



1987/1988 *

BMW 535i, M5

Electrical

Troubleshooting

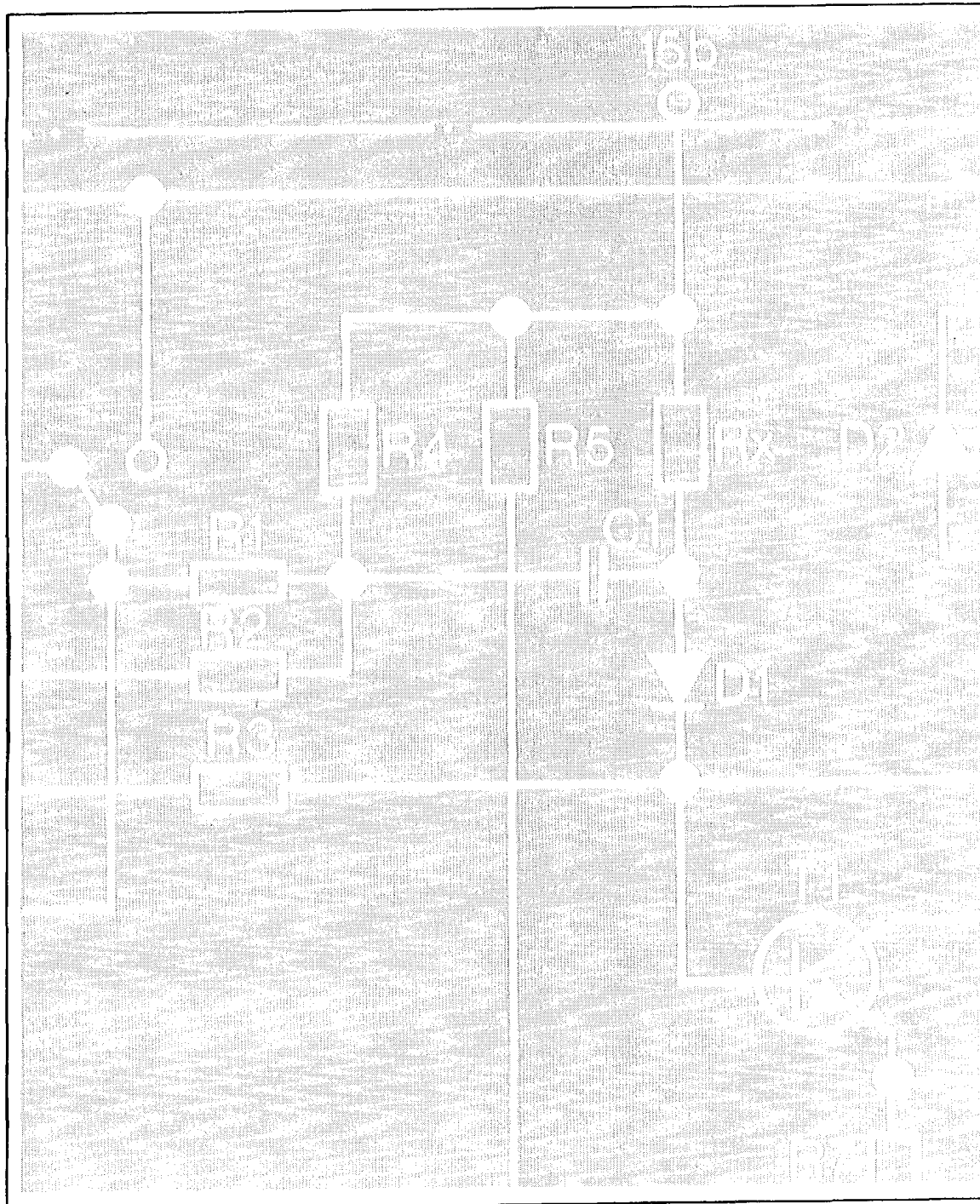
Manual

* 1987 Vehicles Built Before
9/86 Use 1986 535i Electrical
Troubleshooting Manual
For Diagnostics.

**BMW of North America, Inc.
Montvale, New Jersey**

FOREWORD

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



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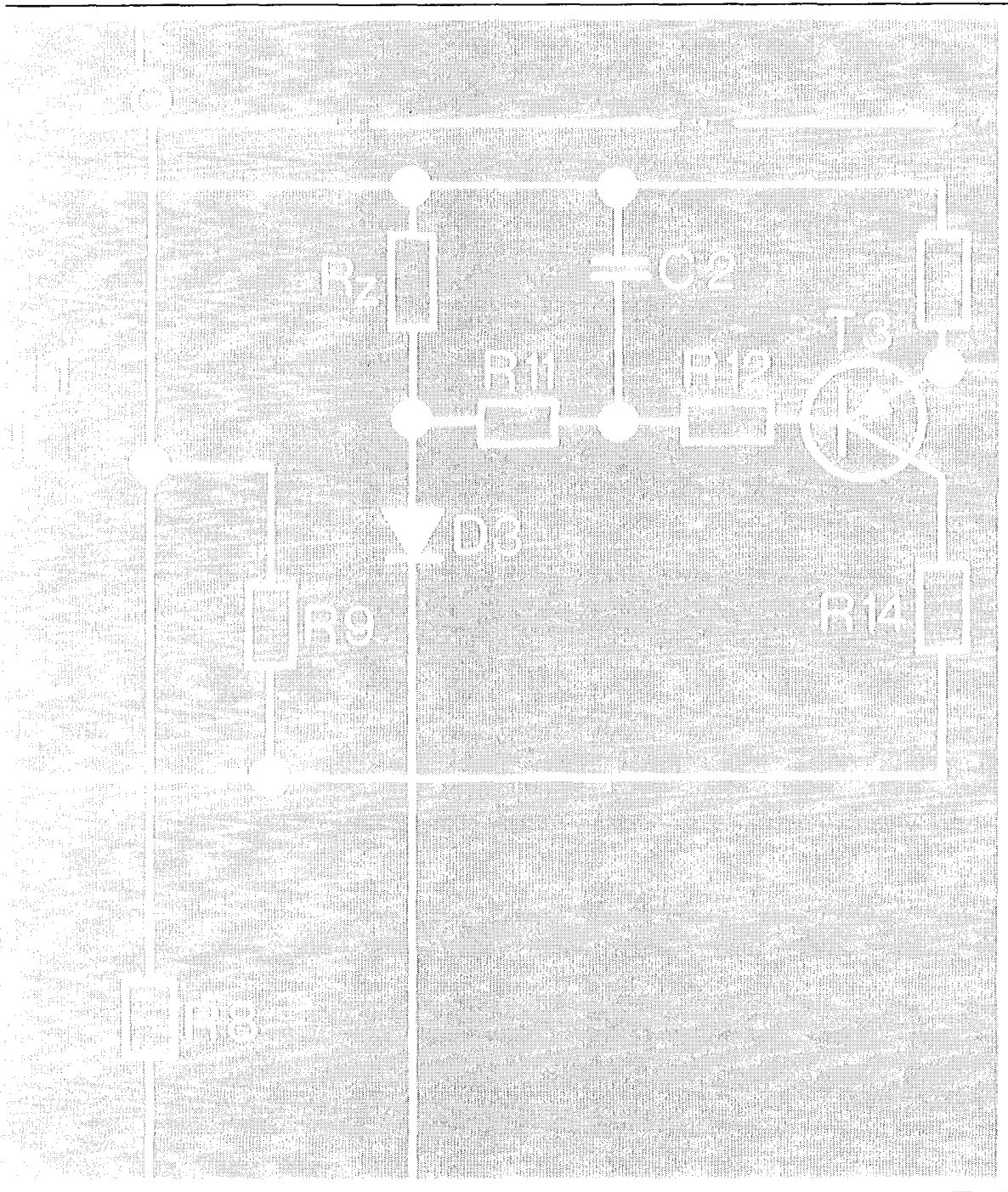
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1987/1988*
BMW 535i, M5
Electrical
Troubleshooting
Manual

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* 1987 Vehicles Built Before
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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 (CROSSSECTIONAL AREA IN MM ²) | 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 |

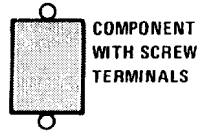
4 SYMBOLS



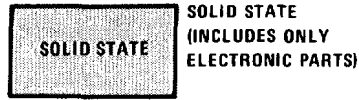
ENTIRE COMPONENT SHOWN



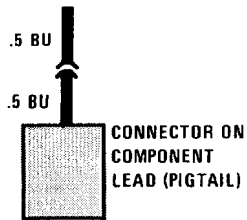
PART OF A COMPONENT SHOWN



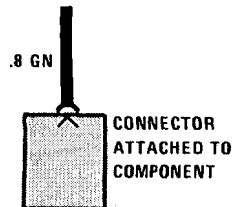
COMPONENT WITH SCREW TERMINALS



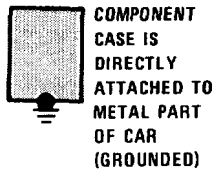
SOLID STATE (INCLUDES ONLY ELECTRONIC PARTS)



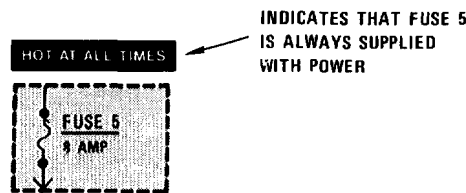
CONNECTOR ON COMPONENT LEAD (PIGTAIL)



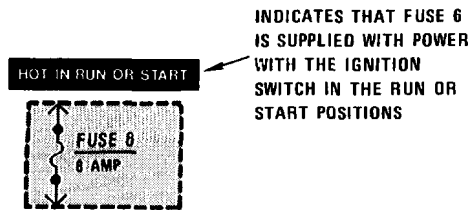
CONNECTOR ATTACHED TO COMPONENT



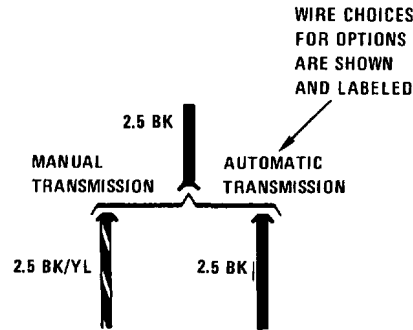
COMPONENT CASE IS DIRECTLY ATTACHED TO METAL PART OF CAR (GROUNDED)



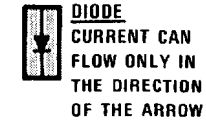
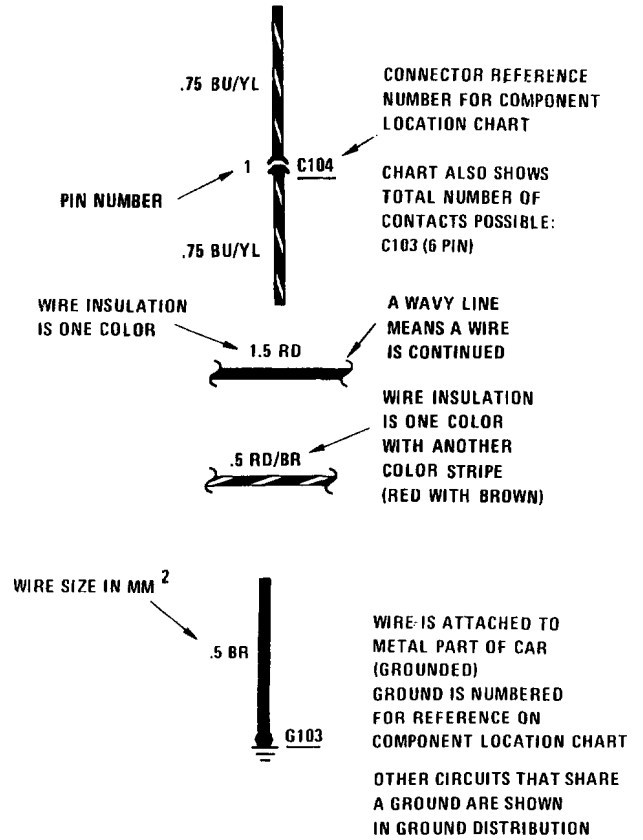
INDICATES THAT FUSE 5 IS ALWAYS SUPPLIED WITH POWER



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

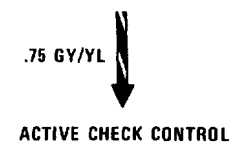


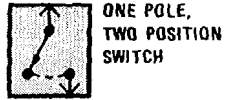
WIRE CHOICES FOR OPTIONS ARE SHOWN AND LABELED



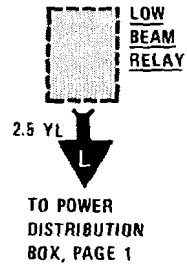
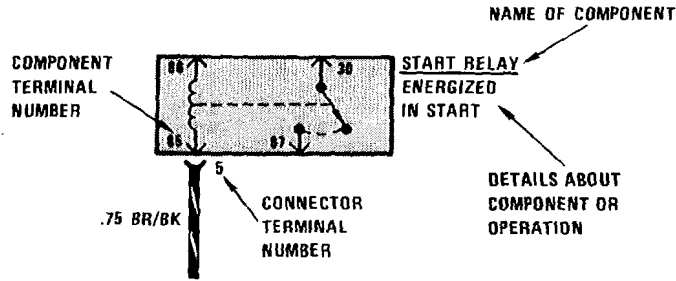
DIODE CURRENT CAN FLOW ONLY IN THE DIRECTION OF THE ARROW

CIRCUIT REFERENCE - A WIRE WHICH CONNECTS TO ANOTHER CIRCUIT

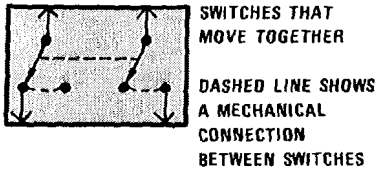




ONE POLE,
TWO POSITION
SWITCH

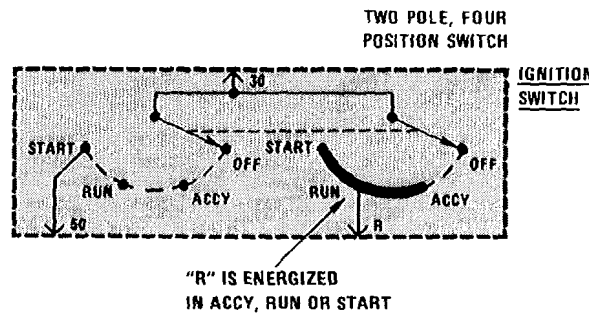


LOW
BEAM
RELAY



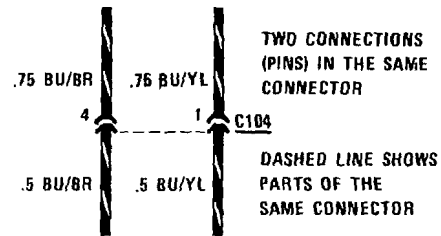
SWITCHES THAT
MOVE TOGETHER

DASHED LINE SHOWS
A MECHANICAL
CONNECTION
BETWEEN SWITCHES



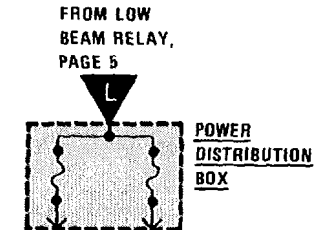
TWO POLE, FOUR
POSITION SWITCH

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



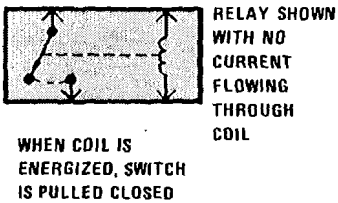
TWO CONNECTIONS
(PINS) IN THE SAME
CONNECTOR

DASHED LINE SHOWS
PARTS OF THE
SAME CONNECTOR



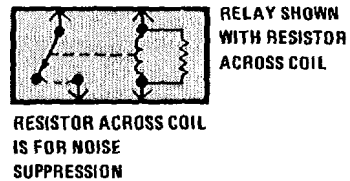
FROM LOW
BEAM RELAY,
PAGE 5

POWER
DISTRIBUTION
BOX



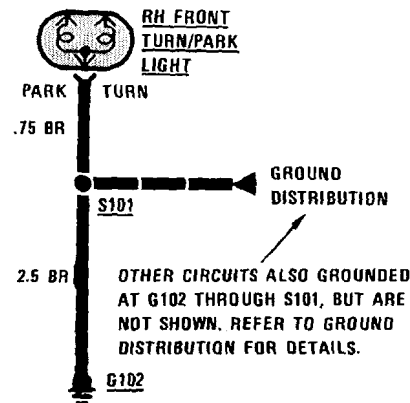
RELAY SHOWN
WITH NO
CURRENT
FLOWING
THROUGH
COIL

WHEN COIL IS
ENERGIZED, SWITCH
IS PULLED CLOSED



RELAY SHOWN
WITH RESISTOR
ACROSS COIL

RESISTOR ACROSS COIL
IS FOR NOISE
SUPPRESSION



RH FRONT
TURN/PARK
LIGHT

GROUND
DISTRIBUTION

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



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

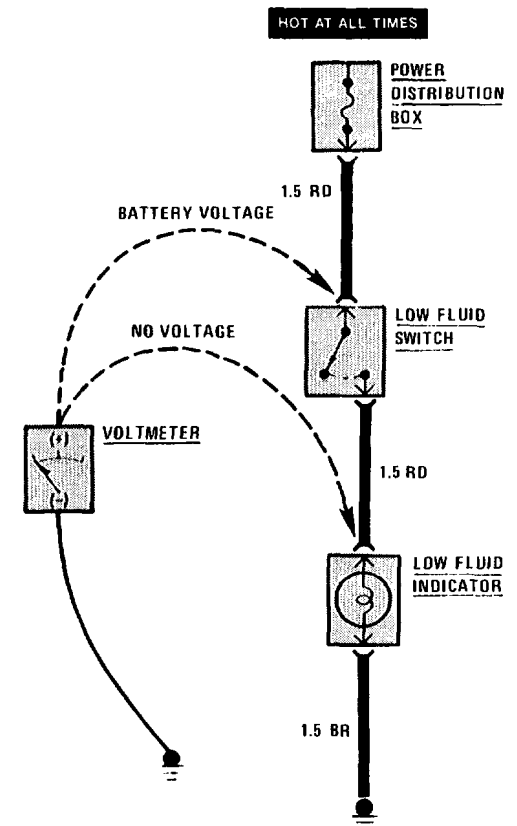
Isolating the problem (Step 3 of TROUBLESHOOTING PROCEDURES) requires the use of a **voltmeter** and/or **ohmmeter**. A voltmeter measures voltage at selected points in a circuit. An ohmmeter measures a circuit's resistance to current flow. It has an internal battery that provides current to the circuit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

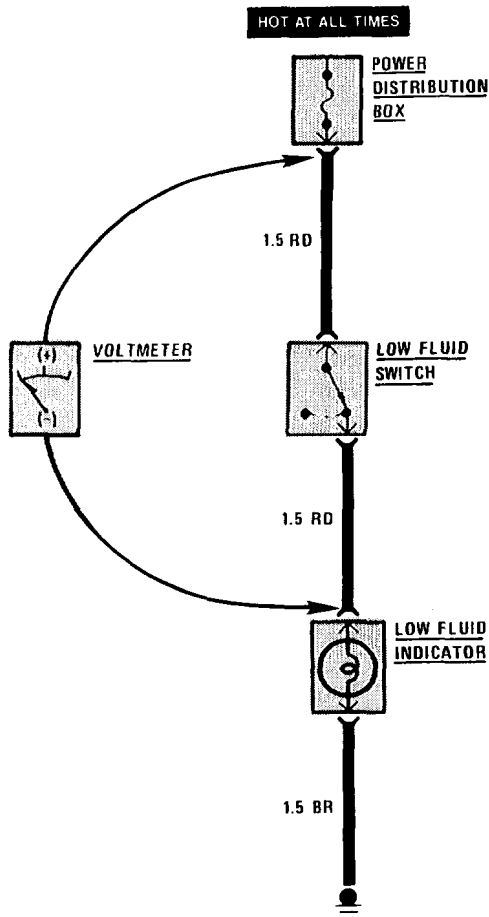


Voltage Test

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.

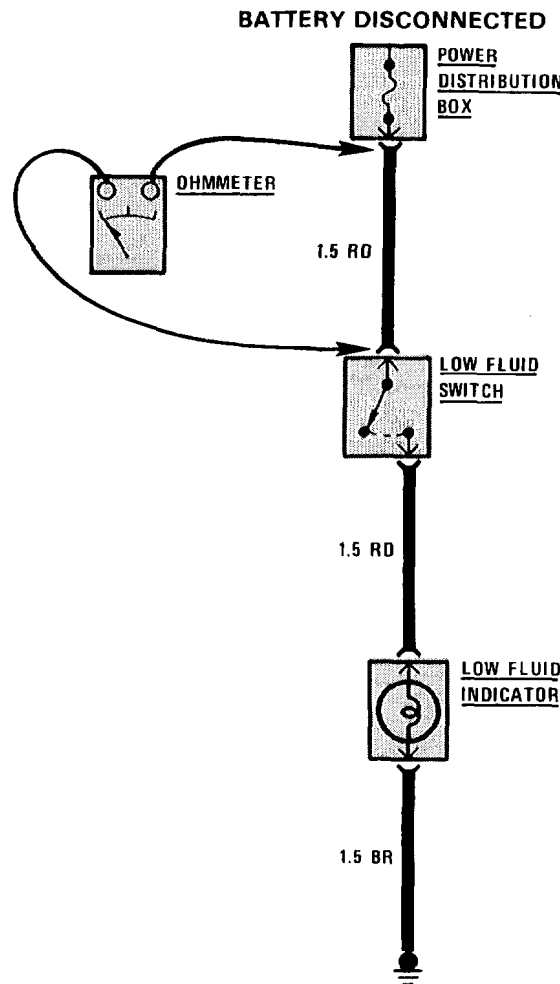
To test for voltage drop, connect the voltmeter leads to connectors at either end of the circuit's suspected problem area. The positive lead should be connected to the connector closest to the power source. The voltmeter will show the voltage drop between these two points.



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.

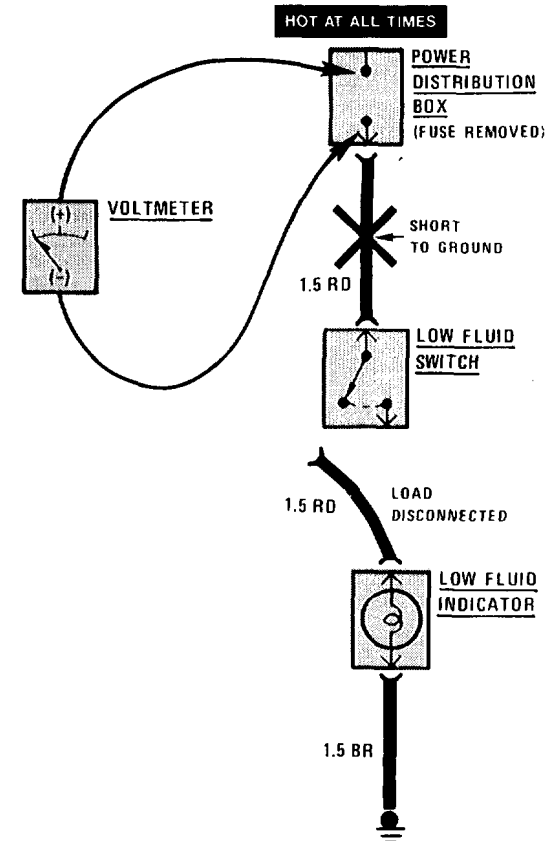


Continuity Test

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.



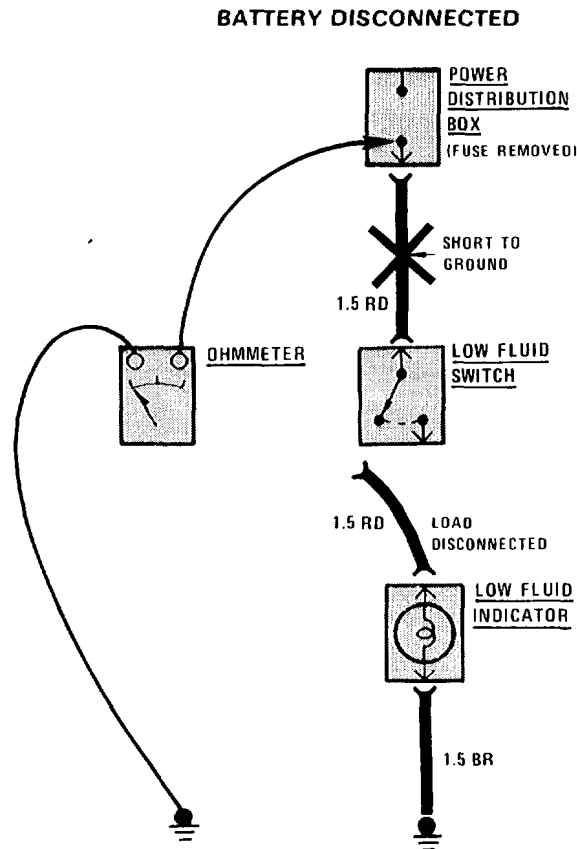
Short Test Using Voltmeter

8 SYSTEMATIC TROUBLESHOOTING

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.

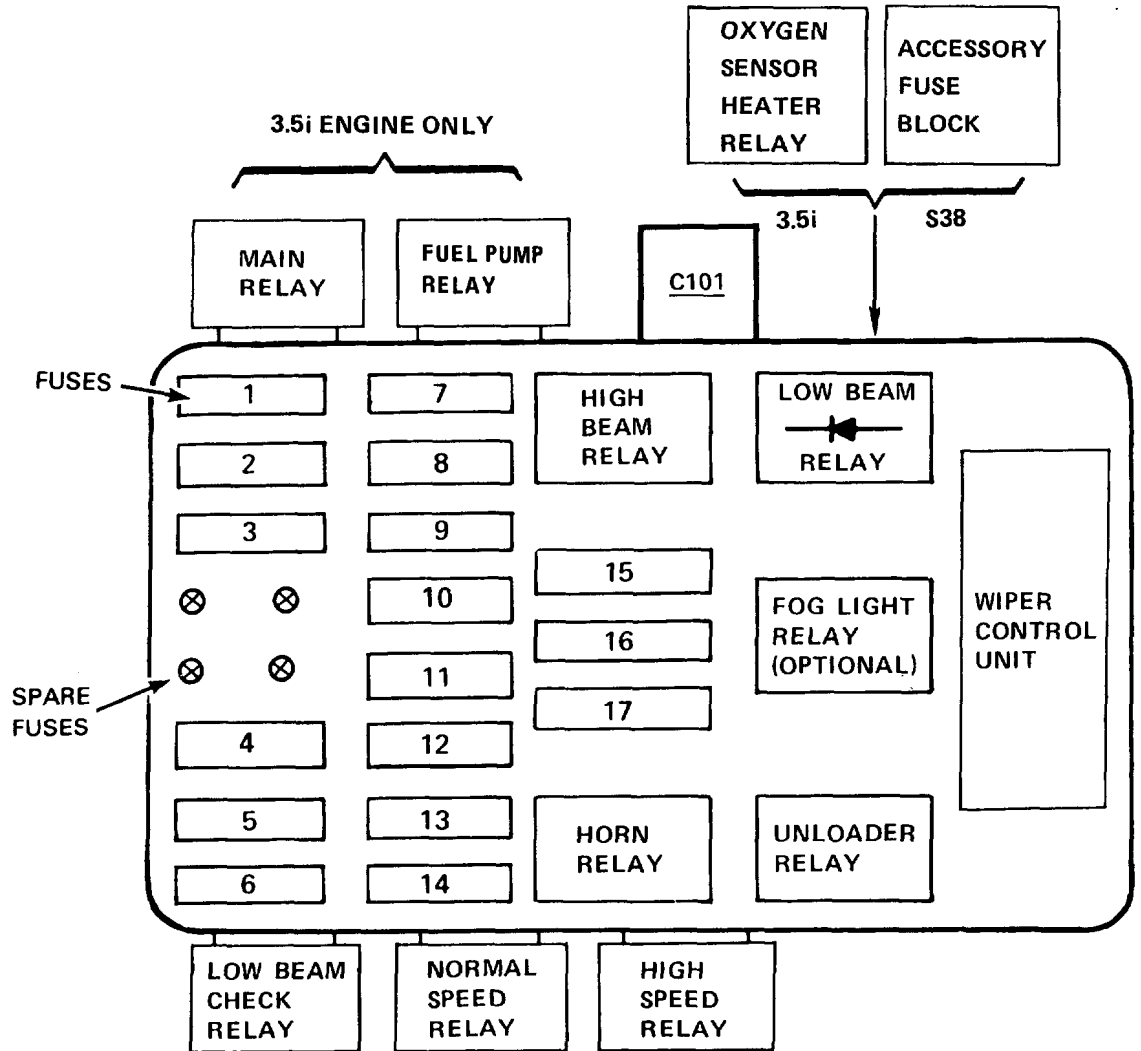
Starting near the POWER DISTRIBUTION BOX, move the wire harness back and forth and watch the ohmmeter reading. Low or no resistance indicates a short to ground in the wiring. Infinitely high resistance indicates no short.



Short Test Using Ohmmeter

0670-0 POWER DISTRIBUTION

POWER DISTRIBUTION BOX



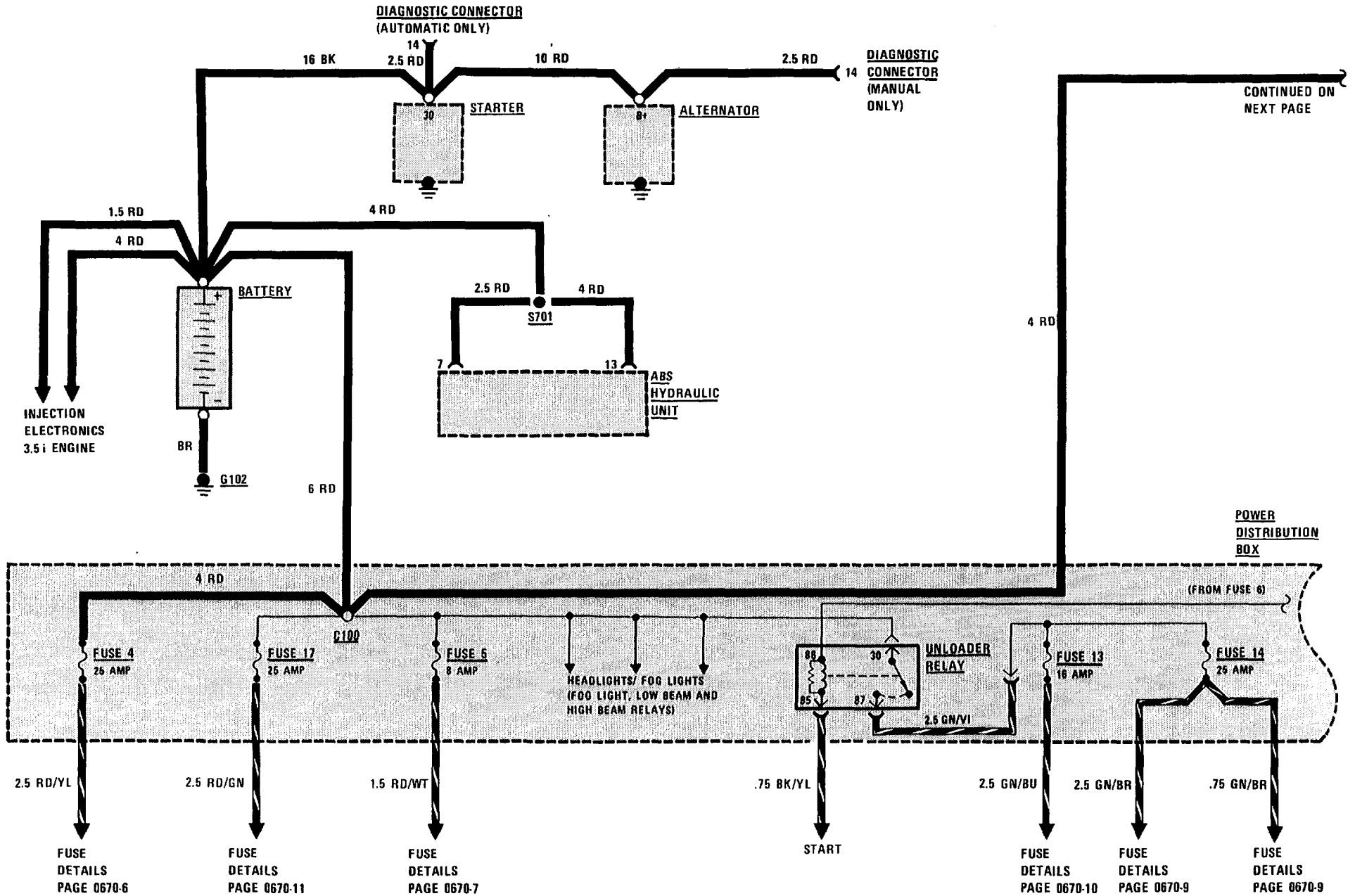
NOTE
 On some cars, the position of the side mounted relays may be interchanged on their respective sides. Check relay wire colors for positive identification.

Figure 1- Top Of Left Front Wheel Well

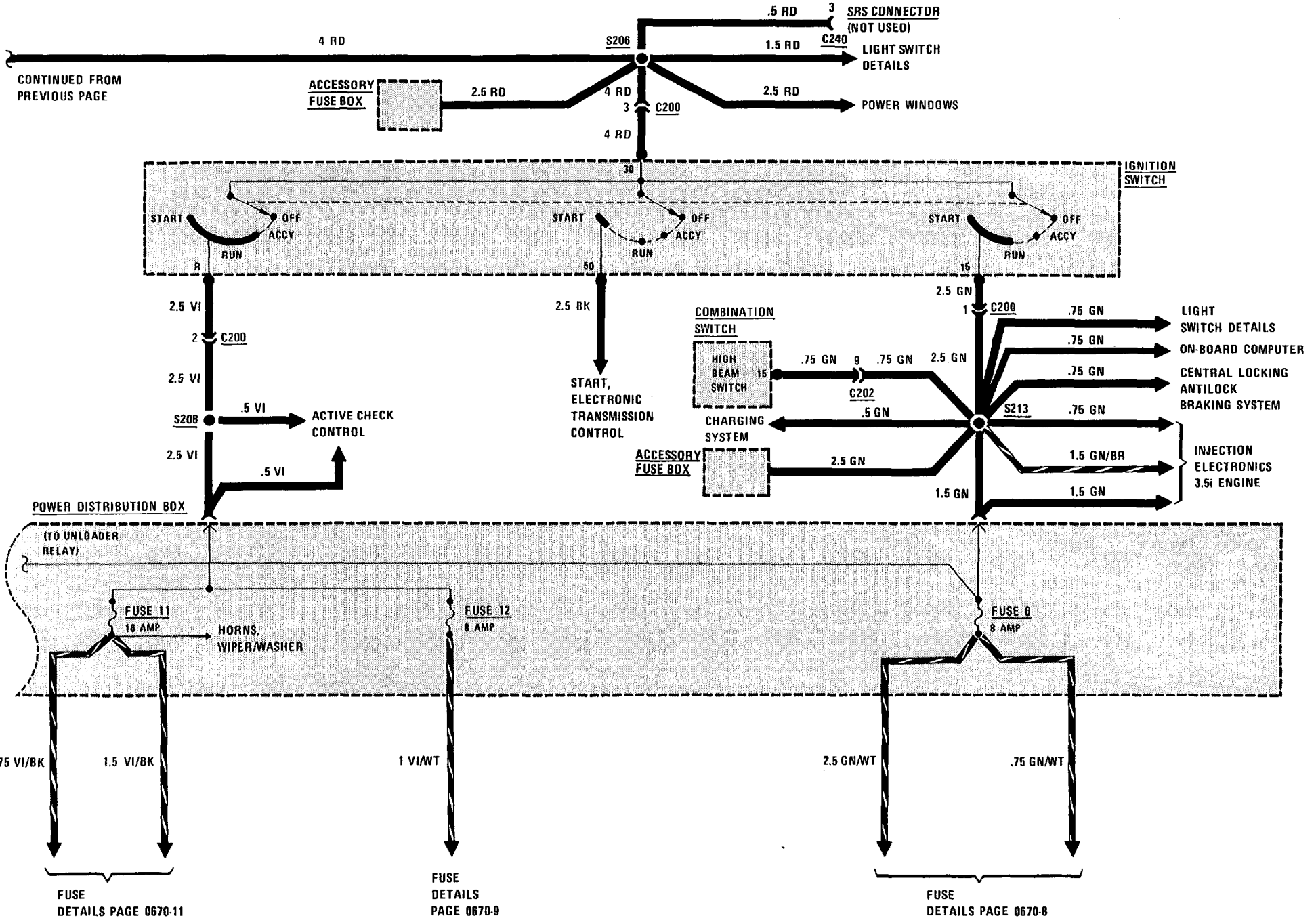
| Fuse No. | Size | Circuit Name |
|----------|------|--|
| 1 | 16A | Fuel Delivery. |
| 2 | 8A | Headlights (RH Dual Beam). |
| 3 | 8A | Headlights (LH Dual Beam). |
| 4 | 25A | Cigar Lighter; Power Seats; Self-Leveling Suspension (also fuses 12, 13); Radio/Power Antenna (also fuses 5, 12). |
| 5 | 8A | Active Check Control (also fuses 2, 3, 6, 9, 10, 11, 12); Central Locking; Chime; Cruise Control (also fuse 6); Electronic Transmission Control; Glove Box/Auto-Charging Flashlight; Heated Door Locks; Ignition Key Warning/Seatbelt Warning (also fuse 6); Interior Lights (also fuse 6); Lights: Turn/Hazard Warning (also fuse 11); Lights: Trunk; On-Board Computer (also fuses 6, 12); Radio/Power Antenna (also fuses 4, 12); Service Interval Indicator (also fuse 6). |
| 6 | 8A | Active Check Control (also fuses 5, 9, 10, 11, 12); Back Up Lights/Transmission Range Lights; Cruise Control (also fuse 5); Fog Lights (also fuses 15, 16); Fuel Control; Gauges; Heater/Air Conditioning (also fuse 14); Idle Speed Control; Ignition; Interior Lights (also fuse 5); On-Board Computer (also fuses 5, 12); Power Mirrors; Power Windows (also Power Window Circuit Breaker); Seatbelt Warning (also fuse 5); Service Interval Indicator (also fuse 5); Speedometer; Warning Indicators (also fuse 15). |
| 7 | 8A | Headlights (RH High Beams). |

| Fuse No. | Size | Circuit Name |
|------------------------------|------|--|
| 8 | 8A | Headlights (LH High Beams). |
| 9 | 8A | Active Check Control (also fuses 5, 6, 10, 11, 12); Dash Lights (also fuses 6, 14); Lights: Front Park/Front Marker/Tail: (also fuse 10); Lights: Rear Marker/License. |
| 10 | 8A | Active Check Control (also fuses 5, 6, 9, 11, 12); Lights: Front Park/Front Marker/Tail (also fuse 9); |
| 11 | 16A | Active Check Control (also fuses 5, 6, 9, 11, 12); Horn; Lights: Turn/Hazard Warning (also fuse 5); Wiper/Washer and Heater Washer Jets. |
| 12 | 8A | Active Check Control (also fuses 5, 6, 9, 10, 11); Antilock Brake System; Radio (also fuses 4, 5); Self-Leveling Suspension (also fuses 4, 13); Stop Lights; On-Board Computer (also fuses 5, 6); Power Antenna (also fuses 4, 5). |
| 13 | 16A | Rear Defogger; Self-Leveling Suspension (also fuses 4, 12); Sunroof. |
| 14 | 25A | Auxiliary Fan (also fuse 17); Dash Lights (also fuses 6, 9); Heater/Air Conditioning (also fuse 6). |
| 15 | 8A | Fog Lights (RH). |
| 16 | 8A | Fog Lights (LH). |
| 17 | 25A | Auxiliary Fan (also fuse 14). |
| Power Window Circuit Breaker | 25A | Power Windows (also fuse 6). |

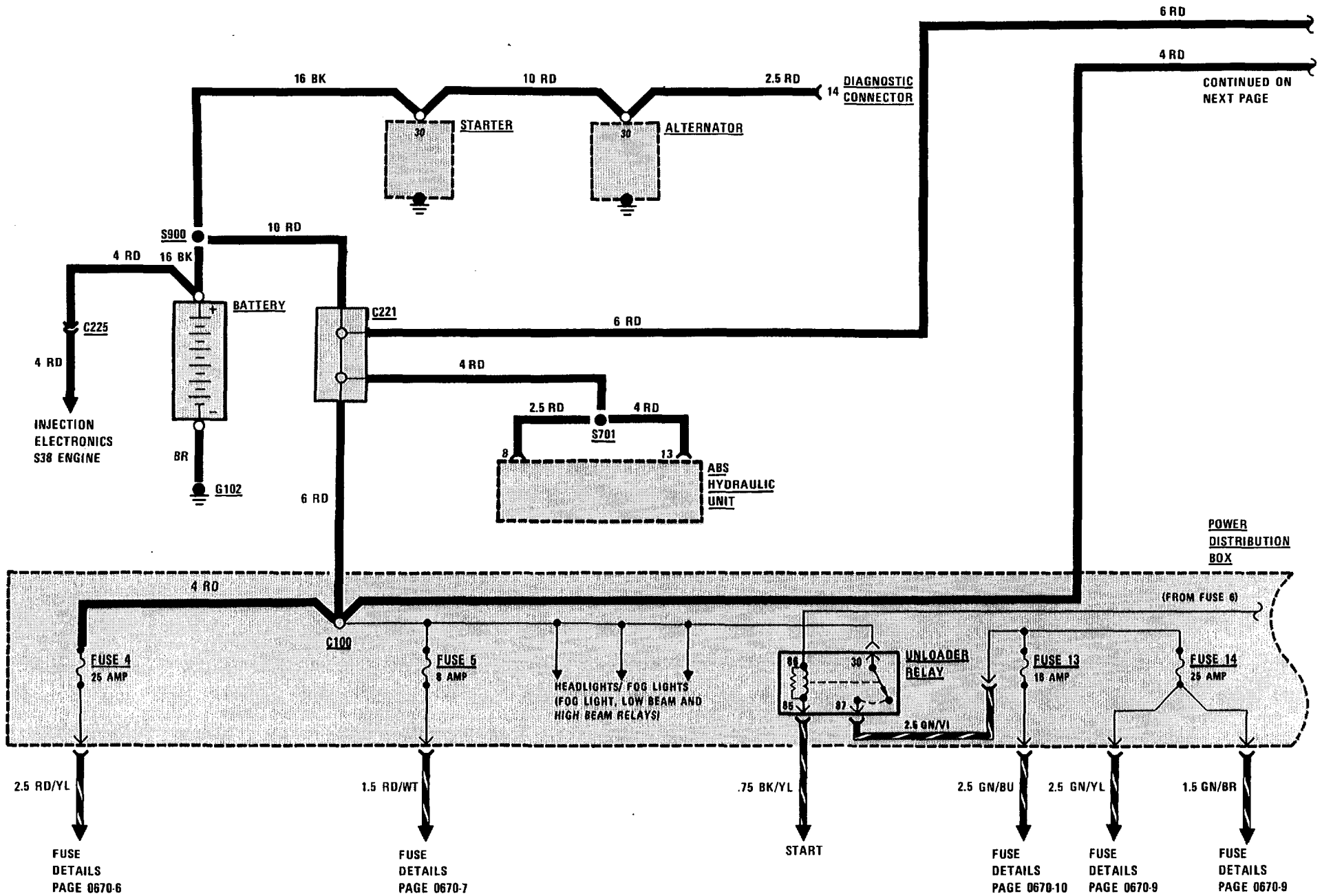
0670-2 POWER DISTRIBUTION 3.5i ENGINE



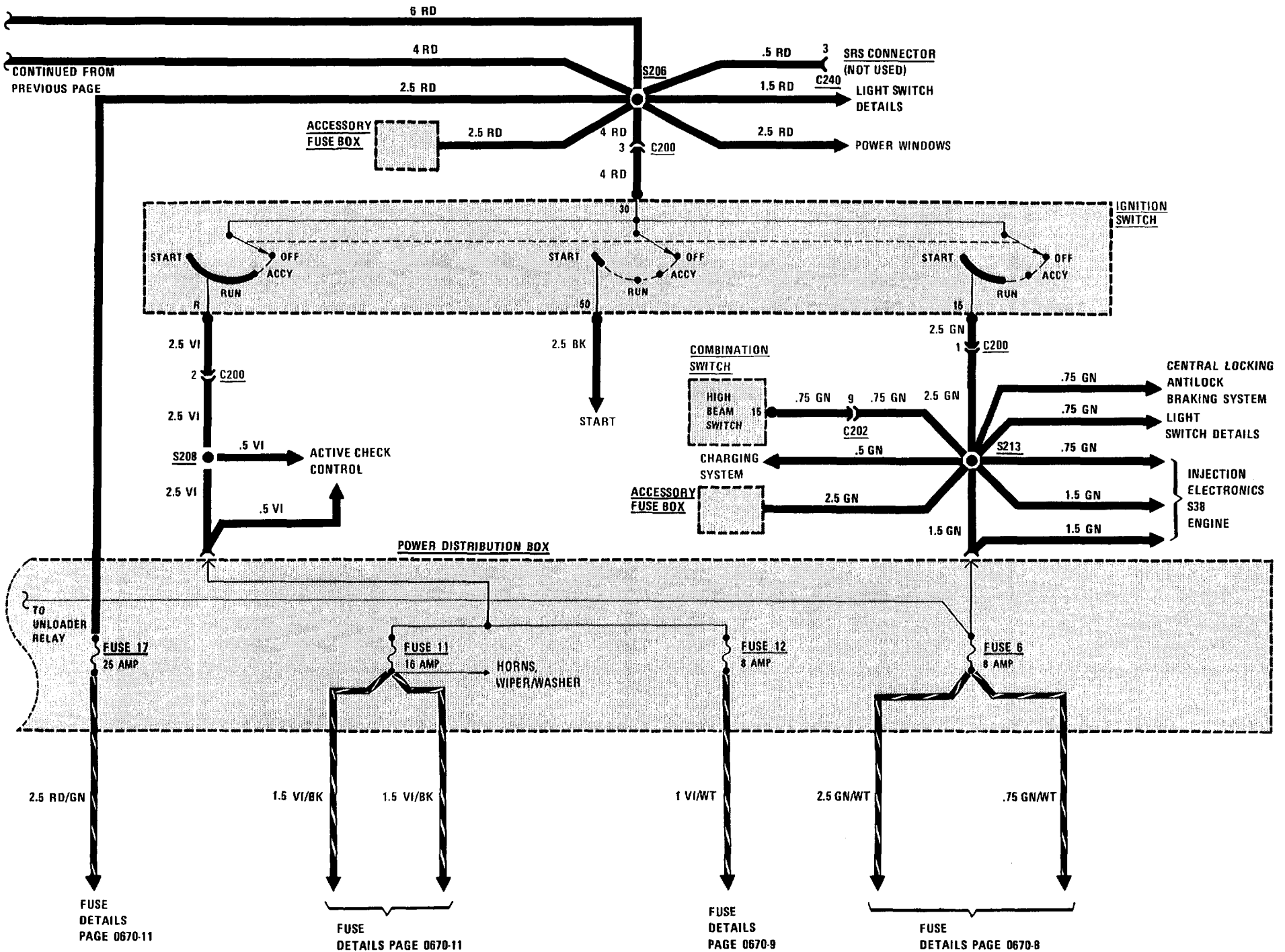
3.5i ENGINE POWER DISTRIBUTION 0670-3



0670-4 POWER DISTRIBUTION S38 ENGINE



S38 ENGINE POWER DISTRIBUTION 0670-5

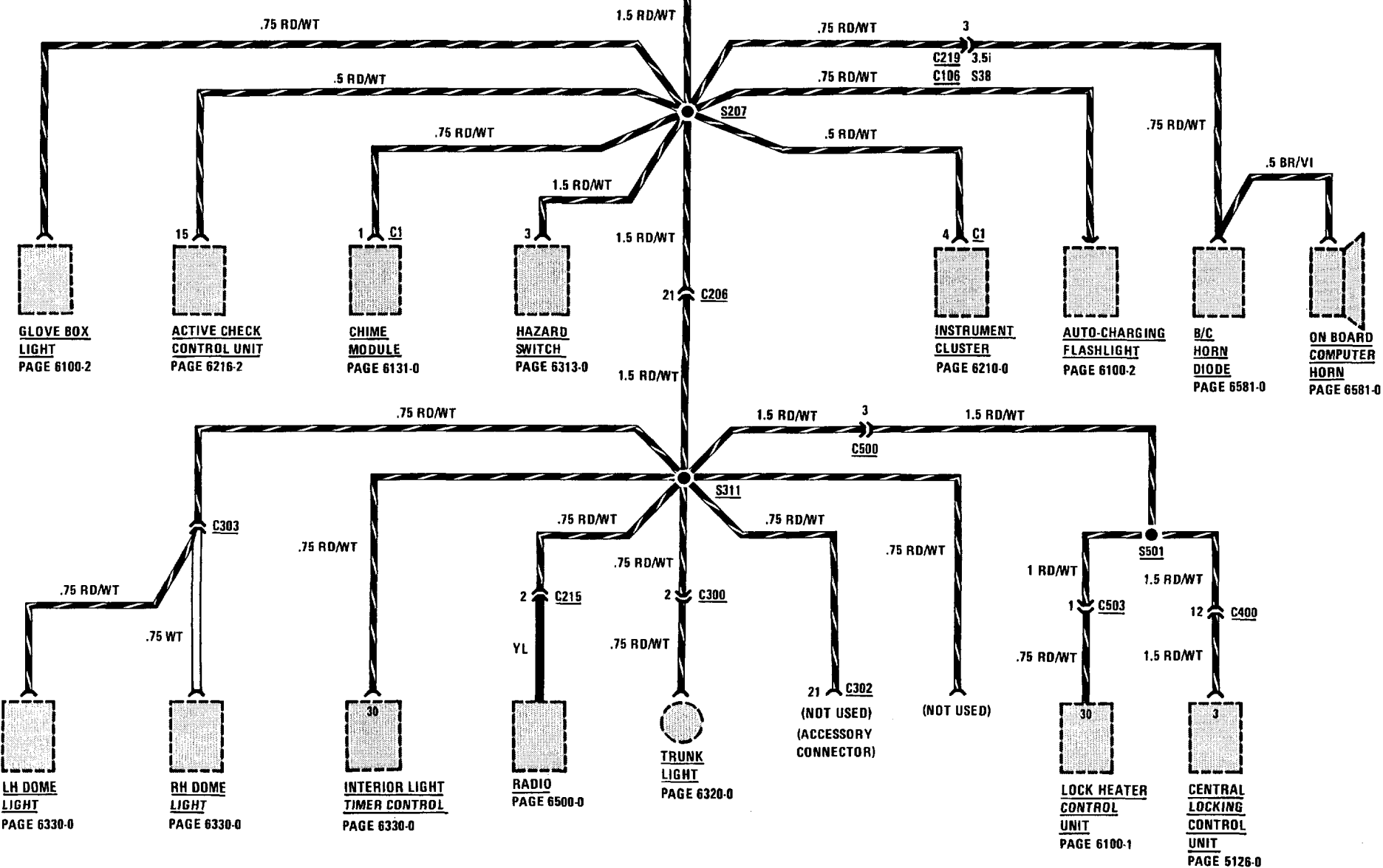


FUSE DETAILS: FUSE 5

HOT AT ALL TIMES



POWER DISTRIBUTION BOX



GLOVE BOX LIGHT
PAGE 6100-2

ACTIVE CHECK CONTROL UNIT
PAGE 6216-2

CHIME MODULE
PAGE 6131-0

HAZARD SWITCH
PAGE 6313-0

INSTRUMENT CLUSTER
PAGE 6210-0

AUTO-CHARGING FLASHLIGHT
PAGE 6100-2

B/C HORN DIODE
PAGE 6581-0

ON BOARD COMPUTER HORN
PAGE 6581-0

LH DOME LIGHT
PAGE 6330-0

RH DOME LIGHT
PAGE 6330-0

INTERIOR LIGHT TIMER CONTROL
PAGE 6330-0

RADIO
PAGE 6500-0

TRUNK LIGHT
PAGE 6320-0

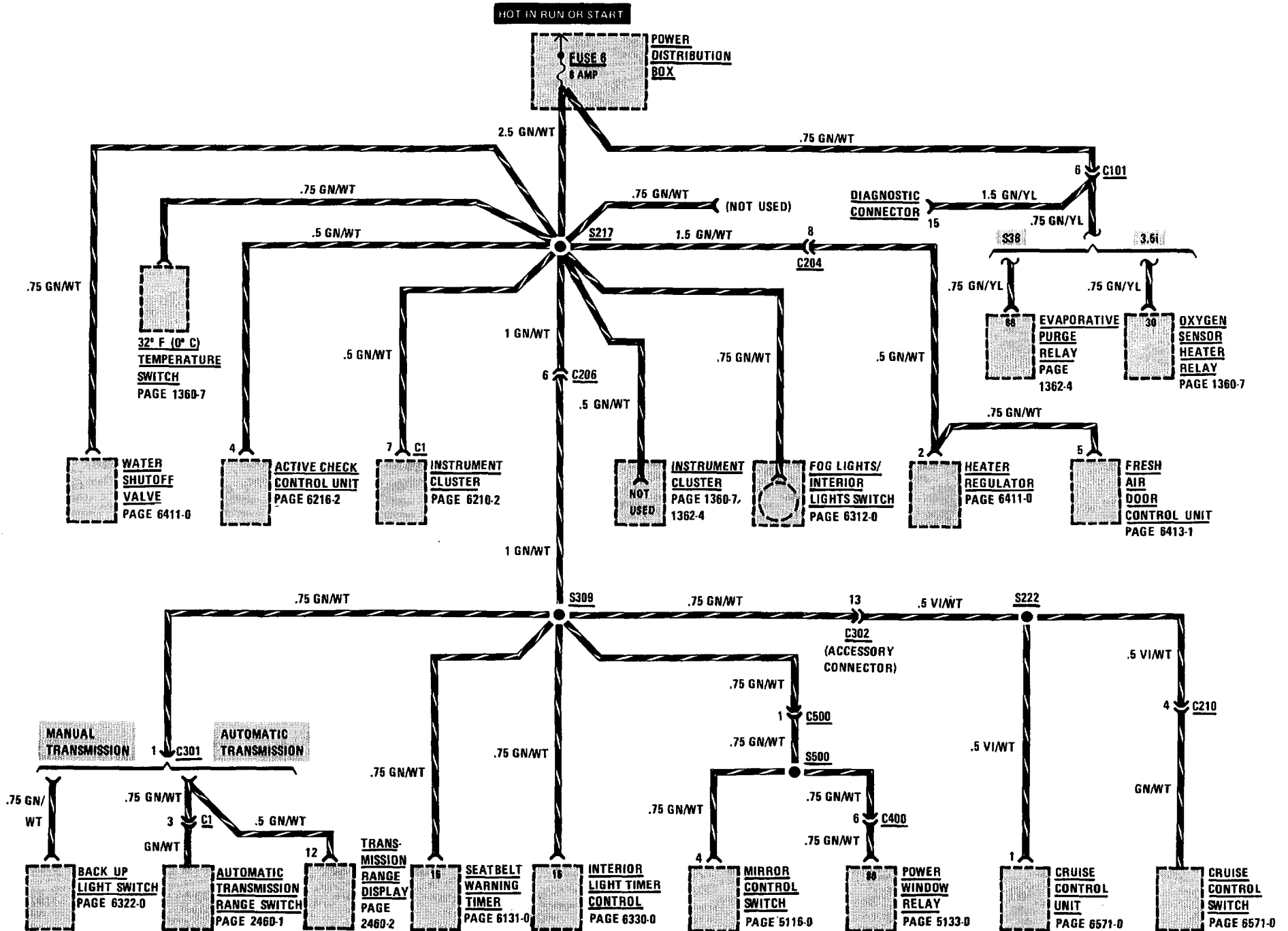
(NOT USED)
(ACCESSORY CONNECTOR)

(NOT USED)

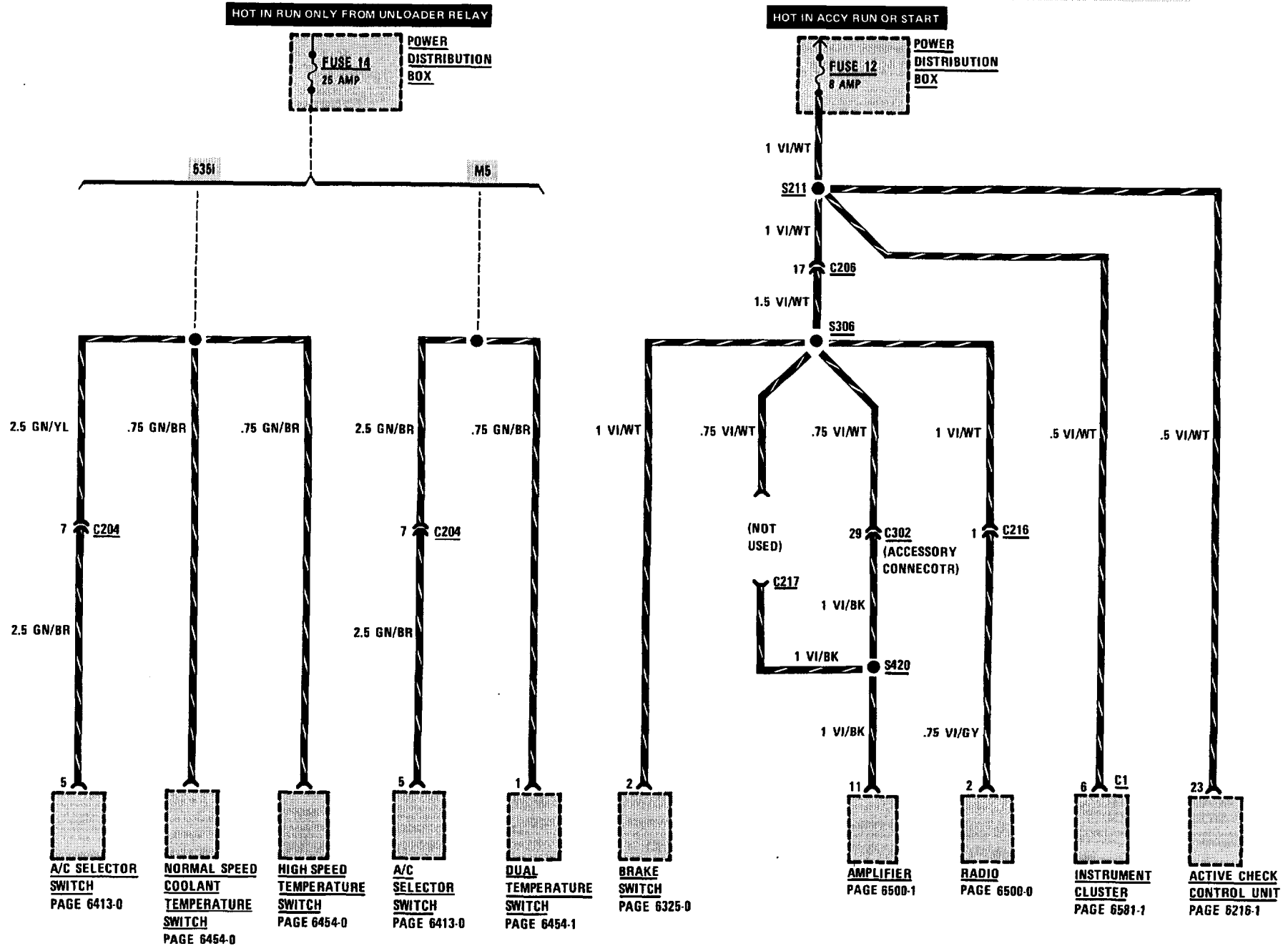
LOCK HEATER CONTROL UNIT
PAGE 6100-1

CENTRAL LOCKING CONTROL UNIT
PAGE 5126-0

FUSE DETAILS: FUSE 6

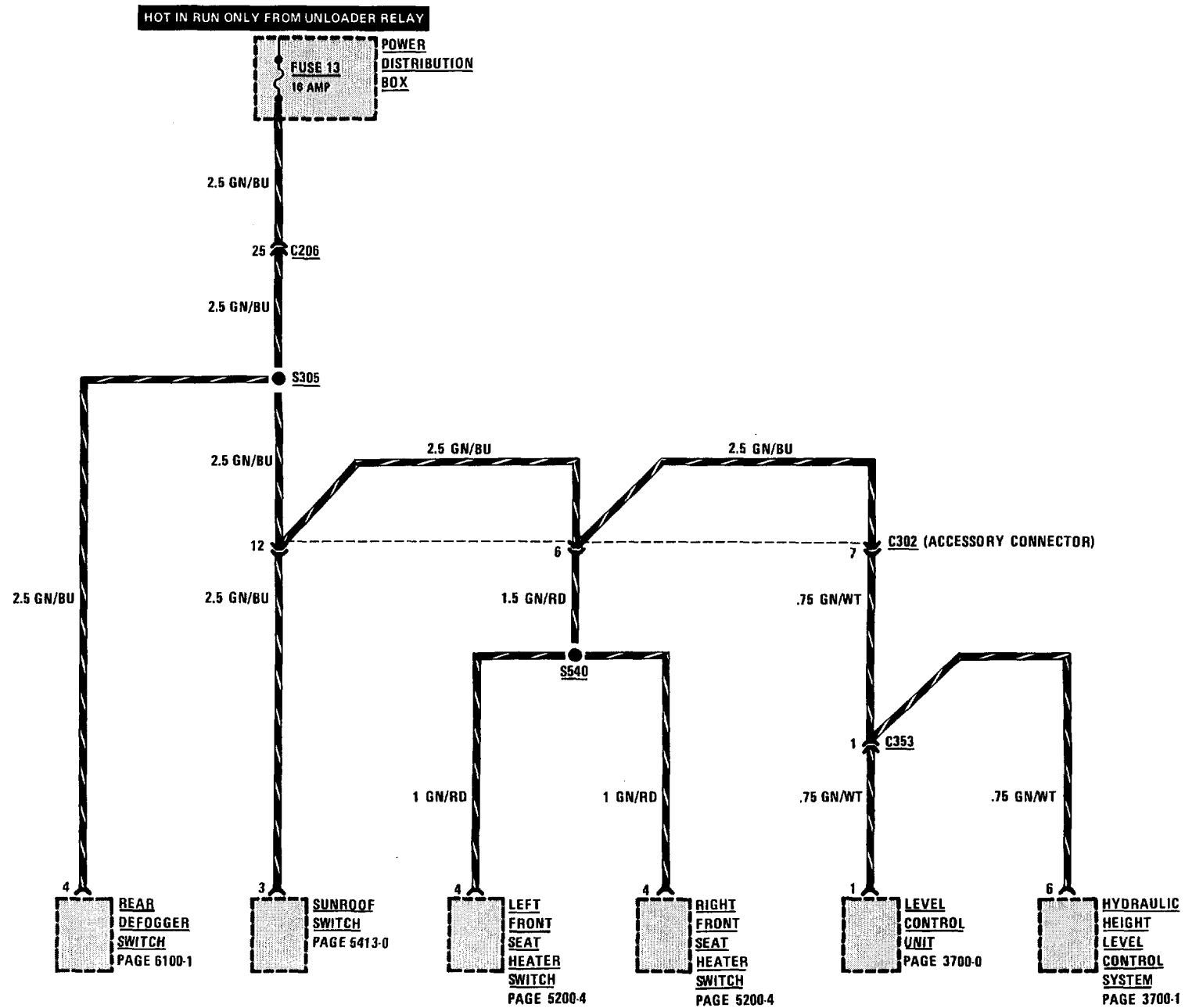


FUSE DETAILS: FUSE 12, 14

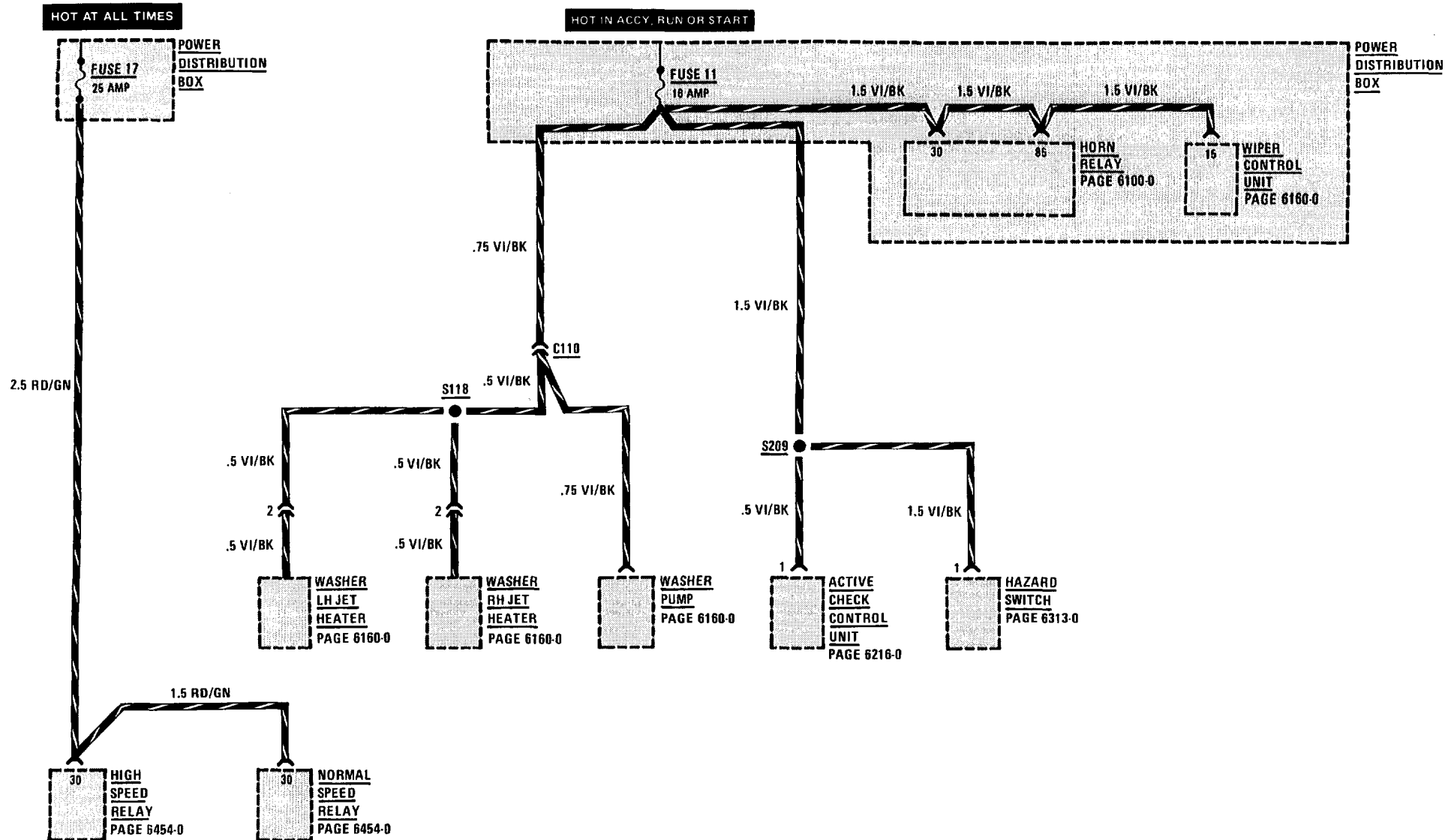


0670-10 POWER DISTRIBUTION

FUSE DETAILS: FUSE 13

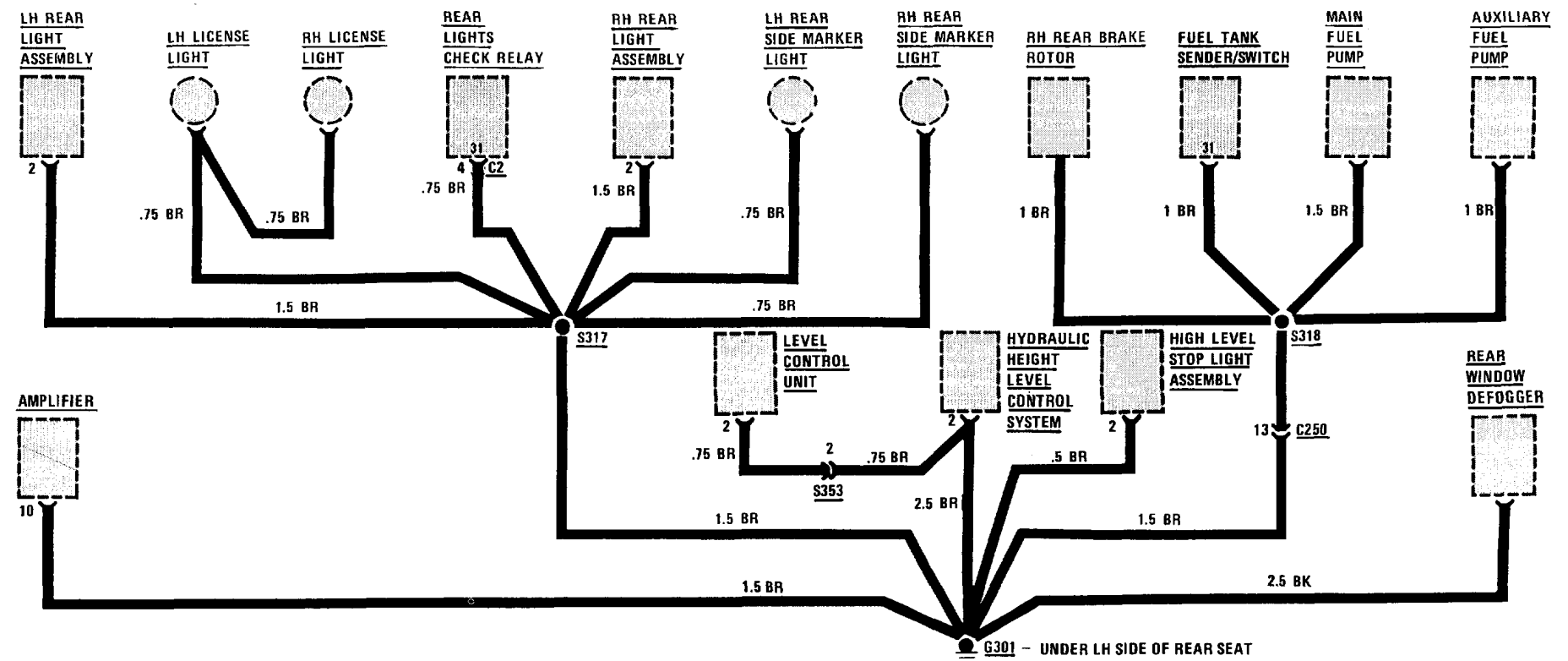
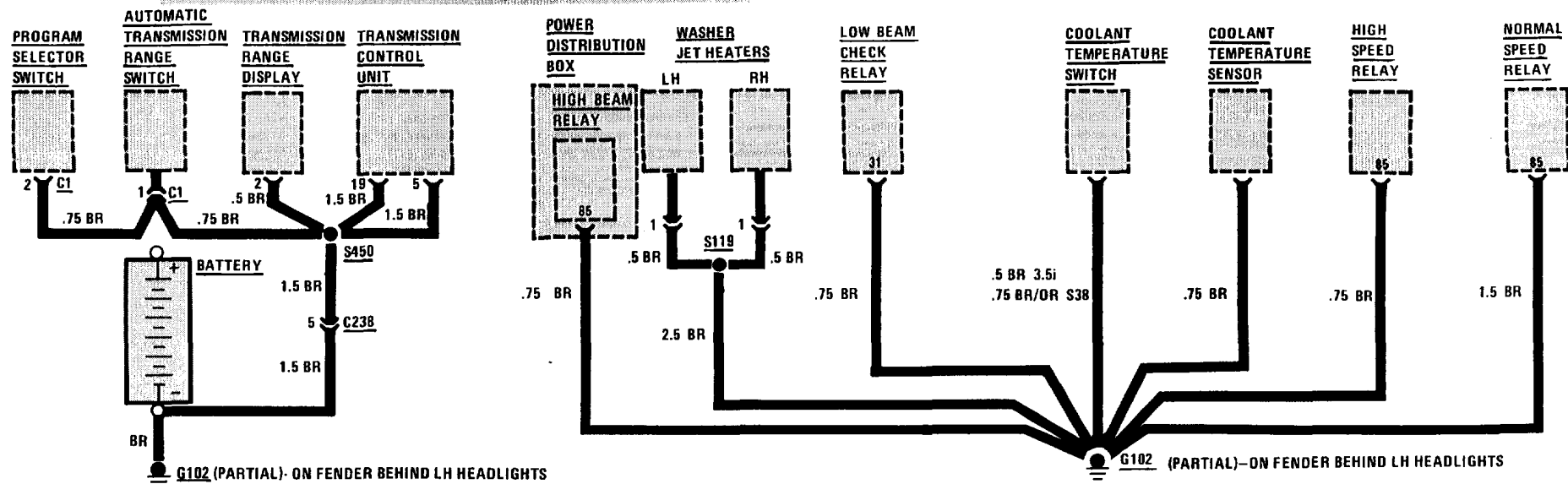


FUSE DETAILS: FUSE 11, 17

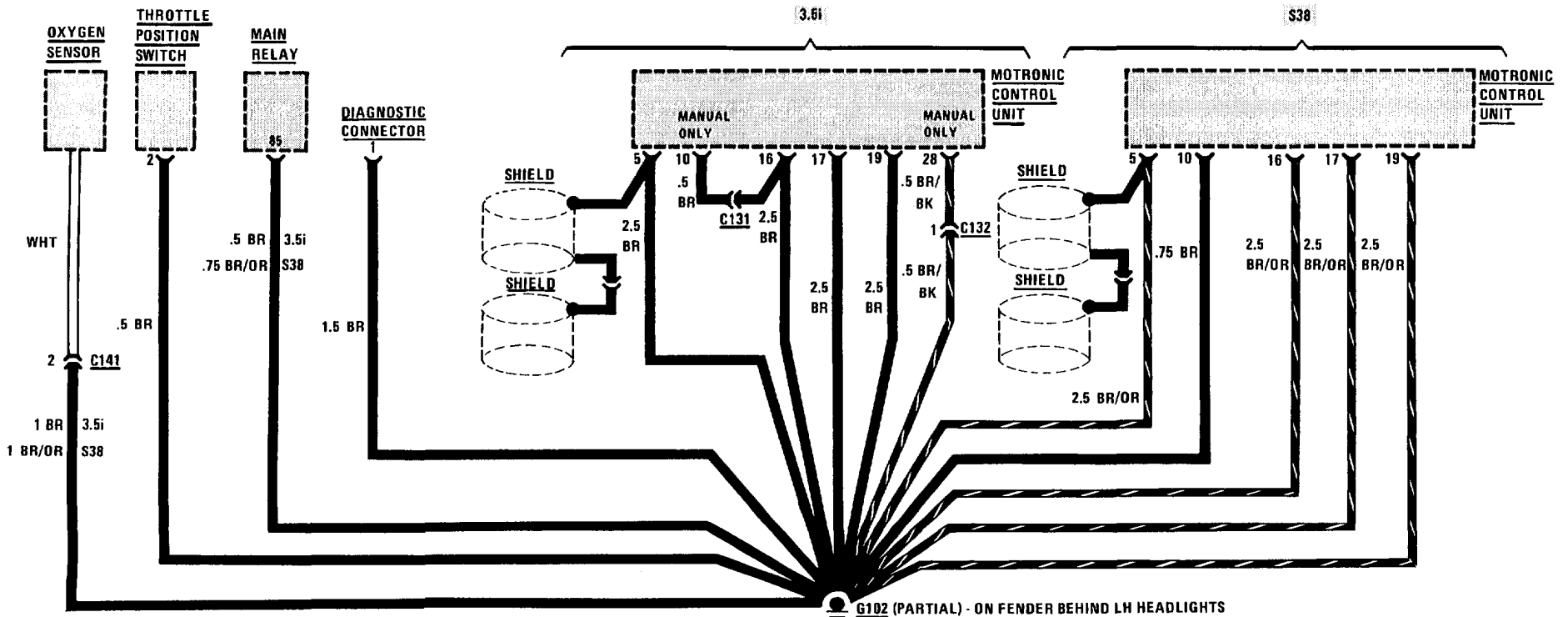
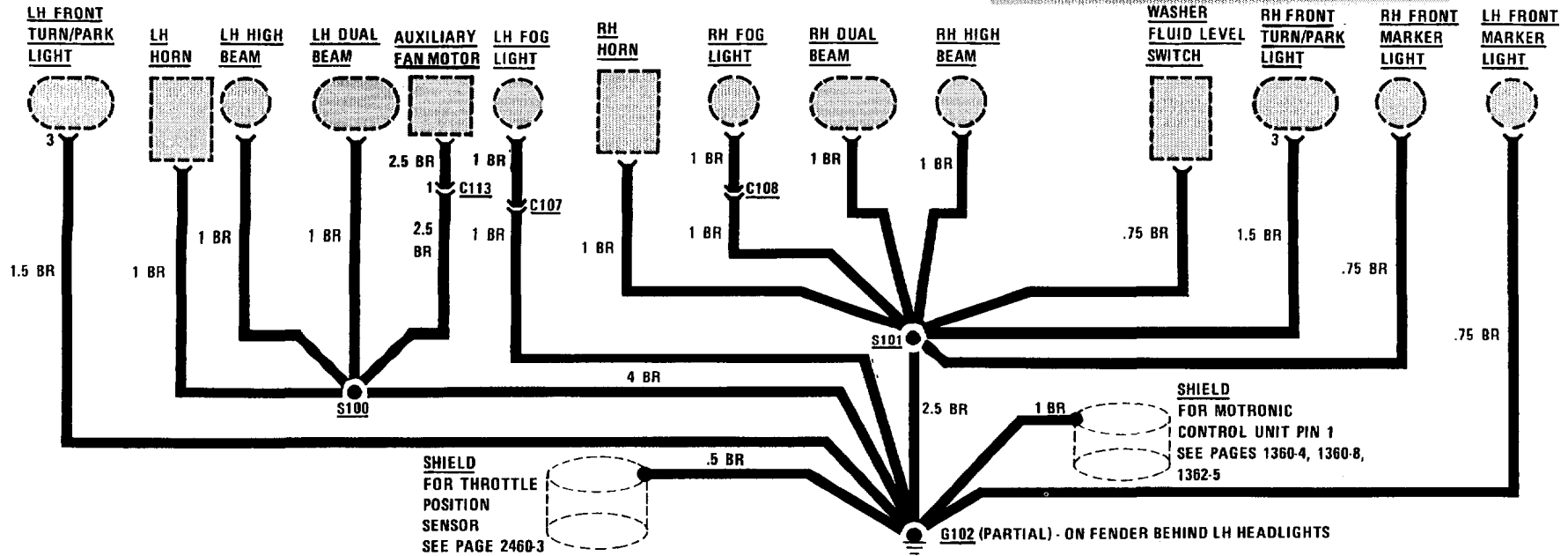


