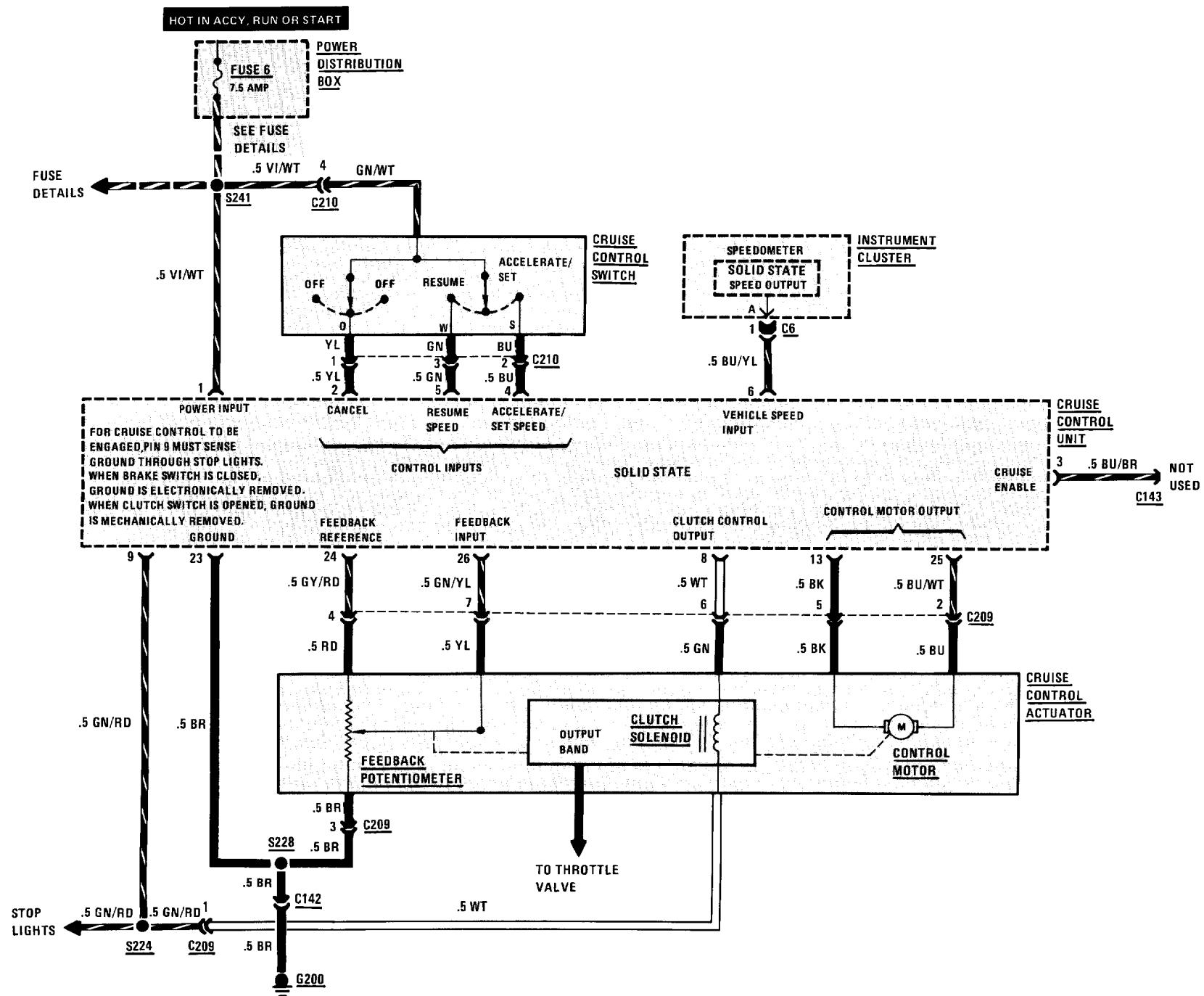
Measure: RESISTANCE  
At: ANTENNA

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 Megaohm (open circuit)	See 2
<ul style="list-style-type: none"> <li>If both resistances are correct, check the hood ground strap. If hood ground strap is OK, substitute a different Antenna at Radio. If the new Antenna is good, replace Antenna. If noise is still present, refer to Noise Symptom Table.</li> </ul>		
<ol style="list-style-type: none"> <li>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>Check for a short to ground at the Antenna or Antenna cable.</li> </ol>		

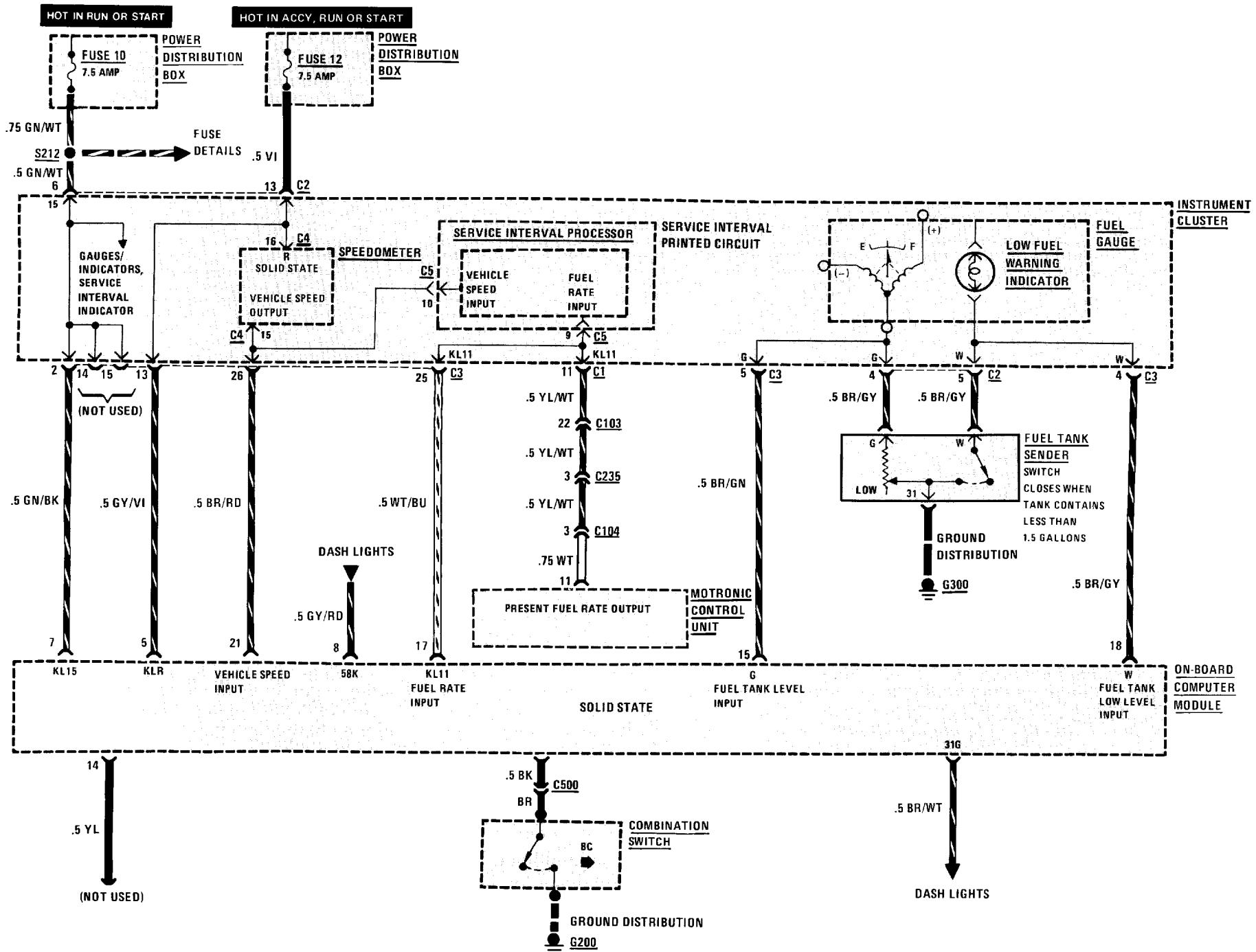
## NOISE SYMPTOM TABLE

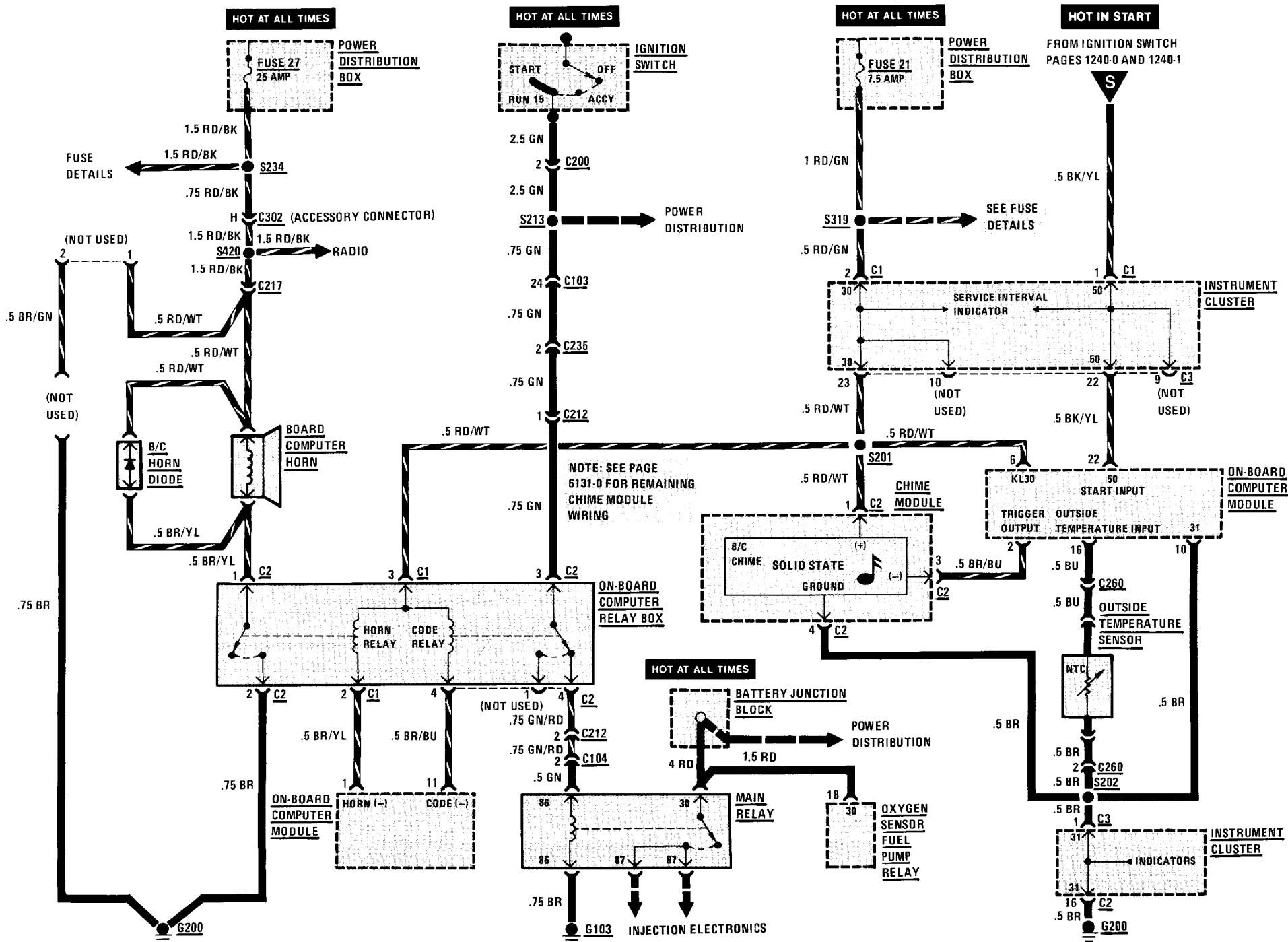
SYMPTOM	POSSIBLE CAUSE	REPAIR ACTION
Harsh popping or crackling noise present when ignition on-changes with engine rpm.	Ignition Noise	<ul style="list-style-type: none"> <li>• Check for proper distributor cap shielding.</li> <li>• Check shielding ground strap. If not present, install.</li> <li>• Check 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> <li>• Replace distributor cap and rotor.</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 ON-BOARD COMPUTER





## 7000-0 COMPONENT LOCATION VIEWS

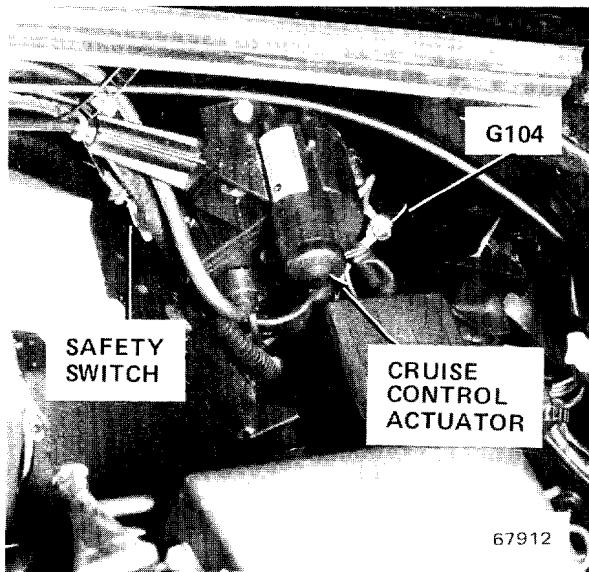


Figure 1 - Forward of LH Front Wheel Well

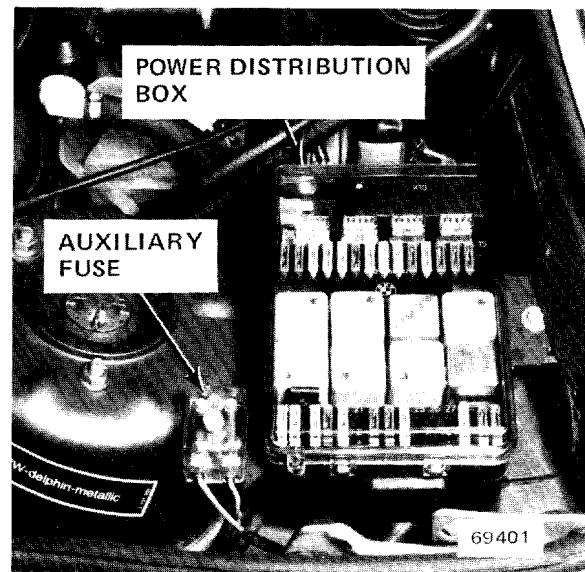


Figure 3 - LH Rear of Engine Compartment

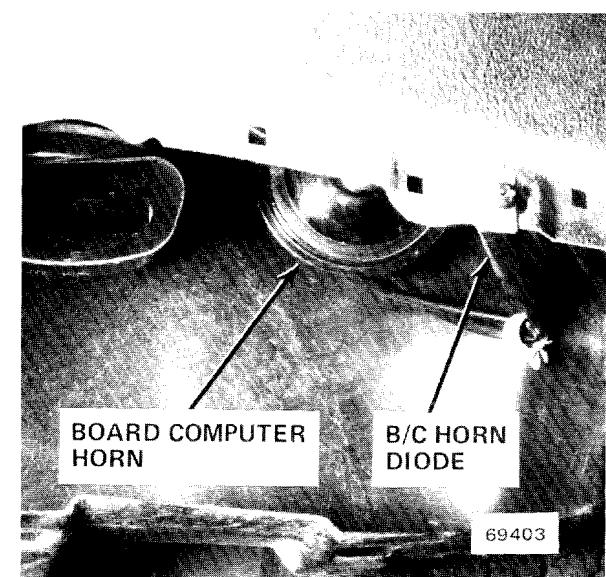


Figure 5 - Under LH Side of Front Bumper  
(Splash Guard Pulled Down)

