1990

BMW 325iX

Electrical

Troubleshooting

Manual

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

FOREWORD

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

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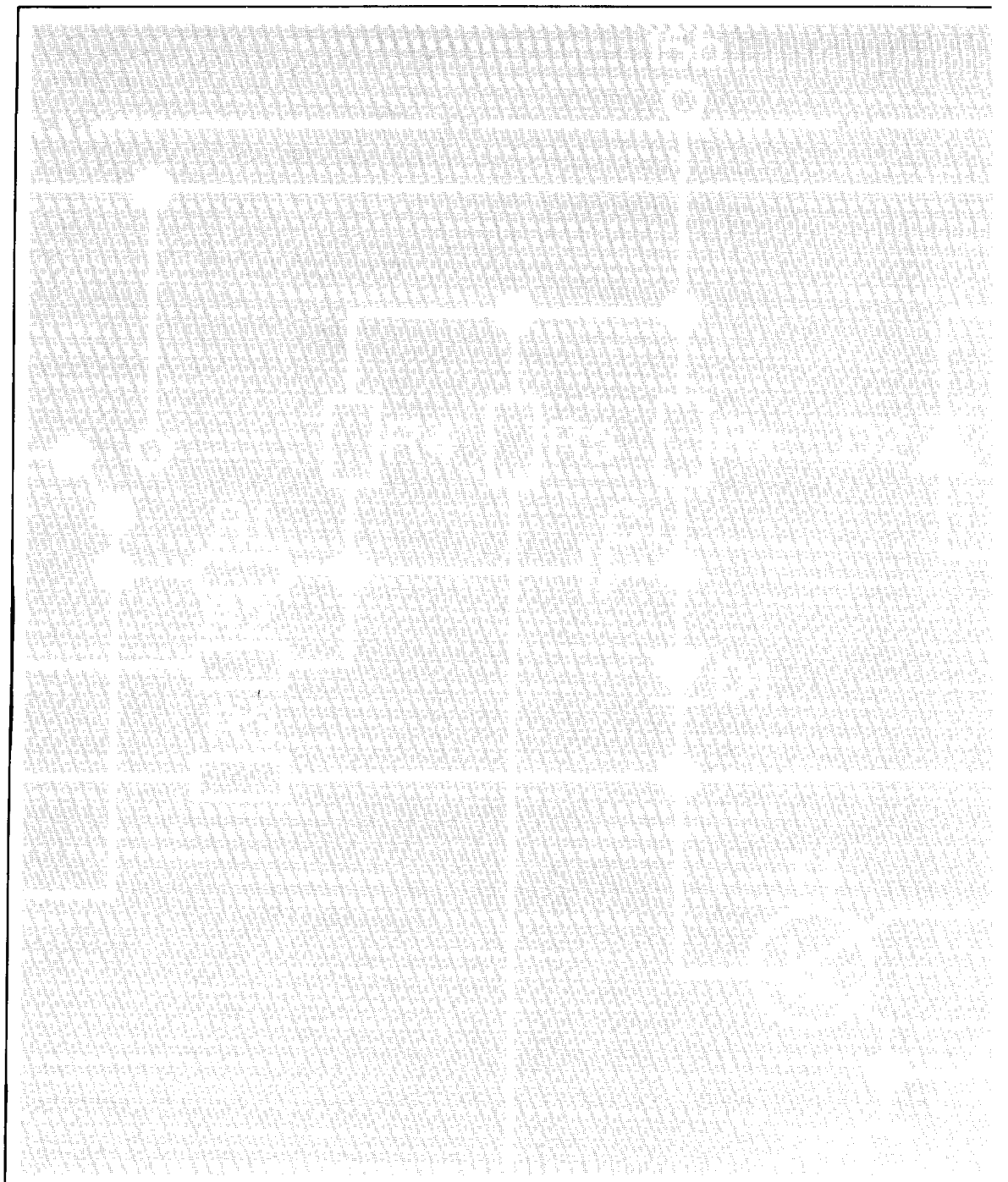
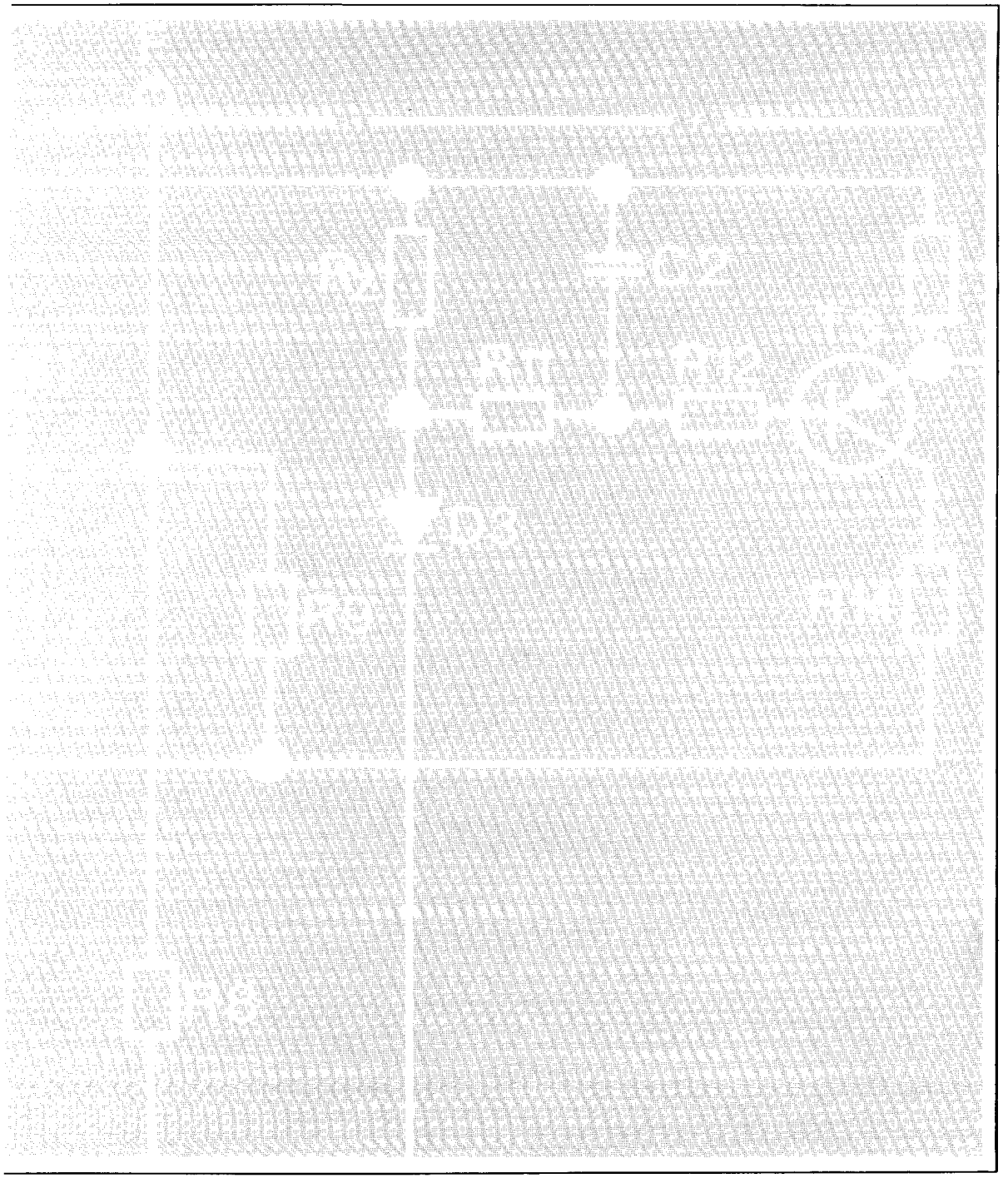
PN 89 89 1 000 335





1990 BMW 325iX Electrical Troubleshooting Manual

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Index — Alphabetical Listing of Electrical Circuits

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

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

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

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

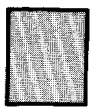
WIRE SIZE CONVERSION CHART

METRIC (CROSSECTIONAL AREA IN MM²)	AWG (AMERICAN WIRE GAUGE)
.5	20
.75	18
1	16
1.5	14
2	14
2.5	12
4	10
6	8
8	8
16	4
20	4
25	2
32	2

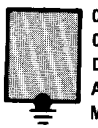
WIRE INSULATION

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

4 SYMBOLS

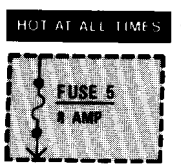


ENTIRE COMPONENT SHOWN



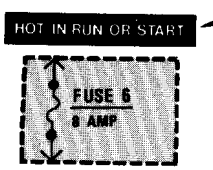
COMPONENT CASE IS DIRECTLY ATTACHED TO METAL PART OF CAR (GROUNDED)

PART OF A COMPONENT SHOWN



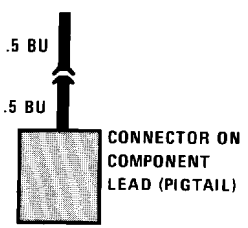
INDICATES THAT FUSE 5 IS ALWAYS SUPPLIED WITH POWER

COMPONENT WITH SCREW TERMINALS

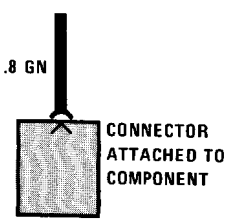


INDICATES THAT FUSE 6 IS SUPPLIED WITH POWER WITH THE IGNITION SWITCH IN THE RUN OR START POSITIONS

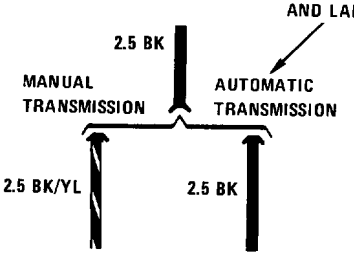
SOLID STATE (INCLUDES ONLY ELECTRONIC PARTS)

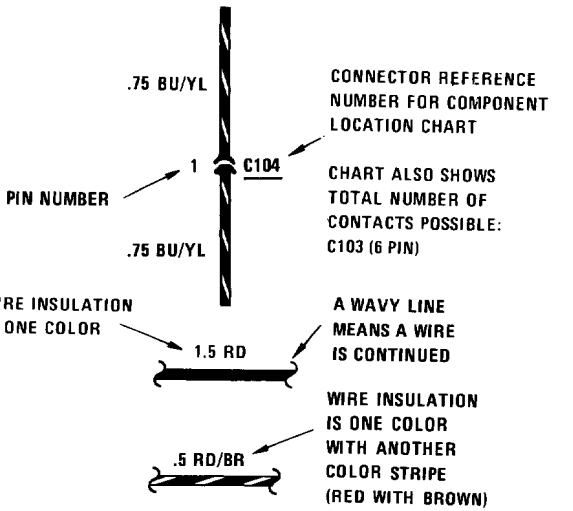


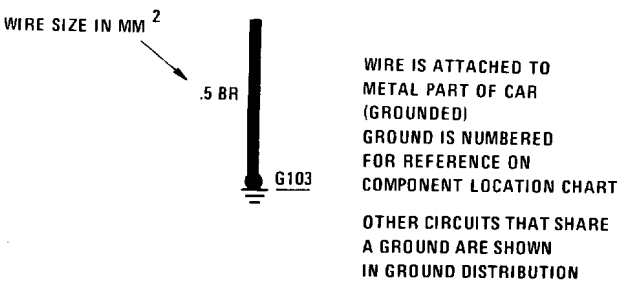
CONNECTOR ON COMPONENT LEAD (PIGTAIL)

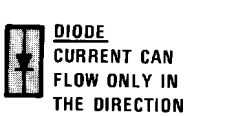


CONNECTOR ATTACHED TO COMPONENT

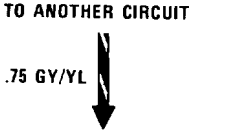


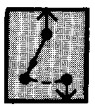




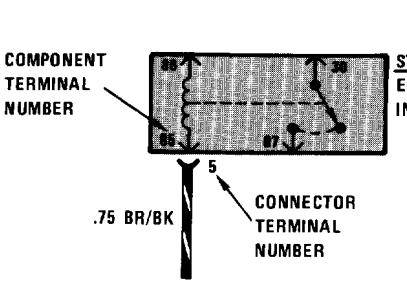


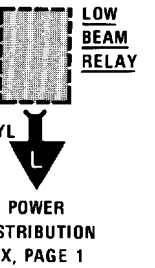
DIODE
CURRENT CAN FLOW ONLY IN THE DIRECTION OF THE ARROW

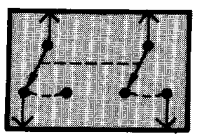




ONE POLE,
TWO POSITION
SWITCH



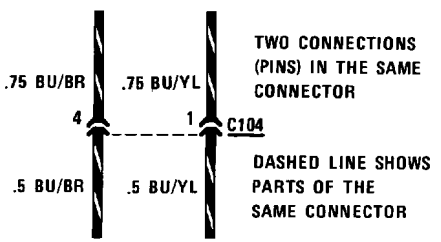




SWITCHES THAT
MOVE TOGETHER

DASHED LINE SHOWS
A MECHANICAL
CONNECTION
BETWEEN SWITCHES

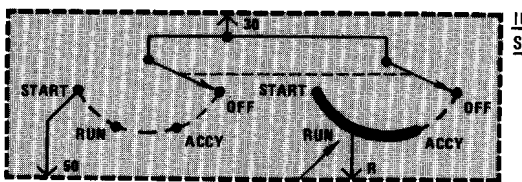
CURRENT PATH
IS CONTINUED
AS LABELED.
THE ARROW SHOWS
DIRECTION OF CURRENT
FLOW AND IS REPEATED
WHERE CURRENT
PATH CONTINUES.



TWO CONNECTIONS
(PINS) IN THE SAME
CONNECTOR

DASHED LINE SHOWS
PARTS OF THE
SAME CONNECTOR

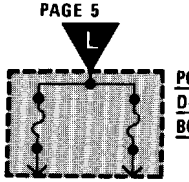
TWO POLE, FOUR
POSITION SWITCH



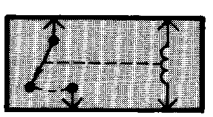
IGNITION
SWITCH

"R" IS ENERGIZED
IN ACCY, RUN OR START

FROM LOW
BEAM RELAY,
PAGE 5



POWER
DISTRIBUTION
BOX

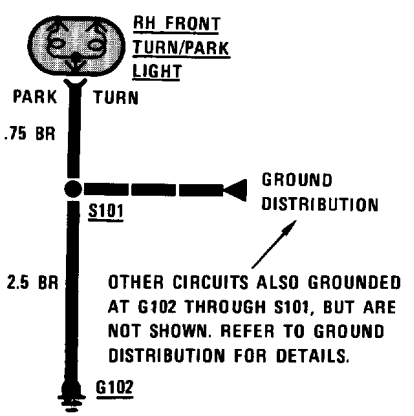


RELAY SHOWN
WITH NO
CURRENT
FLOWING
THROUGH
COIL

WHEN COIL IS
ENERGIZED, SWITCH
IS PULLED CLOSED

RELAY SHOWN
WITH RESISTOR
ACROSS COIL

RESISTOR ACROSS COIL
IS FOR NOISE
SUPPRESSION



LIGHT
EMITTING
DIODE

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

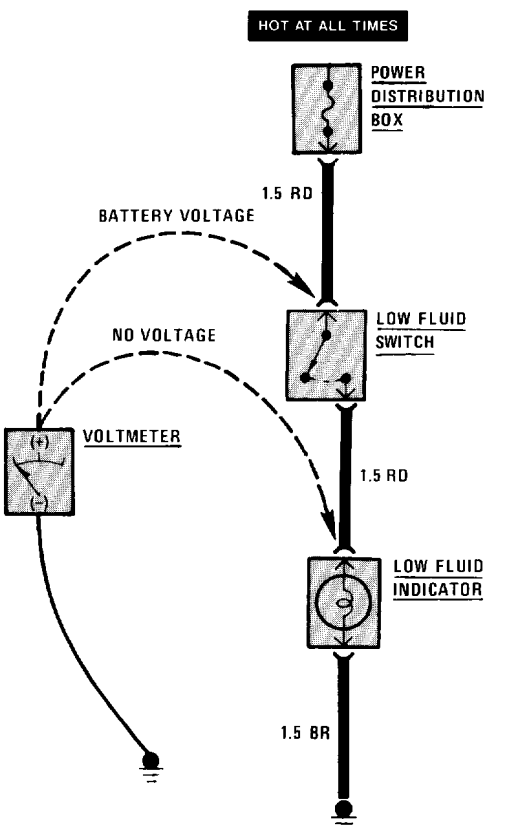
Isolating the problem (Step 3 of TROUBLESHOOTING PROCEDURES) requires the use of a **voltmeter** and/or **ohmmeter**. A voltmeter measures voltage at selected points in a circuit. An ohmmeter measures a circuit's resistance to current flow. It has an internal battery that provides current to the circuit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

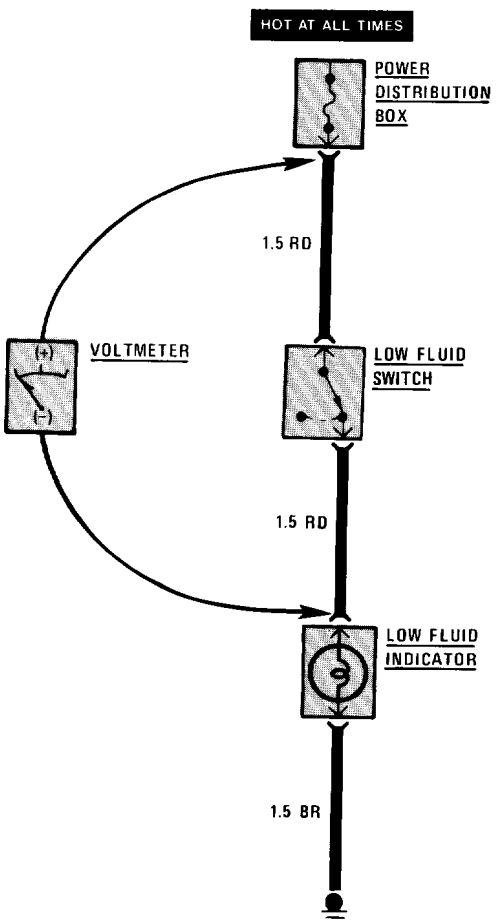


Voltage Test

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.

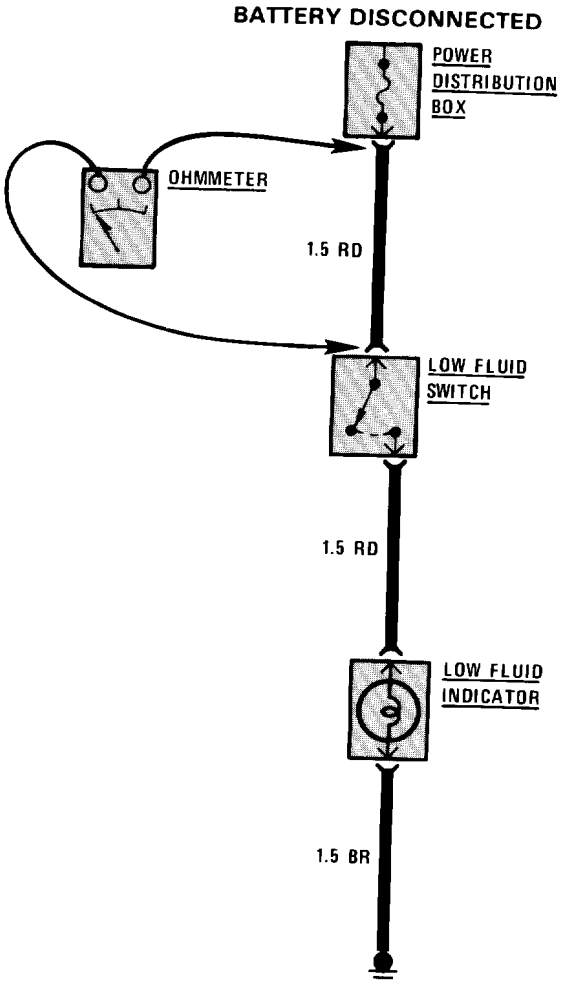
To test for voltage drop, connect the voltmeter leads to connectors at either end of the circuit's suspected problem area. The positive lead should be connected to the connector closest to the power source. The voltmeter will show the voltage drop between these two points.



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.

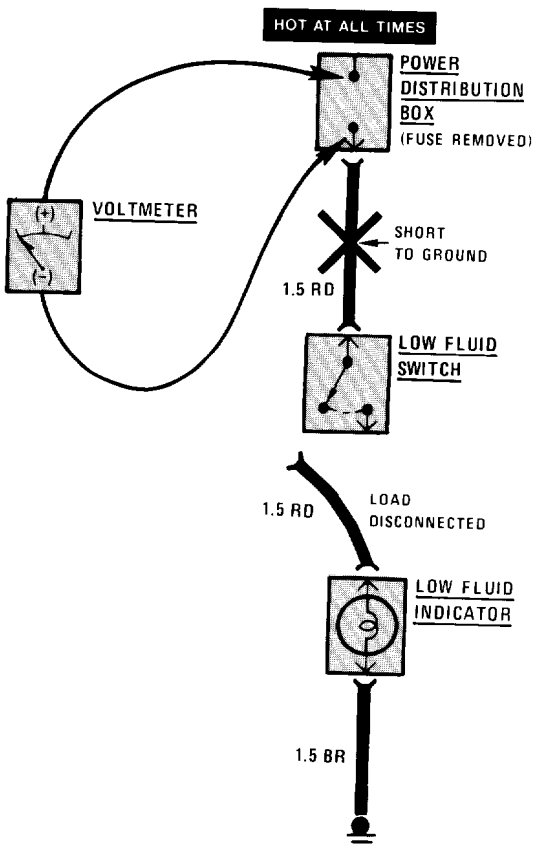


Continuity Test

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.