0670-12 POWER DISTRIBUTION

GROUND DISTRIBUTION (G102 AND G301)

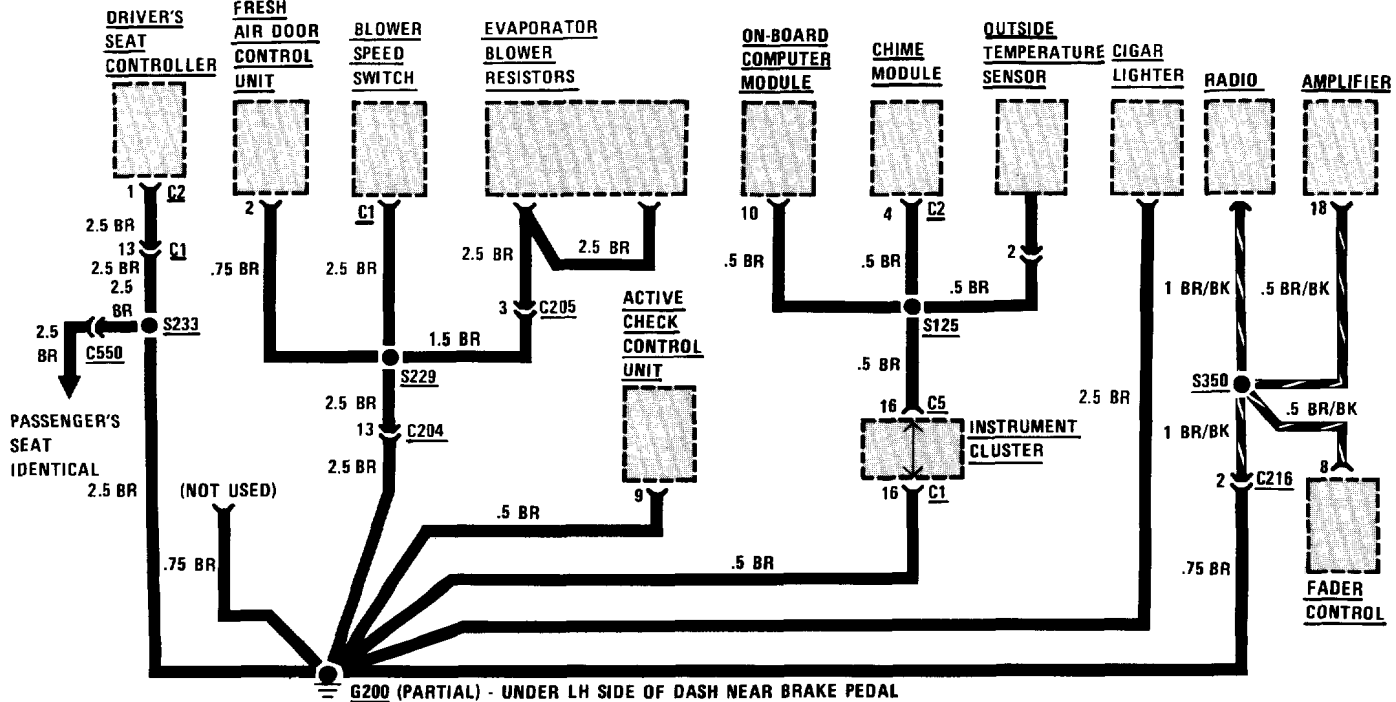
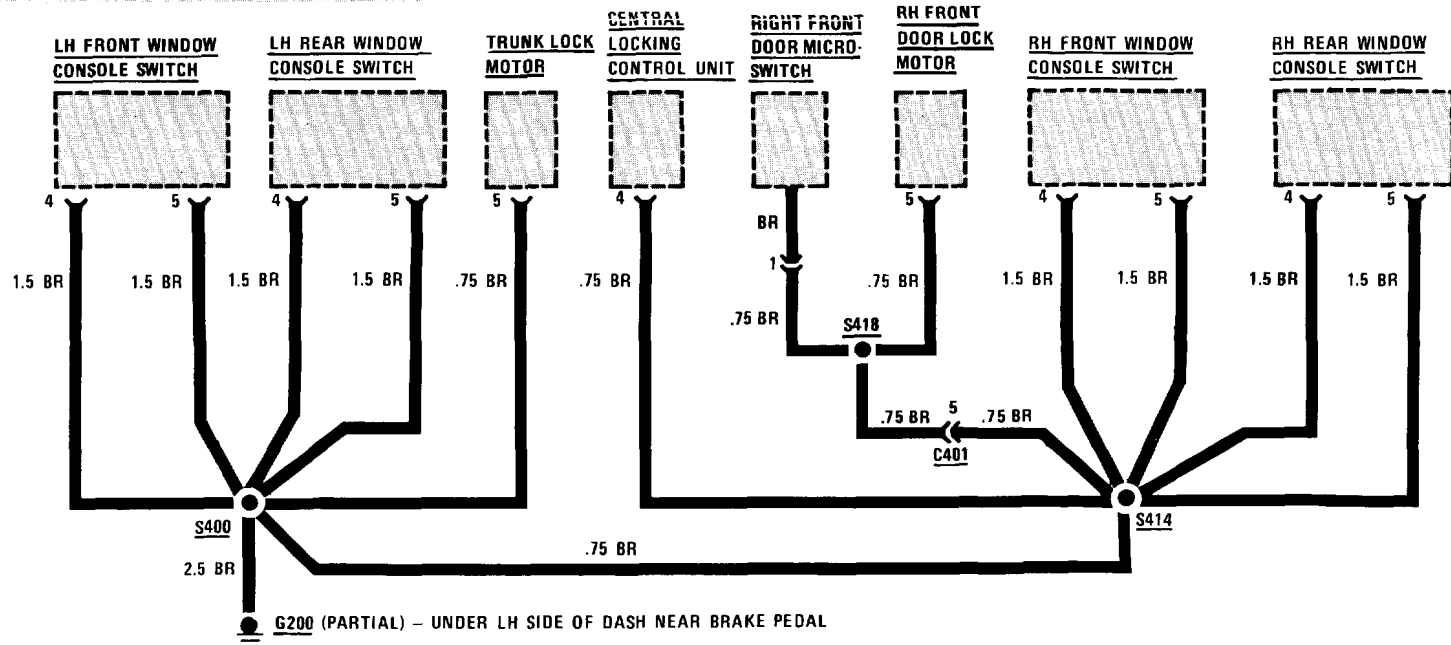


GROUND DISTRIBUTION (G102)

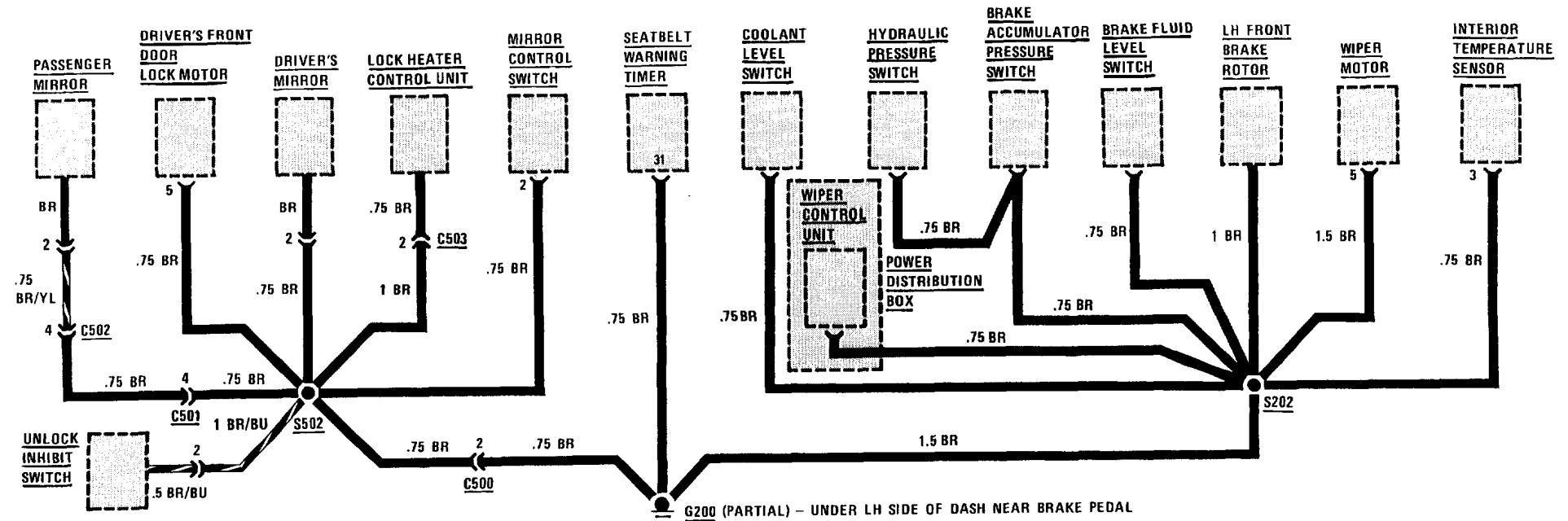
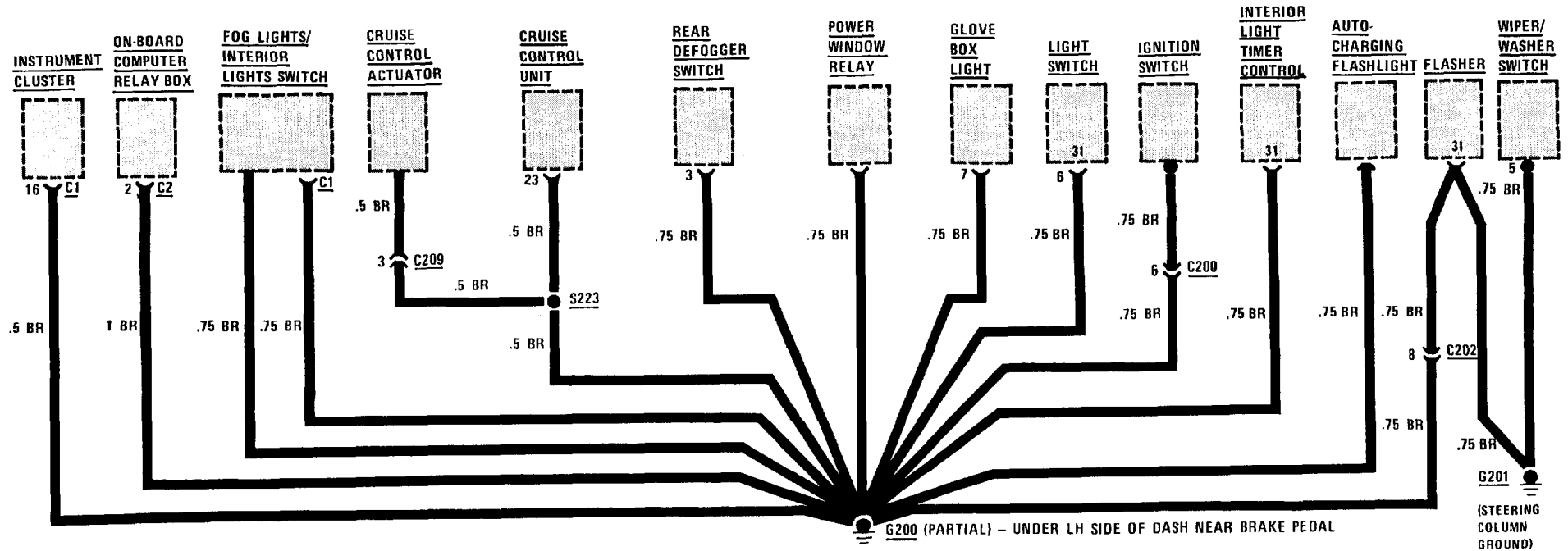


0670-14 POWER DISTRIBUTION

GROUND DISTRIBUTION (G200)

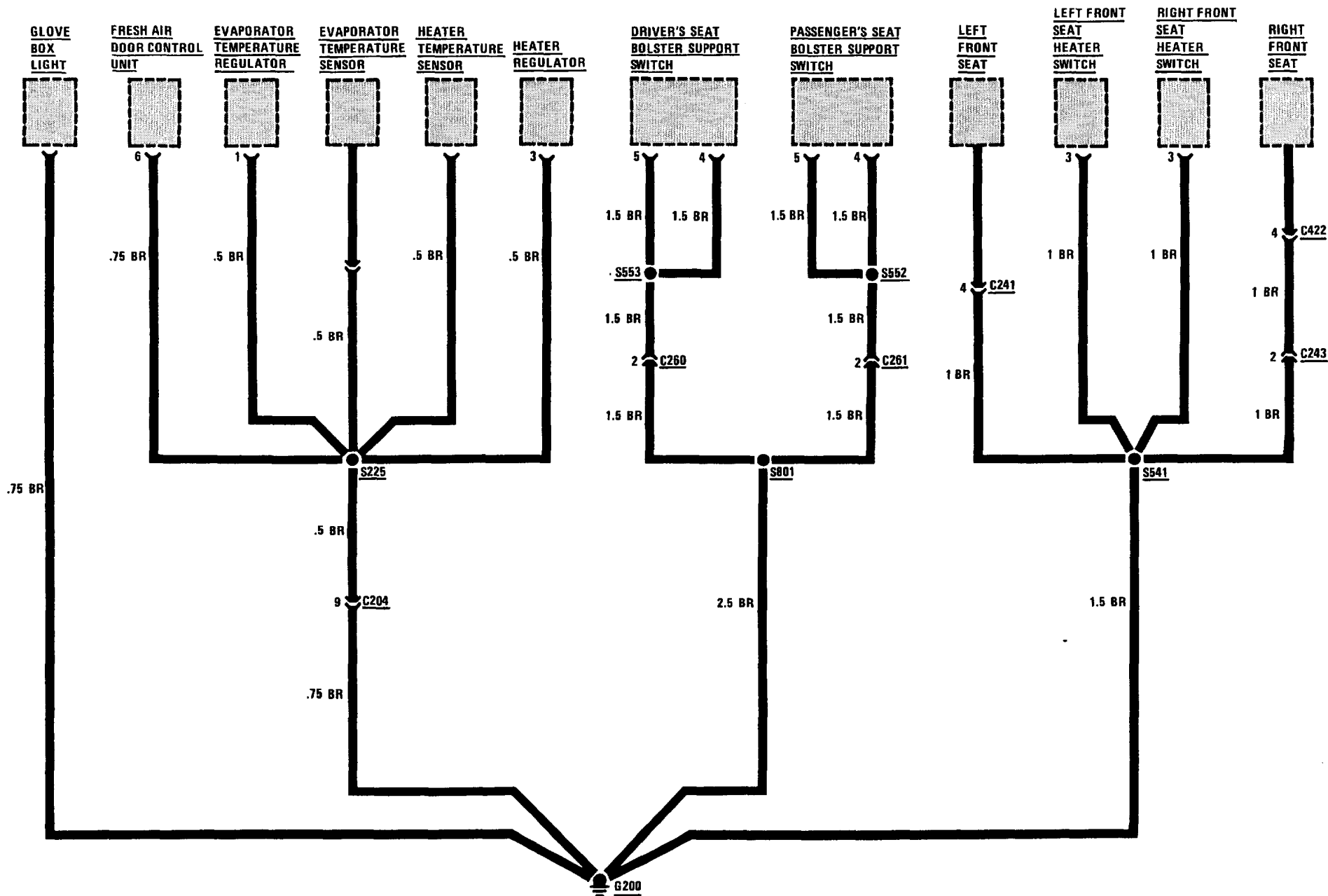


GROUND DISTRIBUTION (G200 AND G201)

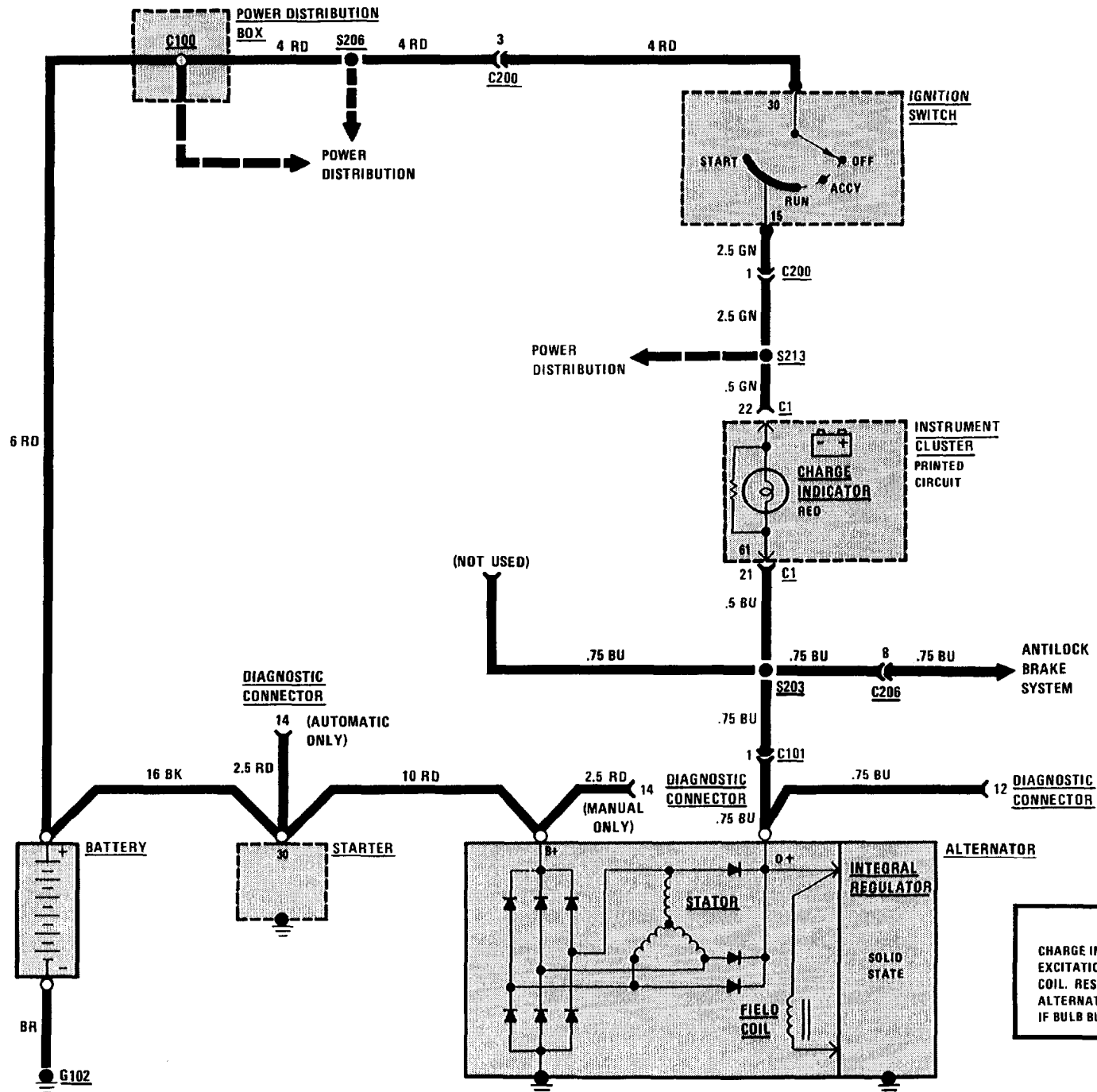


0670-16 POWER DISTRIBUTION

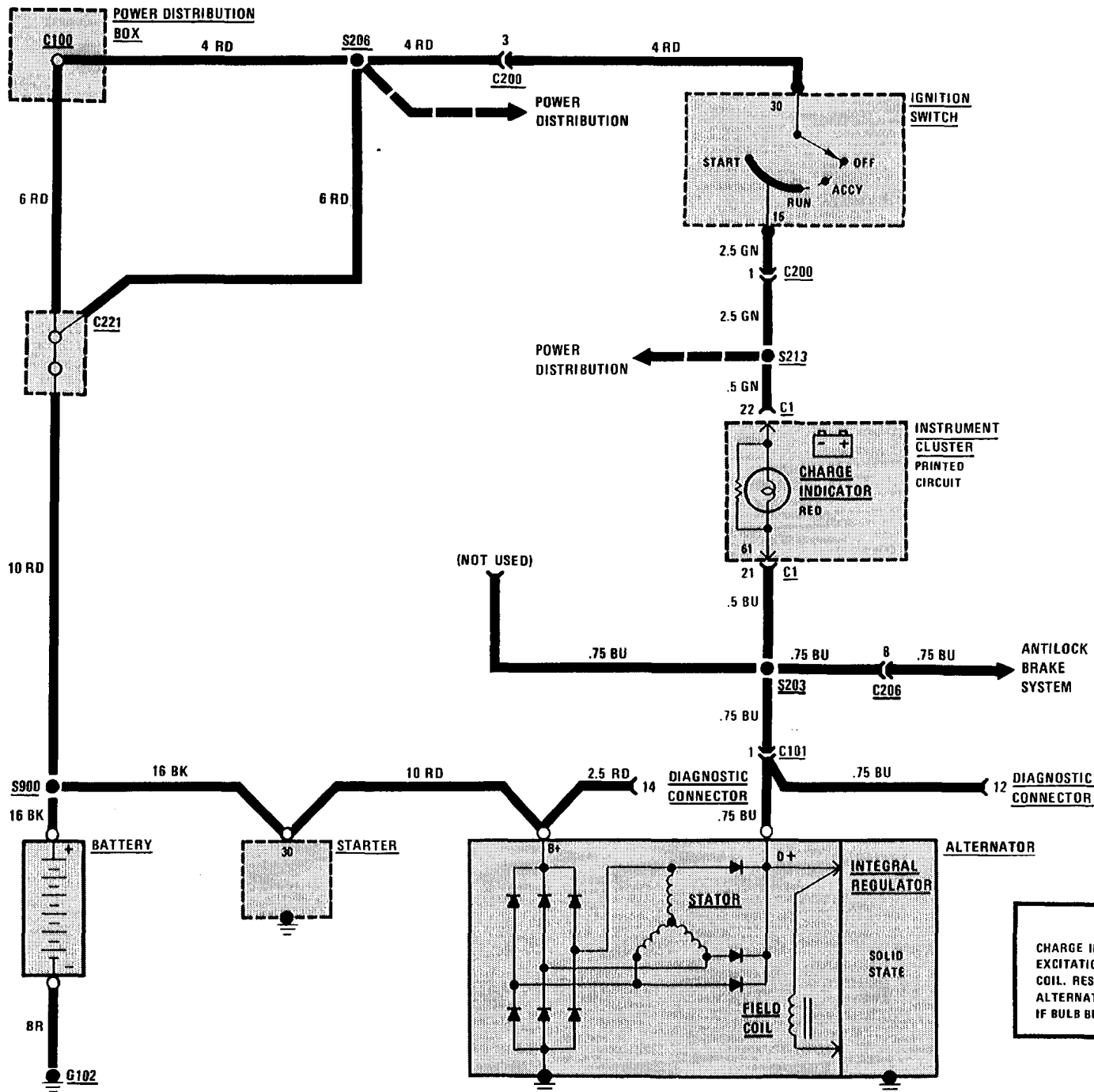
GROUND DISTRIBUTION (G200)



1230-0 CHARGING 3.5i ENGINE

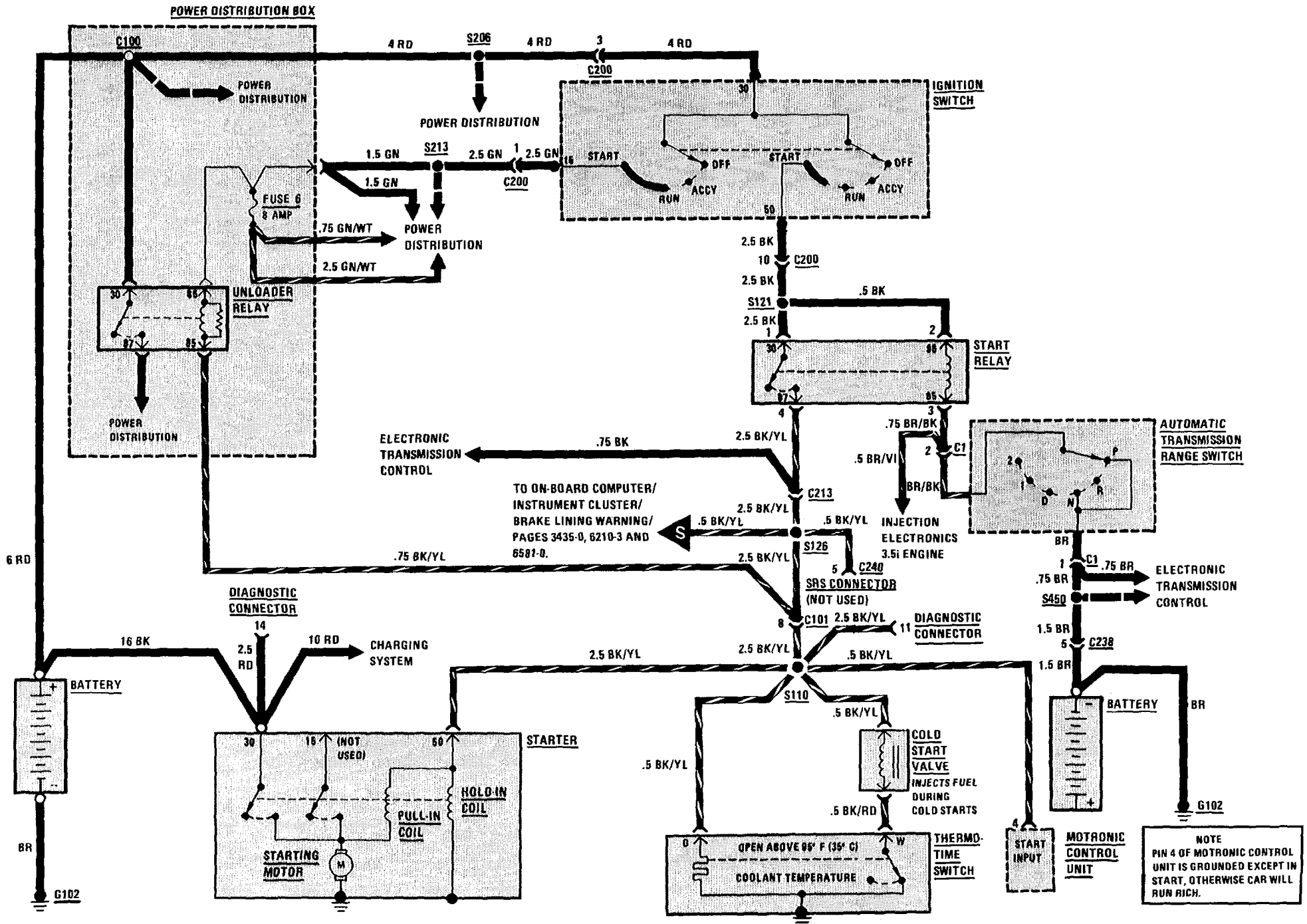


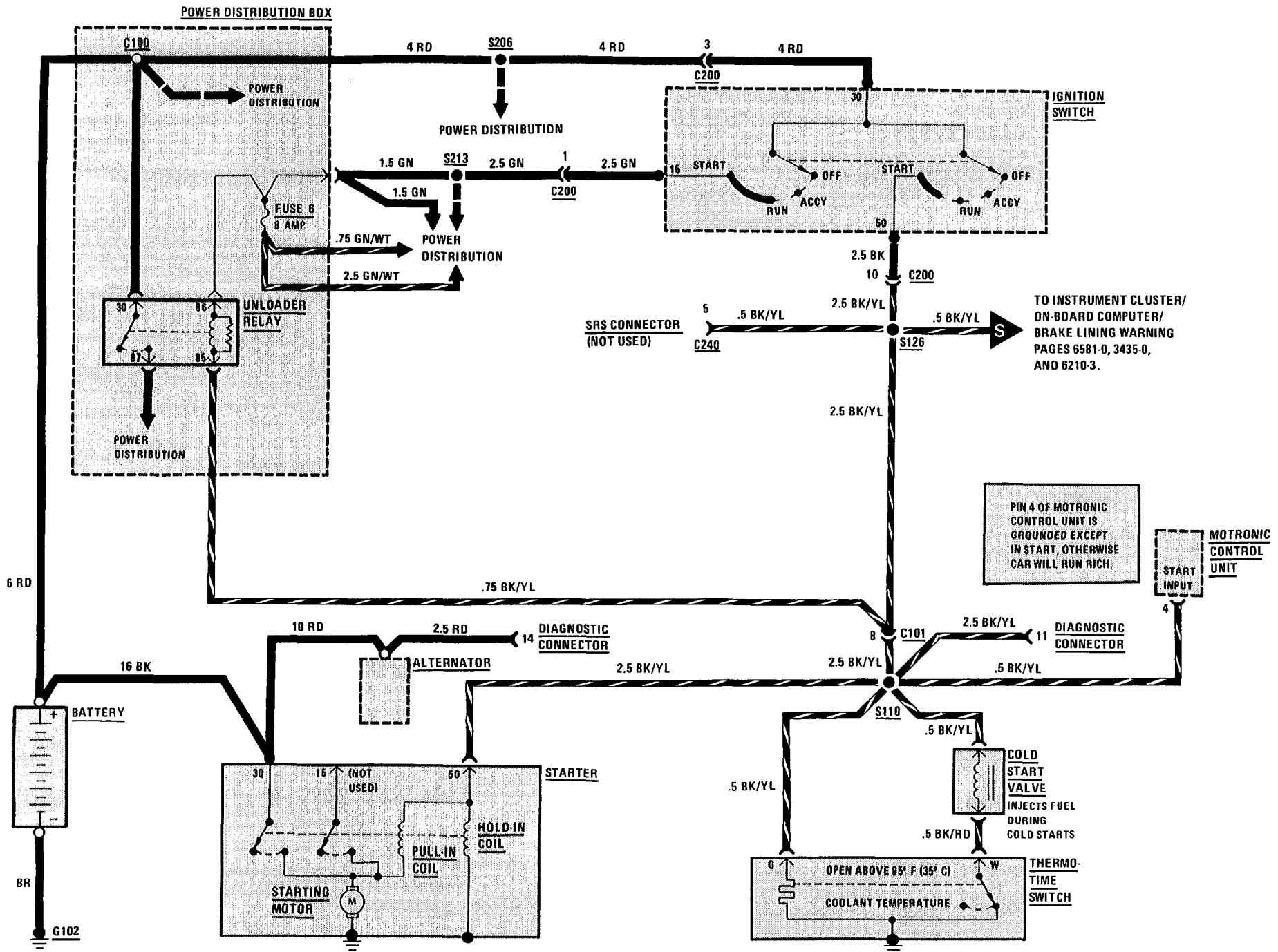
NOTE
CHARGE INDICATOR PROVIDES EXCITATION CURRENT TO FIELD COIL. RESISTOR ALLOWS ALTERNATOR TO CHARGE IF BULB BURNS OUT.



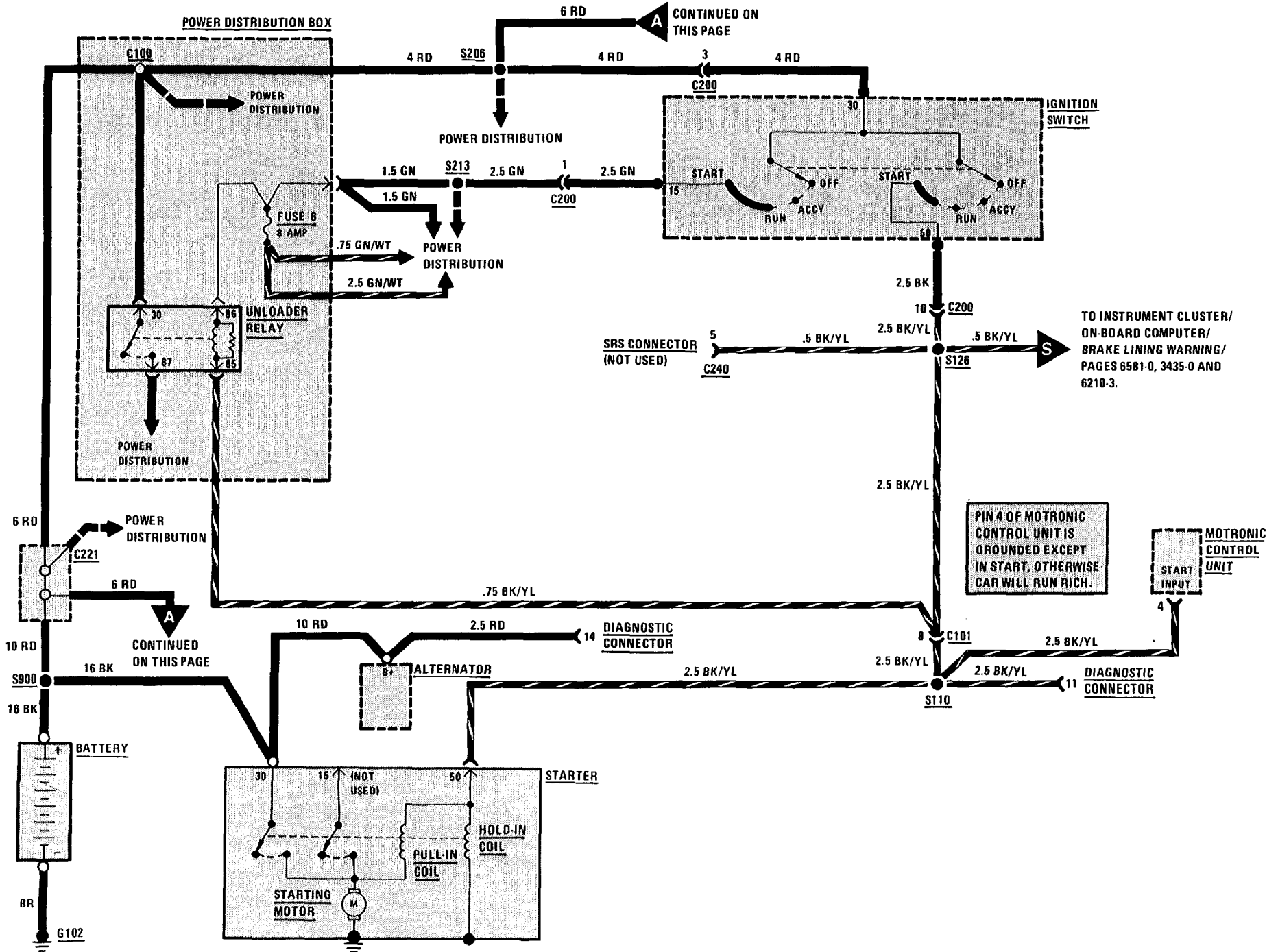
1240-0 START 3.5i ENGINE

AUTOMATIC ONLY

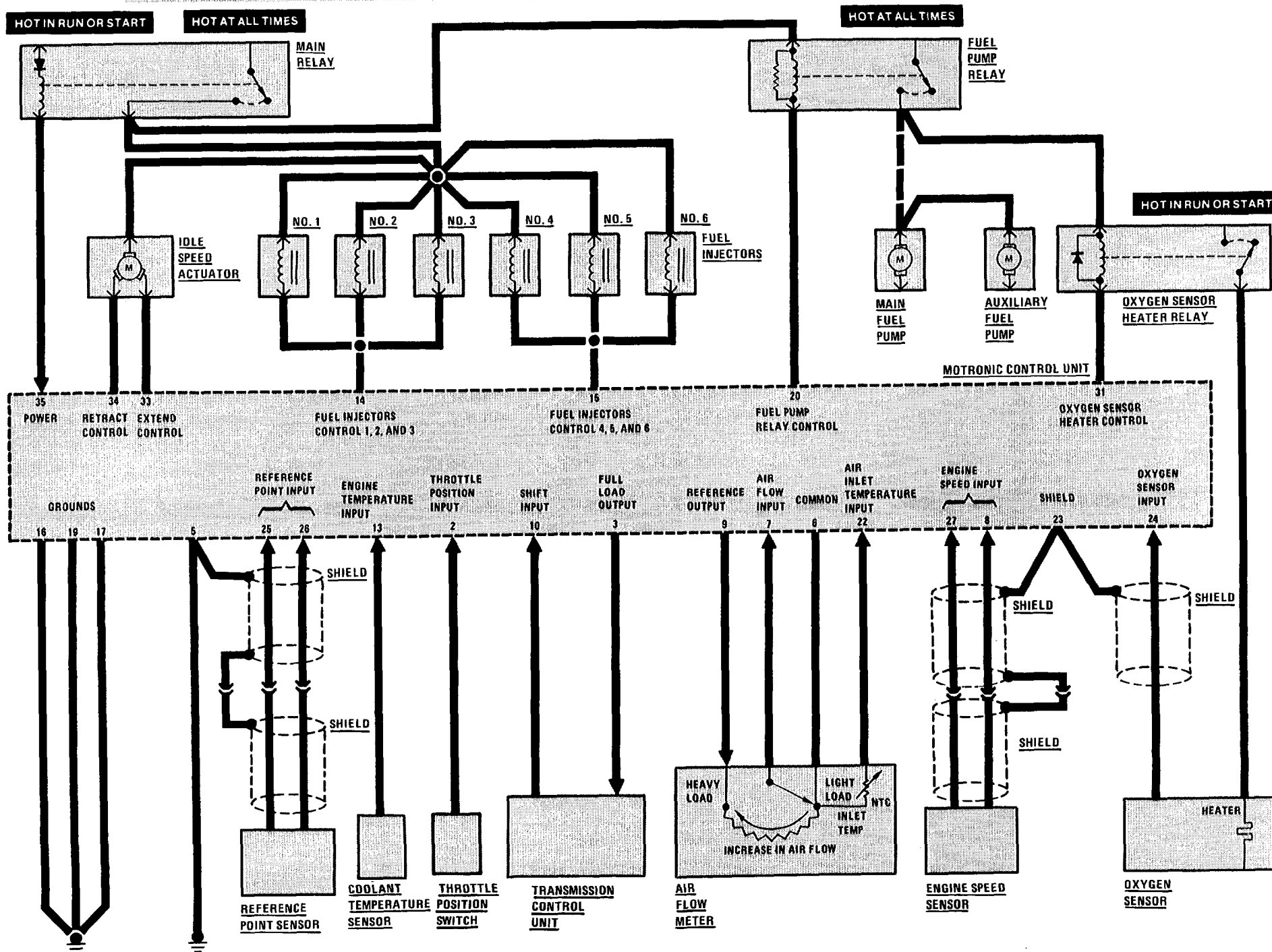




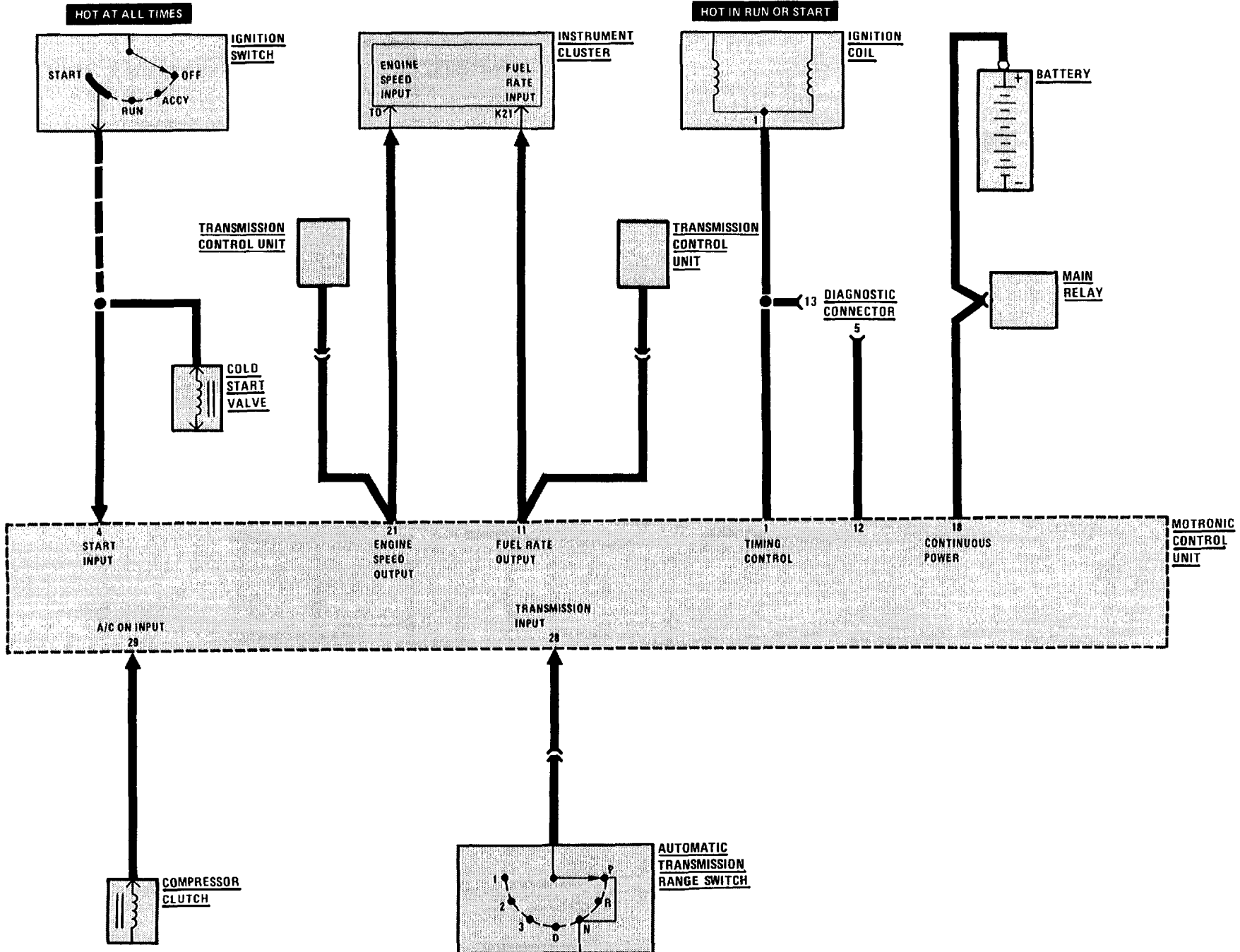
1240-2 START S38 ENGINE



ENGINE BLOCK DIAGRAM (AUTOMATIC ONLY)

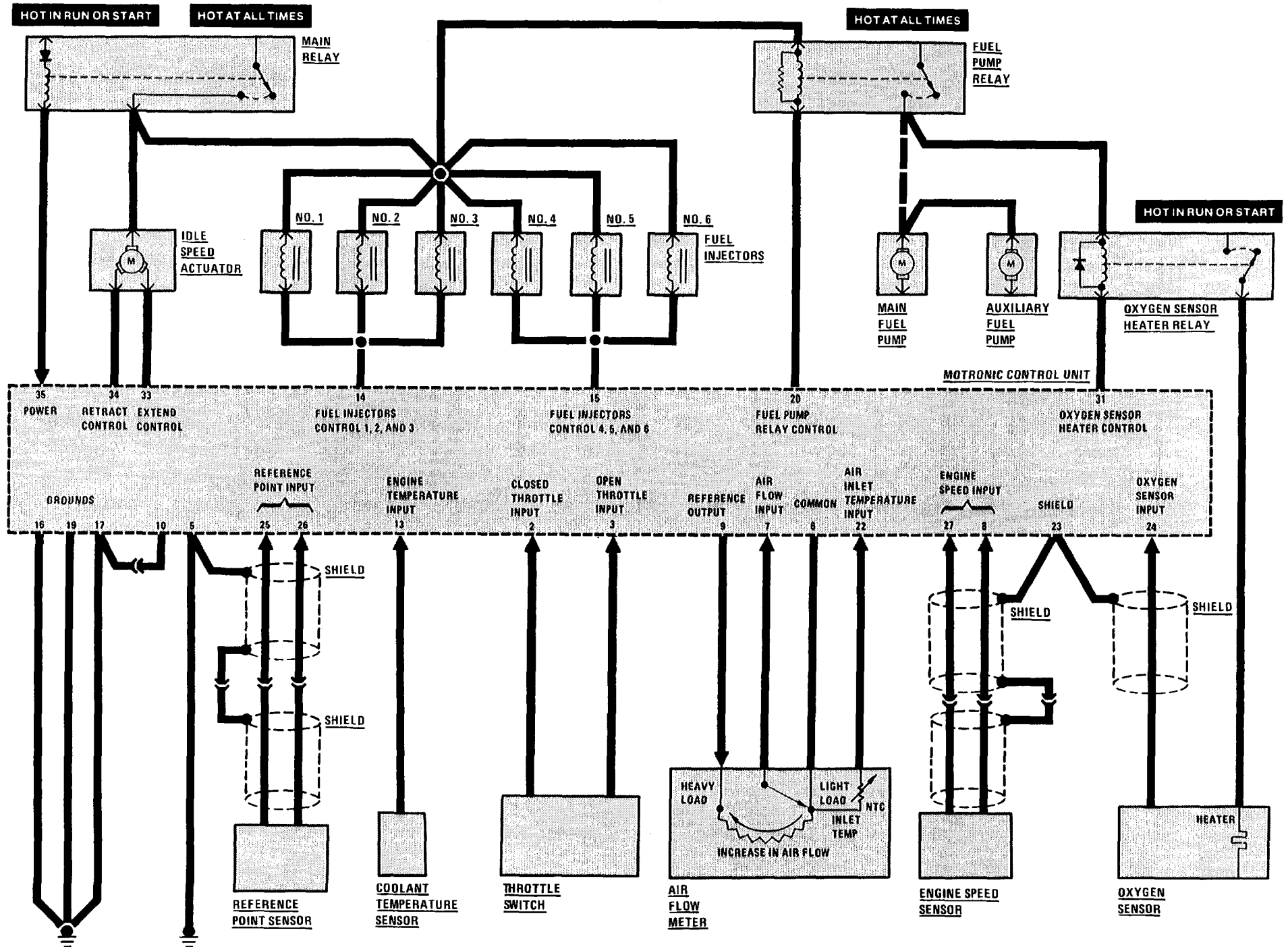


ENGINE BLOCK DIAGRAM (AUTOMATIC ONLY)

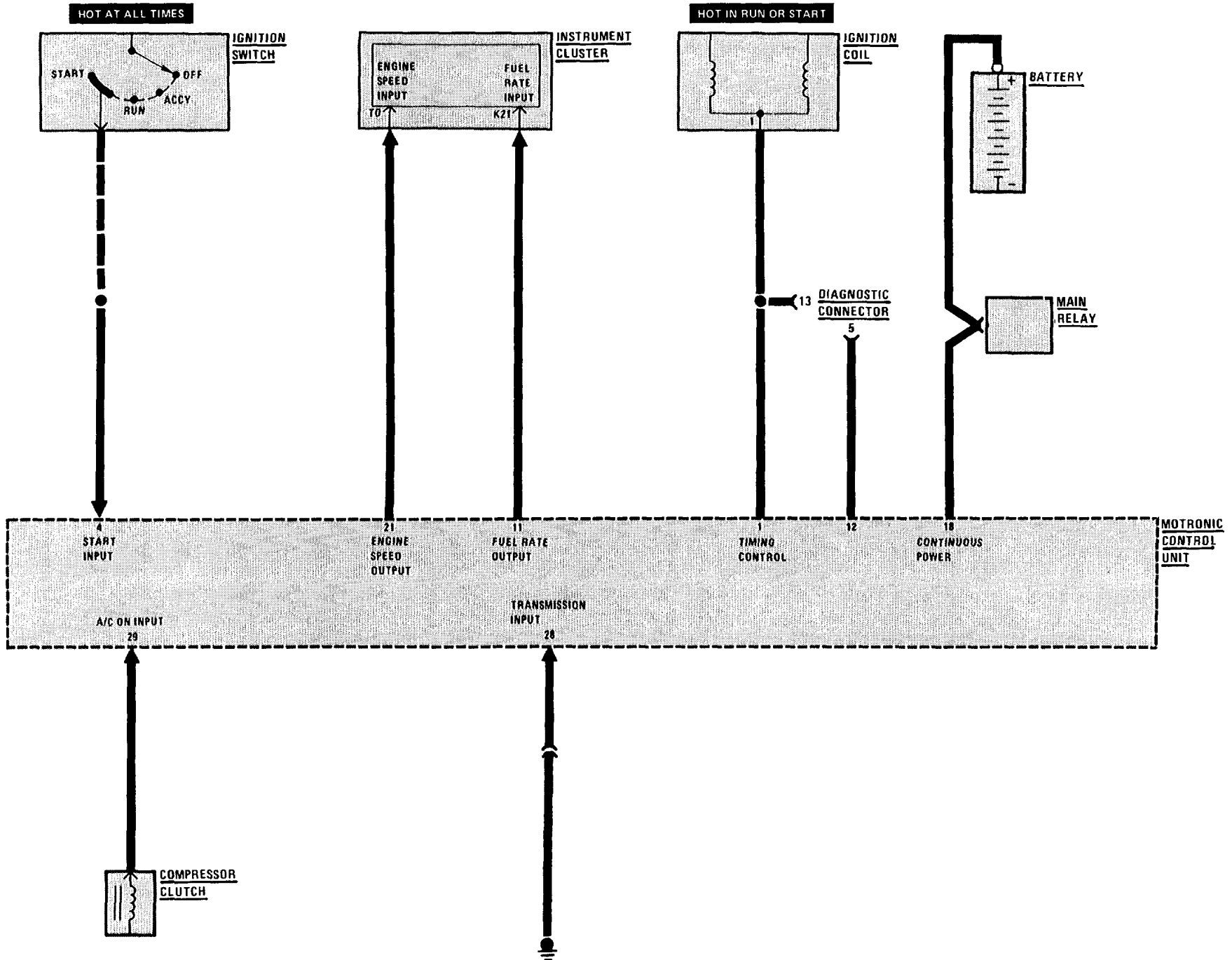


1360-2 INJECTION ELECTRONICS 3.5i ENGINE

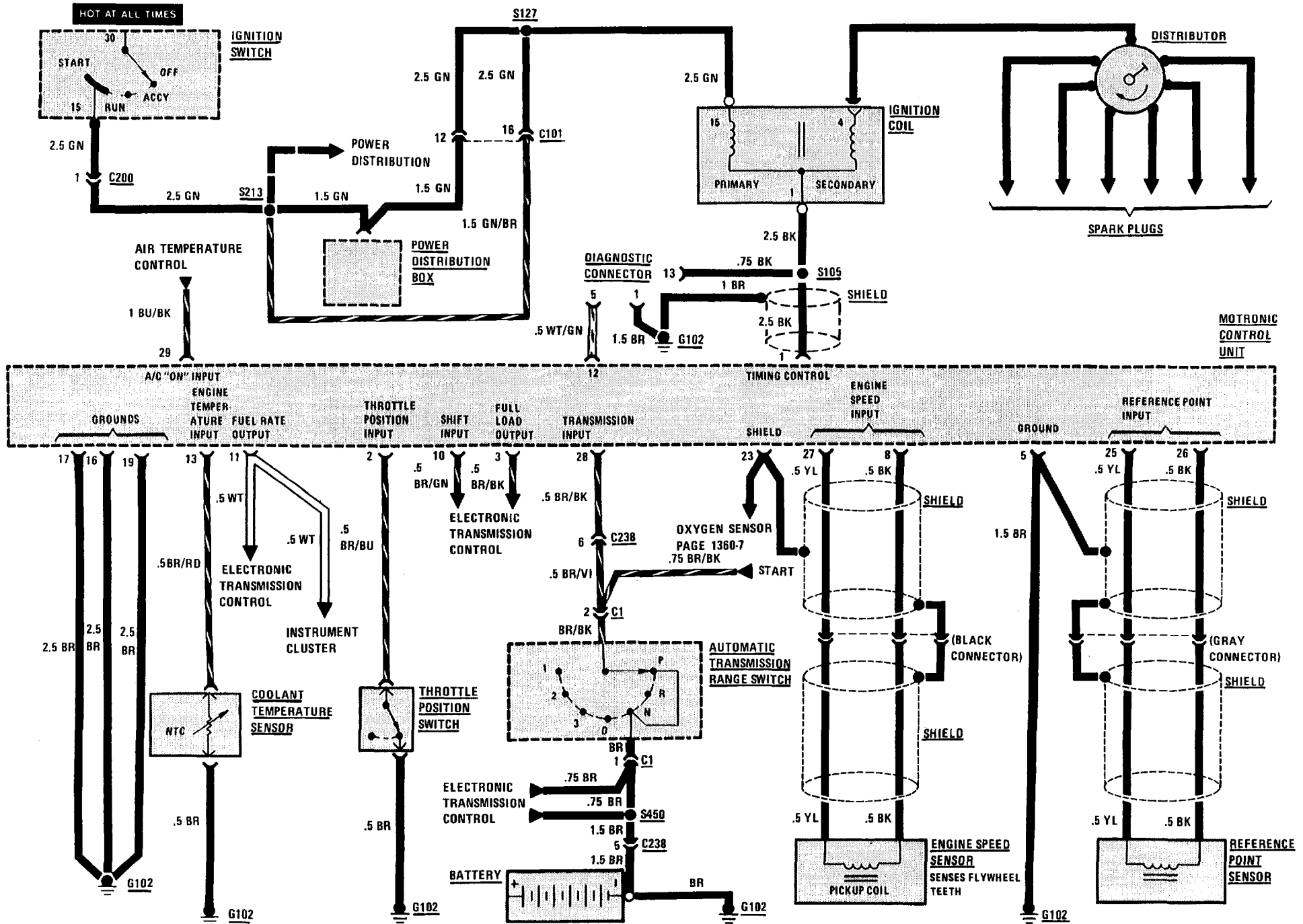
ENGINE BLOCK DIAGRAM (MANUAL ONLY)



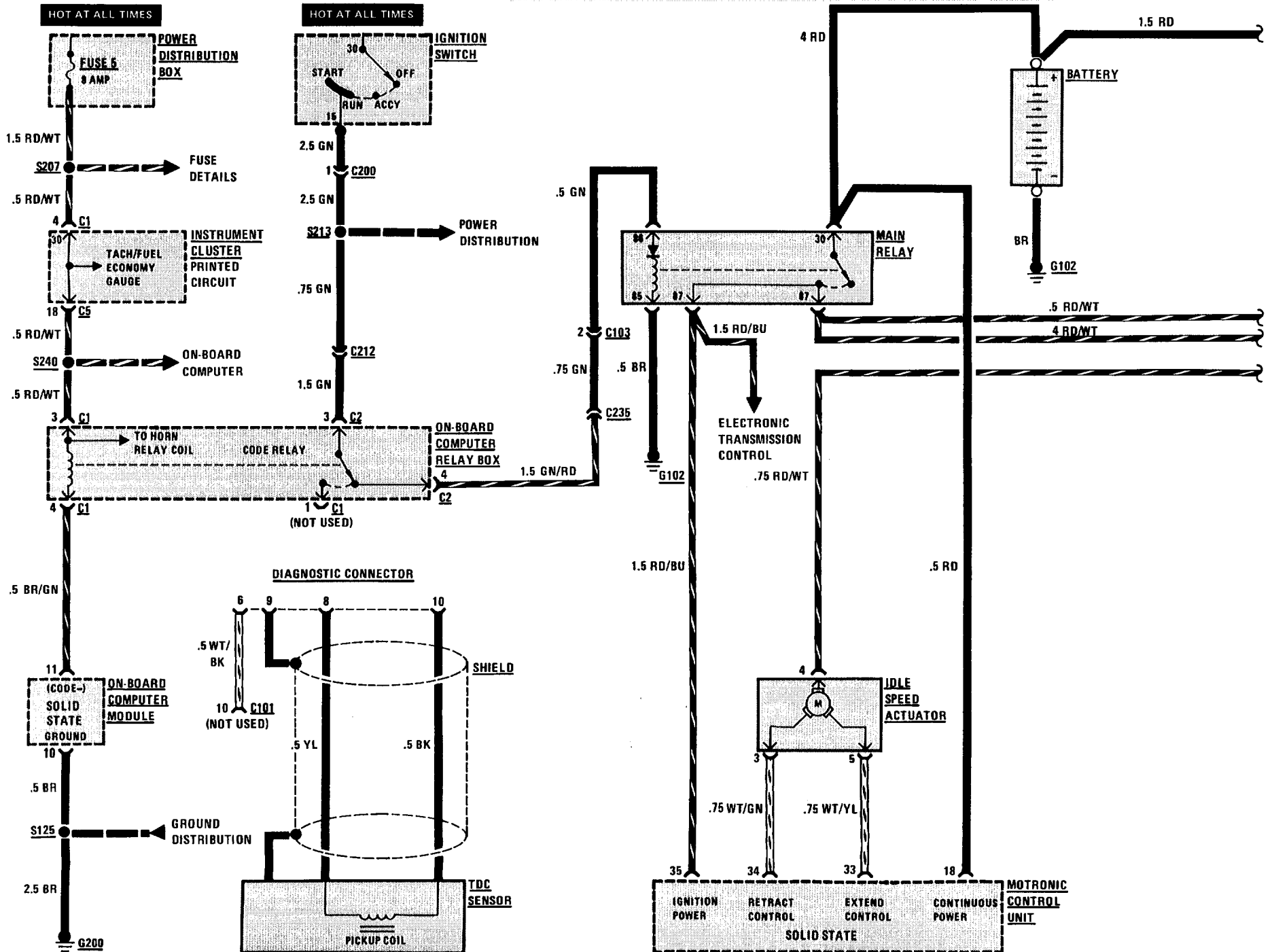
ENGINE BLOCK DIAGRAM (MANUAL ONLY)



IGNITION (AUTOMATIC ONLY)

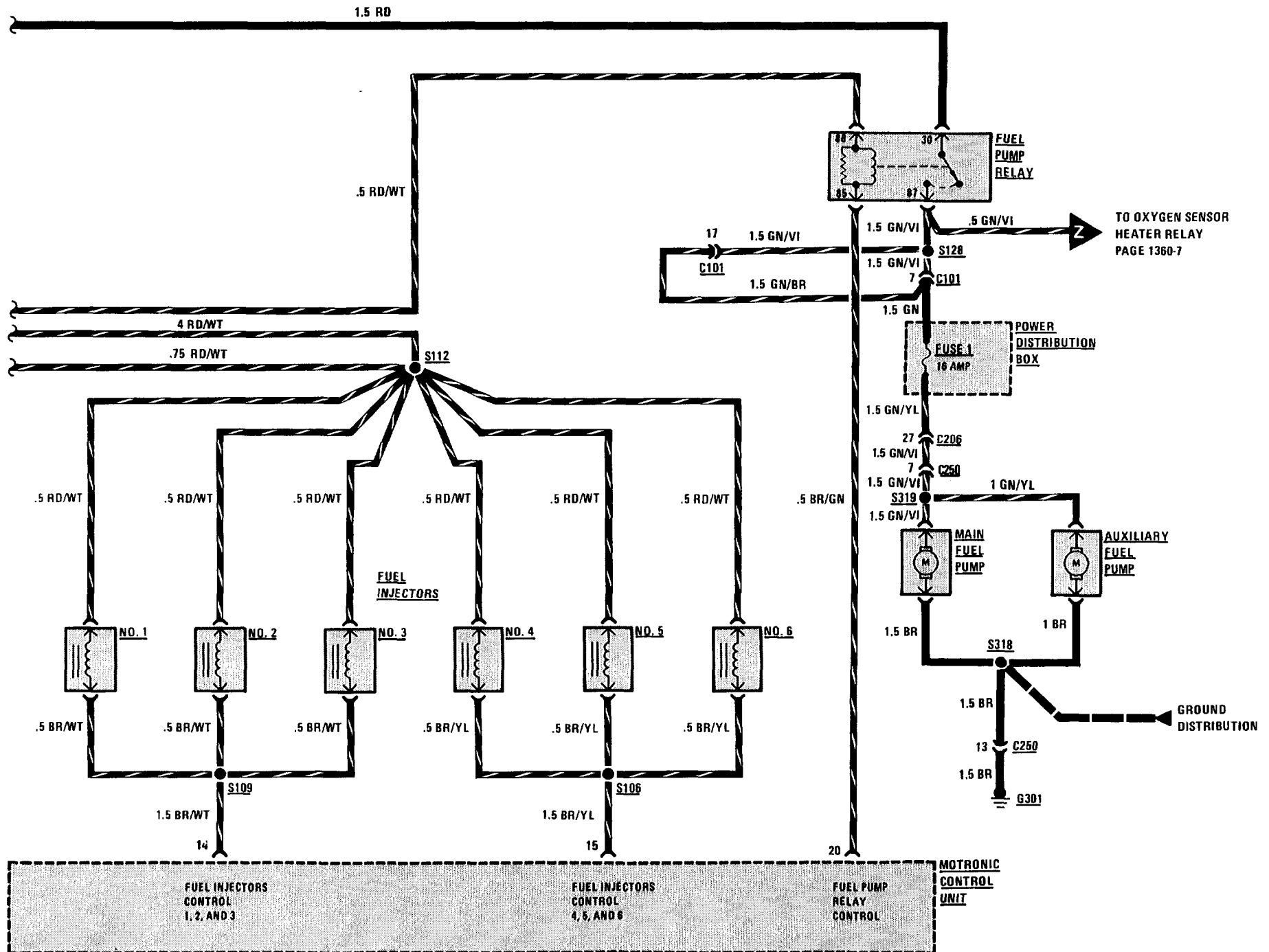


FUEL DELIVERY AND IDLE CONTROL (AUTOMATIC ONLY)

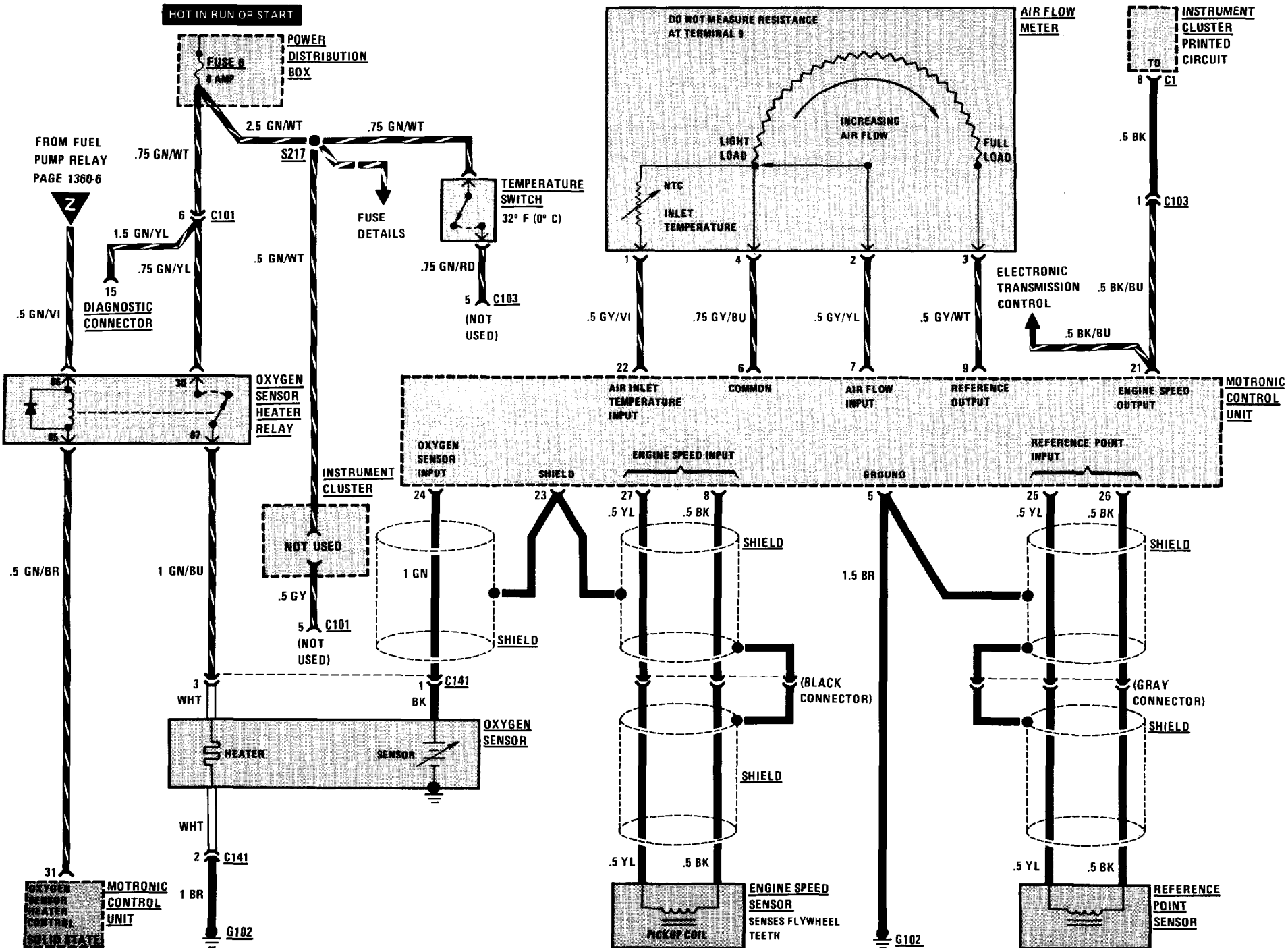


1360-6 INJECTION ELECTRONICS 3.5i ENGINE

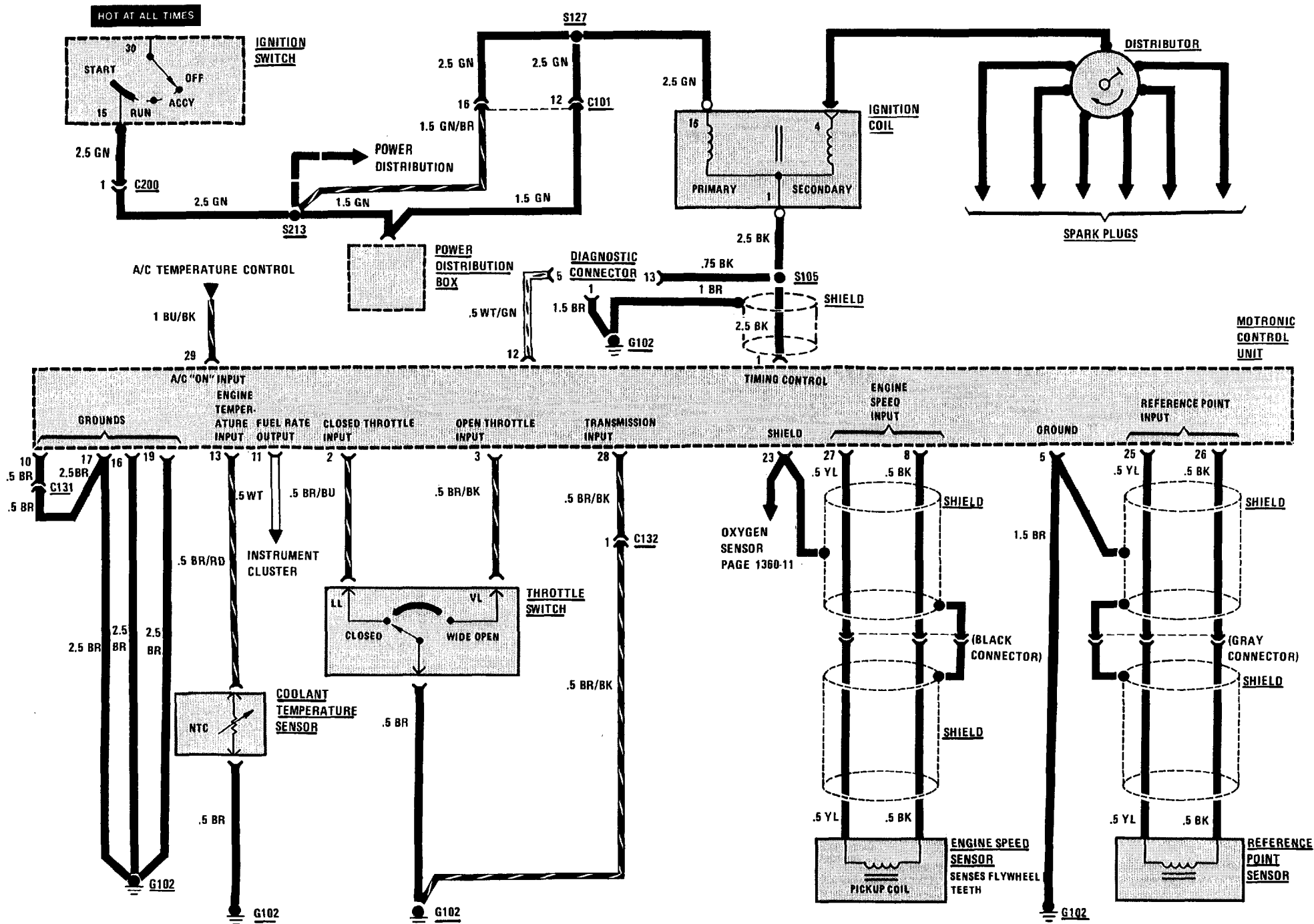
FUEL DELIVERY AND IDLE CONTROL (AUTOMATIC ONLY)



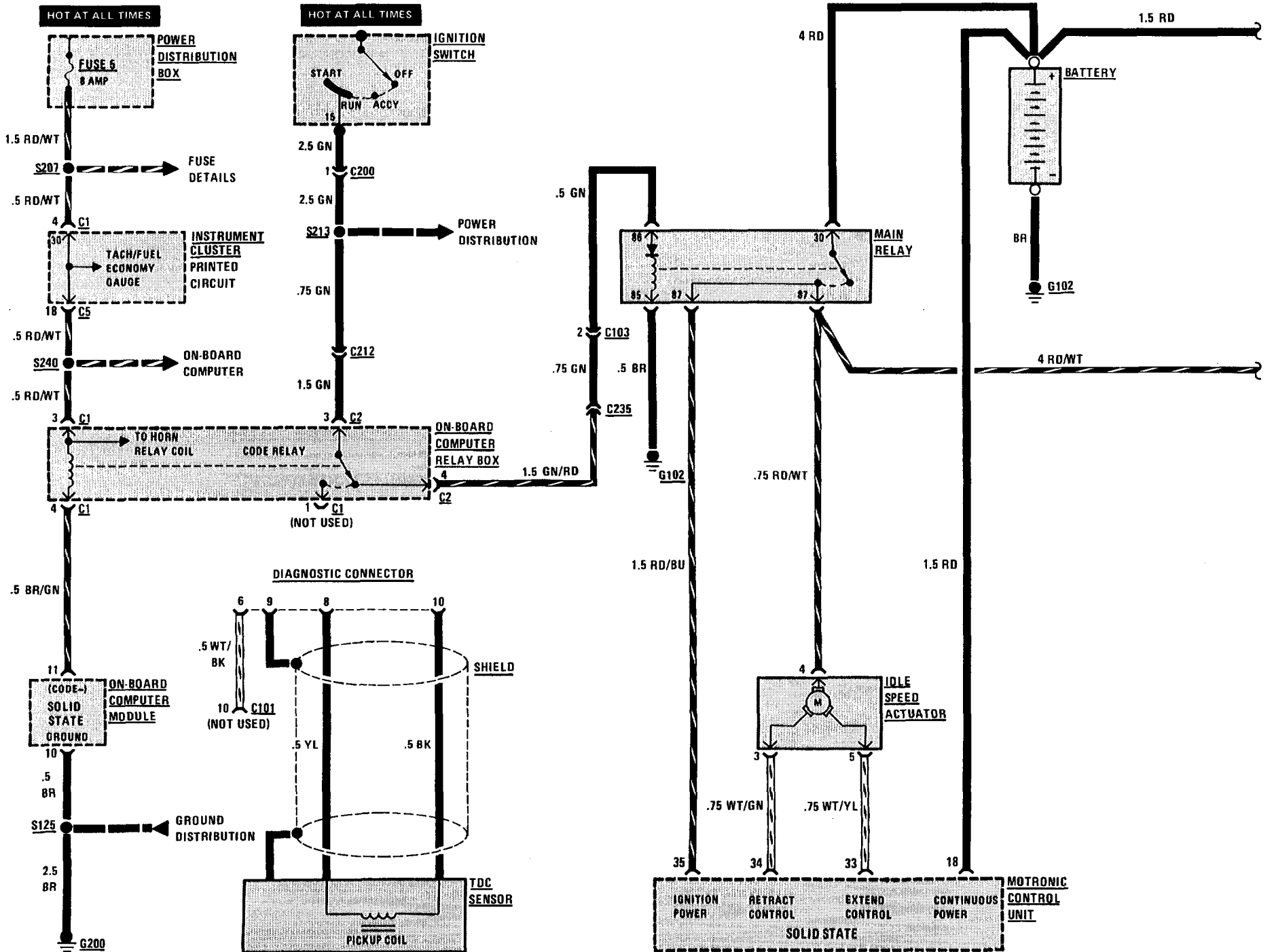
FUEL CONTROL (AUTOMATIC ONLY)



IGNITION (MANUAL ONLY)

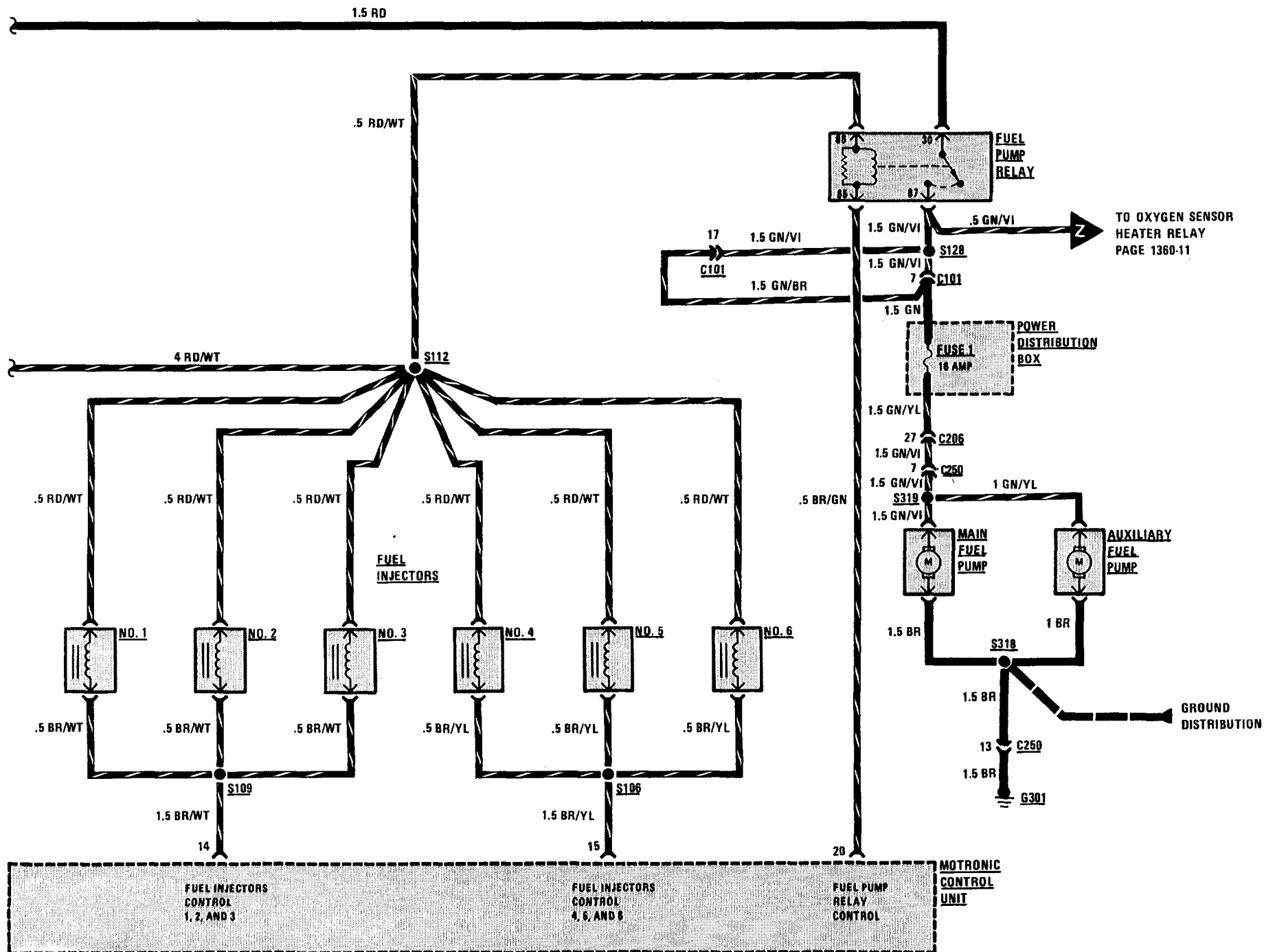


FUEL DELIVERY AND IDLE SPEED CONTROL (MANUAL ONLY)