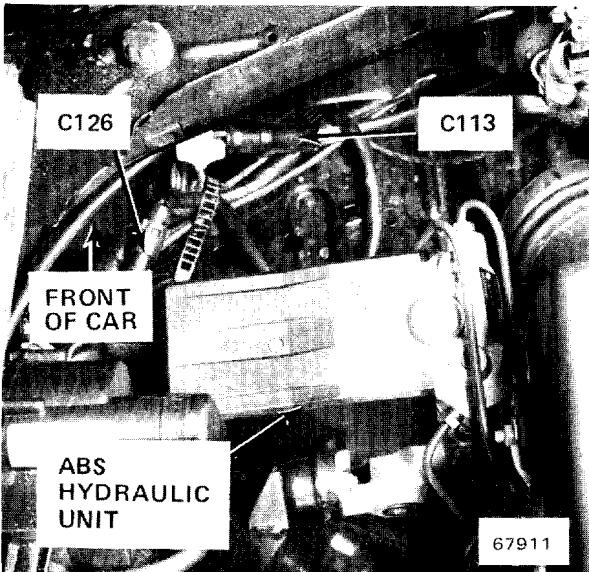


Figure 2 - LH Front of Engine Compartment  
(Cover Removed)

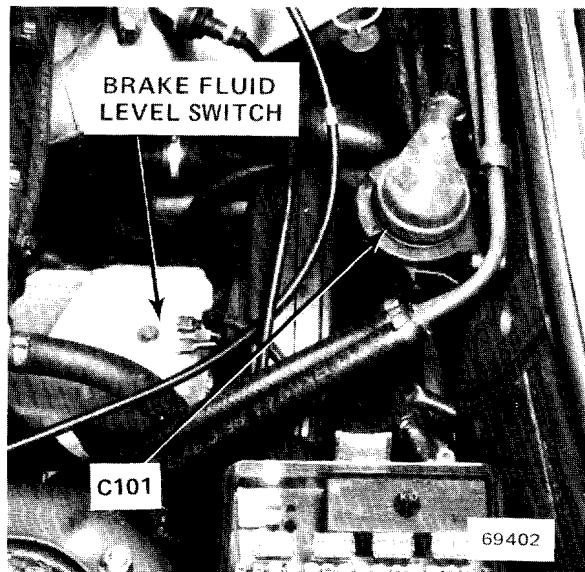


Figure 4 - LH Rear of Engine Compartment

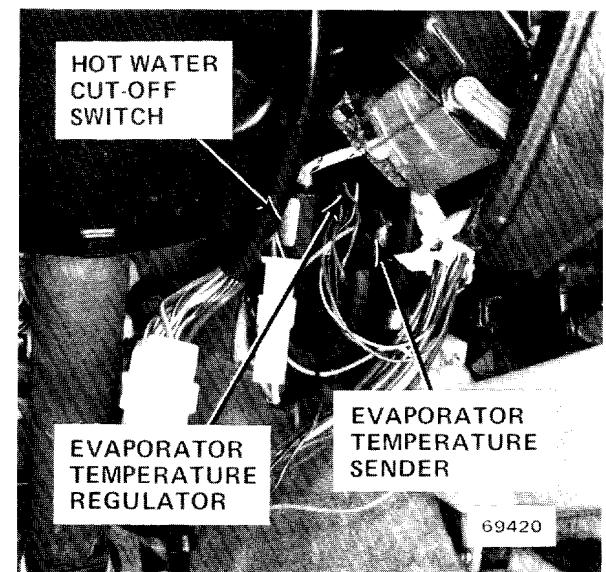


Figure 6 - Under LH Side of Dash

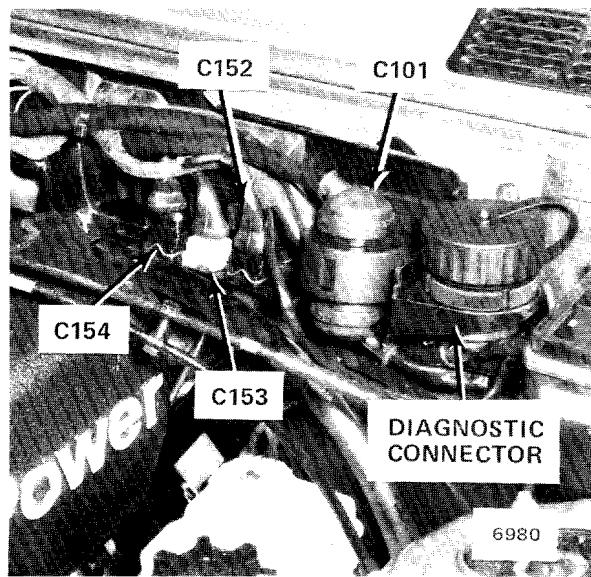


Figure 1 - LH Rear of Engine Compartment

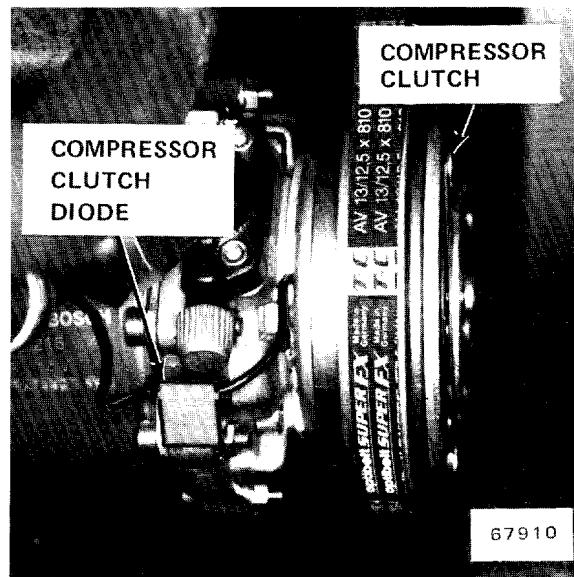


Figure 3 - Lower RH Front of Engine

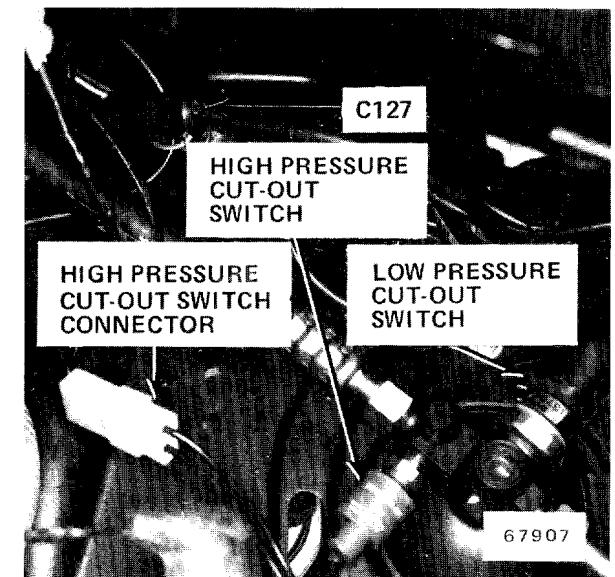


Figure 5 - Behind RH Headlights (Cover Removed)

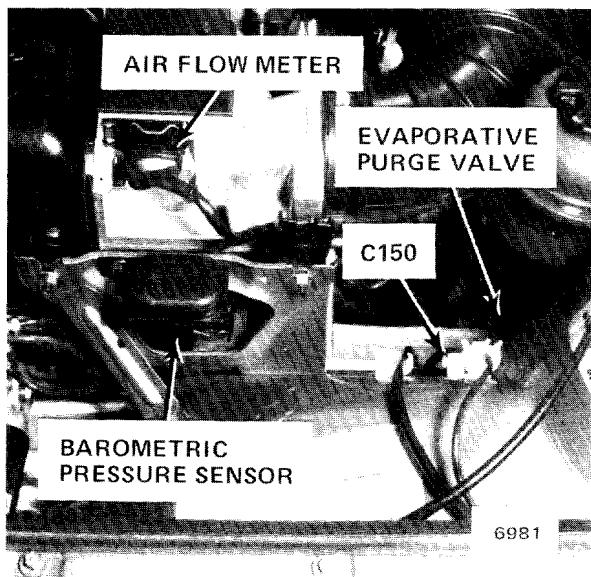


Figure 2 - LH Side of Engine Compartment

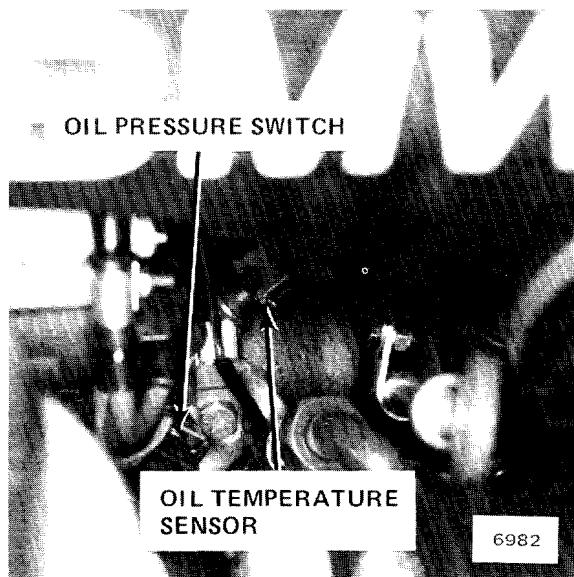


Figure 4 - LH Side of Engine Compartment

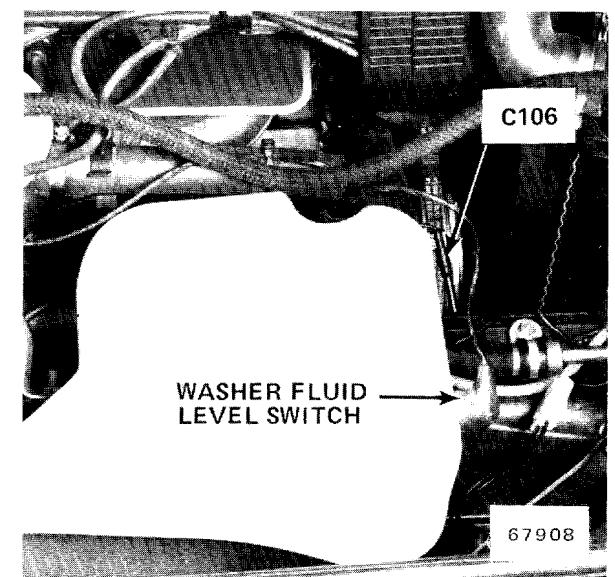


Figure 6 - RH Side of Engine Compartment

## 7000-2 COMPONENT LOCATION VIEWS

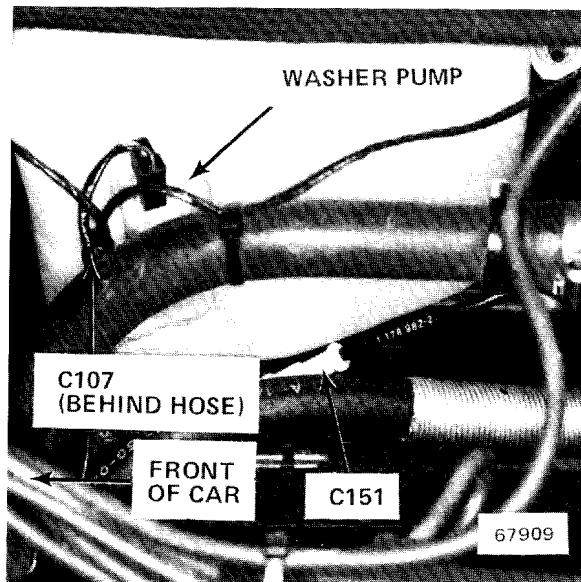


Figure 1 - RH Side of Engine Compartment

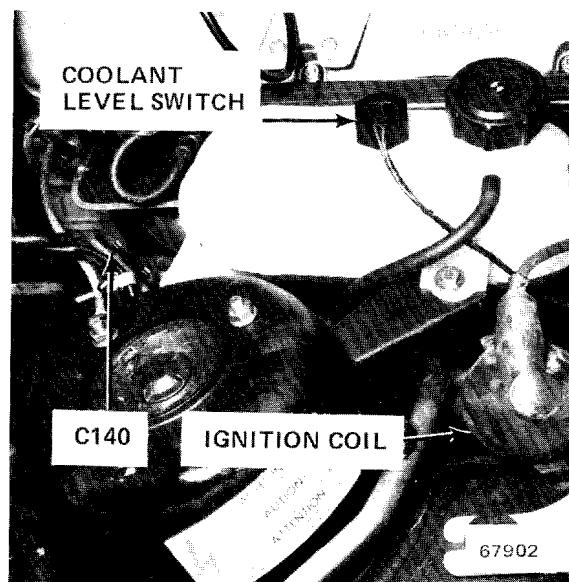


Figure 3 - RH Rear of Engine Compartment

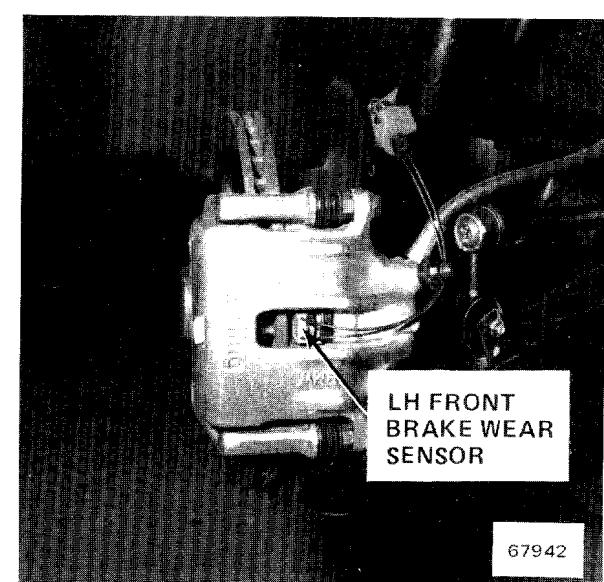


Figure 5 - LH Front Brake Assembly (Wheel Removed)