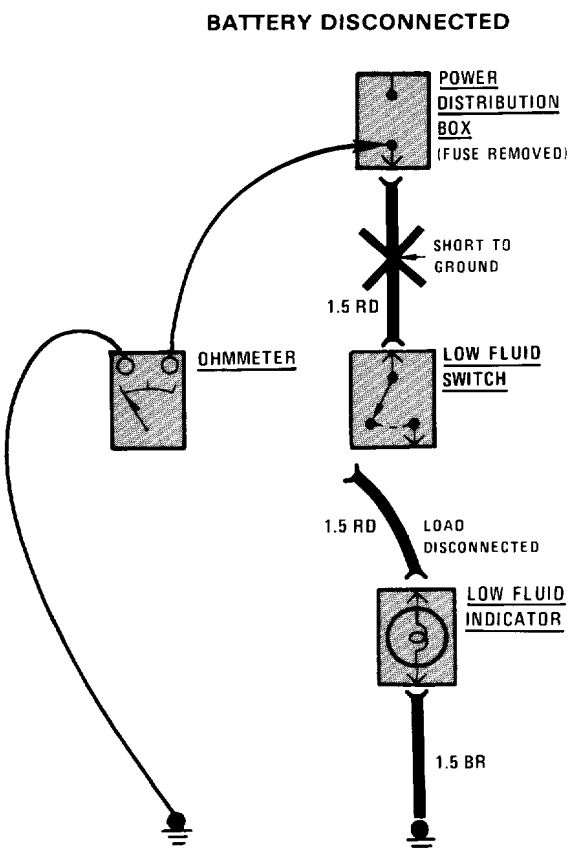


Short Test Using Voltmeter

Short Test Using Ohmmeter

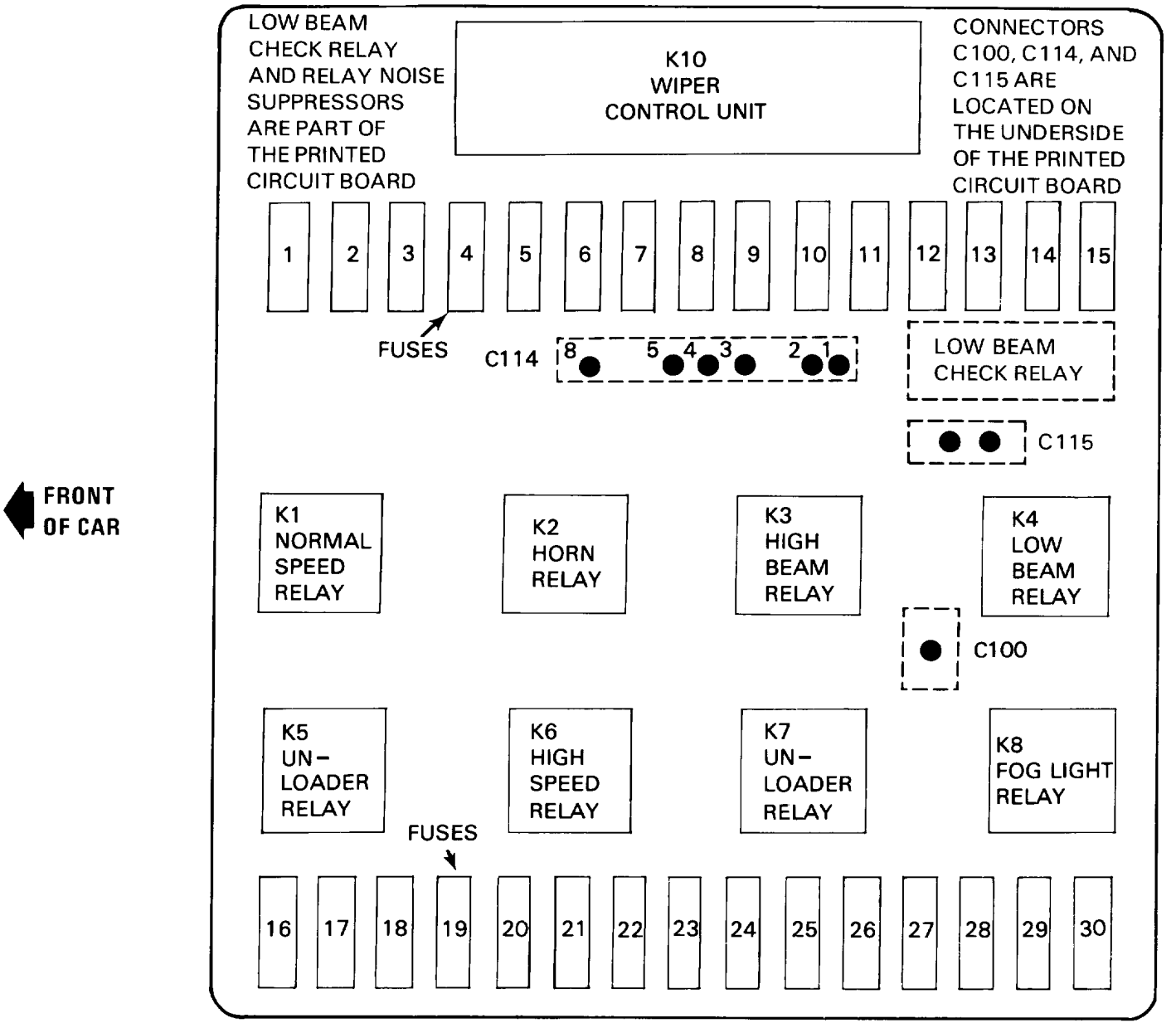
Disconnect the battery. Adjust the ohmmeter to read zero while holding the leads together. Remove the blown fuse and disconnect the load. Connect one lead of the ohmmeter to the fuse terminal that is closest to the load. Connect the other lead to a known good ground.