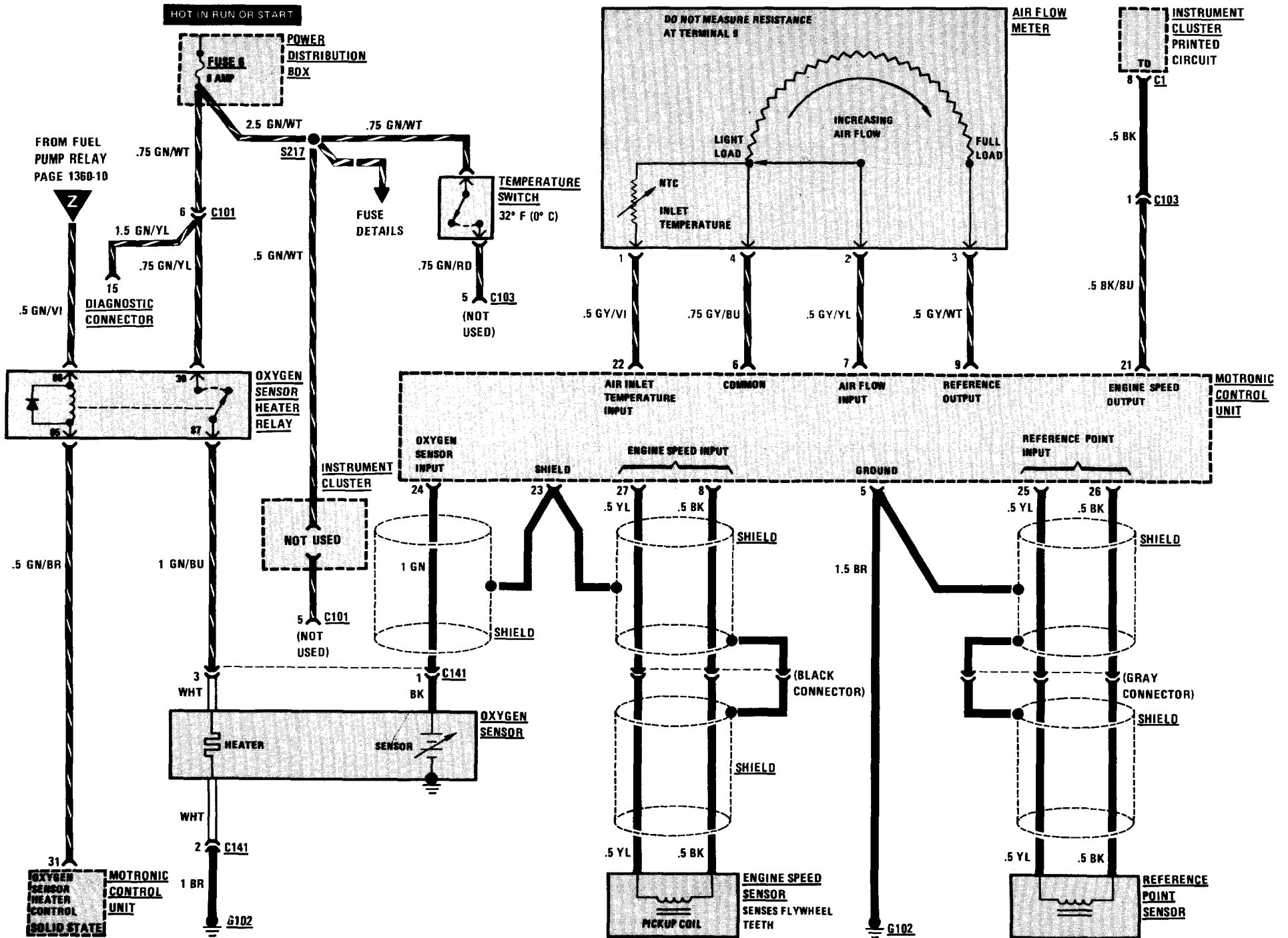


1360-10 INJECTION ELECTRONICS 3.5i ENGINE

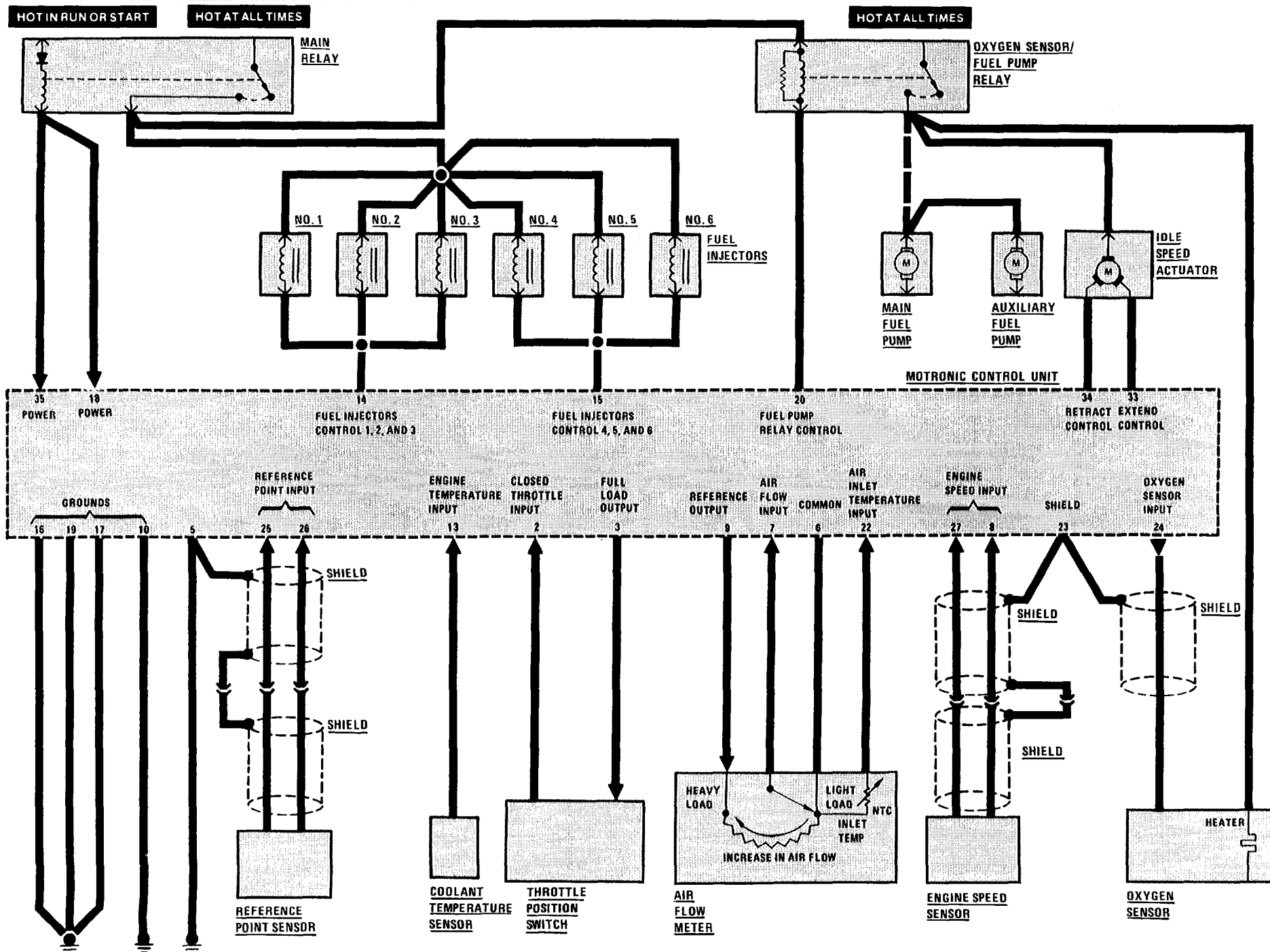
FUEL DELIVERY AND IDLE SPEED CONTROL (MANUAL ONLY)



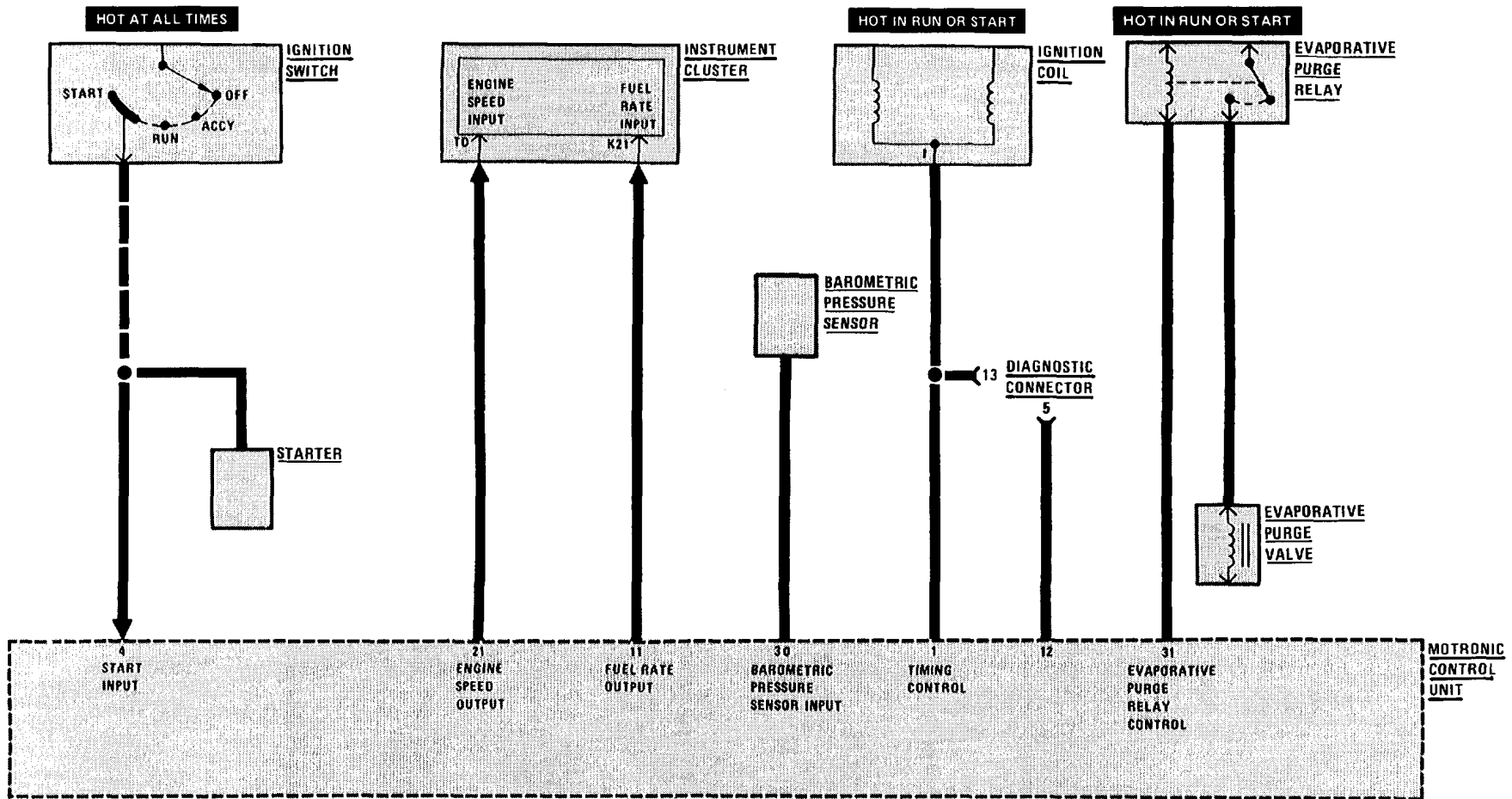
FUEL CONTROL (MANUAL ONLY)



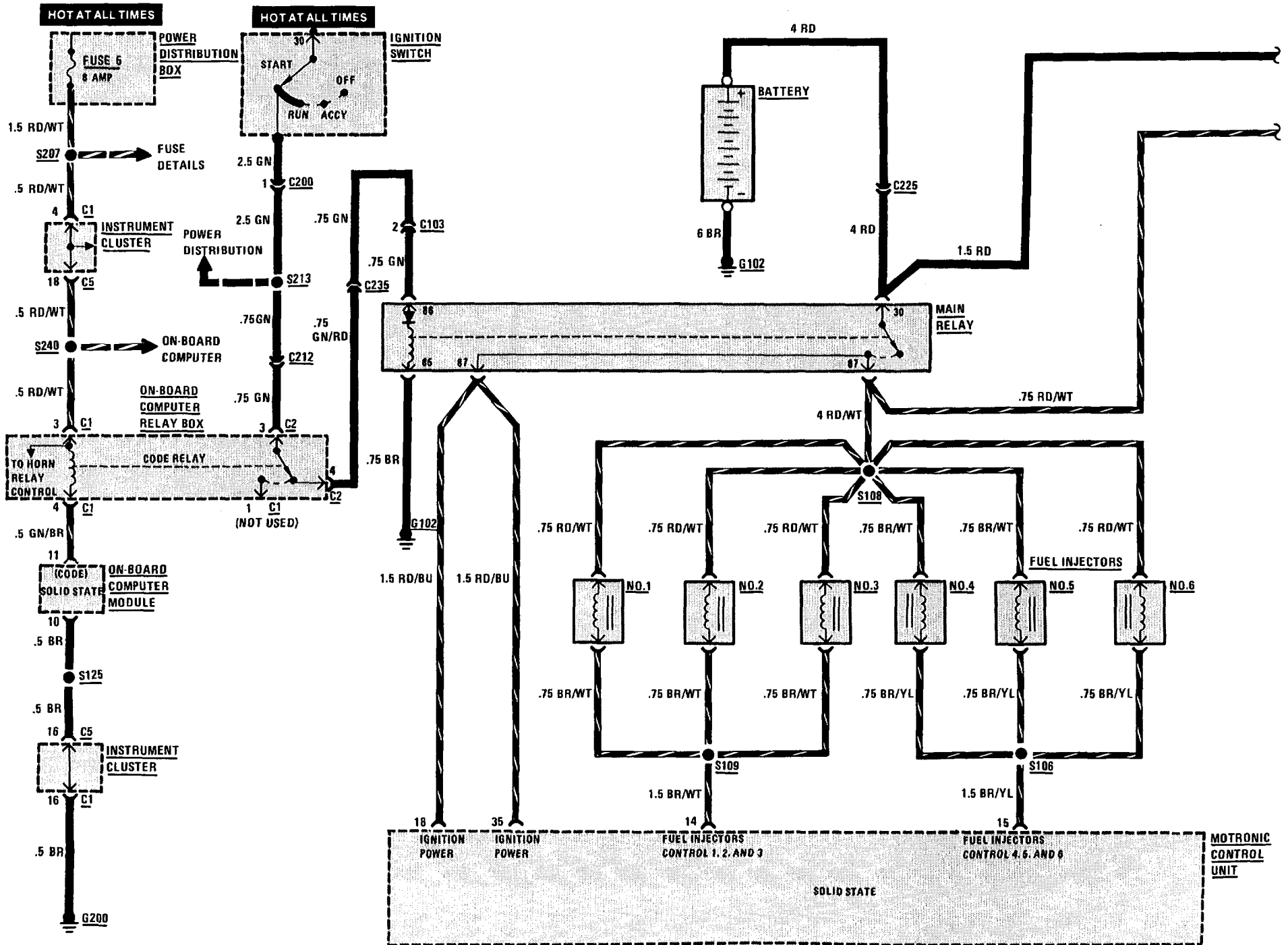
ENGINE BLOCK DIAGRAM

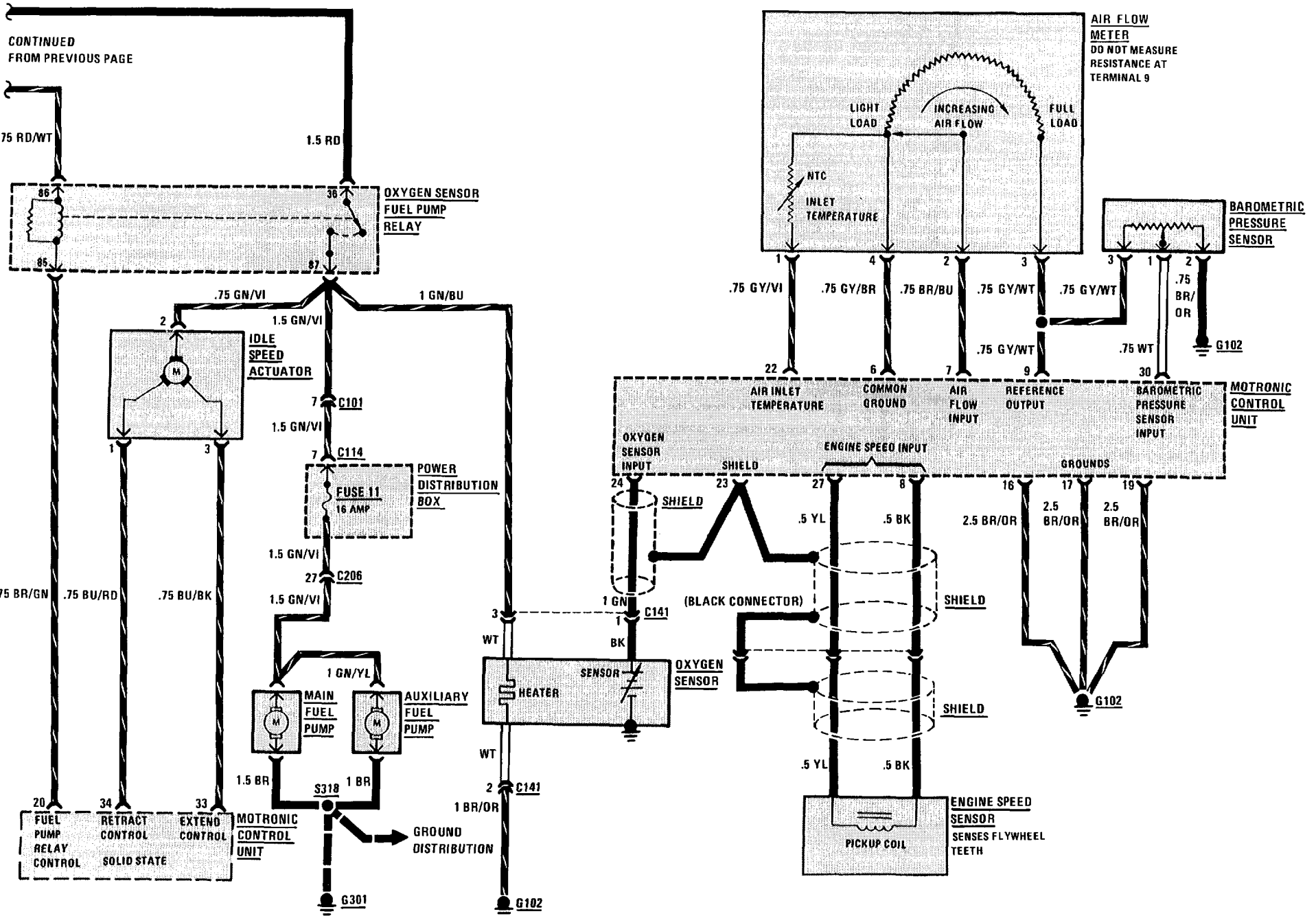


S38 ENGINE INJECTION ELECTRONICS 1362-1

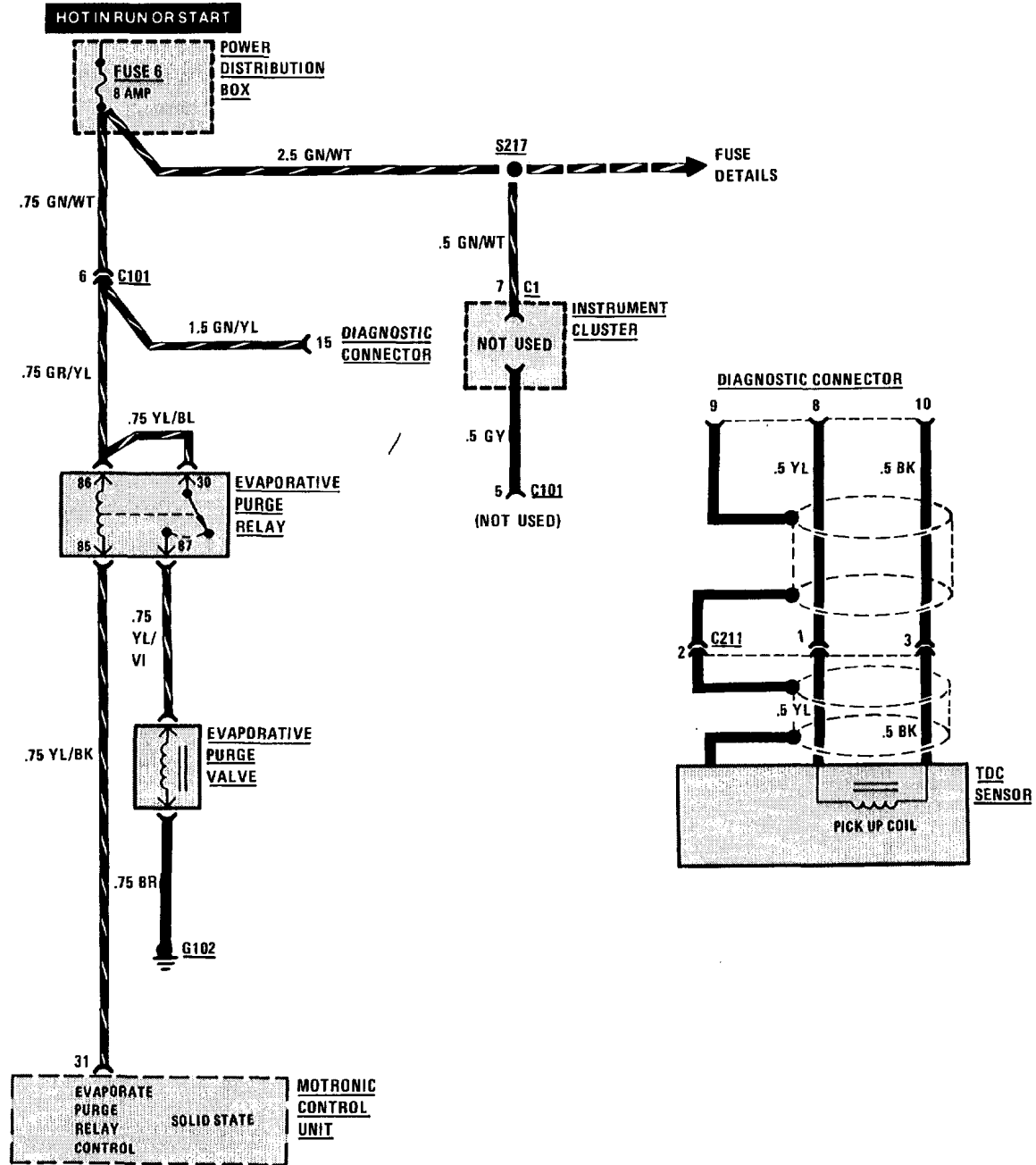


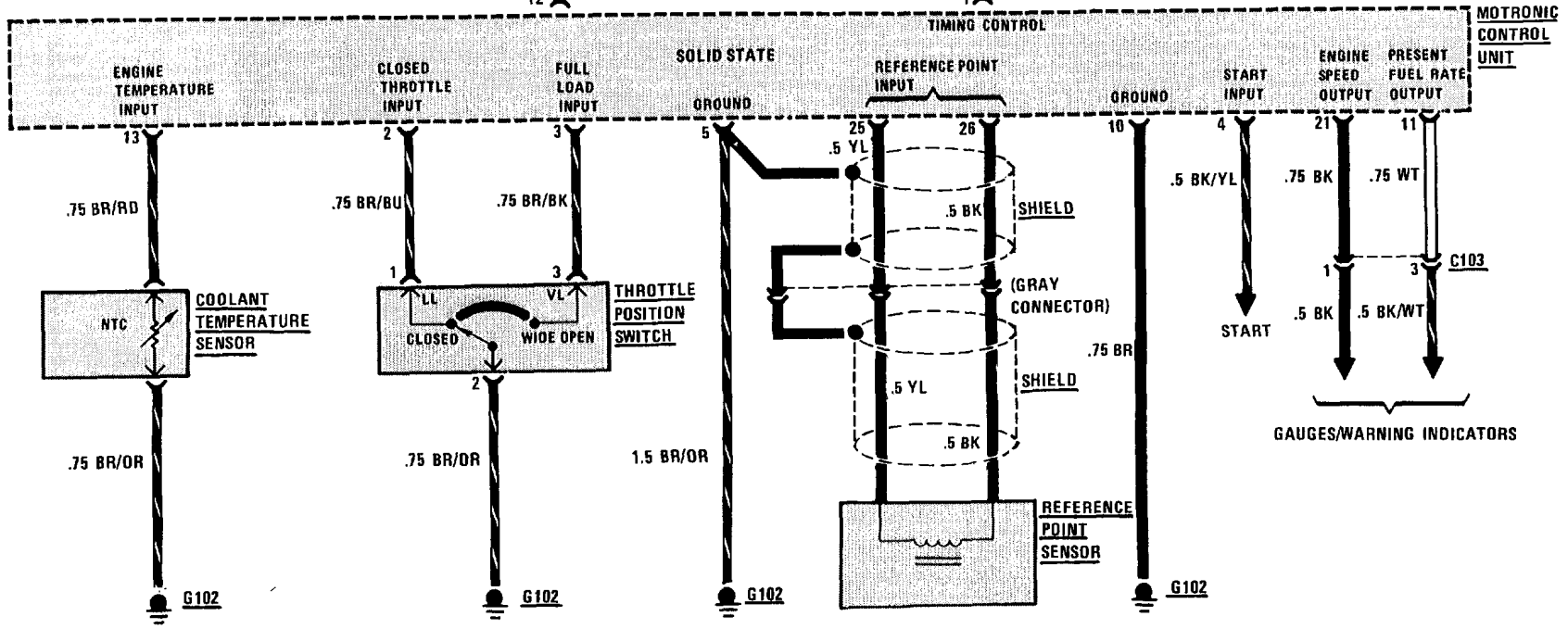
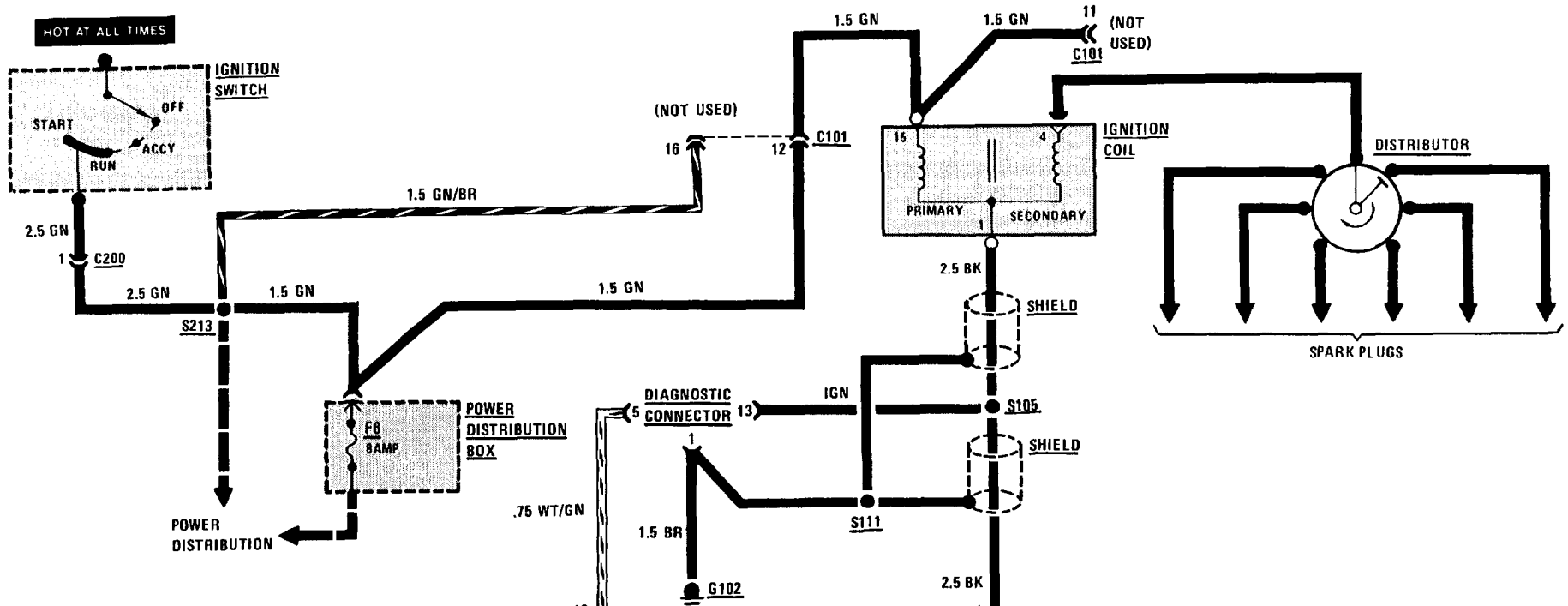
1362-2 INJECTION ELECTRONICS S38 ENGINE



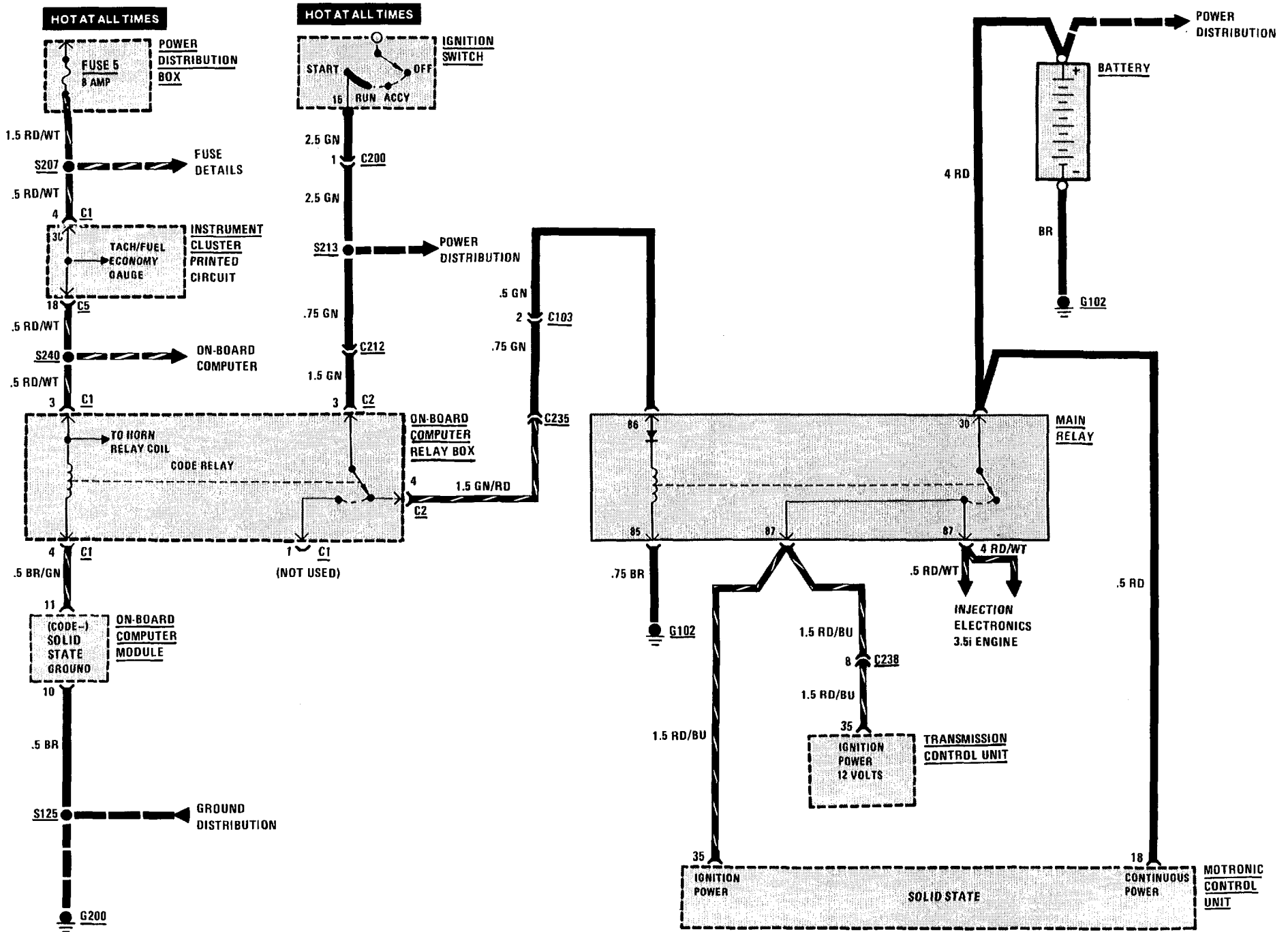


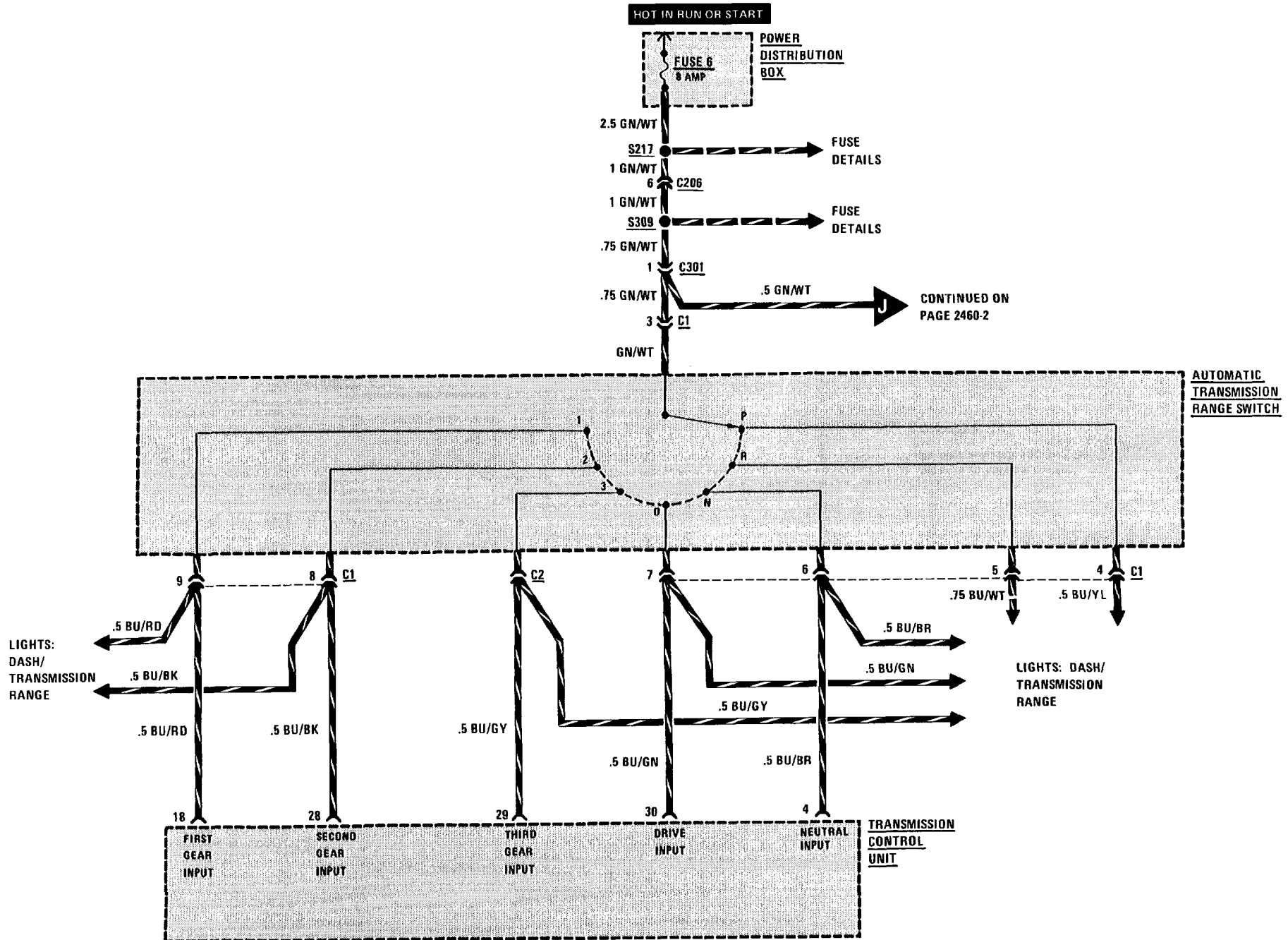
1362-4 INJECTION ELECTRONICS S38 ENGINE



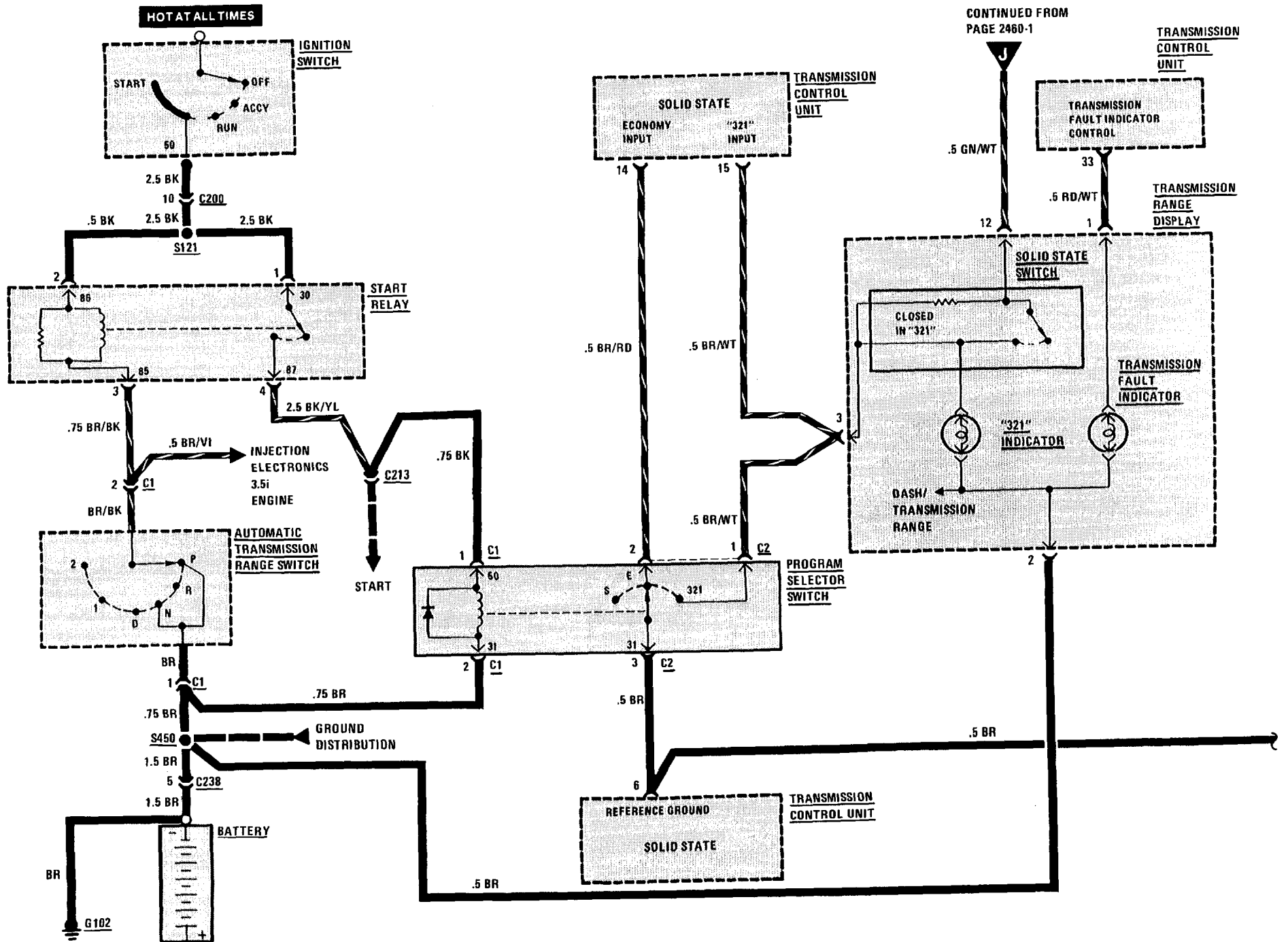


2460-0 ELECTRONIC TRANSMISSION CONTROL

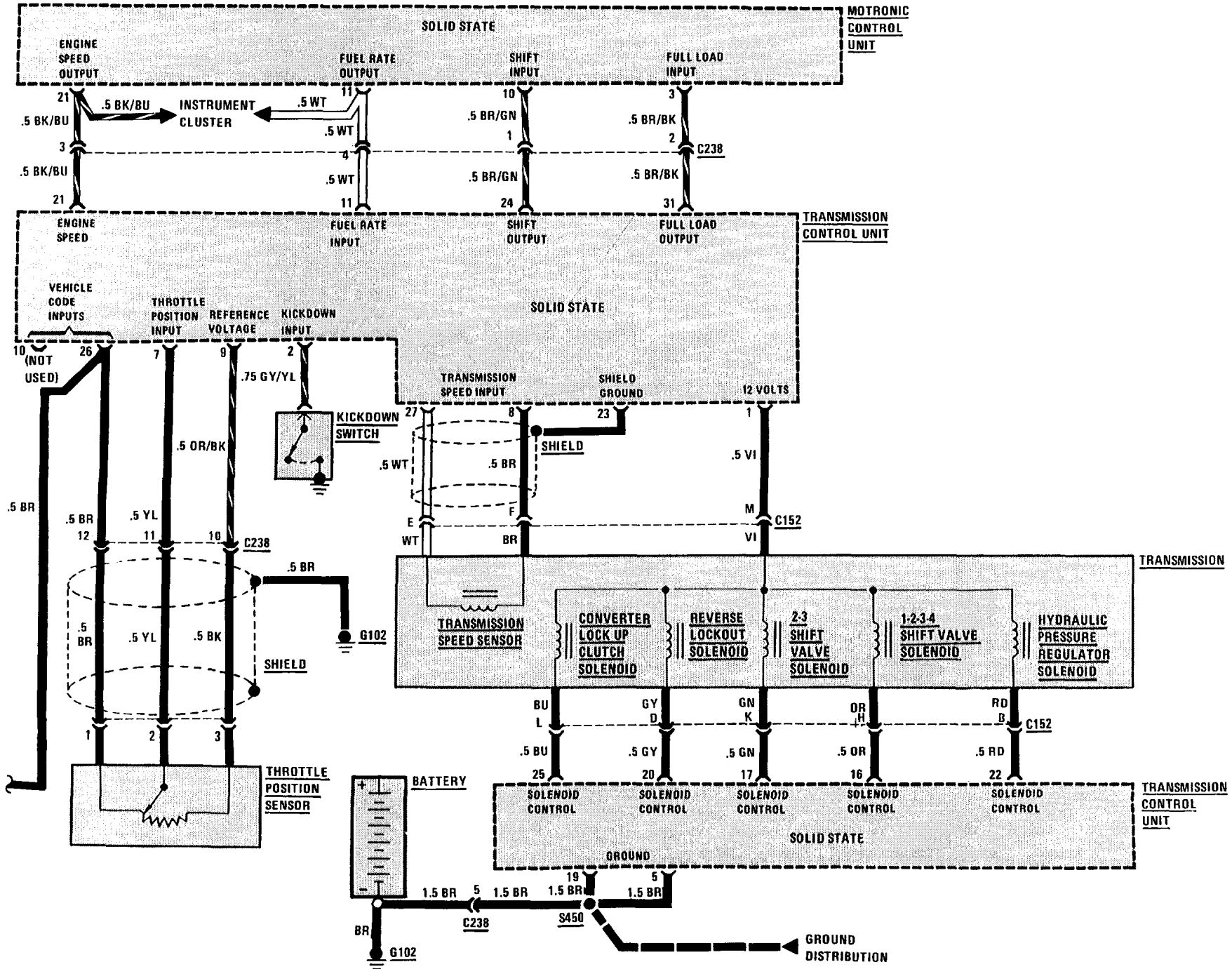




2460-2 ELECTRONIC TRANSMISSION CONTROL



CONTINUED FROM PAGE 2460-1



2460A-0 ELECTRONIC TRANSMISSION CONTROL

TROUBLESHOOTING HINTS

- Try the following check before doing the System Check.
Check Fuses 21 and 10 if all the Transmission Range Display bulbs do not operate.
- Go to System Check for a guide to normal operation.

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 OPERATION |
|--|--|
| Turn the Ignition Switch to RUN. | The Transmission Fault Indicator flashes twice, then stays on. |
| Set the Program Selector Switch to 321. | The 321 Indicator lights. |
| Crank the engine. | The Program Selector Switch returns to E. |
| Start the engine. | The Transmission Fault Indicator goes out with the engine running. |
| Drive the car with the Program Selector Switch in 321. | The car operates in selected gear only (first, second, or third gear). |
| Drive the car with the Program Selector Switch in S. | First, second, and third gears are kept selected up to full engine speed. Fourth gear (overdrive) is not selected. |
| Drive the car with the Program Selector Switch in E. | Transmission shifts at lower engine speeds and a fourth gear (overdrive) is available. |

- 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 | DO TEST |
|--|---|
| Transmission Fault Indicator does not flash when the Ignition Switch is turned to RUN and lights when the engine is running. | A: Transmission Control Unit 5 Volt Power and Ground Test. |
| Transmission Fault Indicator flashes when the Ignition Switch is turned to RUN and lights with the engine running. | C: Engine Speed and Fuel Rate Input Test. D: Hydraulic Pressure Regulator and Solenoid Test. |
| Transmission Fault Indicator does not light with the Ignition Switch in RUN and the engine not running. | B: Transmission Control Unit Ignition Power Test. G: Transmission Fault Indicator Test. |
| Program Selector Switch does not return to E when the engine is cranked. | F: Program Selector Switch Return Test. |
| 321 Indicator does not light when the Program Selector Switch is set to 321, but Transmission operates in the 321 mode. | H: 321 Indicator Test. |

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| | |
|--|--|
| Transmission does not operate in selected program and the Transmission Fault Indicator is off with the engine running. | I: Program Selector Switch Continuity Test. |
| Kickdown function is inoperative. | K: Kickdown Switch Test. |
| Shift Points are inaccurate or rough and the Transmission Fault Indicator is off with the engine running. | L: Gear Input Test. M: Throttle Position Sensor and Wide Open Throttle Output Test. J: Transmission Speed Sensor Test. |

A: TRANSMISSION CONTROL UNIT 5 VOLT POWER AND GROUND TEST

| Measure: VOLTAGE At: TRANSMISSION CONTROL UNIT CONNECTOR (Connected) Condition: • Ignition Switch: RUN | | |
|--|-----------------------|---------------|
| Measure Between | Correct Voltage | For Diagnosis |
| 24 & Ground | Approximately 5 Volts | See 1 |
| 24 & 19 | Approximately 5 Volts | See 2 |
| 24 & 5 | Approximately 5 Volts | See 2 |
| <ul style="list-style-type: none"> If all the results are correct, replace the Transmission Control Unit. Go to Test E: Motronic Control Unit Test. Check/repair the ground wire for an open (see schematic). | | |

B: TRANSMISSION CONTROL UNIT IGNITION POWER TEST

| Measure: VOLTAGE At: TRANSMISSION CONTROL UNIT CONNECTOR (Connected) Condition: • Ignition Switch: RUN | | |
|---|-----------------|---------------|
| Measure Between | Correct Voltage | For Diagnosis |
| 35 & Ground | Battery | See 1 |
| <ul style="list-style-type: none"> If the result is correct, go to the Symptom Table. Check/repair the wire from terminal 35 to the Main Relay for an open (see schematic). | | |

C: ENGINE SPEED AND FUEL RATE INPUT TEST

| Measure: VOLTAGE At: TRANSMISSION CONTROL UNIT CONNECTOR (Connected) Condition: • Ignition Switch: RUN | | |
|---|-----------------------|---------------|
| Measure Between | Correct Voltage | For Diagnosis |
| 11 & Ground | Greater than 10 Volts | See 1 |
| 21 & Ground | Greater than 10 Volts | See 2 |
| <ul style="list-style-type: none"> If all the results are correct, go to the Symptom Table. Go to Test E: Motronic Control Unit Test, if the Fuel Rate Gauge does not operate. Check/repair the wire to terminal 11 if the Fuel Rate Gauge operates. | | |

| |
|---|
| <ol style="list-style-type: none"> Go to Test E: Motronic Control Unit Test, if the Tachometer does not operate. Check/repair the wire to terminal 21 if the Tachometer operates. |
|---|

D: HYDRAULIC PRESSURE REGULATOR AND SOLENOID TEST

| Measure: RESISTANCE At: TRANSMISSION CONTROL UNIT CONNECTOR (Disconnected) | | |
|---|-------------------------|---------------|
| Measure Between | Correct Resistance | For Diagnosis |
| 1 & Ground | Greater than 500 K Ohms | See 1 |
| 1 & 25 | 25 to 46 Ohms | See 2 |
| 1 & 20 | 25 to 46 Ohms | See 2 |
| 1 & 17 | 25 to 46 Ohms | See 2 |
| 1 & 16 | 25 to 46 Ohms | See 2 |
| 1 & 22 | 1.8 to 4.6 Ohms | See 3 |
| <ul style="list-style-type: none"> If all the results are correct, replace the Transmission Control Unit. Check the wiring from terminals 1, 16, 17, 20, 22, and 25 for shorts to ground (see schematic). Check the Pressure Regulator and Solenoids for a short to ground if wiring is OK. Repair/replace as necessary. Check/repair wire (see schematic) and connector terminal. Replace the Solenoid Valve (see schematic) if wire and connector terminal are OK. Check/repair wire (see schematic) and connector terminal. Replace the Hydraulic Pressure Regulator Solenoid if wire and connector terminal are OK. | | |

(Continued in next column)

2460A-2 ELECTRONIC TRANSMISSION CONTROL

E: MOTRONIC CONTROL UNIT TEST

| Measure: VOLTAGE At: MOTRONIC CONTROL UNIT CONNECTOR (Connected) Condition: <ul style="list-style-type: none"> • Ignition Switch: RUN | | |
|--|-----------------------|---------------|
| Measure Between | Correct Voltage | For Diagnosis |
| 10 & Ground | Approximately 5 Volts | See 1 |
| 11 & Ground | Greater than 10 Volts | See 1 |
| 21 & Ground | Greater than 10 Volts | See 1 |
| 3 & Ground | Approximately 5 Volts | See 1 |
| <ul style="list-style-type: none"> • If all the results are correct, check/repair the wire(s) to the Transmission Control Unit for an open(s). <ol style="list-style-type: none"> 1. Check the wire to the Transmission Control Unit for a short to ground (see schematic). Check/replace the Motronic Control Unit if wire is OK. | | |

F: PROGRAM SELECTOR SWITCH RETURN TEST

| Measure: VOLTAGE At: PROGRAM SELECTOR SWITCH CONNECTOR C1 (Connected) Condition: <ul style="list-style-type: none"> • Ignition Switch: START | | |
|---|----------------------|---------------|
| Measure Between | Correct Voltage | For Diagnosis |
| 1 & Ground | Greater than 8 Volts | See 1 |
| 1 & 2 | Greater than 8 Volts | See 2 |
| <ul style="list-style-type: none"> • If all the results are correct, replace the Program Selector Switch. <ol style="list-style-type: none"> 1. Check/repair the wire to terminal 1 for an open (see schematic). 2. Check/repair the wire from terminal 2 for an open (see schematic). | | |

G: TRANSMISSION FAULT INDICATOR TEST (TABLE 1)

| Measure: VOLTAGE At: TRANSMISSION CONTROL UNIT CONNECTOR (Connected) Condition: <ul style="list-style-type: none"> • Ignition Switch: RUN | | |
|---|-----------------------|---------------|
| Measure Between | Correct Voltage | For Diagnosis |
| 33 & Ground | Greater than 10 Volts | See 1 |
| <ul style="list-style-type: none"> • If the voltage is correct, go to Table 2. <ol style="list-style-type: none"> 1. Replace the Transmission Control Unit. | | |

G: TRANSMISSION FAULT INDICATOR TEST (TABLE 2)

| Measure: VOLTAGE At: TRANSMISSION RANGE DISPLAY CONNECTOR (Disconnected) Condition: <ul style="list-style-type: none"> • Ignition Switch: RUN | | |
|---|-----------------------|---------------|
| Measure Between | Correct Voltage | For Diagnosis |
| 1 & Ground | Greater than 10 Volts | See 1 |
| 1 & 2 | Greater than 10 Volts | See 2 |
| <ul style="list-style-type: none"> • If all the voltages are correct, check the bulb and printed circuit board. Replace as necessary. <ol style="list-style-type: none"> 1. Check/repair the wire to terminal 1 for an open (see schematic). 2. Check/repair the wire from terminal 2 for an open (see schematic). | | |

H: 321 INDICATOR TEST

| Measure: VOLTAGE At: TRANSMISSION RANGE DISPLAY CONNECTOR (Disconnected) Conditions: <ul style="list-style-type: none"> • Ignition Switch: RUN • Program Selector Switch: 321 | | |
|---|-----------------------|---------------|
| Measure Between | Correct Voltage | For Diagnosis |
| 3 & Ground | 0 Volts | See 1 |
| 12 & Ground | Greater than 10 Volts | See 2 |

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- If all the results are correct, check the GY wire bulb, printed circuit board, and connector terminals. Repair/replace as necessary.
1. Check/repair the wire to terminal 3 and the connector terminal (see schematic).
 2. Check/repair the wire to terminal 12 for an open (see schematic).

I: PROGRAM SELECTOR SWITCH CONTINUITY TEST

Measure: RESISTANCE
At: TRANSMISSION CONTROL UNIT CONNECTOR (Disconnected)

Conditions:

- Transmission Range Display Connector: **DISCONNECTED**
- Program Selector Switch: **E**

| Measure Between | Correct Resistance | For Diagnosis |
|---|----------------------|---------------|
| 14 & 6 | Approximately 0 Ohms | See 1 |
| <ul style="list-style-type: none"> • Set Program Selector Switch to 321. | | |
| 15 & 6 | Approximately 0 Ohms | See 1 |
| <ul style="list-style-type: none"> • Set Program Selector Switch to S. | | |
| 14 & 6 | Infinite Ohms | See 2 |
| 15 & 6 | Infinite Ohms | See 2 |

- If all the results are correct, replace the Transmission Control Unit.
1. Check the wires and connector terminal (see schematic). Replace the Program Selector Switch if wires are OK.
 2. Replace the Program Selector Switch.

J: TRANSMISSION SPEED SENSOR TEST (TABLE 1)

| Measure: RESISTANCE | | |
|--|-------------------------|---------------|
| At: TRANSMISSION CONTROL UNIT CONNECTOR (Disconnected) | | |
| Measure Between | Correct Resistance | For Diagnosis |
| 8 & Ground | Greater than 500 K Ohms | See 1 |
| 8 & 27 | 800 Ohms to 1.6 K Ohms | See 2 |
| <ul style="list-style-type: none"> • If all the results are correct, go to Table 2. <ol style="list-style-type: none"> 1. Check/repair the wires from terminals 8 and 27 for shorts to ground (see schematic). Replace the Transmission Speed Sensor if wires are OK. 2. Check/repair the wires from terminals 8 and 27 for opens (see schematic). Replace the Transmission Speed Sensor if wires are OK. | | |

J: TRANSMISSION SPEED SENSOR TEST (TABLE 2)

| Measure: AC VOLTAGE | | |
|--|---------------------------|---------------|
| At: TRANSMISSION CONTROL UNIT CONNECTOR (Disconnected) | | |
| Conditions: | | |
| <ul style="list-style-type: none"> • Lift car (rear wheels must turn freely) • Engine running • Gear Selector: D • Speedometer: 30 km/h (20 mph) | | |
| Measure Between | Correct Voltage | For Diagnosis |
| 8 & 27 | Greater than 3.5 Volts AC | See 1 |
| <ul style="list-style-type: none"> • If the result is correct, replace the Transmission Control Unit. <ol style="list-style-type: none"> 1. Replace the Transmission Speed Sensor. | | |

K: KICKDOWN SWITCH TEST

| Measure: VOLTAGE | | |
|---|-----------------------|---------------|
| At: TRANSMISSION CONTROL UNIT CONNECTOR (Connected) | | |
| Condition: | | |
| <ul style="list-style-type: none"> • Ignition Switch: RUN | | |
| Measure Between | Correct Voltage | For Diagnosis |
| 2 & Ground | Approximately 5 Volts | See 1 |
| <ul style="list-style-type: none"> • Depress accelerator pedal to Kickdown. | | |
| 2 & Ground | 0 Volts | See 2 |
| <ul style="list-style-type: none"> • If all the results are correct, check the BMW Troubleshooting Manual to verify the problem is not in the Transmission. Replace the Transmission Control Unit if the problem is not in the Transmission. <ol style="list-style-type: none"> 1. Check the wire from terminal 2 and Kickdown Switch for a short to ground (see schematic). Replace the Transmission Control Unit if wire and Kickdown Switch are OK. 2. Check the wire from terminal 2 for an open (see schematic). Replace the Kickdown Switch if wire is OK. | | |

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2460A-4 ELECTRONIC TRANSMISSION CONTROL

L: GEAR INPUT TEST

| Measure: VOLTAGE At: TRANSMISSION CONTROL UNIT CONNECTOR (Connected) Conditions: • Ignition Switch: RUN • Gear Selector: N (Neutral) | | |
|---|------------------|---------------|
| Measure Between | Correct Voltage | For Diagnosis |
| 4 & Ground | Battery | See 1 |
| • Put the Gear Selector in all positions except N (Neutral). | | |
| 4 & Ground | Less than 1 Volt | See 2 |
| • Put the Gear Selector in D (Drive). | | |
| 30 & Ground | Battery | See 1 |
| • Put the Gear Selector in all positions except D (Drive). | | |
| 30 & Ground | Less than 1 Volt | See 2 |
| • Put the Gear Selector in 3 (third gear). | | |
| 29 & Ground | Battery | See 1 |
| • Put the Gear Selector in all positions except 3 (third gear). | | |
| 29 & Ground | Less than 1 Volt | See 2 |
| • Put the Gear Selector in 2 (second gear). | | |
| 28 & Ground | Battery | See 1 |
| • Put the Gear Selector in all positions except 2 (second gear). | | |
| 28 & Ground | Less than 1 Volt | See 2 |
| • Put the Gear Selector in 1 (first gear). | | |
| 18 & Ground | Battery | See 1 |

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| | | |
|---|------------------|-------|
| • Put the Gear Selector in all positions except 1 (first gear). | | |
| 18 & Ground | Less than 1 Volt | See 2 |
| • If all the results are correct, go to the Symptom Table. | | |
| 1. If the associated bulb in the Transmission Range Display lights, check/repair the wire to the Transmission Range Display for an open (see schematic). | | |
| • If the associated bulb in the Transmission Range Display does not light, check/repair wire from the Automatic Transmission Range Switch, and the Automatic Transmission Range Switch (see schematic). | | |
| 2. Check/repair the wire for a short to voltage and the Automatic Transmission Range Switch (see schematic). | | |

M: THROTTLE POSITION SENSOR AND WIDE OPEN THROTTLE OUTPUT TEST

| Measure: VOLTAGE At: TRANSMISSION CONTROL UNIT CONNECTOR (Connected) Condition: • Ignition Switch: RUN | | |
|--|-----------------------|---------------|
| Measure Between | Correct Voltage | For Diagnosis |
| 31 & Ground | Approximately 5 Volts | See 1 |
| 9 & Ground | Approximately 5 Volts | See 2 |
| 9 & 6 | Approximately 5 Volts | See 2 |
| • Operate Throttle through its full range. | | |

(Continued in next column)

(Continued from previous column)

| | | |
|---|--|-------|
| 7 & 6 | .7 Volts (Throttle closed) increasing evenly to 4.77 Volts (Throttle fully opened) | See 3 |
| • Depress throttle pedal to the floor. | | |
| 31 & Ground | Approximately .3 Volts | See 2 |
| • If all the results are correct, go to the Symptom Table. | | |
| 1. Go to Test E: Motronic Control Unit Test. | | |
| 2. Replace the Transmission Control Unit. | | |
| 3. Check/repair the wiring to the Throttle Position Sensor. Adjust the Throttle Position Sensor if wiring is OK. Replace the Throttle Position Sensor if adjustment does not correct the problem. | | |

NOTE: The highest voltage at full open position should be .22 volts less than the stabilized voltage. Adjust Throttle Position Sensor accordingly.

CIRCUIT OPERATION

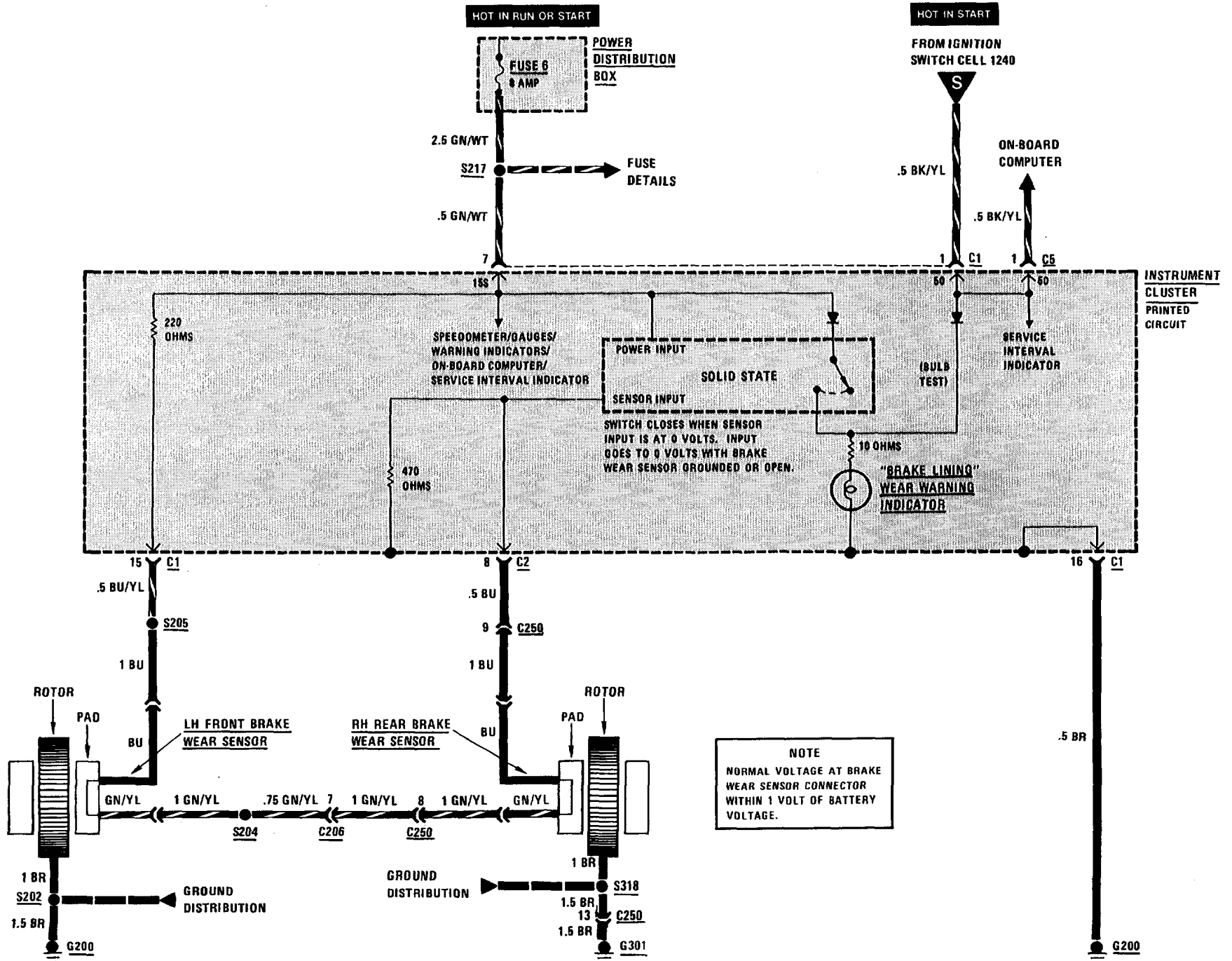
By operating the Program Selector Switch, the driver can select 3 different transmission modes. When the Program Selector Switch is set to E (Economy), the Economy Input (terminal 14) in the Transmission Control Unit is grounded through terminal 6. The Economy Mode is designed for smooth, refined shift points and low fuel consumption. A fourth gear, or overdrive ratio, is available in the Economy Mode to reduce engine speed and noise level. When the Program Selector Switch is set to 321, the 321 Input (terminal 15) in the Transmission Control Unit is grounded through terminal 6 and the 321 Indicator lights. The Transmission does not shift up or down and will operate in the selected gear only. When the Program Selector Switch is set to S, voltage is present at the Economy and 321 Inputs in the Transmission Control Unit. Fourth gear is not selected and first, second, and third gears are kept selected up to full engine speed. The Program Selector Switch is designed to return to E when the engine is cranked. When the engine is cranked, voltage is applied to the coil in the Program Selector Switch through the Ignition Switch and the Start Relay. The coil energizes and the Program Selector returns to E.

The Transmission Control Unit monitors engine speed (terminal 21), fuel rate (terminal 11), Throttle position (terminal 7), road speed (terminals 8 and 27), Kickdown signal (terminal 2), Gear Selector position (terminals 4, 30, 29, 28 and 18) and Program Selector Switch position (terminals 14 and 15). The Transmission Control Unit's electronic processing circuit compares this information with the program data to establish the correct gear and smooth shift points by controlling the Shift Valve Solenoids and the Hydraulic Pressure Regulator.

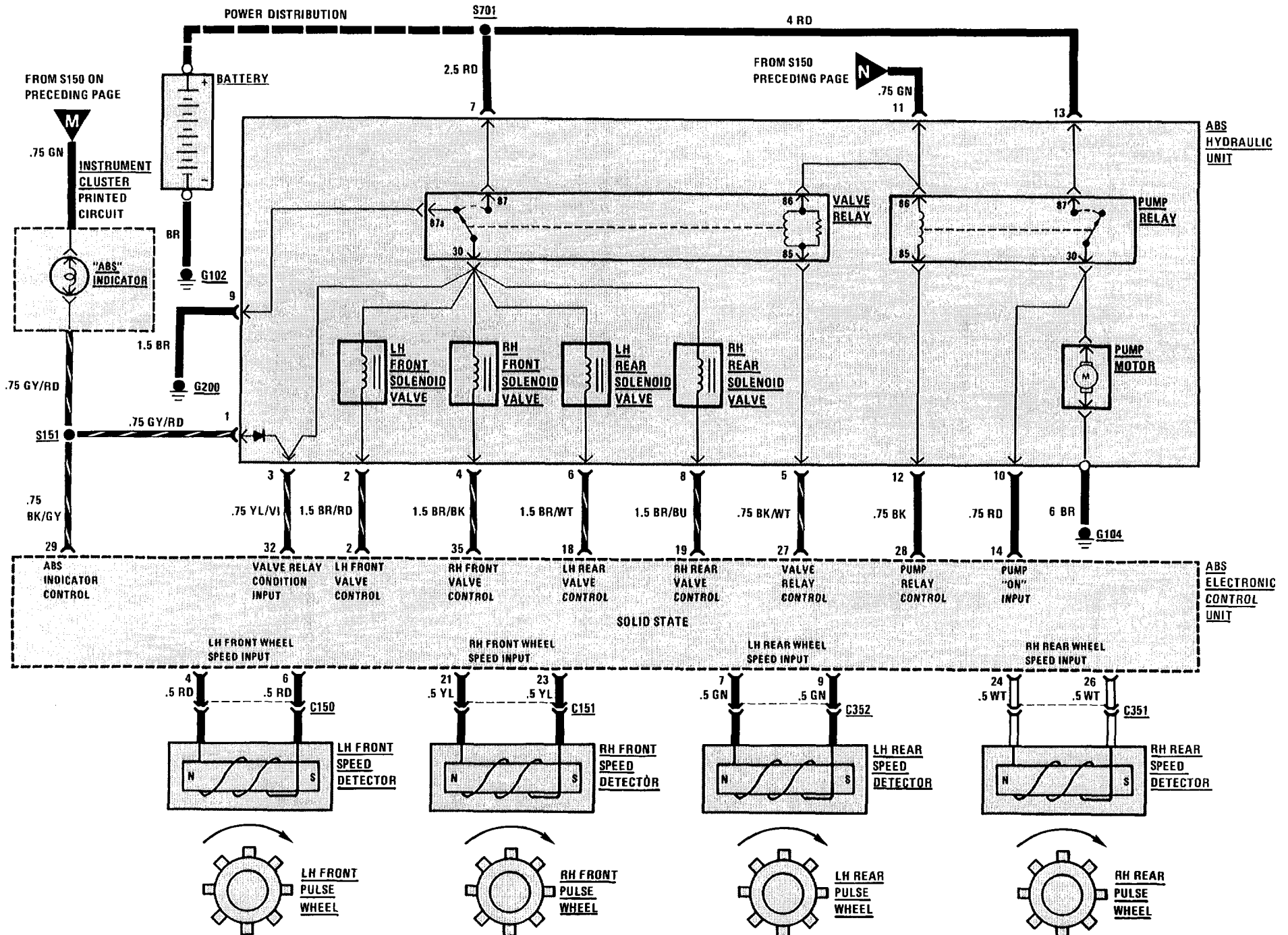
The Transmission Fault Indicator will light with the engine running if a problem with the control system occurs. When a fault is detected, the vehicle can only be driven in third and reverse gears. Neutral and Park also retain their functions. Voltage to the transmission (terminal 1) is not present when a fault is detected.

The Reverse Lock Solenoid prevents the driver from selecting reverse above 5 mph.