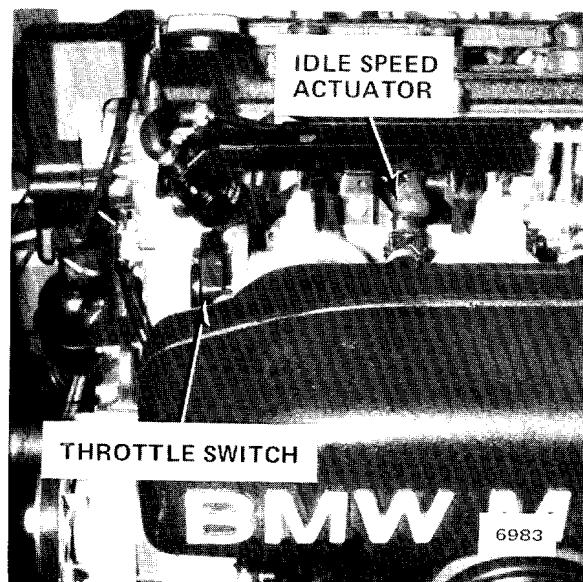


Figure 2 - Center of Engine

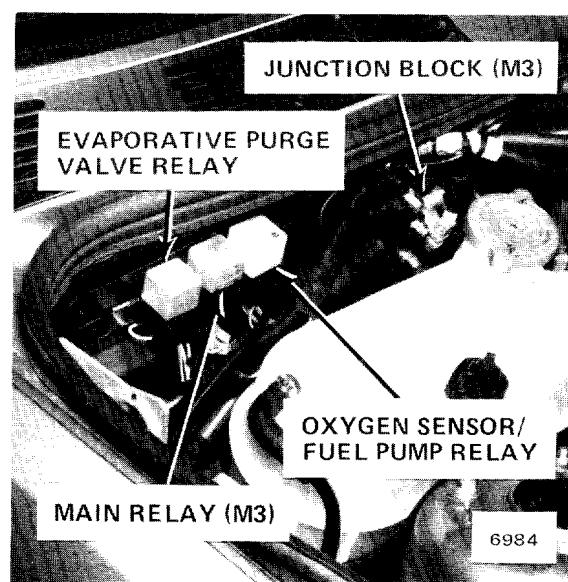


Figure 4 - RH Rear Corner of Engine Compartment

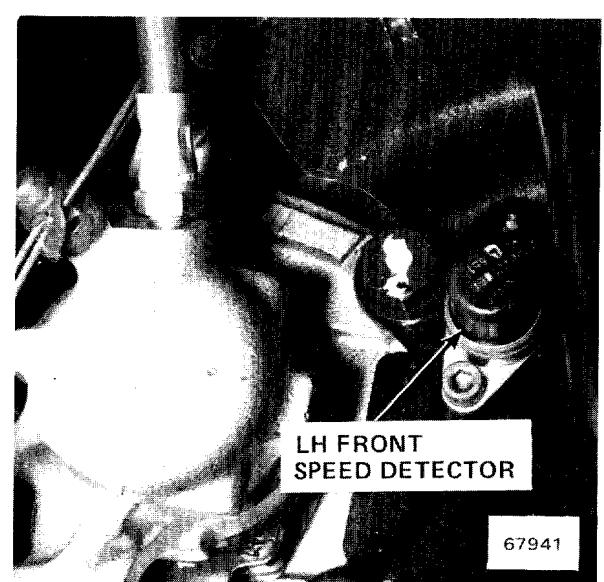


Figure 6 - LH Front Spindle Assembly

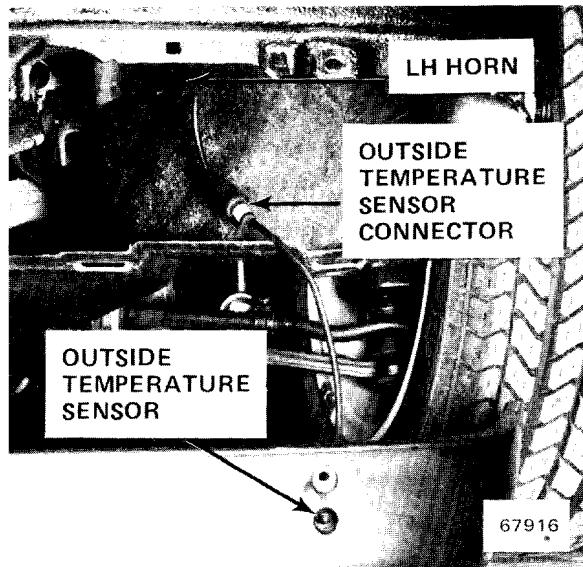


Figure 1 - Under LH Side of Bumper (Splash Guard Pulled Down)

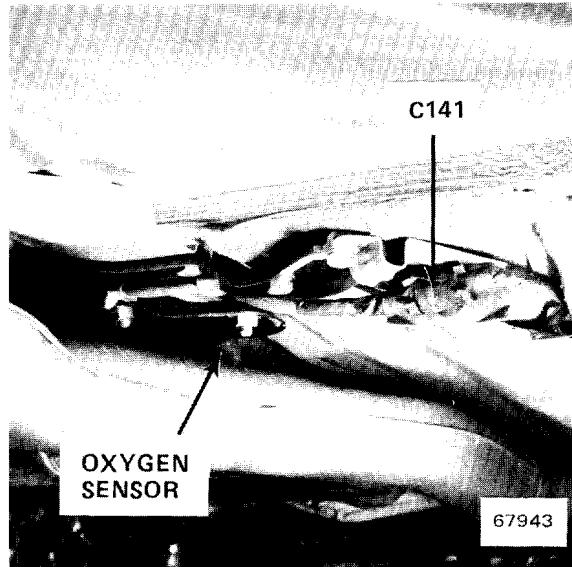


Figure 3 - Under RH Side of Car

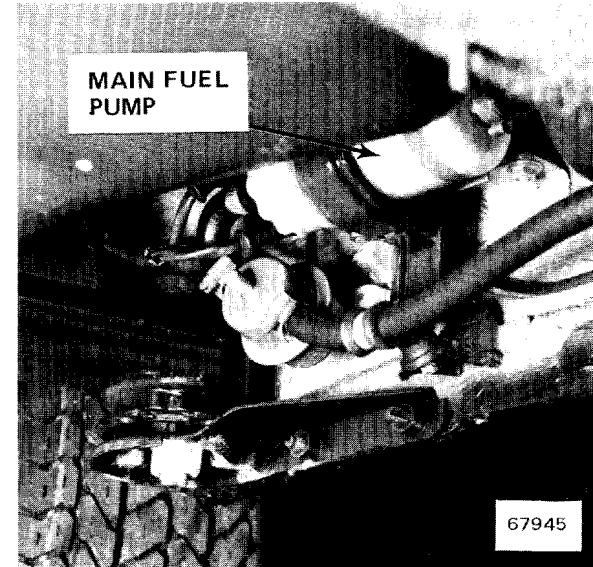


Figure 5 - Ahead of LH Rear Wheel

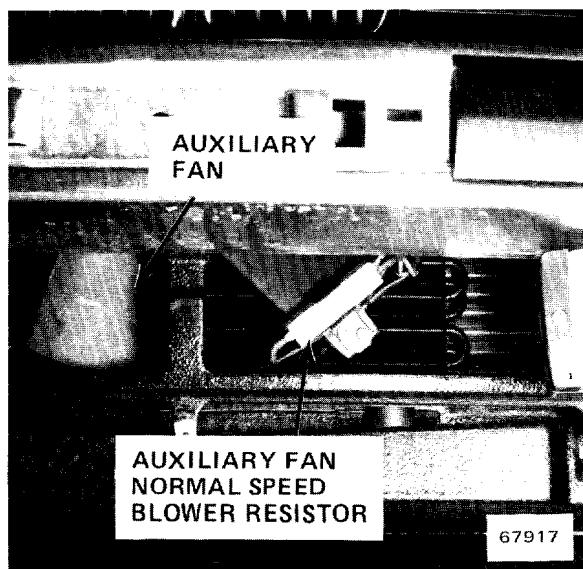


Figure 2 - Under Middle of Front Bumper

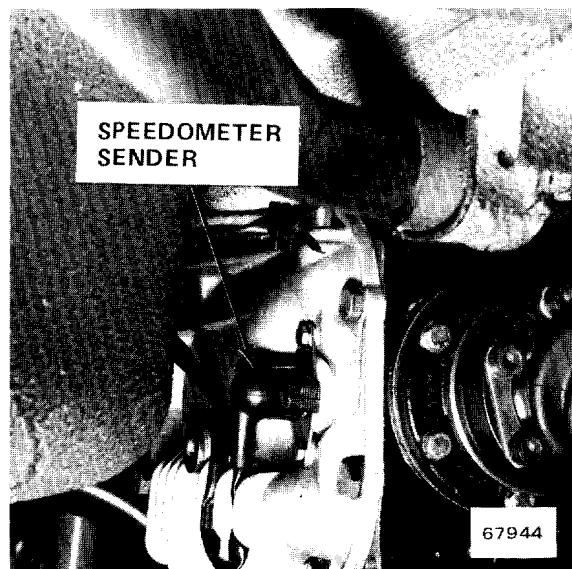


Figure 4 - RH Rear of Differential

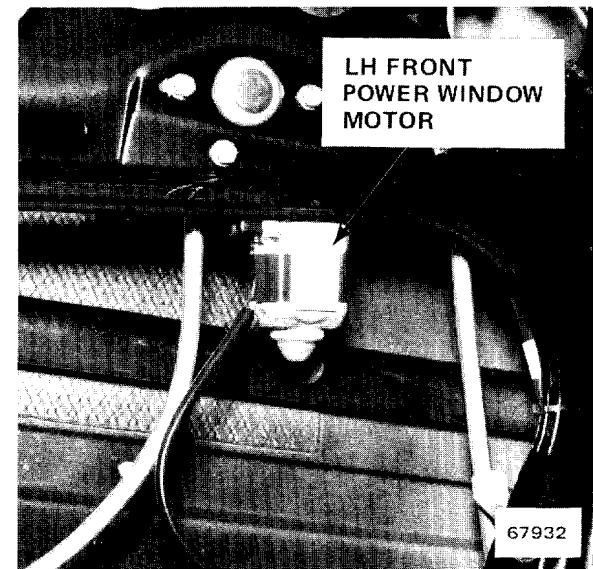


Figure 6 - Inside LH Front Door (Panel Removed)