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

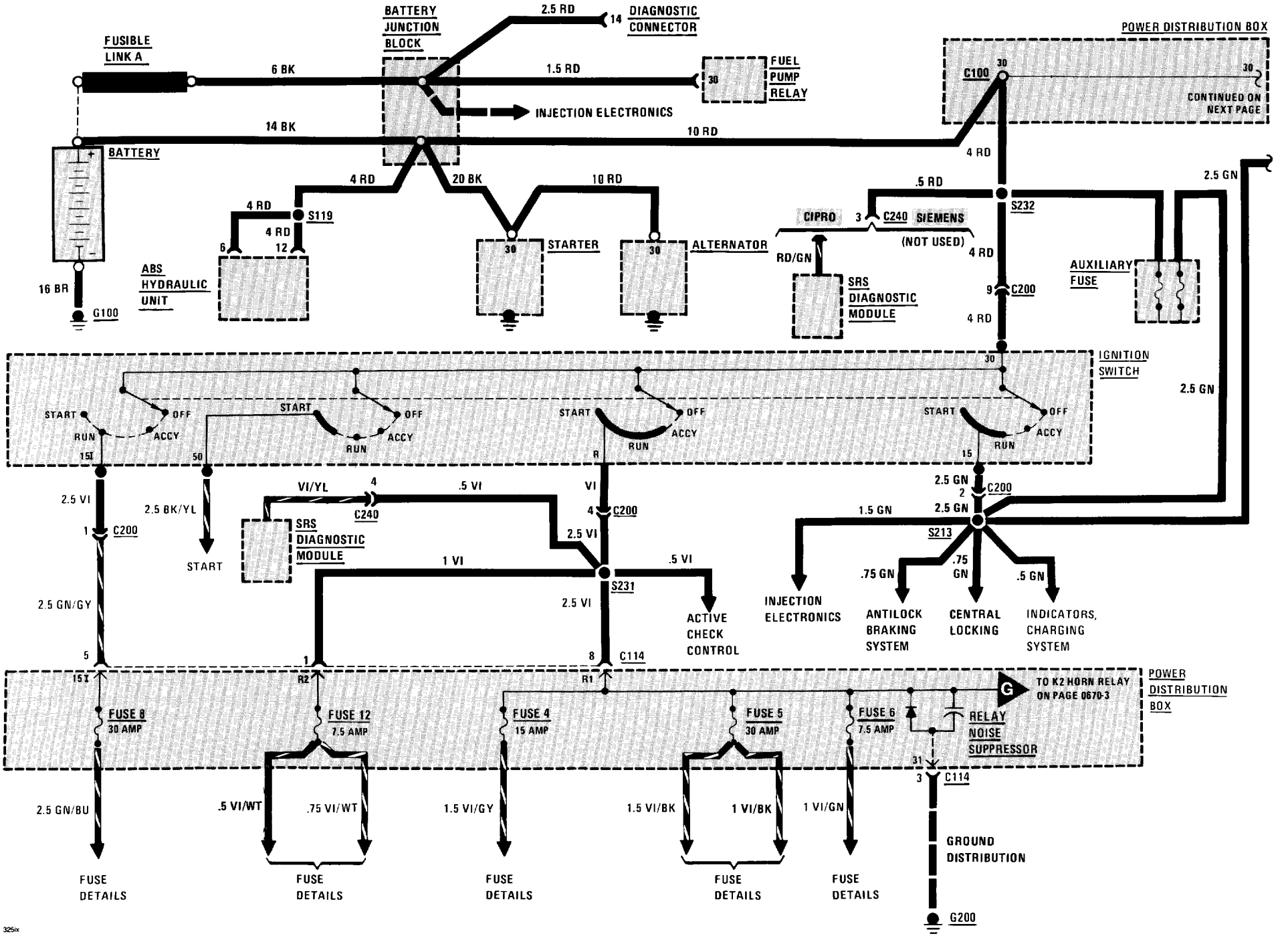
POWER DISTRIBUTION BOX

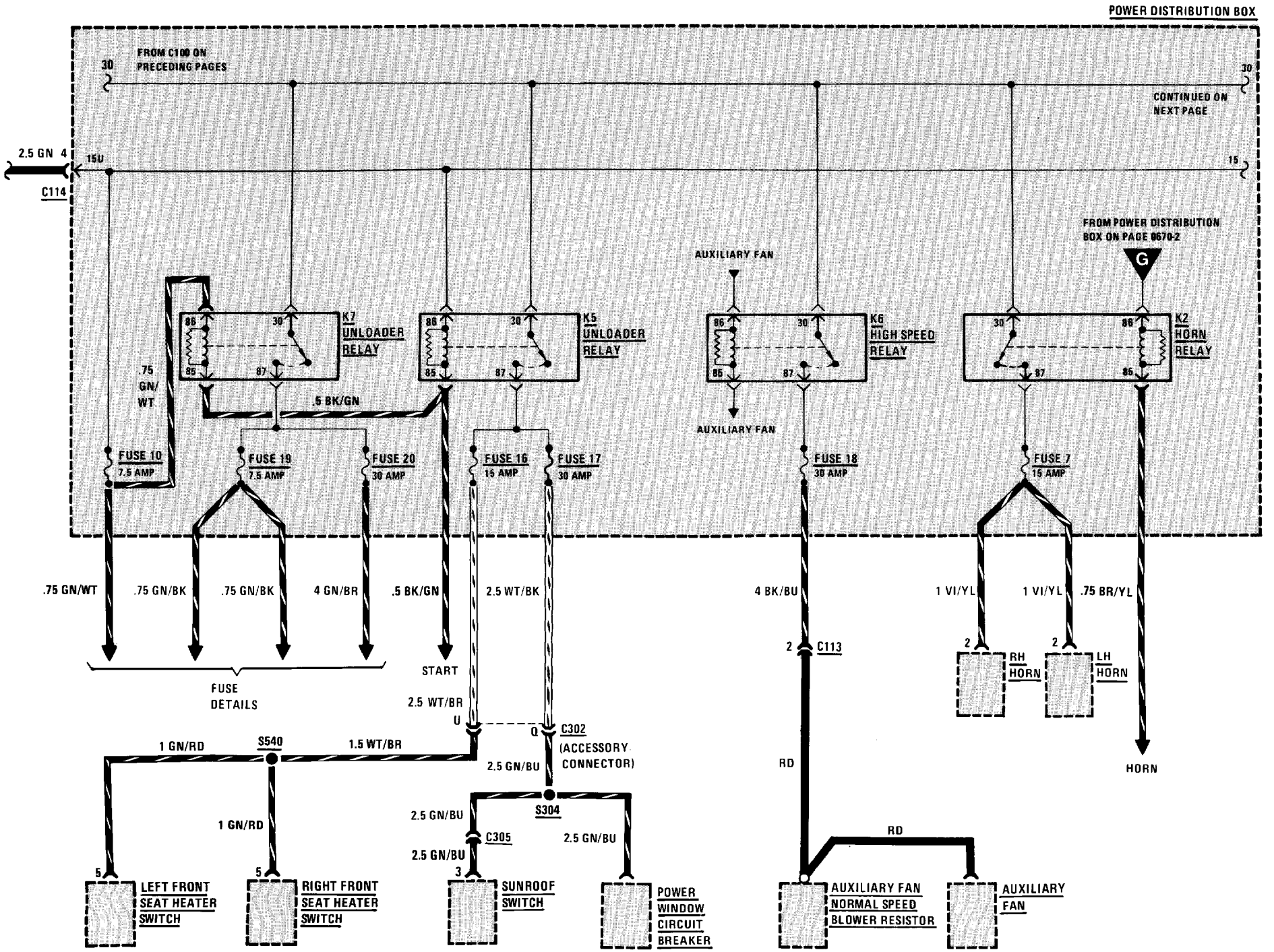


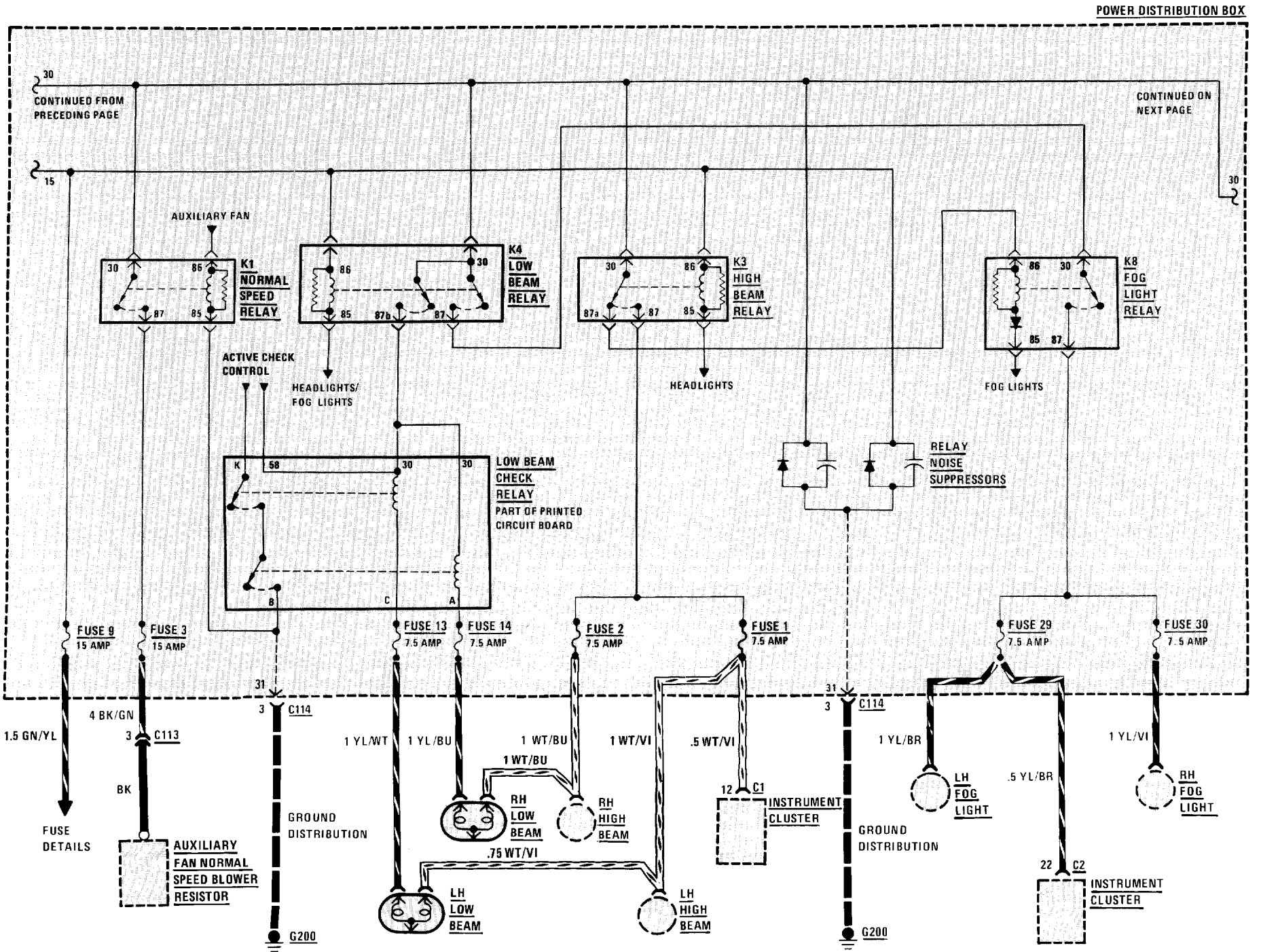
FUSE DATA CHART

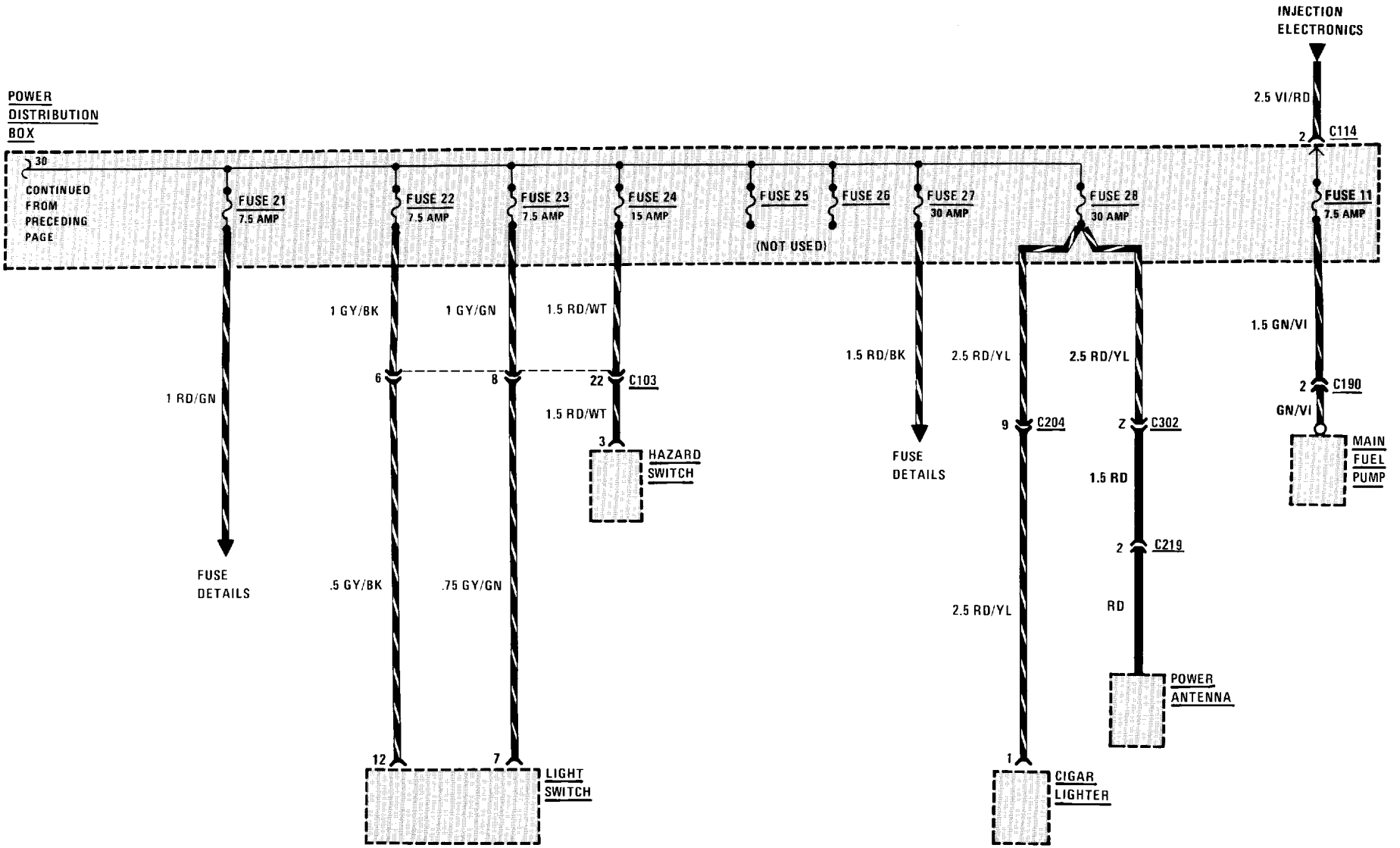
FUSE NO.	SIZE/ COLOR	CIRCUIT NAME
1	7.5A	Headlights (also fuses 2, 13, 14); High Beam Indicator.
2	7.5A	Headlights (also fuses 1, 13, 14).
3	15A	Auxiliary Fan (also fuses 18, 19, 20).
4	15A	Lights: Turn/Hazard (also fuse 24); Active Check Control (also fuses 6, 10, 21, 22, 23); Glove Box Light.
5	30A	Wiper/Washer.
6	7.5A	Stop Lights; Cruise Control (Also fuse 10); Active Check Control (also fuses 4, 10, 21, 22, 23); Antilock Braking System; Map Reading Light.
7	15A	Horn.
8	30A	Rear Defogger (also fuse 23).
9	15A	Injection Electronics (also fuses 10, 11, 21).
10	7.5A	Seatbelt Warning (also fuse 21); Cruise Control (also fuse 6); Service Interval Indicator (also fuse 21); Tachometer/Fuel Economy Gauges (also fuse 21); Gauges/Indicators; Brake Warning System; Back Up Lights; Start; Active Check Control (also fuses 4, 6, 21, 22, 23). Injection Electronics (also fuse 9, 11, 21);
11	7.5A	Injection Electronics (also fuses 9, 10, 21).
12	7.5A	Radio (also fuses 21, 28); Speedometer/Indicators; Multifunction Clock (also fuses 21, 23).
13	7.5A	Headlights (also fuses 1, 2, 14).
14	7.5A	Headlights (also fuses 1, 2, 13).
15	—	Not Used.
16	15A	Heated Seats.
17	30A	Power Windows, Sunroof.
18	30A	Auxiliary Fan (also fuses 3, 19, 20).
19	7.5A	Auxiliary Fan (also fuses 3, 18, 20); Interior Lights (also fuses 21, 27); Power Mirrors.
20	30A	Heater/Air Conditioning; Auxiliary Fan (also fuses 3, 18, 19).
21	7.5A	Auto-Charging Flashlight; Ignition Key Warning/Seatbelt Warning; (also fuse 10); Interior Lights (also fuses 19, 27); Radio (also fuses 12, 28); Trunk Light; Active Check Control (also fuses 4, 6, 10, 22, 23); Service Interval Indicator (also fuse 10); Multifunction Clock (also fuses 12, 23); Injection Electronics (also fuses 9, 10, 11); Tachometer/Fuel Economy Gauge (also fuse 10).
22	7.5A	Active Check Control (also fuses 4, 6, 10, 21, 23); Lights: Front Park/Tail (also fuse 23); Lights: Front Side Marker (also fuse 23).
23	7.5A	Lights: Dash Lights: Front Park/Tail (also fuse 22); Lights; Front Side Marker (also fuse 22); Lights: Rear Marker/License; Active Check Control (also fuses 4, 6, 10, 21, 22); Multifunction Clock (also fuses 12, 21); Rear Defogger (also fuse 8).
24	15A	Lights: Turn/Hazard (also fuse 4).
25	—	Not Used.
26	—	Not Used.
27	30A	Interior Lights (also fuses 19, 21); Central Locking;
28	30A	Cigar Lighter; Radio/Antenna (also fuses 12, 21).
29	7.5A	Fog Lights (also fuse 30); Fog Lights Indicator.
30	7.5A	Fog Lights (also fuse 29).
POWER WINDOW CIRCUIT BREAKER	25A	Power Windows

0670-2 POWER DISTRIBUTION

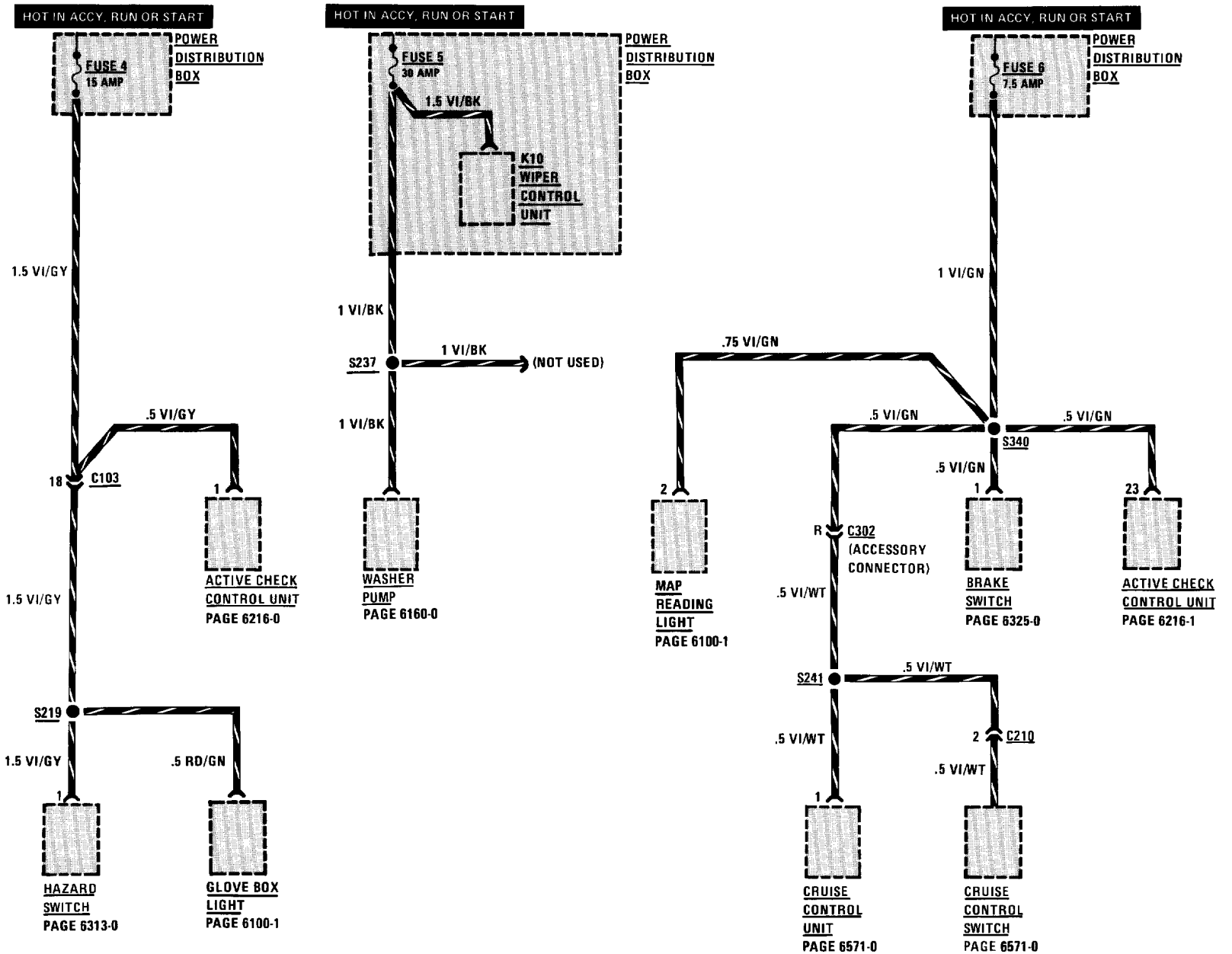



POWER DISTRIBUTION BOX
FROM C100 ON PRECEDING PAGES
30
CONTINUED ON NEXT PAGE
2.5 GN 4
15U
C114
15
FROM POWER DISTRIBUTION BOX ON PAGE 0670-2
G
AUXILIARY FAN
K7 UNLOADER RELAY
K5 UNLOADER RELAY
K6 HIGH SPEED RELAY
K2 HORN RELAY
.75 GN/WT
.5 BK/GN
FUSE 10 7.5 AMP
FUSE 19 7.5 AMP
FUSE 20 30 AMP
FUSE 16 15 AMP
FUSE 17 30 AMP
FUSE 18 30 AMP
FUSE 7 15 AMP
.75 GN/WT
.75 GN/BK
.75 GN/BK
4 GN/BR
.5 BK/GN
2.5 WT/BK
4 BK/BU
1 VI/YL
1 VI/YL
.75 BR/YL
FUSE DETAILS
START
2.5 WT/BR
U
Q
C302
(ACCESSORY CONNECTOR)
1 GN/RD
S540
1.5 WT/BR
2.5 GN/BU
S304
2.5 GN/BU
C305
2.5 GN/BU
2.5 GN/BU
1 GN/RD
RD
RD
C113
RH HORN
LH HORN
HORN
LEFT FRONT SEAT HEATER SWITCH
RIGHT FRONT SEAT HEATER SWITCH
SUNROOF SWITCH
POWER WINDOW CIRCUIT BREAKER
AUXILIARY FAN NORMAL SPEED BLOWER RESISTOR
AUXILIARY FAN

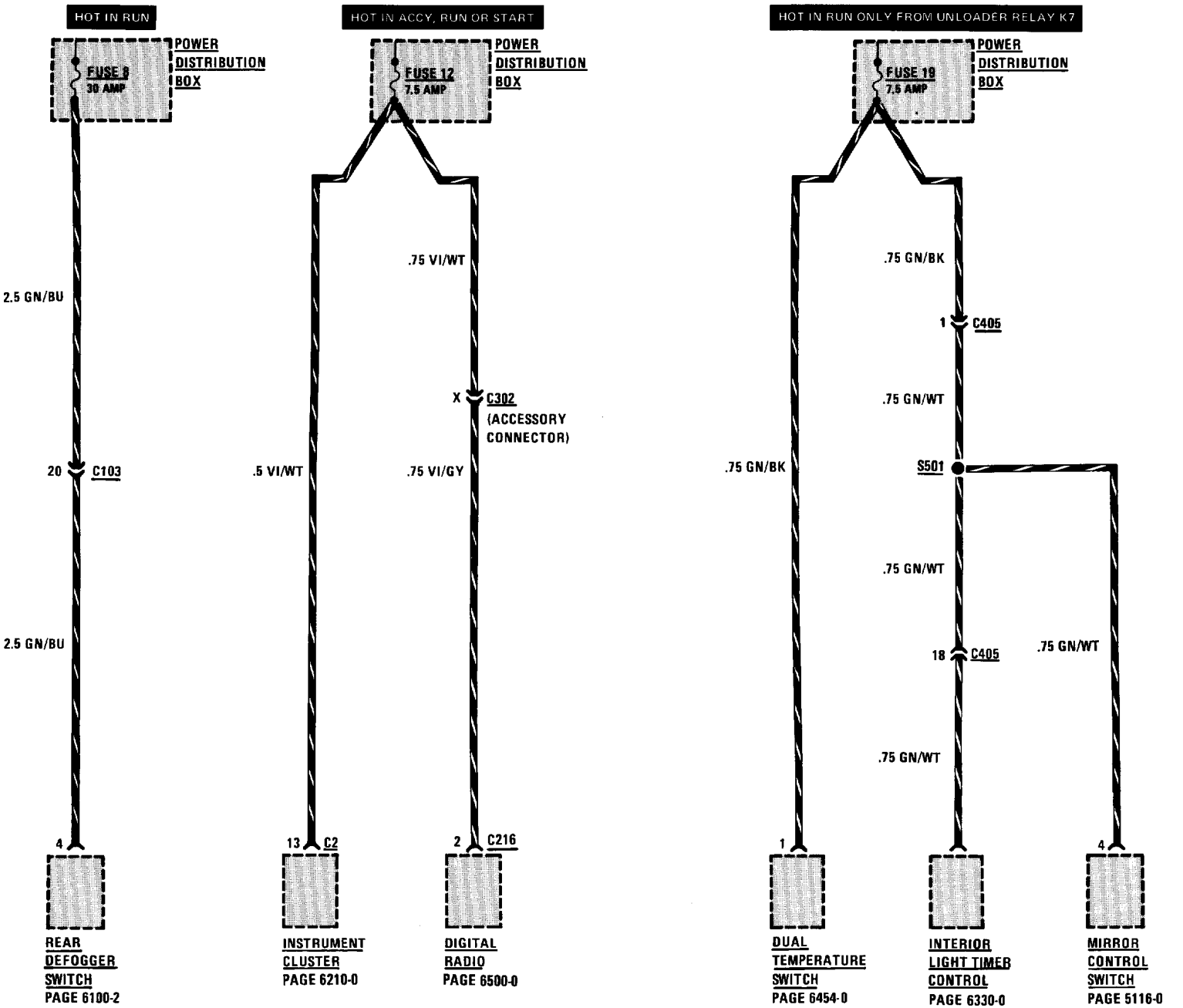

POWER DISTRIBUTION BOX
30
CONTINUED FROM PRECEDING PAGE
CONTINUED ON NEXT PAGE
15
30
AUXILIARY FAN
K1 NORMAL SPEED RELAY
K4 LOW BEAM RELAY
K3 HIGH BEAM RELAY
K8 FOG LIGHT RELAY
ACTIVE CHECK CONTROL
HEADLIGHTS/ FOG LIGHTS
HEADLIGHTS
FOG LIGHTS
LOW BEAM CHECK RELAY
PART OF PRINTED CIRCUIT BOARD
RELAY NOISE SUPPRESSORS
FUSE 9 15 AMP
FUSE 3 15 AMP
FUSE 13 7.5 AMP
FUSE 14 7.5 AMP
FUSE 2 7.5 AMP
FUSE 1 7.5 AMP
FUSE 29 7.5 AMP
FUSE 30 7.5 AMP
1.5 GN/YL
4 BK/GN
BK
C113
C114
1 YL/WT
1 YL/BU
1 WT/BU
1 WT/VI
.5 WT/VI
1 YL/BR
.5 YL/BR
1 YL/VI
.75 WT/VI
FUSE DETAILS
AUXILIARY FAN NORMAL SPEED BLOWER RESISTOR
GROUND DISTRIBUTION
RH LOW BEAM
RH HIGH BEAM
LH LOW BEAM
LH HIGH BEAM
INSTRUMENT CLUSTER
LH FOG LIGHT
RH FOG LIGHT
G200


INJECTION ELECTRONICS
2.5 VI/RD
2
C114
POWER DISTRIBUTION BOX
30
CONTINUED FROM PRECEDING PAGE
FUSE 21
7.5 AMP
FUSE 22
7.5 AMP
FUSE 23
7.5 AMP
FUSE 24
15 AMP
FUSE 25
(NOT USED)
FUSE 26
FUSE 27
30 AMP
FUSE 28
30 AMP
FUSE 11
7.5 AMP
1 RD/GN
FUSE DETAILS
1 GY/BK
1 GY/GN
1.5 RD/WT
6
8
22
C103
1.5 RD/WT
3
HAZARD SWITCH
1.5 RD/BK
FUSE DETAILS
2.5 RD/YL
2.5 RD/YL
9
C204
Z
C302
1.5 GN/VI
2
C190
GN/VI
MAIN FUEL PUMP
1.5 RD
2
C219
.5 GY/BK
.75 GY/GN
12
7
LIGHT SWITCH
2.5 RD/YL
RD
POWER ANTENNA
1
CIGAR LIGHTER