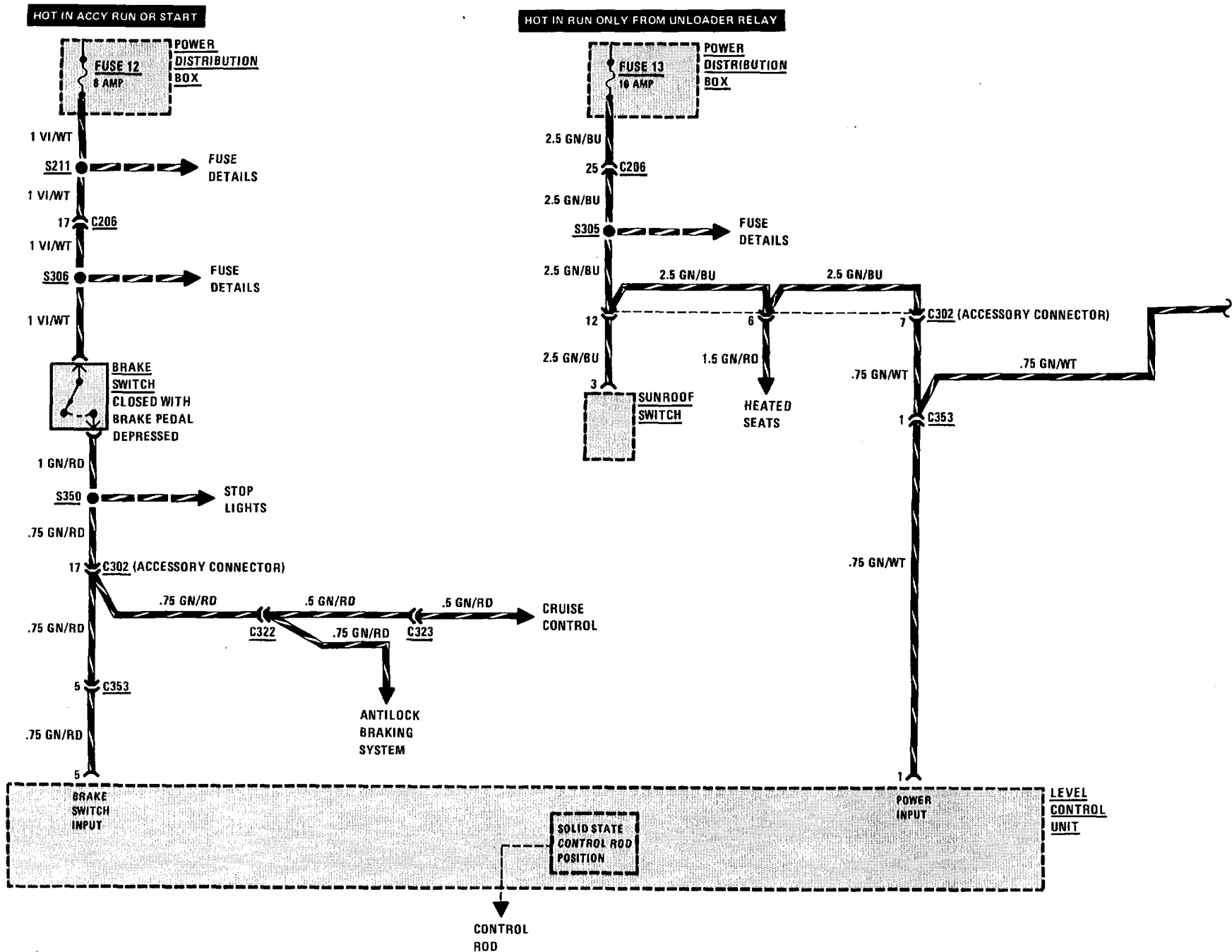
3435-0 BRAKE LINING WARNING



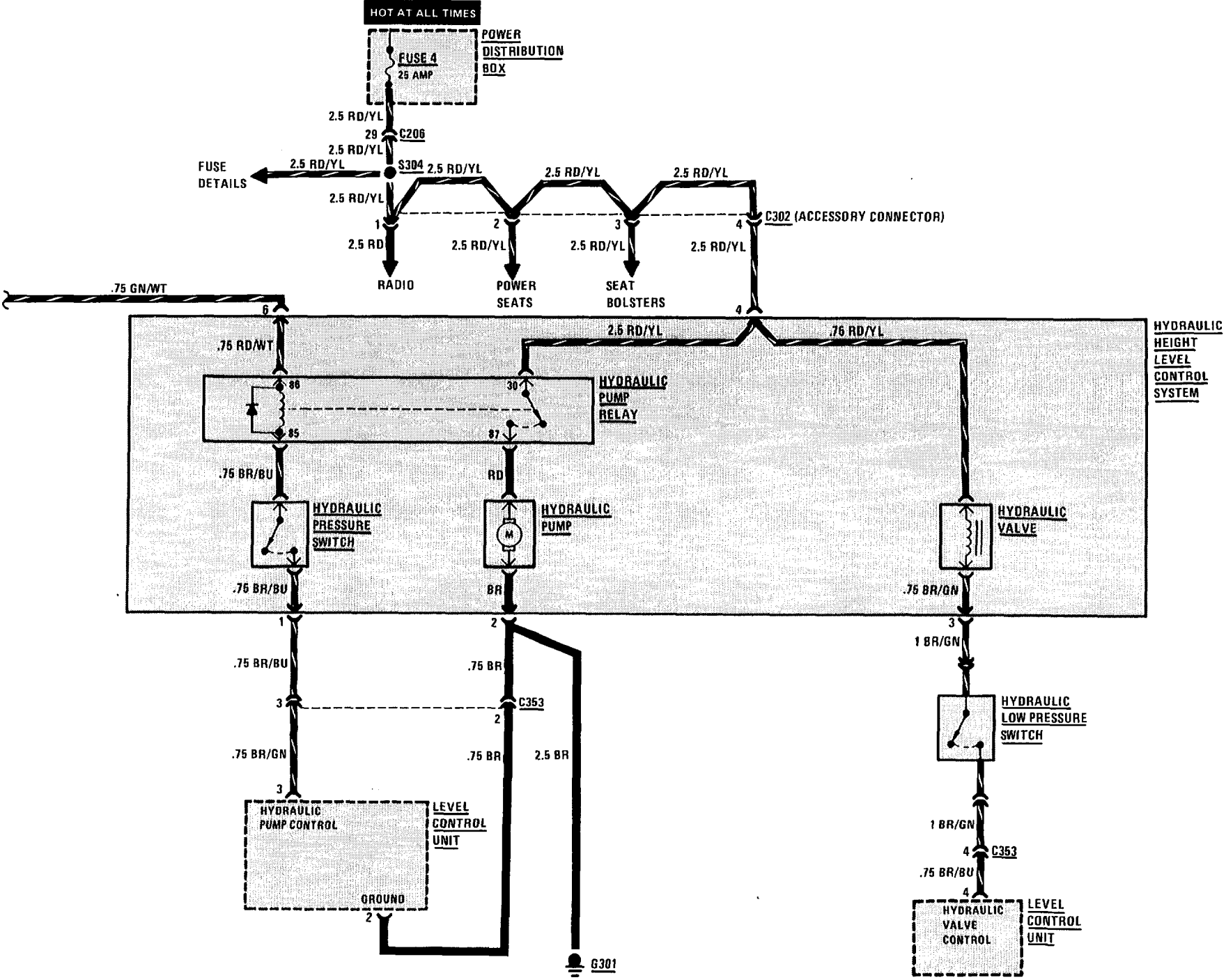
ANTILOCK BRAKING SYSTEM (ABS) 3450-1



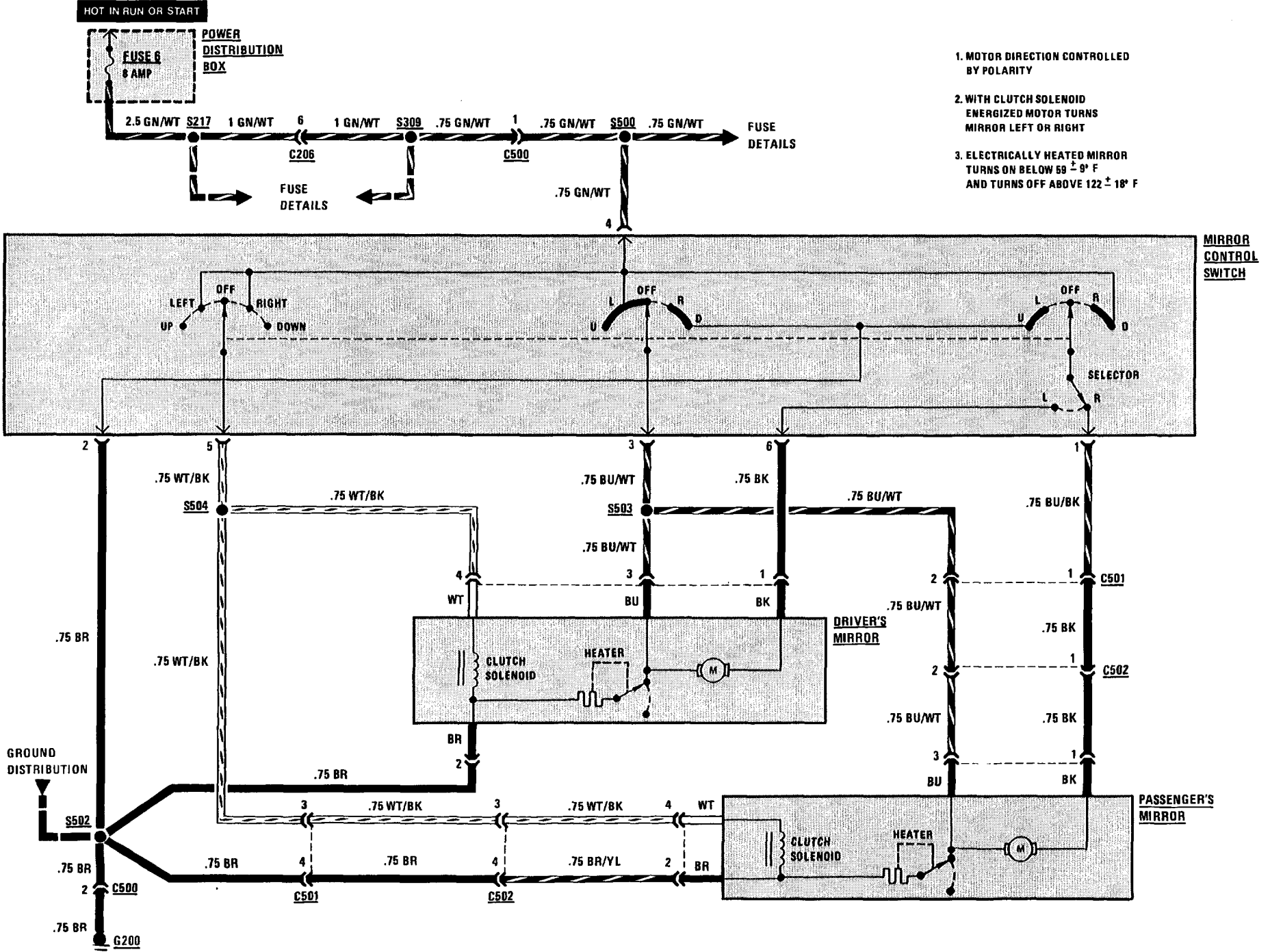
3700-0 SELF LEVELING SUSPENSION



SELF LEVELING SUSPENSION 3700-1

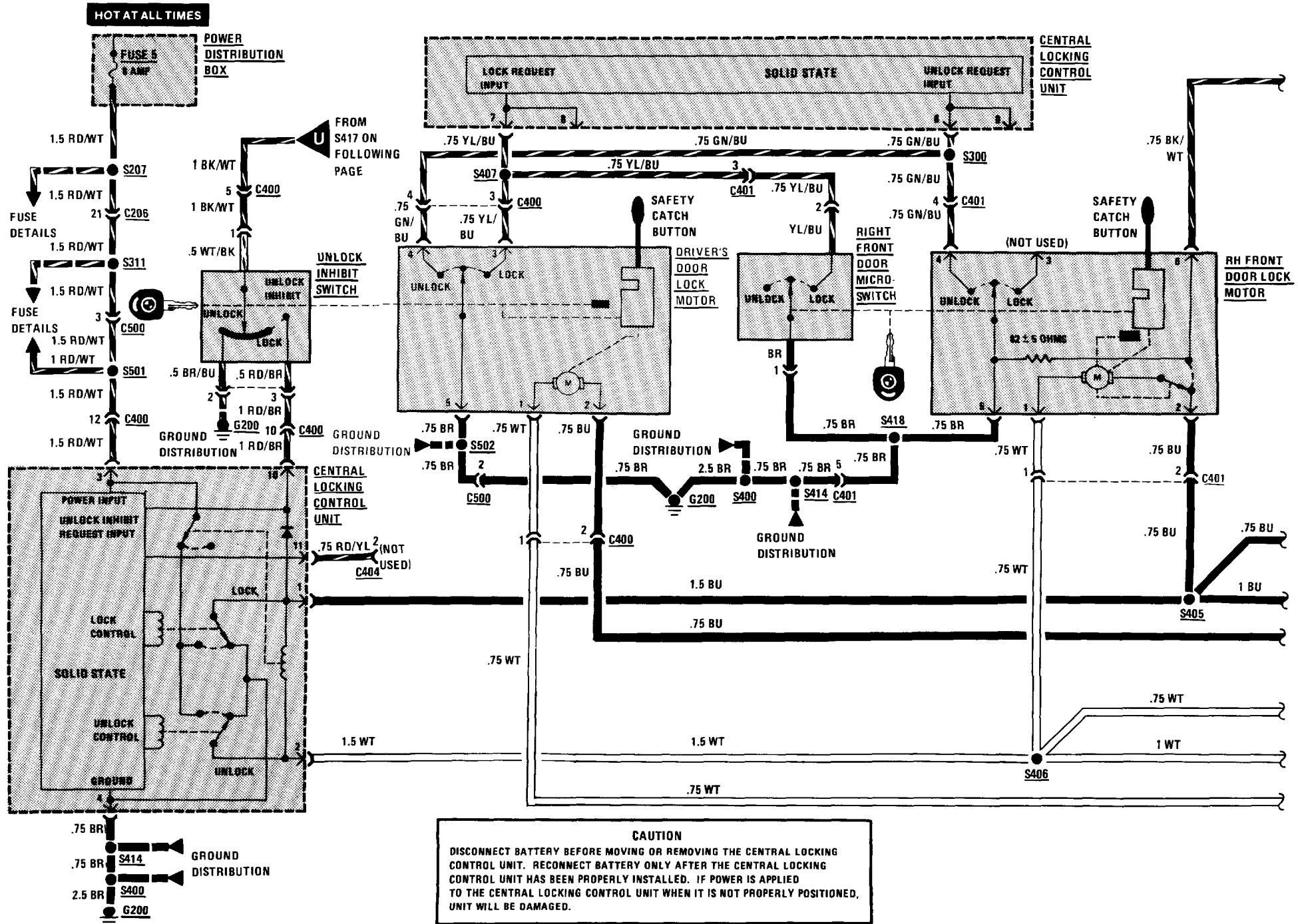


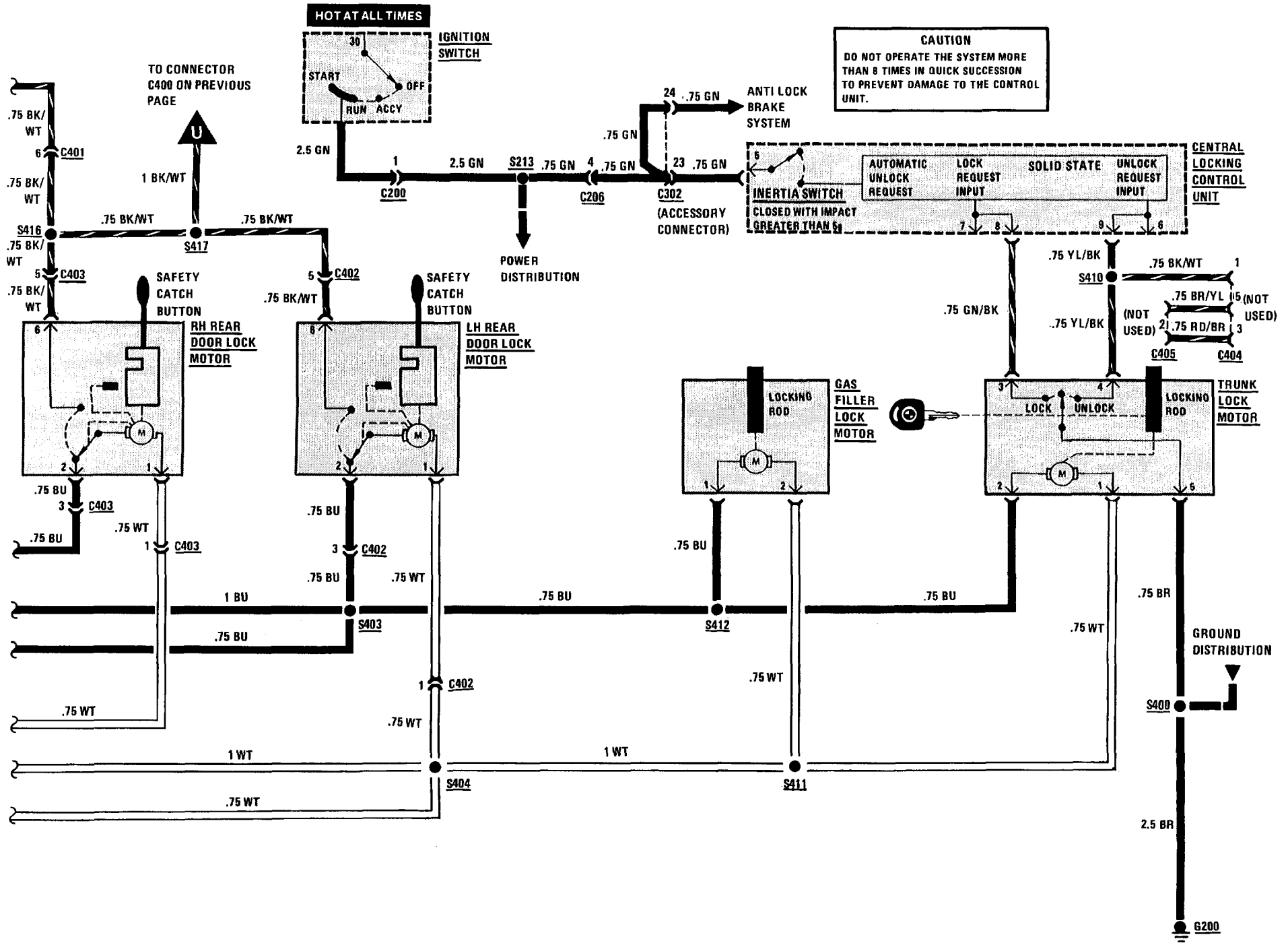
5116-0 POWER MIRRORS



1. MOTOR DIRECTION CONTROLLED BY POLARITY
2. WITH CLUTCH SOLENOID ENERGIZED MOTOR TURNS MIRROR LEFT OR RIGHT
3. ELECTRICALLY HEATED MIRROR TURNS ON BELOW $59 \pm 9^\circ \text{F}$ AND TURNS OFF ABOVE $122 \pm 18^\circ \text{F}$

5126-0 CENTRAL LOCKING





5126A-0 CENTRAL LOCKING

TROUBLESHOOTING HINTS

Check Fuse by operating the Digital Radio.

SYSTEM CHECK

- Operate controls in the 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 and circuit |
| | No doors lock | Proceed to Operation 4 |
| 2. Turn the key to UNLOCK INHIBIT (clockwise until key is horizontal) Check UNLOCK INHIBIT position by pulling up the Safety Catch Buttons (they should not release) | 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 and circuit |
| | 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 and 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 and 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 and circuit |
| | No doors unlock | If all the doors unlocked in Operation 3, repair/replace the Passenger's Door Lock Switch Otherwise, check for blown fuse If Fuse is blown, check for a short to Battery in WT/BK and BK/WT wires to motors If Fuse is not blown, 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 | Replace Unlock Inhibit Switch |

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"> • If the voltages are correct, proceed to Table 2. <ol style="list-style-type: none"> 1. Check the wire to terminal 3 for an open. 2. Check the wire from terminal 4 for an open to ground (see schematic). | | |

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"> • If the result is correct, repair/replace the switches and related wiring (see schematic). <ol style="list-style-type: none"> 1. Proceed to Table 3. | | |

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"> If the result is correct, replace the Central Locking Control Unit. <ol style="list-style-type: none"> Check the wire from terminal 1 to splice and the wire from terminal 3 to splice for opens (see schematic). | | |

B: UNLOCK INHIBIT TEST (TABLE 1)

| Measure: RESISTANCE At: CONTROL UNIT CONNECTOR (Disconnected) Condition: | | |
|---|--------------------|---------------|
| <ul style="list-style-type: none"> UNLOCK Inhibit Switch: UNLOCK INHIBIT | | |
| Measure Between | Correct Resistance | For Diagnosis |
| 10 & Ground | 82 ± 5 ohms | See 1 |
| <ul style="list-style-type: none"> If the resistance is correct but the Unlock Inhibit only operates on the Driver's Lock, replace the Central Locking Control Unit. <ol style="list-style-type: none"> Check for opens in the wires from terminal 10 to the Unlock Inhibit Switch and from the Unlock Inhibit Switch to connector C401, terminal 6. Also check wire from C401, terminal 5 to ground. If OK, go to Table 2. | | |

B: UNLOCK INHIBIT TEST (TABLE 2)

| Measure: RESISTANCE At: CONNECTOR C401 (FEMALE HALF) (Disconnected) | | |
|--|--------------------|---------------|
| Measure Between | Correct Resistance | For Diagnosis |
| 6 & 5 | 82 ± 5 ohms | See 1 |
| <ul style="list-style-type: none"> If the resistance is correct, replace the Unlock Inhibit Switch. <ol style="list-style-type: none"> Check wires from connector C401 to RH Front Door Lock Motor for opens. If OK, replace RH Front Door Lock Motor. | | |

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"> If the result is correct, repair/replace the switches and related wiring (see schematic). <ol style="list-style-type: none"> Replace the Central Locking Control Unit. | | |

CIRCUIT OPERATION

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 Ignition Switch is 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 the Fuse to the Lock Motor, which is grounded through the Central Locking Control Unit, terminal 2. The Lock Motor then pulls the Safety Catch Button. As the motor runs, a switch is moved from terminal 2 to terminal 6 of all the motors except the Driver's Lock Motor. At terminal 6, the switch position breaks the current flow from the Central Locking Unit Control Unit.

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 the Fuse 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 Safety Catch Button lock up.

5126A-4 CENTRAL LOCKING

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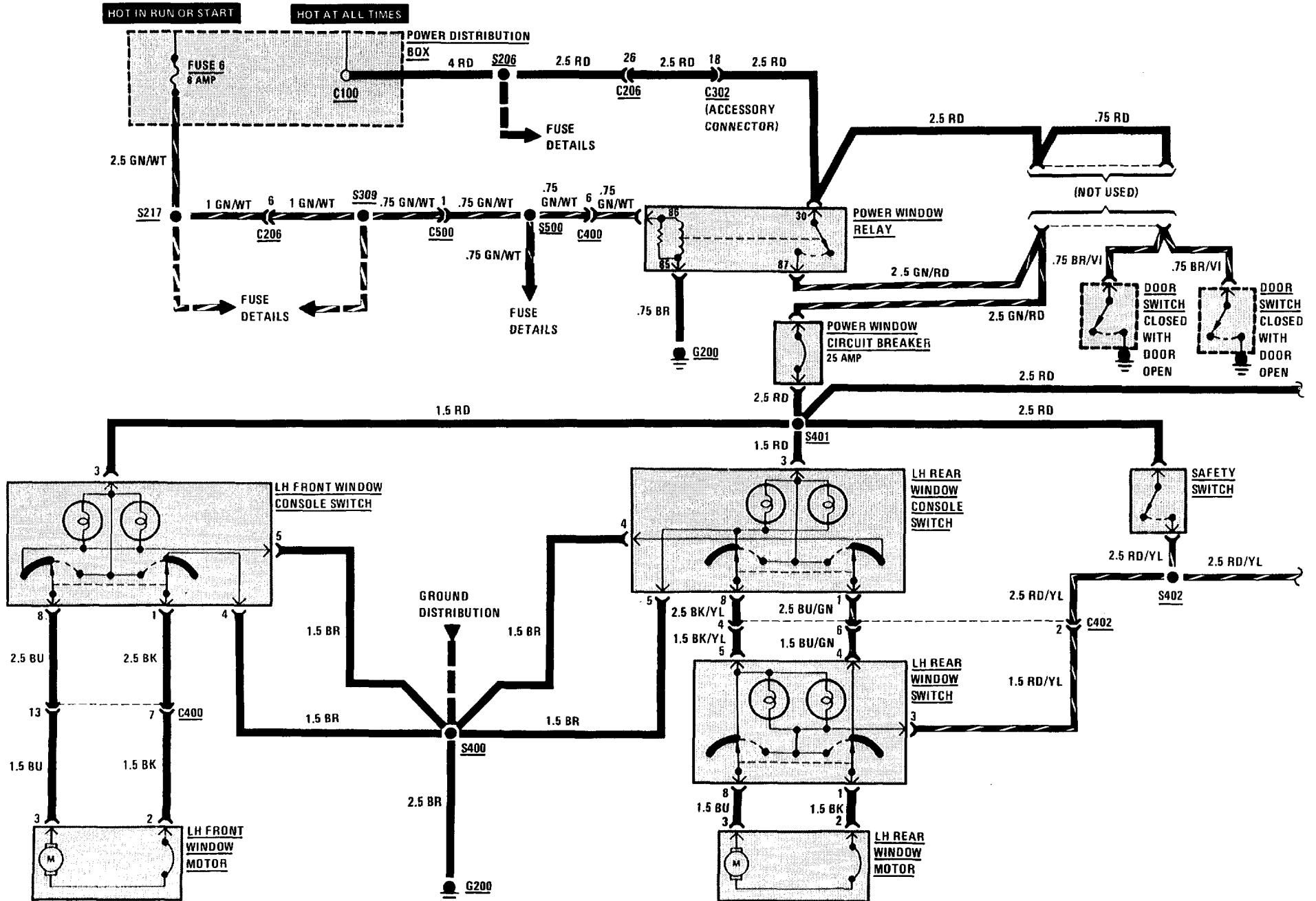
Unlock Inhibit

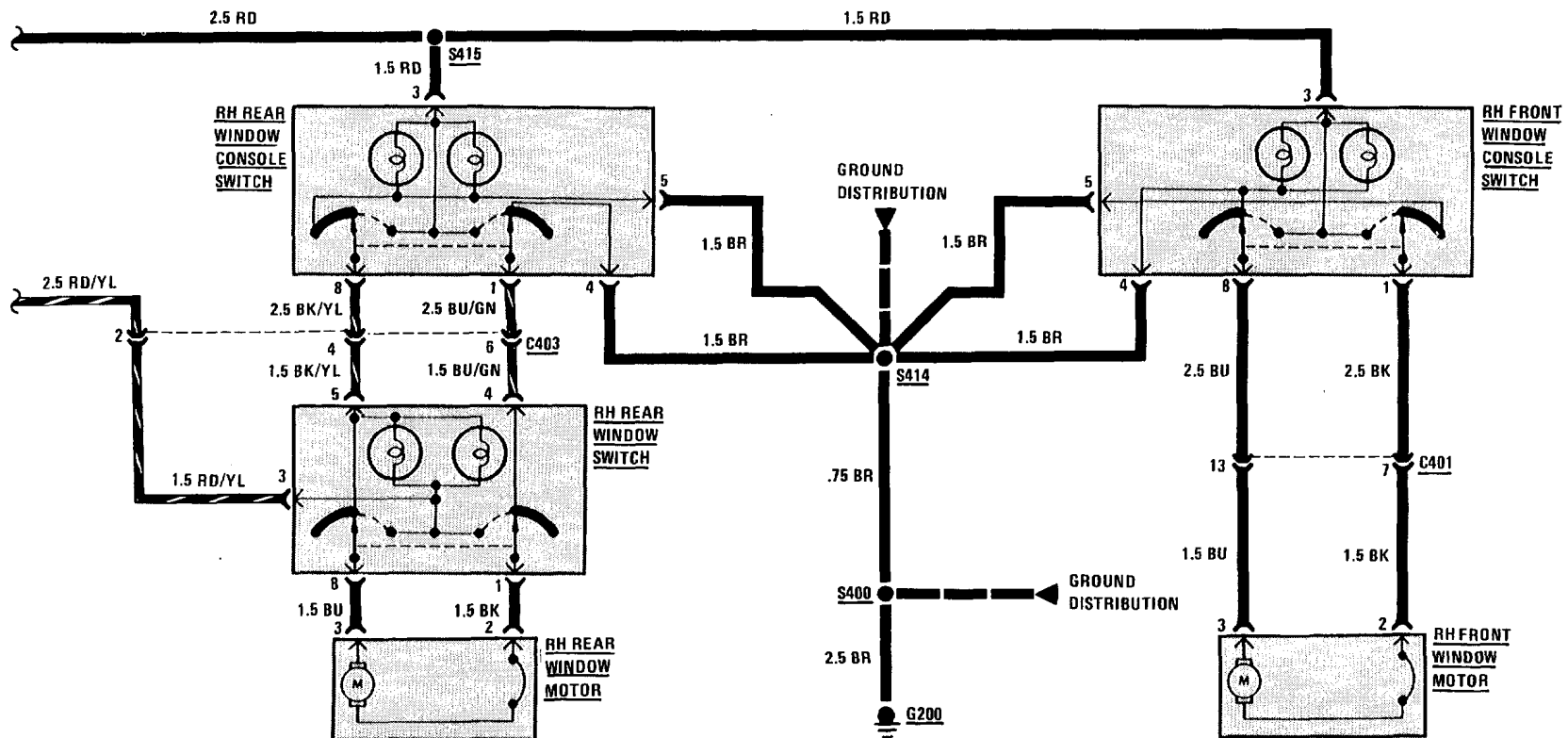
When the key is inserted into the driver's lock and turned clockwise past the LOCK position, the Unlock Inhibit mechanism is engaged. This mechanically inserts a bar into the driver's lock and prevents unlocking through use of the Safety Catch Button. When in the UNLOCK INHIBIT, the Central Locking Control Unit is grounded at terminal 10. The unit then activates the Lock Relay and voltage is now applied to the motors through the Unlock Inhibit Switch and wires to terminal 6 of the motor. The motors are again activated and engage their Unlock Inhibit mechanisms.

Trunk Lock

The Trunk Lock operates in a manner similar to the door locks.

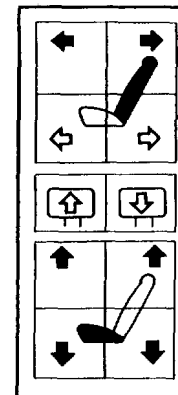
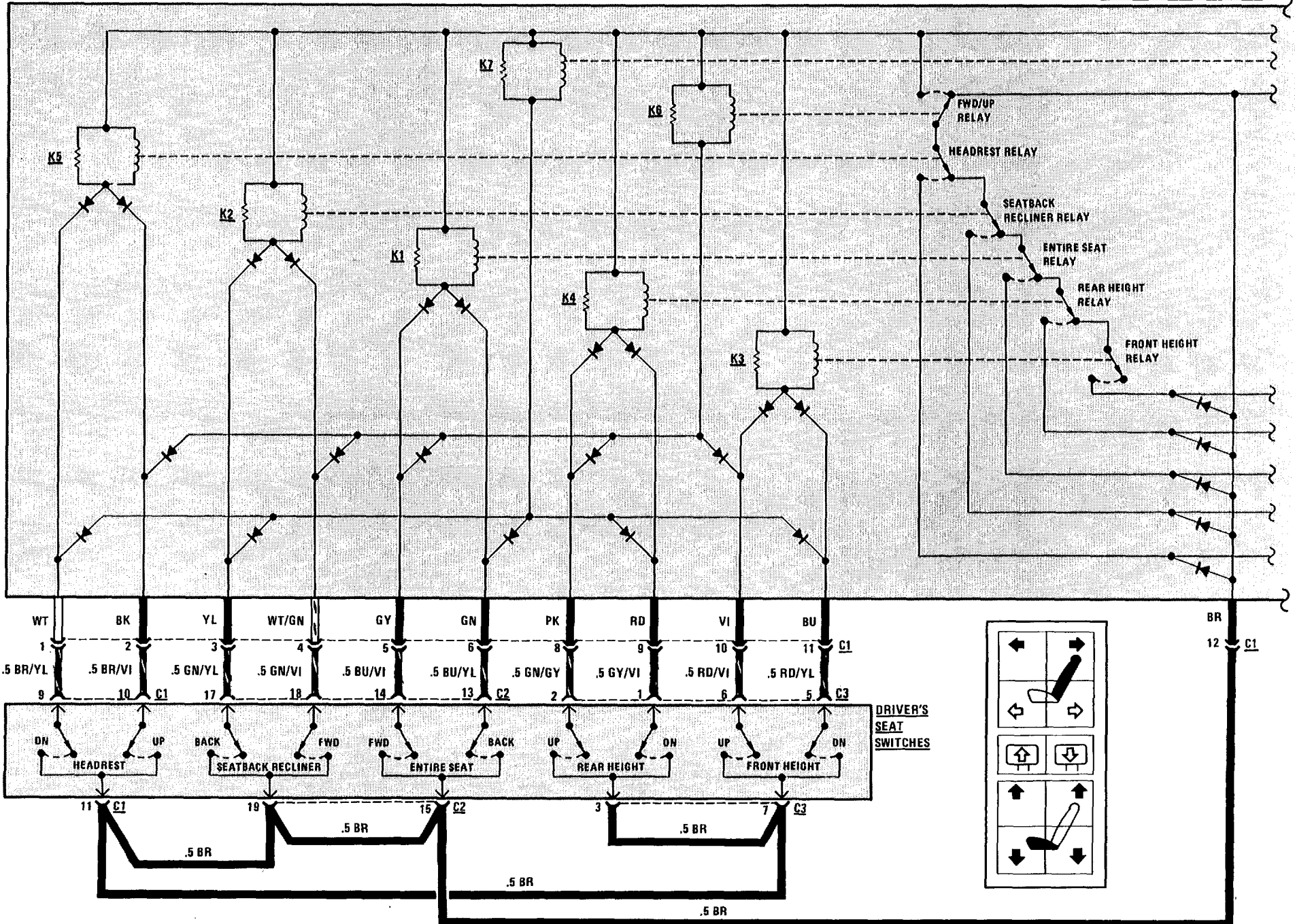
5133-0 POWER WINDOWS

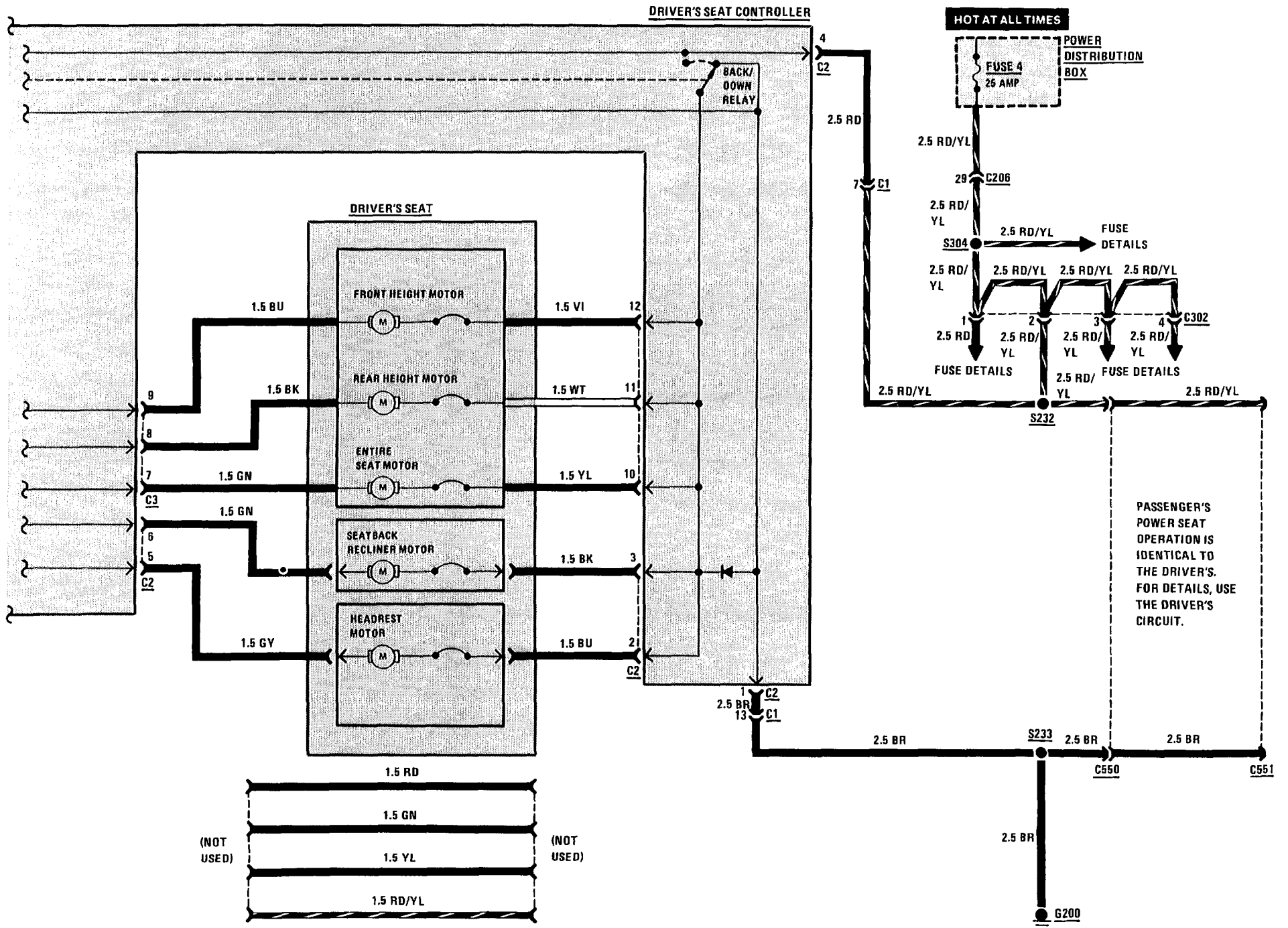




5200-0 POWER SEATS

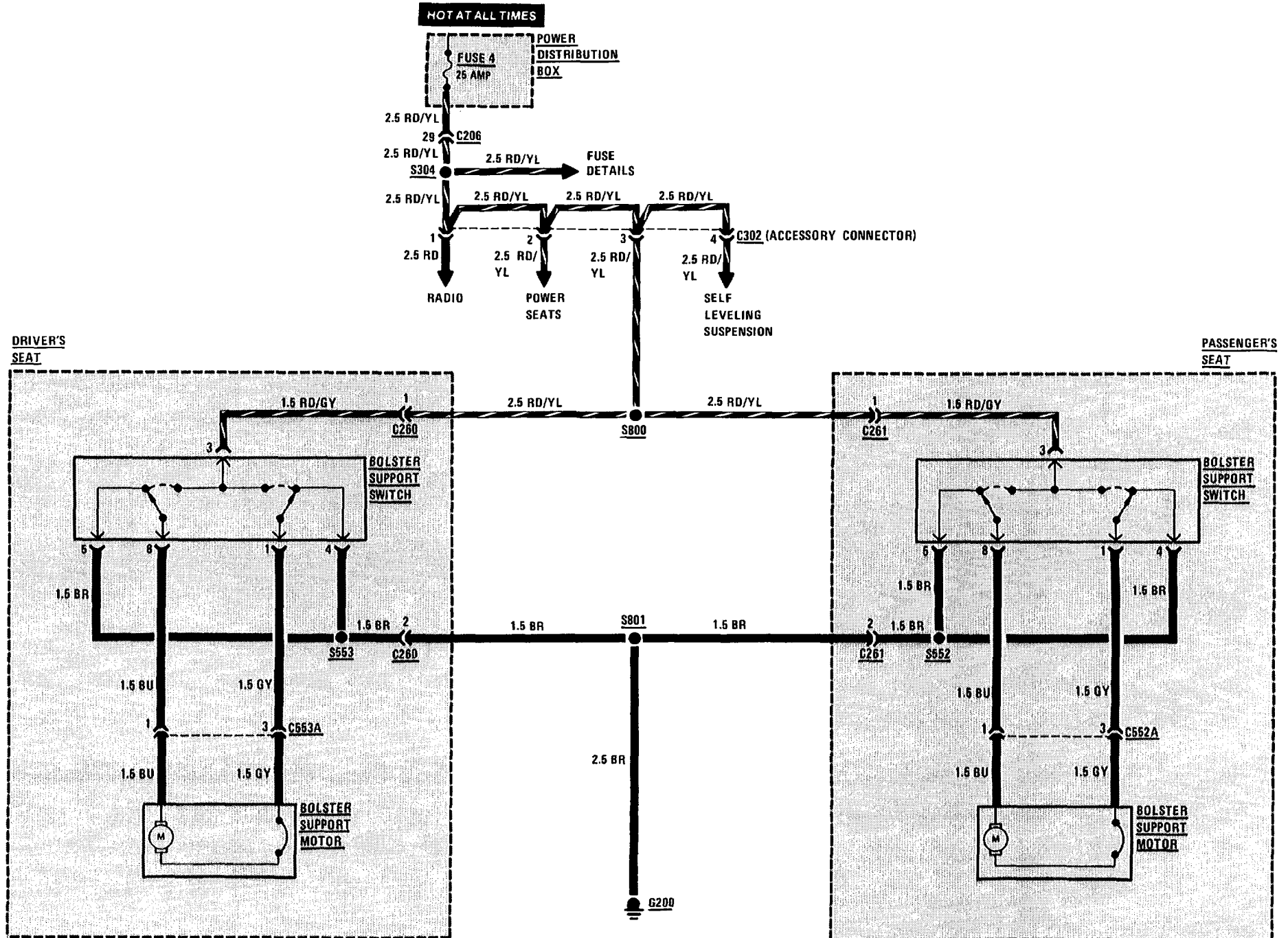
DRIVER'S SEAT CONTROLLER





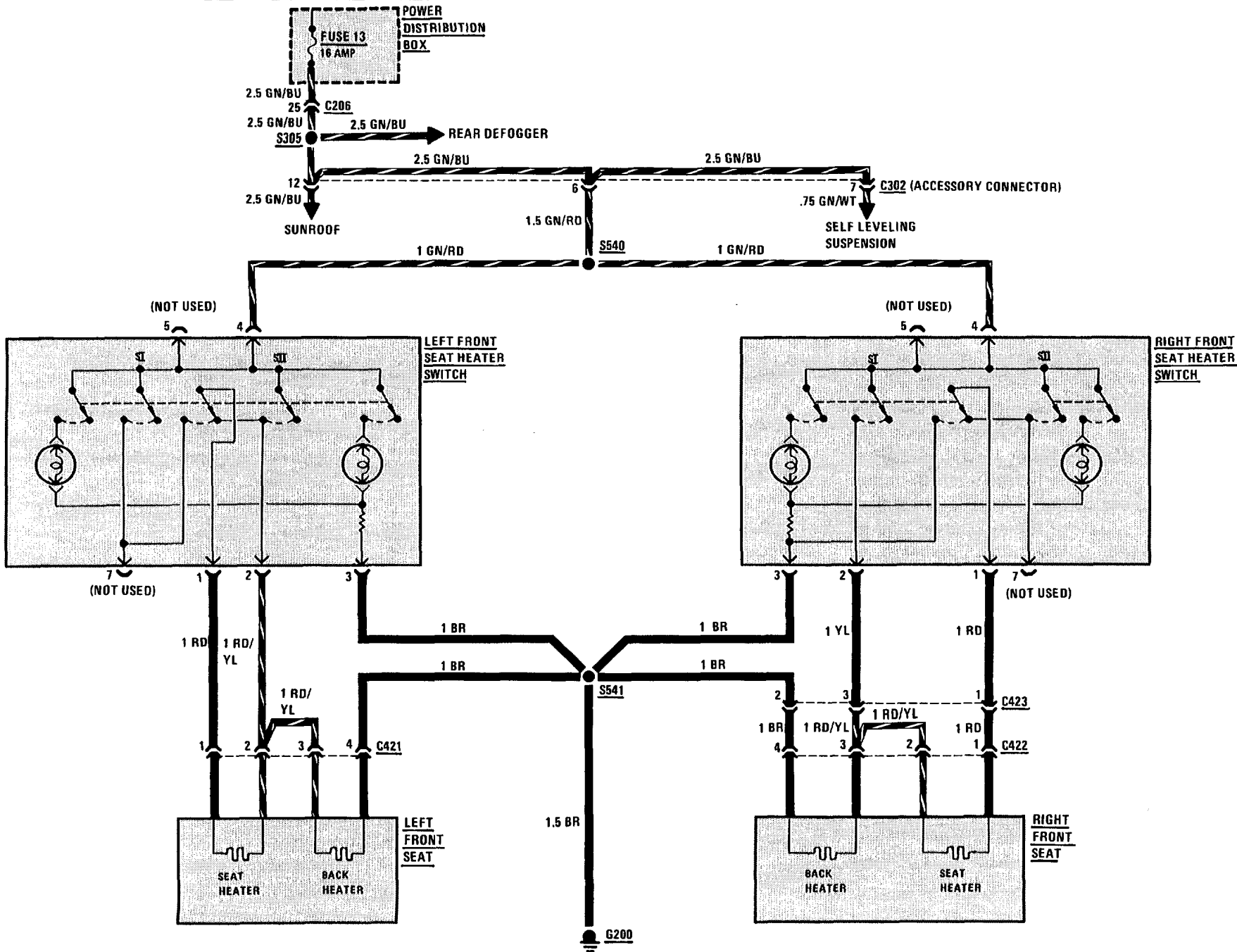
5200-2 POWER SEATS

SEAT BOLSTER



HEATED SEATS

HOT IN RUN ONLY FROM UNLOADER RELAY



5200A-0 POWER SEATS

CIRCUIT OPERATION

Driver's Seat and Passenger's Seat - Manual Operation

There are five reversible Motors that operate the Power Seat. The seat height is controlled by two Motors: one for Front Height and the other for Rear Height; these two Motors operate independently of each other. The other three Motors provide positioning for Headrest Height, Seat-back Reclining, and the Entire Seat Forward/Backward.

When any Seat Switch is depressed, a path to ground is provided for two Relays inside the Control Unit. One Relay controls the Motor for the seat function depressed and the other controls the polarity of the voltage to the Motor selected. An example of this action is as follows: The Front Height UP Switch is depressed, energizing the coils of the Front Height and Fwd/Up Relays. The Relay Switch contacts close and voltage is applied to the Front Height Motor. This drives the front of the seat up as long as the Front Height UP Switch is depressed, or until end of travel. When the Front Height Down Switch is depressed, the Front Height and the Back/Down Relays are energized. Polarity to the motor is reversed, which drives the seat down. The operation of the other seat function is similar to the operation of the Front Height control.

Seat Bolster Support

Voltage is applied to the Bolster Support Switch through Fuse 26 to terminal 3. When the Switch is operated, voltage is applied to the Bolster Support Motor through one set of

Switch contacts. The path to ground is through the other set of contacts and the ground wires.

The direction in which the Switch is operated determines the polarity of the voltage, and the Bolster Support will extend or retract.

TROUBLESHOOTING HINTS

- Try the following checks before doing the System Check.
1. If both Power Seats do not operate, check Fuse 4 and the power lead to the splice.
- 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.

SYSTEM CHECK TABLE

| ACTION | NORMAL RESULT |
|--|--|
| 1. Operate the Seatback Recliner Switch in the BACK and FWD positions. | Back of the seat moves backward and forward in response to operation of Seat Switch. |
| 2. Operate the Rear Height Switch in the UP and DN positions. | The rear seat height moves up and down. |
| 3. Operate the Front Height Switch in the UP and DN positions. | The front seat height moves up and down. |
| 4. Operate the Entire Seat Switch in the FWD and BACK positions. | The seat moves forward and back. |
| 5. Operate the Headrest Switch in the UP and DN positions. | The headrest moves up and down. |
| 6. Operate the Bolster Support Switch in the Extend and Retract positions. | The bolster support extends and retracts. |

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

(Continued from previous page)

SYSTEM DIAGNOSIS

- Diagnostic steps for the symptoms listed in the following table are listed after the table.

SYMPTOM TABLE

| |
|-----------------------------|
| A: No seat functions work |
| B: Some seat functions work |

A: NO SEAT FUNCTIONS WORK

| | | |
|---|------------------------|----------------------|
| Measure: VOLTAGE | | |
| At: PASSENGER'S SEAT CONTROLLER CONNECTORS C1 & C2 (Connected) | | |
| Measure Between | Correct Voltage | For Diagnosis |
| C2/4 & Ground | Battery | See 1 |
| C2/4 & C2/1 | Battery | See 2 |
| C2/4 & C1/12 | Battery | See 3 |
| <ul style="list-style-type: none"> • If all voltages are correct, go to Test B. 1. Check wire to connector C2, terminal 4 (see schematic). Check Fuse 26. 2. Check wire from connector C2, terminal 1 (see schematic). Check ground G200. 3. Replace Passenger's Seat Controller. | | |

B: SOME SEAT FUNCTIONS WORK (TABLE 1)

| | | |
|--|---------------------------|----------------------|
| Measure: RESISTANCE | | |
| At: PASSENGER'S SEAT CONTROLLER CONNECTOR C1 (Disconnected) | | |
| Condition: | | |
| • Headrest Switch: DOWN | | |
| Measure Between | Correct Resistance | For Diagnosis |
| 1 (female) & 12 (female) | 0 Ohms | See 1 |
| • Headrest Switch: UP | | |
| 2 (female) & 12 (female) | 0 Ohms | See 1 |
| • Seatback Recliner Switch: BACK | | |
| 3 (female) & 12 (female) | 0 Ohms | See 1 |
| • Seatback Recliner Switch: FWD | | |
| 4 (female) & 12 (female) | 0 Ohms | See 1 |
| • Entire Seat Switch: FWD | | |
| 5 (female) & 12 (female) | 0 Ohms | See 1 |
| • Entire Seat Switch: BACK | | |
| 6 (female) & 12 (female) | 0 Ohms | See 1 |
| • Rear Height Switch: UP | | |
| 8 (female) & 12 (female) | 0 Ohms | See 1 |
| • Rear Height Switch: DN | | |
| 9 (female) & 12 (female) | 0 Ohms | See 1 |
| • Front Height Switch: UP | | |
| 10 (female) & 12 (female) | 0 Ohms | See 1 |
| • Front Height Switch: DN | | |

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| | | |
|---|--------|-------|
| 11 (female) & 12 (female) | 0 Ohms | See 1 |
| <ul style="list-style-type: none"> • If all results are correct, reconnect connector and go to Table 2. 1. Check wire to Passenger's Seat Switches (see schematic). If wire is good, replace Passenger's Seat Switches. | | |

B: SOME SEAT FUNCTIONS WORK (TABLE 2)

| | | |
|---|------------------------|----------------------|
| Measure: VOLTAGE | | |
| At: PASSENGER'S SEAT CONTROLLER CONNECTORS C2 & C3 (Connected) | | |
| Condition: | | |
| • Headrest Switch: UP and DN | | |
| Measure Between | Correct Voltage | For Diagnosis |
| C2/2 & C2/5 | Battery | See 1 |
| • Seatback Recliner Switch: FWD and BACK | | |
| C2/3 & C2/6 | Battery | See 1 |
| • Entire Seat Switch: FWD and BACK | | |
| C3/7 & C3/10 | Battery | See 1 |
| • Rear Switch: UP and DN | | |
| C3/8 & C3/11 | Battery | See 1 |
| • Front Switch: UP and DN | | |
| C3/9 & C3/12 | Battery | See 1 |
| <ul style="list-style-type: none"> • If all voltages are correct, repair/replace suspect Motor. 1. Replace Passenger's Seat Controller. | | |

5200A-2 POWER SEATS

(Continued from previous page)

SYSTEM DIAGNOSIS

- Diagnostic steps for the symptoms listed in the following table are listed after the table.

SYMPTOM TABLE

| |
|----------------------------------|
| A: No seat functions work |
| B: Some seat functions work |
| C: Memory functions do not work |
| D: Bolster support does not work |

A: NO SEAT FUNCTIONS WORK (TABLE 1 - SEAT WITHOUT MEMORY)

| | | |
|---|------------------------|----------------------|
| Measure: VOLTAGE | | |
| At: PASSENGER'S SEAT CONTROLLER CONNECTORS C1 & C2 (Connected) | | |
| Measure Between | Correct Voltage | For Diagnosis |
| C2/4 & Ground | Battery | See 1 |
| C2/4 & C2/1 | Battery | See 2 |
| C2/4 & C1/12 | Battery | See 3 |
| <ul style="list-style-type: none"> If all voltages are correct, go to Test B. <ol style="list-style-type: none"> Check wire to connector C2, terminal 4 (see schematic). Check Fuse 26. Check wire from connector C2, terminal 1 (see schematic). Check ground G200. Replace Passenger's Seat Controller. | | |

A: NO SEAT FUNCTIONS WORK (TABLE 2 - SEAT WITH MEMORY)

| | | |
|---|------------------------|----------------------|
| Measure: VOLTAGE | | |
| At: MEMORY SEAT CONTROL MODULE CONNECTORS C1 (26-pin Connecting Lead and Universal Adapter Connected) & C4 (Connected) | | |
| Condition: | | |
| <ul style="list-style-type: none"> Ignition Switch: RUN | | |
| Measure Between | Correct Voltage | For Diagnosis |
| C4/8 & Ground | Battery | See 1 |
| C4/8 & C4/10 | Battery | See 2 |
| C1/3 & Ground | Battery | See 3 |
| C1/3 & C1/26 | Battery | See 4 |
| <ul style="list-style-type: none"> If all voltages are correct, go to Test B. <ol style="list-style-type: none"> Check wire to connector C4, terminal 84 for an open (see schematic). Check Fuse 26. Check wire from connector C4, terminal 10 for an open (see schematic). Check ground G200. Check wire to connector C1, terminal 3 for an open (see schematic). Replace Memory Seat Control Module. | | |

B: SOME SEAT FUNCTIONS WORK (TABLE 1 - SEAT WITHOUT MEMORY)

| | | |
|--|---------------------------|----------------------|
| Measure: RESISTANCE | | |
| At: PASSENGER'S SEAT CONTROLLER CONNECTOR C1 (Disconnected) | | |
| Condition: | | |
| <ul style="list-style-type: none"> Headrest Switch: DOWN | | |
| Measure Between | Correct Resistance | For Diagnosis |
| 1 (female) & 12 (female) | 0 Ohms | See 1 |
| <ul style="list-style-type: none"> Headrest Switch: UP | | |
| 2 (female) & 12 (female) | 0 Ohms | See 1 |
| <ul style="list-style-type: none"> Seatback Recliner Switch: BACK | | |
| 3 (female) & 12 (female) | 0 Ohms | See 1 |
| <ul style="list-style-type: none"> Seatback Recliner Switch: FWD | | |
| 4 (female) & 12 (female) | 0 Ohms | See 1 |
| <ul style="list-style-type: none"> Entire Seat Switch: FWD | | |
| 5 (female) & 12 (female) | 0 Ohms | See 1 |
| <ul style="list-style-type: none"> Entire Seat Switch: BACK | | |
| 6 (female) & 12 (female) | 0 Ohms | See 1 |
| <ul style="list-style-type: none"> Rear Height Switch: UP | | |
| 8 (female) & 12 (female) | 0 Ohms | See 1 |
| <ul style="list-style-type: none"> Rear Height Switch: DN | | |
| 9 (female) & 12 (female) | 0 Ohms | See 1 |

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| | | |
|---|--------|-------|
| • Front Height Switch: UP | | |
| 10 (female) & 12 (female) | 0 Ohms | See 1 |
| • Front Height Switch: DN | | |
| 11 (female) & 12 (female) | 0 Ohms | See 1 |
| • If all results are correct, reconnect connector and go to Table 2. | | |
| 1. Check wire to Passenger's Seat Switches (see schematic). If wire is good, replace Passenger's Seat Switches. | | |

B: SOME SEAT FUNCTIONS WORK (TABLE 2 - SEAT WITHOUT MEMORY)

| | | |
|---|------------------------|----------------------|
| Measure: VOLTAGE | | |
| At: PASSENGER'S SEAT CONTROLLER CONNECTORS C2 & C3 (Connected) | | |
| Condition: | | |
| • Headrest Switch: UP and DN | | |
| Measure Between | Correct Voltage | For Diagnosis |
| C2/2 & C2/5 | Battery | See 1 |
| • Seatback Recliner Switch: FWD and BACK | | |
| C2/3 & C2/6 | Battery | See 1 |
| • Entire Seat Switch: FWD and BACK | | |
| C3/7 & C3/10 | Battery | See 1 |
| • Rear Switch: UP and DN | | |
| C3/8 & C3/11 | Battery | See 1 |
| • Front Switch: UP and DN | | |
| C3/9 & C3/12 | Battery | See 1 |
| • If all voltages are correct, repair/replace suspect Motor. | | |
| 1. Replace Passenger's Seat Controller. | | |

B: SOME SEAT FUNCTIONS WORK (TABLE 3 - SEAT WITH MEMORY)

| | | |
|---|------------------------|----------------------|
| Measure: RESISTANCE | | |
| At: MEMORY SEAT CONTROL MODULE CONNECTOR C1 (Disconnected) | | |
| Condition: | | |
| • Headrest Switch: DOWN | | |
| Measure Between | Correct Voltage | For Diagnosis |
| 17 & 26 | 0 Ohms | See 1 |
| • Headrest Switch: UP | | |
| 5 & 26 | 0 Ohms | See 1 |
| • Seatback Recliner Switch: BACK | | |
| 18 & 26 | 0 Ohms | See 1 |
| • Seatback Recliner Switch: FWD | | |
| 24 & 26 | 0 Ohms | See 1 |
| • Entire Seat Switch: FWD | | |
| 15 & 26 | 0 Ohms | See 1 |
| • Entire Seat Switch: BACK | | |
| 20 & 26 | 0 Ohms | See 1 |
| • Rear Height Switch: UP | | |
| 21 & 26 | 0 Ohms | See 1 |
| • Rear Height Switch: DN | | |
| 16 & 26 | 0 Ohms | See 1 |
| • Front Height Switch: UP | | |
| 22 & 26 | 0 Ohms | See 1 |
| • Front Height Switch: DN | | |
| 23 & 26 | 0 Ohms | See 1 |
| • If all resistances are correct, reconnect connector and go to Table 2. | | |
| 1. Check wire to Driver's Seat Switches (see schematic). If wire is good, replace Driver's Seat Switches. | | |

B: SOME SEAT FUNCTIONS WORK (TABLE 4 - SEAT WITH MEMORY)

| | | |
|--|------------------------|----------------------|
| Measure: VOLTAGE | | |
| At: MEMORY SEAT CONTROL MODULE CONNECTORS C2 & C3 (Connected) | | |
| Condition: | | |
| • Headrest Switch: UP and DN | | |
| Measure Between | Correct Voltage | For Diagnosis |
| C3/11 & C3/7 | Battery | See 1 |
| • Seatback Recliner Switch: FWD and BACK | | |
| C3/6 & C3/12 | Battery | See 1 |
| • Entire Seat Switch: FWD and BACK | | |
| C2/1 & C2/4 | Battery | See 1 |
| • Rear Height Switch: UP and DN | | |
| C2/5 & C2/2 | Battery | See 1 |
| • Front Height Switch: UP and DN | | |
| C2/3 & C2/6 | Battery | See 1 |
| • If all voltages are correct, repair/replace suspect motor. | | |
| 1. Replace Memory Seat Control Module. | | |

(Continued on next page)

5200A-4 POWER SEATS

(Continued from previous page)

C: MEMORY FUNCTIONS DO NOT WORK (TABLE 1 - SEAT WITH MEMORY)

| Measure: RESISTANCE | | |
|---|--------------------------|---------------|
| At: MEMORY SWITCHES CONNECTOR (Disconnected) | | |
| Condition: | | |
| • STOP Switch: PRESSED | | |
| Measure Between | Correct Resistance | For Diagnosis |
| 5 & 7 | Infinite Ohms | See 1 |
| • STOP Switch: RELEASED | | |
| 5 & 7 | 0 Ohms | See 1 |
| 2 & 3 | Approximately 2.2 K Ohms | See 1 |
| 3 & 4 | Approximately 2.2K Ohms | See 1 |
| • MEMORY 1: PRESSED | | |
| 3 & 4 | Approximately 170 Ohms | See 1 |
| • MEMORY 2: PRESSED | | |
| 3 & 4 | Approximately 340 Ohms | See 1 |
| • MEMORY 3: PRESSED | | |
| 3 & 4 | Approximately 800 Ohms | See 1 |
| • Store MEMORY 1: PRESSED | | |
| 2 & 3 | Approximately 170 Ohms | See 1 |
| • Store MEMORY 2: PRESSED | | |

(Continued in next column)

(Continued from previous column)

| | | |
|--|------------------------|-------|
| 2 & 3 | Approximately 340 Ohms | See 1 |
| • Store MEMORY 3: PRESSED | | |
| 2 & 3 | Approximately 800 Ohms | See 1 |
| • If all resistances are correct, go to Table 2. | | |
| 1. Replace Memory Switches. | | |

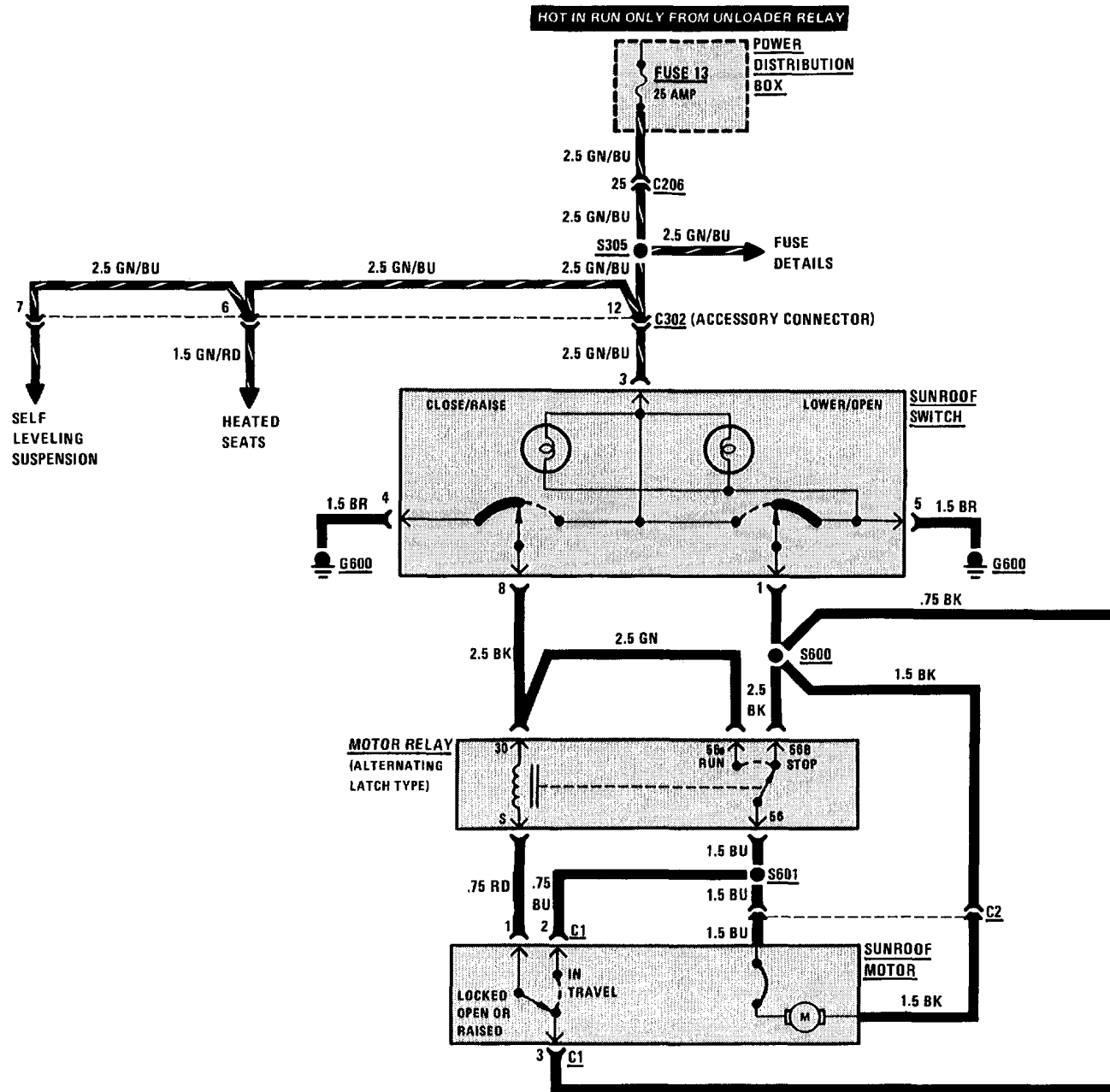
C: MEMORY FUNCTIONS DO NOT WORK (TABLE 2 - SEAT WITH MEMORY)

| Measure: VOLTAGE | | |
|---|----------------------|---------------|
| At: MEMORY SEAT CONTROL MODULE CONNECTOR C5 (26-pin Connecting Lead And Universal Adapter) (Connected) | | |
| Condition: | | |
| • Ignition Switch: RUN | | |
| Measure Between | Correct Voltage | For Diagnosis |
| 3 & 16 | Greater than 4 Volts | See 1 |
| 1 & 14 | Greater than 4 Volts | See 1 |
| 2 & 15 | Greater than 4 Volts | See 1 |
| 4 & 17 | Greater than 4 Volts | See 1 |
| 5 & 18 | Greater than 4 Volts | See 1 |
| • If all voltages are correct, go to Table 3. | | |
| 1. Replace Memory Seat Control Module. | | |

C: MEMORY FUNCTIONS DO NOT WORK (TABLE 3 - SEAT WITH MEMORY)

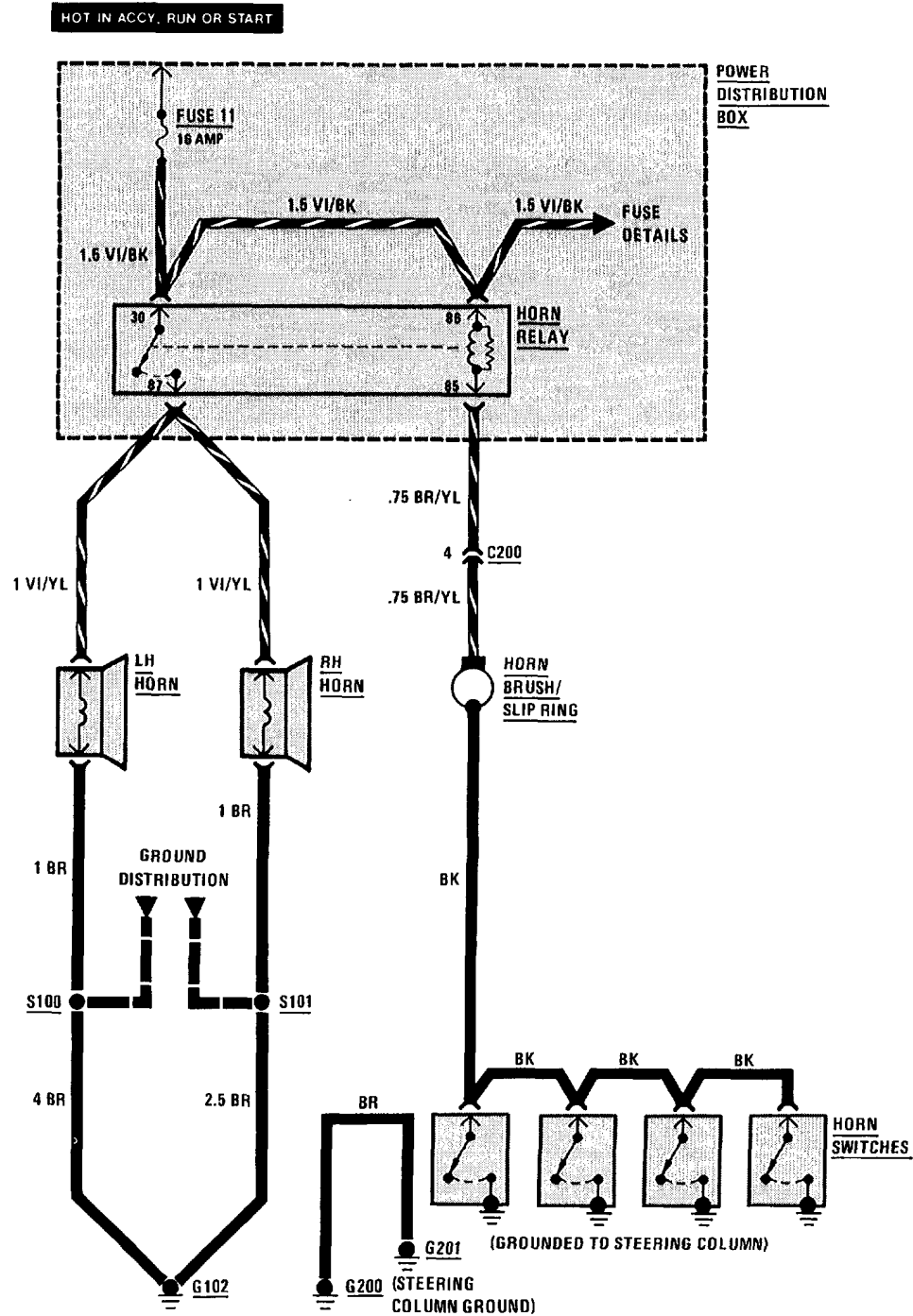
| Measure: VOLTAGE | | |
|---|----------------------------|---------------|
| At: MEMORY SEAT CONTROL MODULE CONNECTOR C5 (26-pin Connecting Lead And Universal Adapter) (Connected) | | |
| Conditions: | | |
| • Ignition Switch: RUN | | |
| • Headrest Switch: UP or DOWN | | |
| Measure Between | Correct Voltage | For Diagnosis |
| 10 & Ground | Varies between 1 & 5 Volts | See 1 |
| • Seatback Recliner Switch: FWD or BACK | | |
| 8 & Ground | Varies between 1 & 5 Volts | See 1 |
| • Entire Seat Switch: FWD or BACK | | |
| 9 & Ground | Varies between 1 & 5 Volts | See 1 |
| • Rear Height Switch: UP or DOWN | | |
| 11 & Ground | Varies between 1 & 5 Volts | See 1 |
| • Front Height Switch: UP or DOWN | | |
| 12 & Ground | Varies between 1 & 5 Volts | See 1 |
| • If all voltages are correct, replace Memory Seat Control Module. | | |
| 1. Check wire to Position Sensor (see schematic). If wire is good, replace Position Sensor. | | |

5413-0 SUNROOF

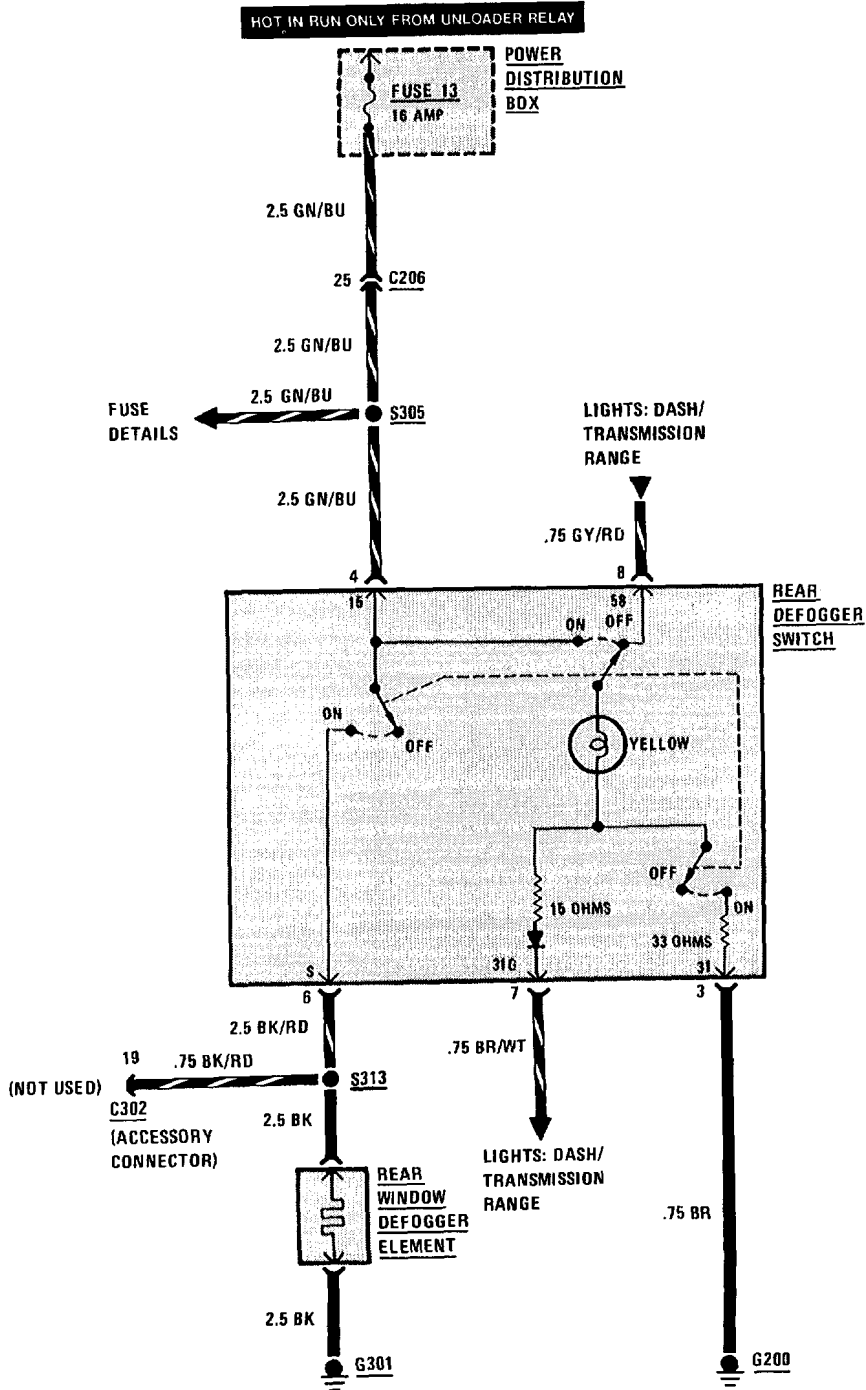


6100-0 BODY ELECTRICAL

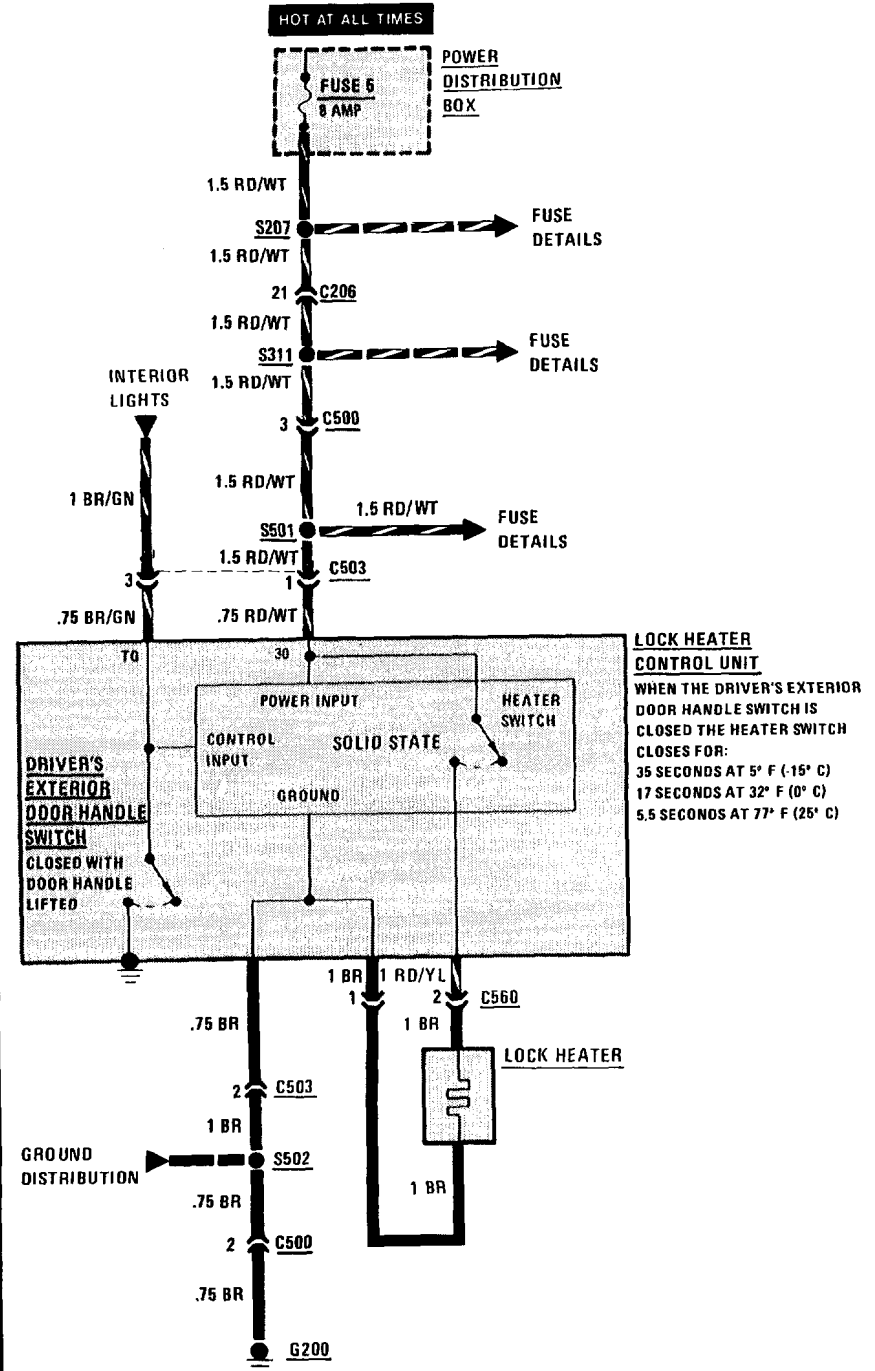
HORN



REAR DEFOGGER

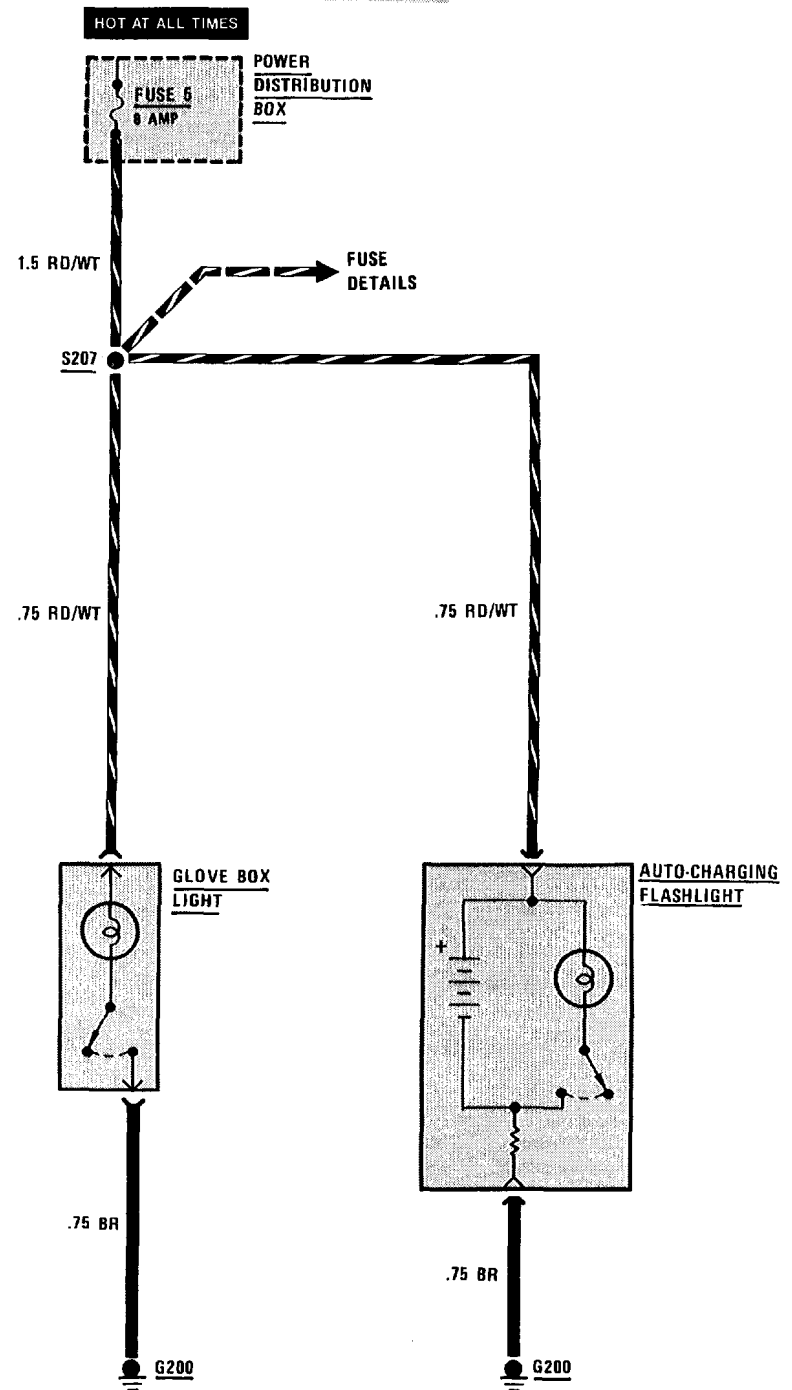
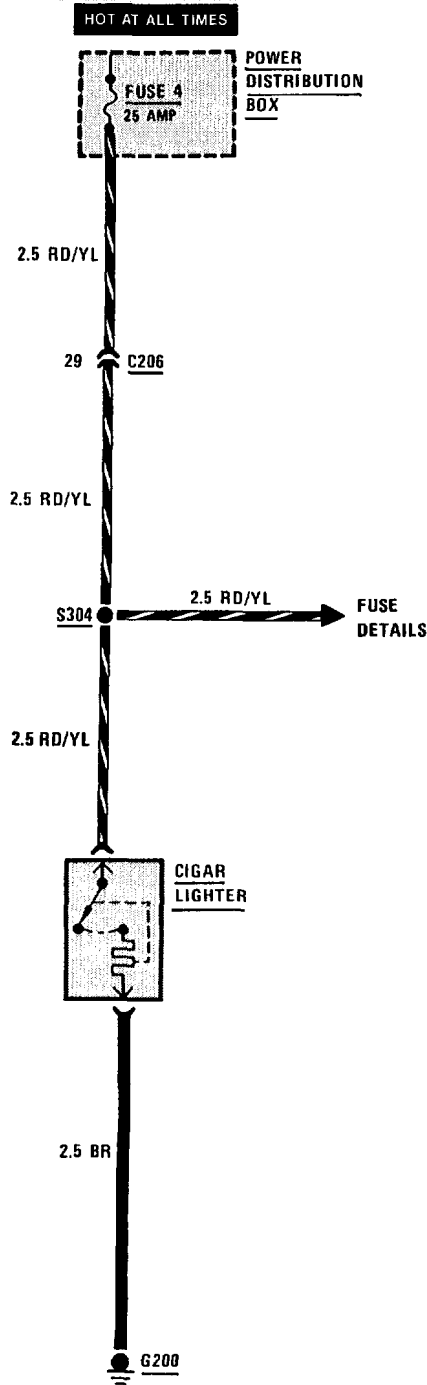