## 7000-4 COMPONENT LOCATION VIEWS

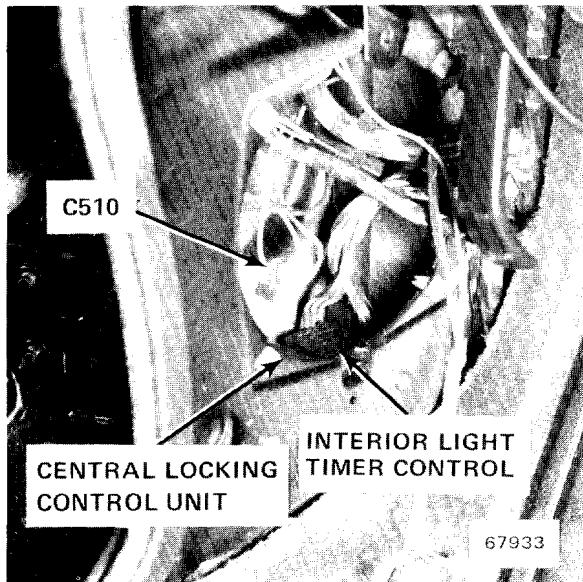


Figure 1 - Behind Left Front Speaker

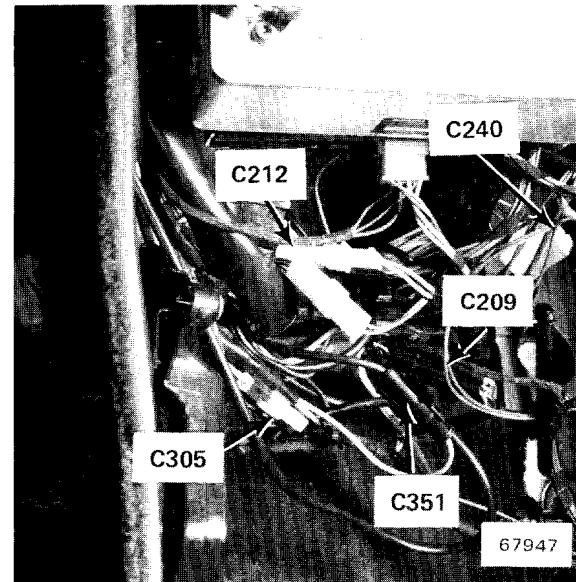


Figure 3 - Under LH Side of Dash

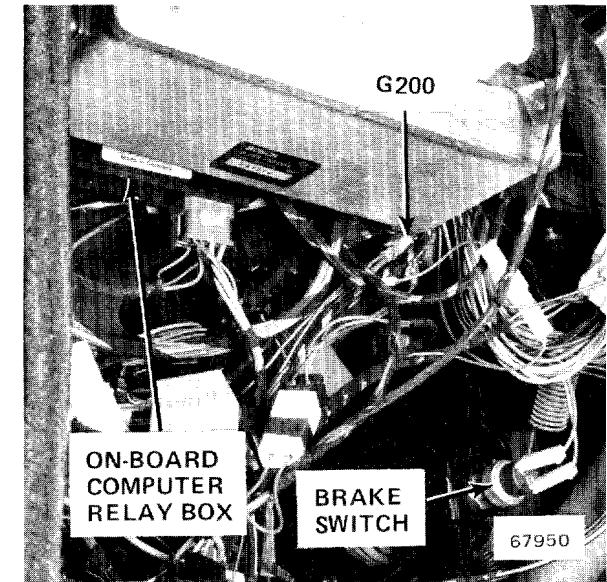


Figure 5 - Under LH Side of Dash

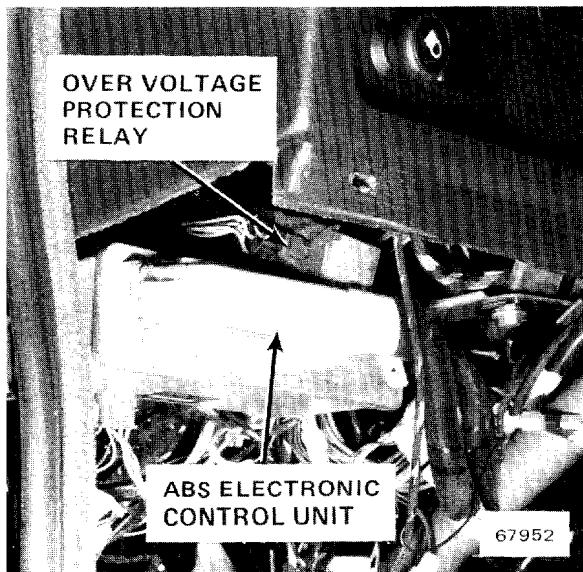


Figure 2 - Under LH Side of Dash

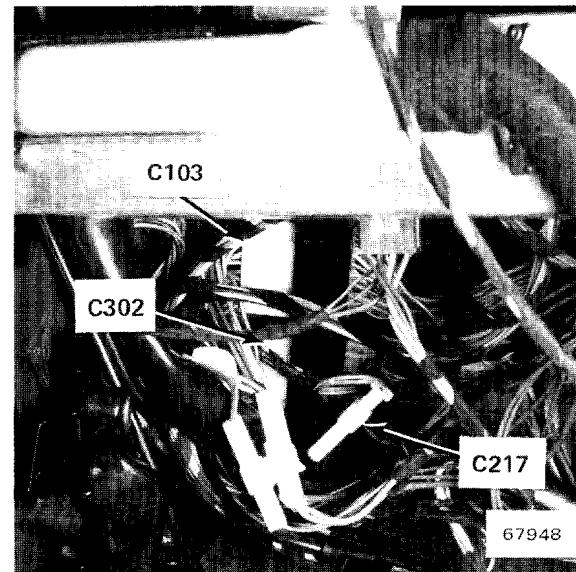


Figure 4 - Under LH Side of Dash

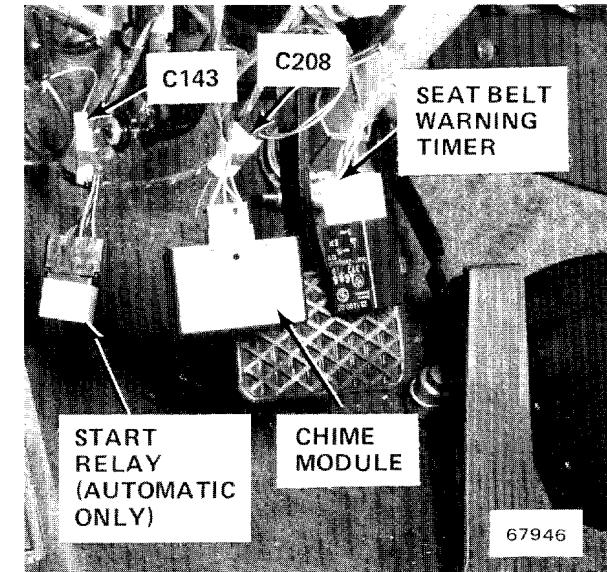


Figure 6 - Under LH Side of Dash

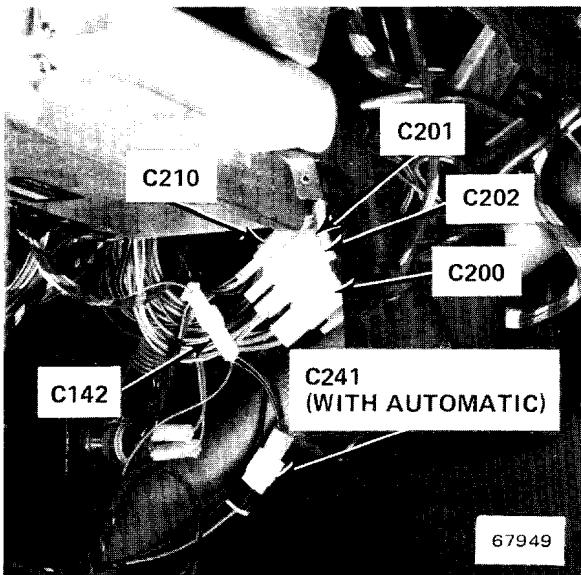


Figure 1 - Under LH Side of Dash

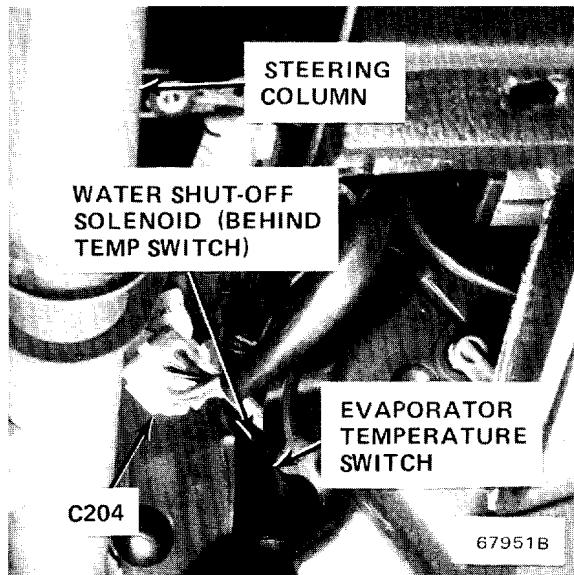


Figure 3 - Under LH Side of Dash

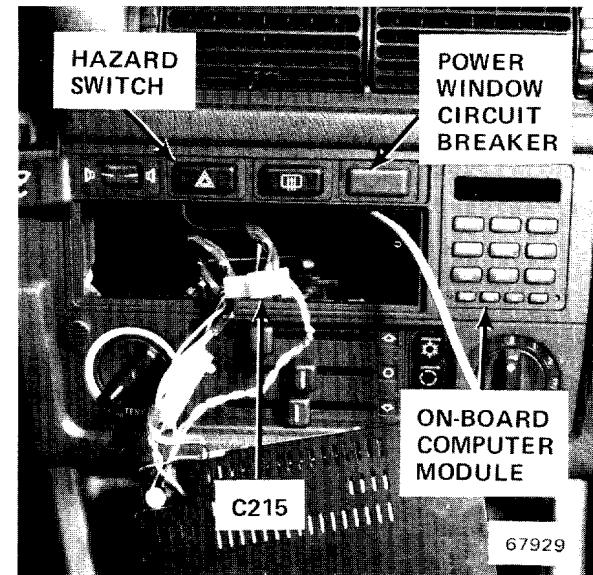


Figure 5 - Center of Dash

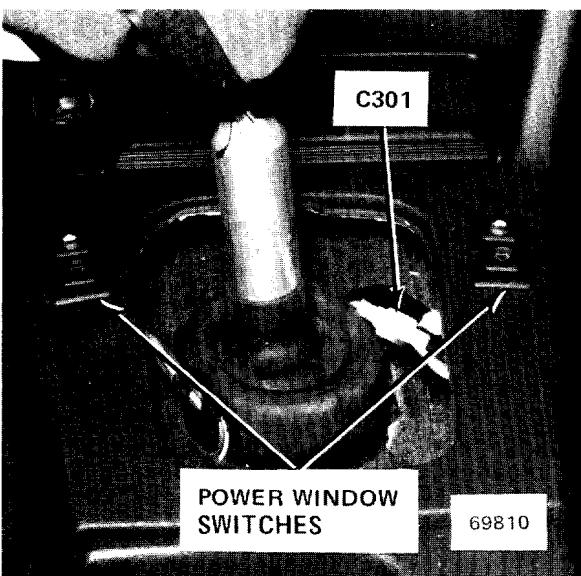


Figure 2 - Center Console

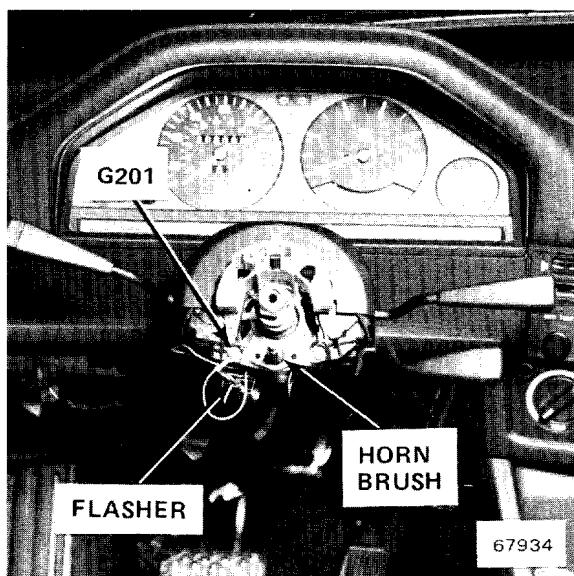


Figure 4 - Top of Steering Column

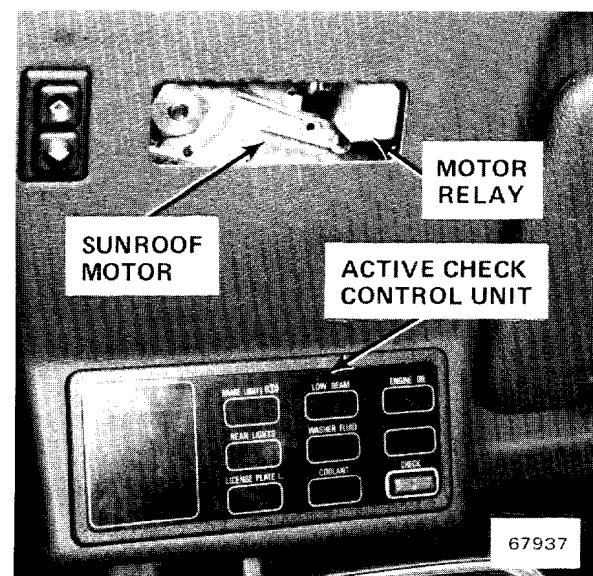


Figure 6 - Center of Windshield Header

## 7000-6 COMPONENT LOCATION VIEWS

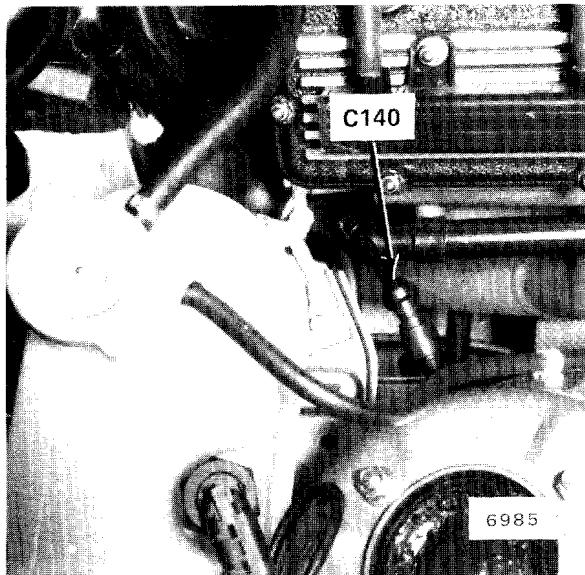


Figure 1 - RH Rear of Engine Compartment



Figure 3 - Behind RH Side of Center Console

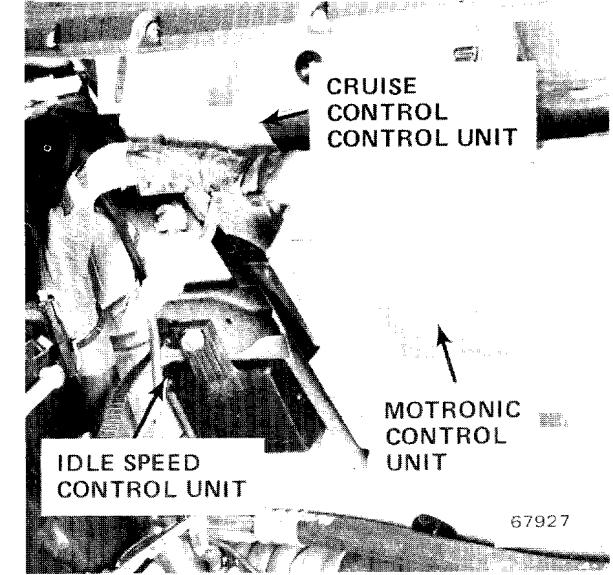


Figure 5 - Under RH Side of Dash

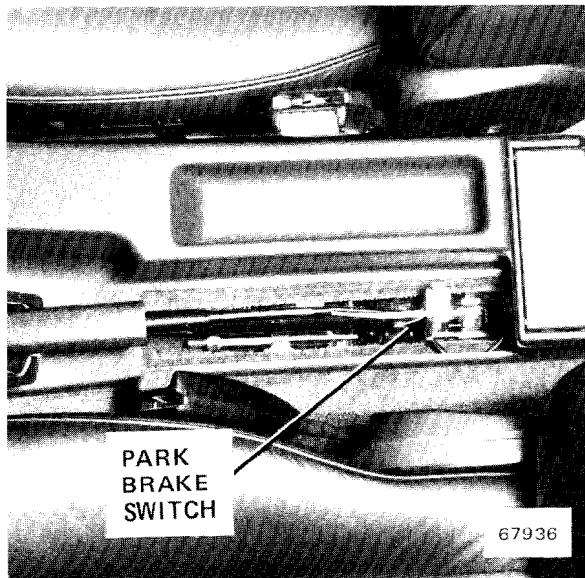


Figure 2 - Rear of Center Console

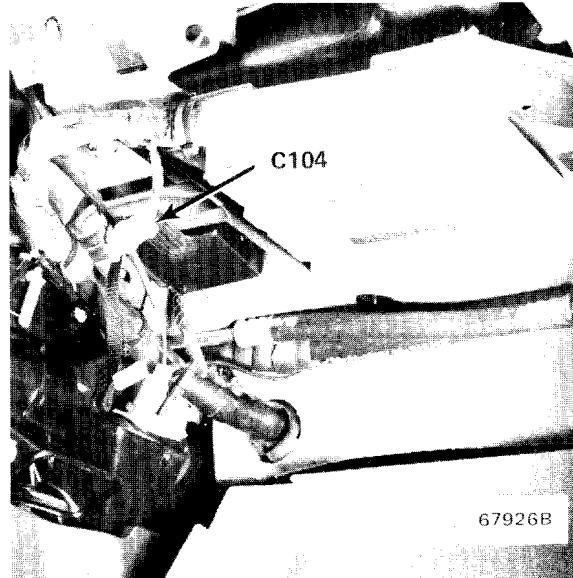