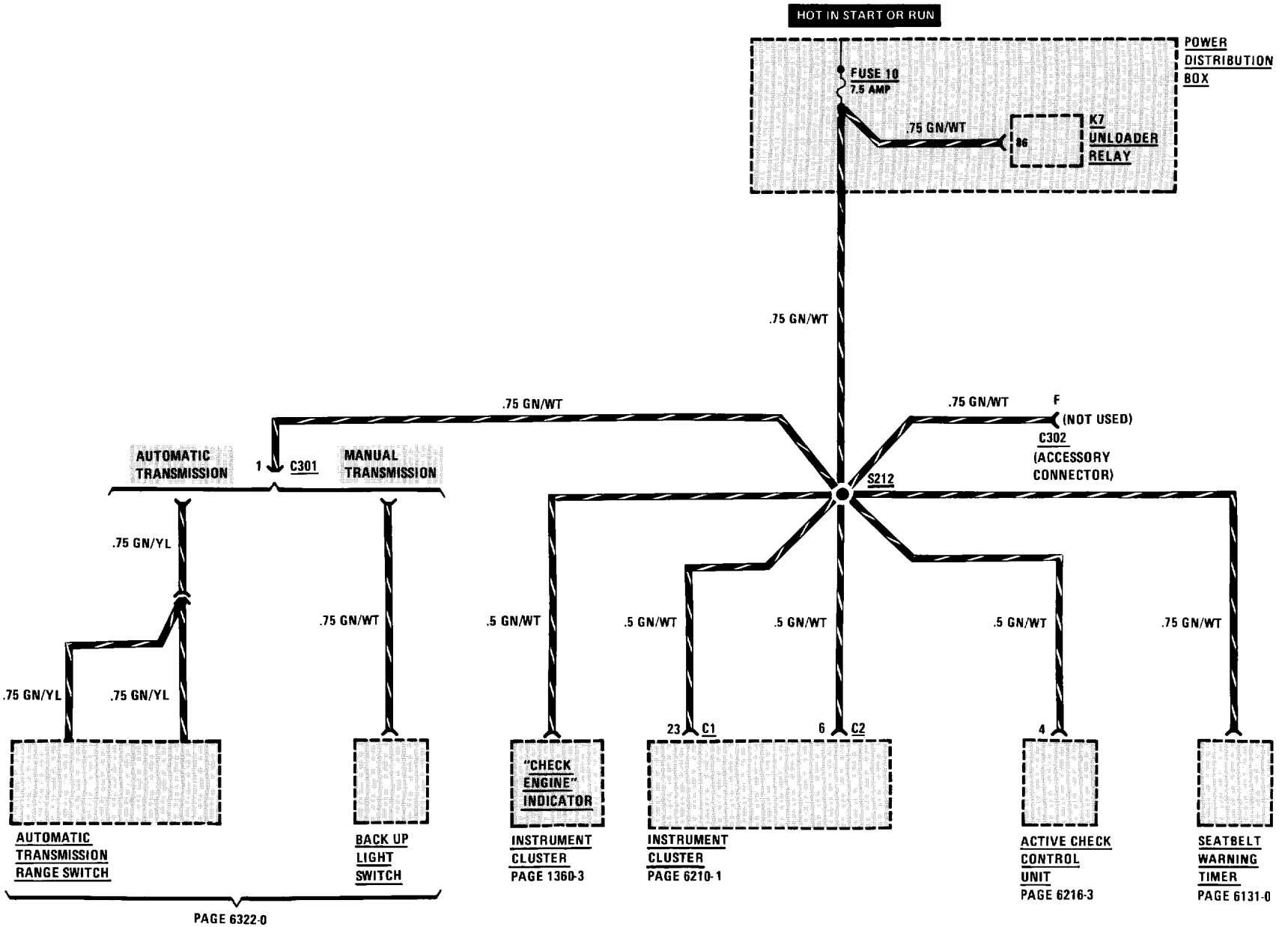
FUSE DETAILS: FUSES 4, 5, AND 6



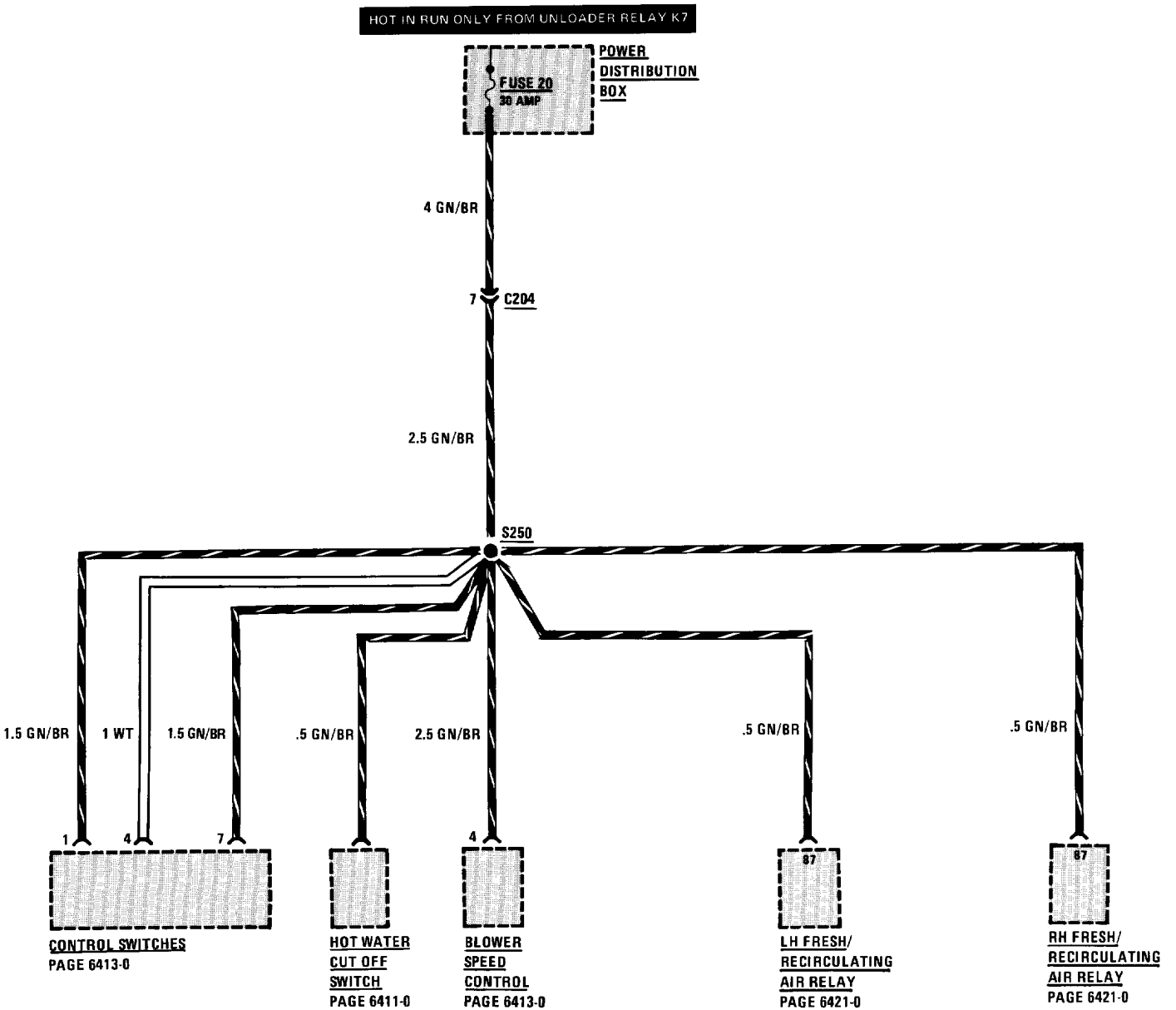
FUSE DETAILS: FUSES 8, 12 AND 19



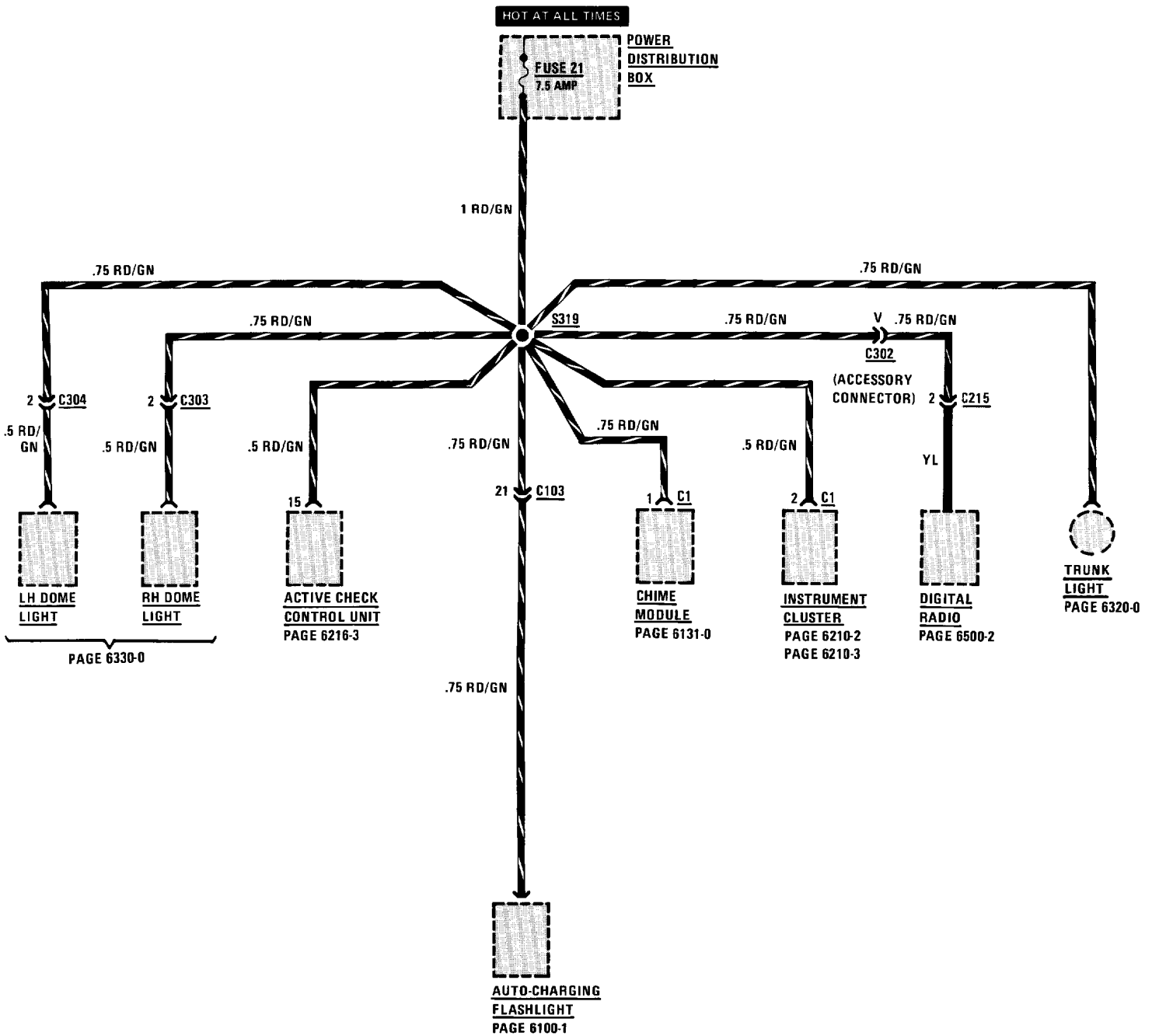
FUSE DETAILS: FUSE 10



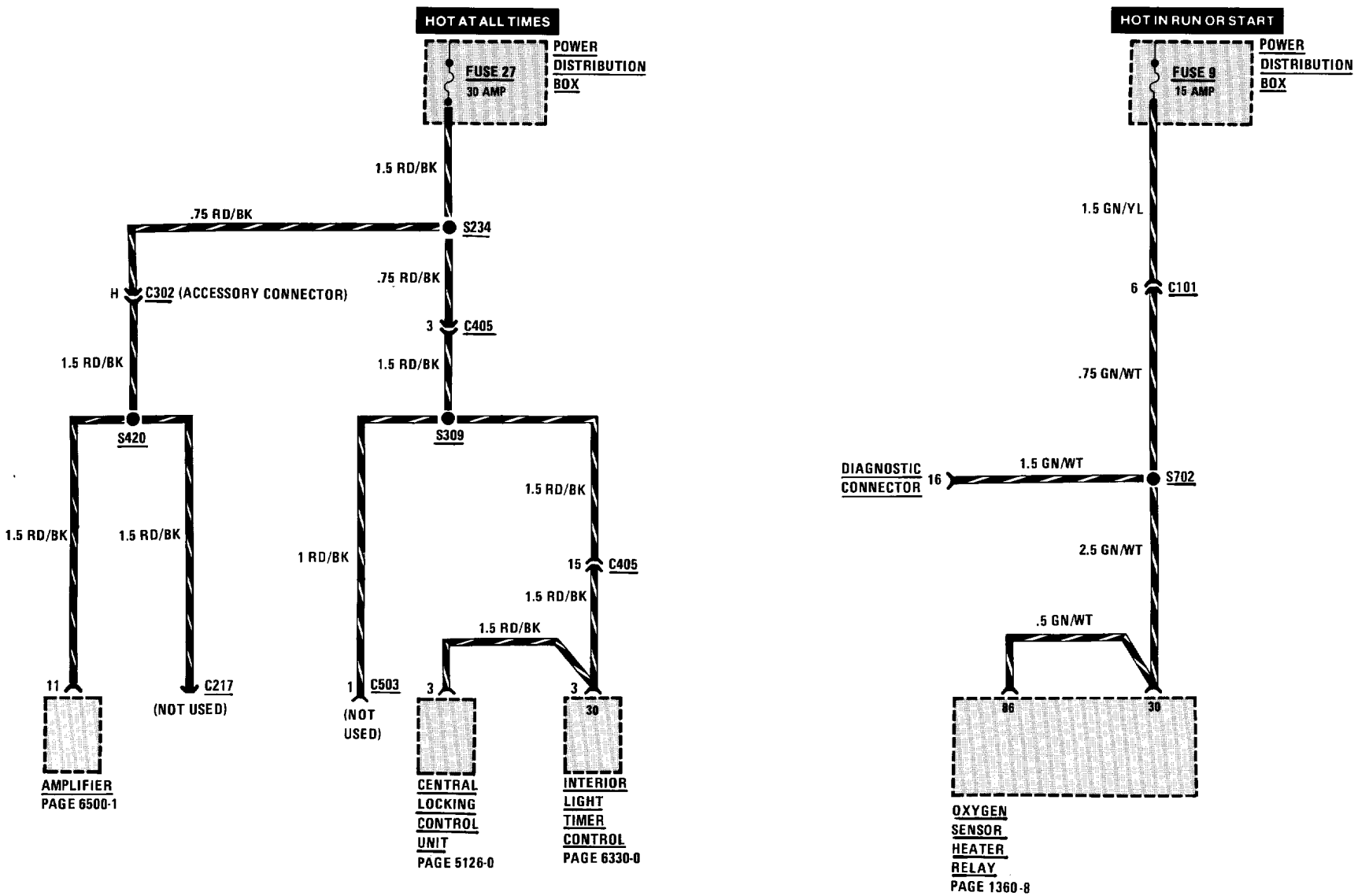
FUSE DETAILS: FUSE 20



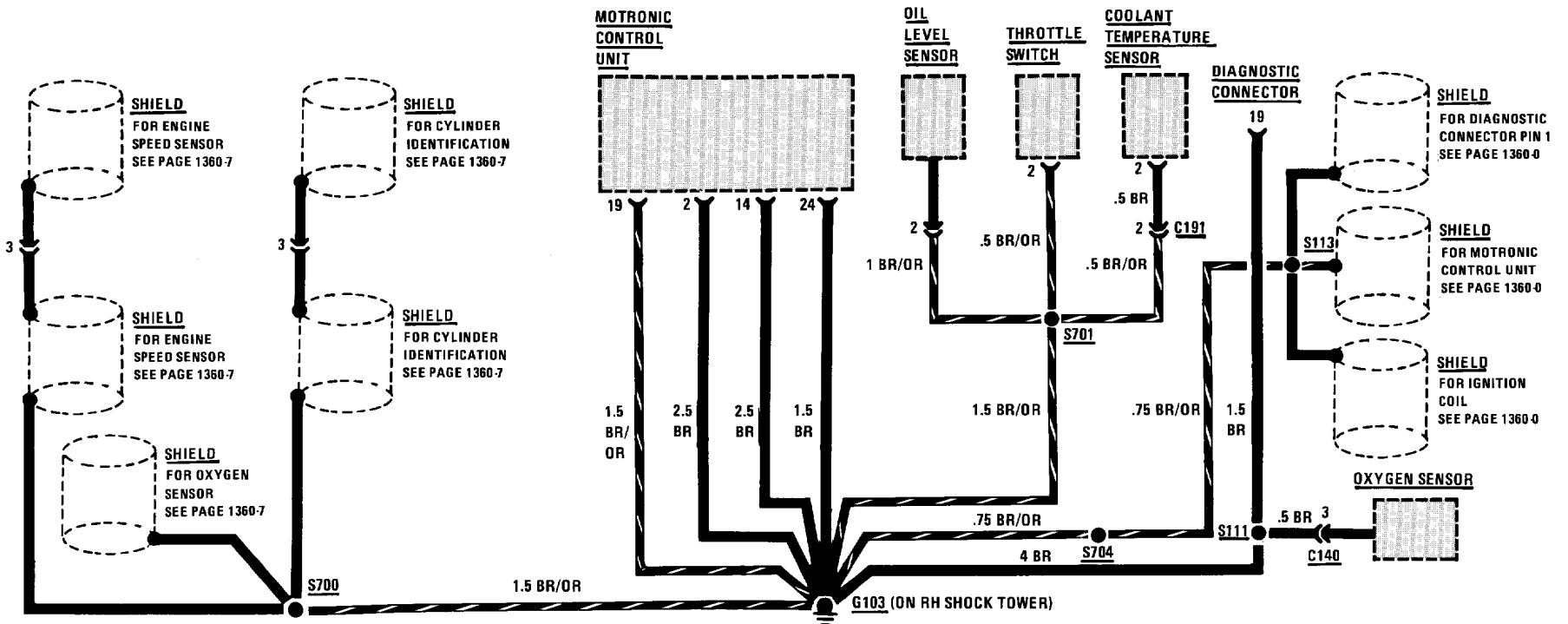
FUSE DETAILS: FUSE 21

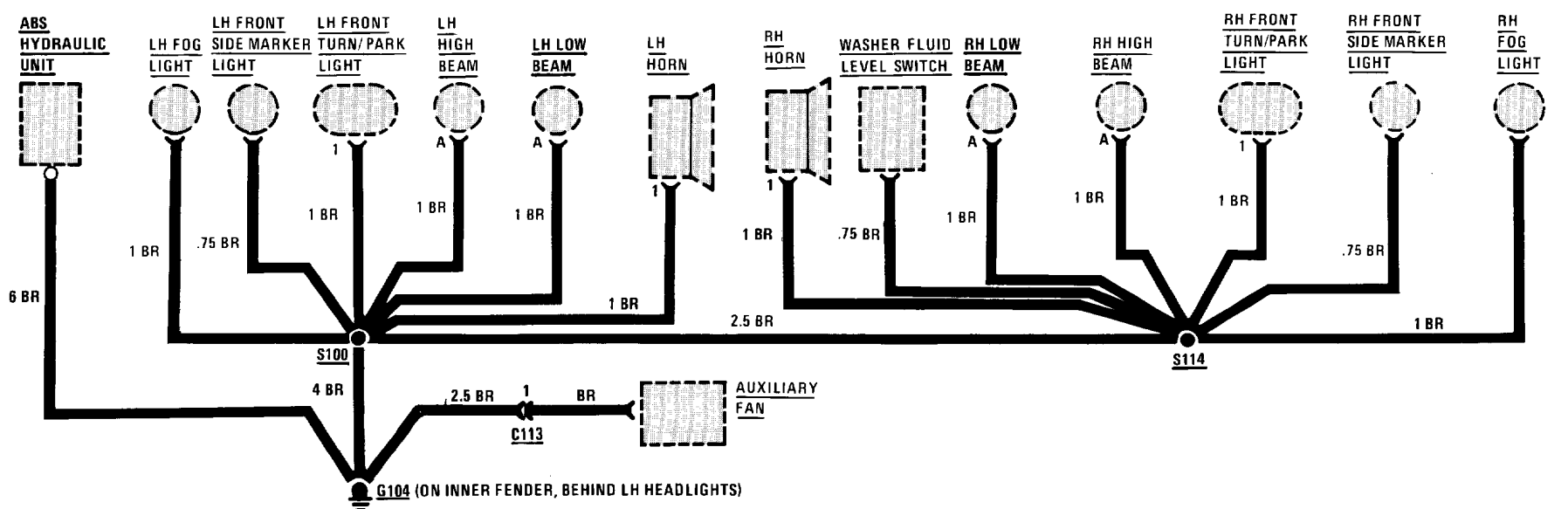


FUSE DETAILS: FUSES 27 AND 9

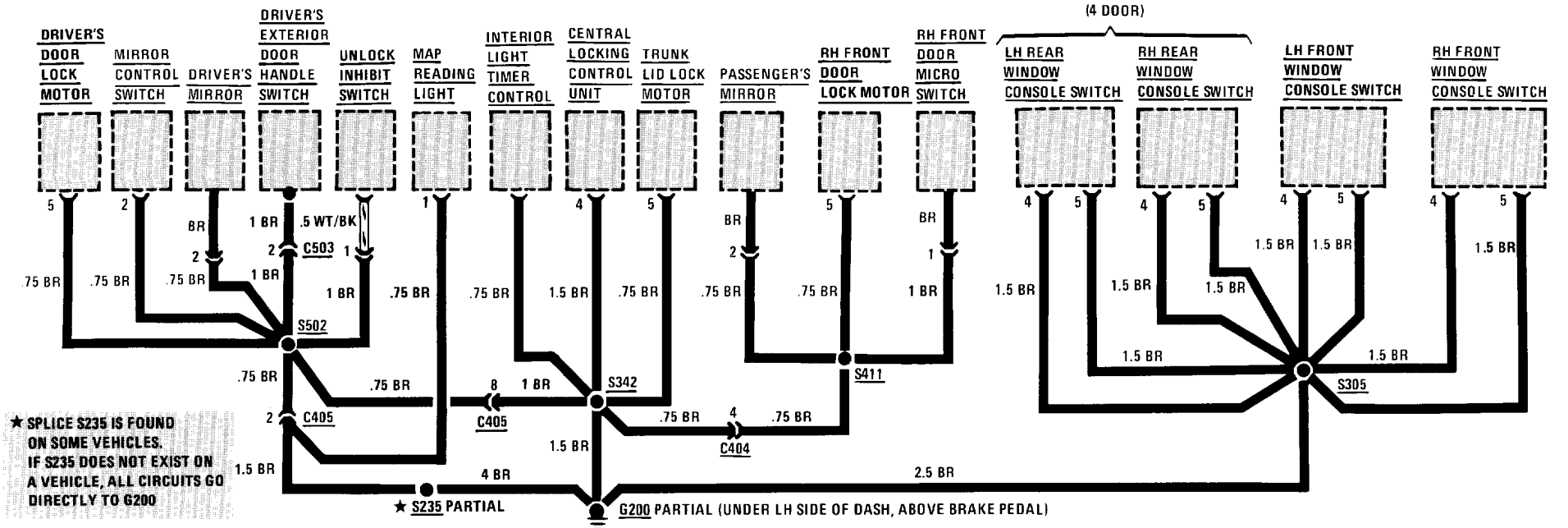