HEATED DOOR LOCKS

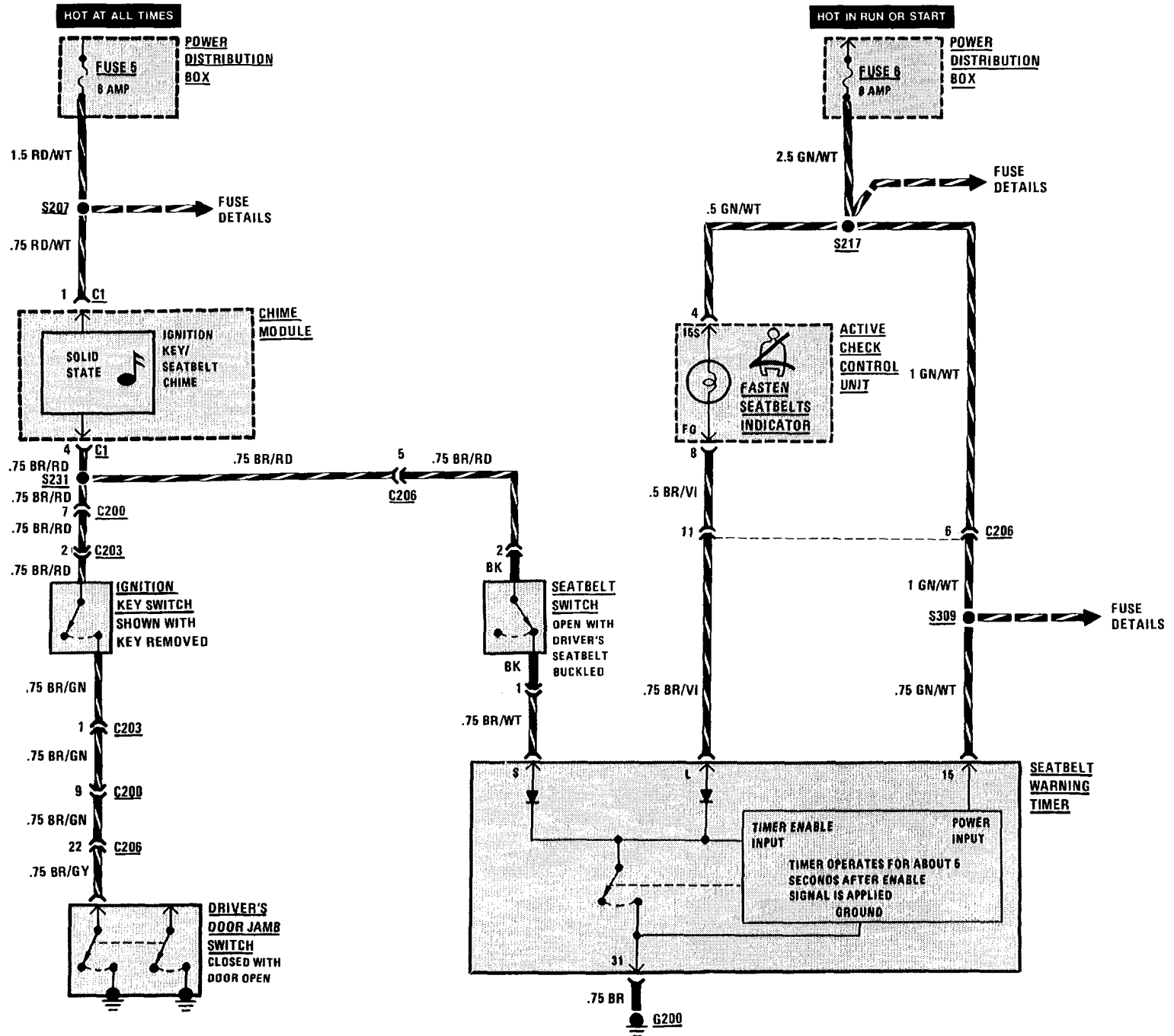


6100-2 BODY ELECTRICAL

CIGAR LIGHTER/GLOVE BOX LIGHT/AUTO-CHARGING FLASHLIGHT

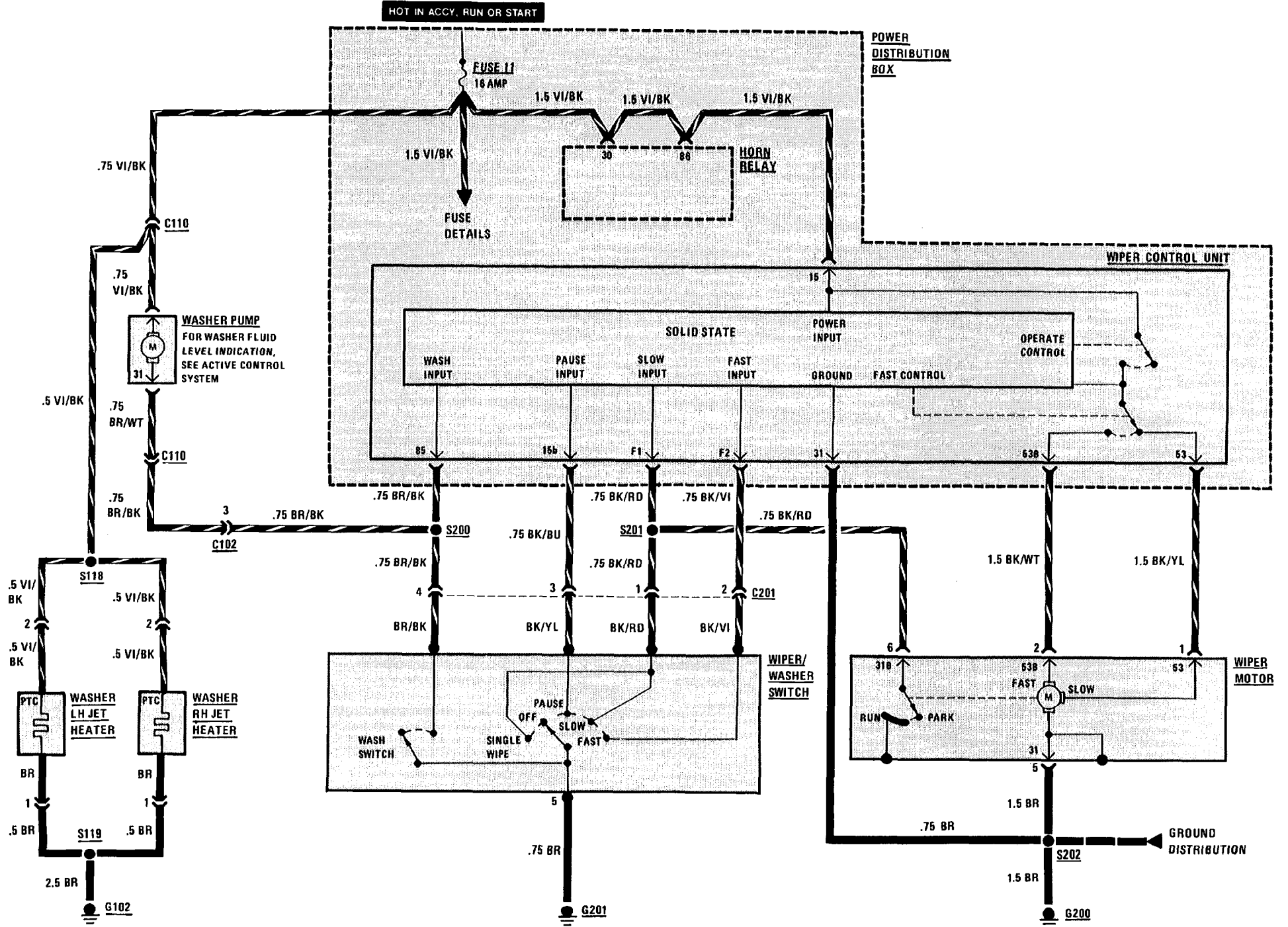


6131-0 IGNITION KEY WARNING/SEATBELT WARNING

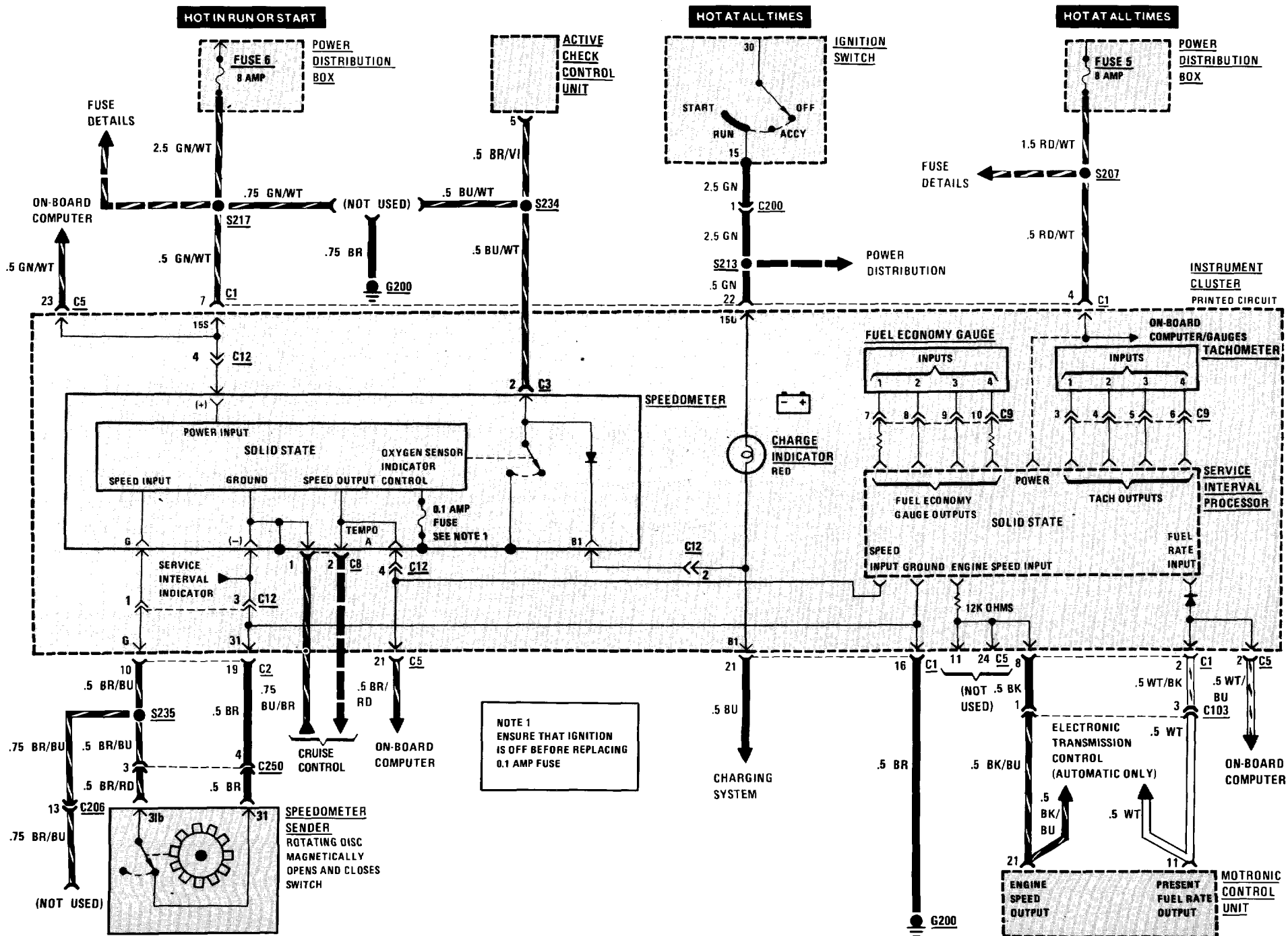


6160-0 WIPER/WASHER

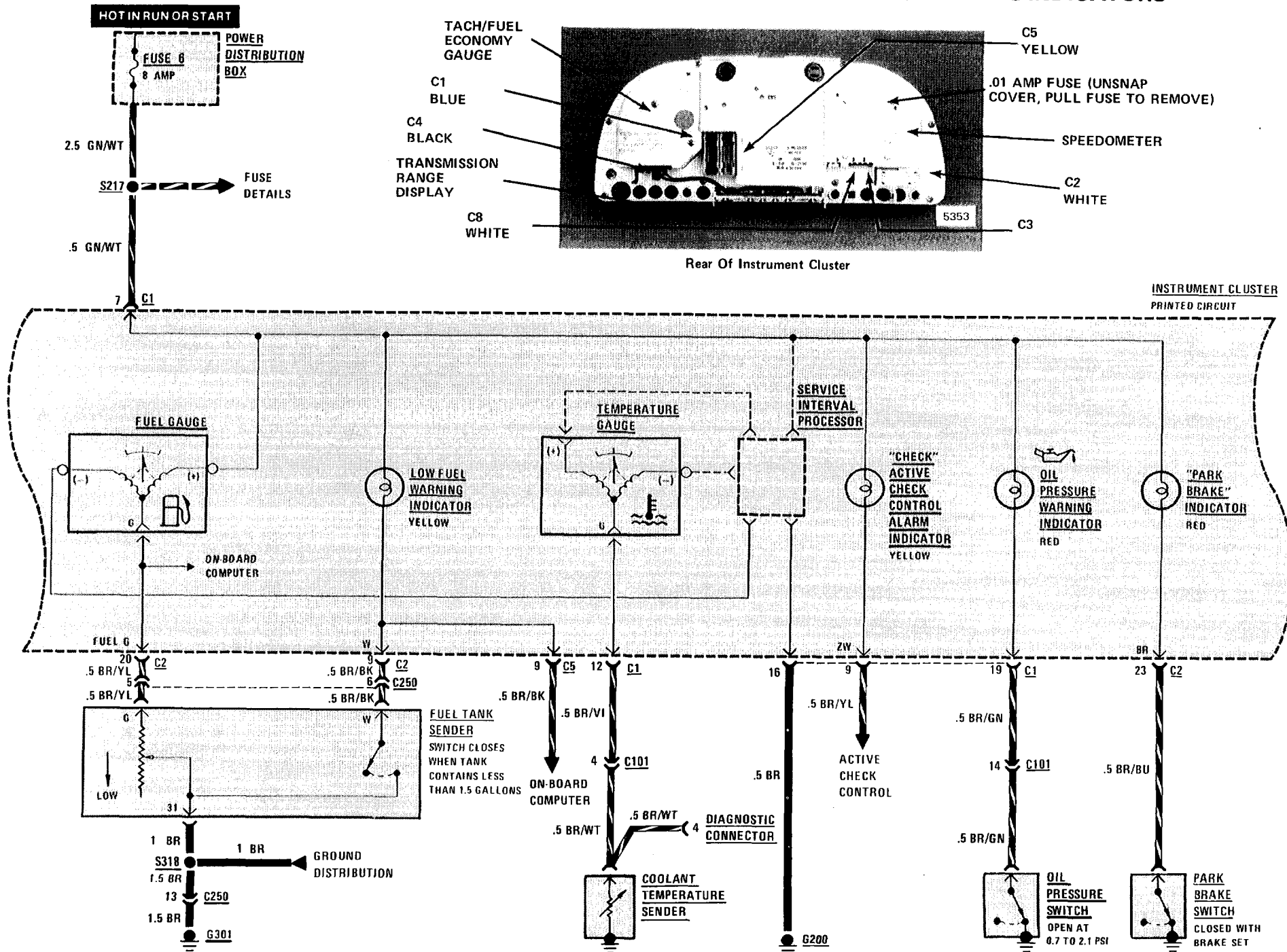
WIPER/WASHER AND HEATED WASHER JETS



SPEEDOMETER/GAUGES/WARNING INDICATORS

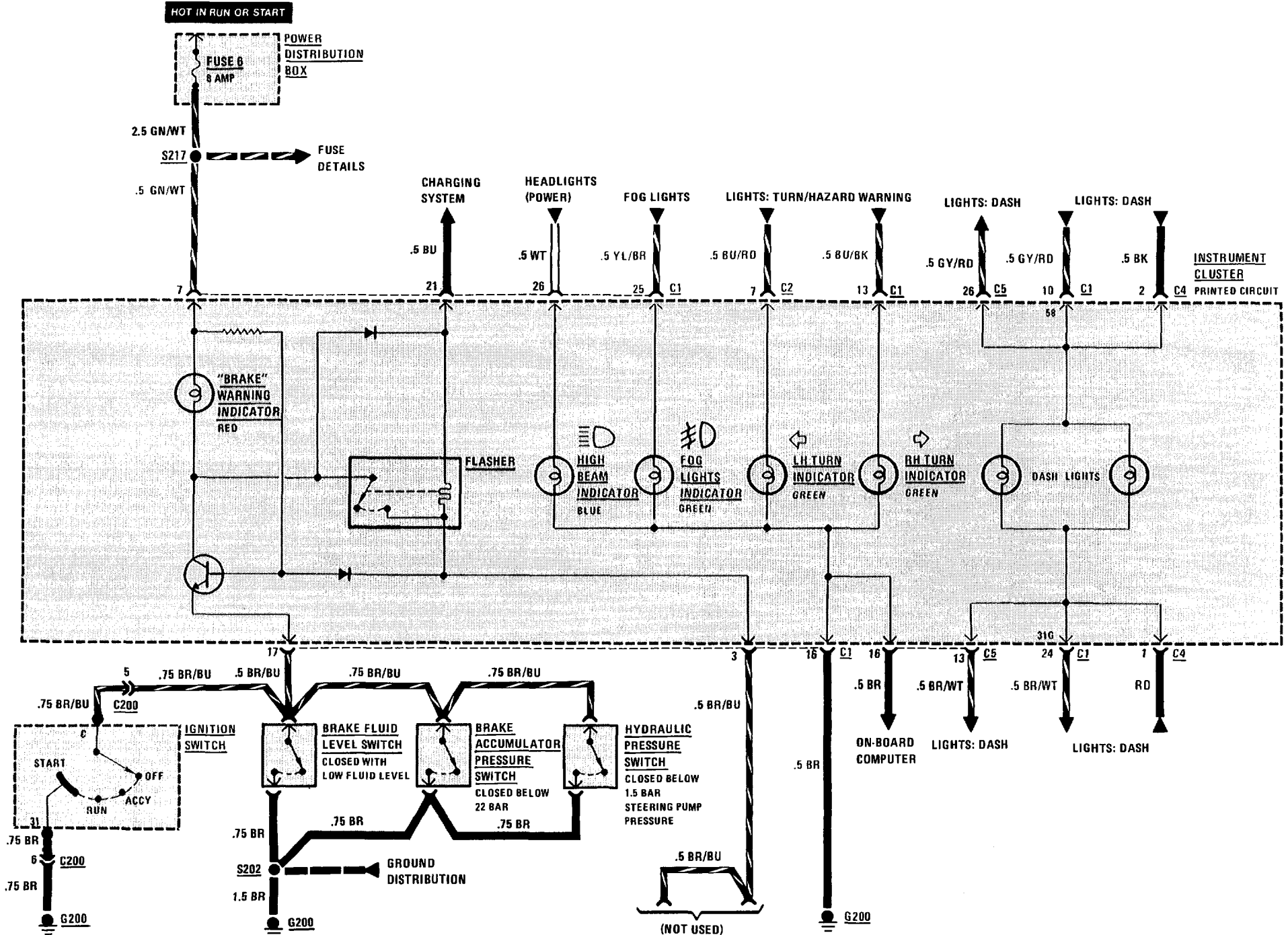


GAUGES/WARNING INDICATORS



6210-2 INSTRUMENT CLUSTER

WARNING INDICATORS



SERVICE INTERVAL INDICATOR

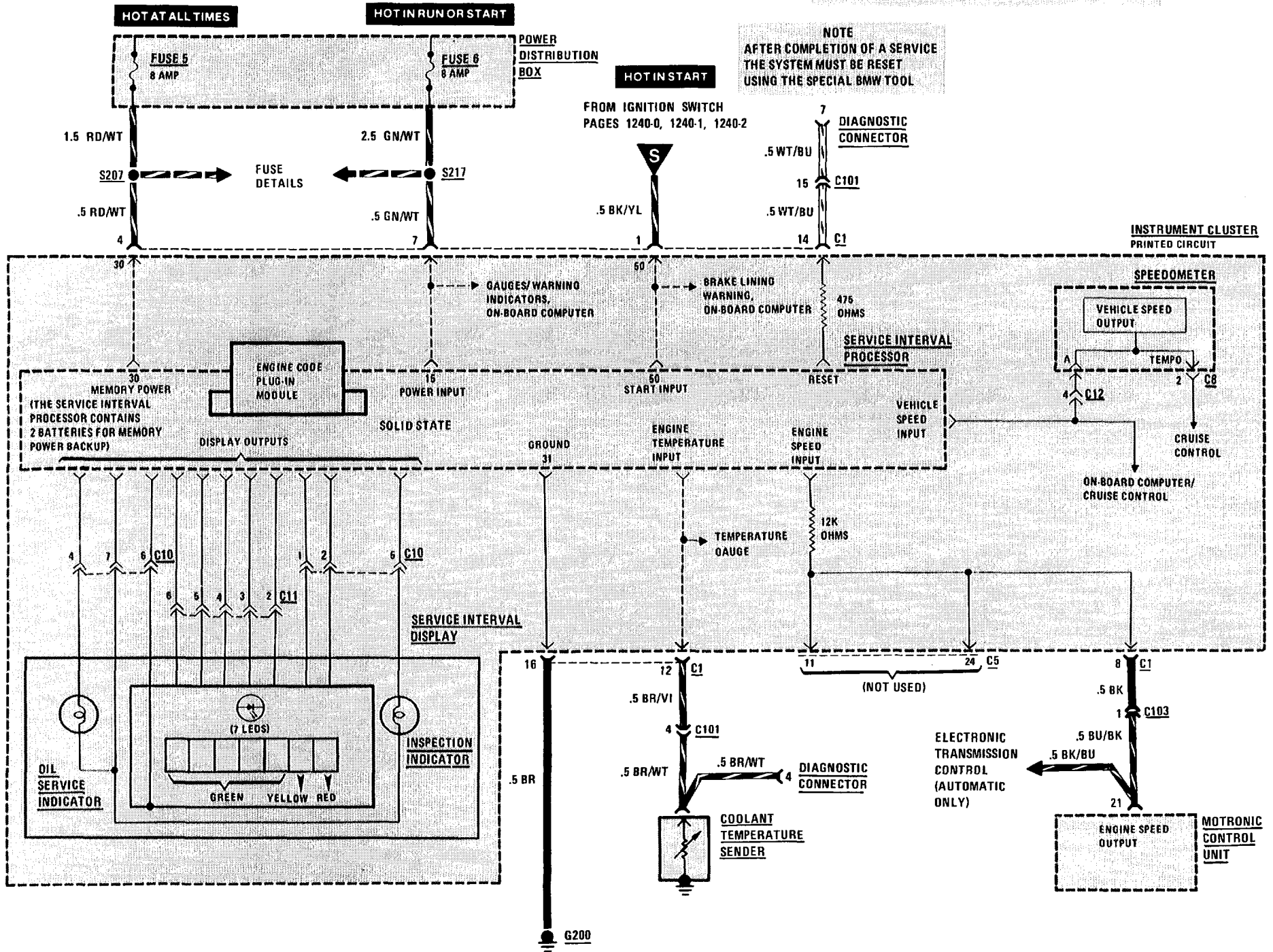
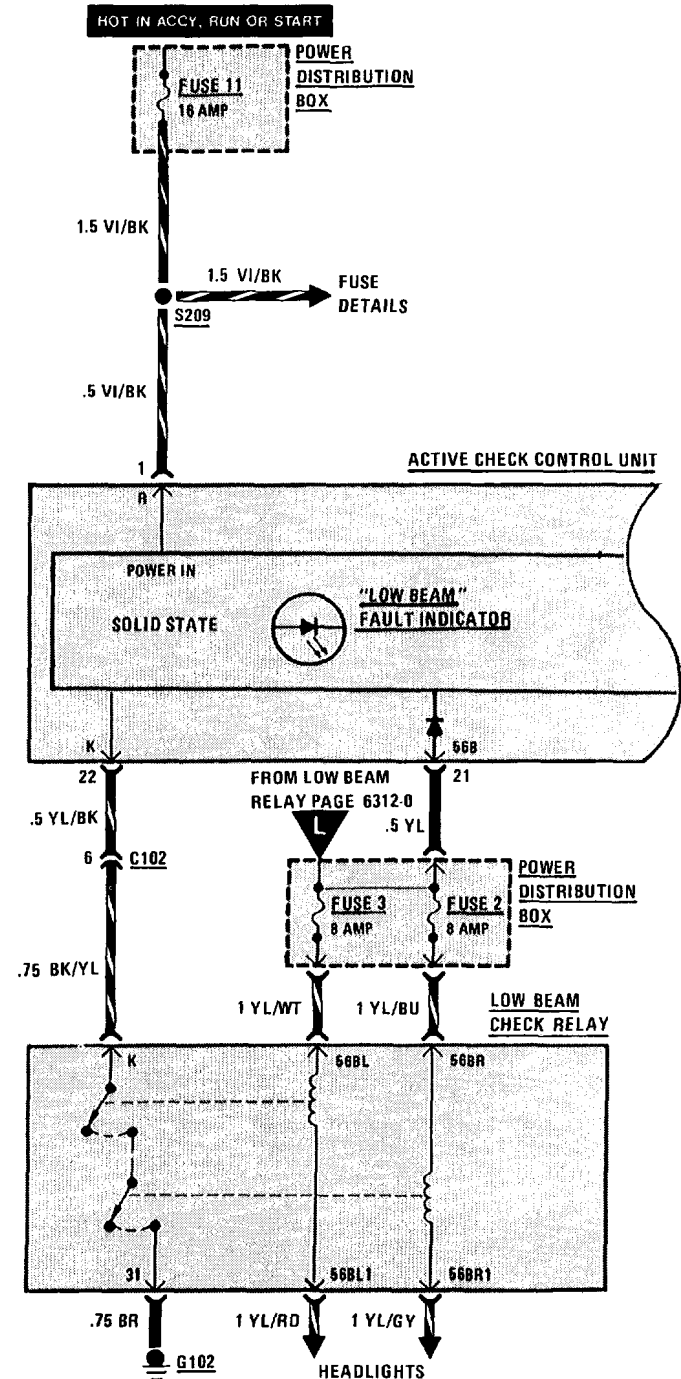




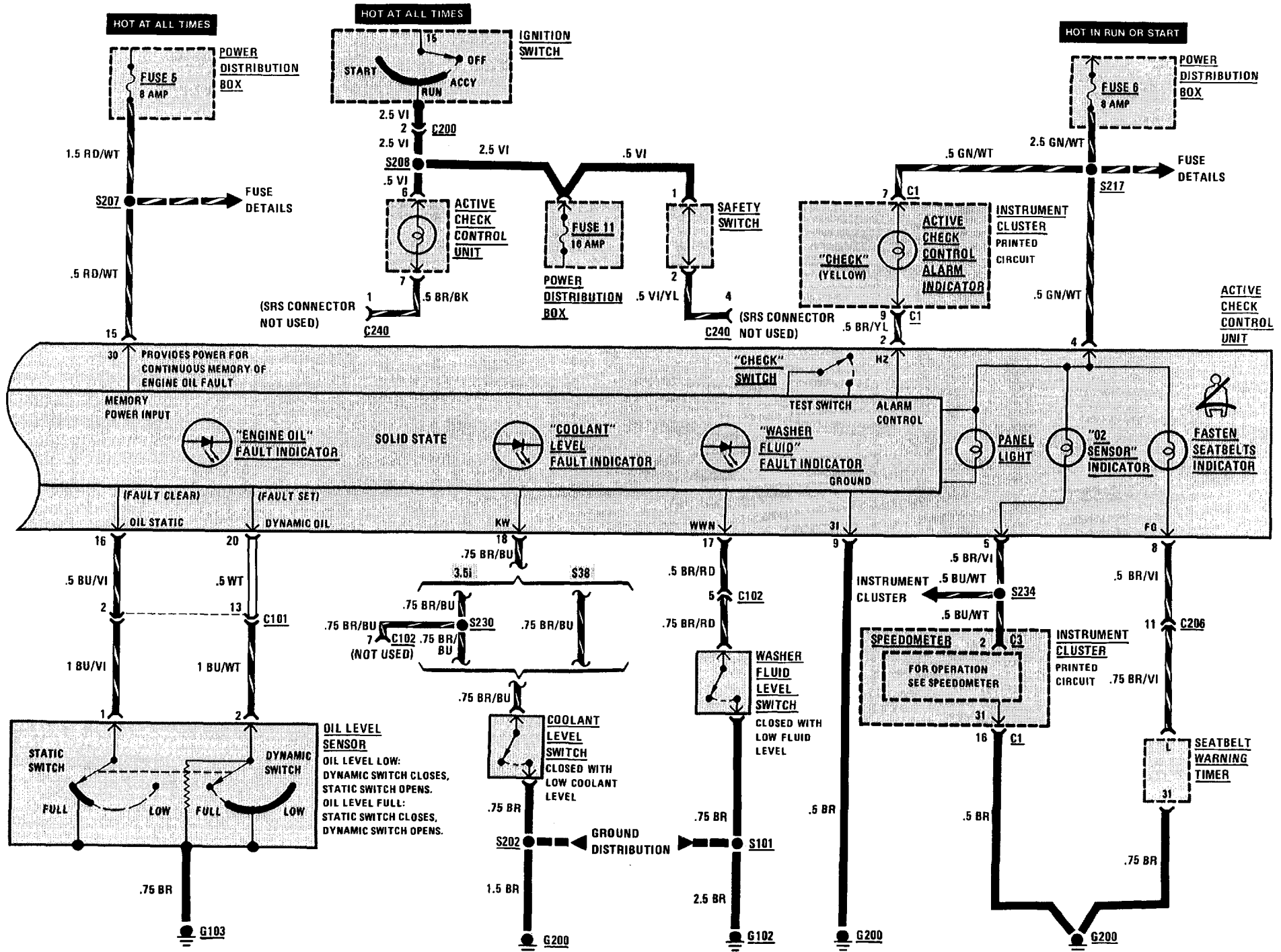
Figure 1 - Above Rear View Mirror

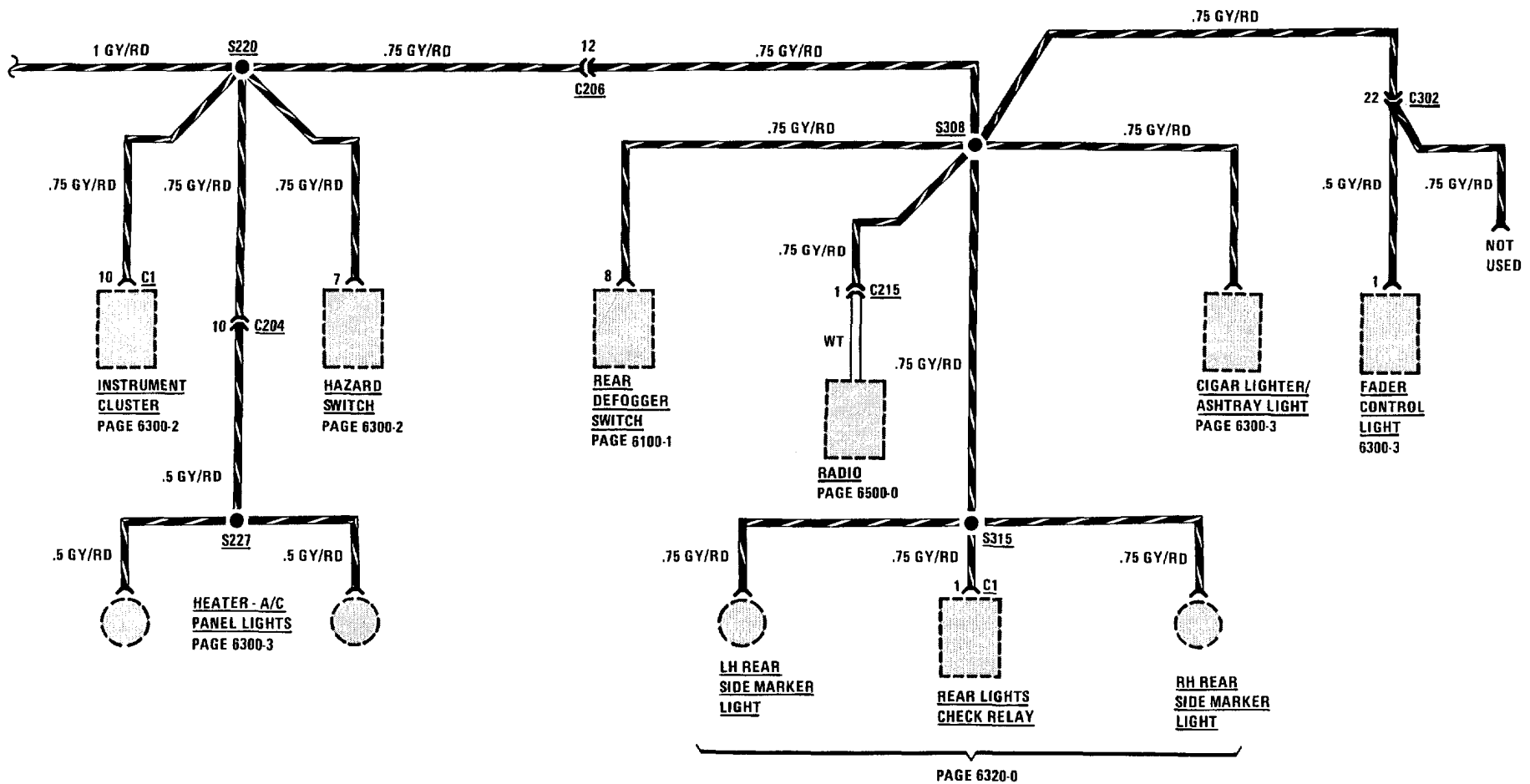
ACTIVE CHECK CONTROL

1. When the Ignition Switch is initially placed in "Run," the Active Check Control Alarm 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 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 panel light should go on.



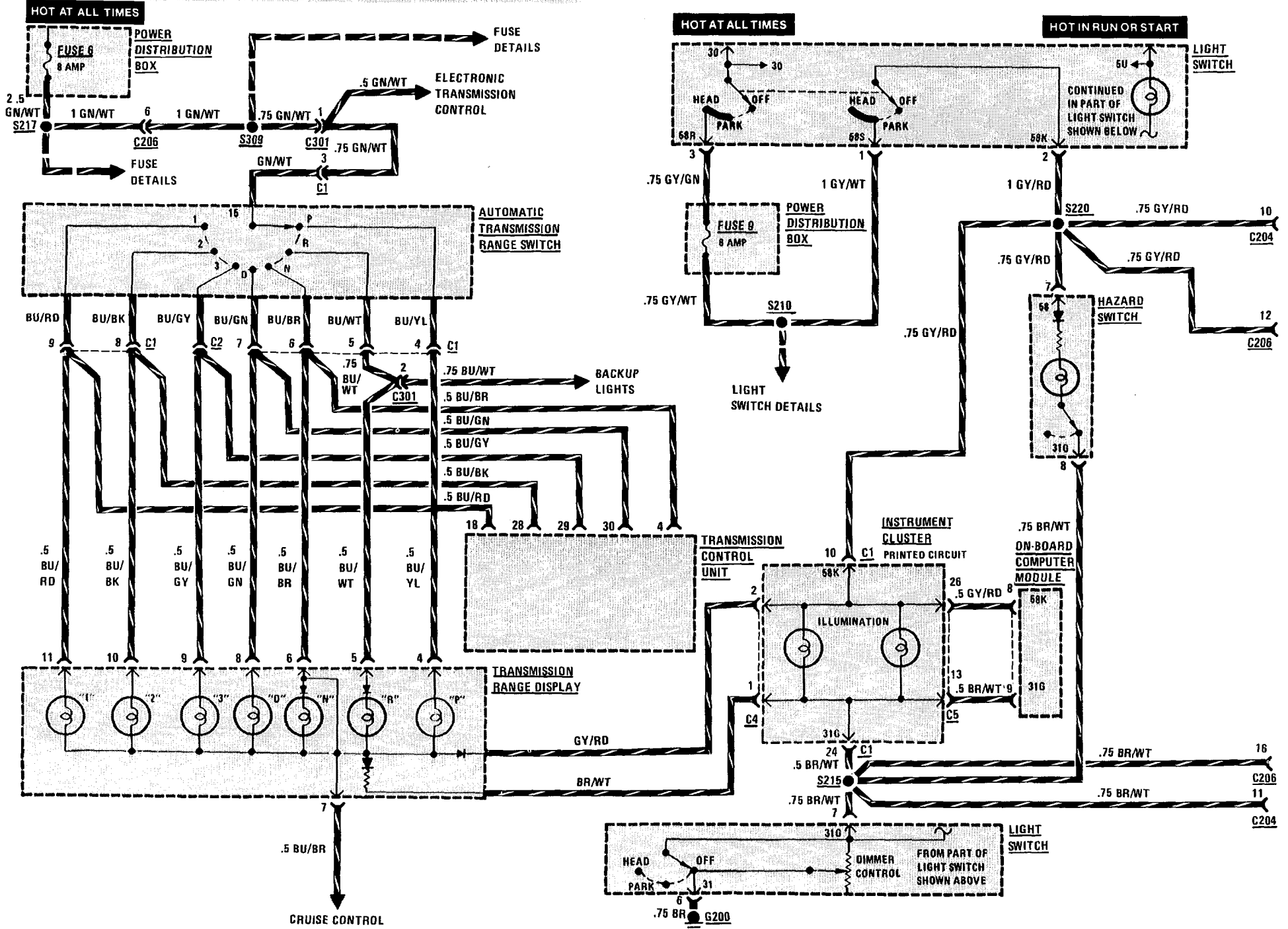
6216-2 ACTIVE CHECK CONTROL





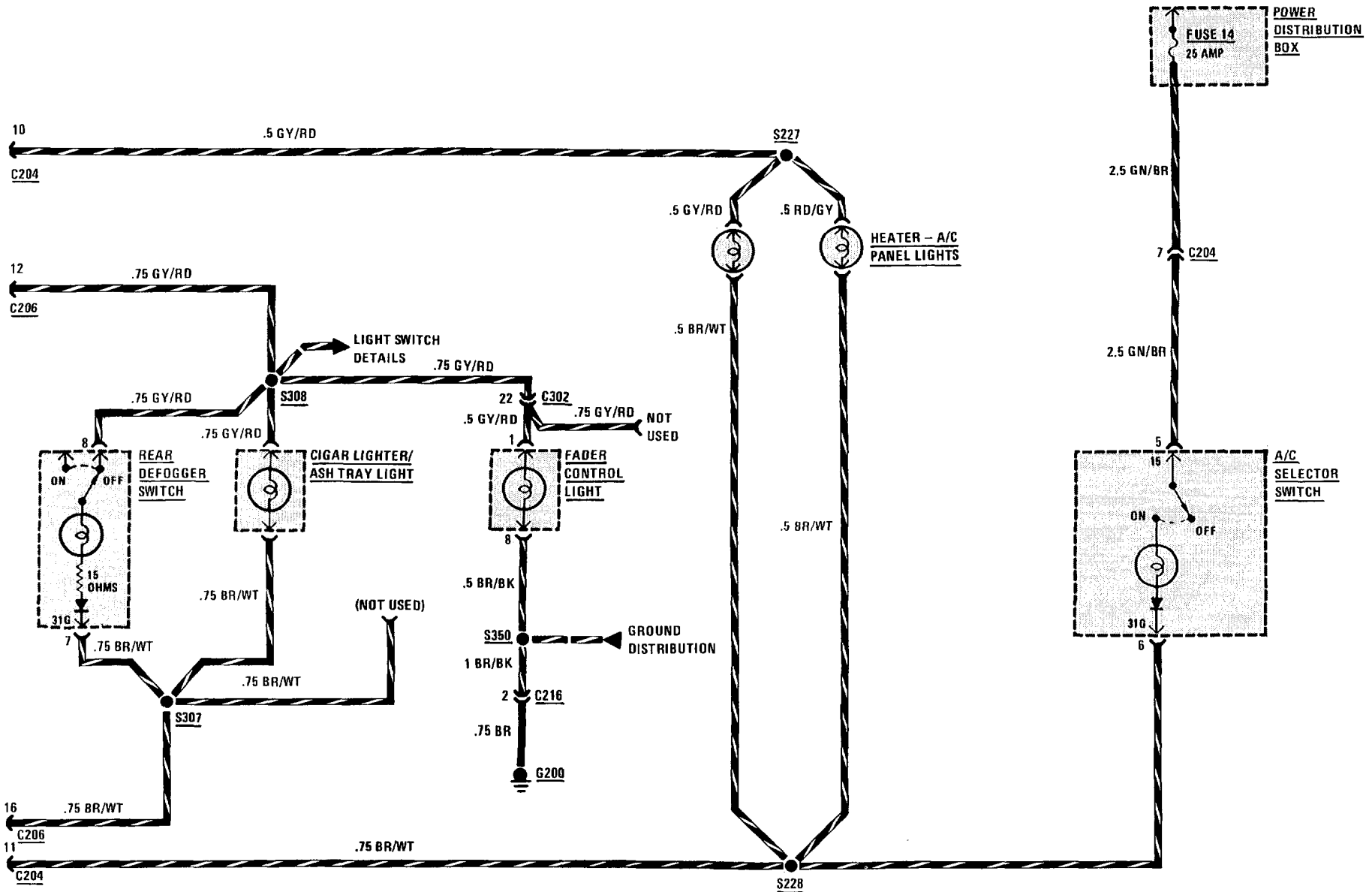
6300-2 LIGHT SWITCH DETAILS

LIGHTS: DASH/TRANSMISSION RANGE



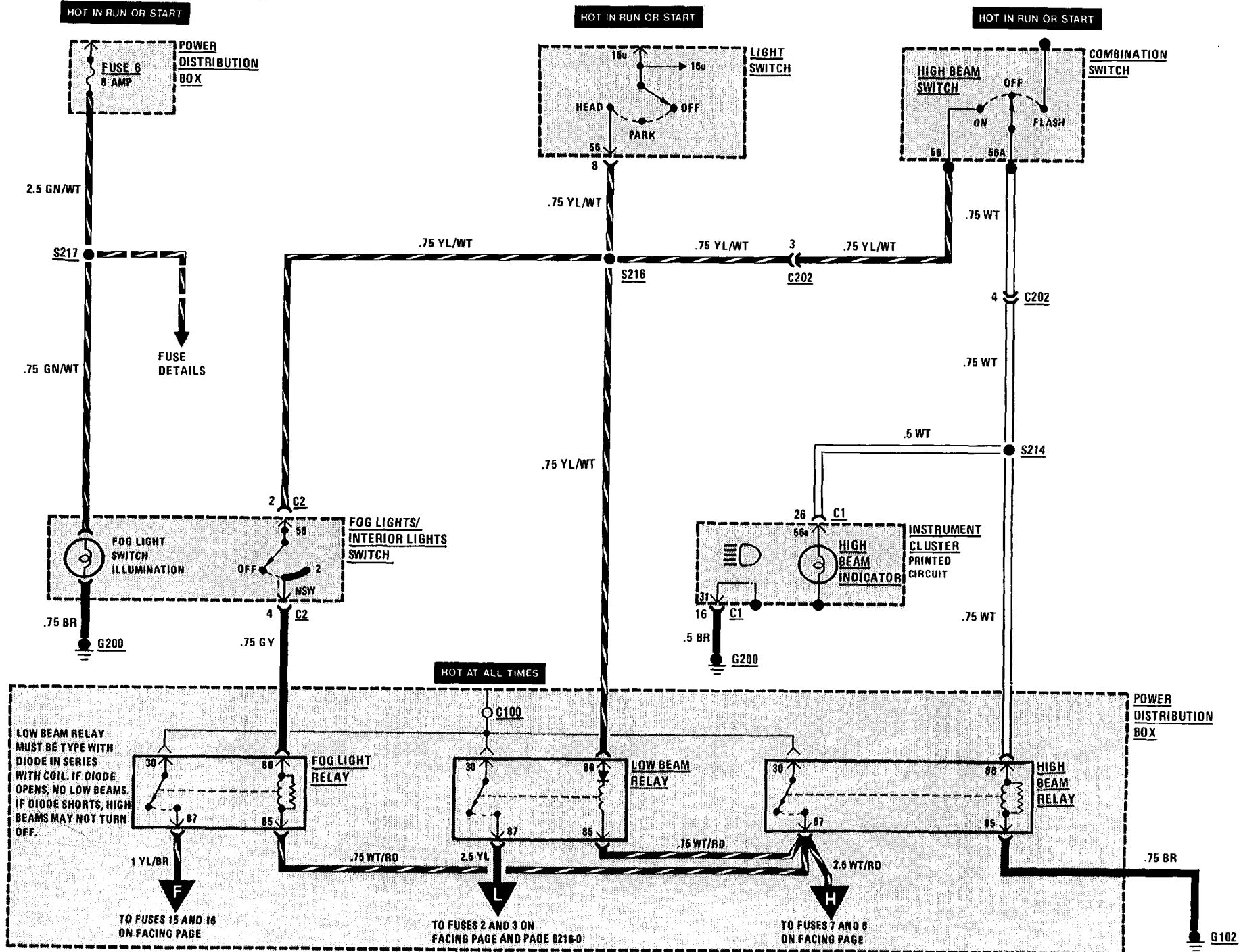
LIGHTS: DASH/TRANSMISSION RANGE

HOT IN RUN ONLY FROM UNLOADER RELAY



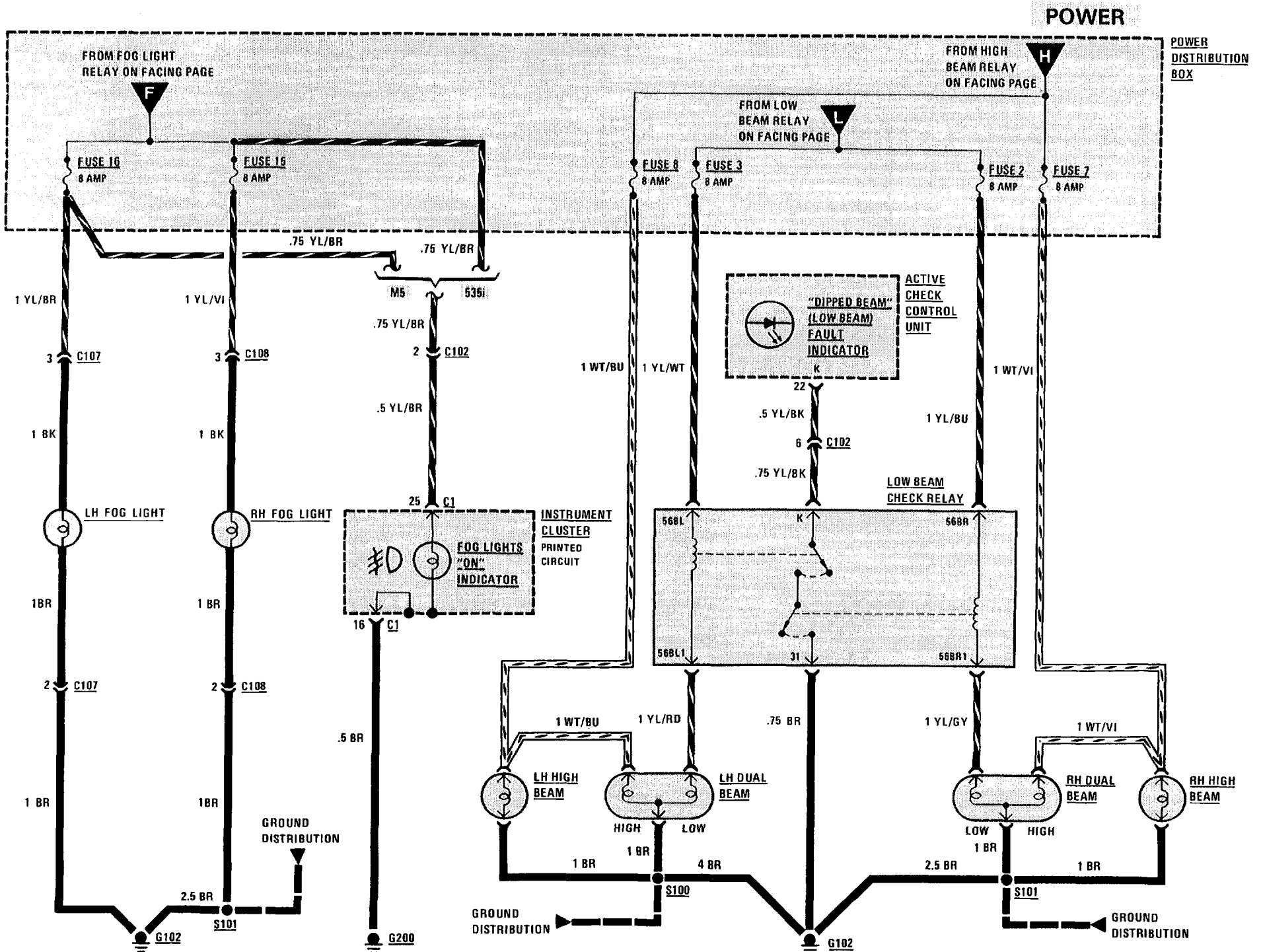
6312-0 HEADLIGHTS/FOG LIGHTS

CONTROL

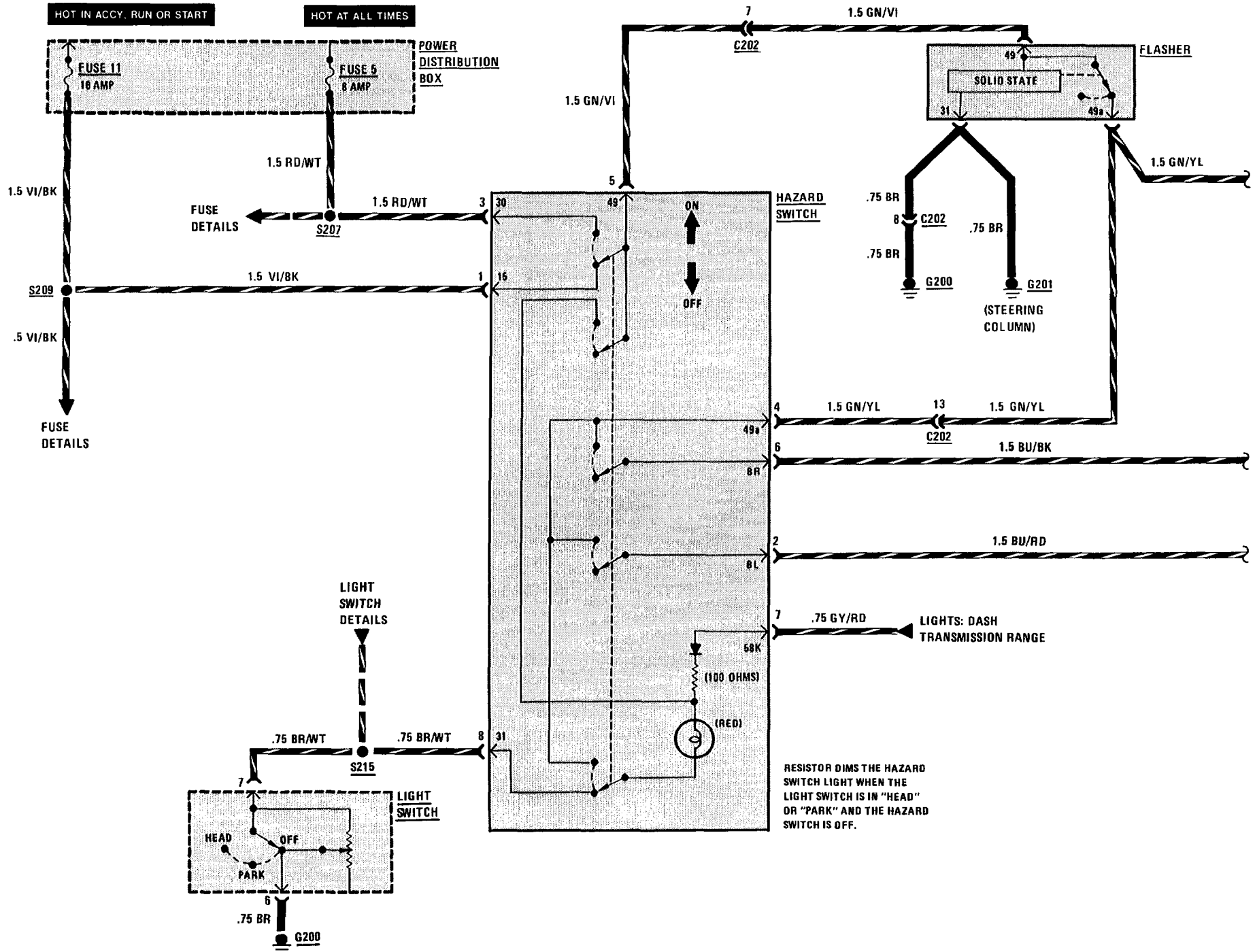


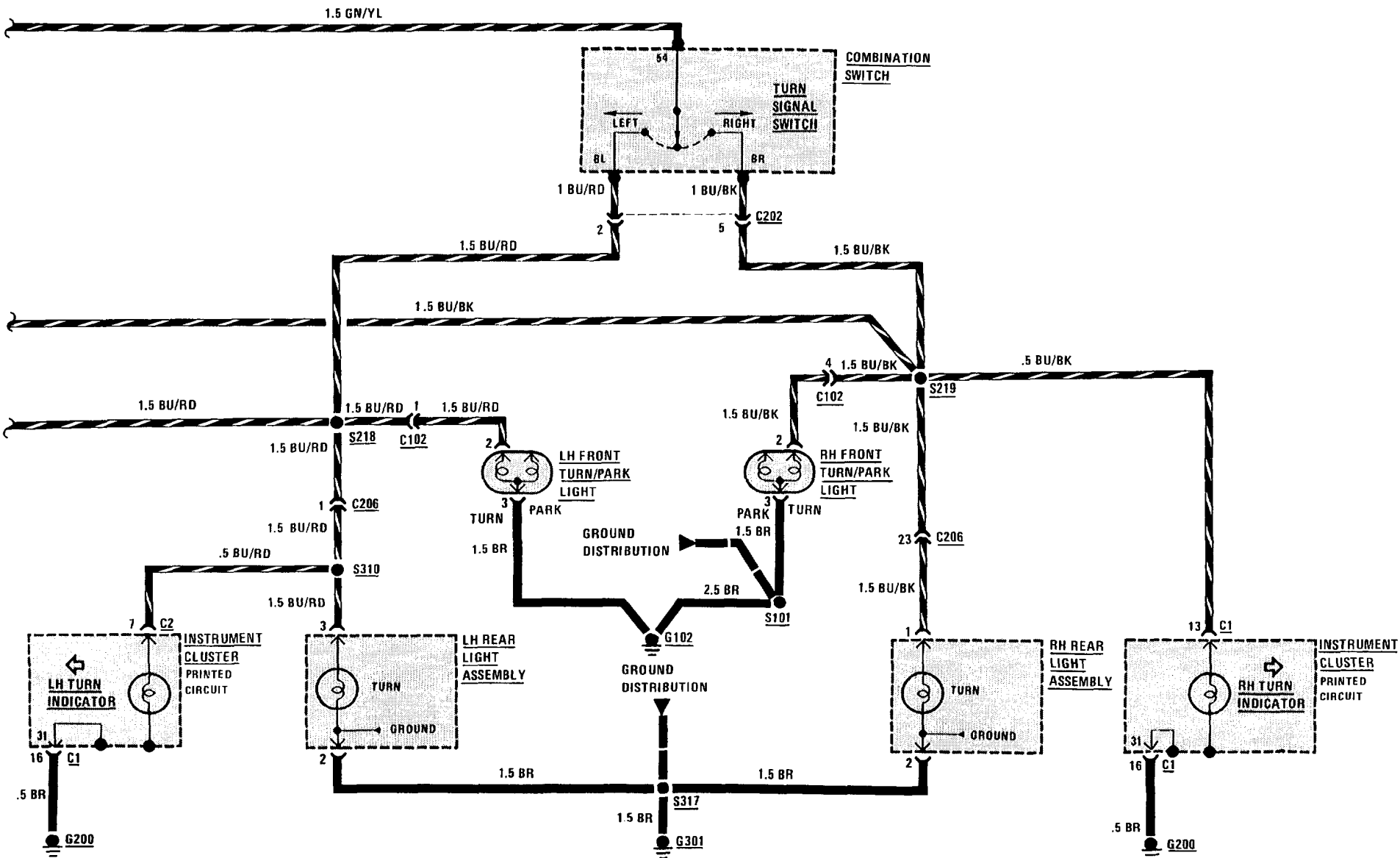
CONTINUED ON PAGE 6312-1

HEADLIGHTS/FOG LIGHTS 6312-1

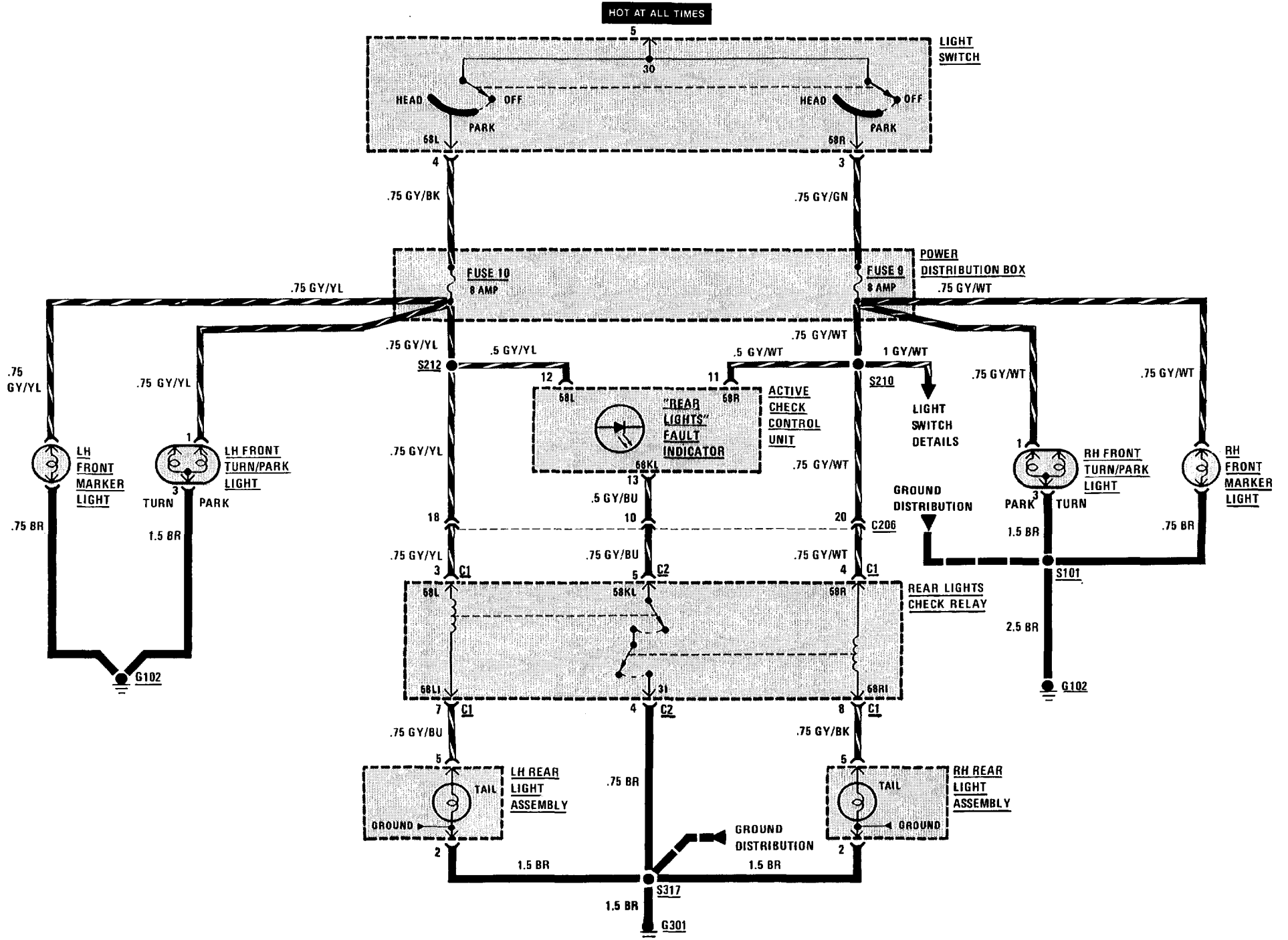


6313-0 TURN/HAZARD LIGHTS

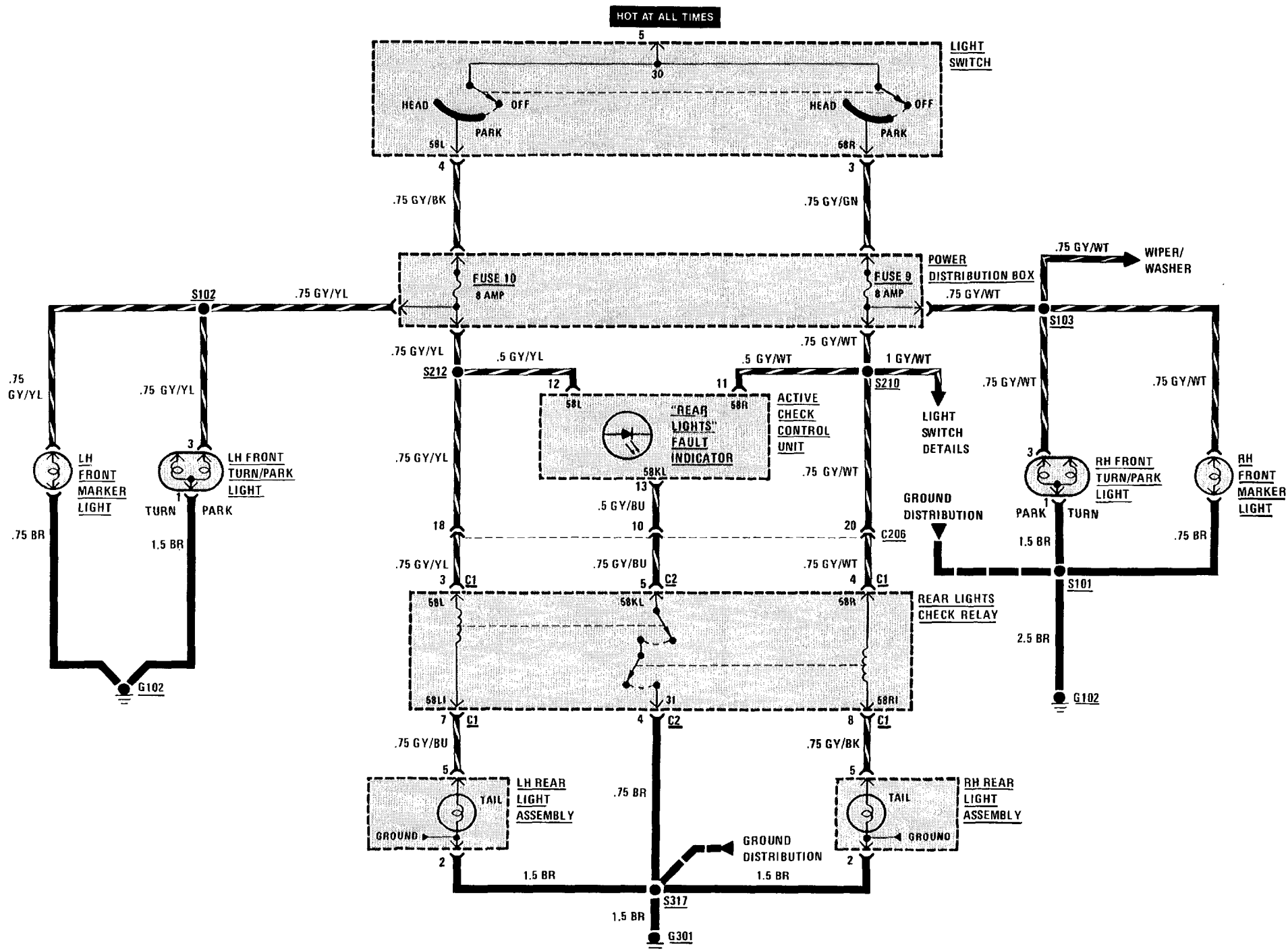




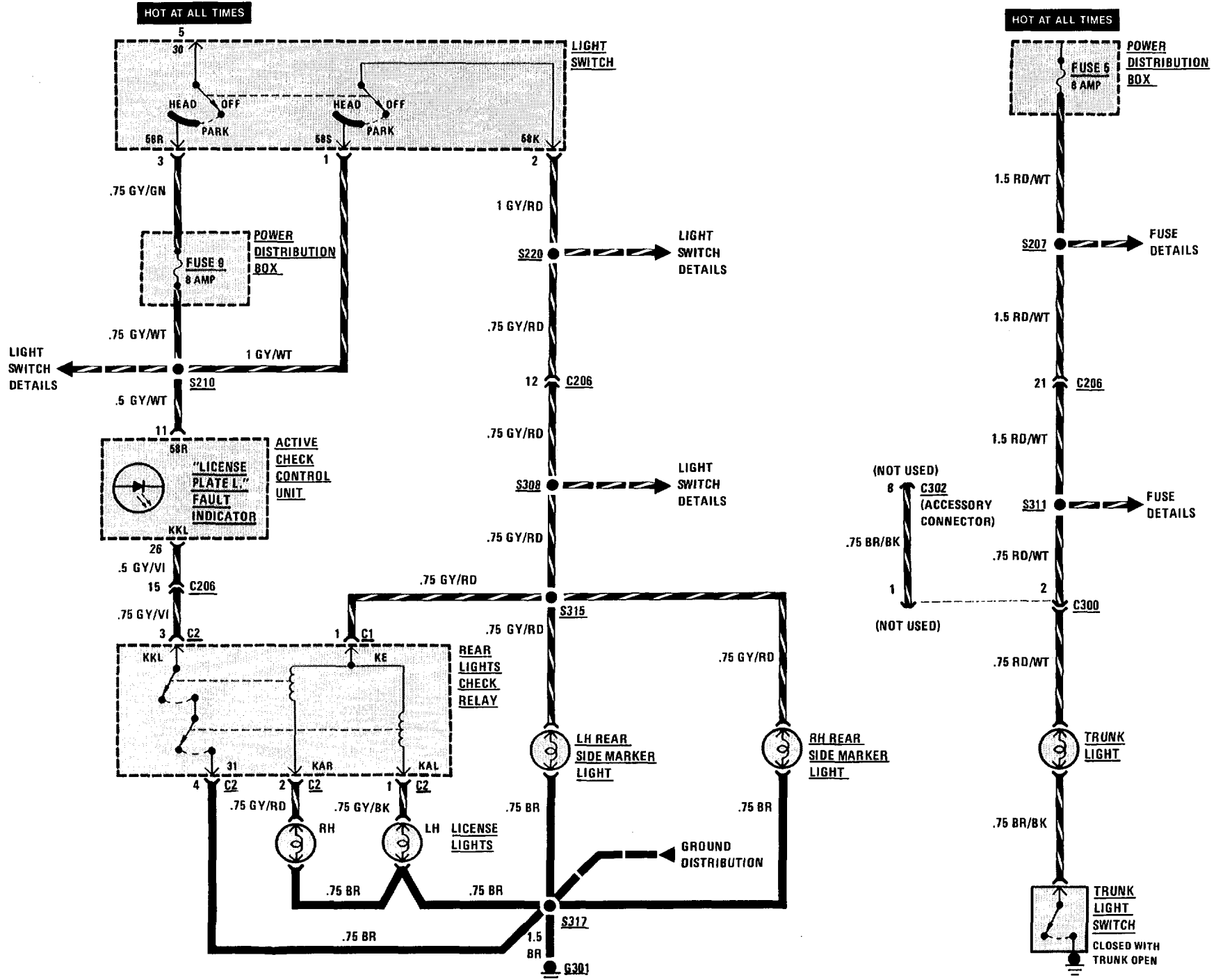
6314-0 FRONT PARK/FRONT MARKER/TAIL LIGHTS



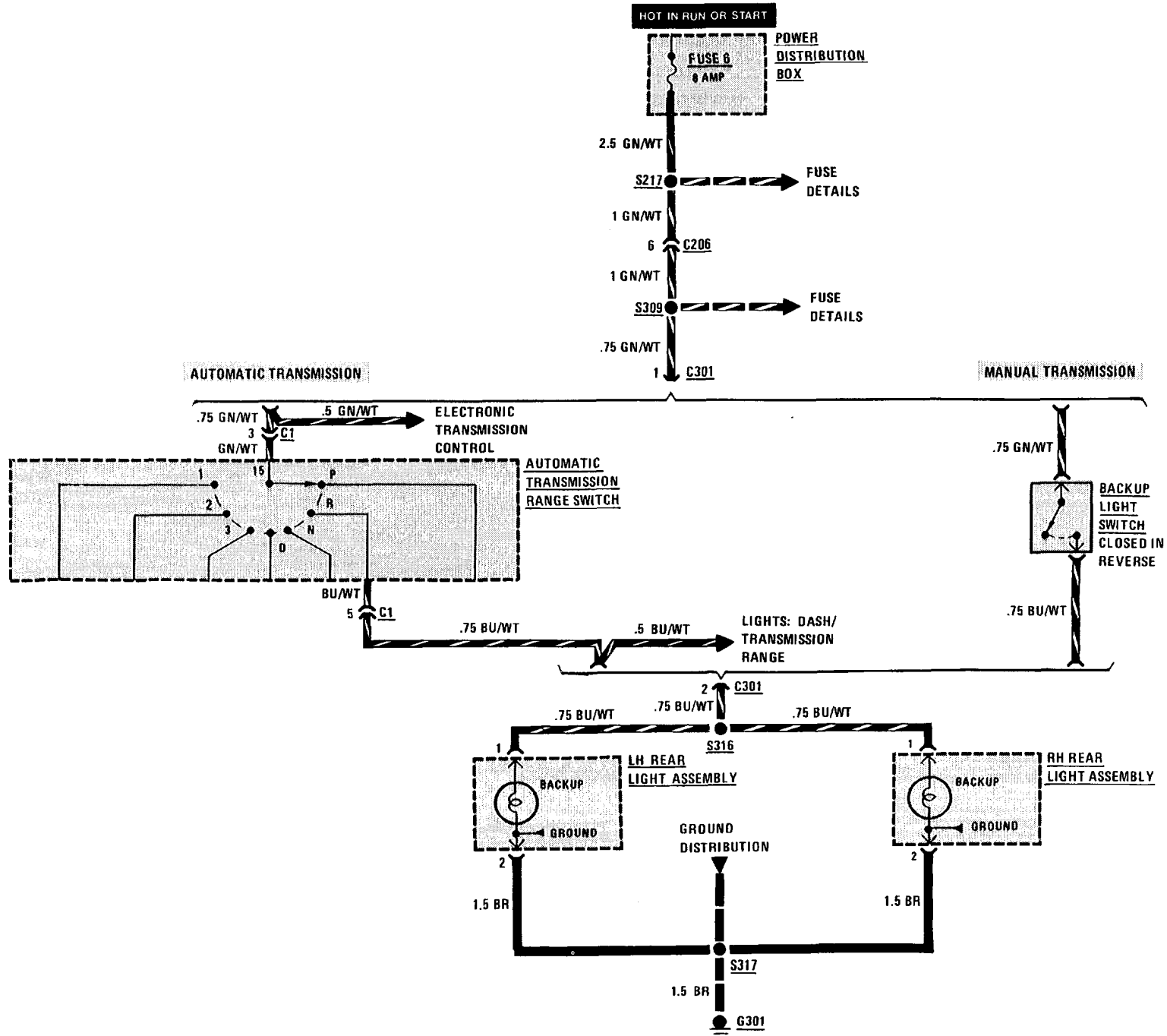
M5 FRONT PARK/FRONT MARKER/TAIL LIGHTS 6314-1