Figure 4 - Under RH Side of Dash

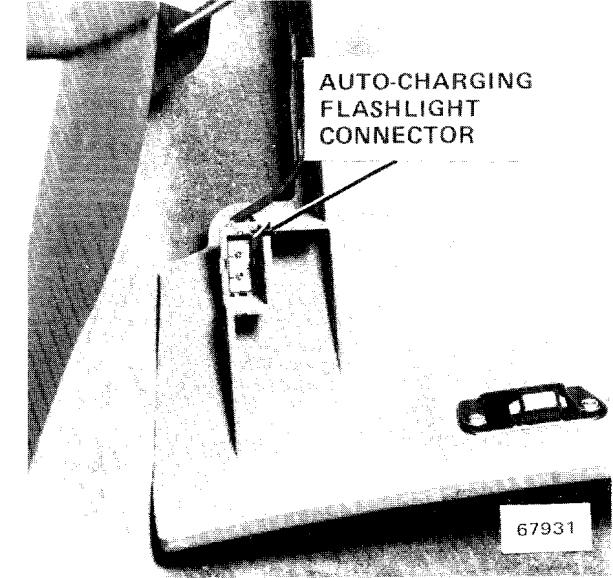


Figure 6 - Inside Glove Box

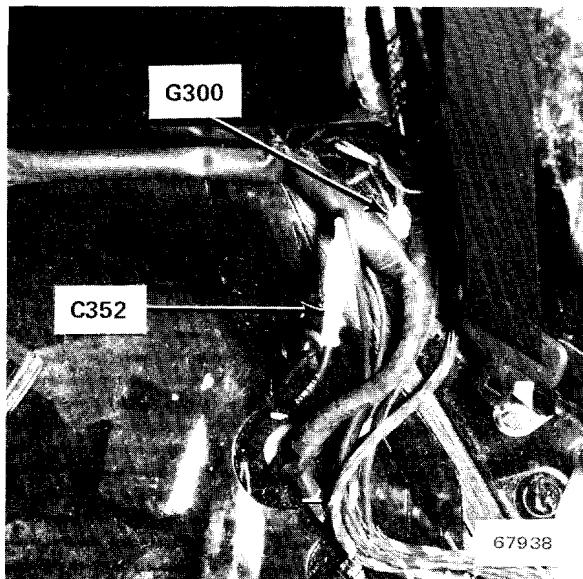


Figure 1 - Under LH Side of Rear Seat

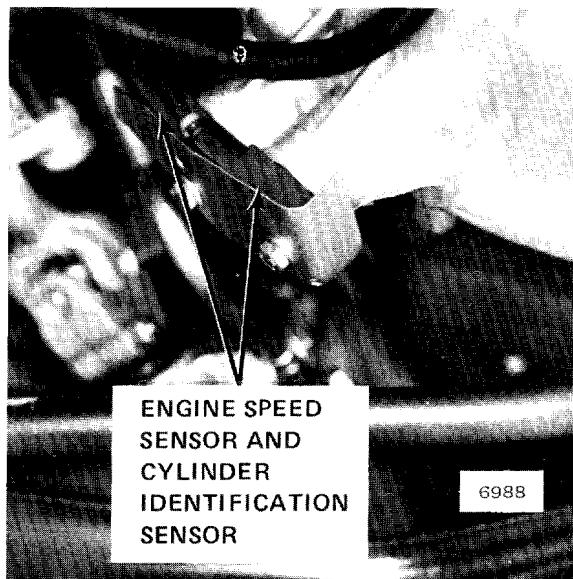


Figure 3 - Underside of Car, LH Side of  
Transmission Bell Housing

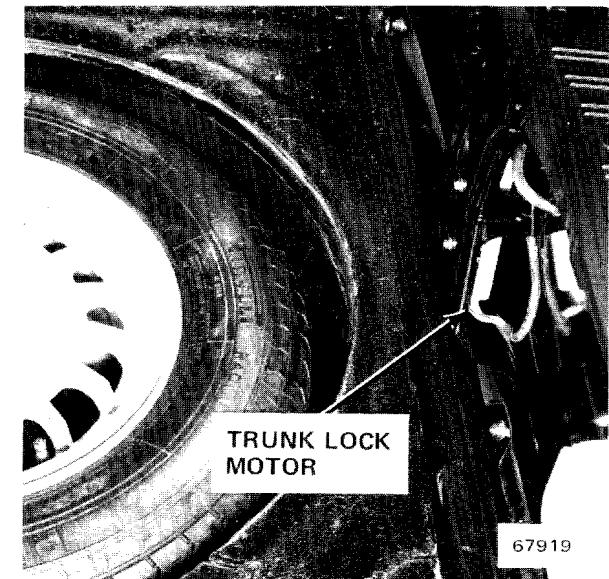


Figure 5 - Middle Rear of Trunk

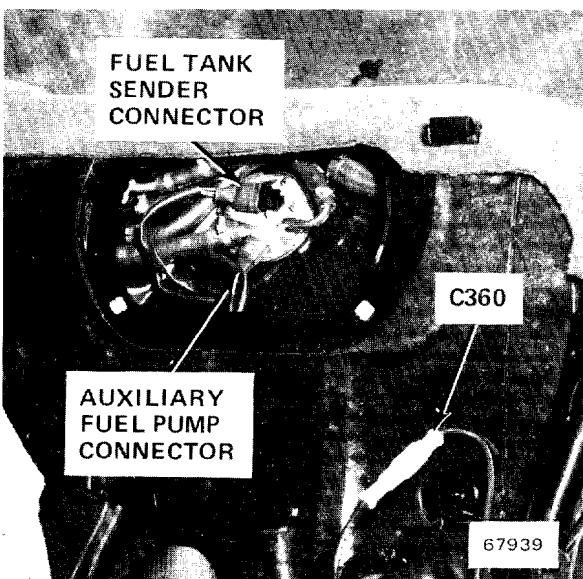


Figure 2 - Under RH Side of Rear Seat

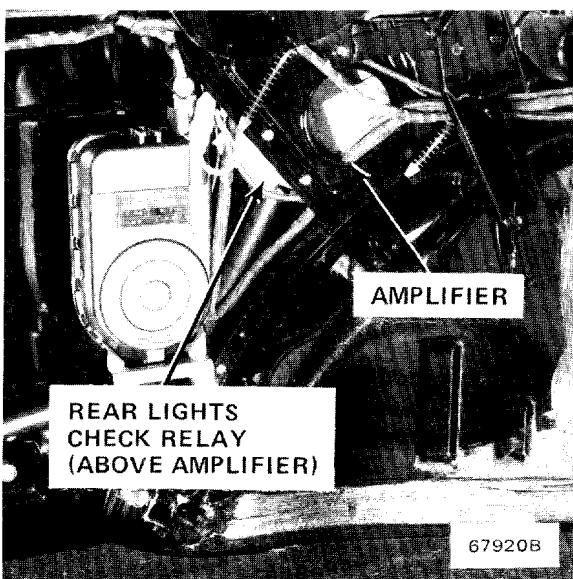


Figure 4 - LH Front of Trunk

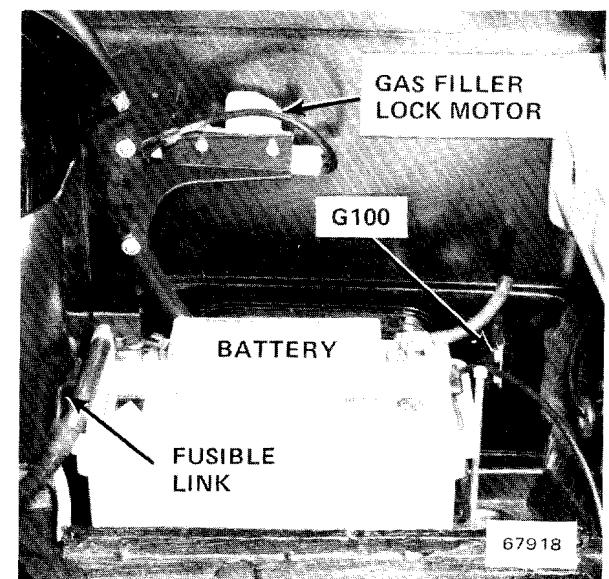


Figure 6 - RH Rear of Trunk

## 7000-8 COMPONENT LOCATION VIEWS

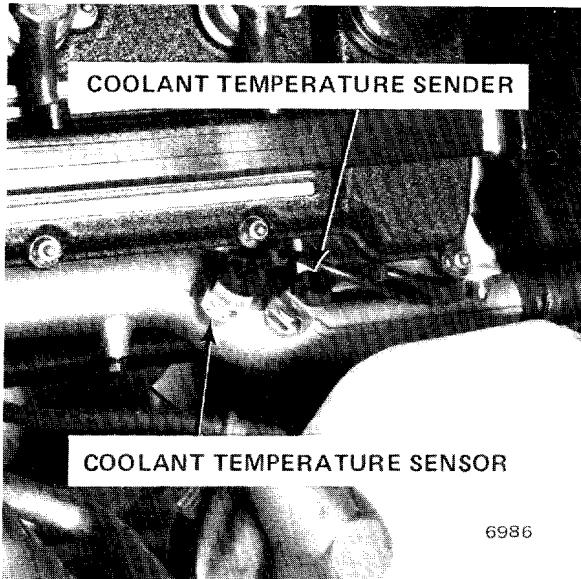


Figure 1 - RH Side of Engine Compartment

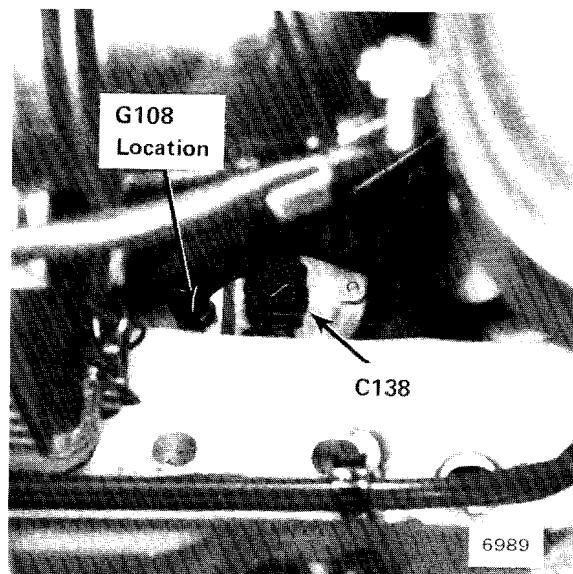


Figure 3 - Lower LH Side of Engine

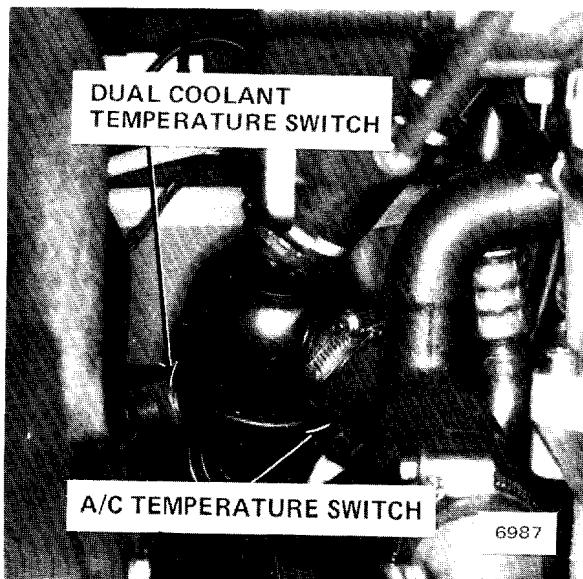


Figure 2 - Lower RH Corner of Engine Compartment

# 8000-0 SPLICE LOCATION VIEWS

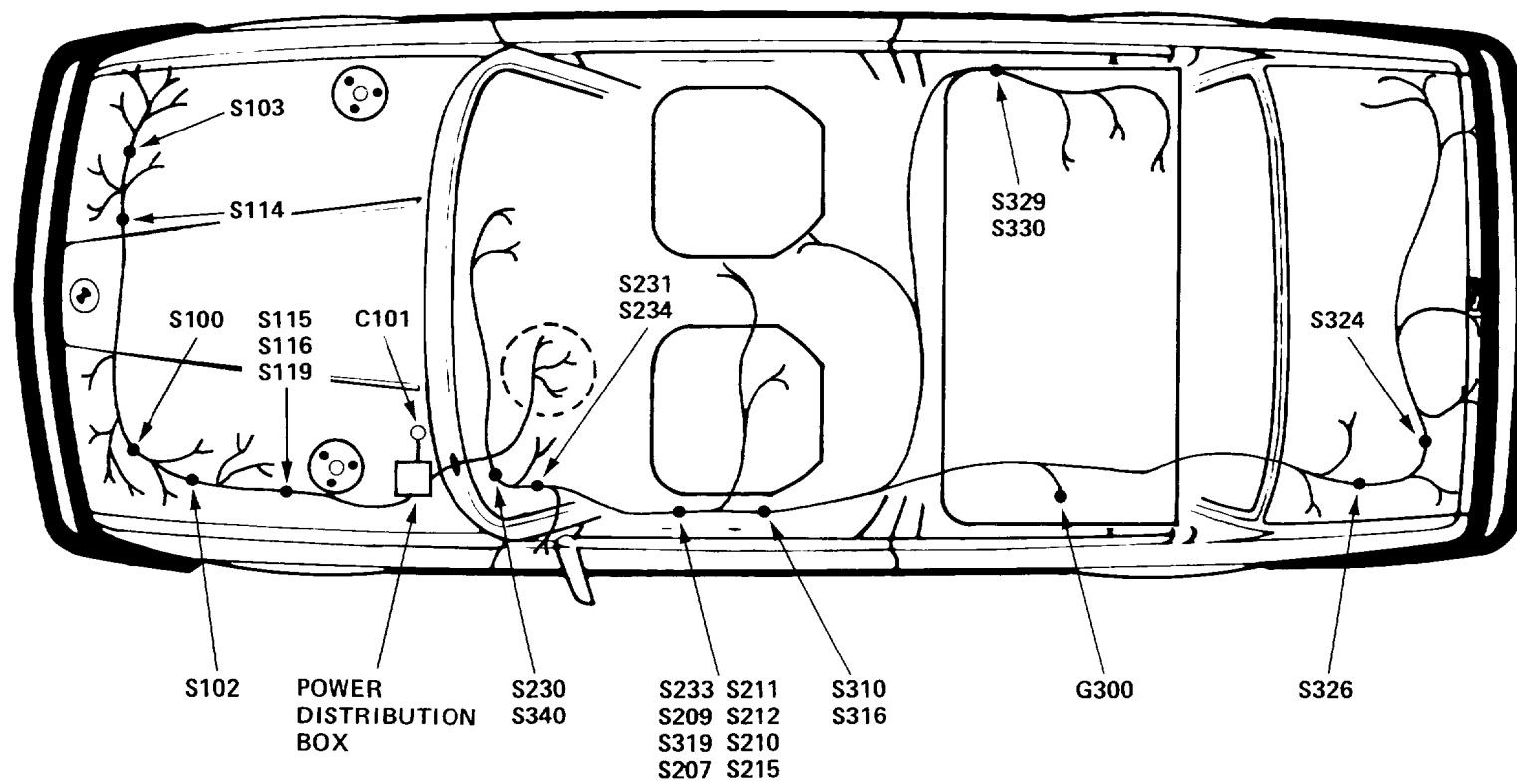
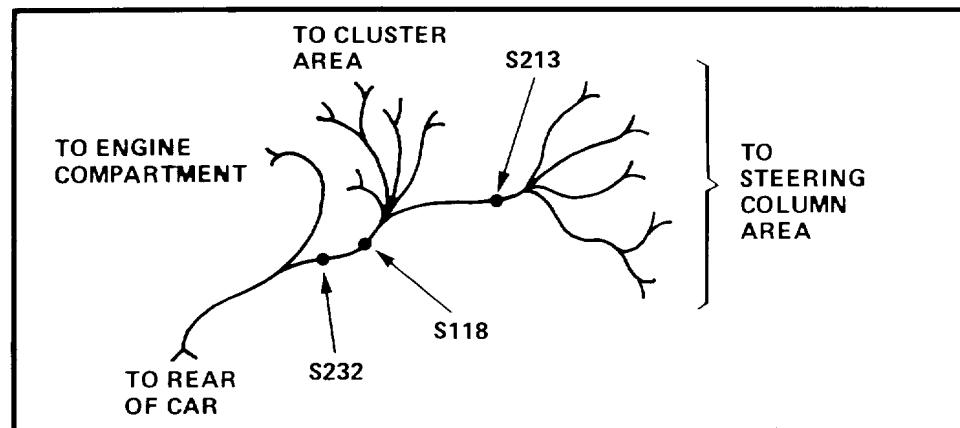
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## INDEX

This index contains all the splices in the car, what harness each one is in, and the page that the splices appear on. The drawings after the index show how the harness is routed through the car and where the splices are located on the harness.