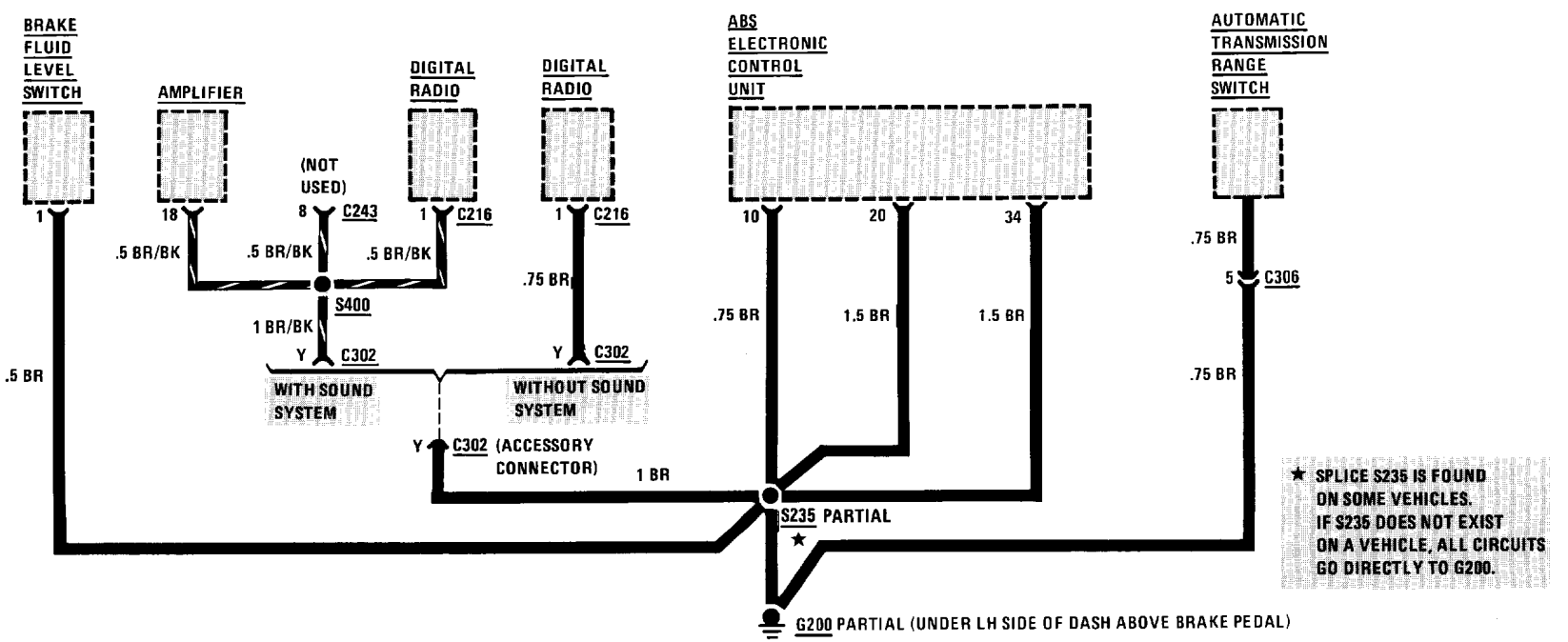
GROUND DISTRIBUTION: G103 AND G104



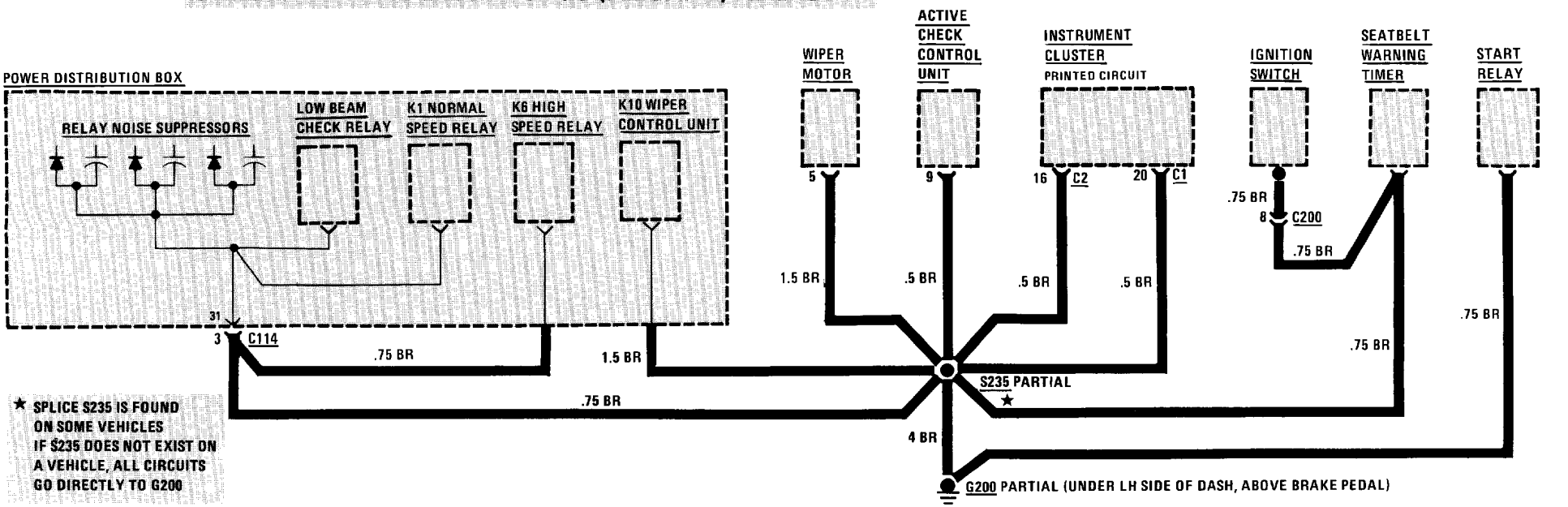


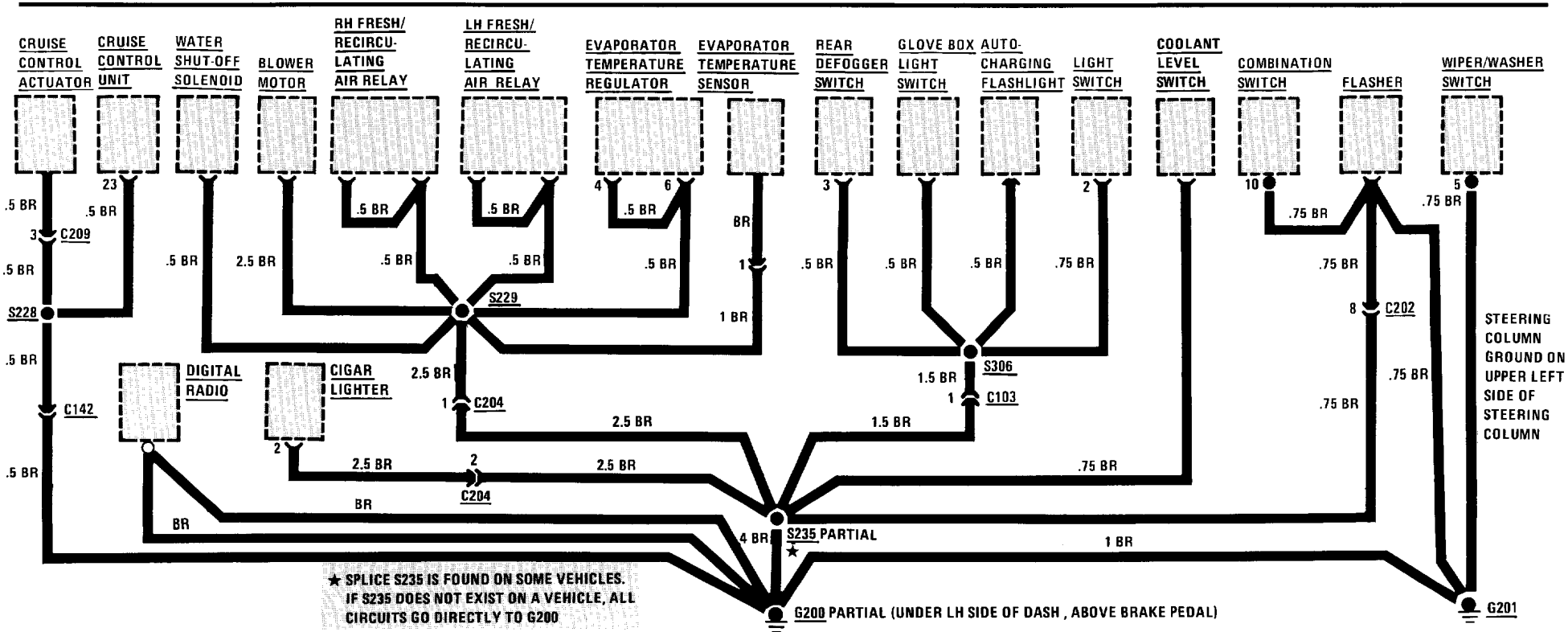
GROUND DISTRIBUTION: G106 AND G200 (PARTIAL)



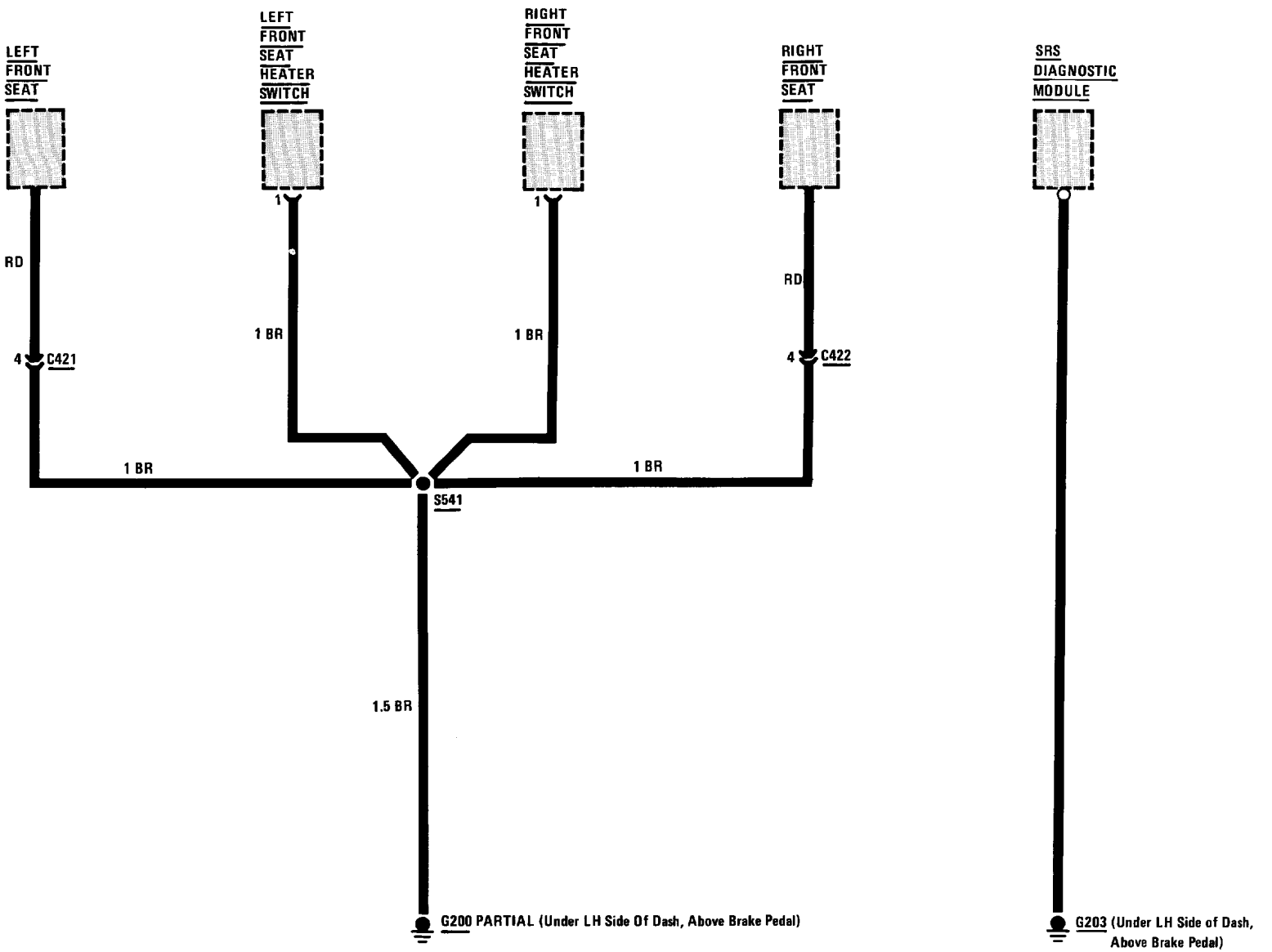


GROUND DISTRIBUTION: G200 (PARTIAL) AND G201

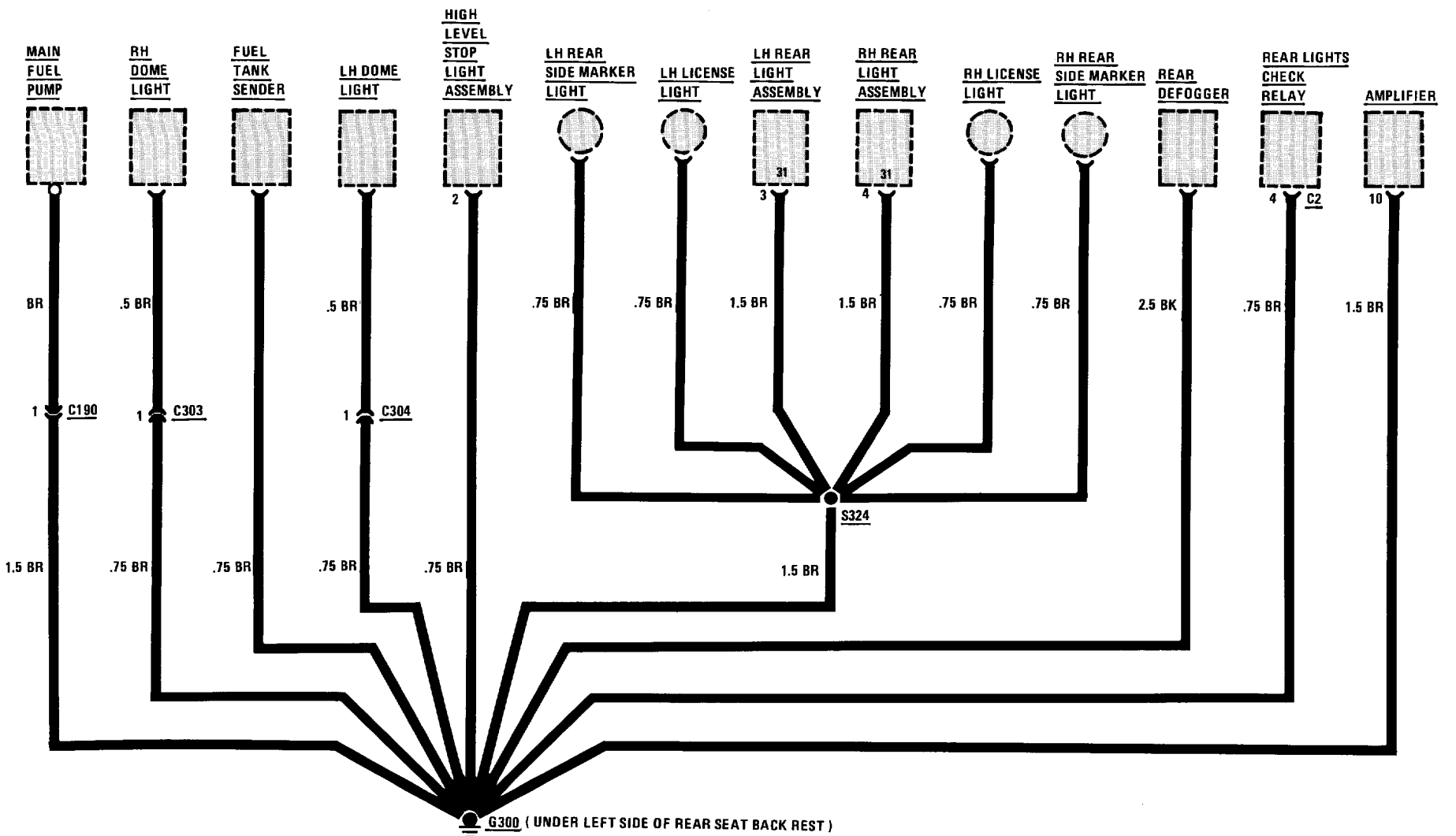


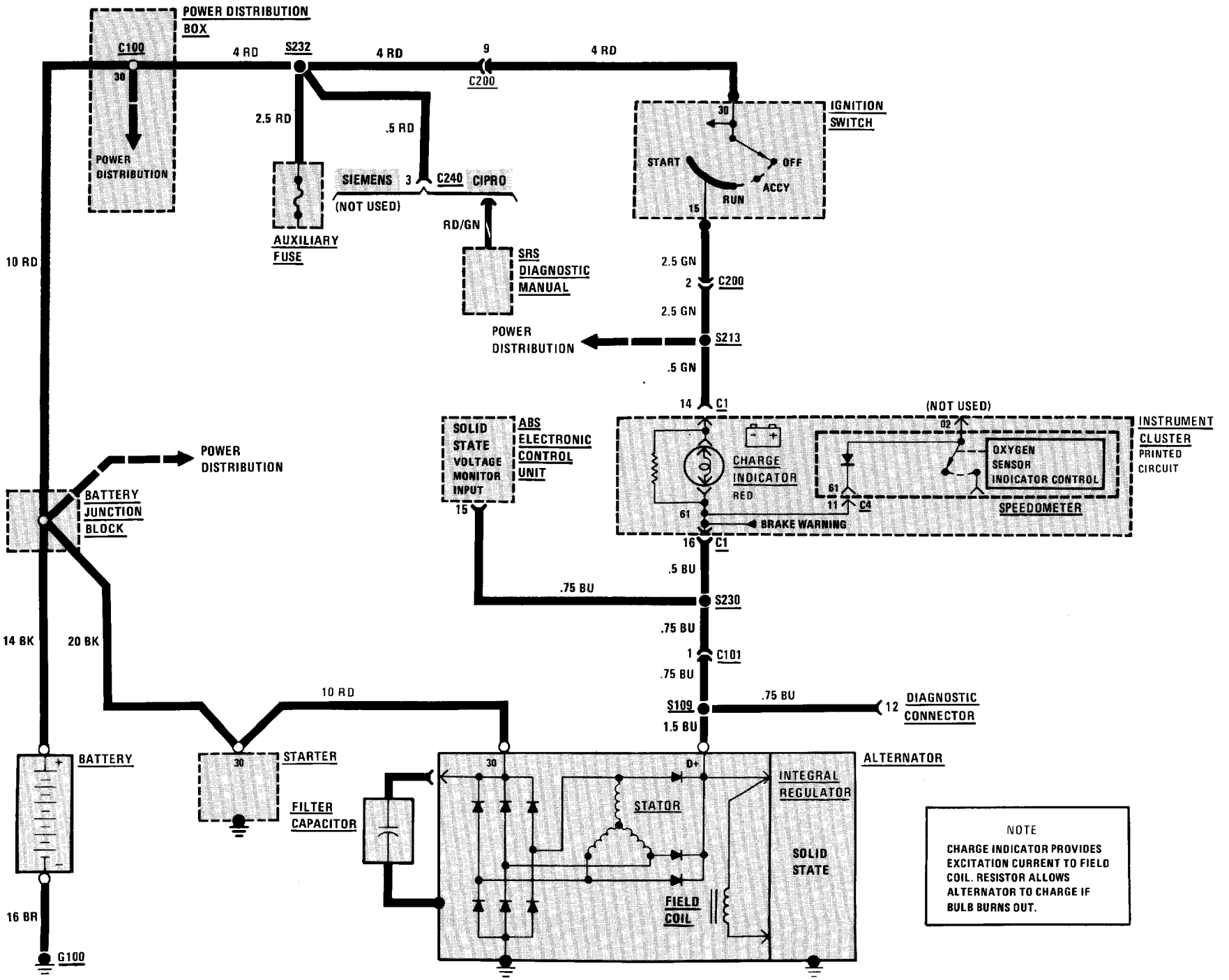


GROUND DISTRIBUTION: G200 (PARTIAL)