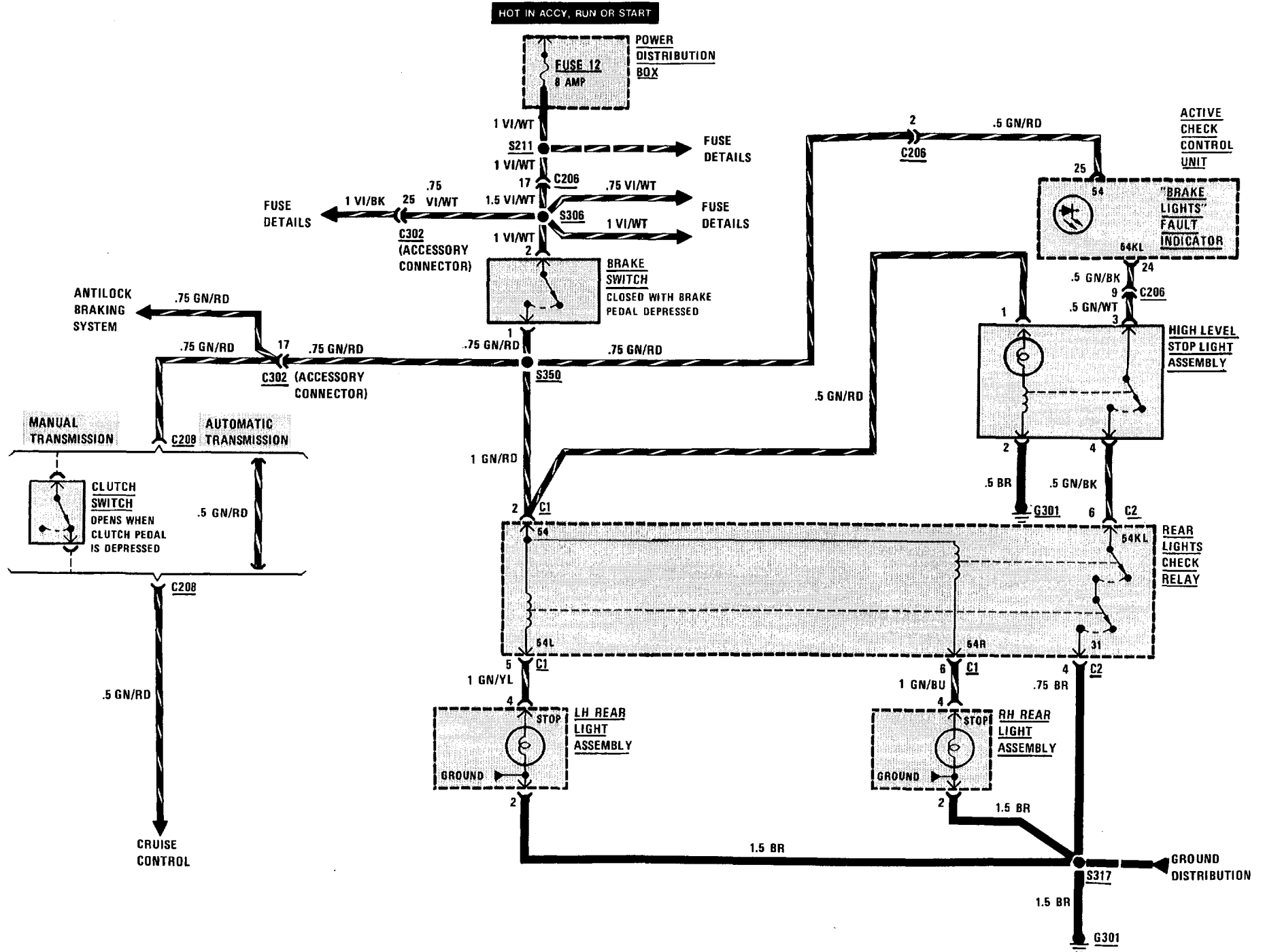
6320-0 REAR MARKER/LICENSE/TRUNK LIGHTS

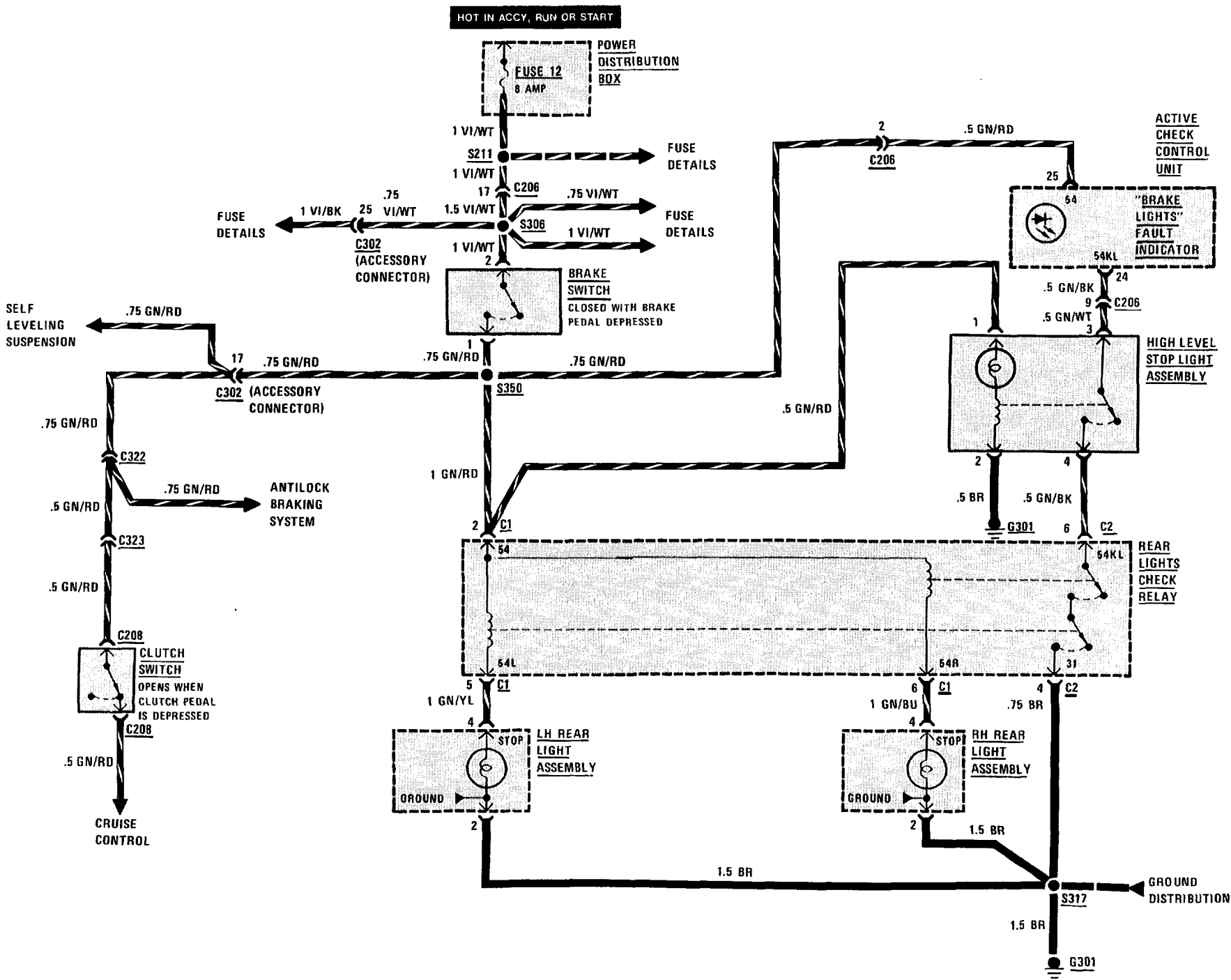


6322-0 BACKUP LIGHTS

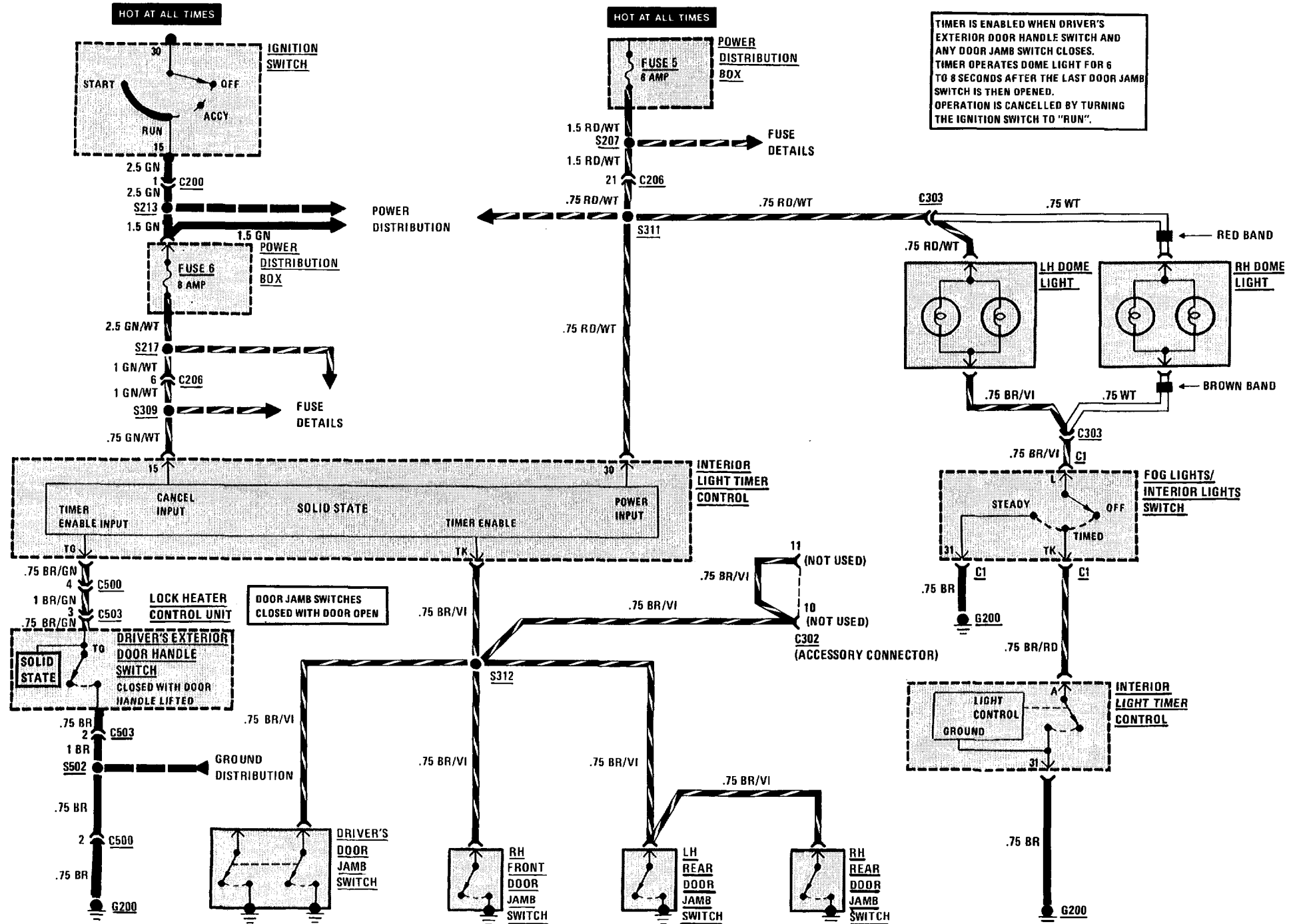


6325-0 STOP LIGHTS

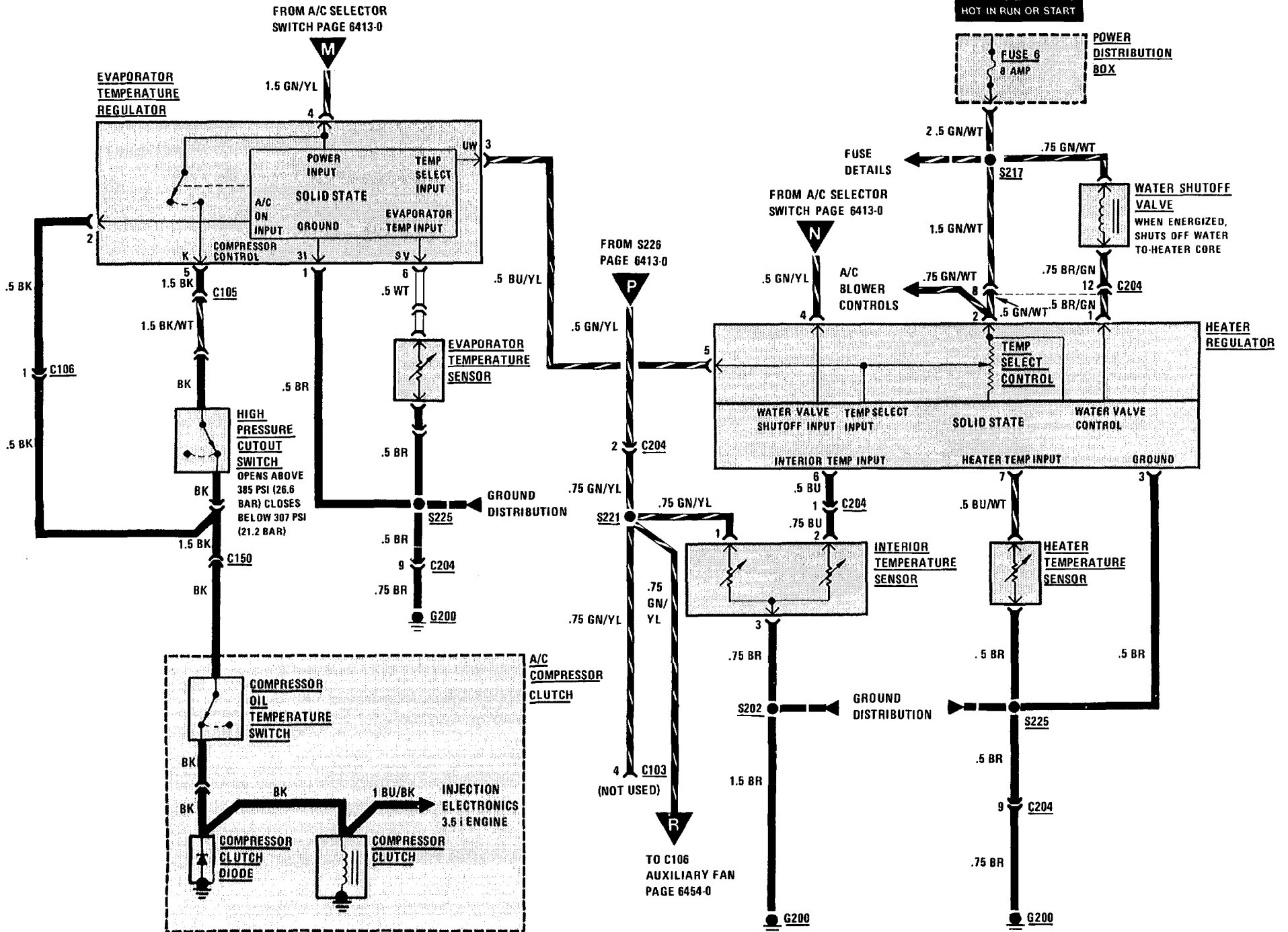




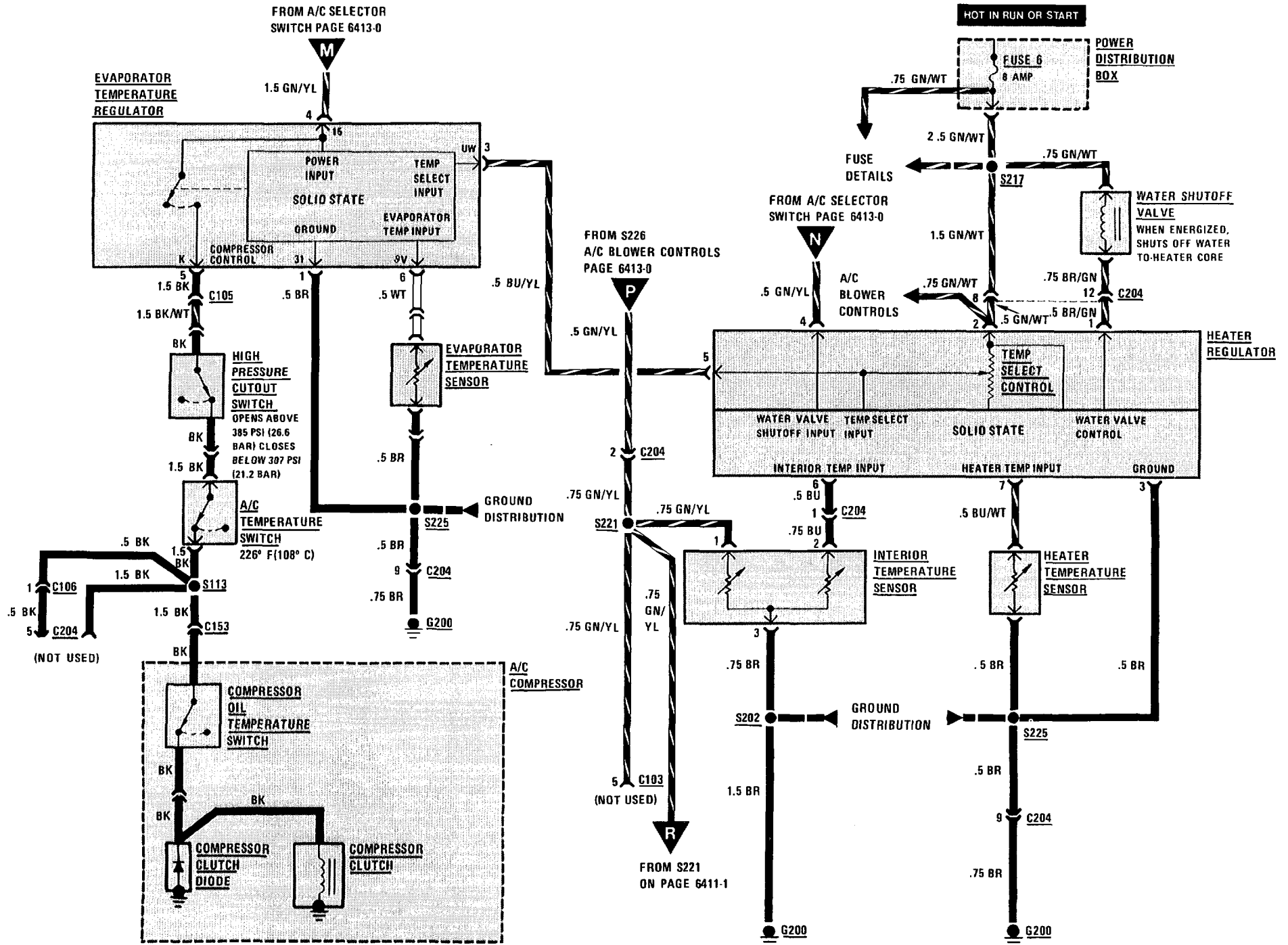
6330-0 INTERIOR LIGHTS



HEATER AND A/C TEMPERATURE CONTROL



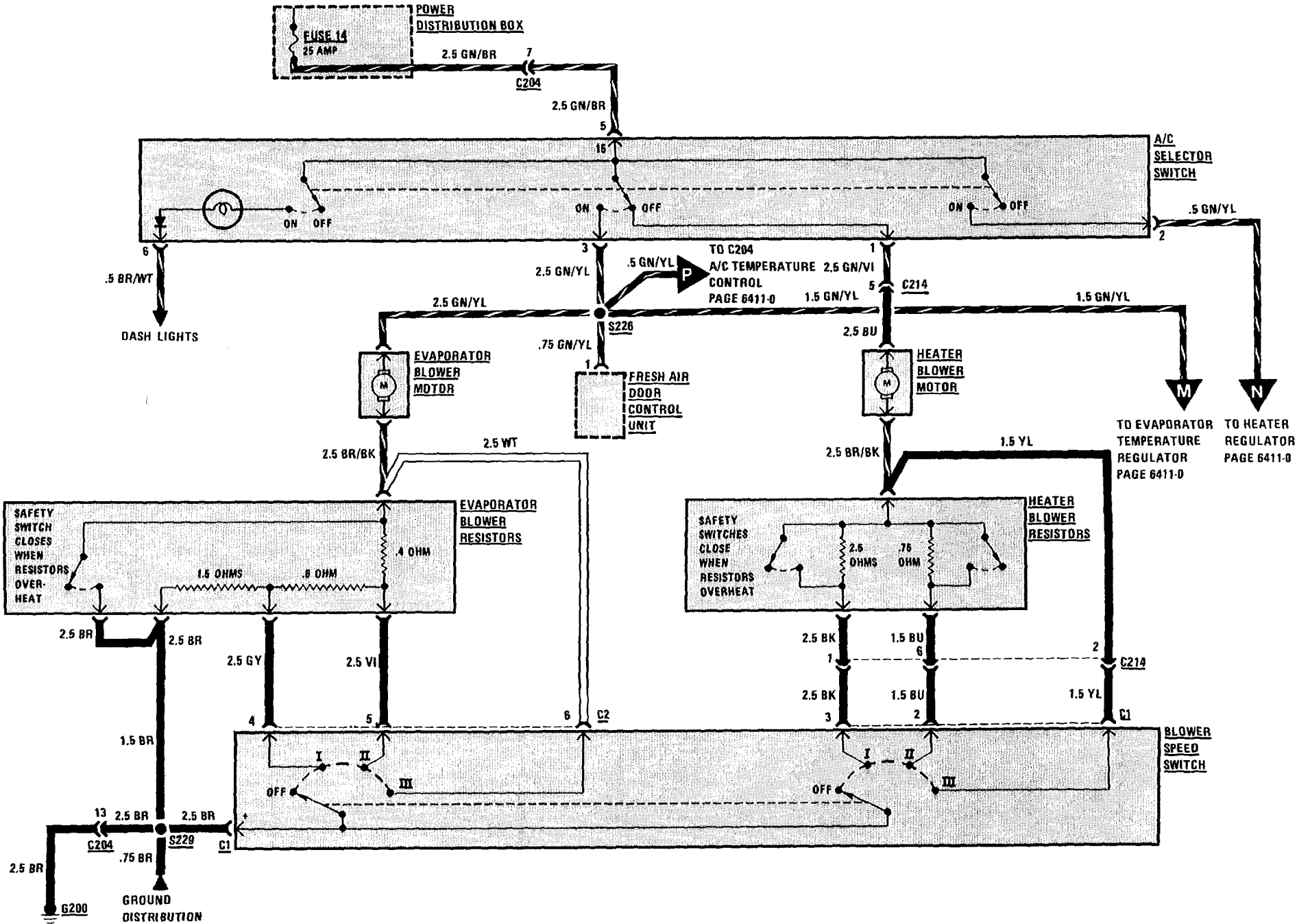
HEATER AND A/C TEMPERATURE CONTROL



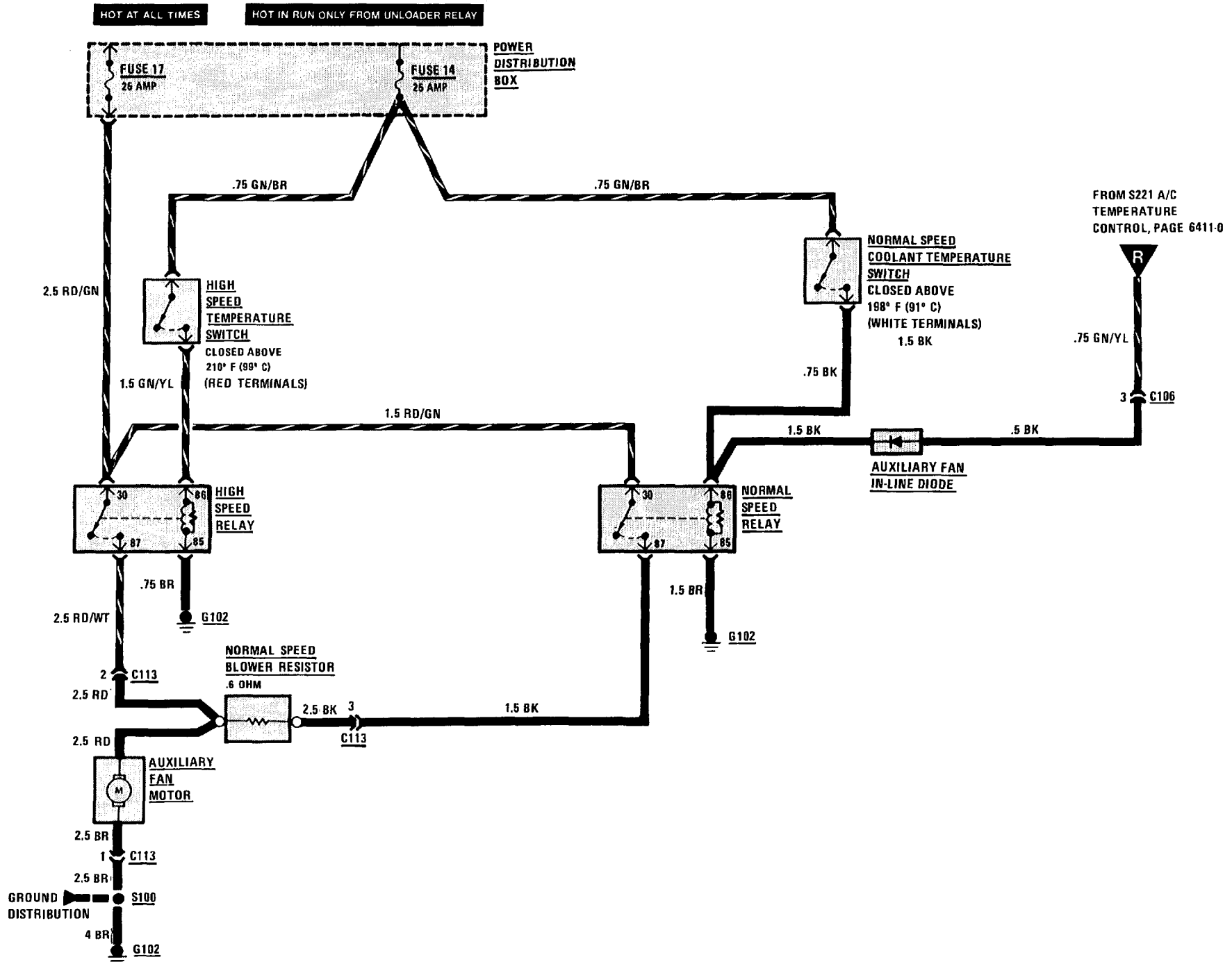
6413-0 A/C BLOWER CONTROLS

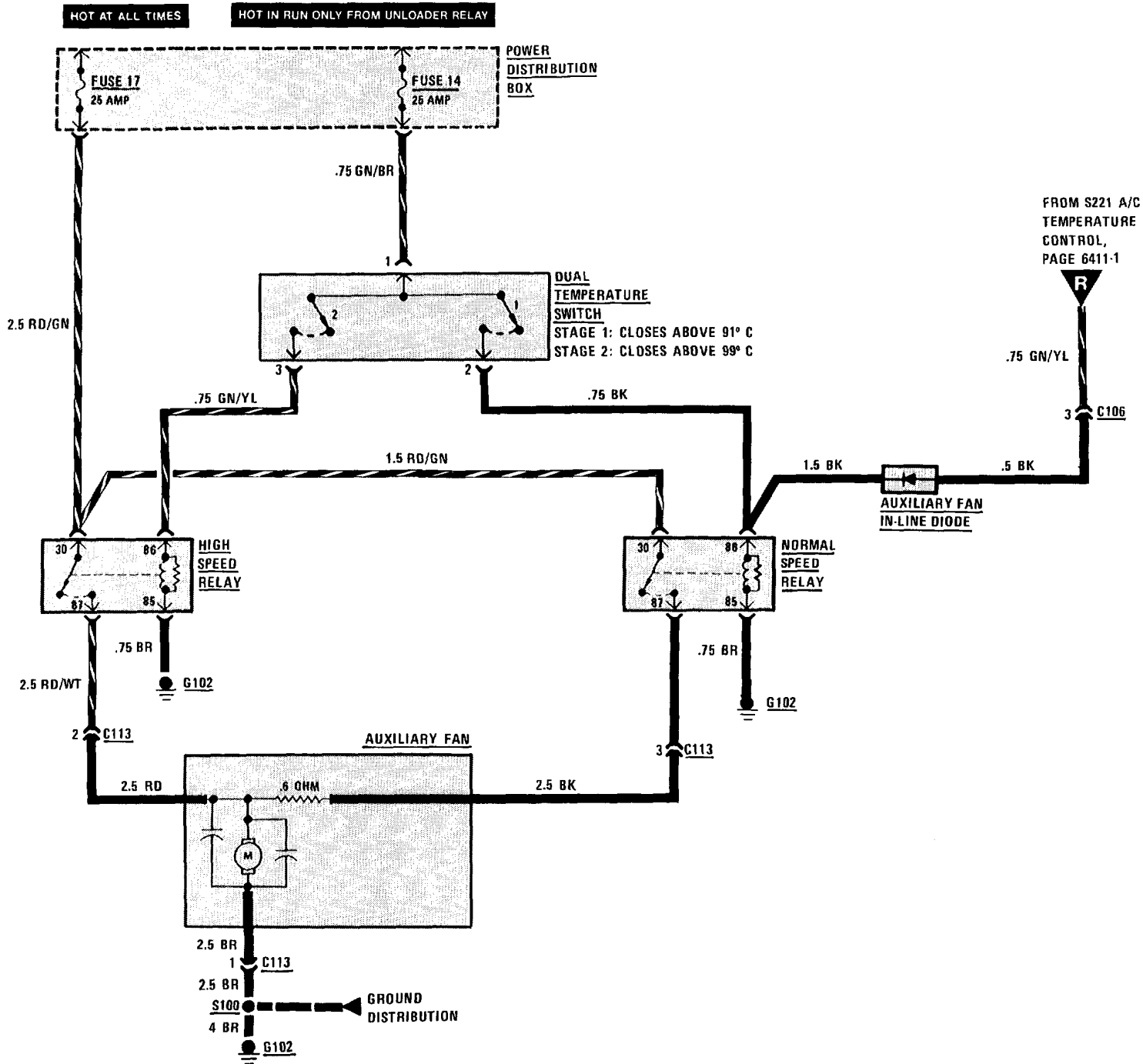
HEATER AND A/C BLOWER CONTROLS

HOT IN RUN ONLY FROM UNLOADER RELAY

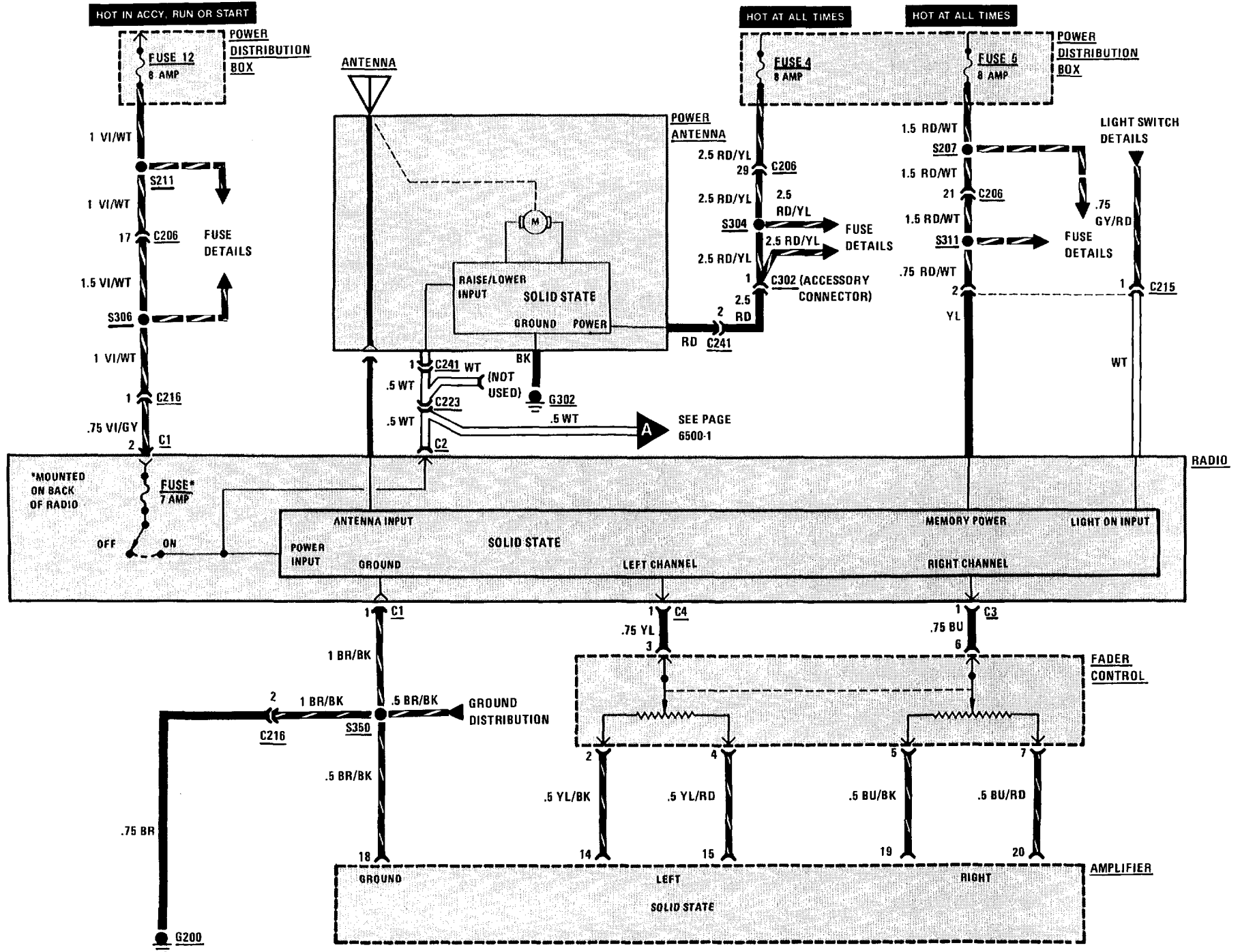


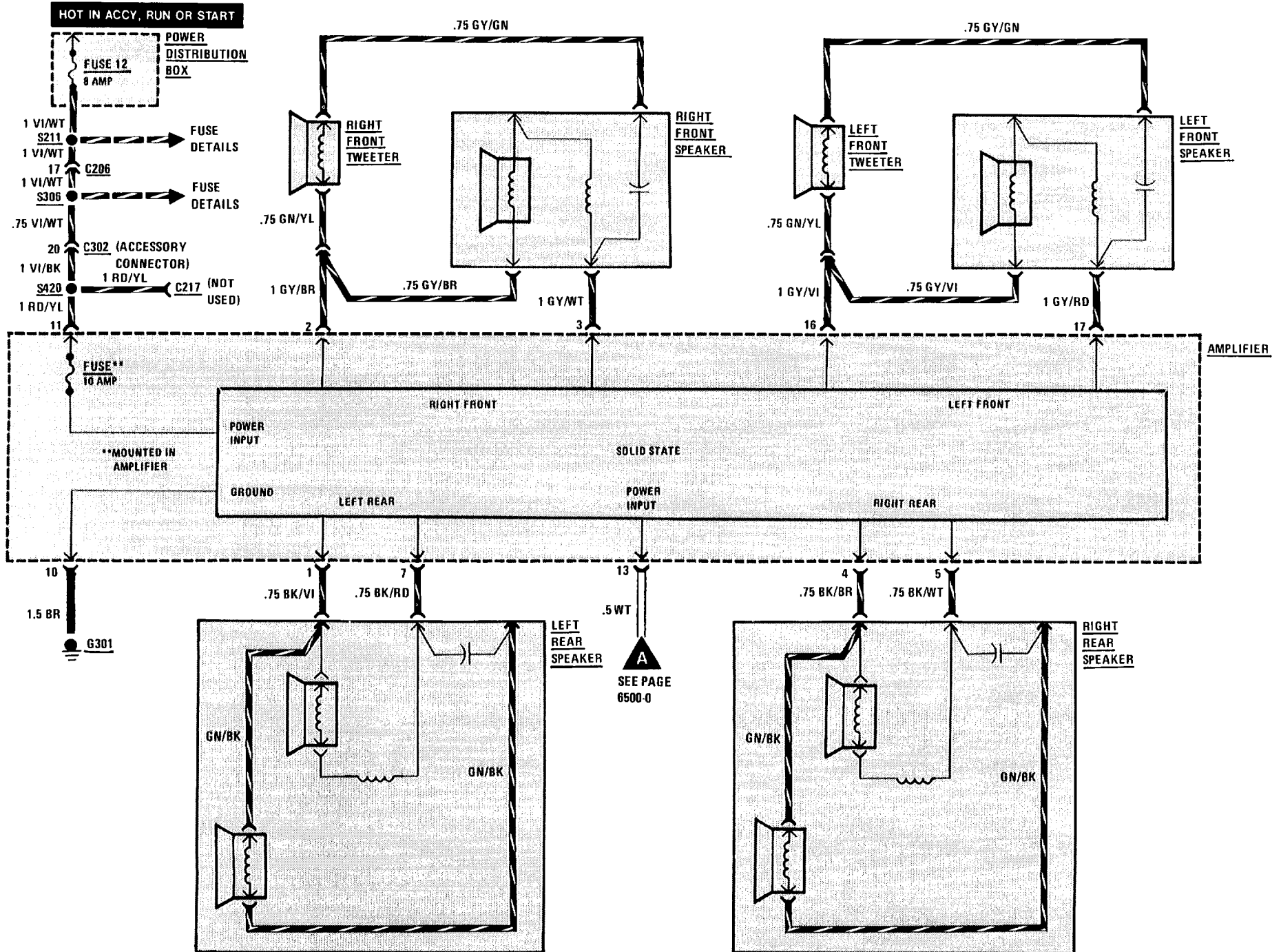
6454-0 AUXILIARY FAN





6500-0 RADIO/POWER ANTENNA





6500A-0 RADIO/ANTENNA

CIRCUIT OPERATION

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

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

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

The Amplifier receives constant power at terminal 11 from Fuse 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: <ul style="list-style-type: none"> • 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 |
| <ul style="list-style-type: none"> • If all voltages are correct, check wire from connector C215 to Radio for an open. If wire is OK, remove Radio for service. <ol style="list-style-type: none"> 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: <ul style="list-style-type: none"> • 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 |
| <ul style="list-style-type: none"> • If all voltages are correct, go to Test C. <ol style="list-style-type: none"> 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: <ul style="list-style-type: none"> • 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 |
| <ul style="list-style-type: none"> • 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. <ol style="list-style-type: none"> 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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C: FADER SIGNAL TEST (TABLE 2)

| Measure: VOLTAGE At: AMPLIFIER CONNECTOR (Disconnected) Conditions: <ul style="list-style-type: none"> • 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"> • If all voltages are correct but sound was not present, remove Amplifier for service. <ol style="list-style-type: none"> 1. Check between pin 2 (Fader) to pin 14 (Amplifier) for an open in the wiring. If wire is OK, replace Fader Control. 2. Check between pin 4 (Fader) to pin 15 (Amplifier) for an open in the wiring. If wire is OK, replace Fader Control. 3. Check between pin 5 (Fader) to pin 19 (Amplifier) for an open in the wiring. If wire is OK, replace Fader Control. 4. Check between pin 7 (Fader) to pin 20 (Amplifier) for an open in the wiring. If wire is OK, replace Fader Control. | | |

D: SUSPECT SPEAKER TEST

| Connect: OHMMETER At: SUSPECT SPEAKER (Disconnected) Condition: <ul style="list-style-type: none"> • 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"> • 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. <ol style="list-style-type: none"> 1. Replace the suspect Speaker. | | |

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

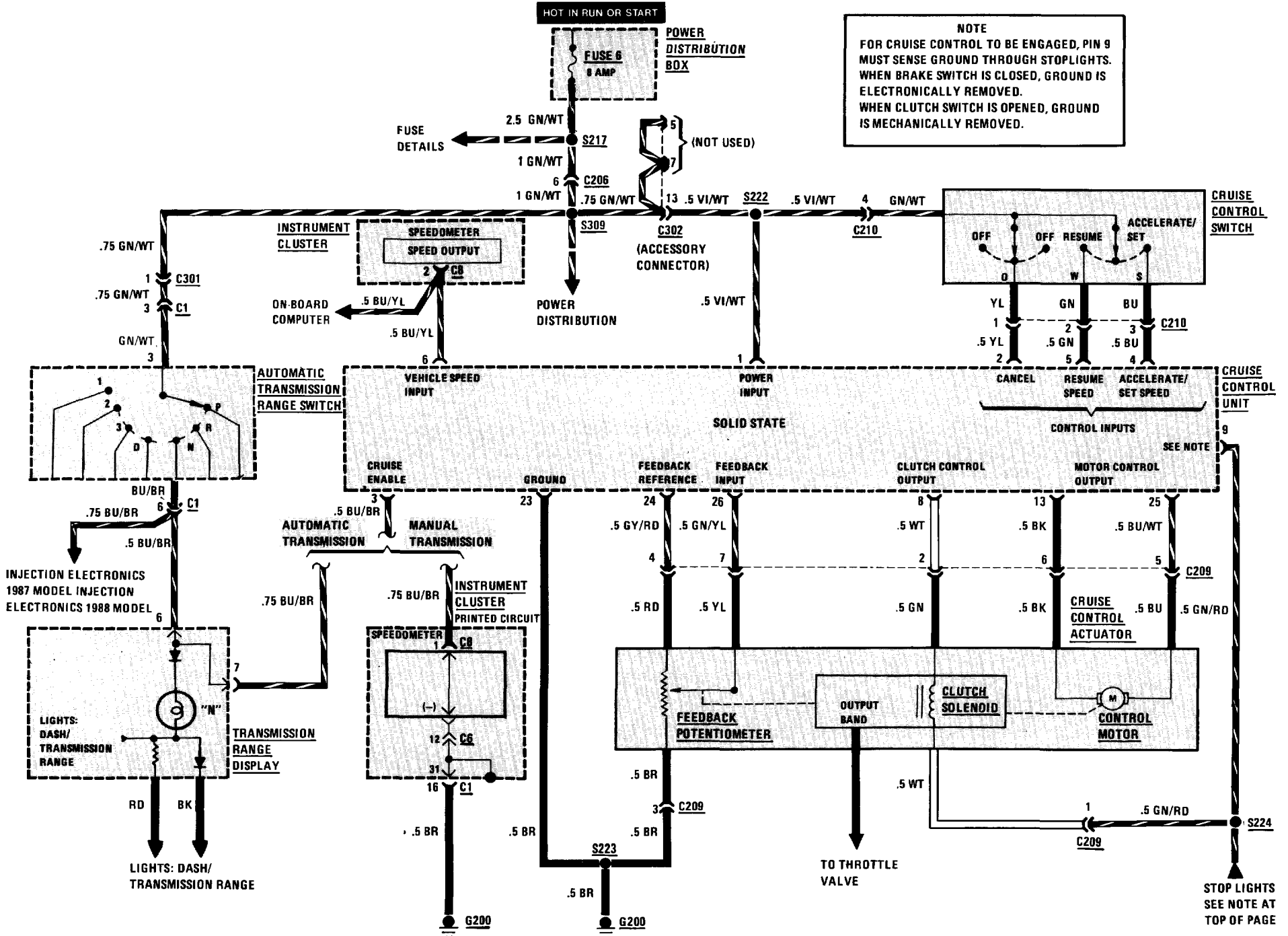
| Measure: RESISTANCE At: ANTENNA | | |
|--|---------------------------------------|---------------|
| Measure Between | Correct Resistance | For Diagnosis |
| Antenna Plug Base & Ground | Less than 3 Ohms | See 1 |
| Antenna Plug Tip & Antenna Plug Base | Greater than 1 Megaohm (open circuit) | See 2 |
| <ul style="list-style-type: none"> • 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. <ol style="list-style-type: none"> 1. Check ground contact at Antenna base. If necessary, install a braided ground strap from the Antenna Base to Chassis ground. Check for an open in the Antenna Cable. 2. Check for a short to ground at the Antenna or Antenna cable. | | |

NOISE SYMPTOM TABLE

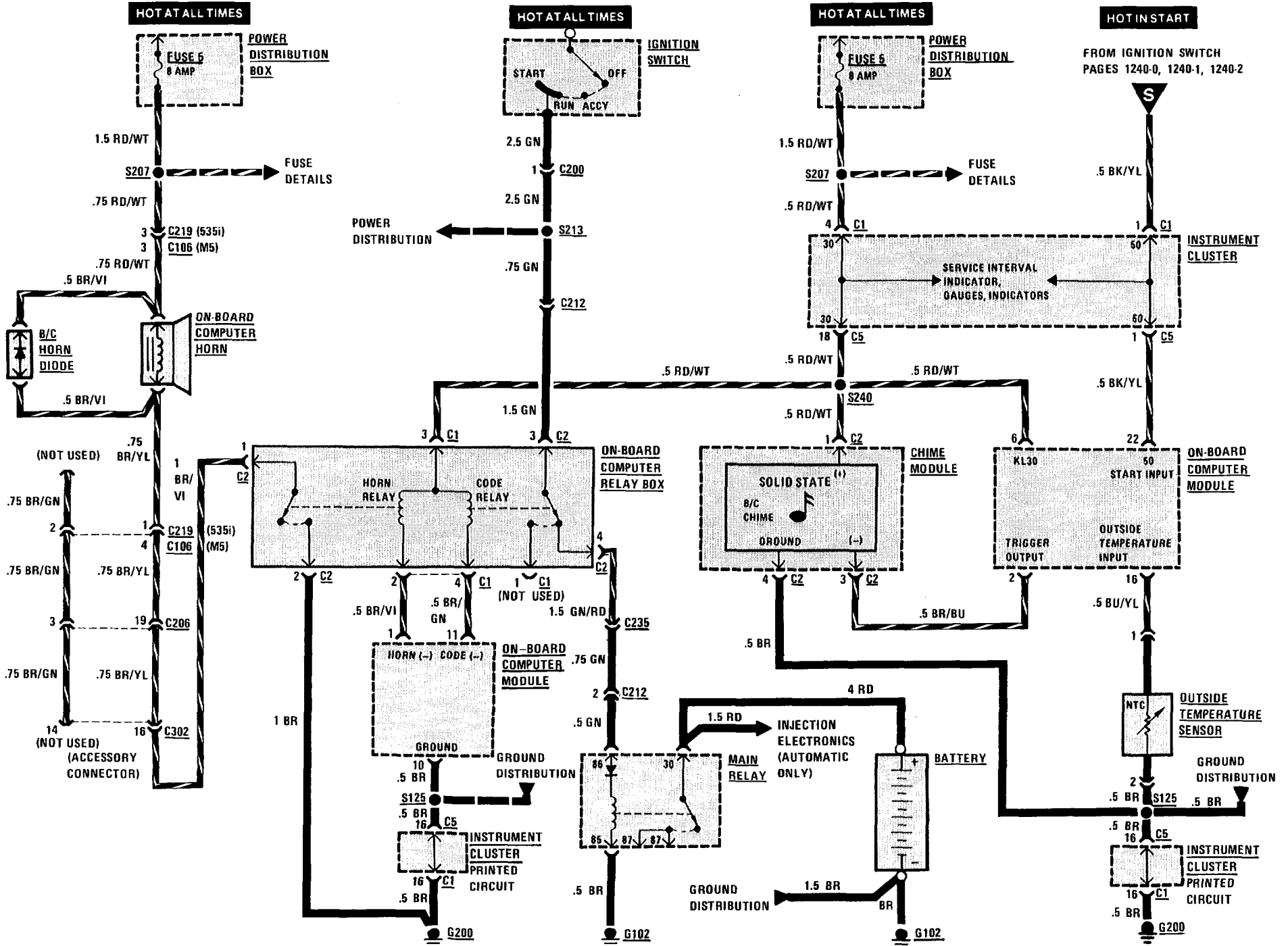
| SYMPTOM | POSSIBLE CAUSE | REPAIR ACTION |
|--|------------------|--|
| Harsh popping or crackling noise present when ignition on-changes with engine rpm. | Ignition Noise | <ul style="list-style-type: none"> • Check for proper distributor cap shielding. • Check shielding ground strap. If not present,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

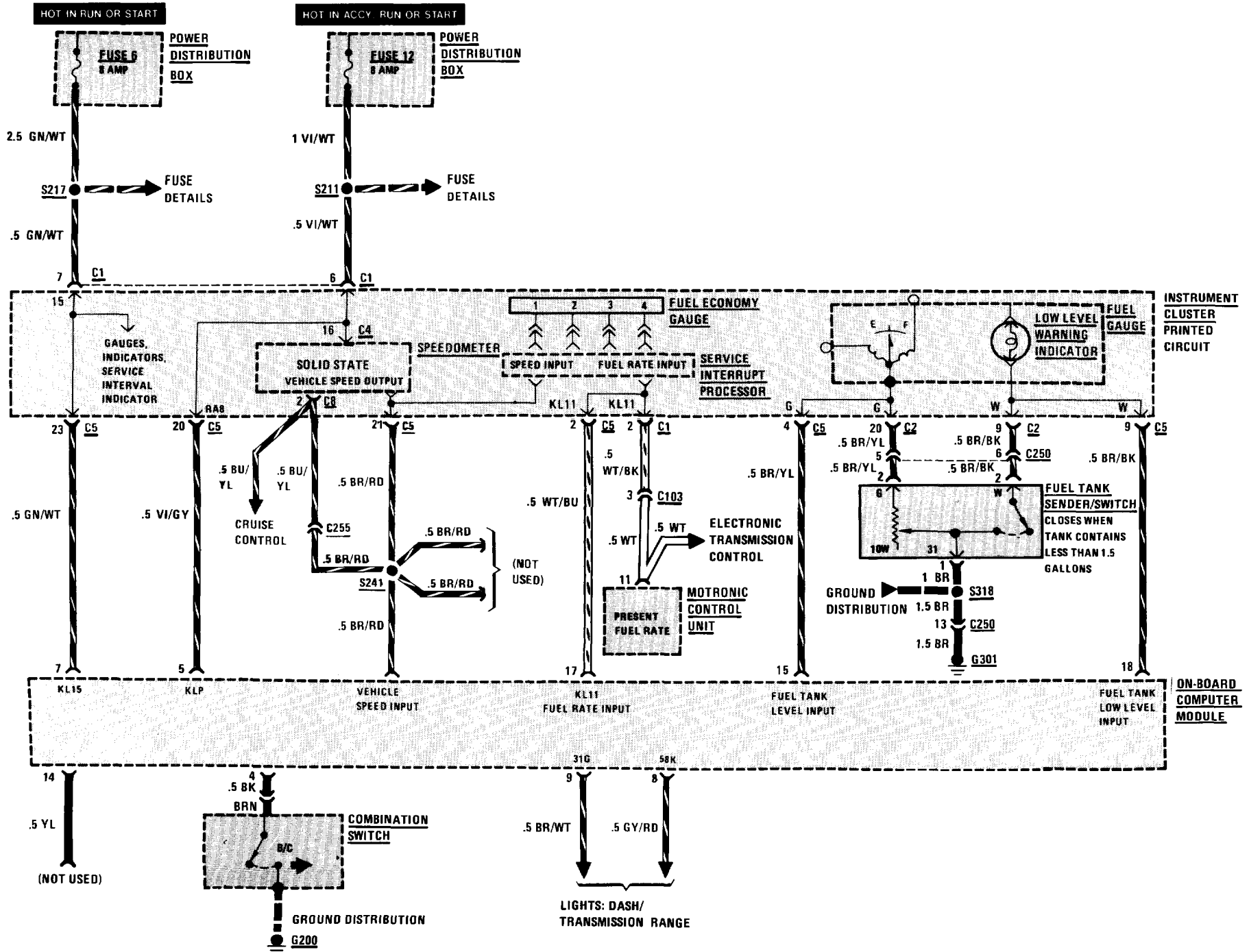
6571-0 CRUISE CONTROL

NOTE
 FOR CRUISE CONTROL TO BE ENGAGED, PIN 9 MUST SENSE GROUND THROUGH STOPLIGHTS. WHEN BRAKE SWITCH IS CLOSED, GROUND IS ELECTRONICALLY REMOVED. WHEN CLUTCH SWITCH IS OPENED, GROUND IS MECHANICALLY REMOVED.