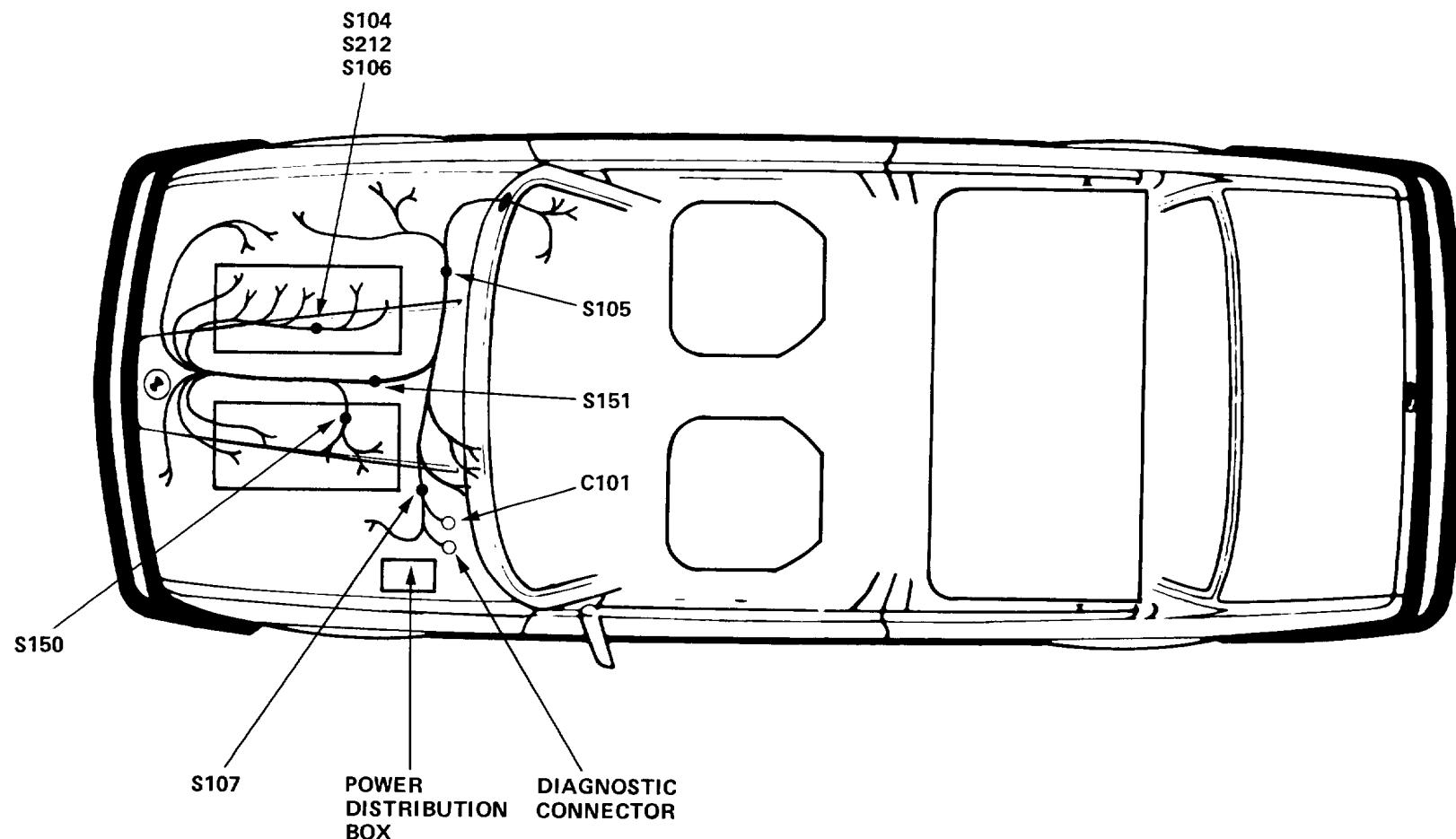
SPICE	HARNESS	PAGE NUMBER	SPICE	HARNESS	PAGE NUMBER
S100	MAIN	8000-1	S301	DOOR	8000-3
S102	MAIN	8000-1	S302	DOOR	8000-3
S103	MAIN	8000-1	S303	DOOR	8000-3
S104	ENGINE (S14)	8000-2	S305	DOOR	8000-3
S105	ENGINE (S14)	8000-2	S306	INSTRUMENT PANEL	8000-4
S106	ENGINE (S14)	8000-2	S307	INSTRUMENT PANEL	8000-4
S107	ENGINE (S14)	8000-2			
S112	ENGINE (S14)	8000-2	S308	DOOR	8000-3
S114	MAIN	8000-1	S309	DOOR	8000-3
S115	MAIN	8000-1	S310	MAIN	8000-1
S116	MAIN	8000-1	S316	MAIN	8000-1
S118	MAIN	8000-1	S319	MAIN	8000-1
S119	MAIN	8000-1	S323	DOOR	8000-1
S201	ON-BOARD COMPUTER	8000-5	S324	MAIN	8000-1
S202	ON-BOARD COMPUTER	8000-5	S326	MAIN	8000-1
S207	MAIN	8000-5	S329	MAIN	8000-1
S209	MAIN	8000-1	S330	MAIN	8000-1
S210	MAIN	8000-1	S332	DOOR	8000-3
S211	MAIN	8000-1	S333	DOOR	8000-3
S212	MAIN	8000-1	S340	MAIN	8000-1
S213	MAIN	8000-2	S341	MAIN	8000-1
S215	MAIN	8000-2	S342	DOOR	8000-3
S219	INSTRUMENT PANEL	8000-4	S345	RADIO	NOT SHOWN
S221	INSTRUMENT PANEL	8000-4	S400	RADIO	NOT SHOWN
S228	CRUISE CONTROL	NOT SHOWN	S403	RADIO	NOT SHOWN
S229	AIR CONDITIONING	NOT SHOWN	S404	RADIO	NOT SHOWN
S230	MAIN	8000-1	S411	DOOR	8000-3
S231	MAIN	8000-1	S501	DOOR	8000-3
S232	MAIN	8000-1	S502	DOOR	8000-3
S233	MAIN	8000-1	S503	DOOR	8000-3
S234	MAIN	8000-1	S504	DOOR	8000-3
S300	DOOR	8000-3			

## MAIN HARNESS SPLICE LOCATIONS

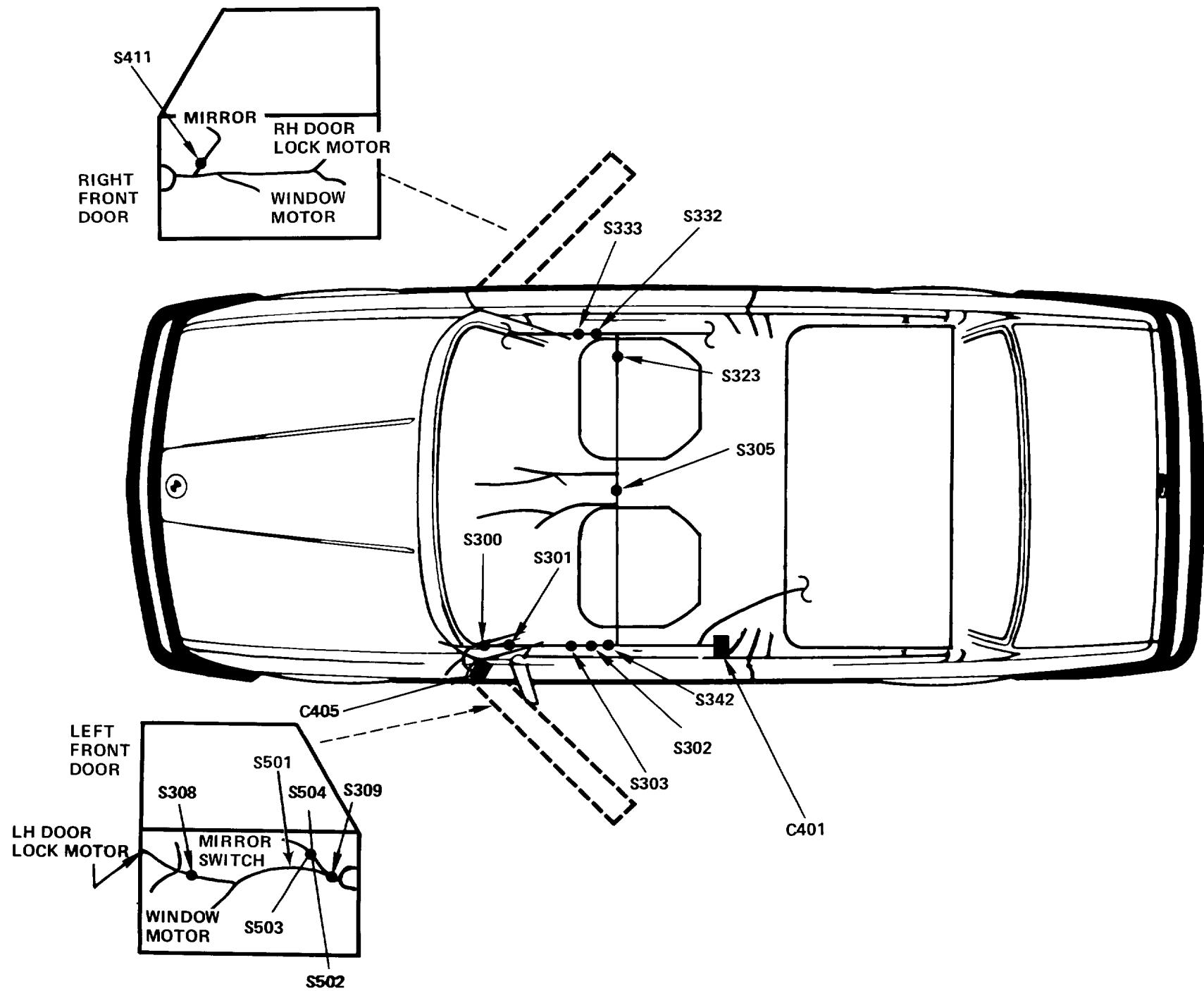


## 8000-2 SPLICE LOCATION VIEWS

### ENGINE HARNESS SPLICE LOCATIONS

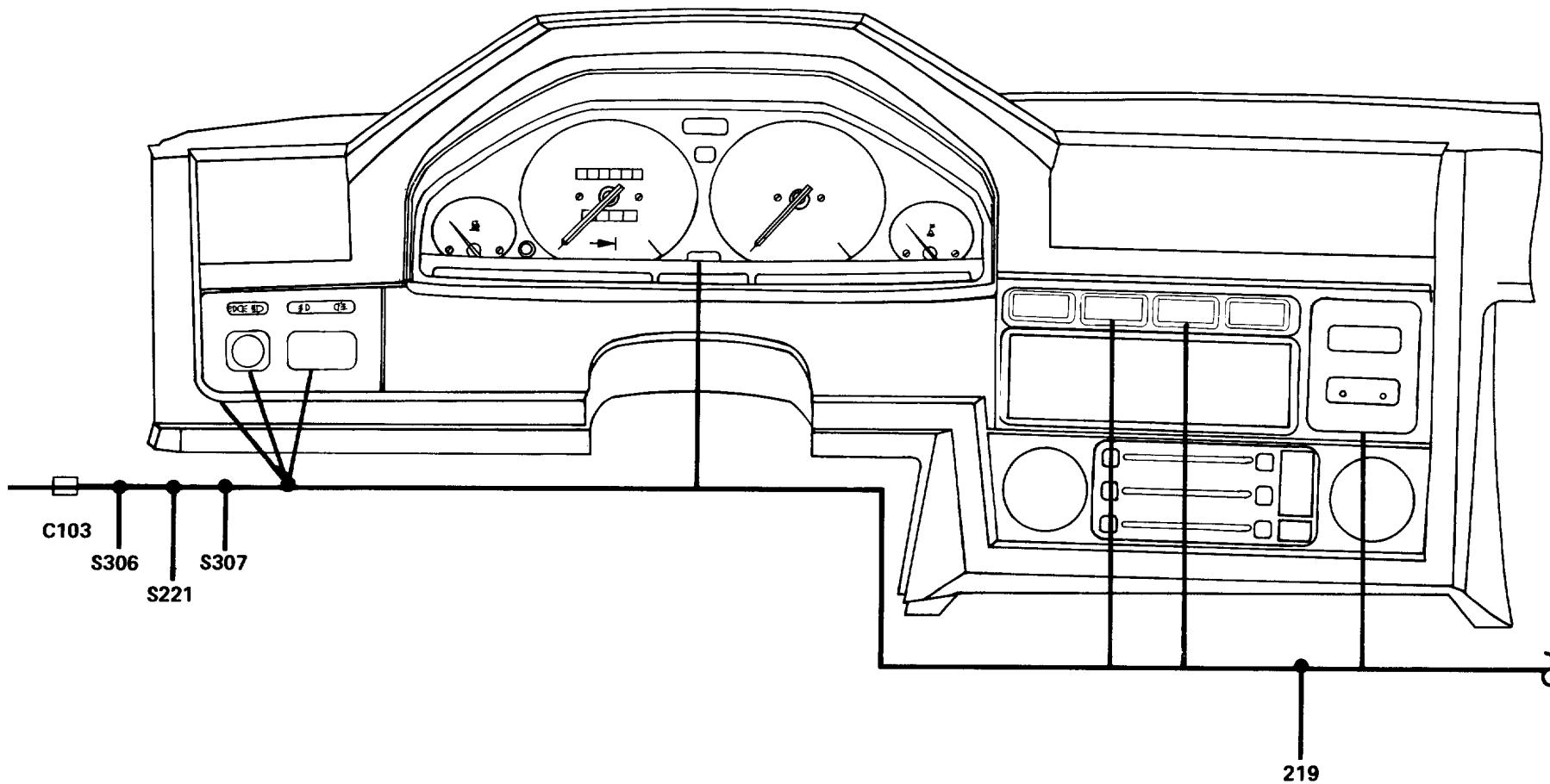


## DOOR HARNESS SPLICE LOCATIONS

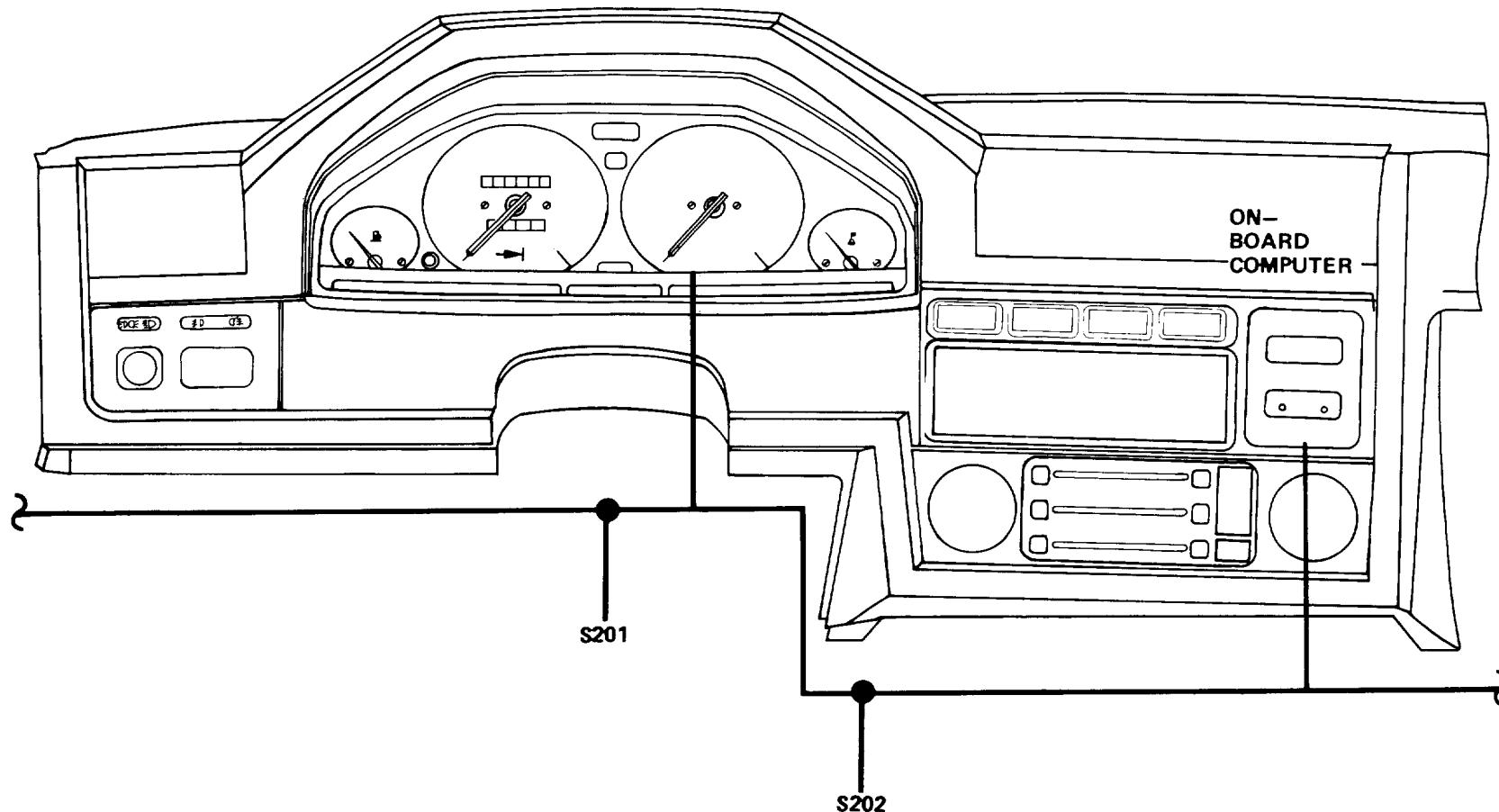


## 8000-4 SPLICE LOCATION VIEWS

### INSTRUMENT PANEL HARNESS SPLICE LOCATION

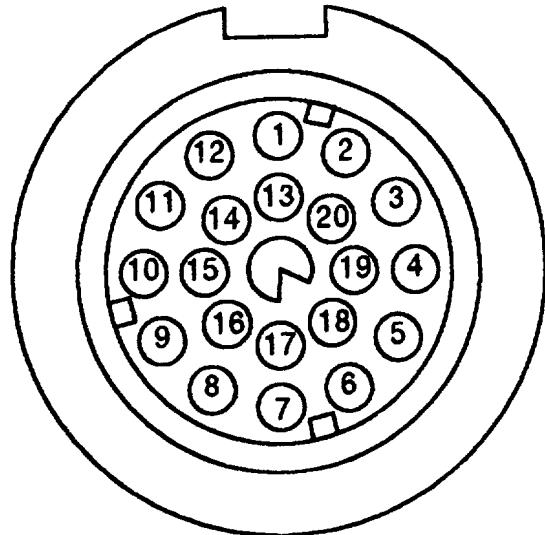


ON-BOARD COMPUTER HARNESS SPLICE LOCATIONS



## 8500-0 CONNECTOR VIEWS

### DIAGNOSTIC CONNECTOR



DIAGNOSTIC CONNECTOR FACE

Pin	Wire Size	Wire Color	Circuit and Component Connected
1	1	GN	Ignition Coil, Motronic Control Unit
4	.75	BR/WT	Coolant Temperature Sender
5	.75	WT/GN	Motronic Control Unit
6	.75	WT/BK	SRS Connector (Not Used)
7	.75	WT/BU	Service Interval Indicator, Service Interval Processor (Reset)
8	5	YL	Ignition, TDC Sensor
9	Shield		Ignition, TDC Sensor
10	.5	BK	Ignition, TDC Sensor
11	2.5	BK/YL	Starter, Start (50)
12	.75	BU	Charge, Alternator (D+)
14	2.5	RD	Battery (+)
16	1.5	GN/YL	Evaporative Purge Valve Relay
19	Shield		Ignition Coil, Motronic Control Unit
	1.5	BR	Ground Distribution (G103)