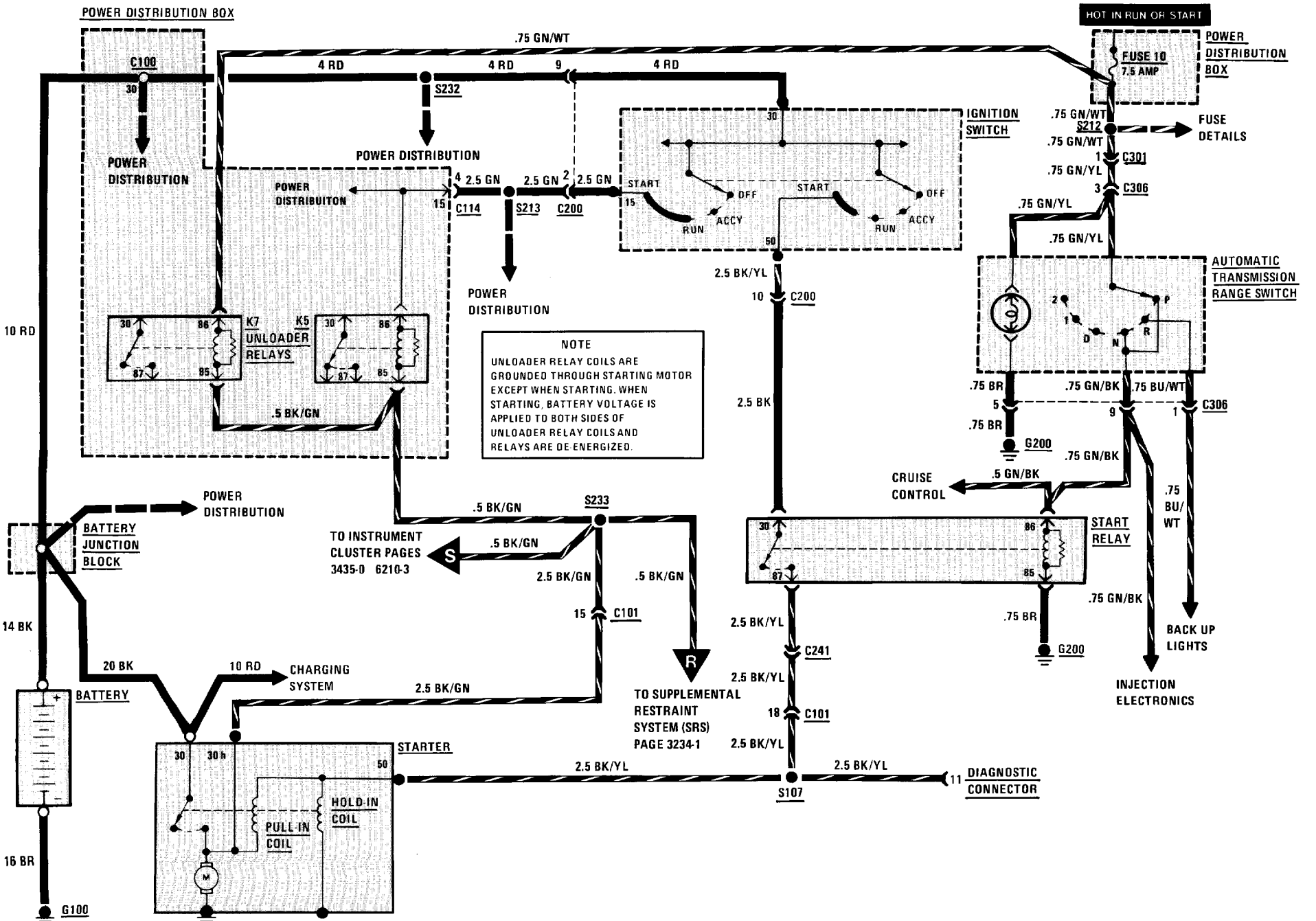


GROUND DISTRIBUTION: G300

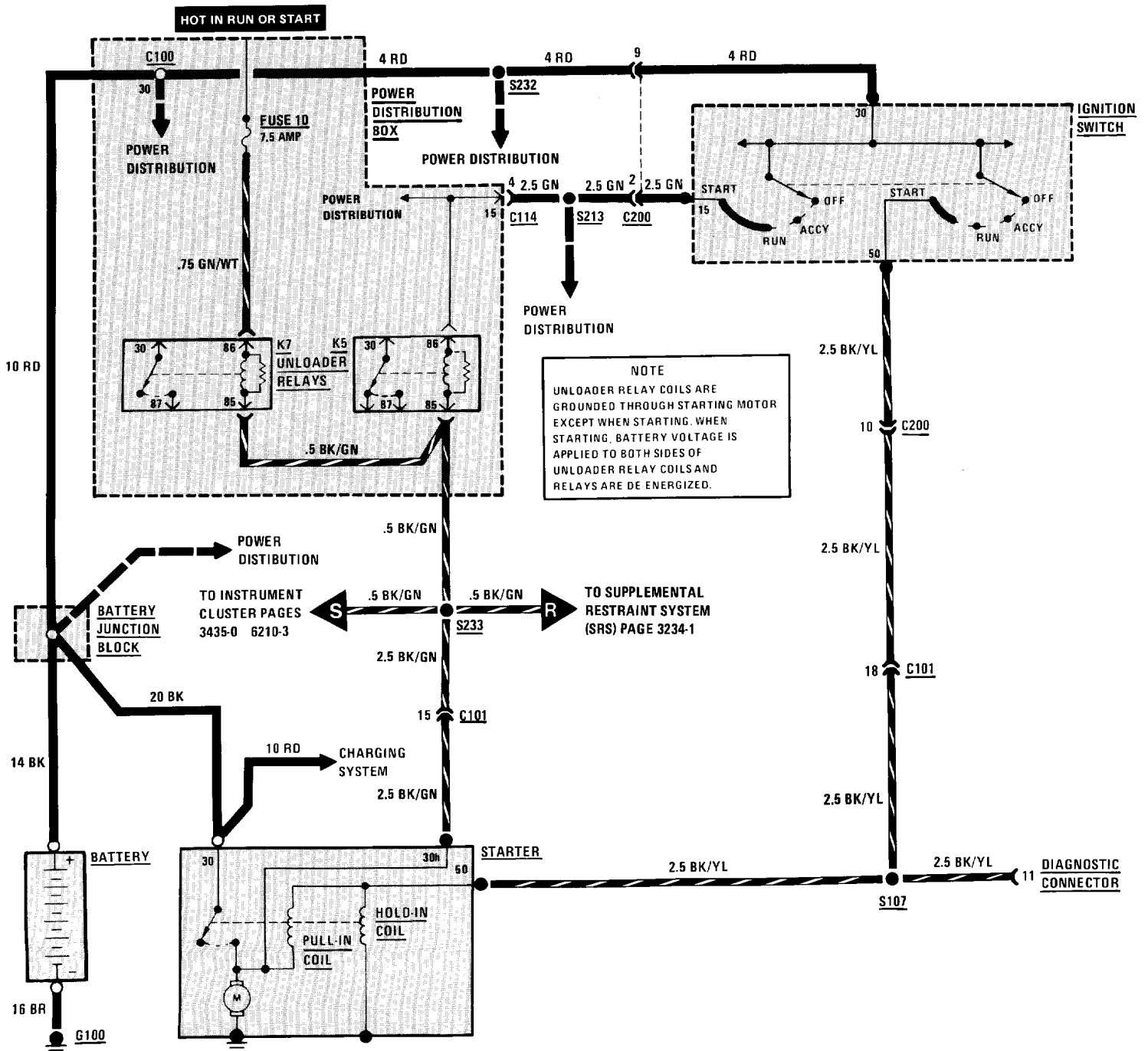



POWER DISTRIBUTION BOX
C100
30
POWER DISTRIBUTION
4 RD
S232
4 RD
9
C200
4 RD
2.5 RD
.5 RD
AUXILIARY FUSE
SIEMENS 3 C240 CIPRO
(NOT USED)
RD/GN
SRS DIAGNOSTIC MANUAL
IGNITION SWITCH
30
START
OFF
ACCY
RUN
15
10 RD
2.5 GN
2
C200
2.5 GN
POWER DISTRIBUTION
S213
.5 GN
14
C1
(NOT USED)
02
SOLID STATE VOLTAGE MONITOR INPUT
ABS ELECTRONIC CONTROL UNIT
CHARGE INDICATOR
RED
OXYGEN SENSOR INDICATOR CONTROL
61
11
C4
SPEEDOMETER
INSTRUMENT CLUSTER
PRINTED CIRCUIT
61
BRAKE WARNING
15
16
C1
POWER DISTRIBUTION
BATTERY JUNCTION BLOCK
.5 BU
.75 BU
S230
.75 BU
14 BK
20 BK
1
C101
.75 BU
10 RD
S109
.75 BU
12
DIAGNOSTIC CONNECTOR
1.5 BU
BATTERY
STARTER
30
FILTER CAPACITOR
30
D+
ALTERNATOR
INTEGRAL REGULATOR
STATOR
SOLID STATE
FIELD COIL
16 BR
G100
NOTE
CHARGE INDICATOR PROVIDES EXCITATION CURRENT TO FIELD COIL. RESISTOR ALLOWS ALTERNATOR TO CHARGE IF BULB BURNS OUT.