6581-0 ON-BOARD COMPUTER





7000-0 COMPONENT LOCATION VIEWS

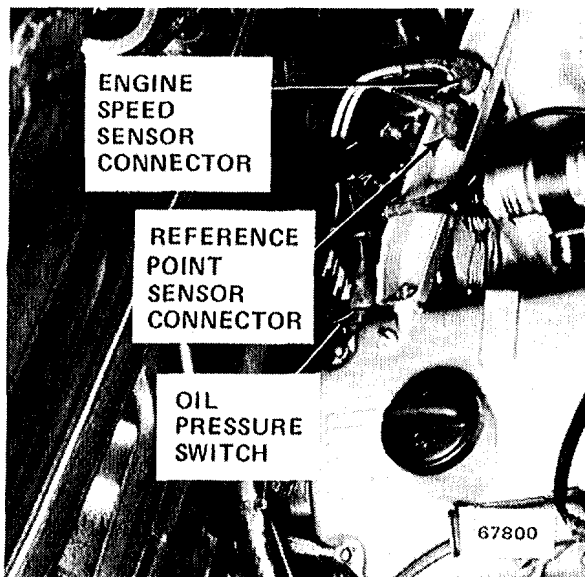


Figure 1 - Rear of Engine

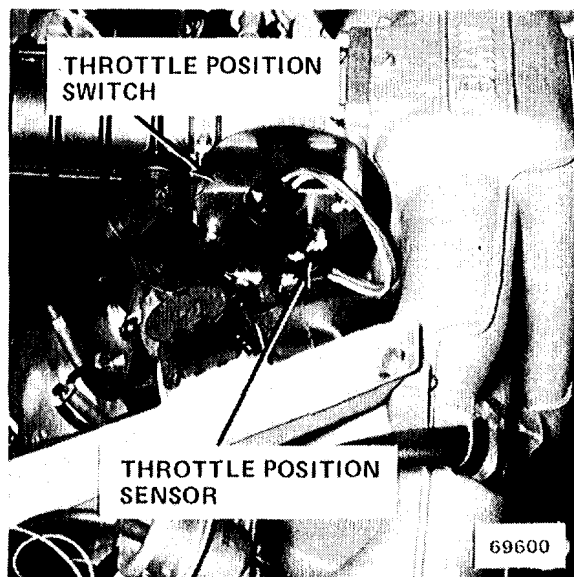


Figure 3 - Center of Engine

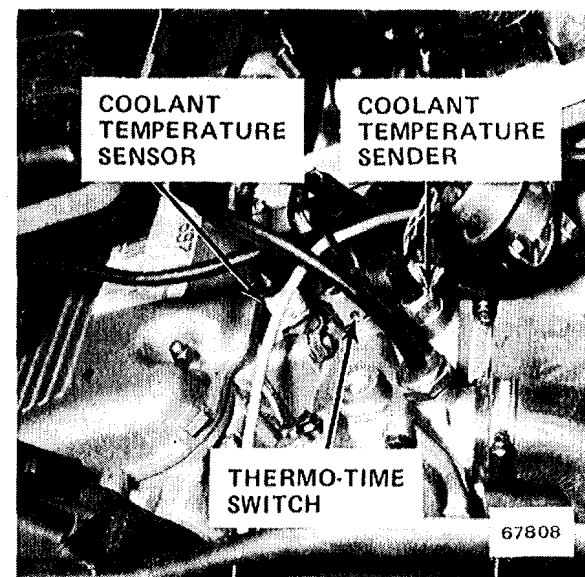


Figure 5 - Front of Engine

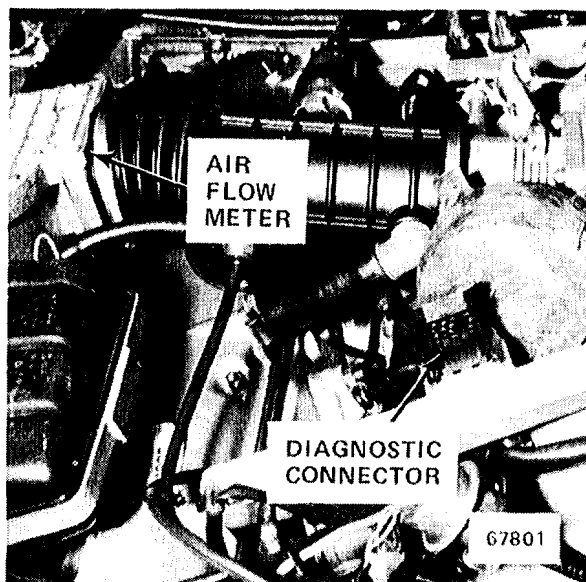


Figure 2 - Front of Engine

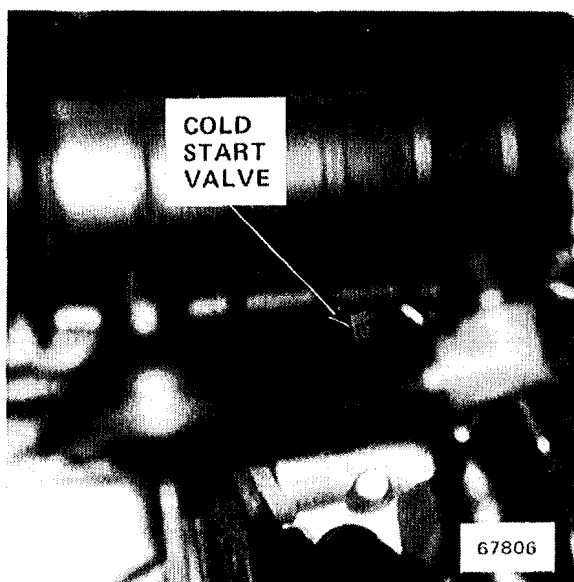


Figure 4 - Center of Engine

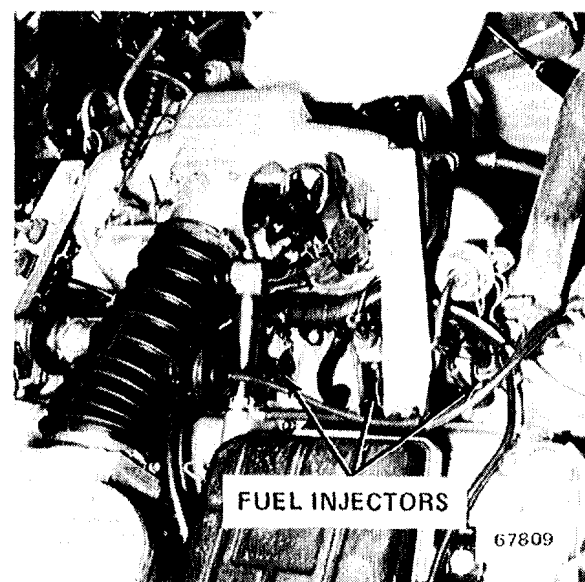


Figure 6 - Center of Engine

COMPONENT LOCATION VIEWS 7000-1

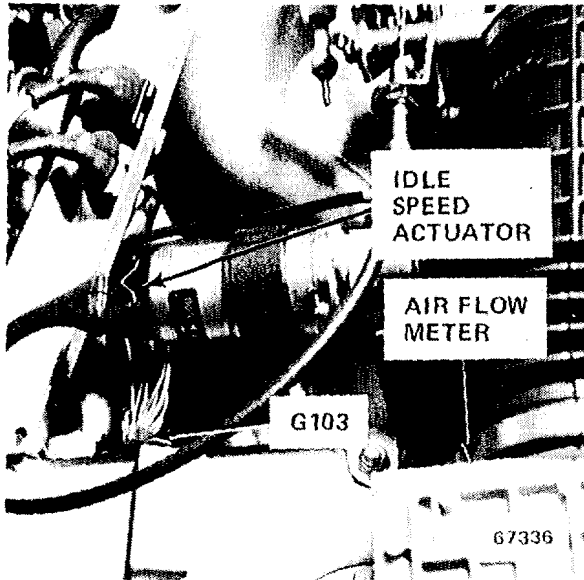


Figure 1 - Rear of Engine



Figure 3 - Top Rear of Engine

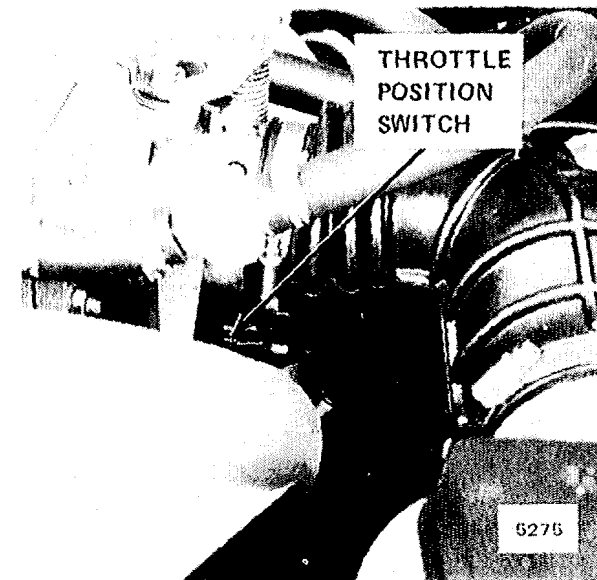


Figure 5 - Below Throttle of Engine

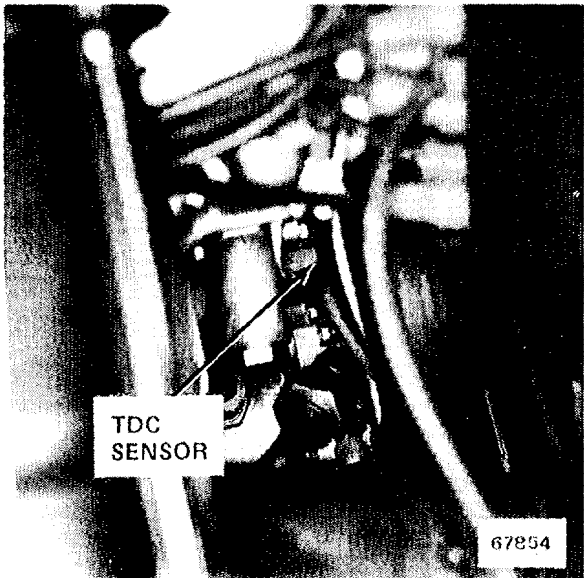


Figure 2 - Front of Engine

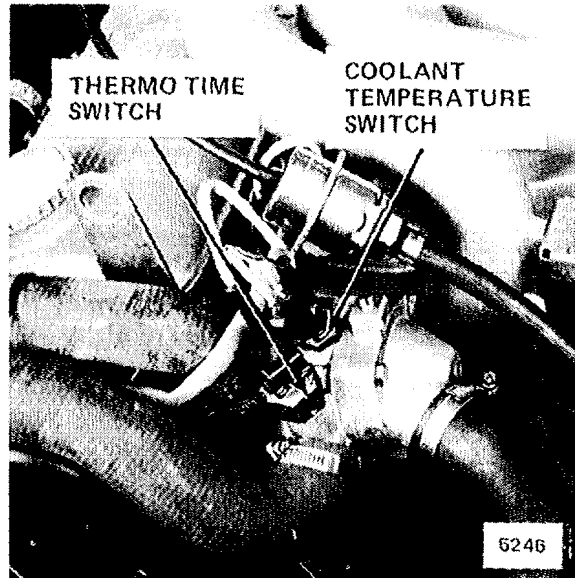


Figure 4 - Front of Engine

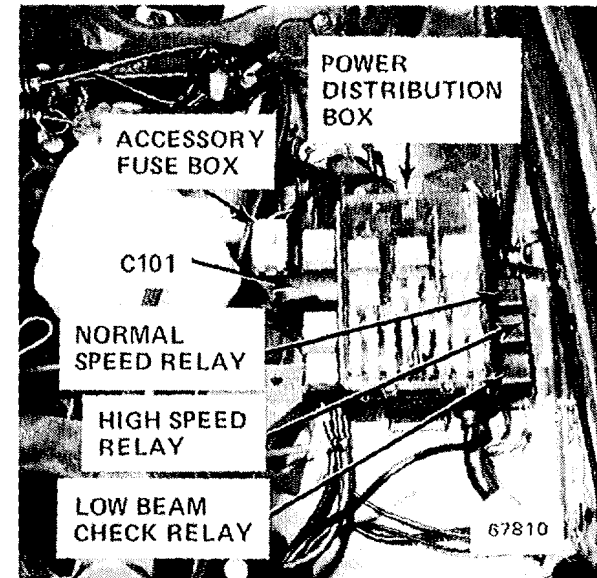


Figure 6 - LH Front of Engine Compartment

7000-2 COMPONENT LOCATION VIEWS

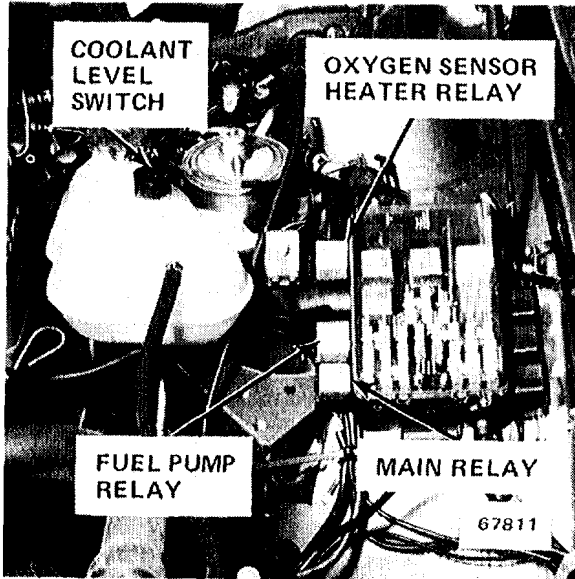


Figure 1 - LH Front of Engine Compartment

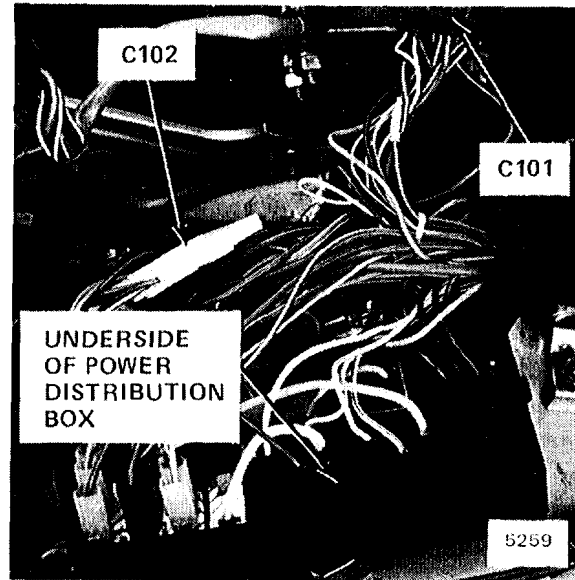


Figure 3 - Top of LH Front Wheel Well

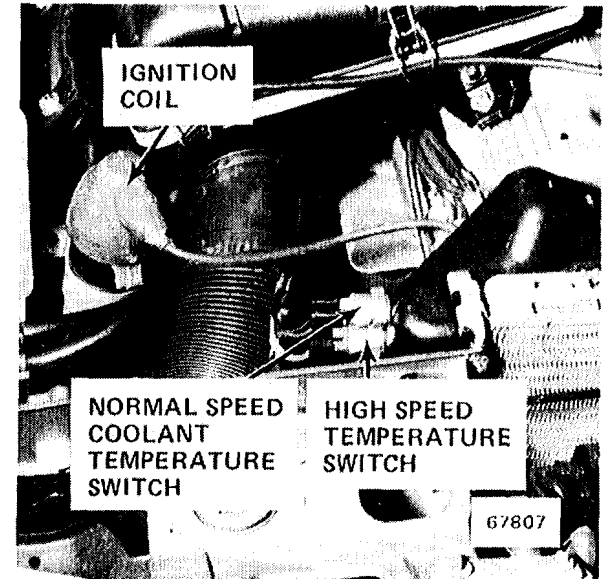


Figure 5 - RH Front of Engine Compartment

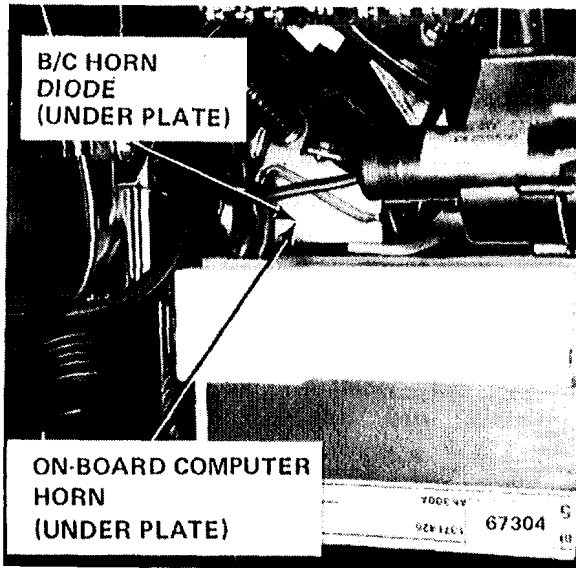


Figure 2 - LH Front of Engine Compartment, Behind Battery

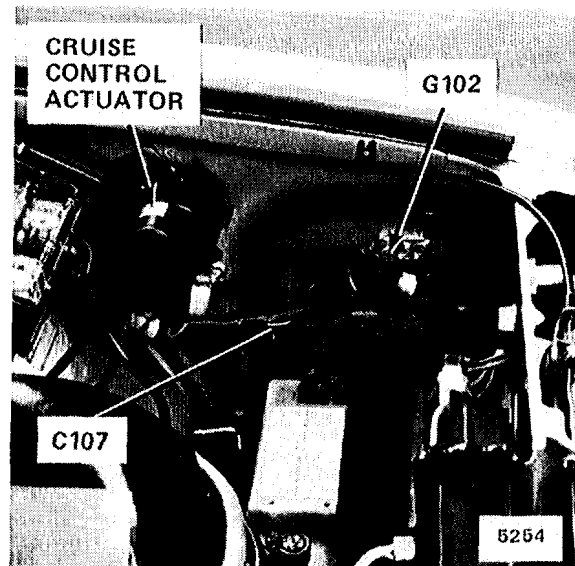


Figure 4 - LH Front of Engine Compartment, Above Battery

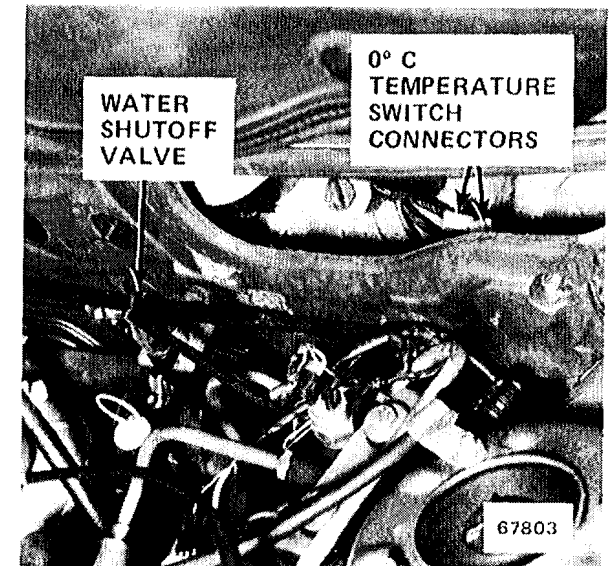


Figure 6 - LH Rear of Engine Compartment

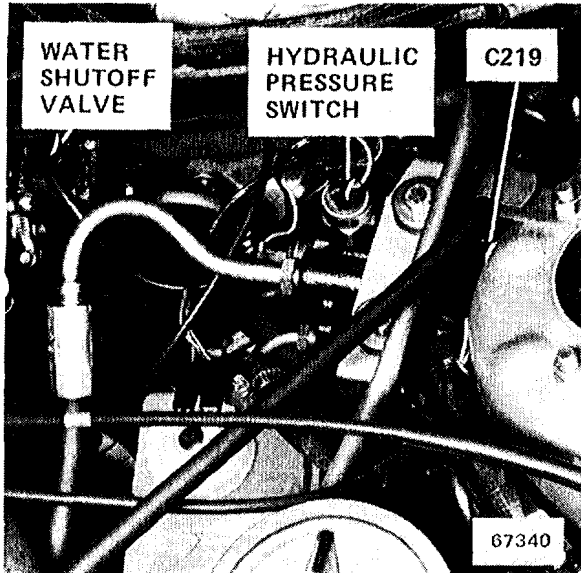


Figure 1 - LH Rear of Engine Compartment

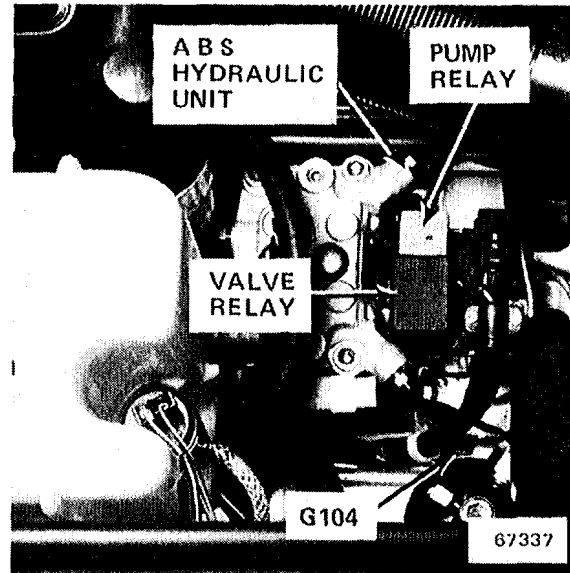


Figure 3 - RH Front of Engine Compartment

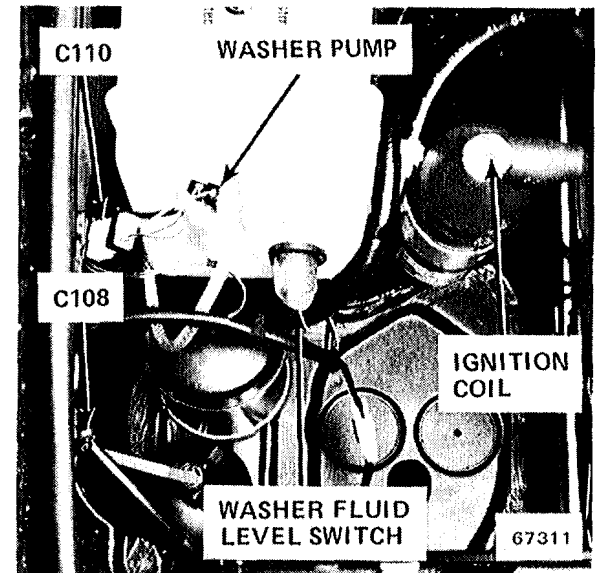


Figure 5 - RH Front of Engine Compartment

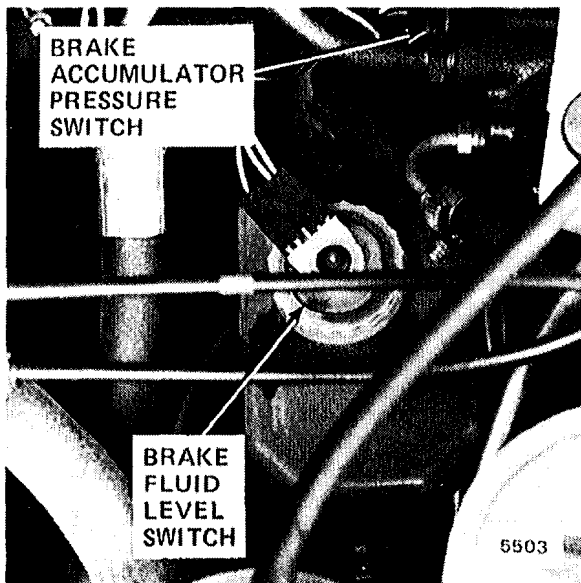


Figure 2 - LH Rear of Engine Compartment



Figure 4 - RH Front Engine Compartment

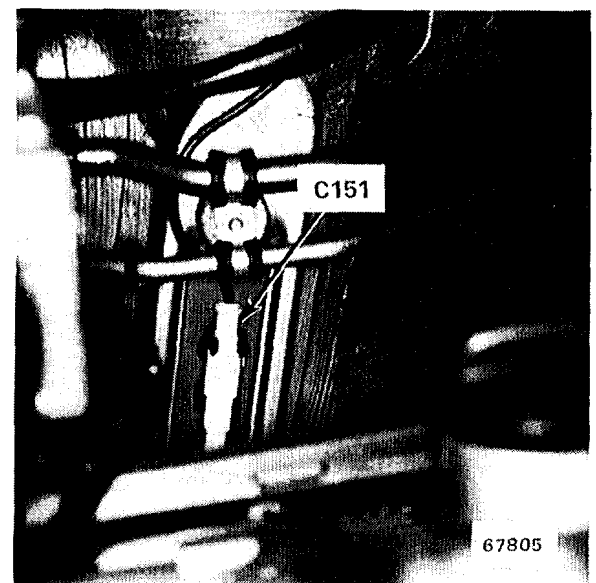


Figure 6 - RH Side of Engine Compartment, Inside Shock Tower

7000-4 COMPONENT LOCATION VIEWS

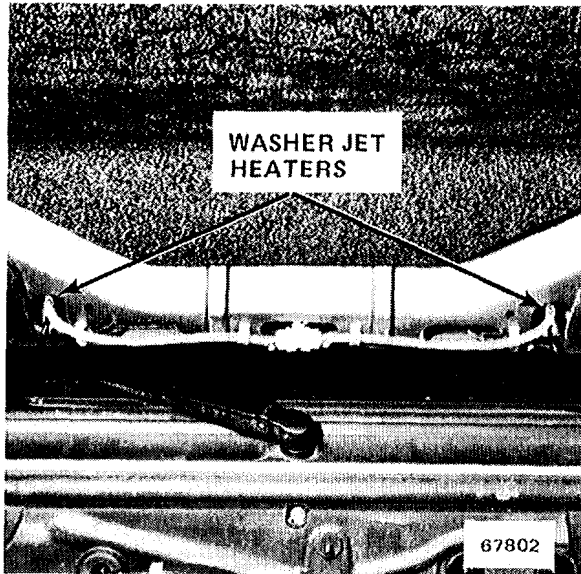


Figure 1 - Inside Center of Hood

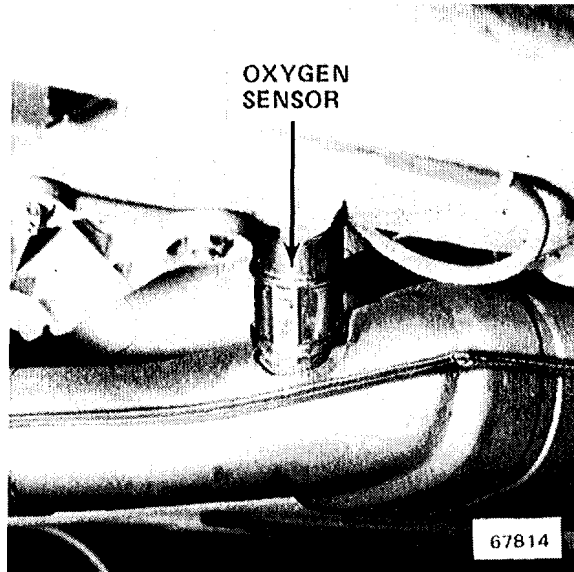


Figure 3 - Underneath Car, On Catalytic Converter

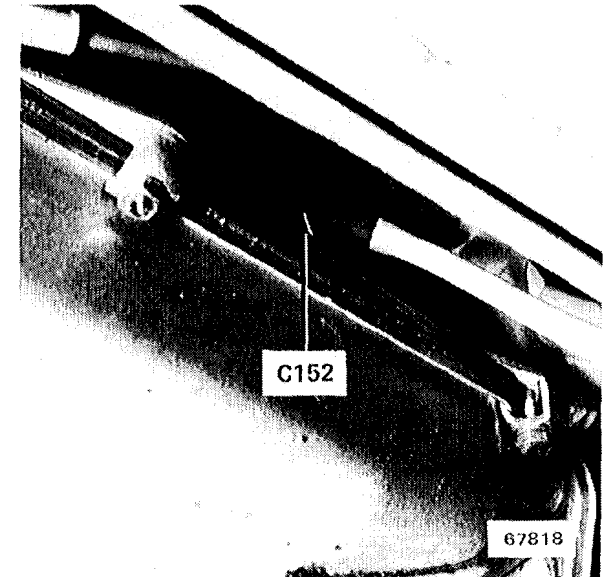


Figure 5 - LH Side of Transmission Near Shift Linkage

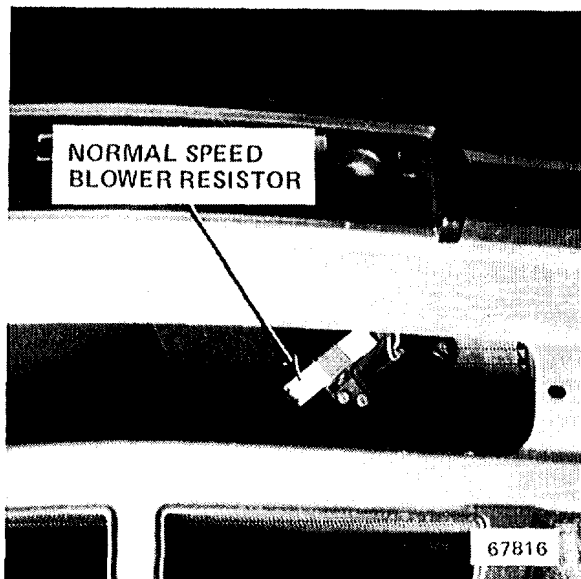


Figure 2 - Front of Radiator, Bottom of Auxiliary Fan Shield



Figure 4 - Bottom of Engine Oil Pan

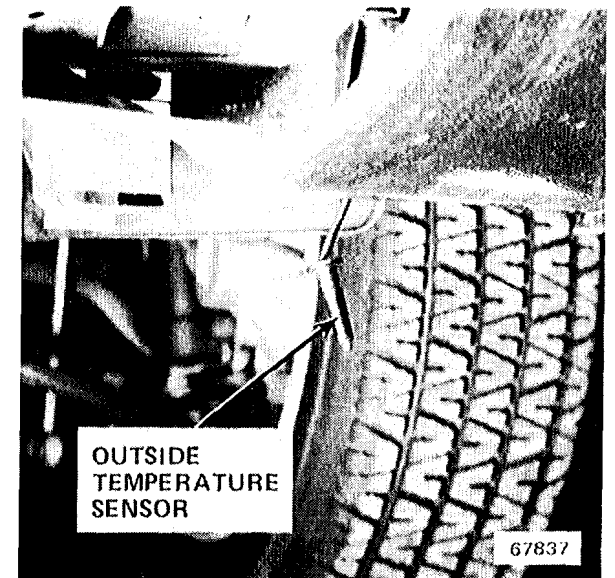


Figure 6 - Under LH Side of Front Bumper

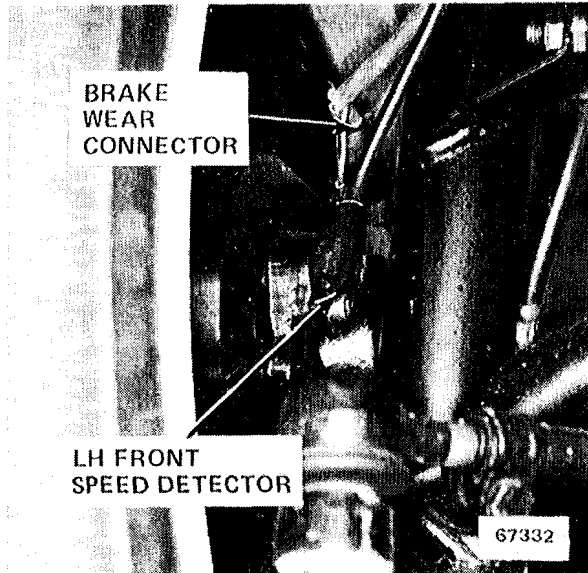


Figure 1 - Behind Wheel Dust Shield

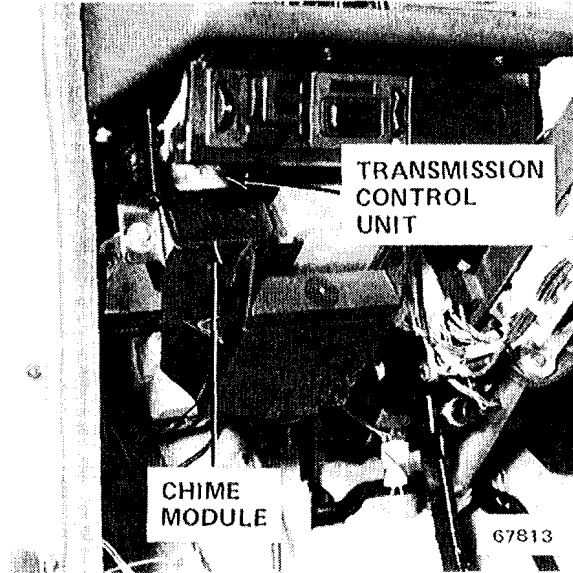


Figure 3 - Under LH Side of Dash

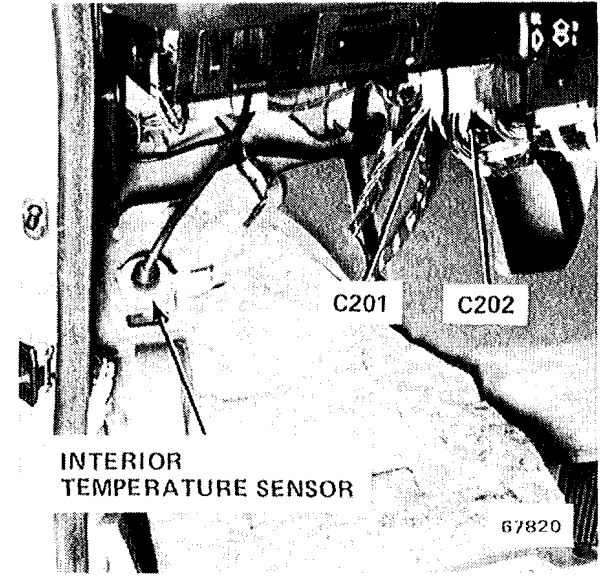


Figure 5 - Behind LH Dash Panel

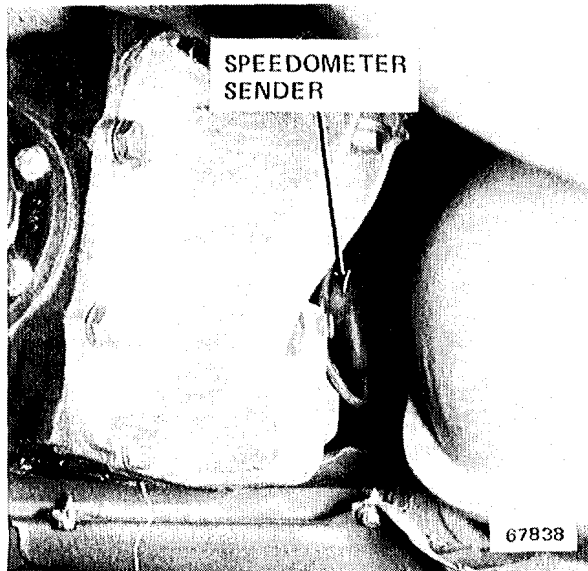


Figure 2 - Rear of Differential

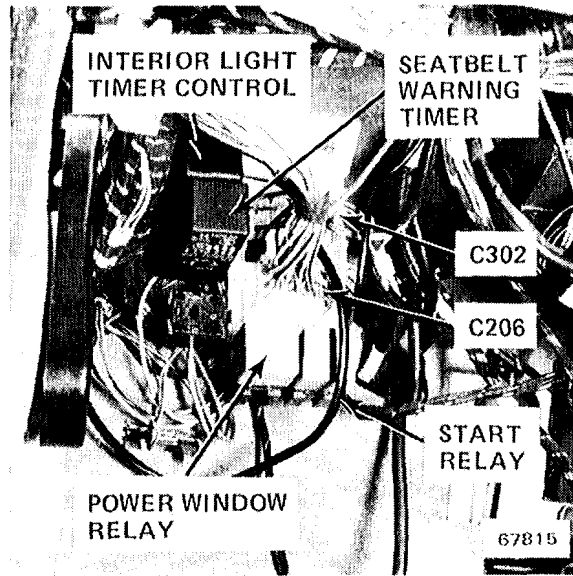


Figure 4 - Behind LH Dash Panel

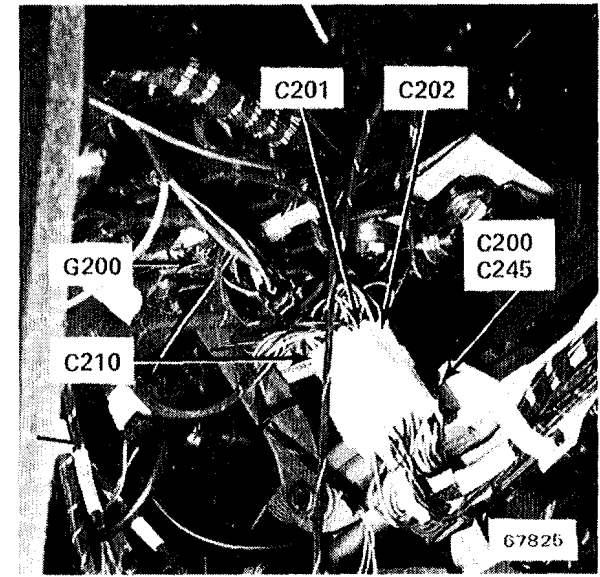


Figure 6 - Behind LH Dash Panel

7000-6 COMPONENT LOCATION VIEWS

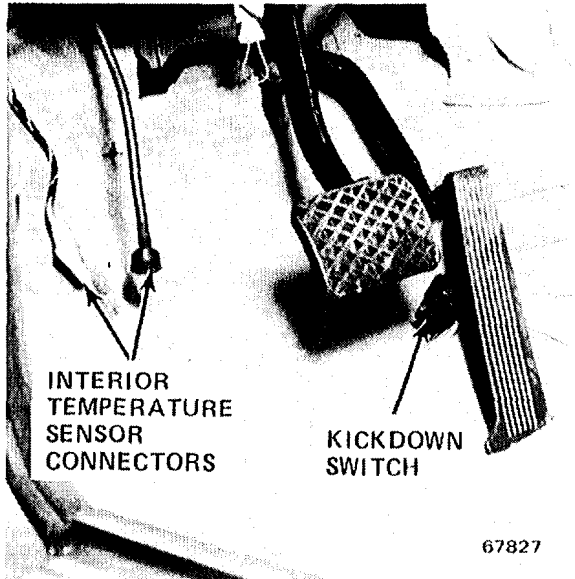


Figure 1 - LH Footwell

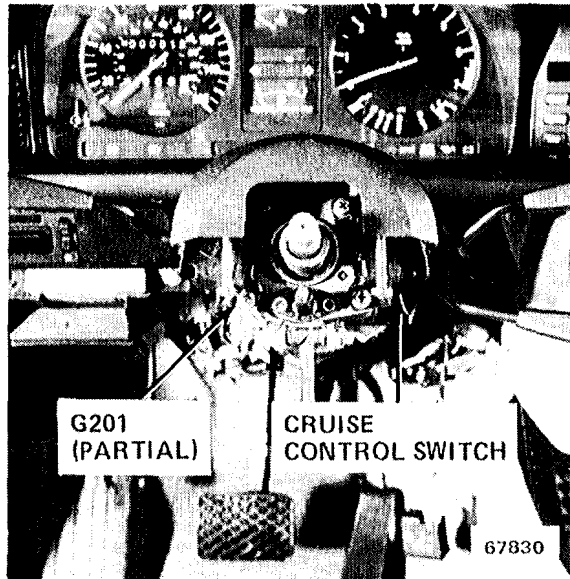


Figure 3 - Upper Part of Steering Column

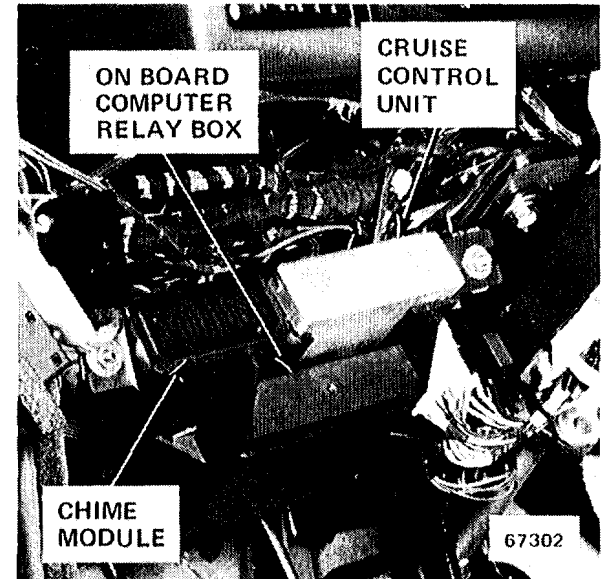


Figure 5 - Behind LH Dash Panel

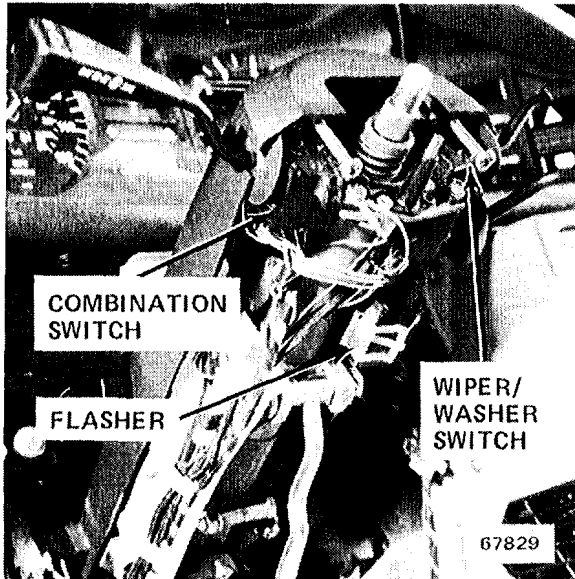


Figure 2 - Upper Part of Steering Column



Figure 4 - Behind LH Dash Panel

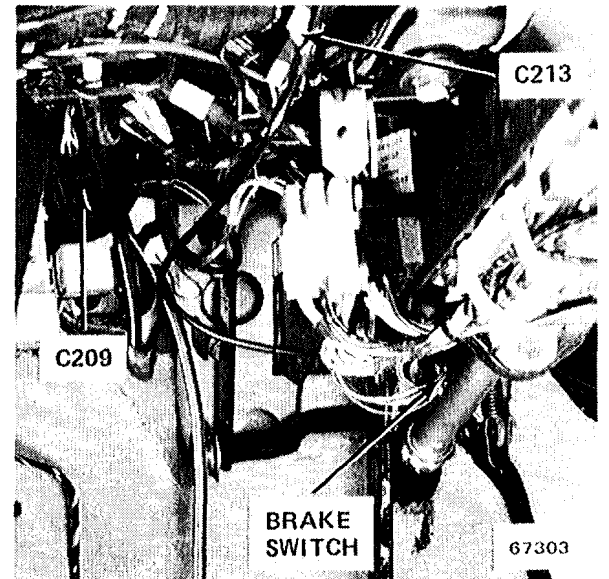


Figure 6 - Behind LH Dash Panel

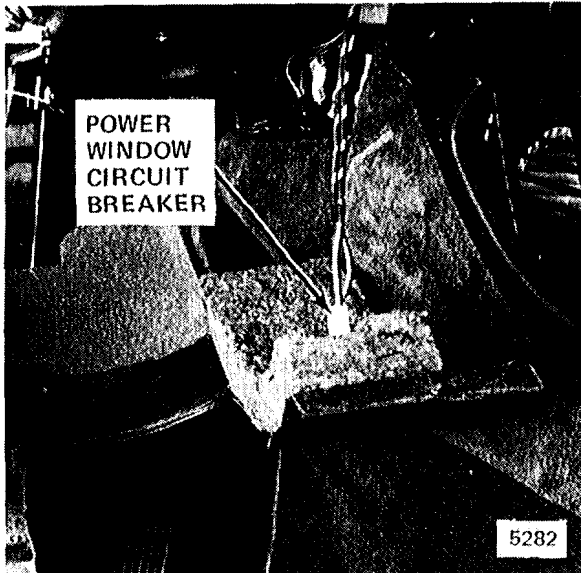


Figure 1 - In LH Dash Panel

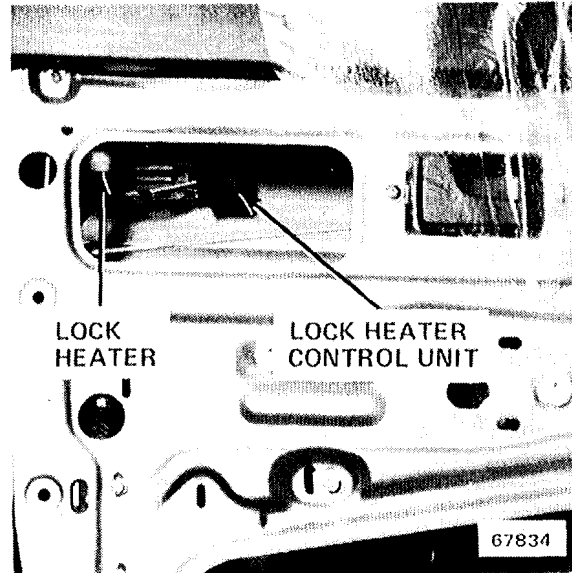


Figure 3 - Inside LH Front Door

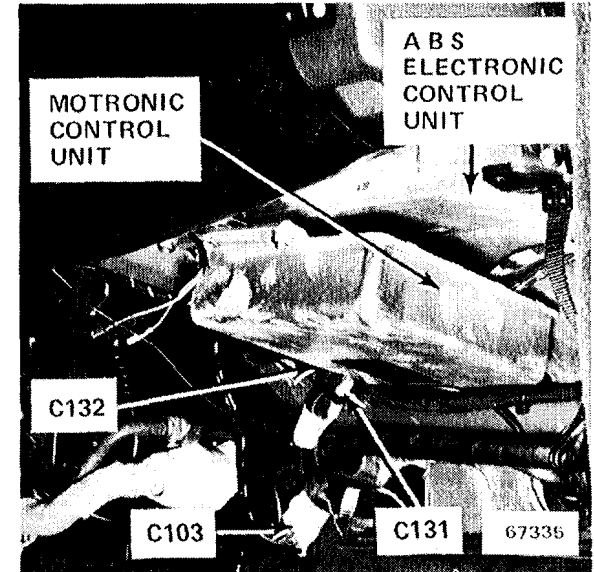


Figure 5 - Under RH Side of Dash

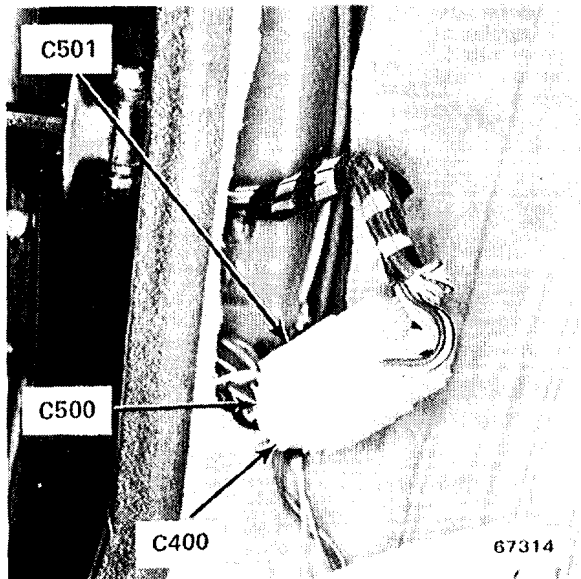


Figure 2 - Behind LH Front Speaker

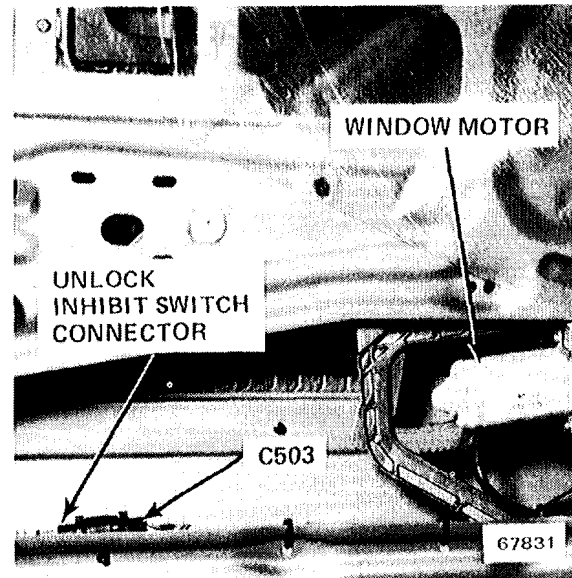


Figure 4 - Inside LH Front Door

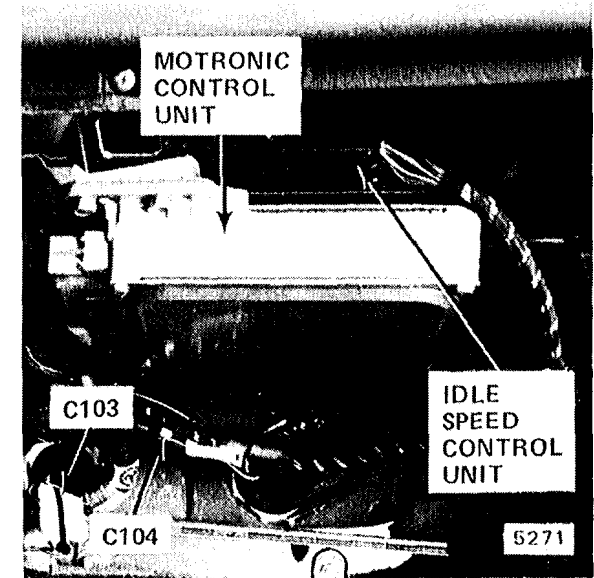


Figure 6 - Under RH Side of Dash

7000-8 COMPONENT LOCATION VIEWS

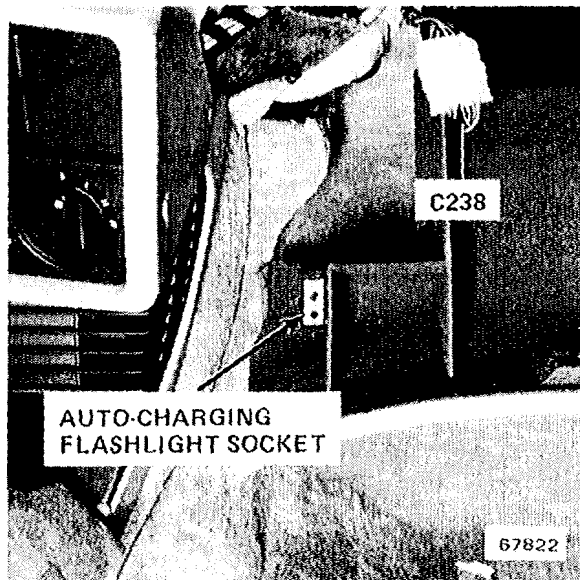


Figure 1 - Inside Glove Box

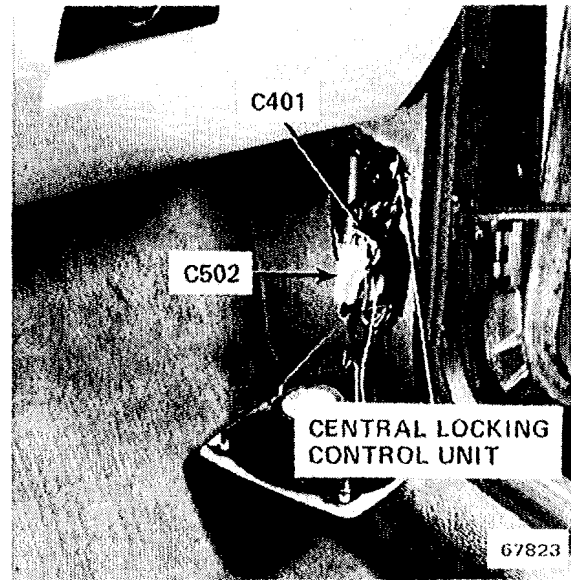


Figure 3 - Behind RH Front Speaker

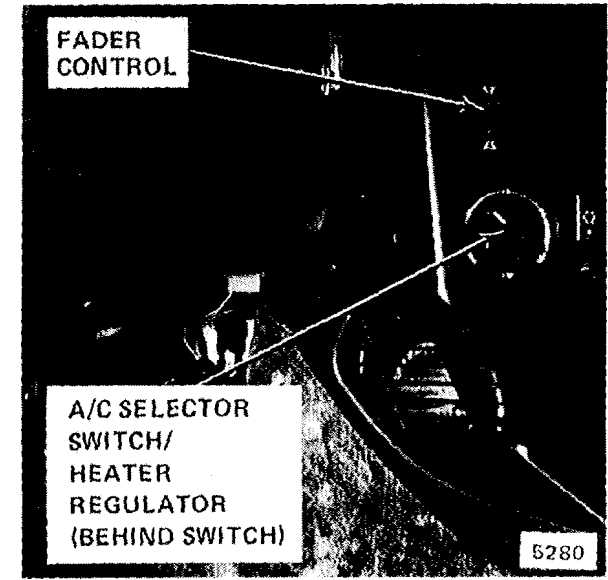


Figure 5 - LH Side of Upper Console

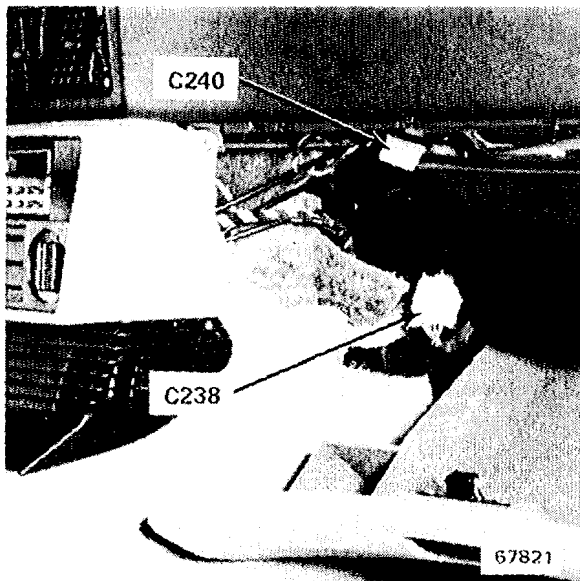


Figure 2 - Under RH Side of Dash, Beside Glove Box

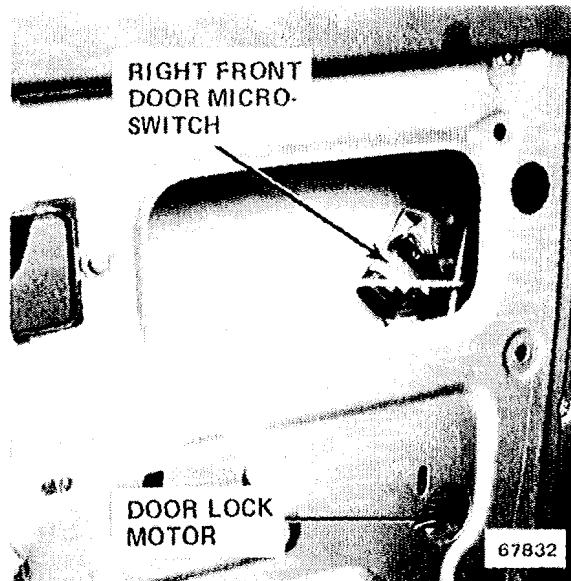


Figure 4 - Inside RH Front Door

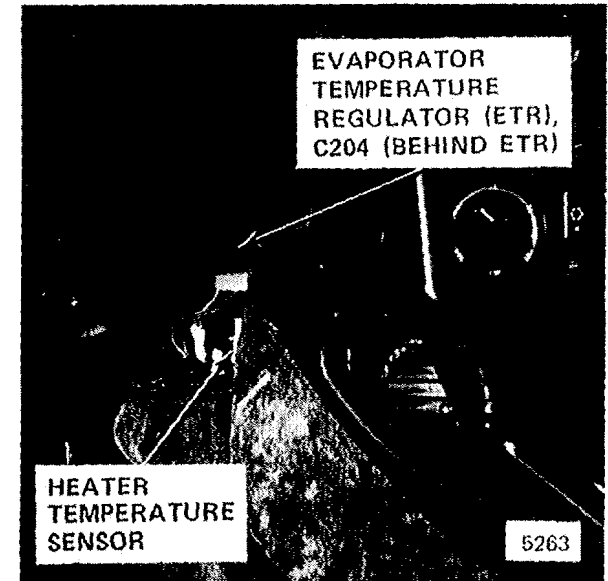


Figure 6 - LH Side of Upper Console

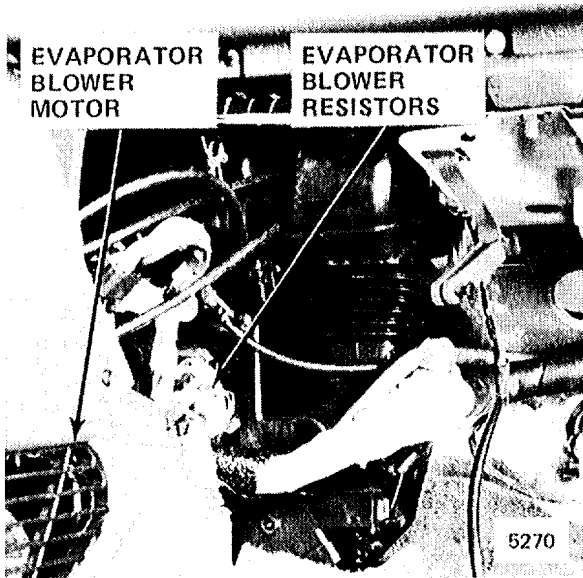


Figure 1 - RH Side of Upper Console

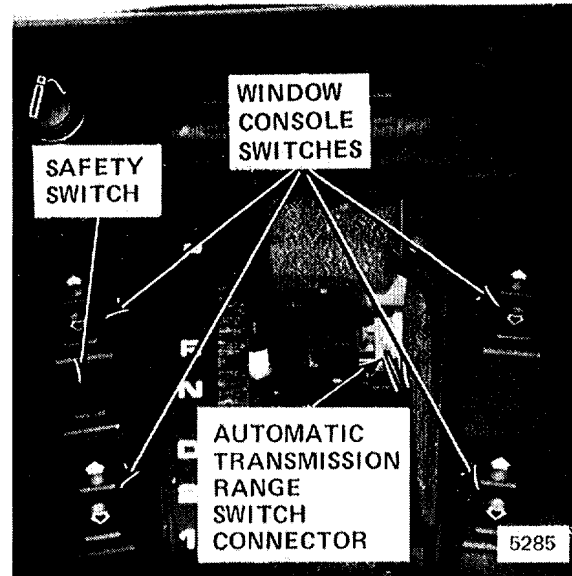


Figure 3 - Center Console, Near Shift Lever

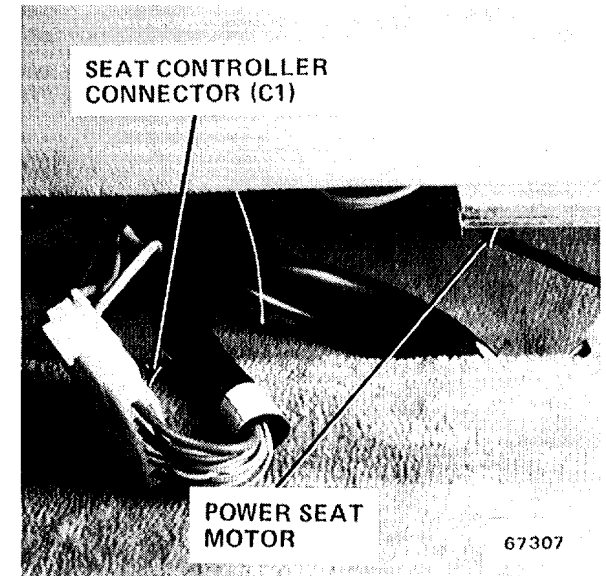


Figure 5 - Underneath Seat

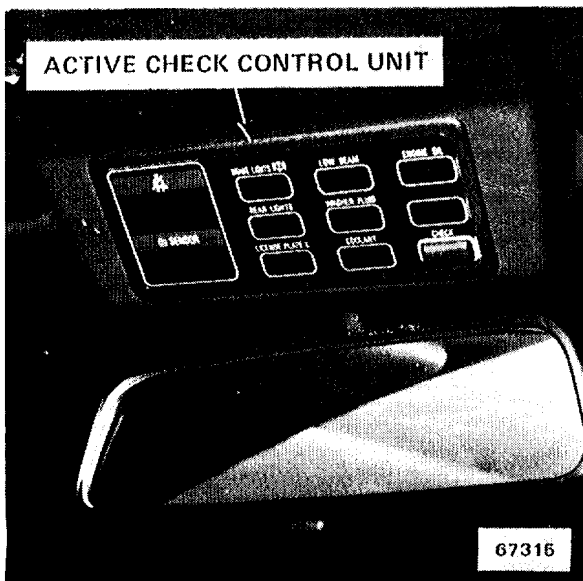


Figure 2 - Above Rear View Mirror

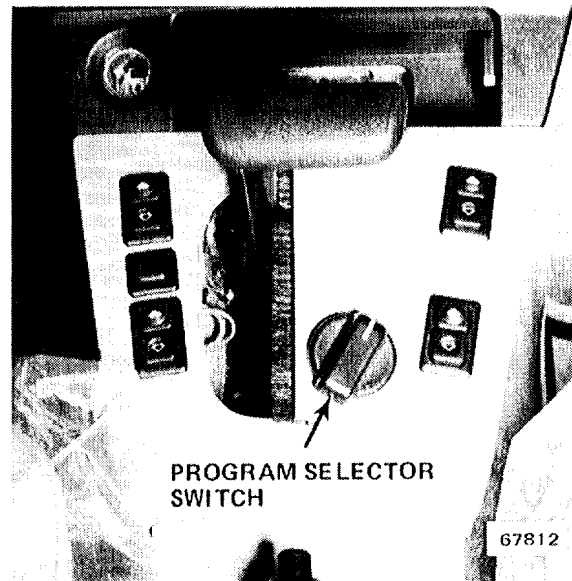


Figure 4 - Center Console

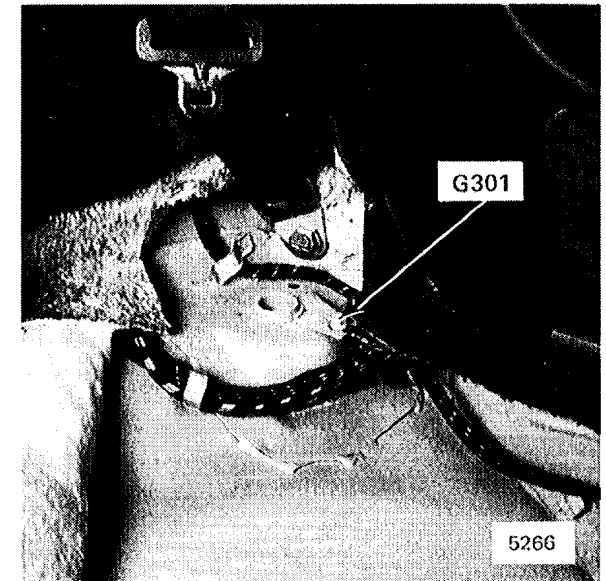


Figure 6 - Under LH Side of Rear Seat

7000-10 COMPONENT LOCATION VIEWS

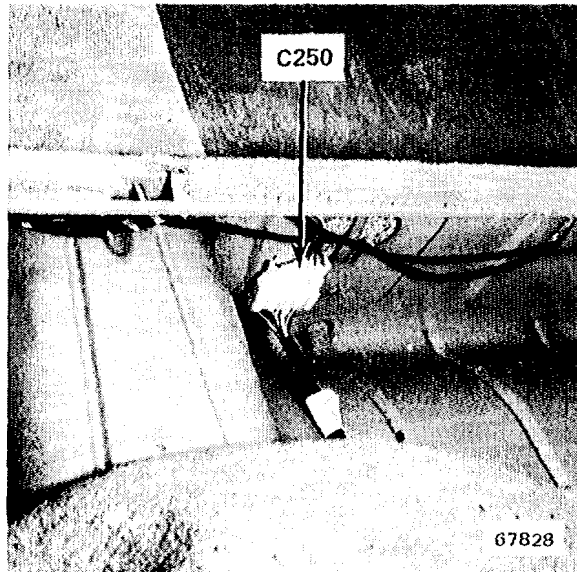


Figure 1 - Under RH Side of Rear Seat



Figure 3 - In Rear Panel of Trunk

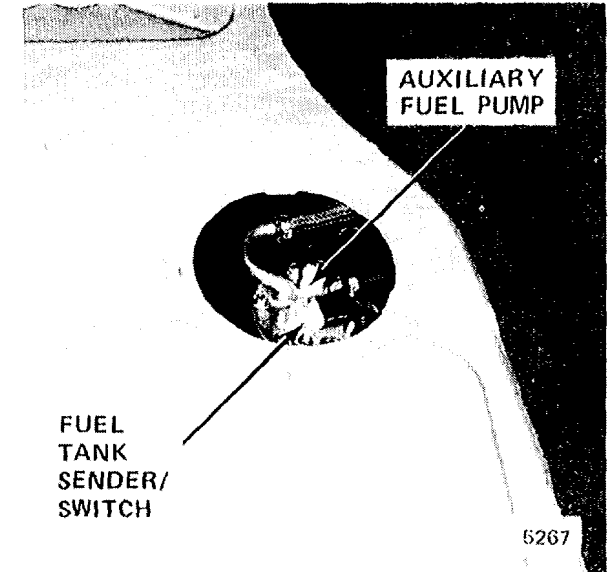


Figure 5 - Bottom RH Side of Trunk, Under Access Plate

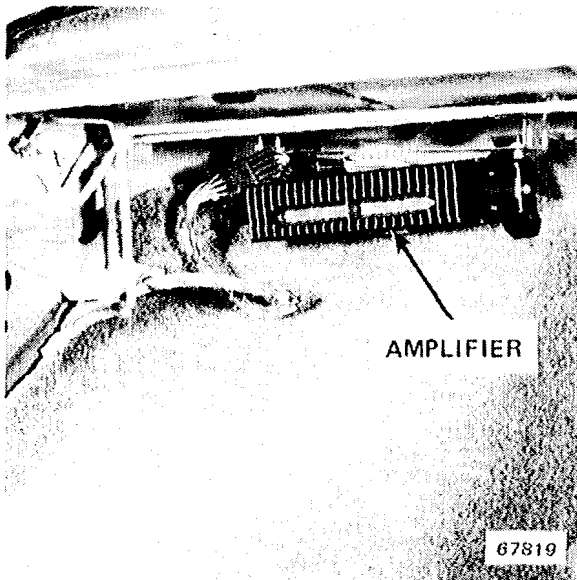


Figure 2 - LH Front of Trunk

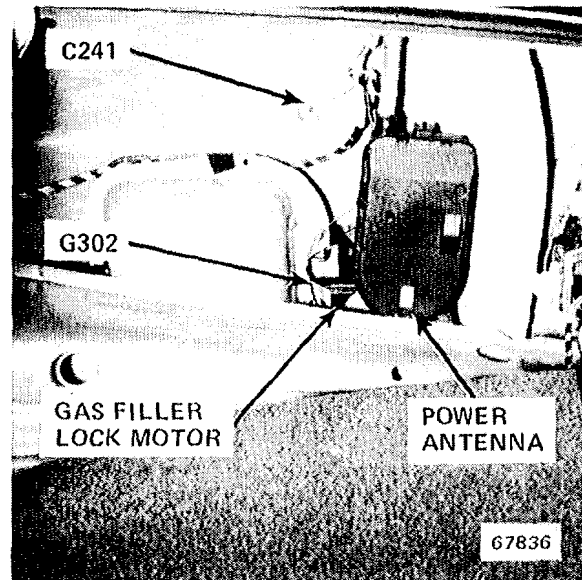


Figure 4 - RH Side of Trunk

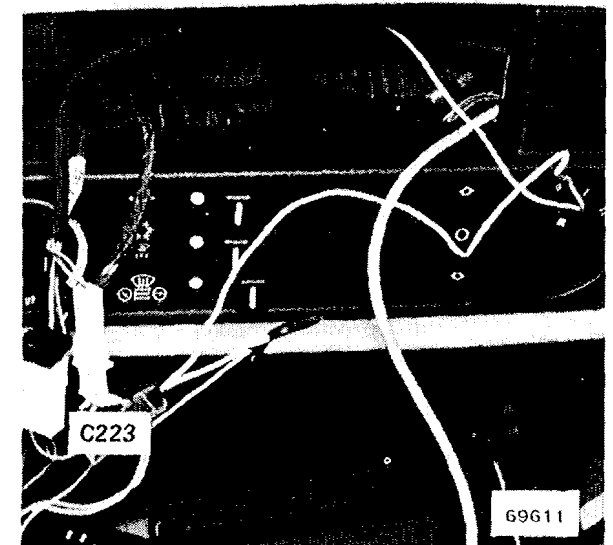


Figure 6 - Center of Dash (Radio Removed)

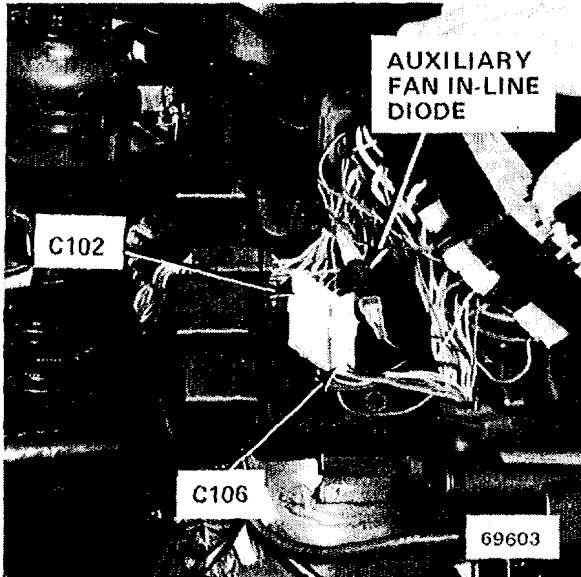


Figure 1 - LH Side of Engine Compartment

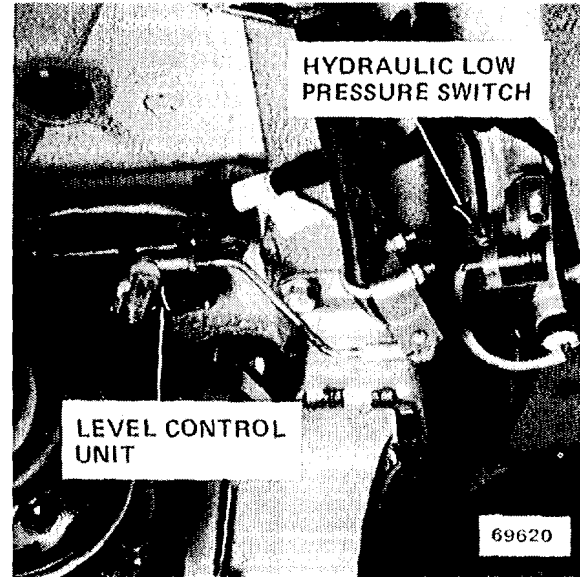


Figure 3 - LH Underside of Car, Forward of Rear Axle (M5)

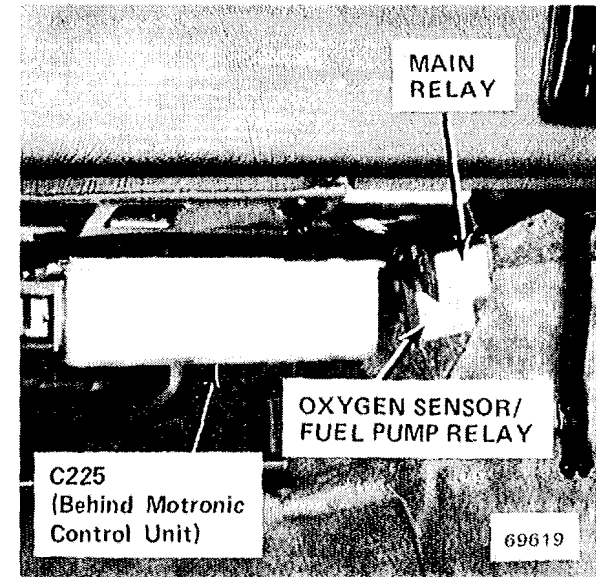


Figure 5 - Under RH Side of Dash (M5)

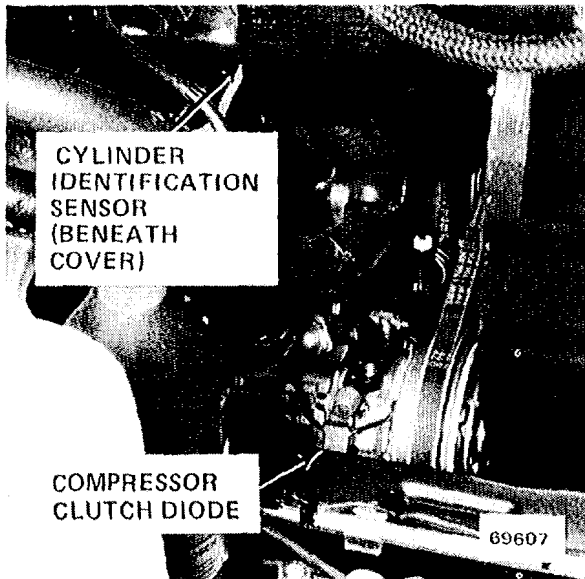


Figure 2 - RH Front of Engine Compartment

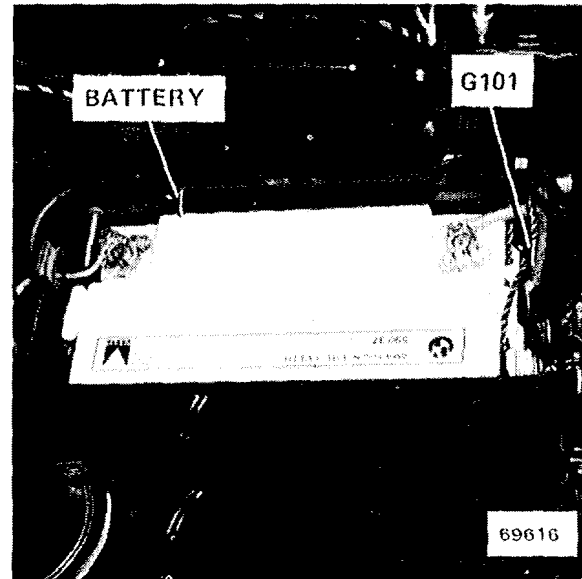


Figure 4 - RH Rear of Trunk (M5)

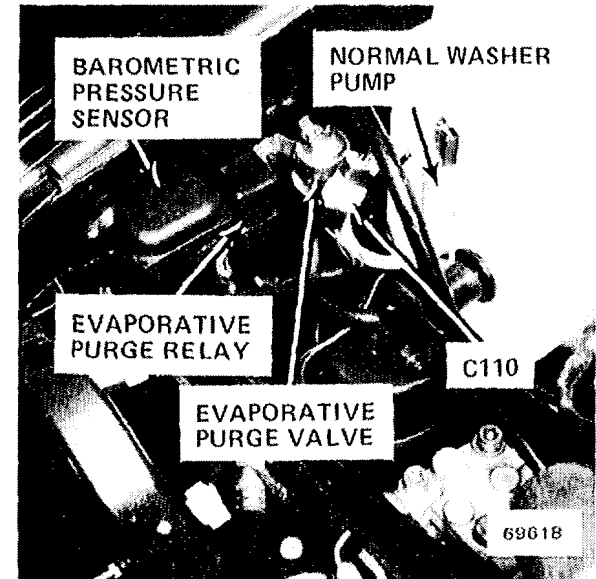


Figure 6 - Front RH Corner of S38 Engine Compartment

7000-12 COMPONENT LOCATION VIEWS

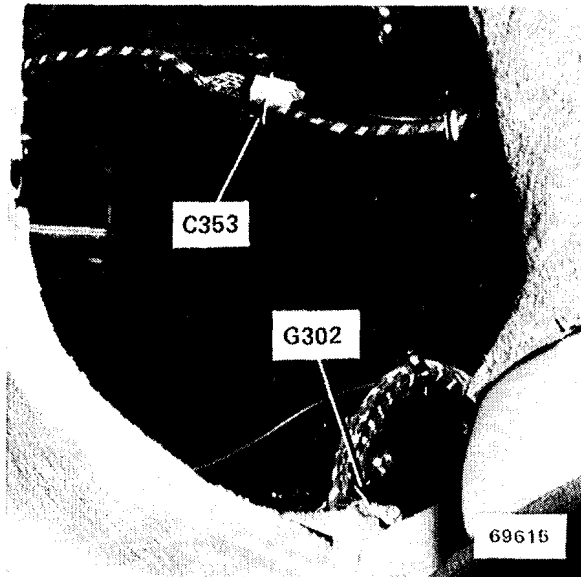


Figure 1 - Under LH Side of Rear Seat (M5)

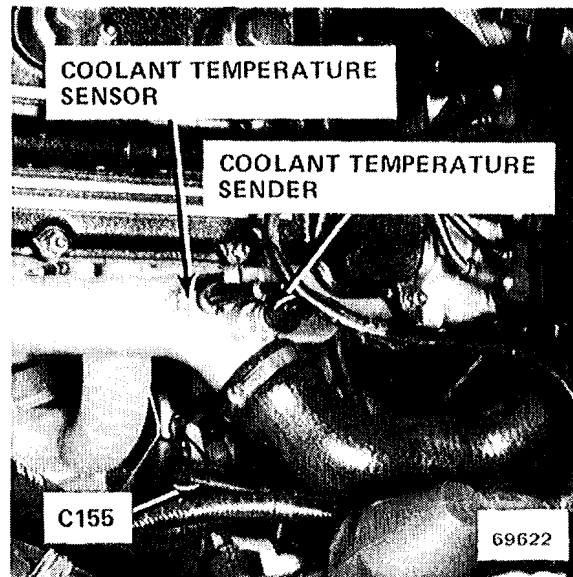


Figure 3 - Front RH Side of S38 Engine

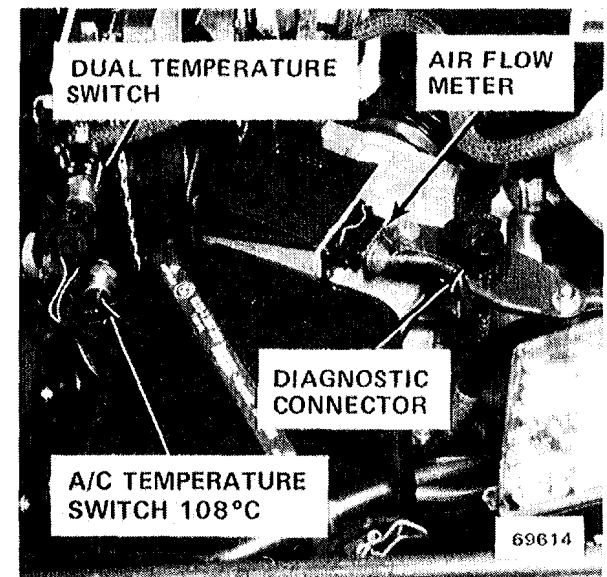


Figure 5 - LH Front Corner of S38 Engine Compartment

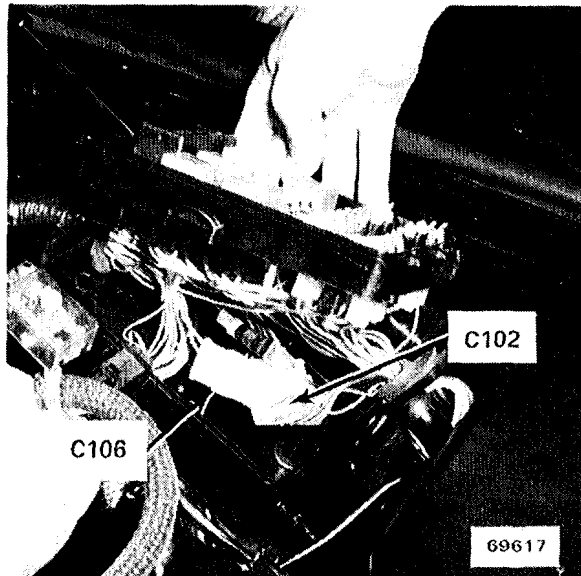


Figure 2 - LH Side of S38 Engine Compartment

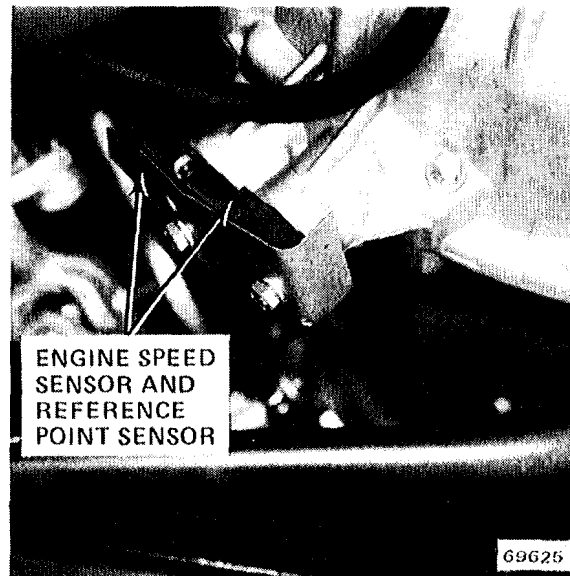


Figure 4 - Underside of Car, LH Side of Transmission Bell Housing (M5)

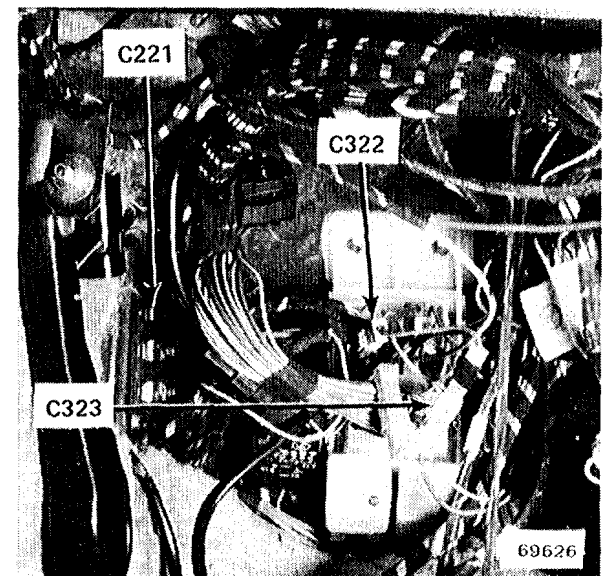


Figure 6 - Under LH Side of Dash (M5)

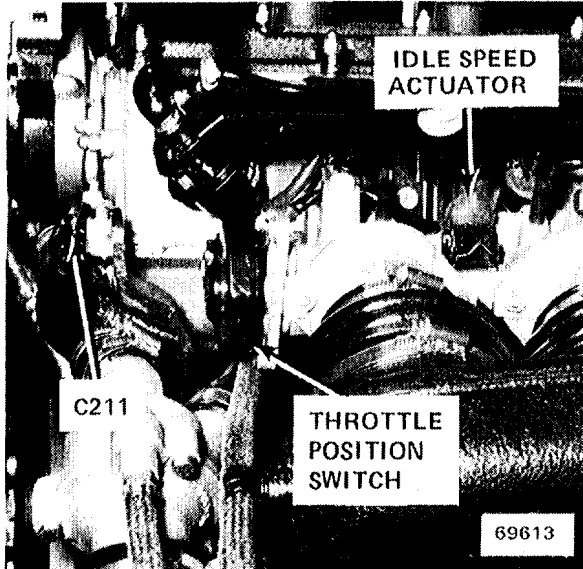


Figure 1 - LH Front of S38 Engine



Figure 3 - Bottom of Trunk (M5)

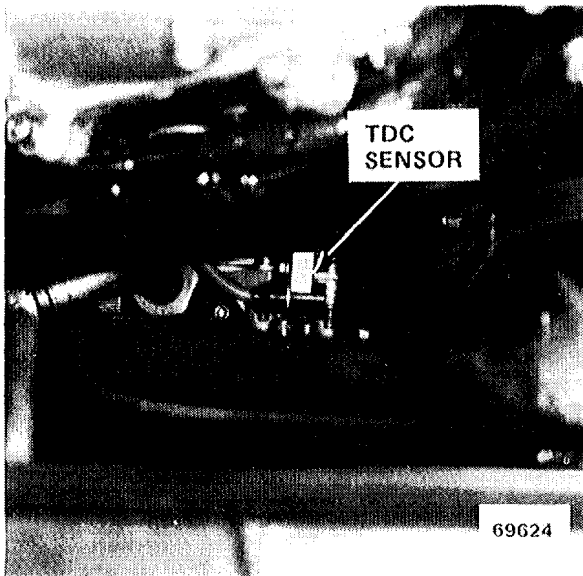


Figure 2 - RH Front of S38 Engine Compartment

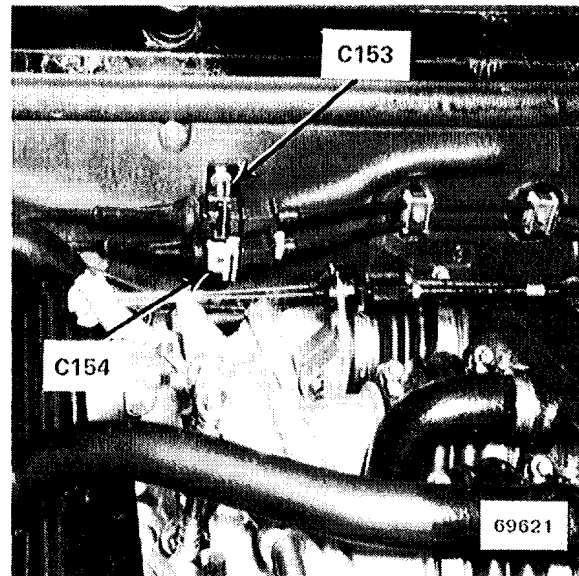


Figure 4 - Center Rear of S38 Engine Compartment

8000-0 SPLICE LOCATION VIEWS

INDEX

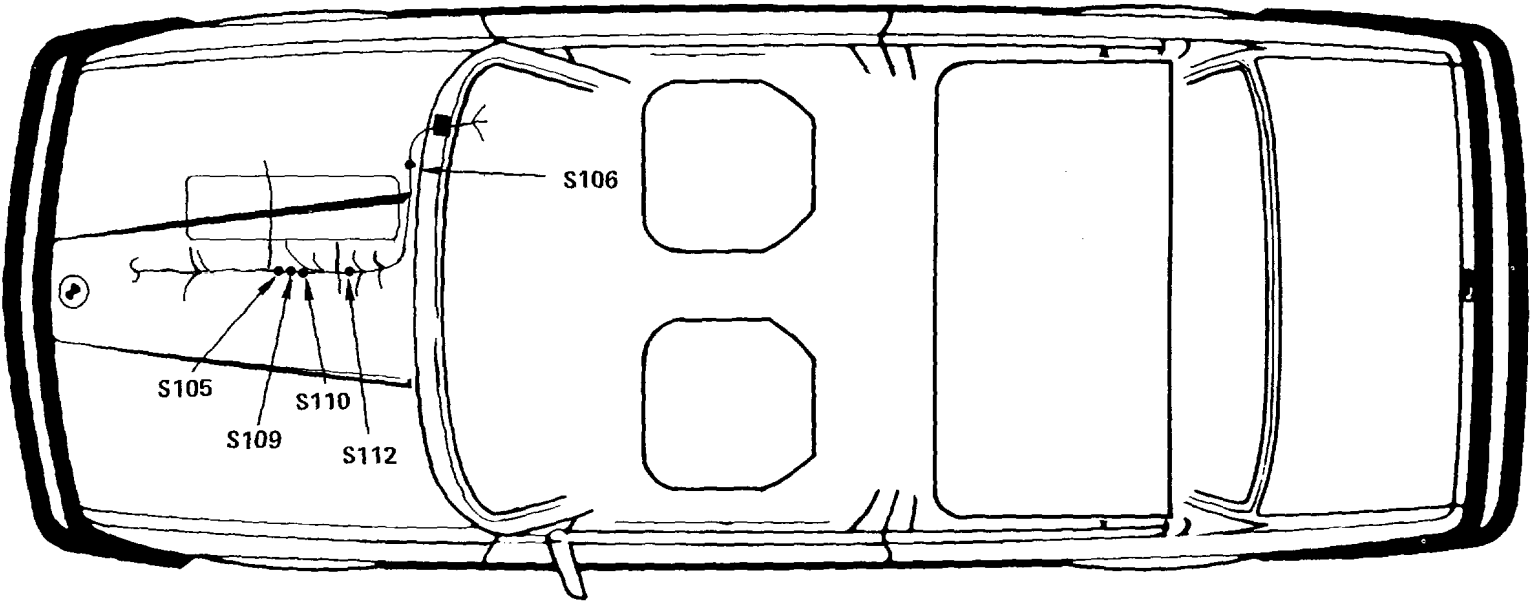
This index contains all the splices in the car, what harness each one is in, and the page that the splices appear on. The drawings after the index show how the harness is routed through the car and where the splices are located on the harness.

| SPLICE | HARNESS | PAGE NUMBER | SPLICE | HARNESS | PAGE NUMBER |
|--------|--------------------|-------------|--------|----------------|-------------|
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| S100 | FRONT (M5) | 8000-6 | S208 | MIDDLE (535i) | 8000-7 |
| S101 | FRONT (535i) | 8000-5 | S208 | MIDDLE (M5) | 8000-8 |
| S101 | FRONT (M5) | 8000-6 | S209 | MIDDLE (535i) | 8000-7 |
| S102 | FRONT (M5) | 8000-6 | S209 | MIDDLE (M5) | 8000-8 |
| S103 | FRONT (M5) | 8000-6 | S210 | MIDDLE (535i) | 8000-7 |
| S105 | ENGINE (535i) | 8000-2 | S210 | MIDDLE (M5) | 8000-8 |
| S105 | ENGINE (M5) | 8000-3 | S211 | MIDDLE (535i) | 8000-7 |
| S106 | ENGINE (535i) | 8000-2 | S211 | MIDDLE (M5) | 8000-8 |
| S106 | ENGINE (M5) | 8000-3 | S212 | MIDDLE (535i) | 8000-7 |
| S108 | ENGINE (M5) | 8000-3 | S212 | MIDDLE (M5) | 8000-8 |
| S109 | ENGINE (535i) | 8000-2 | S213 | MIDDLE (535i) | 8000-7 |
| S109 | ENGINE (M5) | 8000-3 | S213 | MIDDLE (M5) | 8000-8 |
| S110 | ENGINE (535i) | 8000-2 | S214 | MIDDLE (535i) | 8000-7 |
| S110 | ENGINE (M5) | 8000-3 | S214 | MIDDLE (M5) | 8000-8 |
| S111 | ENGINE (M5) | 8000-3 | S215 | MIDDLE (535i) | 8000-7 |
| S112 | ENGINE (535i) | 8000-3 | S215 | MIDDLE (M5) | 8000-8 |
| S113 | FRONT (M5) | 8000-6 | S216 | MIDDLE (535i) | 8000-7 |
| S114 | HEATER | NOT SHOWN | S216 | MIDDLE (M5) | 8000-8 |
| S119 | HEATED WASHER JETS | NOT SHOWN | S217 | MIDDLE (535i) | 8000-7 |
| S121 | ELECT TRANS | NOT SHOWN | S217 | MIDDLE (M5) | 8000-8 |
| S126 | MIDDLE (M5) | 8000-8 | S218 | MIDDLE (535i) | 8000-7 |
| S200 | MIDDLE (535i) | 8000-7 | S218 | MIDDLE (M5) | 8000-8 |
| S200 | MIDDLE (M5) | 8000-8 | S219 | MIDDLE (535i) | 8000-7 |
| S201 | MIDDLE (535i) | 8000-7 | S219 | MIDDLE (M5) | 8000-8 |
| S201 | MIDDLE (M5) | 8000-8 | S220 | MIDDLE (535i) | 8000-7 |
| S202 | MIDDLE (535i) | 8000-7 | S220 | MIDDLE (M5) | 8000-8 |
| S202 | MIDDLE (M5) | 8000-8 | S221 | MIDDLE (535i) | 8000-7 |
| S203 | MIDDLE (535i) | 8000-7 | S221 | MIDDLE (M5) | 8000-8 |
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| S204 | MIDDLE (M5) | 8000-8 | S224 | CRUISE CONTROL | 8000-10 |
| S205 | MIDDLE (535i) | 8000-7 | S225 | A/C | 8000-10 |
| S205 | MIDDLE (M5) | 8000-8 | S226 | A/C | 8000-10 |
| S206 | MIDDLE (535i) | 8000-7 | S227 | A/C | 8000-10 |
| S206 | MIDDLE (M5) | 8000-8 | S228 | A/C | 8000-10 |
| S207 | MIDDLE (535i) | 8000-7 | S229 | A/C | 8000-10 |

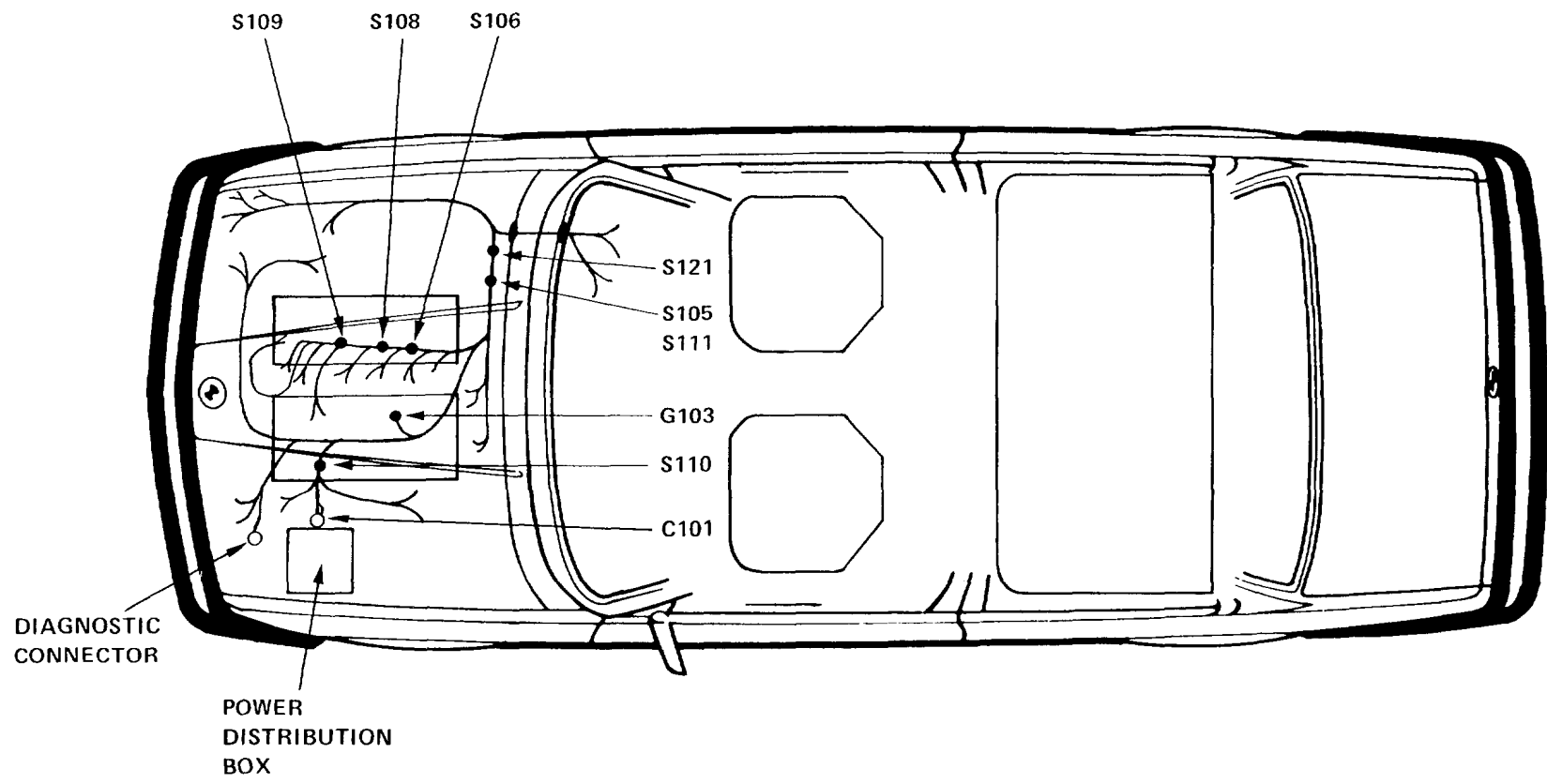
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| SPLICE | HARNESS | PAGE NUMBER | SPLICE | HARNESS | PAGE NUMBER |
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| S231 | MIDDLE (M5) | 8000-8 | | LOCKING | 8000-11 |
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| | | | | LOCKING | 8000-11 |
| S233 | POWER SEATS | NOT SHOWN | S414 | CENTRAL | |
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| S234 | MIDDLE (535i) | 8000-7 | S415 | CENTRAL | |
| S234 | MIDDLE (M5) | 8000-8 | | LOCKING | 8000-11 |
| S304 | REAR | 8000-9 | S416 | CENTRAL | |
| S305 | REAR | 8000-9 | | LOCKING | 8000-11 |
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| S307 | REAR | 8000-9 | | LOCKING | 8000-11 |
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| S310 | REAR | 8000-9 | | | |
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| | LOCKING | 8000-11 | | SEATS | |
| S401 | CENTRAL | | S552 | HEATED | NOT SHOWN |
| | LOCKING | 8000-11 | | SEATS | |
| S402 | CENTRAL | | S553 | HEATED | NOT SHOWN |
| | LOCKING | 8000-11 | | SEATS | |
| S403 | CENTRAL | | S600 | SUNROOF | NOT SHOWN |
| | LOCKING | 8000-11 | | | |
| S404 | CENTRAL | | S700 | ABS | NOT SHOWN |
| | LOCKING | 8000-11 | | | |
| S405 | CENTRAL | | S701 | ABS | NOT SHOWN |
| | LOCKING | 8000-11 | | | |
| S406 | CENTRAL | | S800 | BOLSTER | NOT SHOWN |
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| S408 | CENTRAL | | | SUPPORT | |
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| S410 | CENTRAL | | S900 | BATTERY | |
| | LOCKING | 8000-11 | | POSITIVE (M5) | 8000-4 |