## ACCESSORY CONNECTOR

## CIRCUITS USING C302 (ACCESSORY CONNECTOR)

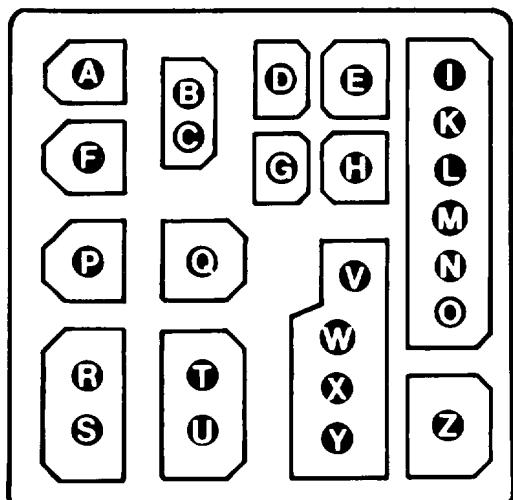
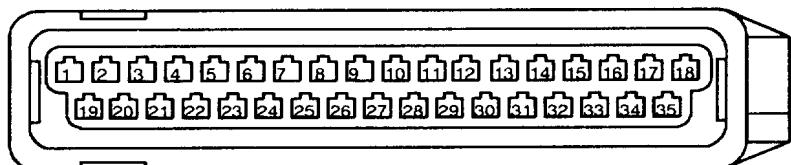


Figure 1-C302 (Accessory Connector)  
Front View—Under LH Side  
of Dash Ahead of Pedal Assembly

TERMINAL	CIRCUIT	TERMINAL	CIRCUIT
A	Not Used	N	Not Used
B	Not Used	O	Not Used
C	Anti-Lock Braking	P	Not Used
D	Central Locking	Q	Power Windows & Sunroof
E	Not Used	R	Cruise Control
F	Not Used	S	Anti-Lock Braking
G	Anti-Lock Braking	T	Not Used
H	On-Board Computer	U	Not Used
I	Not Used	V	Radio
J	Not Used	W	Radio
K	Not Used	X	Radio
L	Not Used	Y	Radio
M	Not Used	Z	Power Antenna

## **8500-2 CONNECTOR VIEWS**

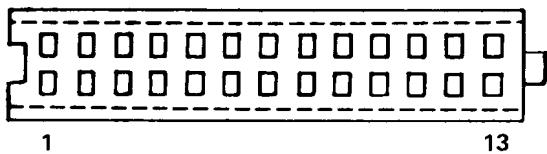
B350002



## **Mating Face**

14

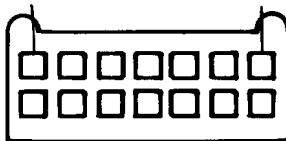
26



**Wiring Face**

14

3



#### Wiring Face

1

7

A diagram showing a 5x5 grid of squares. The top-left square is labeled '5' and the bottom-right square is labeled '1'. The grid is enclosed in a rounded rectangular frame.

**Mating Face**  
**AIR FLOW METER**

1 2 3

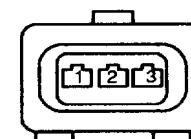
**Wiring Face**  
**BAROMETRIC PRESSURE SENSOR**

A diagram of a three-pole switch. It features three circular terminals labeled 1, 2, and 3. Terminal 1 is at the top right, terminal 2 is at the bottom left, and terminal 3 is at the top left. The switch body is a dark shape with a central vertical line connecting the terminals.

## COOLANT TEMPERATURE SWITCH

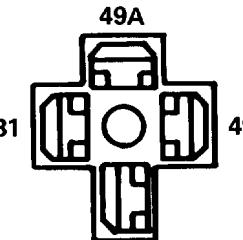
Diagram of a 26-pin connector showing pin numbers 1, 13, 14, and 26, and the "Wiring Face" label.

## **CRUISE CONTROL**

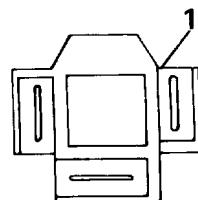


**Mating Face**  
**CYLINDER IDENTIFICATION**  
**SENSOR**

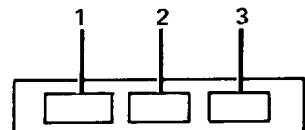
**Mating Face**



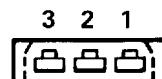
## **Wiring Face FLASHER**



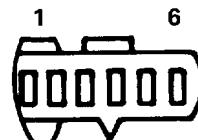
Wiring Face  
FRONT HEADLIGHTS



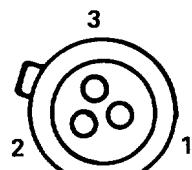
Wiring Face  
FRONT TURN/PARK LIGHT



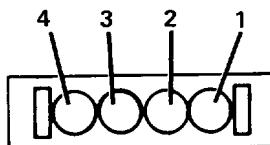
Wiring Face  
FUEL TANK SENDER



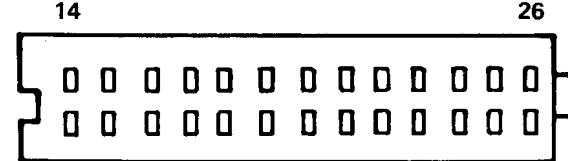
Wiring Face  
GAS FILLER LOCK MOTOR



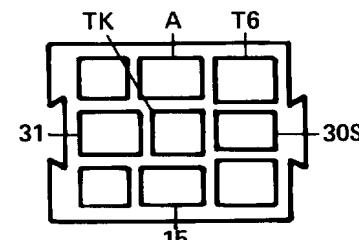
Wiring Face  
OXYGEN SENSOR



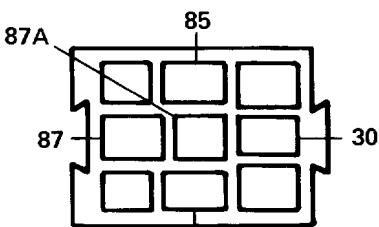
Wiring Face  
HIGH LEVEL STOP LIGHT



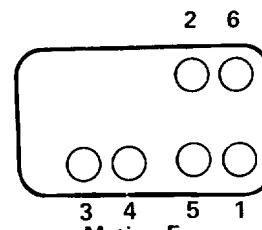
Wiring Face  
INSTRUMENT CLUSTER (C2)



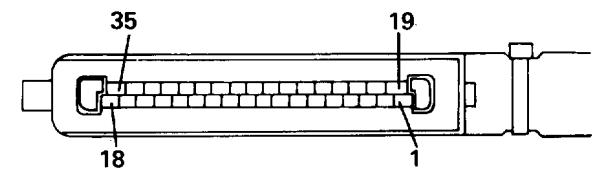
Wiring Face  
INTERIOR LIGHT TIMER CONTROL



Wiring Face  
MAIN RELAY

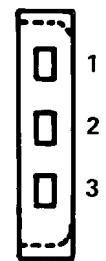
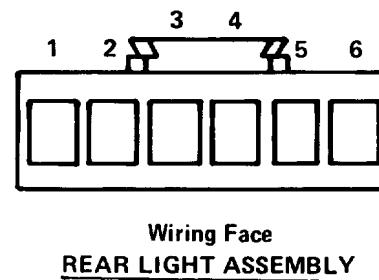
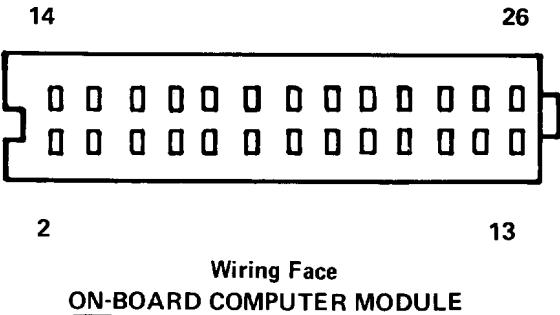


Mating Face  
MIRROR CONTROL SWITCH



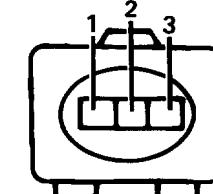
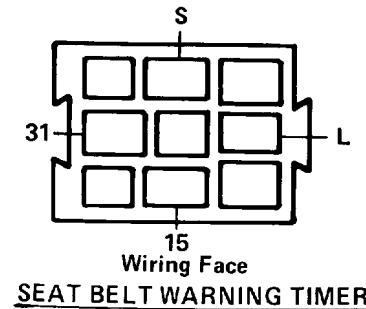
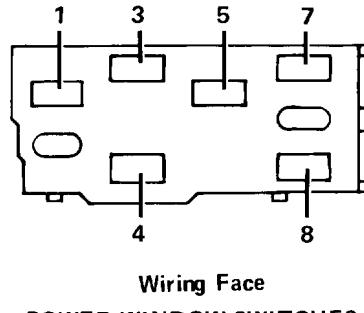
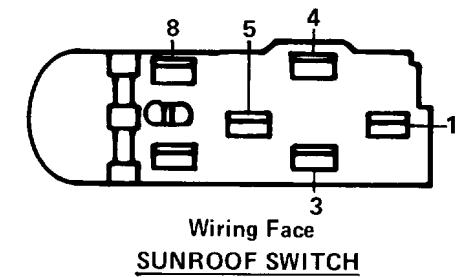
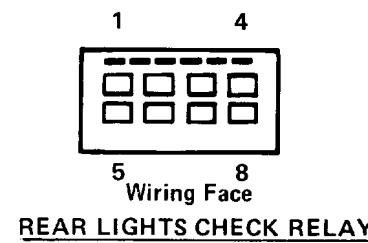
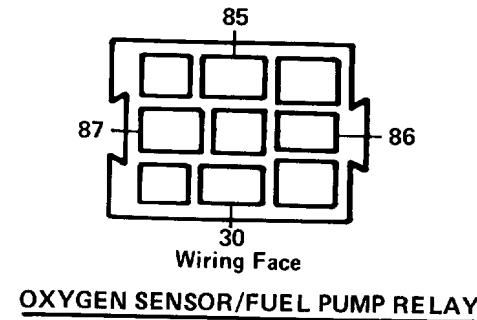
Mating Face  
MOTRONIC CONTROL UNIT

## 8500-4 CONNECTOR VIEWS



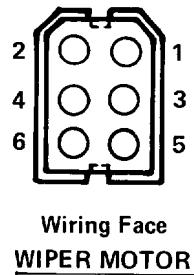
Wiring Face

SUNROOF MOTOR (CI)

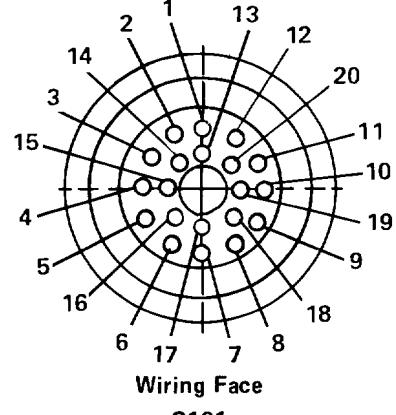


Wiring Face

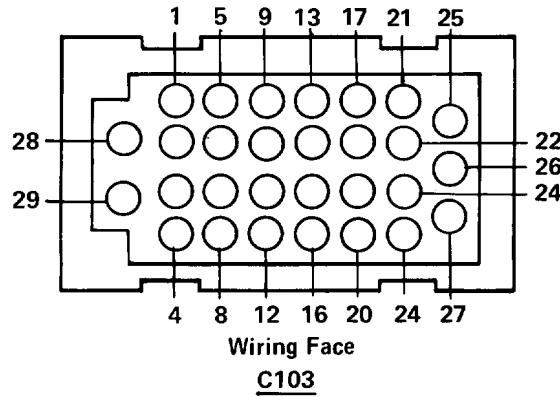
THROTTLE SWITCH



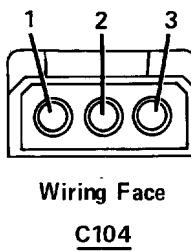
Wiring Face  
WIPER MOTOR



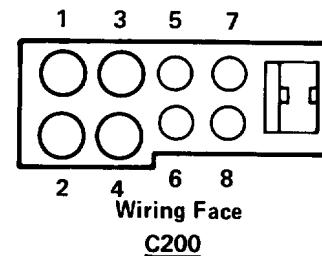
Wiring Face  
C101



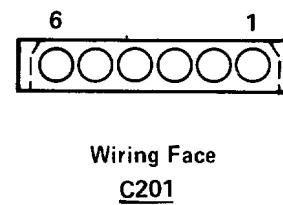
Wiring Face  
C103



Wiring Face  
C104



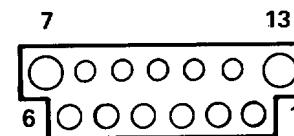
Wiring Face  
C200



Wiring Face  
C201

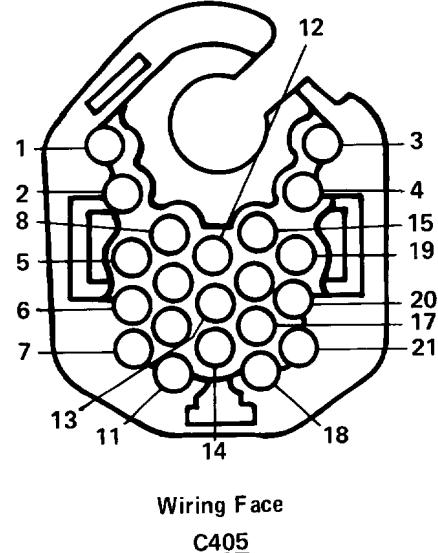
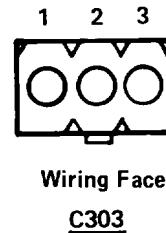
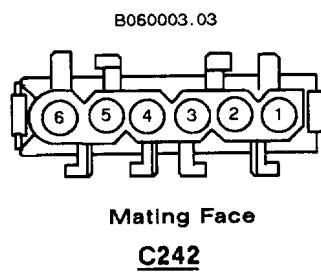
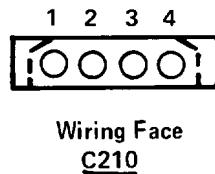
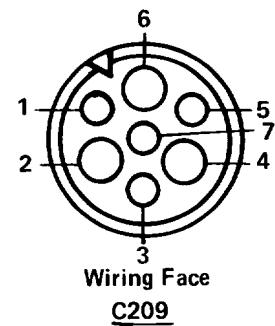
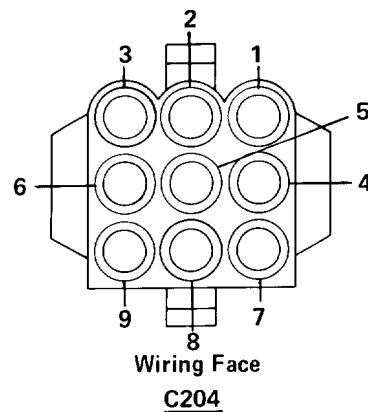