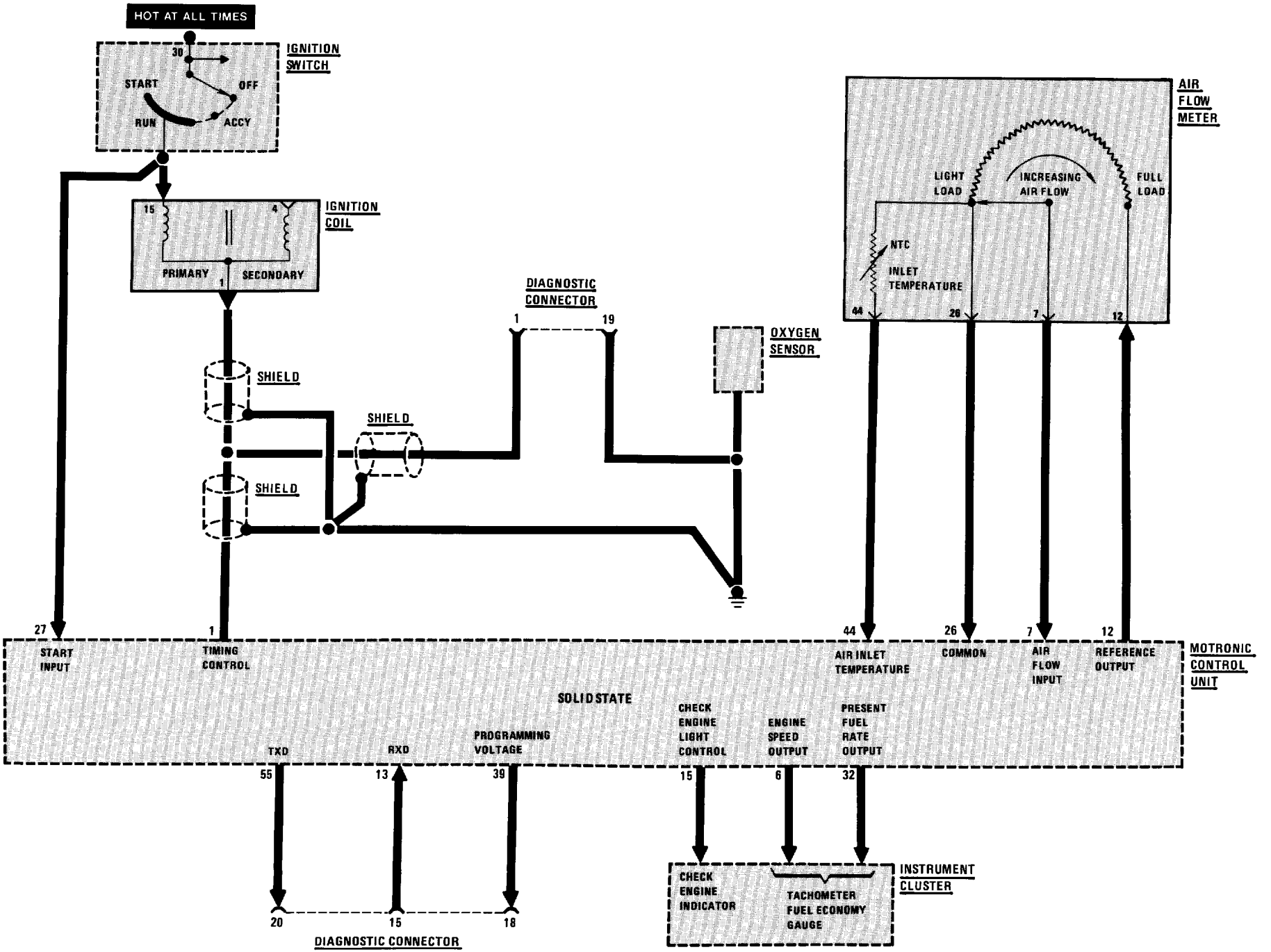
AUTOMATIC TRANSMISSION



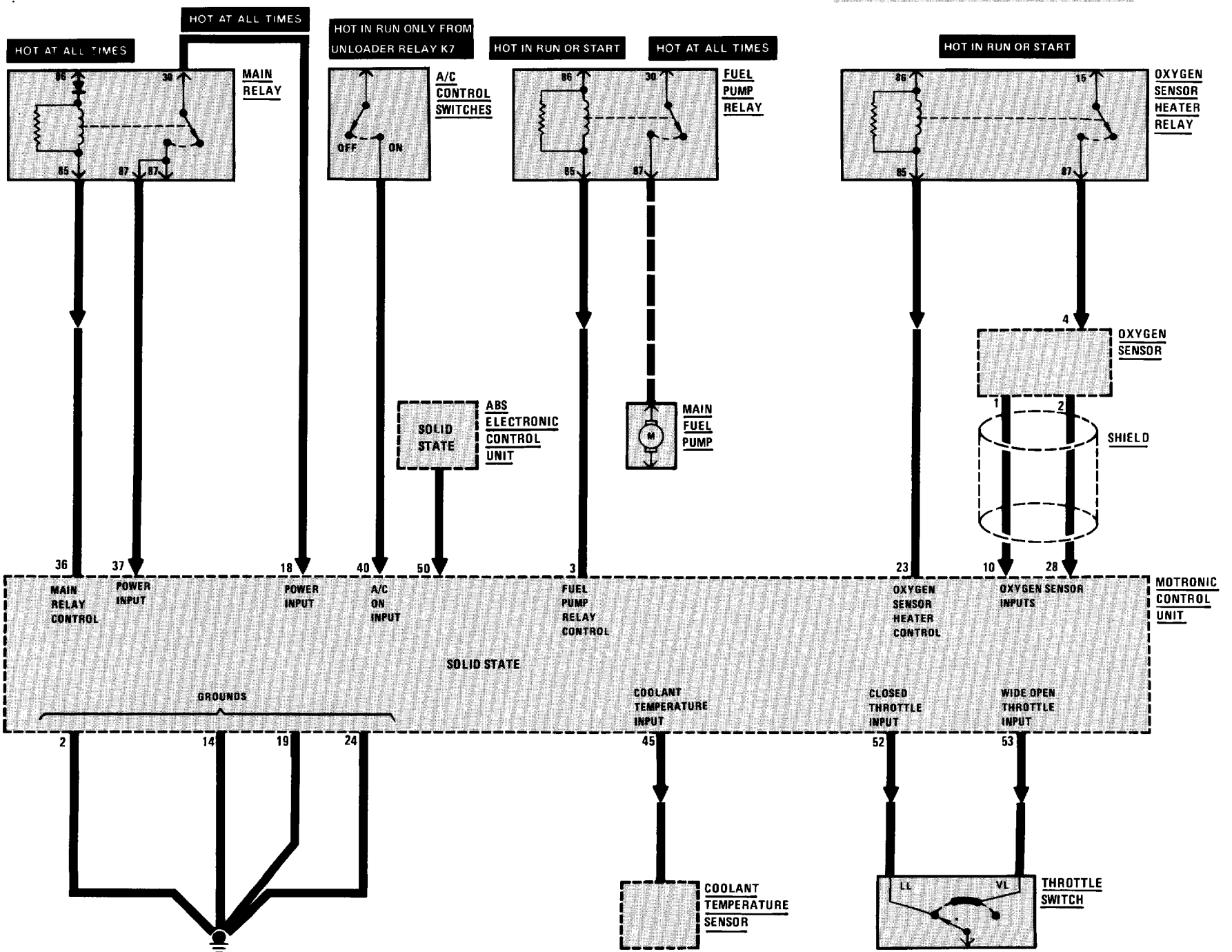
MANUAL TRANSMISSION



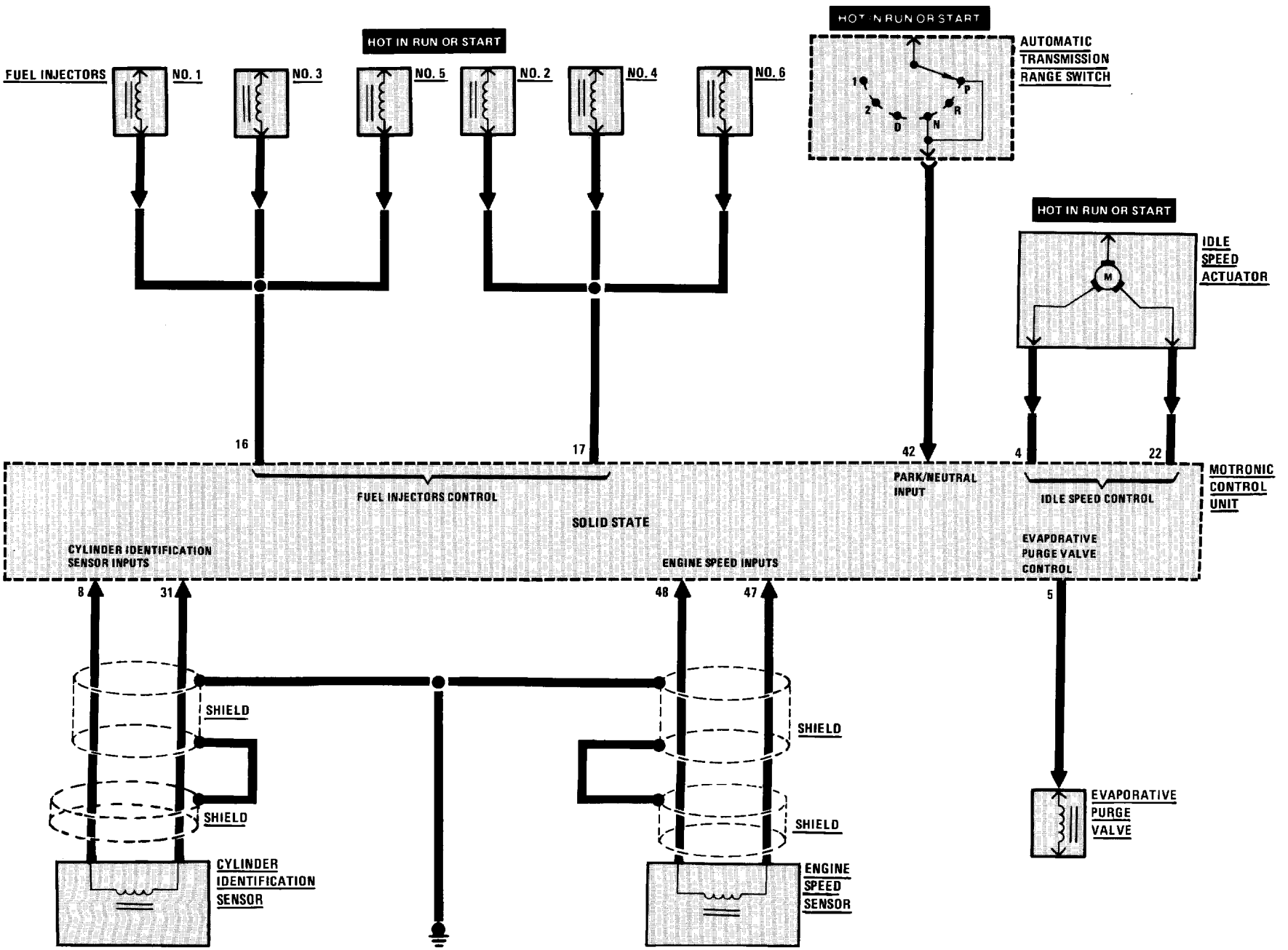
ENGINE BLOCK DIAGRAM

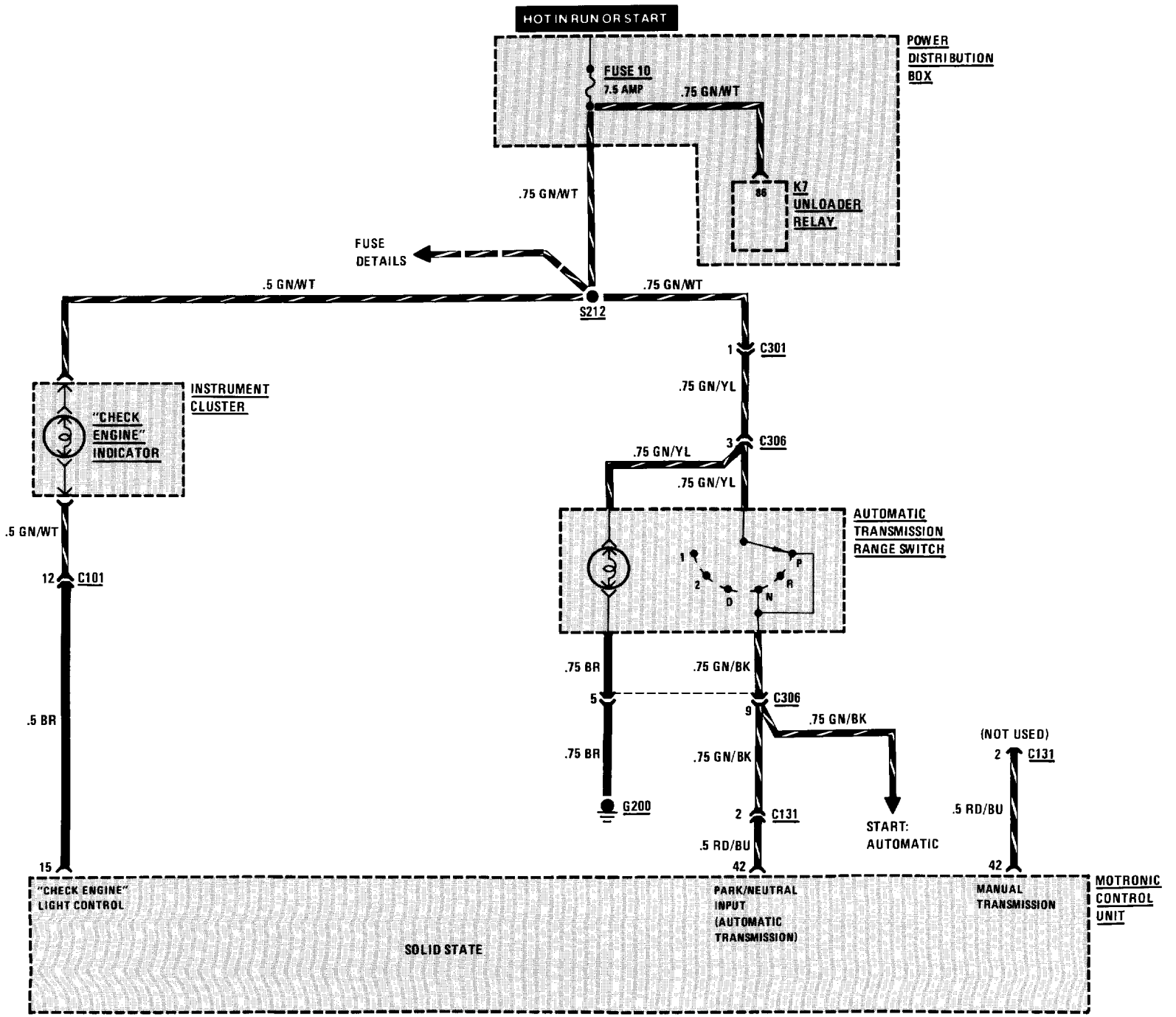


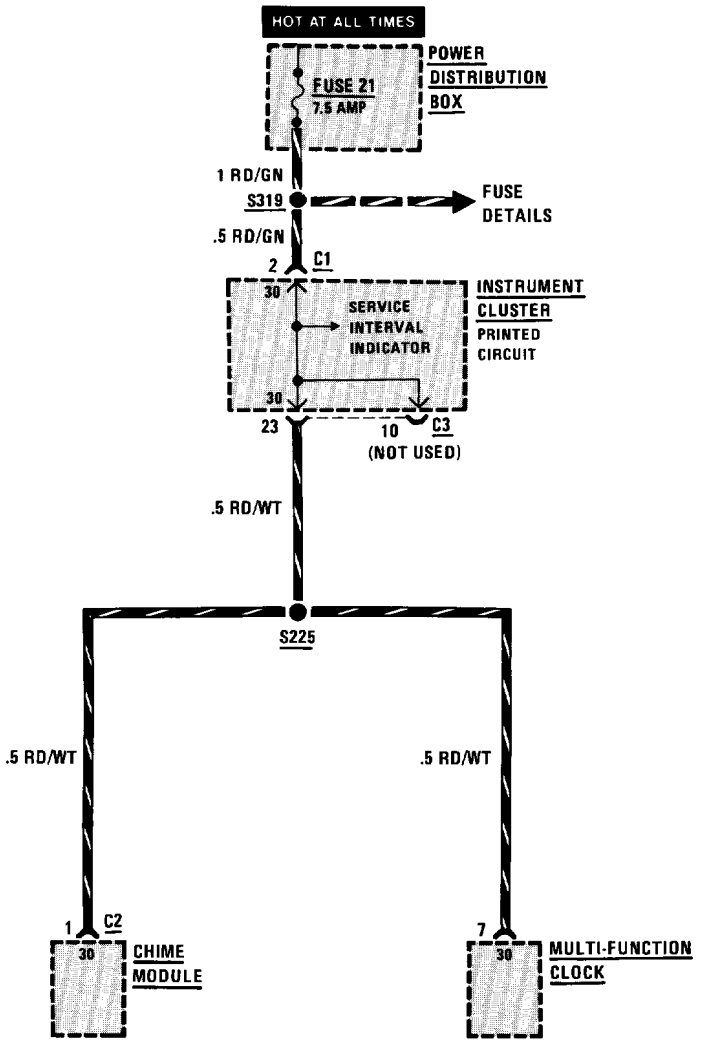
ENGINE BLOCK DIAGRAM

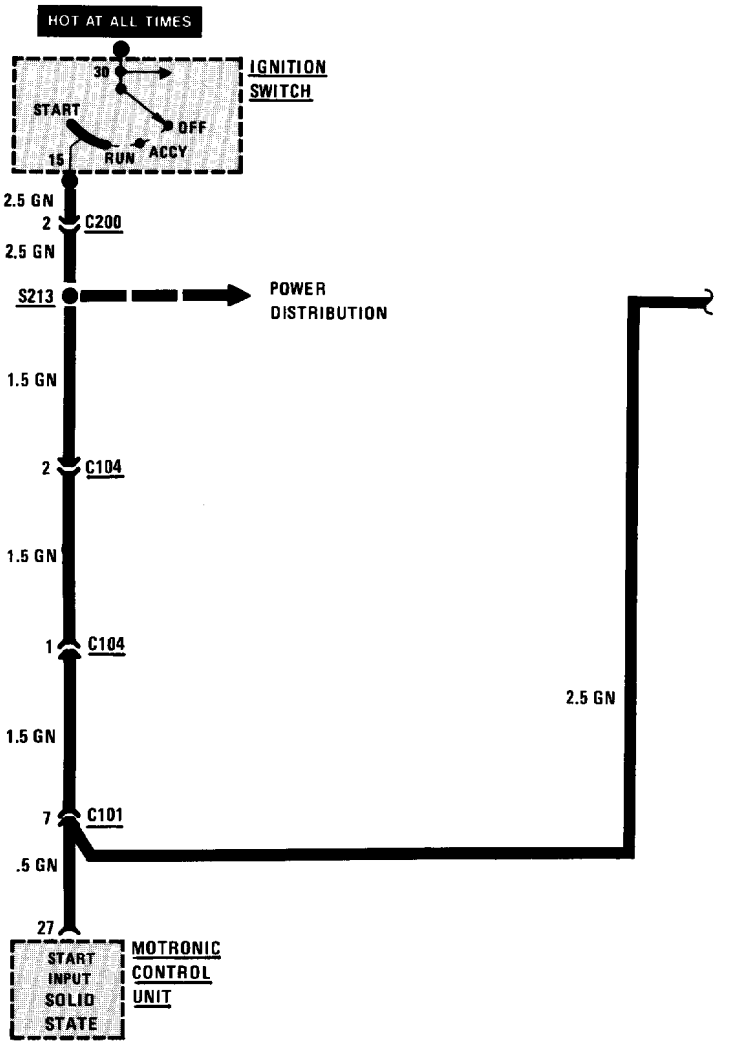


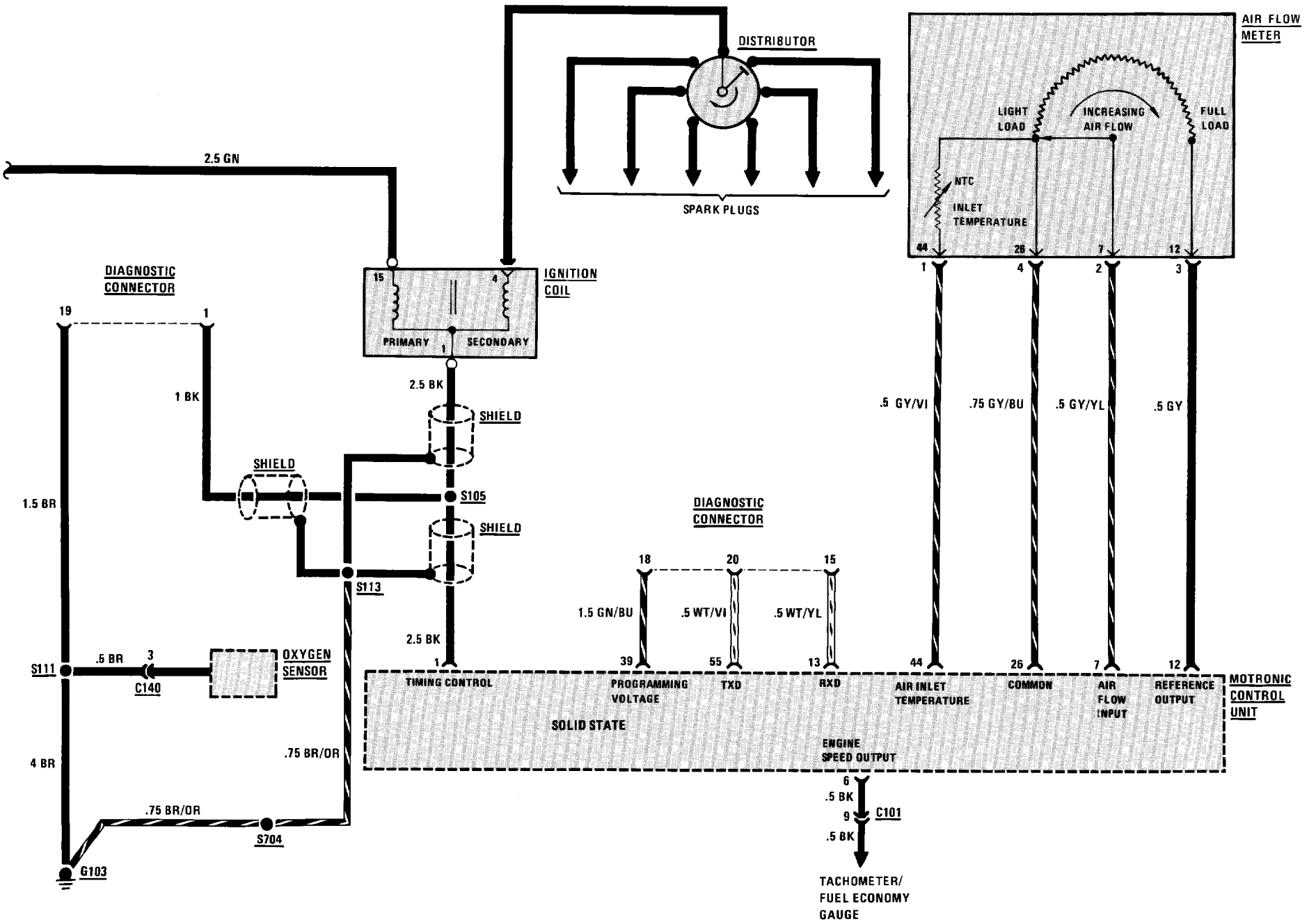
ENGINE BLOCK DIAGRAM

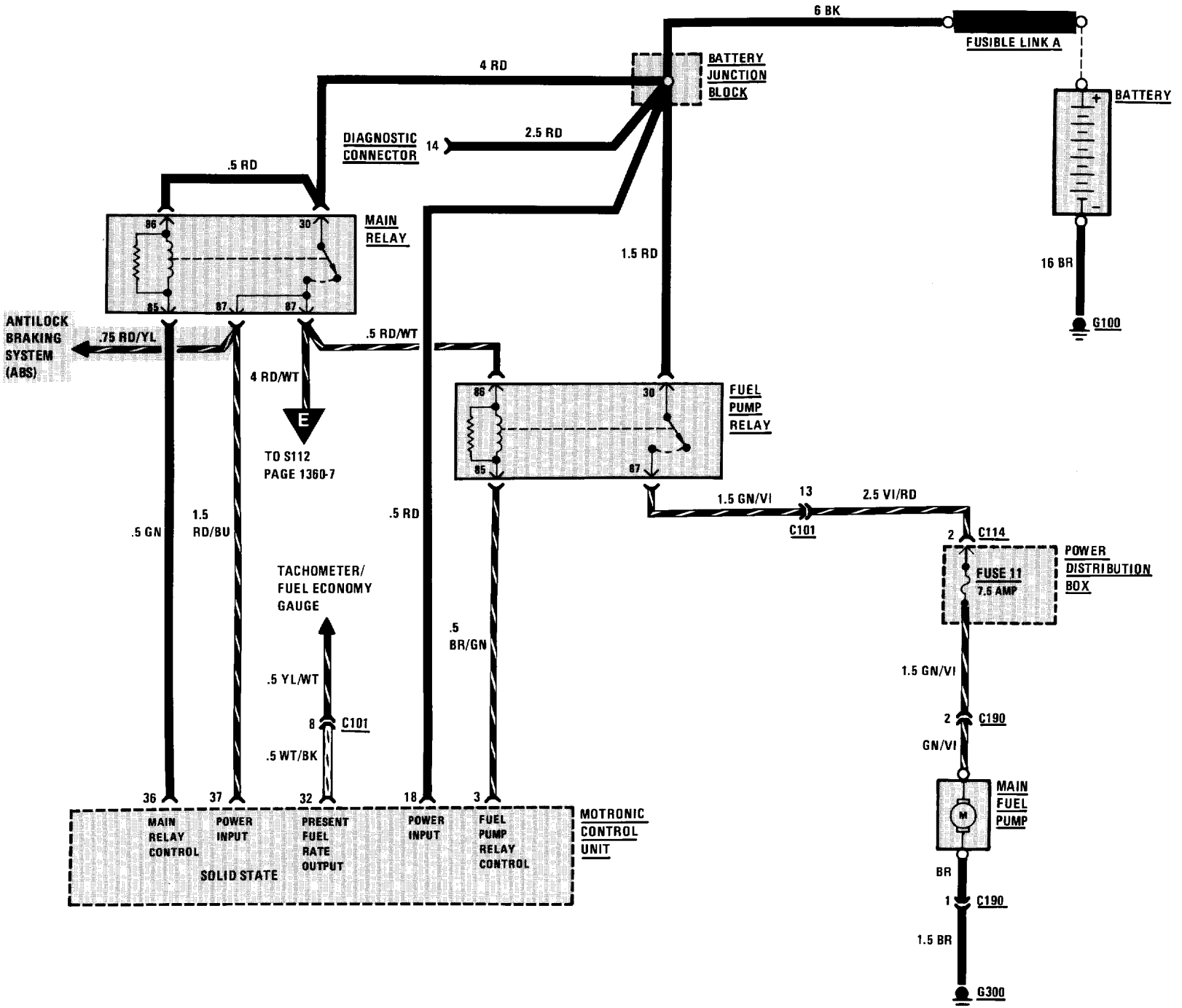


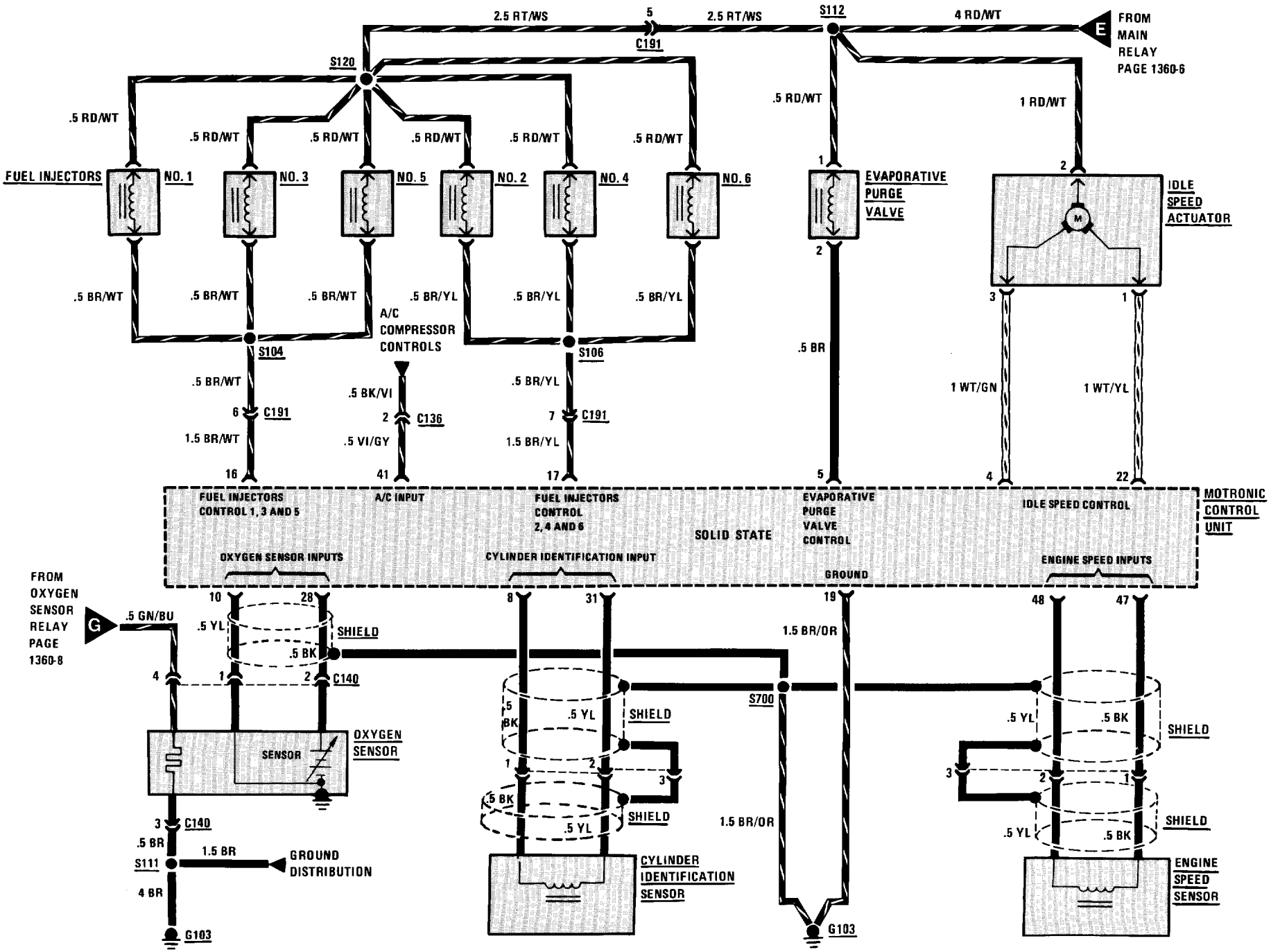

HOT IN RUN OR START
POWER DISTRIBUTION BOX
FUSE 10
7.5 AMP
.75 GN/WT
.75 GN/WT
86
K7 UNLOADER RELAY
FUSE DETAILS
.5 GN/WT
.75 GN/WT
S212
1
C301
.75 GN/YL
INSTRUMENT CLUSTER
"CHECK ENGINE" INDICATOR
3
C306
.75 GN/YL
.75 GN/YL
AUTOMATIC TRANSMISSION RANGE SWITCH
1
2
D
N
R
P
.5 GN/WT
12
C101
.75 BR
.75 GN/BK
5
C306
9
.75 GN/BK
(NOT USED)
2
C131
.5 BR
.75 BR
.75 GN/BK
G200
2
C131
.5 RD/BU
START: AUTOMATIC
.5 RD/BU
15
42
42
"CHECK ENGINE" LIGHT CONTROL
SOLID STATE
PARK/NEUTRAL INPUT (AUTOMATIC TRANSMISSION)
MANUAL TRANSMISSION
MOTRONIC CONTROL UNIT

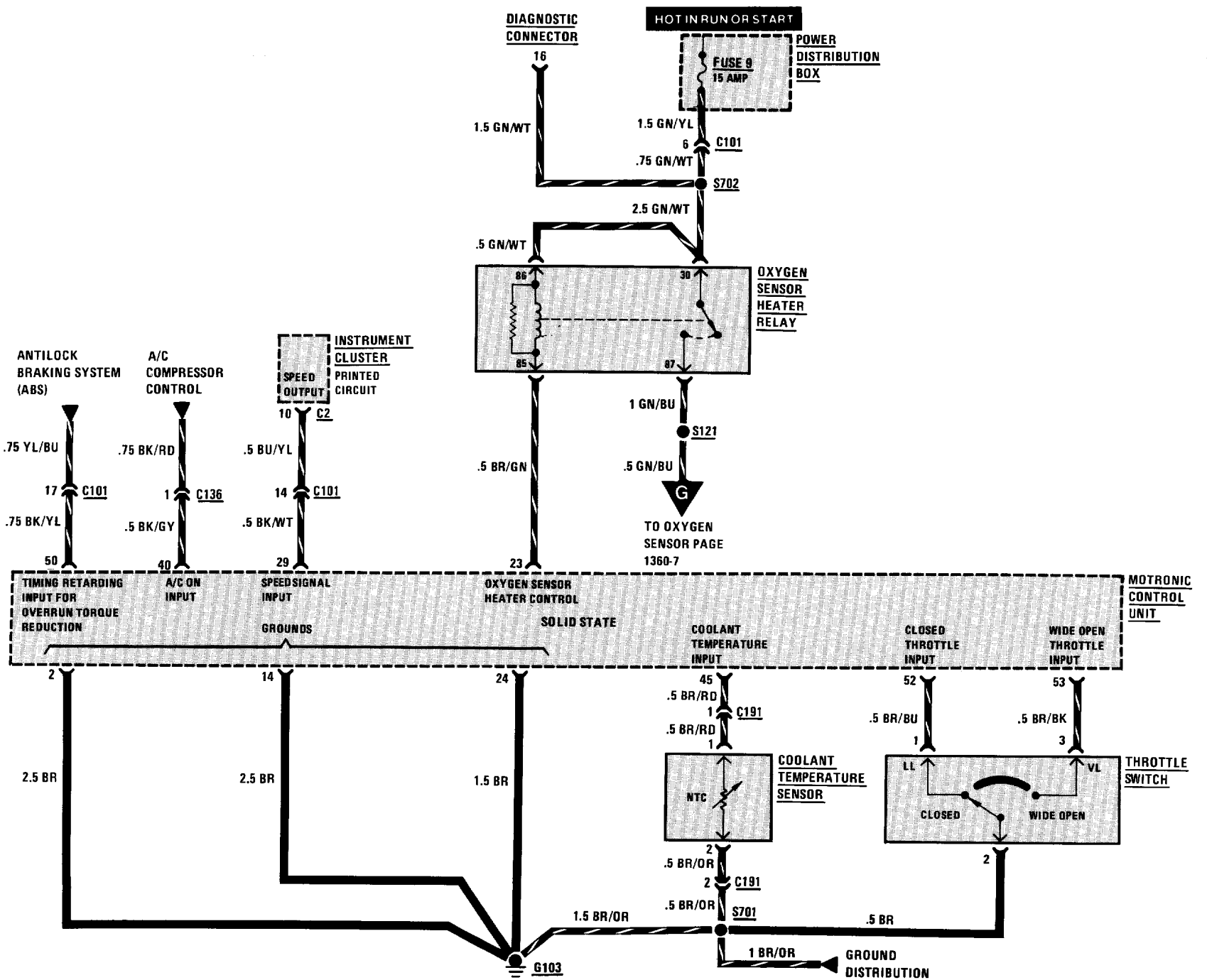

HOT AT ALL TIMES
POWER DISTRIBUTION BOX
FUSE 21
7.5 AMP
1 RD/GN
S319
FUSE DETAILS
.5 RD/GN
2
C1
30
SERVICE INTERVAL INDICATOR
INSTRUMENT CLUSTER
PRINTED CIRCUIT
30
23
10
C3
(NOT USED)
.5 RD/WT
S225
.5 RD/WT
.5 RD/WT
1
C2
30
CHIME MODULE
7
30
MULTI-FUNCTION CLOCK