ENGINE HARNESS

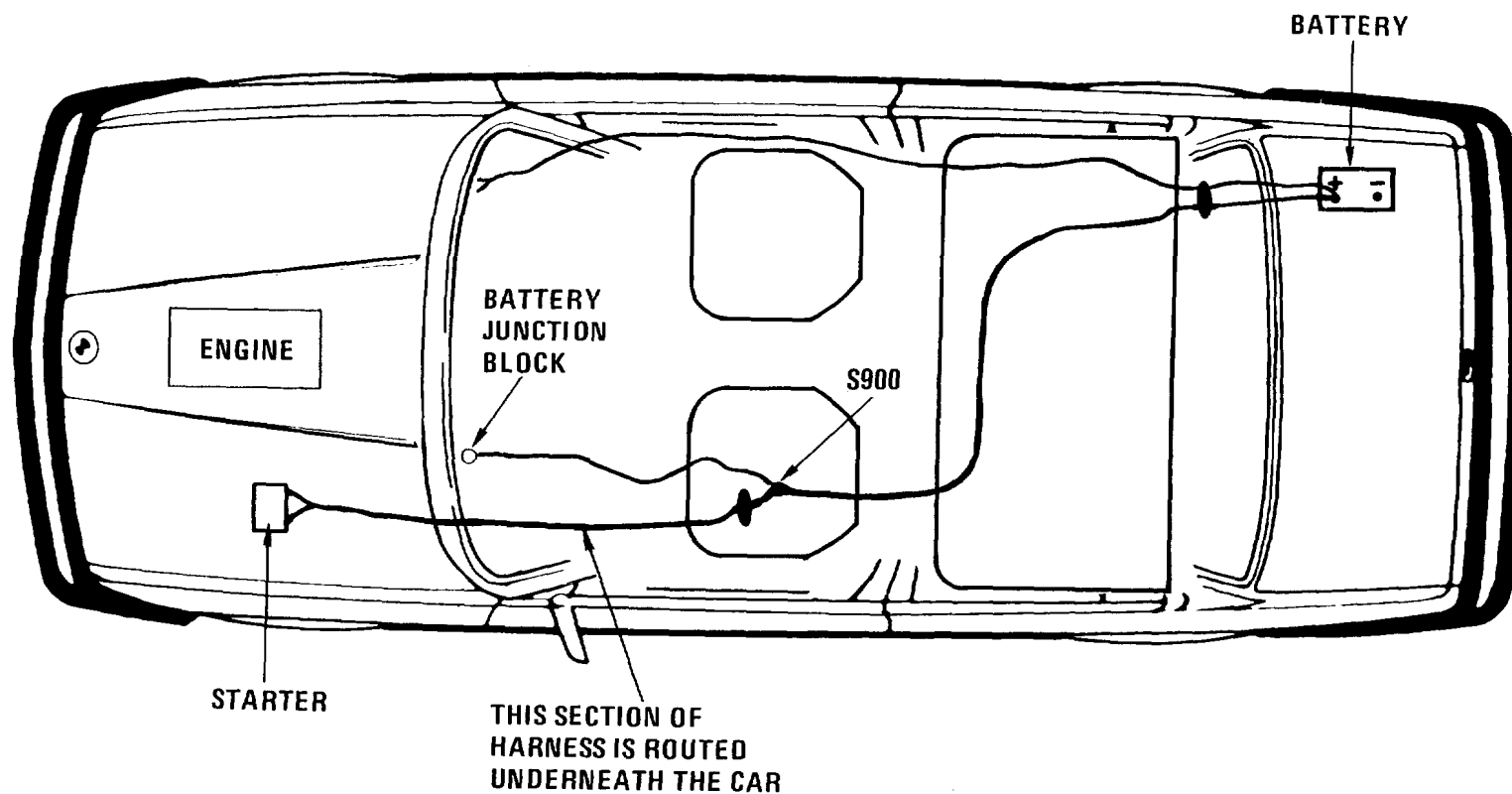


ENGINE HARNESS

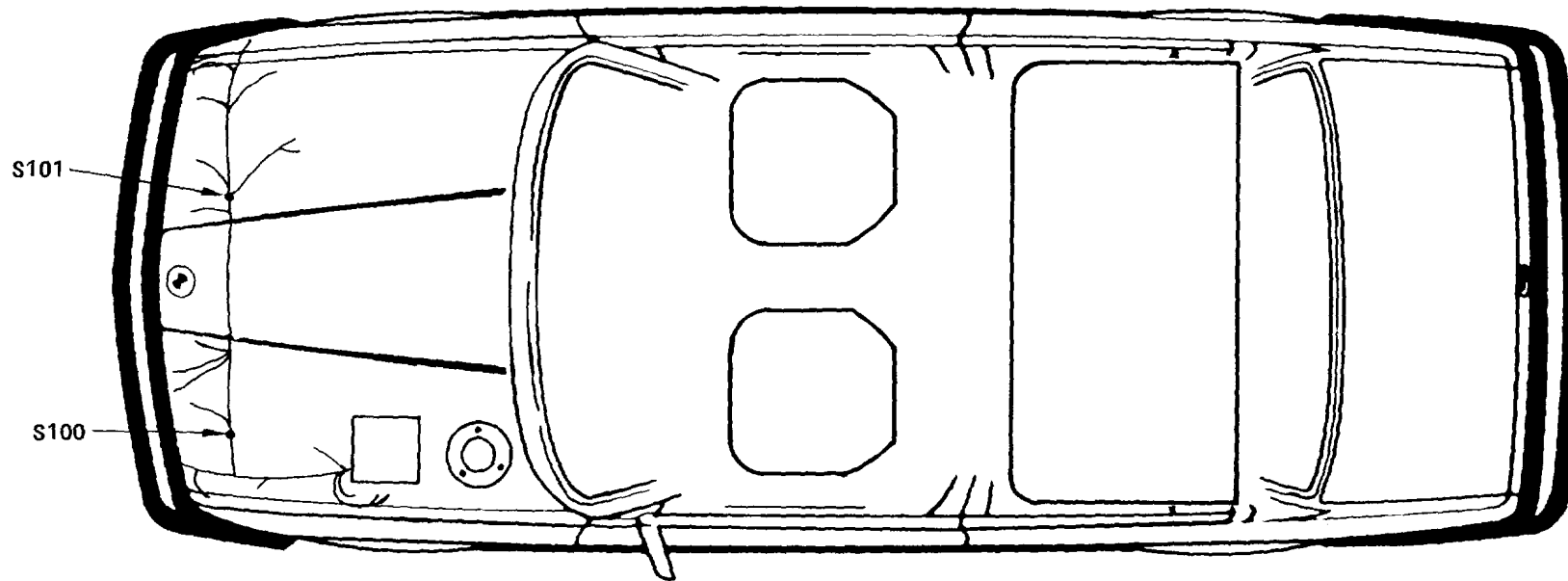


8000-4 SPLICE LOCATION VIEWS M5

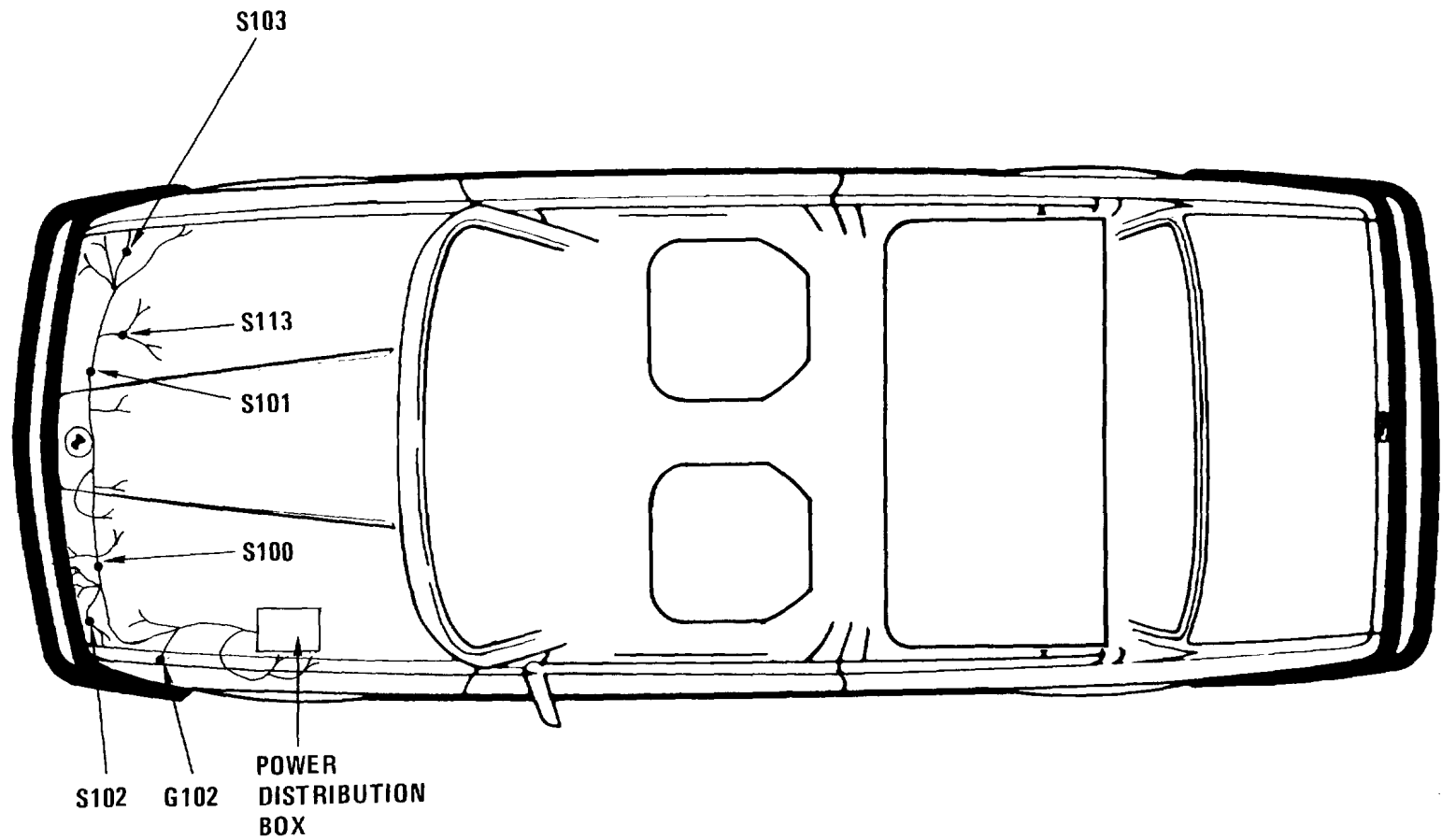
BATTERY POSITIVE HARNESS



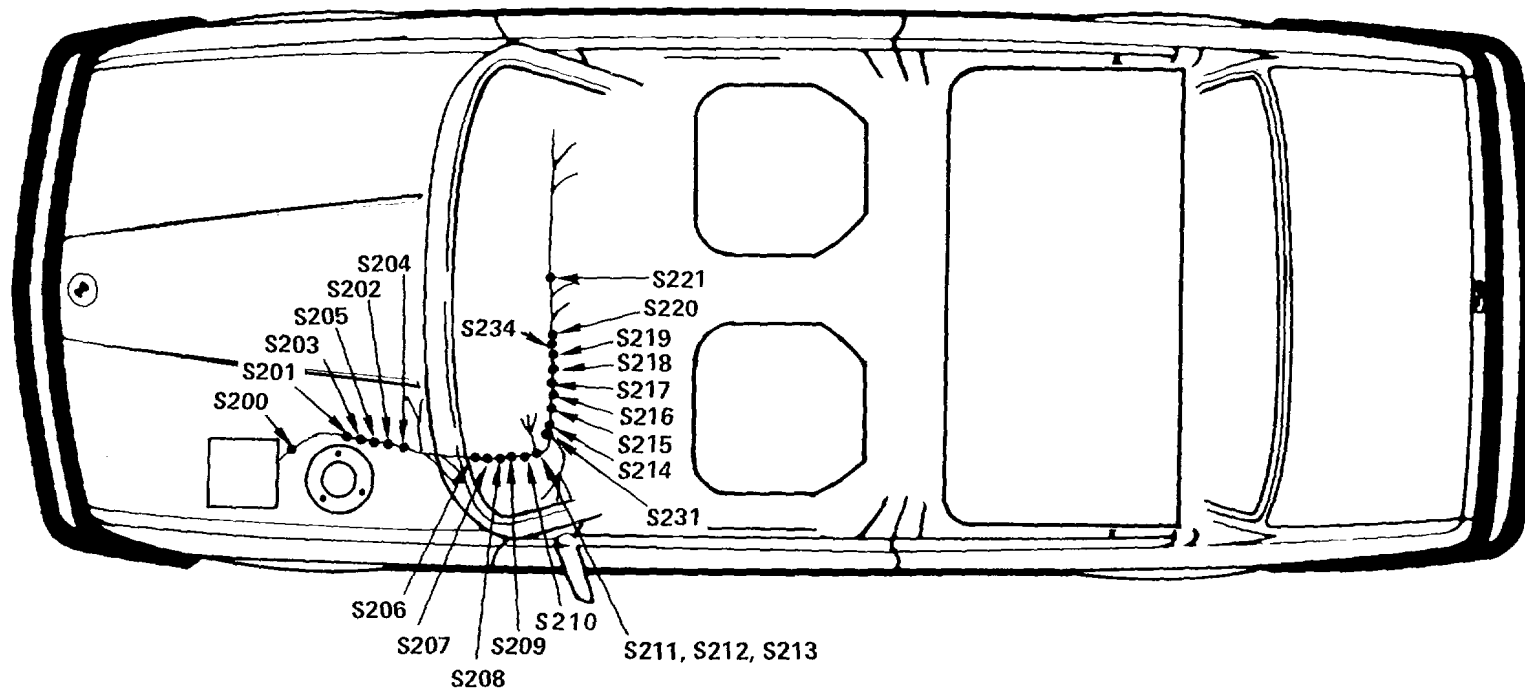
FRONT HARNESS



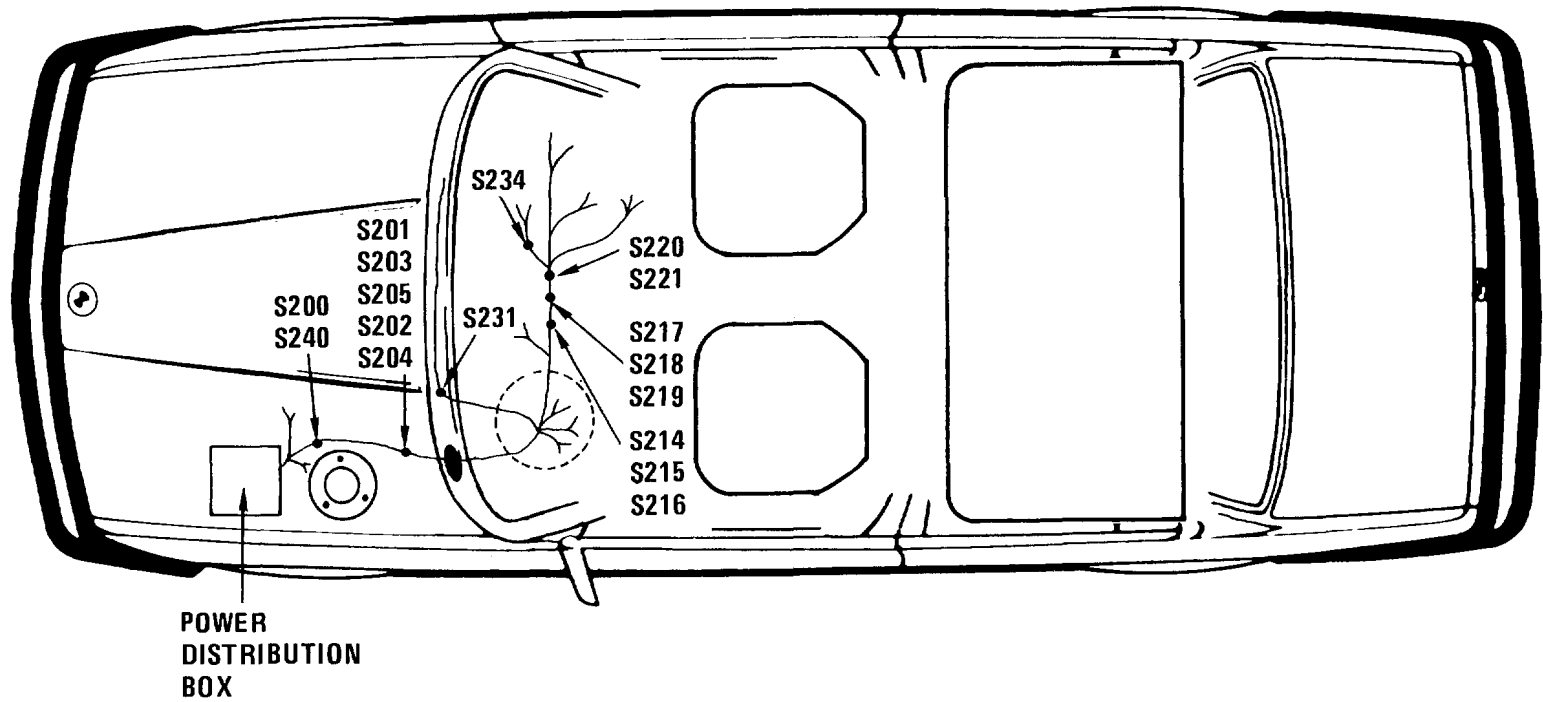
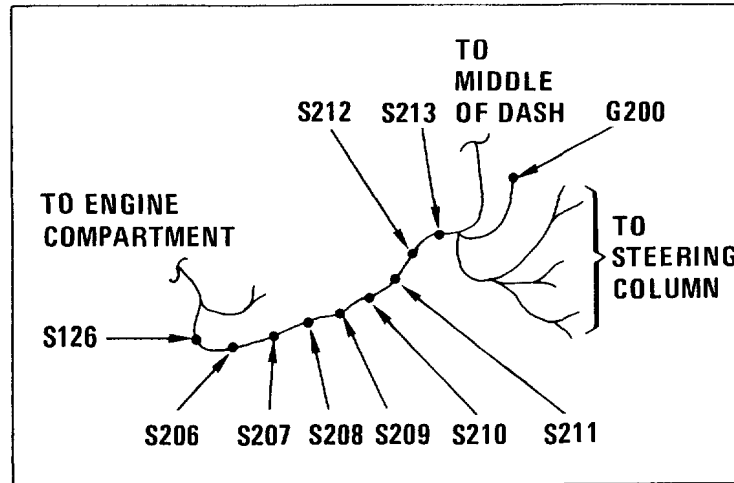
FRONT HARNESS



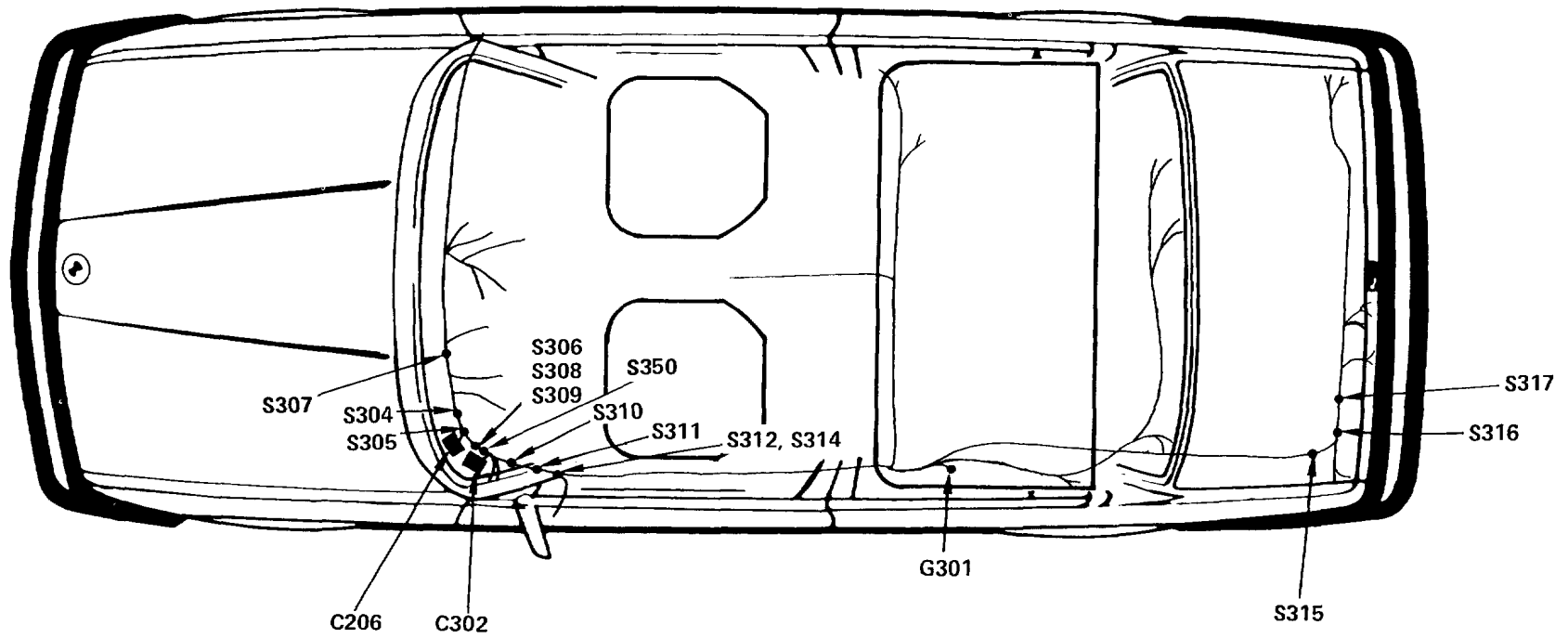
MIDDLE HARNESS



MIDDLE HARNESS

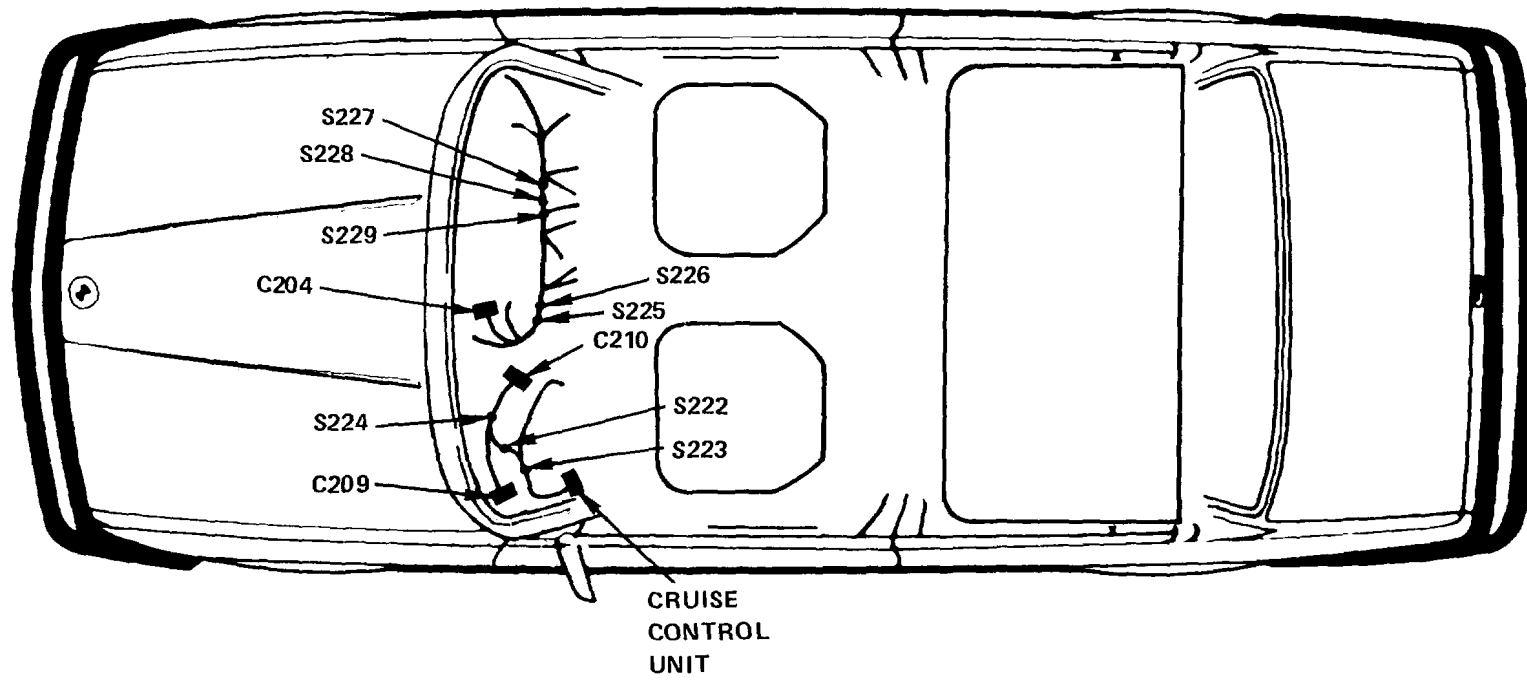


REAR HARNESS

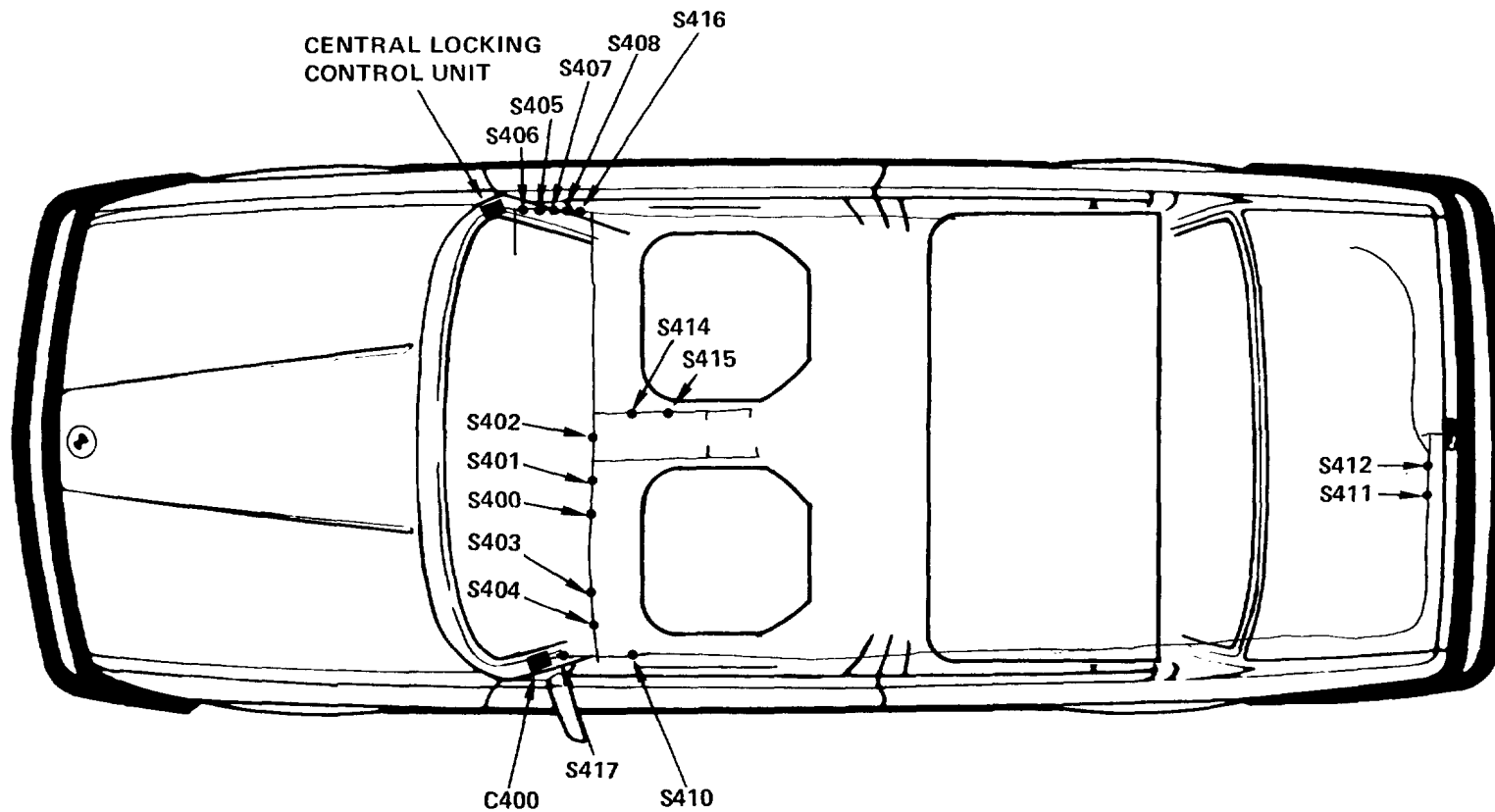


8000-10 SPLICE LOCATION VIEWS

A/C AND CRUISE HARNESS

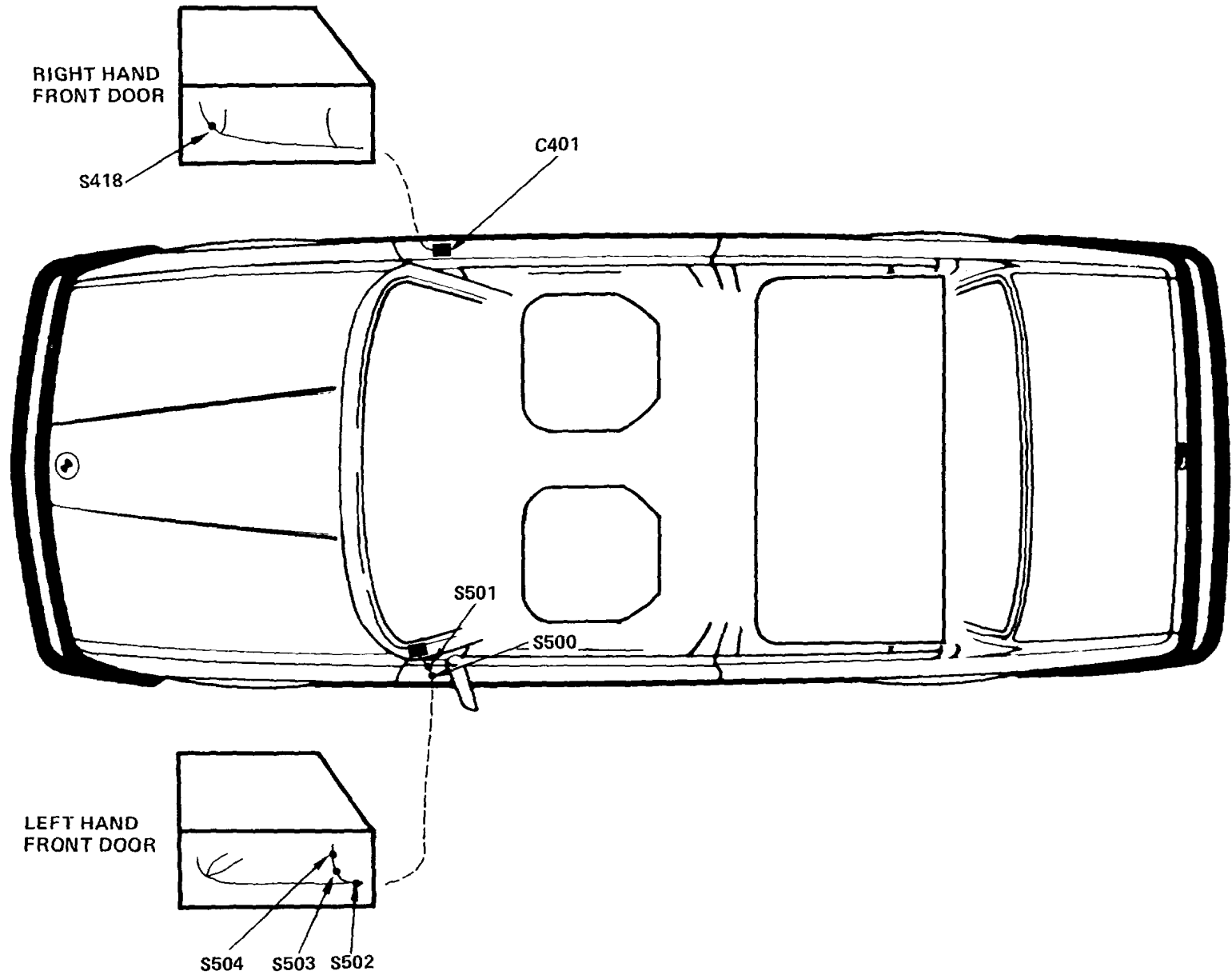


CENTRAL LOCKING HARNESS



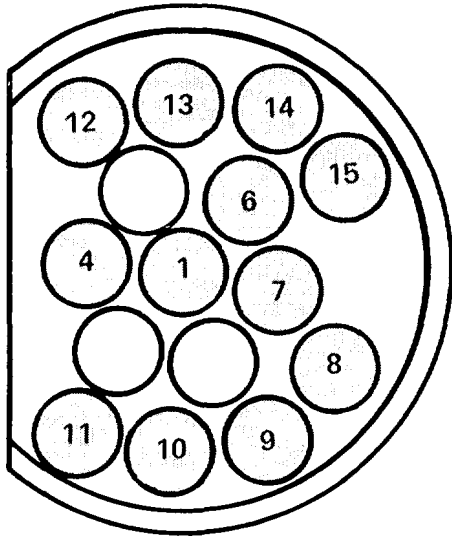
8000-12 SPLICE LOCATION VIEWS

DOOR HARNESS



8500-0 CONNECTOR VIEWS

DIAGNOSTIC CONNECTOR



DIAGNOSTIC CONNECTOR FACE

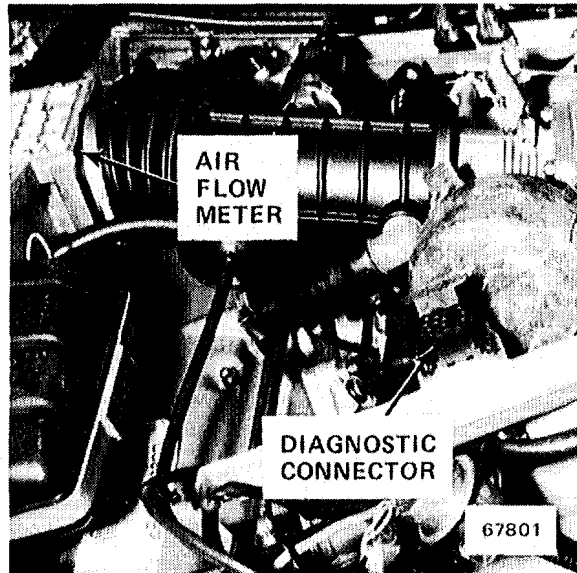
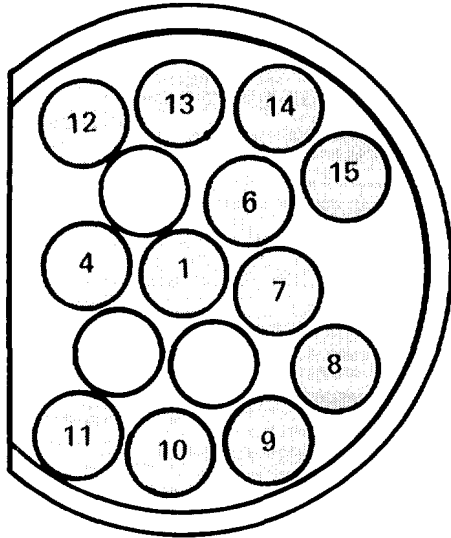


Figure 1 - Front Of Engine

| PIN | WIRE SIZE | WIRE COLOR | CIRCUIT AND COMPONENT CONNECTED |
|-----|-----------|------------|--|
| 1 | 1.5 | BR | Ground Distribution, G103. |
| 4 | .5 | BR/VI | Gauges/Warning Indicators, Coolant Temperature Sender. |
| 6 | .5 | WT/BK | SRS Connector (Not Used) |
| 7 | .5 | 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 Signal |
| 12 | .75 | BU | Charge System, Alternator |
| 13 | 1 | GN | Ignition, Ignition Coil |
| 14 | 2.5 | RD | Charge System, Alternator |
| 15 | 1.5 | GN/YL | Idle Speed, Idle Speed Control Unit |

DIAGNOSTIC CONNECTOR



DIAGNOSTIC CONNECTOR FACE

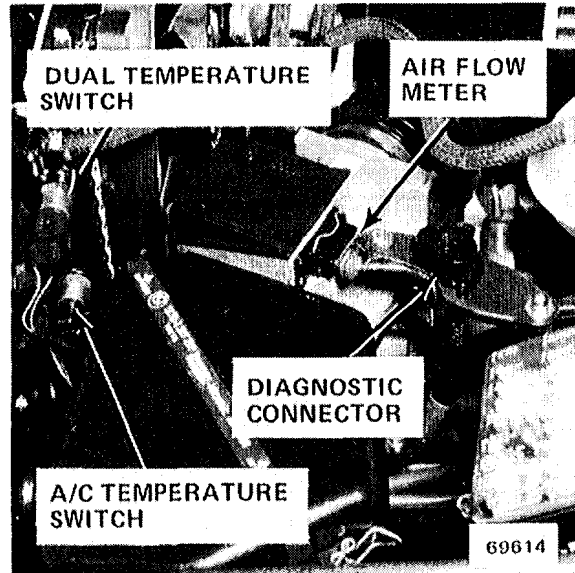


Figure 1 - LH Front Corner Of Engine Compartment

| PIN | WIRE SIZE | WIRE COLOR | CIRCUIT AND COMPONENT CONNECTED |
|-----|-----------|------------|--|
| 1 | 1.5 | BR | Ground Distribution, G103. |
| 4 | .75 | BR/VI | Gauges/Warning Indicators, Coolant Temperature Sender. |
| 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 Signal |
| 12 | .75 | BU | Charge System, Alternator |
| 13 | 1 | GN | Ignition, Ignition Coil |
| 14 | 2.5 | RD | Charge System, Alternator |
| 15 | 1.5 | GN/YL | Evaporative Purge Relay |

8500-2 CONNECTOR VIEWS

ACCESSORY CONNECTOR

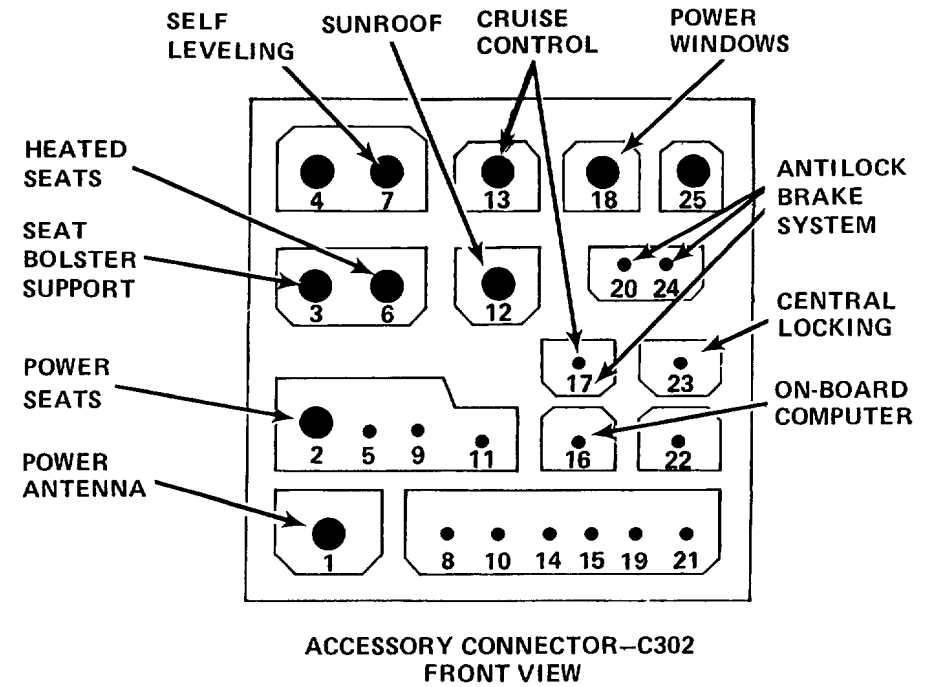
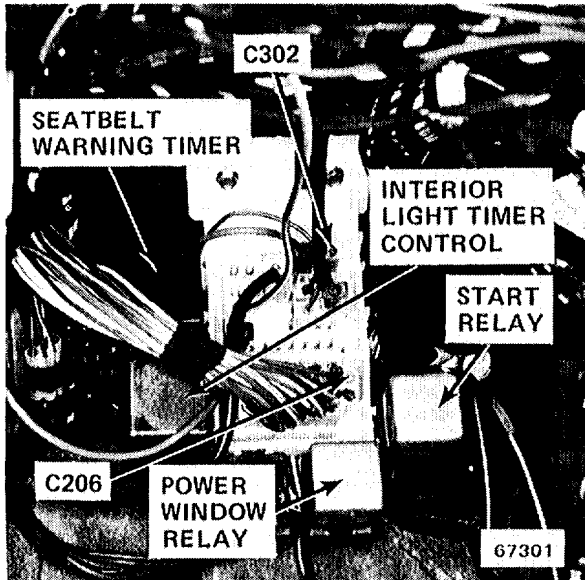
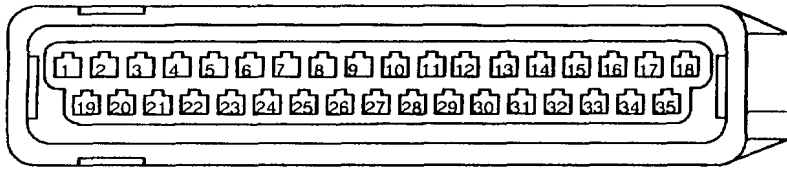
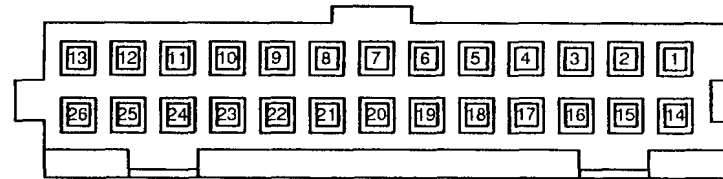


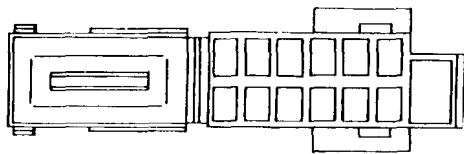
Figure 1 - Under Left Side Of Dash



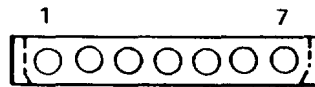
Wiring Face
ABS ELECTRONIC CONTROL UNIT



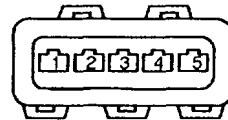
Wiring Face
ACTIVE CHECK CONTROL UNIT



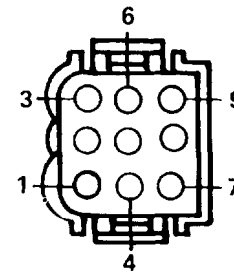
Wiring Face
ABS HYDRAULIC UNIT



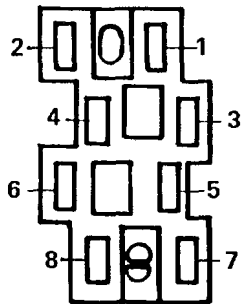
Wiring Face
AIR DOOR CONTROL



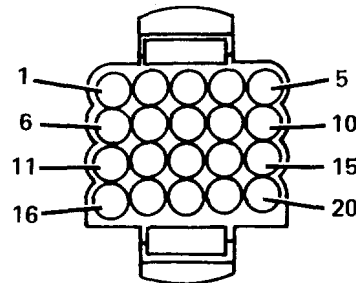
Wiring Face
AIR FLOW METER



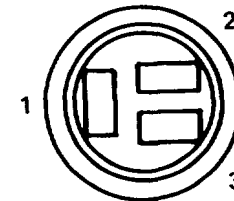
Wiring Face
AUTOMATIC TRANSMISSION RANGE SWITCH



Mating Face
A/C SELECTOR SWITCH

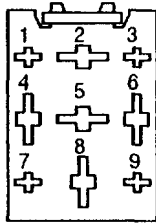


Wiring Face
AMPLIFIER

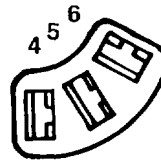


Wiring Face
AUXILIARY FAN

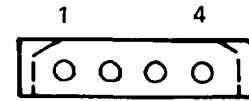
8500-4 CONNECTOR VIEWS



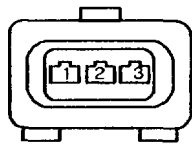
Wiring Face
AUXILIARY FAN RELAY



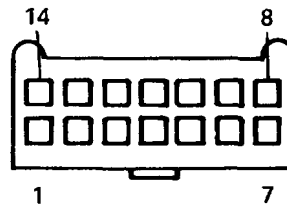
Wiring Face
BLOWER SPEED SWITCH (C2)



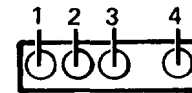
Wiring Face
CHIME MODULE (C1)



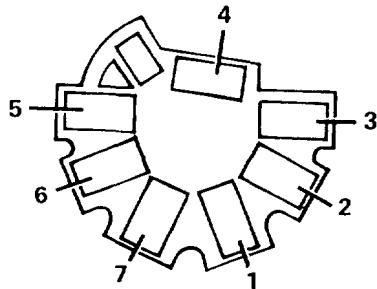
Mating Face
BAROMETRIC PRESSURE SENSOR



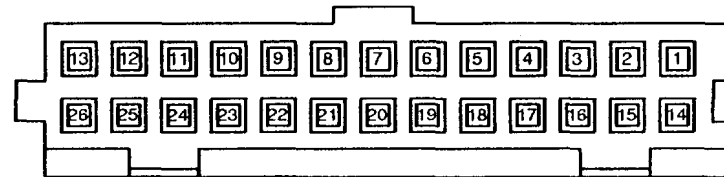
Wiring Face
CENTRAL LOCKING CONTROL UNIT



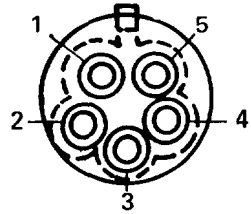
Wiring Face
CHIME MODULE (C2)



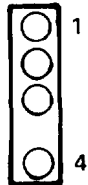
Wiring Face
BLOWER SPEED SWITCH



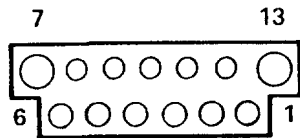
Wiring Face
CRUISE CONTROL UNIT



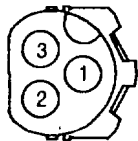
Wiring Face
DASH WARNING DISPLAY



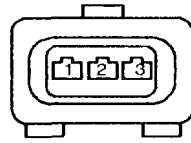
Wiring Face
DIGITAL CLOCK



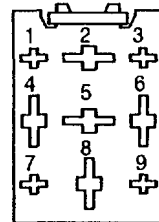
Wiring Face
DRIVER'S SEAT CONTROLLER (C1)



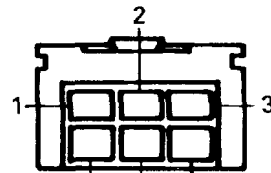
Wiring Face
DUAL COOLANT TEMPERATURE SWITCH



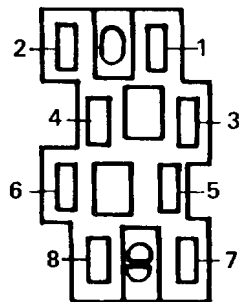
Wiring Face
ENGINE SPEED SENSOR



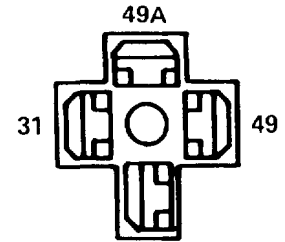
Wiring Face
EVAPORATIVE PURGE RELAY



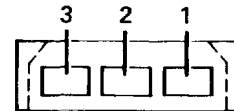
Wiring Face
EVAPORATOR TEMPERATURE REGULATOR



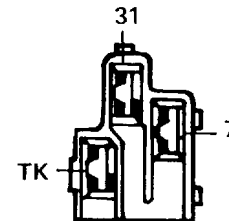
Mating Face
FADER CONTROL



Wiring Face
FLASHER

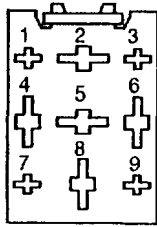


Wiring Face
FLASHER RELAY

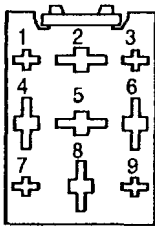


Wiring Face
FOG LIGHTS/INTERNAL LIGHTS SWITCH (C1)

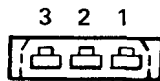
8500-6 CONNECTOR VIEWS



Wiring Face
FUEL HEATER RELAY



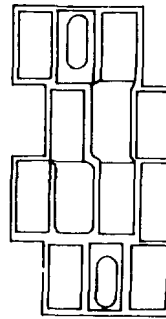
Wiring Face
FUEL PUMP RELAY



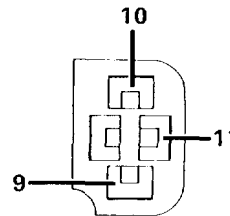
Wiring Face
FUEL TANK SENDER



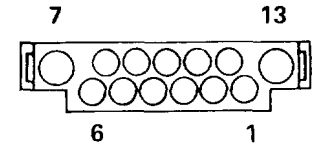
Wiring Face
GAS FILLER LOCK MOTOR



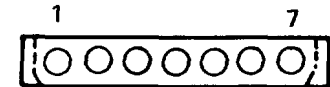
Wiring Face
HAZARD SWITCH



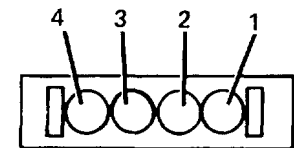
Wiring Face
HEADREST CONTROL SWITCH



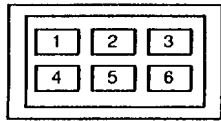
Wiring Face
HEATER CONTROL



Wiring Face
HEATER REGULATOR

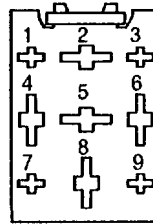


Wiring Face
HIGH LEVEL STOP LIGHT



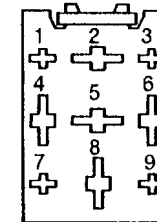
Wiring Face

HYDRAULIC HEIGHT
LEVEL CONTROL SYSTEM



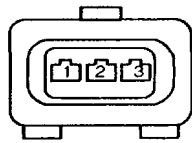
Wiring Face

INTERIOR LIGHT
TIMER CONTROL



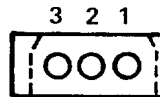
Mating Face

LOW BEAM
CHECK RELAY



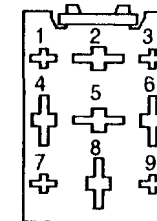
Wiring Face

IDLE SPEED ACTUATOR



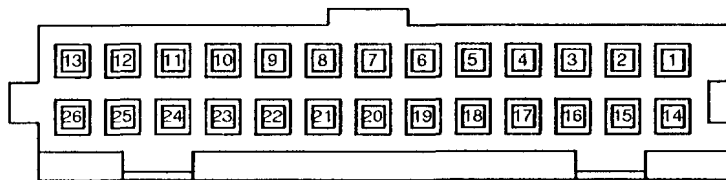
Wiring Face

INTERIOR TEMPERATURE SENSOR



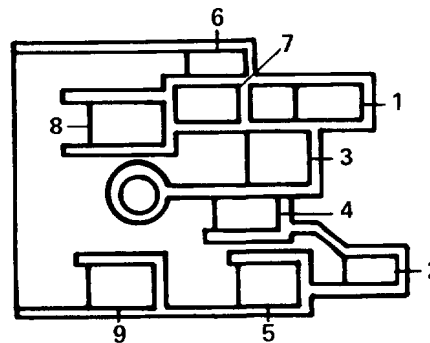
Wiring Face

MAIN RELAY

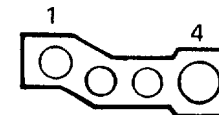


Mating Face

INSTRUMENT CLUSTER



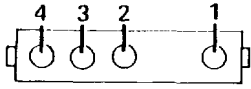
Wiring Face
LIGHT SWITCH



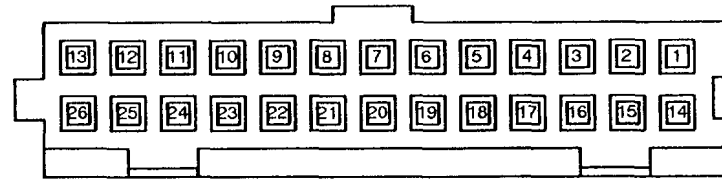
Wiring Face

MEMORY SEAT ACCESSORY
CONNECTOR (C302)

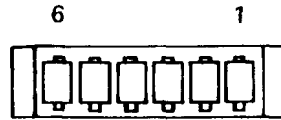
8500-8 CONNECTOR VIEWS



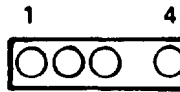
Wiring Face
MIRROR



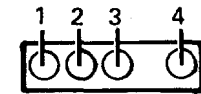
Wiring Face
ON BOARD COMPUTER
MODULE



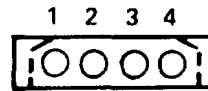
Wiring Face
MIRROR CONTROL SWITCH



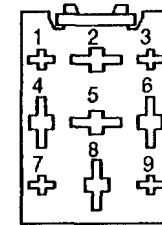
Wiring Face
ON BOARD COMPUTER
RELAY BOX (C1)



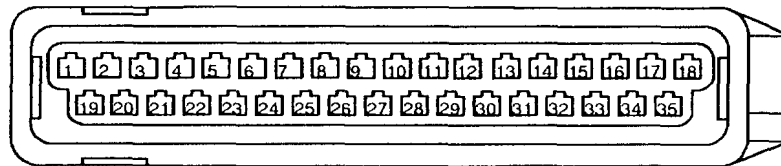
Wiring Face
OUTSIDE MIRROR



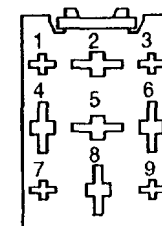
Wiring Face
ON BOARD COMPUTER
RELAY BOX (C2)



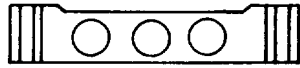
Wiring Face
OXYGEN SENSOR/
FUEL PUMP RELAY



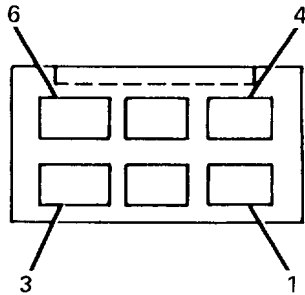
Mating Face
MOTRONIC CONTROL UNIT



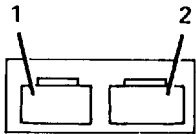
Wiring Face
OXYGEN SENSOR RELAY



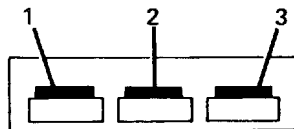
Wiring Face
POTENTIOMETER



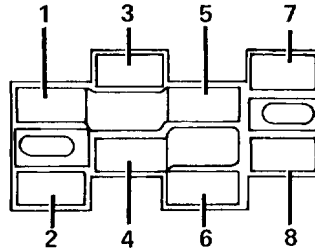
Wiring Face
POWER SEAT CONTROL UNIT (C2)



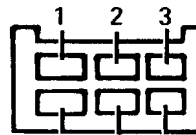
Wiring Face
PROGRAM SWITCH (C1)



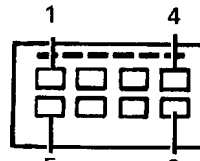
Wiring Face
PROGRAM SWITCH (C2)



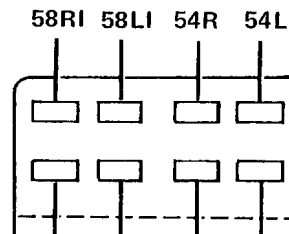
Wiring Face
REAR DEFOGGER



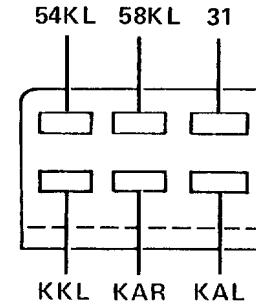
Wiring Face
REAR LIGHT ASSEMBLY



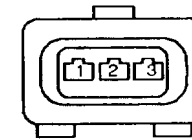
Wiring Face
REAR LIGHTS CHECK RELAY



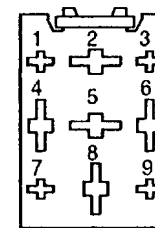
Wiring Face
REAR LIGHTS CHECK RELAY (C1)



Wiring Face
REAR LIGHTS CHECK RELAY (C2)

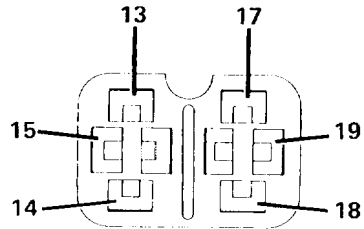


Wiring Face
REFERENCE POINT SENSOR

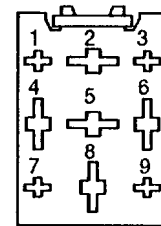


Wiring Face
SEATBELT WARNING TIMER

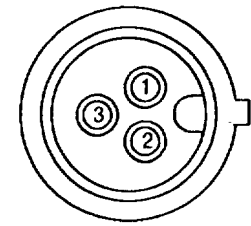
8500-10 CONNECTOR VIEWS



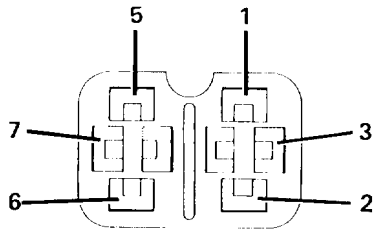
Wiring Face
SEAT SWITCHES BACK
& SEAT CUSHIONS



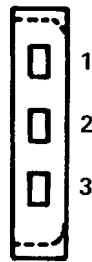
Wiring Face
START RELAY



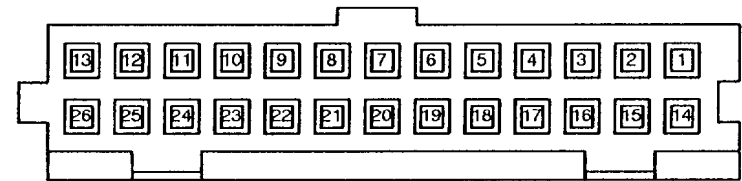
Wiring Face
THROTTLE POSITION SWITCH



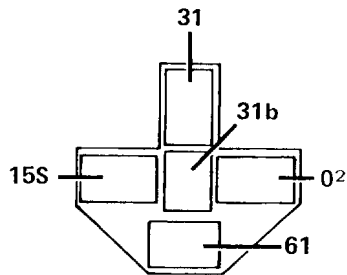
Wiring Face
SEAT SWITCHES FRONT
& REAR HEIGHT



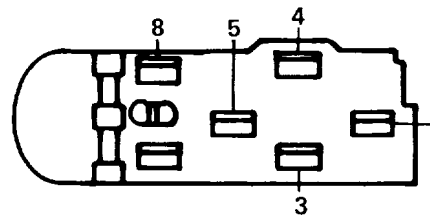
Wiring Face
SUNROOF MOTOR (CI)



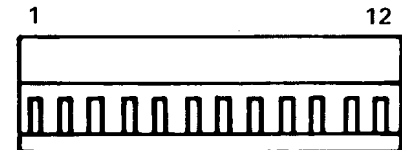
Mating Face
TRANSMISSION CONTROL UNIT
(535i ONLY)



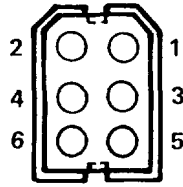
Wiring Face
SERVICE REMINDER SWITCH



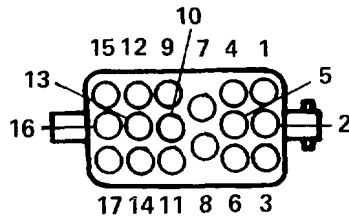
Wiring Face
SUNROOF SWITCH



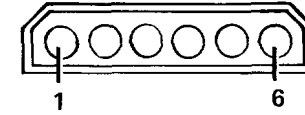
Wiring Face
TRANSMISSION RANGE DISPLAY



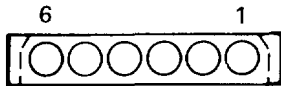
Wiring Face
WIPER MOTOR



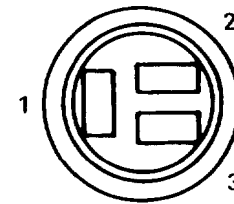
Wiring Face
C101



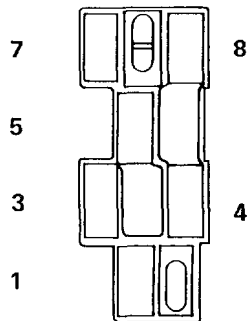
Wiring Face
C103



Wiring Face
WIPER SWITCH



Wiring Face
C113



Wiring Face
WINDOW SWITCHES

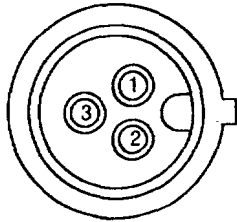


Wiring Face
C102

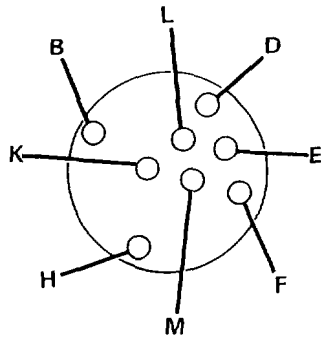


Wiring Face
C114

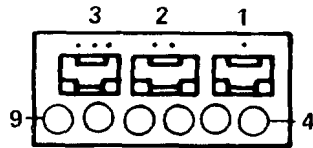
8500-12 CONNECTOR VIEWS



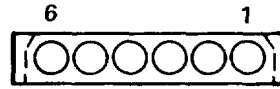
Wiring Face
C141



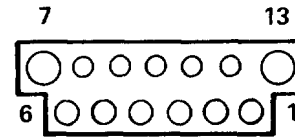
Wiring Face
C152



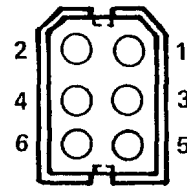
Wiring Face
C200



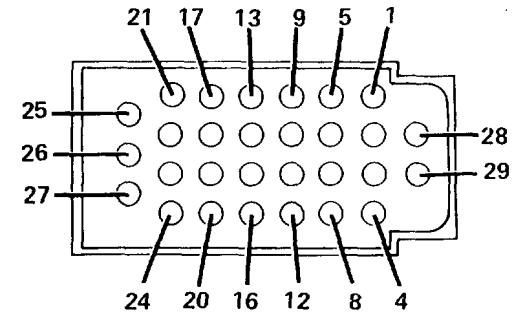
Wiring Face
C201



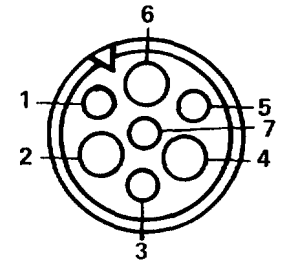
Wiring Face
C202



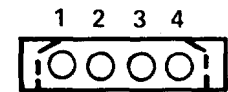
Wiring Face
C205



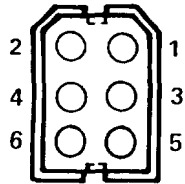
Wiring Face
C206



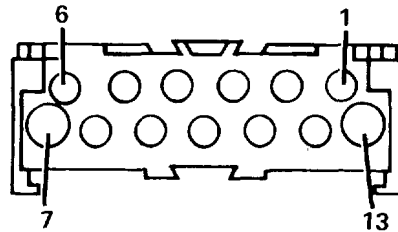
Wiring Face
C209



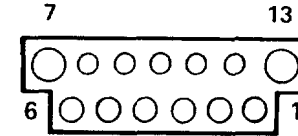
Wiring Face
C210



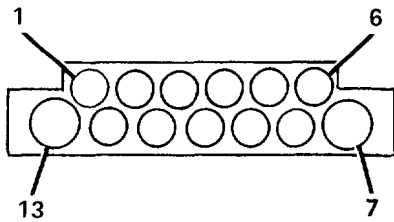
Wiring Face
C214



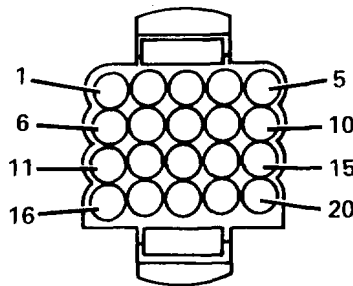
Wiring Face
C250



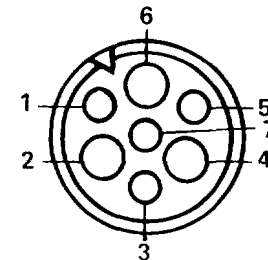
Wiring Face
C401



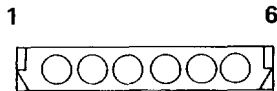
Wiring Face
C238
(535i only)



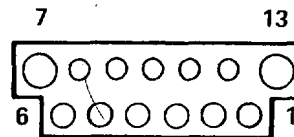
Wiring Face
C320



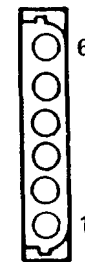
Wiring Face
C402



Wiring Face
C240

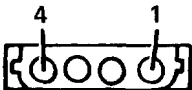


Wiring Face
C400

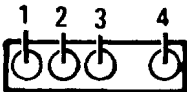


Wiring Face
C500

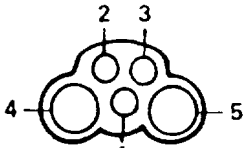
8500-14 CONNECTOR VIEWS



Wiring Face
C501



Wiring Face
C502



Wiring Face
C550

9000-0 COMPONENT LOCATION CHART

| COMPONENTS | Page-Figure |
|---|---|
| 0 Degrees C Temperature Switch | |
| On RH inlet of heater blower housing. | 7000- 2-6 |
| A/C Compressor Clutch | On front of A/C compressor |
| A/C Temperature Switch | Top LH side of radiator |
| | 7000-12-5 |
| ABS Electronic Control Unit | Under RH side of dash. |
| | 7000- 7-5 |
| ABS Hydraulic Unit | RH front of engine compartment. |
| | 7000- 3-3 |
| Accessory Fuse Box | On power distribution box |
| | 7000- 1-6 |
| Active Check Control Unit | Above rear view mirror |
| | 7000- 9-2 |
| Air Flow Meter (535i). | RH side of engine |
| | 7000- 1-1 |
| Air Flow Meter (M5) | LH front side of engine compartment. |
| | 7000-12-5 |
| Amplifier | LH side of trunk, below rear shelf |
| | 7000-10-2 |
| Auto-Charging Flashlight | In glove box. |
| | 7000- 8-1 |
| Auto. Trans. Range Switch | At base of shift lever. |
| | 7000- 9-3 |
| Auxiliary Fan In-Line Diode | RH side of engine compartment, in harness, behind |
| | headlights |
| | 7000- 11-1 |
| Auxiliary Fan Motor | In front of radiator |
| Auxiliary Fuel Pump | In fuel tank, below trunk, RH side access plate |
| | 7000-10-5 |
| Backup Light Switch | On LH side of transmission |
| Barometric Pressure Sensor | Front RH corner of engine compartment. |
| | 7000- 11-6 |
| Battery | In RH rear of trunk |
| | 7000-11-4 |
| BC Horn Diode | LH front of engine compartment, behind battery |
| | 7000- 2-2 |
| Blower Speed Switch. | RH side of upper console |
| Brake Accumulator Pres. Switch | LH rear of engine compartment. |
| | 7000- 3-2 |
| Brake Fluid Level Switch. | LH rear of engine compartment, on brake fluid |
| | reservoir |
| | 7000- 3-2 |
| Brake Switch | Above brake pedal |
| | 7000- 6-6 |
| Brake Wear Sensors. | Near insides of wheel rims, on brake pads |
| Central Locking Control Unit | Behind RH kick panel, above speaker. |
| | 7000- 8-3 |
| Chime Module. | Under LH side of dash. |
| | 7000- 6-5 |
| Clutch Switch. | Above clutch pedal |
| Cold Start Valve | Between intake ports 3 and 4. |
| | 7000- 0-4 |
| Combination Switch | On LH side of steering column |
| | 7000- 6-2 |
| Compressor Clutch Diode | Lower RH front of engine, on A/C compressor |
| | 7000-11-2 |
| Coolant Level Switch. | LH rear of engine compartment, in coolant reservoir |
| | 7000- 2-1 |
| Coolant Temperature Sender | |
| (535i) | Front of engine, on thermostat housing |
| | 7000- 0-5 |
| Coolant Temperature Sender | |
| (M5) | Front RH side of engine, on coolant manifold |
| | 7000-12-3 |
| Coolant Temperature Sensor | |
| (535i) | Front of engine, on thermostat housing |
| | 7000- 0-5 |
| Coolant Temperature Sensor | |
| (M5) | Front RH side of engine, on coolant manifold |
| | 7000-12-3 |

| COMPONENTS | Page-Figure |
|---|--|
| Cruise Control Actuator | LH front of engine compartment, in front of power distribution box 7000- 2-4 |
| Cruise Control Switch | On RH side of steering column 7000- 6-3 |
| Cruise Control Unit | Under LH side of dash 7000- 6-5 |
| Diagnostic Connector (535i) | Top front of engine 7000- 0-2 |
| Diagnostic Connector (M5) | Front LH side of engine compartment 7000-12-5 |
| Door Lock Motors | Center rear of respective door 7000- 8-4 |
| Dual Coolant Temperature Switch | Top LH side of radiator 7000-12-5 |
| Engine Speed Sensor (535i) | On transmission bell housing 7000- 0-1 |
| Engine Speed Sensor (M5) | Lower RH rear of engine, on transmission bell housing 7000-10-4 |
| Evaporative Purge Relay | Front RH corner of engine compartment 7000-11-6 |
| Evaporative Purge Valve | Front RH corner of engine compartment 7000-11-6 |
| Evaporator Blower Motor | Under center of dash 7000- 9-1 |
| Evaporator Blower Resistors | On RH side of evaporator housing 7000- 9-1 |
| Evaporator Temperature Regulator | LH side of upper console 7000- 8-6 |
| Evaporator Temperature Sensor | In evaporator, above evaporator blower motor |
| Fader Control | LH side of upper console 7000- 8-5 |
| Flasher | Upper part of steering column 7000- 6-2 |
| Fresh Air Door Control Potentiometer | Below I/P, behind console |
| Fresh Air Door Control Unit | Below I/P, behind console |
| Fuel Injectors | Mounted in intake port of each cylinder 7000- 0-6 |
| Fuel Pump Relay | On power distribution box 7000- 2-1 |
| Fuel Tank Sender/Switch | In fuel tank, below trunk, RH side access plate 7000-10-5 |
| Gas Filler Lock Motor | In trunk, right of power antenna 7000-10-4 |
| Hazard Switch | To right of instrument cluster |
| Heater Blower Motor | Below windshield, behind cover panel |
| Heater Blower Resistors | Below heater cover motor |
| Heater Regulator | Behind A/C selector switch 7000- 8-5 |
| Heater Temperature Sensor | LH side of upper console 7000- 8-6 |
| Heater-A/C Panel Lights | Behind heater-air conditioning control panel |
| High Pressure Cut-Out Switch | RH front of engine compartment, on receiver-drier 7000- 3-4 |
| High Speed Relay | Attached to power distribution box 7000- 1-6 |
| High Speed Temperature Switch | On upper RH side of radiator (red terminals) 7000- 2-5 |
| Horn Brush/Slip Ring | Below hub of steering wheel |
| Horn Switches | In each spoke on steering wheel |
| Hydraulic Height Level Control System | In trunk, under spare tire 7000- 1-4 |
| Hydraulic Low Pressure Switch | Under LH side of car, front of rear axle 7000-11-3 |

9000-2 COMPONENT LOCATION CHART

| COMPONENTS | | Page-Figure |
|---|--|-------------|
| Hydraulic Pressure Switch | LH rear of engine compartment. | 7000- 3-1 |
| Idle Speed Actuator (535i) | Top center of engine | 7000- 1-1 |
| Idle Speed Actuator (M5) | Top center of engine | 7000-13-1 |
| Idle Speed Control Unit. | Under RH side of dash, above glove box | 7000- 7-6 |
| Ignition Coil | RH front of engine compartment. | 7000- 3-5 |
| Ignition Key Switch | In upper part of steering column | |
| Ignition Switch | Upper part of steering column | |
| Interior Light Timer Control | Under LH side of dash | 7000- 5-4 |
| Interior Temperature Sensor | Mounted in left, under dash cover. | 7000- 5-5 |
| Kickdown Switch | Underneath accelerator pedal | 7000- 6-1 |
| Level Control Unit | Under LH side of car, front of rear axle. | 7000-11-3 |
| Lock Heater | In LH front door | 7000- 7-3 |
| Lock Heater Control Unit | In LH front door | 7000- 7-3 |
| Low Beam Check Relay | Attached to power distribution box | 7000- 1-6 |
| Main Fuel Pump | Forward and right of differential housing | |
| Main Relay (535i) | On power distribution box | 7000- 2-1 |
| Main Relay (M5) | Under RH side of dash, above glove box | 7000-11-5 |
| Mirror Control Switch. | On LH front door | |
| Motor Relay | Behind header, above rear view mirror | |
| Motronic Control Unit | Under RH side of dash, above glove box | 7000- 7-5 |
| Normal Speed Blower Resistor. | In front of radiator, on bottom of auxiliary fan shield | 7000- 4-2 |
| Normal Speed Coolant Temperature Switch. | On upper RH side of radiator (white terminals) | 7000- 2-5 |
| Normal Speed Relay. | Attached to power distribution box | 7000- 1-6 |
| Normal Washer Pump. | LH front corner of engine compartment, on washer fluid reservoir. | 7000-11-6 |
| Oil Level Sensor | Bottom of engine oil pan | 7000- 4-4 |
| Oil Pressure Switch | Rear of engine, in cylinder head | 7000- 0-1 |
| On-Board Computer Horn | LH front of engine compartment, behind battery | 7000- 2-2 |
| On-Board Computer Module | On dash, right of instrument cluster | |
| On-Board Computer Relay Box. | Under LH side of dash | 7000- 6-5 |
| Outside Temperature Sensor | Under left side of front bumper. | 7000- 4-6 |
| Oxygen Sensor | On catalytic convertor. | 7000- 4-3 |
| Oxygen Sensor Heater Relay | On power distribution box | 7000- 2-1 |
| Oxygen Sensor/Fuel Pump Relay | Under RH side of dash, above glove box | 7000-11-5 |
| Parking Brake Switch | In shift console, at base of parking brake | |
| Power Antenna | RH side of trunk | 7000-10-4 |
| Power Distribution Box. | On LH front wheel well | 7000- 1-6 |
| Power Window Circuit Breaker | Mounted in left, under dash cover. | 7000- 7-1 |
| Power Window Relay | Under LH side of dash. | 7000- 5-4 |
| Program Selector Switch | Center console, near shift lever | 7000- 9-4 |
| Rear Lights Check Relay | Mounted on trunk lock support. | 7000-10-3 |

| COMPONENTS | Page-Figure |
|---|---|
| Reference Point Sensor (535i) | On transmission bell housing 7000- 0-1 |
| Reference Point Sensor (M5) | Lower LH rear of engine, on transmission bell housing 7000-12-4 |
| Right Front Door Microswitch | Inside RH front door, mounted on door lock 7000- 8-4 |
| Safety Switch | On shift console, next to shift lever 7000- 9-3 |
| Seat Controllers | Under respective seat, on frame 7000- 9-5 |
| Seatbelt Switch | In driver's seatbelt buckle |
| Seatbelt Warning Timer | Under LH side of dash 7000- 5-4 |
| Service Reminder Switch | Behind LH dash panel, mounted on RH side of steering column 7000- 6-4 |
| Speed Detector | Behind wheel dust shield 7000- 5-1 |
| Speedometer Sender | In rear of differential 7000- 5-2 |
| Start Relay | On connector bracket, under LH side of dash 7000- 5-4 |
| Starter | Lower rear LH side of engine |
| Stepping Motor | Below I/P, behind console |
| Sunroof Motor | Behind header, above rear view mirror |
| Sunroof Switch | Above rear view mirror |
| TDC Sensor (535i) | Above crankshaft vibration damper 7000- 1-2 |
| TDC Sensor (M5) | RH front of engine, above A/C compressor 7000-13-2 |
| Thermo-Time Switch | Front of engine, top of thermostat housing 7000- 0-5 |
| Throttle Position Sensor | Top of engine, front of air intake assembly 7000- 0-3 |
| Throttle Position Switch (535i) | Top of engine, front of air intake assembly 7000- 0-3 |
| Throttle Position Switch (M5) | Top front center of engine 7000-13-1 |
| Transmission Control Unit | Under LH side of dash 7000- 5-3 |
| Trunk Lock Motor | In rear panel of trunk 7000-10-3 |
| Unlock Inhibit Switch | In LH front door, on door lock 7000- 7-4 |
| Washer Fluid Level Switch | RH front of engine compartment, in washer reservoir 7000- 3-5 |
| Washer Jet Heaters | Attached to washer jet nozzles 7000- 4-1 |
| Washer Pump | RH front of engine compartment, in washer reservoir 7000- 3-5 |
| Water Shut-Off Valve | LH rear of engine compartment 7000- 3-1 |
| Window Console Switches | On shift console, next to shift lever 7000- 9-3 |
| Window Motors | In each door 7000- 7-4 |
| Wiper Motor | Above brake master cylinder |
| Wiper/Washer Switch | On RH side of steering column 7000- 6-2 |
| CONNECTORS | |
| C101 (17 pins) | Engine compartment, on RH side of power distribution box 7000- 1-6 |
| C102 (7 pins) | In power distribution box 7000- 2-3 |
| C103 (6 pins) | RH side of dash, near motronic control unit 7000- 7-5 |
| C105 (1 pin) | At RH wheel well, below coolant reservoir |

9000-4 COMPONENT LOCATION CHART

| CONNECTORS | | Page-Figure |
|----------------------|--|--------------------|
| C106 (2 pins) (535i) | LH side of engine compartment, inside power distribution box | 7000-11-1 |
| C106 (4 pins) (M5) | Inside power distribution box | 7000-12-2 |
| C107 (2 pins) | LH front of engine compartment | 7000- 2-4 |
| C108 (2 pins) | RH front of engine compartment | 7000- 3-5 |
| C110 (2 pins) | RH front of engine compartment | 7000- 3-5 |
| C113 (3 pins) | LH side of engine compartment, below headlights | |
| C131 (1 pin) | RH side of dash, near motronic control unit | 7000- 7-5 |
| C132 (1 pin) | RH side of dash, near motronic control unit | 7000- 7-5 |
| C141 | Rear of engine, in exhaust manifold | 7000- 1-3 |
| C150 (2 pins) | LH side of engine compartment, under master cylinder | |
| C151 (2 pins) | RH side of engine compartment, in shock tower | 7000- 3-6 |
| C152 (8 pins) | Mounted on LH side of transmission, near shift linkage | 7000- 4-5 |
| C153 (3 pins) | Center rear of engine compartment, on bulkhead | 7000- 1-5 |
| C154 (3 pins) | Center rear of engine compartment, on bulkhead | 7000- 1-5 |
| C155 (1 pin) | Lower RH corner of engine compartment | 7000-12-3 |
| C200 (10 pins) | On LH side of steering column | 7000- 5-6 |
| C201 (6 pins) | On LH side of steering column | 7000- 5-6 |
| C202 (13 pins) | On LH side of steering column | 7000- 5-6 |
| C203 (2 pins) | At upper end of steering column | |
| C204 (13 pins) | On LH side of heater/evaporator housing | 7000- 8-6 |
| C206 (29 pins) | On connector bracket, under LH side of dash | 7000- 5-4 |
| C208 (2 pins) | Near clutch pedal | |
| C209 (7 pins) | Under LH side of dash | 7000- 6-6 |
| C210 (4 pins) | On LH side of steering column | 7000- 5-6 |
| C211 (2 pins) | Behind RH side of radiator, taped to harness | 7000-13-1 |
| C212 (1 pin) | Under LH side of dash, taped to harness | |
| C213 (1 pin) | Under LH side of dash | 7000- 6-6 |
| C214 (6 pins) | Behind center of dash, near heater blower | |
| C215 (2 pins) | Behind radio | |
| C216 (2 pins) | Behind radio | |
| C217 (2 pins) | Behind radio | |
| C219 (3 pins) | Taped to harness, near LH shock tower | 7000- 3-1 |
| C221 | Under LH side of dash, on top of LH kick panel | 7000-12-6 |
| C223 (1 pin) | Behind console, near back of radio | 7000-10-6 |
| C225 (1 pin) | Under RH side of dash, above glove box | 7000-11-5 |
| C235 (1 pin) | Under LH side of dash, near on-board computer | |
| C238 (11 pins) | Under RH side of dash, above glove box | 7000- 8-2 |
| C240 (6 pins) | Under RH side of dash, above glove box | 7000- 8-2 |
| C241 (2 pins) | RH side of trunk, near power antenna motor | 7000-10-4 |

CONNECTORS

Page-Figure

| | | |
|----------------------------|---|-----------|
| C250 (13 pins) | Under center of rear seat | 7000-10-1 |
| C300 (2 pins) | Near trunk light | |
| C301 (2 pins) | In center console, ahead of shift lever | |
| C302 (Accessory Connector) | Under LH side of dash | 7000- 5-4 |
| C303 (2 pins) | In headliner, near LH dome light | |
| C322 (1 pin) | Under LH side of dash, top of LH kick panel | 7000-12-6 |
| C323 (1 pin) | Under LH side of dash, top of LH kick panel | 7000-12-6 |
| C351 (2 pins) | Under RH side of rear seat, behind grommet | |
| C352 (2 pins) | Under LH side of rear seat, behind grommet | |
| C353 (6 pins) | Under LH side of rear seat | 7000-12-1 |
| C400 (13 pins) | Behind LH front speaker | 7000- 7-2 |
| C401 (13 pins) | Behind RH front speaker | 7000- 8-3 |
| C402 (7 pins) | In LH B pillar | |
| C403 (7 pins) | In RH B pillar | |
| C404 (5 pins) | In bottom rear of LH front door | |
| C405 (2 pins) | In trunk, near trunk lock | |
| C421 (4 pins) | Under front of driver's seat | |
| C422 (4 pins) | Under front of passenger's seat | |
| C423 (3 pins) | Under passenger's seat | |
| C500 (6 pins) | Behind LH front speaker | 7000- 7-2 |
| C501 (4 pins) | Behind LH front speaker | 7000- 7-2 |
| C502 (4 pins) | Behind RH front speaker | 7000- 8-3 |
| C503 (8 pins) | In LH front door | 7000- 7-4 |
| C550 (2 pins) | Under center console | |
| C551 (2 pins) | Under center console | |
| C560 (2 pins) | In LH front door | |

GROUNDS

| | | |
|-------------------------------|--|-----------|
| G101 | RH rear of trunk, in battery box | 7000-11-4 |
| G102 (Main Body Ground) | LH front of engine compartment, on fender well | 7000- 2-4 |
| G103 (Engine Ground) | Top rear of engine | 7000- 1-1 |
| G104 | Lower RH front of engine compartment | 7000- 3-3 |
| G200 (Front Interior Ground) | Under LH side of dash, near brake bracket | 7000- 5-6 |
| G201 (Steering Column Ground) | Upper part of steering column | 7000- 6-3 |
| G301 (Rear Interior Ground) | Under LH side of rear seat | 7000- 9-6 |
| G302 | RH side of trunk | 7000-10-4 |
| G600 | Near sunroof switch | |