Wiring Face  
C114



Wiring Face  
C202

## 8500-6 CONNECTOR VIEWS



## 9000-0 COMPONENT LOCATION CHART

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COMPONENTS		Page-Figure
A/C In-Line Fuse . . . . .	LH side of evaporator housing	
A/C Temperature Switch . . .	Lower front RH corner of engine compartment . . .	7000- 8-2
ABS Electronic Control Unit . .	Under LH side of dash, above hood release. . . . .	7000- 4-2
ABS Hydraulic Unit . . . . .	In front of LH front wheel well . . . . .	7000- 0-2
Active Check Control Unit . . .	Above rear view mirror . . . . .	7000- 5-6
Air Flow Meter . . . . .	Behind air cleaner . . . . .	7000- 1-2
Amplifier . . . . .	In trunk, above LH wheel well . . . . .	7000- 7-4
Auto-Charging Flashlight . . .	In glove box. . . . .	7000- 6-6
Auxiliary Fan. . . . .	In front of radiator . . . . .	7000- 3-2
Auxiliary Fan Normal Speed		
Blower Resistor. . . . .	Front of LH side of auxiliary fan . . . . .	7000- 3-2
Auxiliary Fuel Pump. . . . .	In fuel tank . . . . .	7000- 7-2
Auxiliary Fuse . . . . .	On top of LH front shock tower . . . . .	7000- 0-3
B/C Horn Diode . . . . .	In LH side of spoiler . . . . .	7000- 0-5
Backup Light Switch . . . . .	On transmission	
Barometric Pressure Sensor . .	LH side of engine compartment, on wheel well . . .	7000- 1-2
Battery . . . . .	In RH rear of trunk . . . . .	7000- 7-6
Battery Junction Block . . . .	RH side of bulkhead, behind cover . . . . .	7000- 2-4
Blower Motor . . . . .	Behind cowl	
Blower Resistors . . . . .	Behind cowl, inside blower housing	
Board Computer Horn . . . . .	In LH side of spoiler, right of LH horn. . . . .	7000- 0-5
Brake Fluid Level Switch. . . .	Left of engine, on brake fluid reservoir . . . . .	7000- 0-4
Brake Switch . . . . .	On brake pedal support, above brake pedal. . . . .	7000- 4-5
Brake Wear Sensors. . . . .	On LH front and RH rear brake calipers . . . . .	7000- 2-5
Central Locking Control Unit . .	Below and behind LH front speaker . . . . .	7000- 4-1
Chime Module. . . . .	Mounted on LH dash hush panel. . . . .	7000- 4-6
Clutch Switch. . . . .	Above clutch pedal	
Coding Plug . . . . .	Behind RH side of dash, in harness, above glove box	
Combination Switch . . . . .	Upper LH side of steering column	
Compressor Clutch . . . . .	Lower RH front of engine, on compressor. . . . .	7000- 1-3
Compressor Clutch Diode . . .	Lower RH front of engine, on compressor. . . . .	7000- 1-3
Compressor Enable Switch . . .	Behind A/C face plate	
Coolant Level Switch. . . . .	On RH front wheel well, in coolant reservoir . . . .	7000- 2-3
Coolant Temperature Sender. .	Front RH side of engine, on coolant manifold . . .	7000- 8-1
Coolant Temperature Sensor. .	Front RH side of engine, on coolant manifold . . .	7000- 8-1
Cruise Control Actuator . . . .	Forward of LH front shock tower . . . . .	7000- 0-1
Cruise Control Switch . . . . .	On RH side of steering column	
Cruise Control Unit . . . . .	Mounted under RH side of dash . . . . .	7000- 6-5
Cylinder Identification Sensor . .	Lower LH rear of engine, on transmission bell housing. . . . .	7000- 7-3
Diagnostic Connector. . . . .	LH side of bulkhead, by power distribution box . . .	7000- 1-1
Door Lock Motors . . . . .	Rear part of each door	

**COMPONENTS****Page-Figure**

Driver Exterior Door Handle		
Switch . . . . .	In rear of LH front door	
Dual Coolant Temperature		
Switch . . . . .	Lower front RH corner of engine compartment . . . . .	7000- 8-2
Engine Speed Sensor . . . . .	Lower LH rear of engine, on transmission bell housing . . . . .	7000- 7-3
Evaporative Purge Valve . . . . .	LH side of engine compartment, on wheel well . . . . .	7000- 1-2
Evaporative Purge Valve Relay . . . . .	RH side of bulkhead, behind cover . . . . .	7000- 2-4
Evaporator Temperature		
Regulator . . . . .	Behind center of dash, LH side of evaporator housing . . . . .	7000- 0-6
Evaporator Temperature Sensor.	On LH side of evaporator housing . . . . .	7000- 0-6
Flasher . . . . .	Upper part of steering column . . . . .	7000- 5-4
Fresh/Recirculating Air Flap Door		
Motors . . . . .	Behind A/C face plate . . . . .	7000- 6-3
Fresh/Recirculating Air Relays . . . . .	Behind A/C face plate	
Fuel Tank Sender . . . . .	Top of fuel tank . . . . .	7000- 7-2
Fusible Link . . . . .	In trunk, connected to positive terminal of battery . . . . .	7000- 7-6
Gas Filler Lock Motor . . . . .	In trunk, behind RH wheel well . . . . .	7000- 7-6
Hazard Switch . . . . .	In center console, above radio . . . . .	7000- 5-5
High Pressure Cut-Out Switch . . . . .	On receiver dryer, behind RH headlight . . . . .	7000- 1-5
Horn Brush/Slip Ring . . . . .	In upper steering column . . . . .	7000- 5-4
Horns . . . . .	Near fog lights, behind splash guard . . . . .	7000- 3-1
Hot Water Cut-Off Switch . . . . .	Behind A/C face plate . . . . .	7000- 0-6
Idle Speed Actuator . . . . .	Top center of engine . . . . .	7000- 2-2
Ignition Coil . . . . .	On RH front wheel well . . . . .	7000- 2-3
Ignition Key Switch . . . . .	Part of ignition switch, in upper part of steering column	
Ignition Switch . . . . .	Upper part of steering column	
Interior Light Timer Control . . . . .	Below LH front speaker . . . . .	7000- 4-1
Low Pressure Cut-Out Switch . . . . .	Behind RH headlights . . . . .	7000- 1-5
Main Fuel Pump . . . . .	Under car, in front of LH rear wheel. . . . .	7000- 3-5
Main Relay . . . . .	RH side of bulkhead, behind cover . . . . .	7000- 2-4
Motor Relay . . . . .	Behind header, above rear view mirror . . . . .	7000- 5-6
Motronic Control Unit . . . . .	Under RH side of dash, above glove box . . . . .	7000- 6-5
Oil Pressure Switch . . . . .	Lower LH front of engine . . . . .	7000- 1-4
Oil Temperature Sensor . . . . .	Lower LH front of engine . . . . .	7000- 1-4
On-Board Computer Module . . . . .	In center console, on RH side of radio . . . . .	7000- 5-5
On-Board Computer Relay Box . . . . .	Under LH side of dash, above hood release . . . . .	7000- 4-5
Outside Temperature Sensor . . . . .	Behind splash guard, near LH fog light . . . . .	7000- 3-1
Over Voltage Protection Relay . . . . .	Under LH side of dash, near ABS Electronic Control Unit . . . . .	7000- 4-2

## 9000-2 COMPONENT LOCATION CHART

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COMPONENTS		Page-Figure
Oxygen Sensor . . . . .	Below RH rear of engine, in exhaust manifold . . . . .	7000- 3-3
Oxygen Sensor/Fuel Pump Relay . . . . .	RH side of bulkhead, behind cover . . . . .	7000- 2-4
Park Brake Switch . . . . .	At base of parking brake . . . . .	7000- 6-2
Power Distribution Box . . . . .	At top rear of LH front wheel well . . . . .	7000- 0-3
Power Window Circuit Breaker . . . . .	On center console, above radio. . . . .	7000- 5-5
Power Window Motors . . . . .	Forward part of each door . . . . .	7000- 3-6
Pulse Wheels . . . . .	On wheel, in brake housing	
Rear Lights Check Relay . . . . .	In trunk, above LH wheel well . . . . .	7000- 7-4
Safety Switch . . . . .	On top of LH wheel well, near cruise control actuator	
Seatbelt Switch . . . . .	In driver's seatbelt buckle	
Seatbelt Warning Timer . . . . .	Under LH side of dash, on electrical bracket . . . . .	7000- 4-6
Speed Detectors . . . . .	On wheel, in brake housing . . . . .	7000- 2-6
Speedometer Sender . . . . .	In rear of differential . . . . .	7000- 3-4
Starter . . . . .	Lower LH rear of engine	
Sunroof Motor . . . . .	In windshield header, above rear view mirror . . . . .	7000- 5-6
TDC Sensor . . . . .	Lower LH rear of engine	
Throttle Switch . . . . .	Top front center of engine . . . . .	7000- 2-2
Trunk Lock Motor . . . . .	On trunk lock center support . . . . .	7000- 7-5
Unlock Inhibit Switch . . . . .	Rear of LH front door	
Washer Fluid Level Switch . . . . .	In reservoir, behind RH headlights . . . . .	7000- 1-6
Washer Pump . . . . .	Ahead of RH front wheel well, on reservoir. . . . .	7000- 2-1
Water Shut-Off Solenoid. . . . .	LH side of evaporator housing . . . . .	7000- 5-3
Wiper Motor . . . . .	Under LH fresh air intake cowl	
Wiper/Washer Switch . . . . .	Upper RH side of steering column	
CONNECTORS		
C101 (20 pins) . . . . .	Center of bulkhead, above rear of engine . . . . .	7000- 1-1
C103 (29 pins) . . . . .	Behind LH side of dash, on body electrical bracket. . . . .	7000- 4-4
C104 (3 pins) . . . . .	Behind RH side of dash, above glove box . . . . .	7000- 6-4
C105 (1 pin) . . . . .	RH side of evaporator housing . . . . .	7000- 6-3
C106 (1 pin) . . . . .	Near washer pump . . . . .	7000- 1-6
C107 (1 pin) . . . . .	Near washer pump . . . . .	7000- 2-1
C109 (6 pins) . . . . .	Near wiper motor	
C113 (3 pins) . . . . .	Behind LH headlights . . . . .	7000- 0-2
C126 (2 pins) . . . . .	Behind LH headlights . . . . .	7000- 0-2
C127 (2 pins) . . . . .	Behind RH headlights . . . . .	7000- 1-5
C128 (2 pins) . . . . .	Behind RH front side marker light	
C129 (2 pins) . . . . .	Behind LH front side marker light	
C138 (3 pins) . . . . .	Fastened to LH side of oil pan. . . . .	7000- 8-3
C140 (3 pins) . . . . .	RH rear corner of engine compartment, under coolant reservoir. . . . .	7000- 6-1
C141 (3 pins) . . . . .	Under RH side of car, below passenger side . . . . .	7000- 3-3

COMPONENTS		Page-Figure
C142 (1 pin) . . . . .	Under LH side of dash, near steering column . . . . .	7000- 5-1
C143 (1 pin) . . . . .	Under LH side of dash, near body electrical bracket . . . . .	7000- 4-6
C150 (2 pins) . . . . .	On top of LH front wheel well. . . . .	7000- 1-2
C151 (2 pins) . . . . .	On top of RH front wheel well . . . . .	7000- 2-1
C152 (3 pins) . . . . .	Center of bulkhead, above rear of engine . . . . .	7000- 1-1
C153 (3 pins) . . . . .	Center of bulkhead, above rear of engine . . . . .	7000- 1-1
C154 (3 pins) . . . . .	Center of bulkhead, above rear of engine . . . . .	7000- 1-1
C200 (9 pins) . . . . .	Under LH side of dash, on steering column . . . . .	7000- 5-1
C201 (6 pins) . . . . .	Under LH side of dash, on steering column . . . . .	7000- 5-1
C202 (13 pins) . . . . .	Under LH side of dash, on steering column . . . . .	7000- 5-1
C204 (9 pins) . . . . .	Under LH side of dash, near steering column . . . . .	7000- 5-3
C208 (2 pins) . . . . .	Near brake pedal support bracket . . . . .	7000- 4-6
C209 (7 pins) . . . . .	Above brake pedal . . . . .	7000- 4-3
C210 (4 pins) . . . . .	On LH side of steering column . . . . .	7000- 5-1
C212 (2 pins) . . . . .	Under LH side of dash, near accessory connector . . . . .	7000- 4-3
C215 (2 pins) . . . . .	Center console, behind radio . . . . .	7000- 5-5
C217 (1 pin) . . . . .	Under LH side of dash, near accessory connector . . . . .	7000- 4-4
C224 (2 pins) . . . . .	Under LH side of dash, near accessory connector . . . . .	7000- 4-3
C235 (3 pins) . . . . .	Under RH side of dash, near cruise control unit . . . . .	7000- 6-3
C240 (6 pins) . . . . .	Under LH side of dash, above body electrical bracket . . . . .	7000- 4-3
C260 (2 pins) . . . . .	Behind LH side of dash . . . . .	
C301 (2 pins) . . . . .	At base of shift lever . . . . .	7000- 5-2
C302 (25 pins) Accessory Connector . . . . .	Upper LH corner of driver's footwell . . . . .	7000- 4-4
C303 (3 pins) . . . . .	At base of RH "B" pillar . . . . .	
C304 (3 pins) . . . . .	At base of LH "B" pillar . . . . .	
C305 (1 pin) . . . . .	Under LH side of dash, near accessory connector . . . . .	7000- 4-3
C351 (1 pin) . . . . .	Under LH side of dash, near accessory connector . . . . .	7000- 4-3
C352 (2 pins) . . . . .	Behind LH side of rear seat . . . . .	7000- 7-1
C360 (2 pins) . . . . .	Behind RH side of rear seat . . . . .	7000- 7-2
C404 (21 pins) . . . . .	Above RH front door jamb switch . . . . .	
C405 (21 pins) . . . . .	Above LH front door jamb switch . . . . .	
C500 (1 pin) . . . . .	Behind LH side of dash . . . . .	
C503 (3 pins) . . . . .	In rear of LH front door . . . . .	
C510 (1 pin) . . . . .	Behind and above LH front speaker . . . . .	7000- 4-1
<b>GROUNDs</b>		
G100. . . . .	RH rear of trunk, behind battery . . . . .	7000- 7-6
G103. . . . .	Behind RH side of dash, above glove box . . . . .	
G104. . . . .	On inner fender, behind LH headlights . . . . .	7000- 0-1
G106. . . . .	In trunk, near LH wheel well . . . . .	
G108. . . . .	Fastened to LH side of oil pan . . . . .	7000- 8-3

## **9000-4 COMPONENT LOCATION CHART**

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<b>COMPONENTS</b>		<b>Page-Figure</b>
G200. . . . .	Under LH side of dash, above brake pedal . . . . .	7000- 4-5
G201 (Steering Column Ground)	Upper LH side of steering column . . . . .	7000- 5-4
G300. . . . .	Behind LH side of rear seat. . . . .	7000- 7-1
G600. . . . .	In windshield header	

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