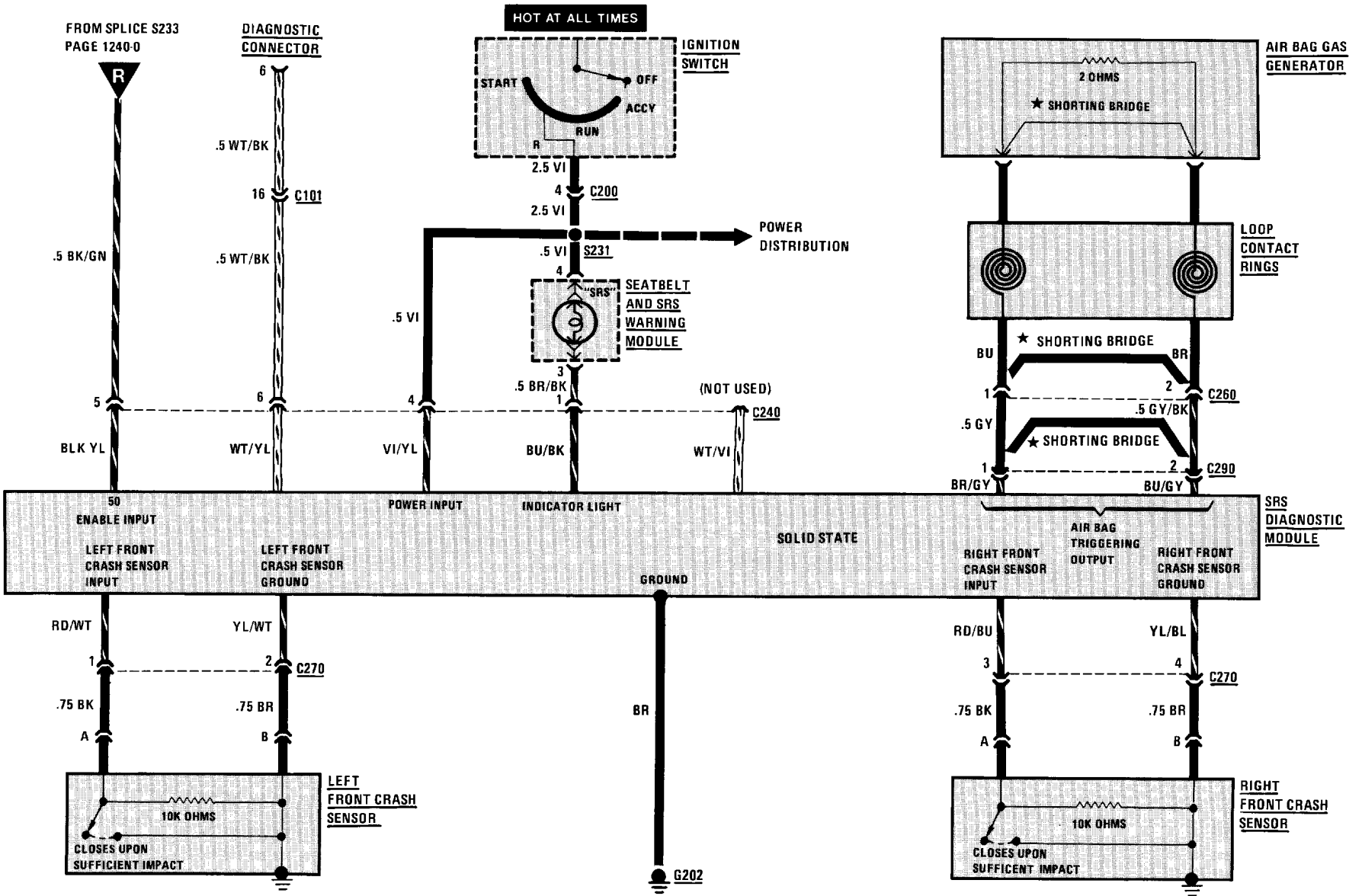

HOT AT ALL TIMES
30
START
OFF
RUN
ACCY
15
IGNITION SWITCH
2.5 GN
2
C200
2.5 GN
S213
POWER DISTRIBUTION
1.5 GN
2
C104
1.5 GN
1
C104
2.5 GN
1.5 GN
7
C101
.5 GN
27
START INPUT SOLID STATE
MOTRONIC CONTROL UNIT


DISTRIBUTOR
SPARK PLUGS
AIR FLOW METER
LIGHT LOAD
INCREASING AIR FLOW
FULL LOAD
NTC
INLET TEMPERATURE
2.5 GN
DIAGNOSTIC CONNECTOR
IGNITION COIL
PRIMARY
SECONDARY
19
1
15
4
1
44
26
7
12
1 BK
2.5 BK
SHIELD
SHIELD
SHIELD
1.5 BR
S105
S113
.5 GY/VI
.75 GY/BU
.5 GY/YL
.5 GY
DIAGNOSTIC CONNECTOR
18
20
15
1.5 GN/BU
.5 WT/VI
.5 WT/YL
2.5 BK
S111
.5 BR
3
C140
OXYGEN SENSOR
39
55
13
1
44
26
7
12
TIMING CONTROL
PROGRAMMING VOLTAGE
TXD
RXD
AIR INLET TEMPERATURE
COMMON
AIR FLOW INPUT
REFERENCE OUTPUT
MOTRONIC CONTROL UNIT
SOLID STATE
ENGINE SPEED OUTPUT
4 BR
.75 BR/OR
.75 BR/OR
6
.5 BK
9
C101
.5 BK
S704
G103
TACHOMETER/ FUEL ECONOMY GAUGE

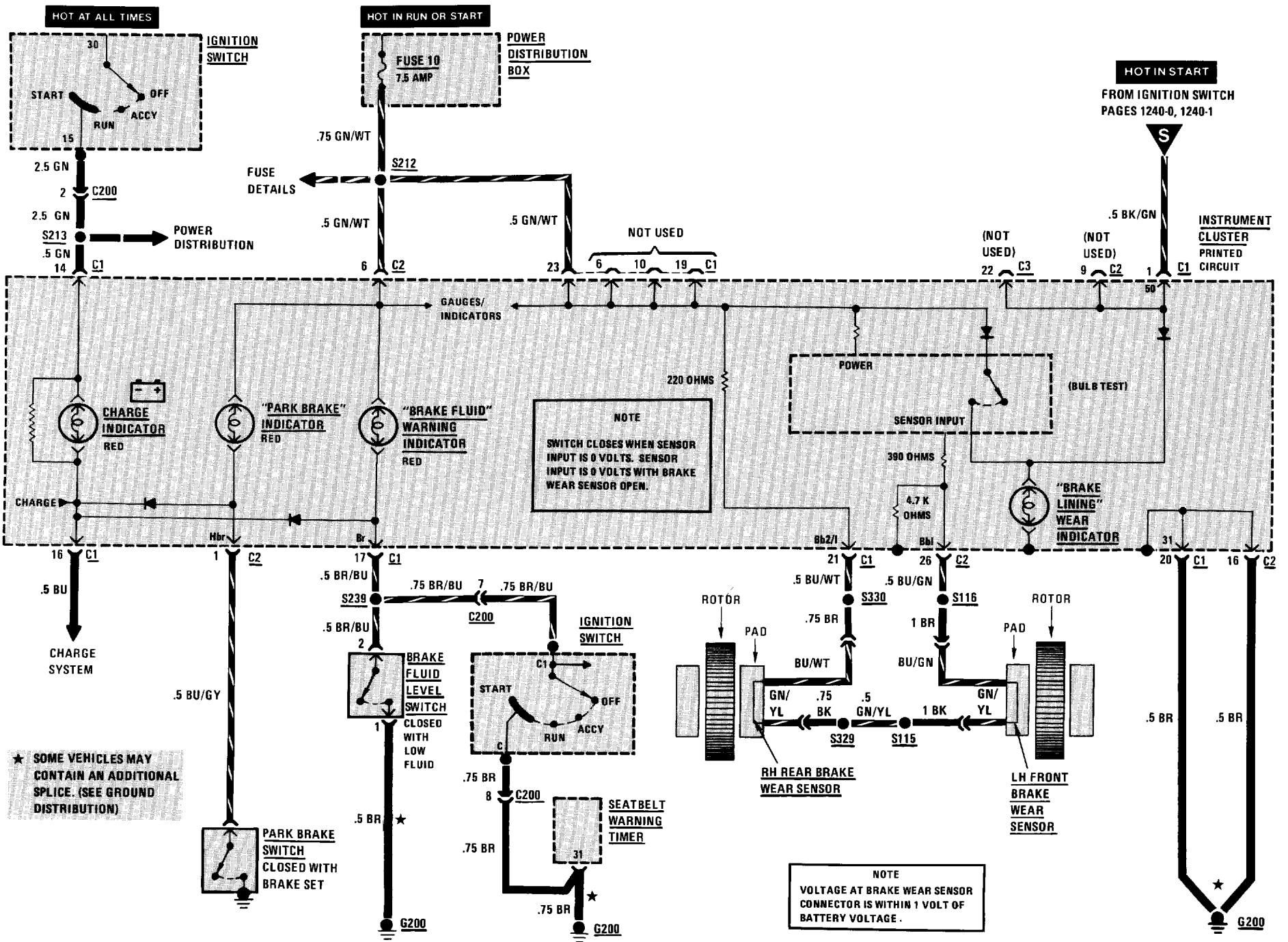

6 BK
FUSIBLE LINK A
BATTERY JUNCTION BLOCK
4 RD
BATTERY
DIAGNOSTIC CONNECTOR
14
2.5 RD
.5 RD
MAIN RELAY
86
30
85
87
87
1.5 RD
16 BR
G100
ANTILOCK BRAKING SYSTEM (ABS)
.75 RD/YL
.5 RD/WT
4 RD/WT
E
TO S112
PAGE 1360-7
FUEL PUMP RELAY
86
30
85
87
1.5 GN/VI
13
C101
2.5 VI/RD
2
C114
POWER DISTRIBUTION BOX
FUSE 11
7.5 AMP
.5 GN
1.5 RD/BU
.5 RD
TACHOMETER/ FUEL ECONOMY GAUGE
.5 BR/GN
.5 YL/WT
8
C101
.5 WT/BK
1.5 GN/VI
2
C190
GN/VI
MAIN FUEL PUMP
M
BR
1
C190
1.5 BR
G300
36
37
32
18
3
MAIN RELAY CONTROL
POWER INPUT
PRESENT FUEL RATE OUTPUT
POWER INPUT
FUEL PUMP RELAY CONTROL
SOLID STATE
MOTRONIC CONTROL UNIT

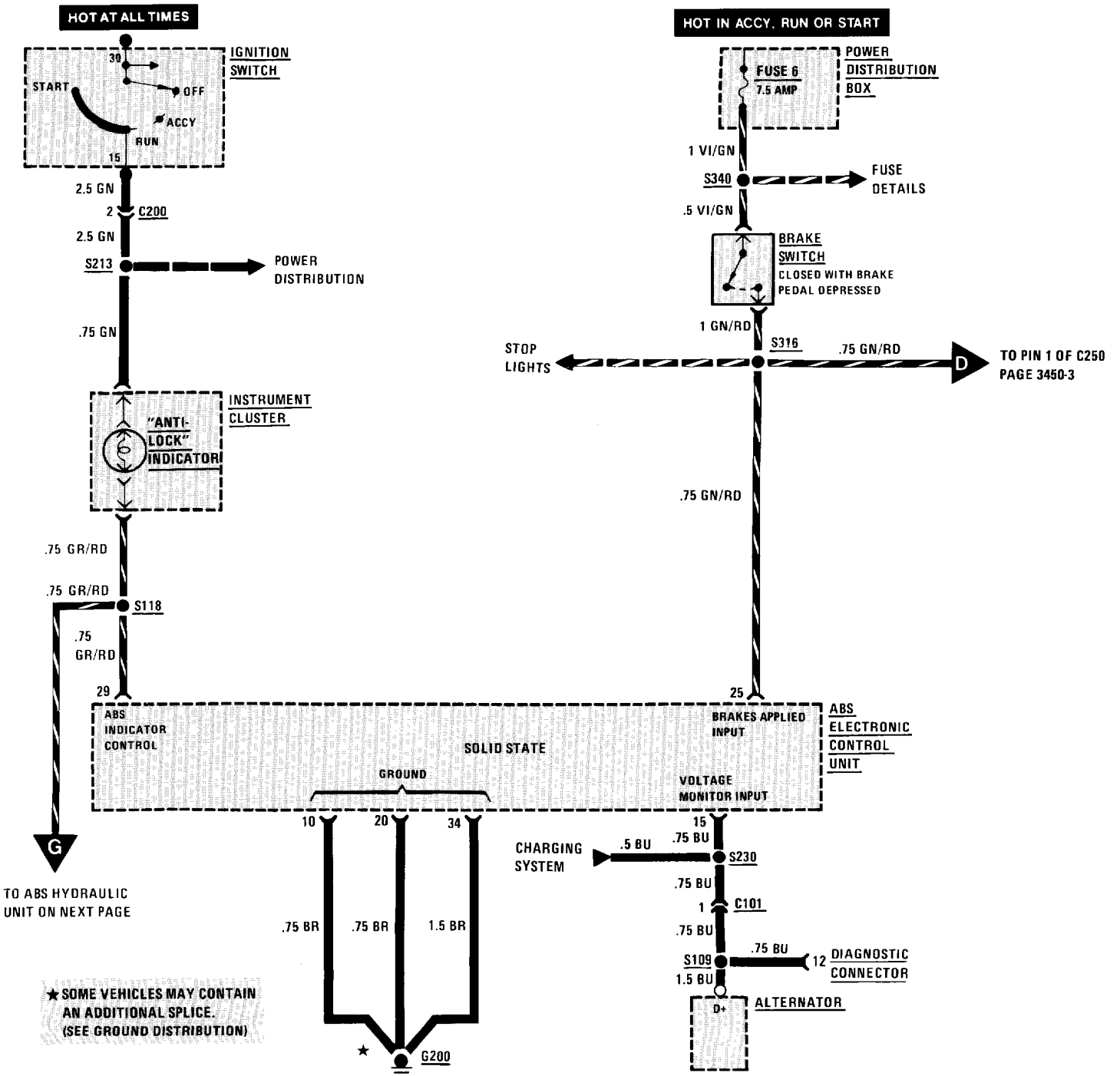

2.5 RT/WS
5
C191
2.5 RT/WS
S112
4 RD/WT
E
FROM MAIN RELAY PAGE 1360-6
S120
.5 RD/WT
.5 RD/WT
.5 RD/WT
.5 RD/WT
.5 RD/WT
.5 RD/WT
.5 RD/WT
1 RD/WT
FUEL INJECTORS
NO. 1
NO. 3
NO. 5
NO. 2
NO. 4
NO. 6
1
EVAPORATIVE PURGE VALVE
2
IDLE SPEED ACTUATOR
M
.5 BR/WT
.5 BR/WT
.5 BR/WT
.5 BR/YL
.5 BR/YL
.5 BR/YL
A/C COMPRESSOR CONTROLS
S104
S106
.5 BR
3
1
1 WT/GN
1 WT/YL
.5 BR/WT
.5 BK/VI
.5 BR/YL
6
C191
2
C136
7
C191
1.5 BR/WT
.5 VI/GY
1.5 BR/YL
16
41
17
5
4
22
FUEL INJECTORS CONTROL 1, 3 AND 5
A/C INPUT
FUEL INJECTORS CONTROL 2, 4 AND 6
SOLID STATE
EVAPORATIVE PURGE VALVE CONTROL
IDLE SPEED CONTROL
MOTRONIC CONTROL UNIT
OXYGEN SENSOR INPUTS
CYLINDER IDENTIFICATION INPUT
GROUND
ENGINE SPEED INPUTS
FROM OXYGEN SENSOR RELAY PAGE 1360-8
G
.5 GN/BU
10
28
8
31
19
48
47
.5 YL
SHIELD
.5 BK
1.5 BR/OR
4
1
2
C140
S700
5 BK
.5 YL
SHIELD
.5 YL
.5 BK
SHIELD
SENSOR
OXYGEN SENSOR
1
2
3
3
2
1
5 BK
SHIELD
.5 YL
.5 BK
SHIELD
3
C140
1.5 BR/OR
.5 BR
1.5 BR
S111
GROUND DISTRIBUTION
CYLINDER IDENTIFICATION SENSOR
ENGINE SPEED SENSOR
4 BR
G103
G103

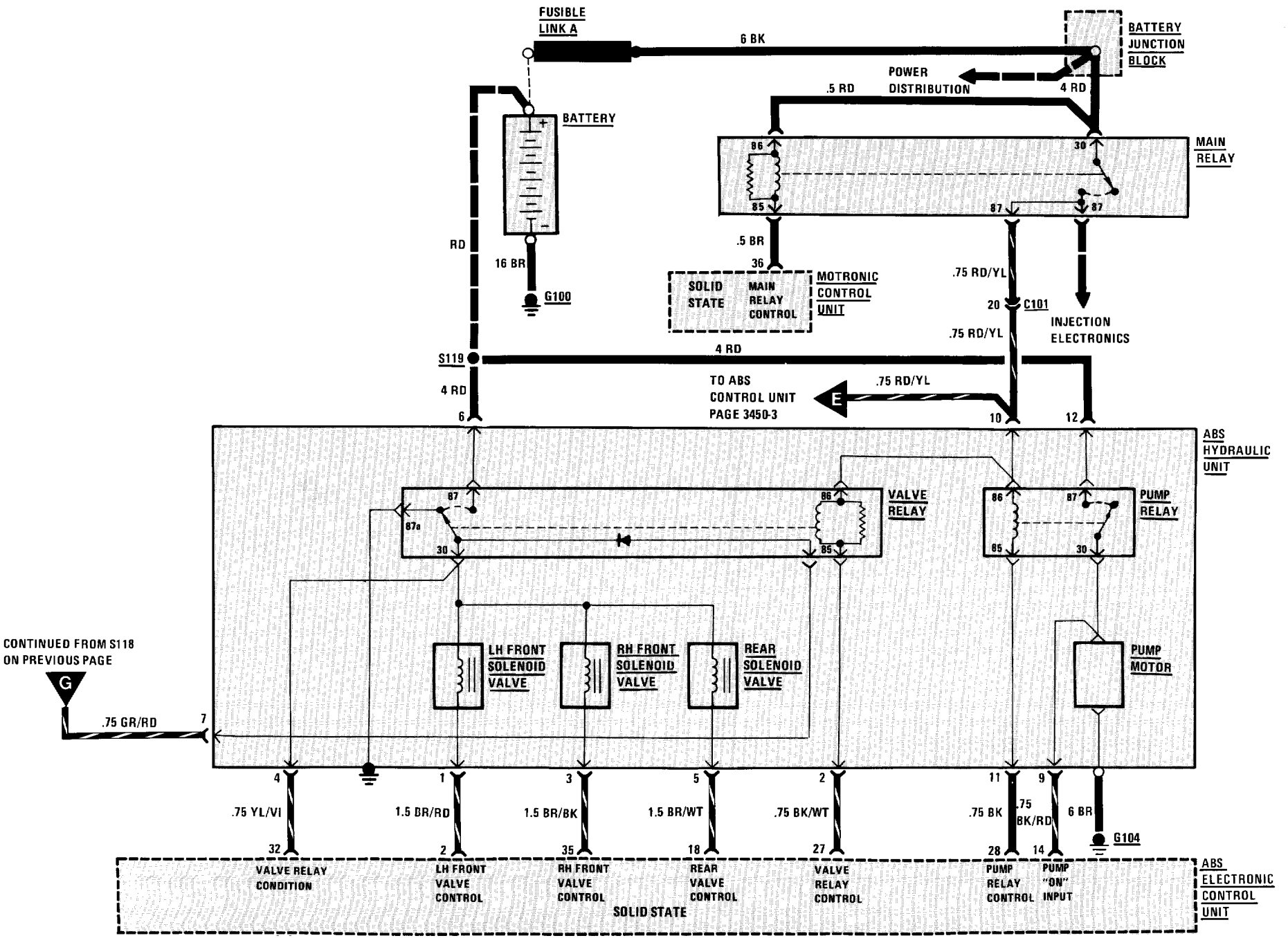

DIAGNOSTIC CONNECTOR
16
HOT IN RUN OR START
POWER DISTRIBUTION BOX
FUSE 9
15 AMP
1.5 GN/WT
1.5 GN/YL
6
C101
.75 GN/WT
S702
2.5 GN/WT
.5 GN/WT
86
30
85
87
OXYGEN SENSOR HEATER RELAY
1 GN/BU
S121
.5 GN/BU
G
TO OXYGEN SENSOR PAGE 1360-7
.5 BR/GN
ANTILOCK BRAKING SYSTEM (ABS)
A/C COMPRESSOR CONTROL
INSTRUMENT CLUSTER
PRINTED CIRCUIT
SPEED OUTPUT
10
C2
.75 YL/BU
.75 BK/RD
.5 BU/YL
17
C101
1
C136
14
C101
.75 BK/YL
.5 BK/GY
.5 BK/WT
50
40
29
23
TIMING RETARDING INPUT FOR OVERRUN TORQUE REDUCTION
A/C ON INPUT
SPEED SIGNAL INPUT
OXYGEN SENSOR HEATER CONTROL
SOLID STATE
GROUNDS
COOLANT TEMPERATURE INPUT
CLOSED THROTTLE INPUT
WIDE OPEN THROTTLE INPUT
MOTRONIC CONTROL UNIT
2
14
24
45
52
53
.5 BR/RD
.5 BR/BU
.5 BR/BK
1
C191
1
1
3
2.5 BR
2.5 BR
1.5 BR
COOLANT TEMPERATURE SENSOR
NTC
LL
VL
CLOSED
WIDE OPEN
THROTTLE SWITCH
2
.5 BR/OR
2
C191
.5 BR/OR
S701
1.5 BR/OR
.5 BR
2
1 BR/OR
GROUND DISTRIBUTION
G103

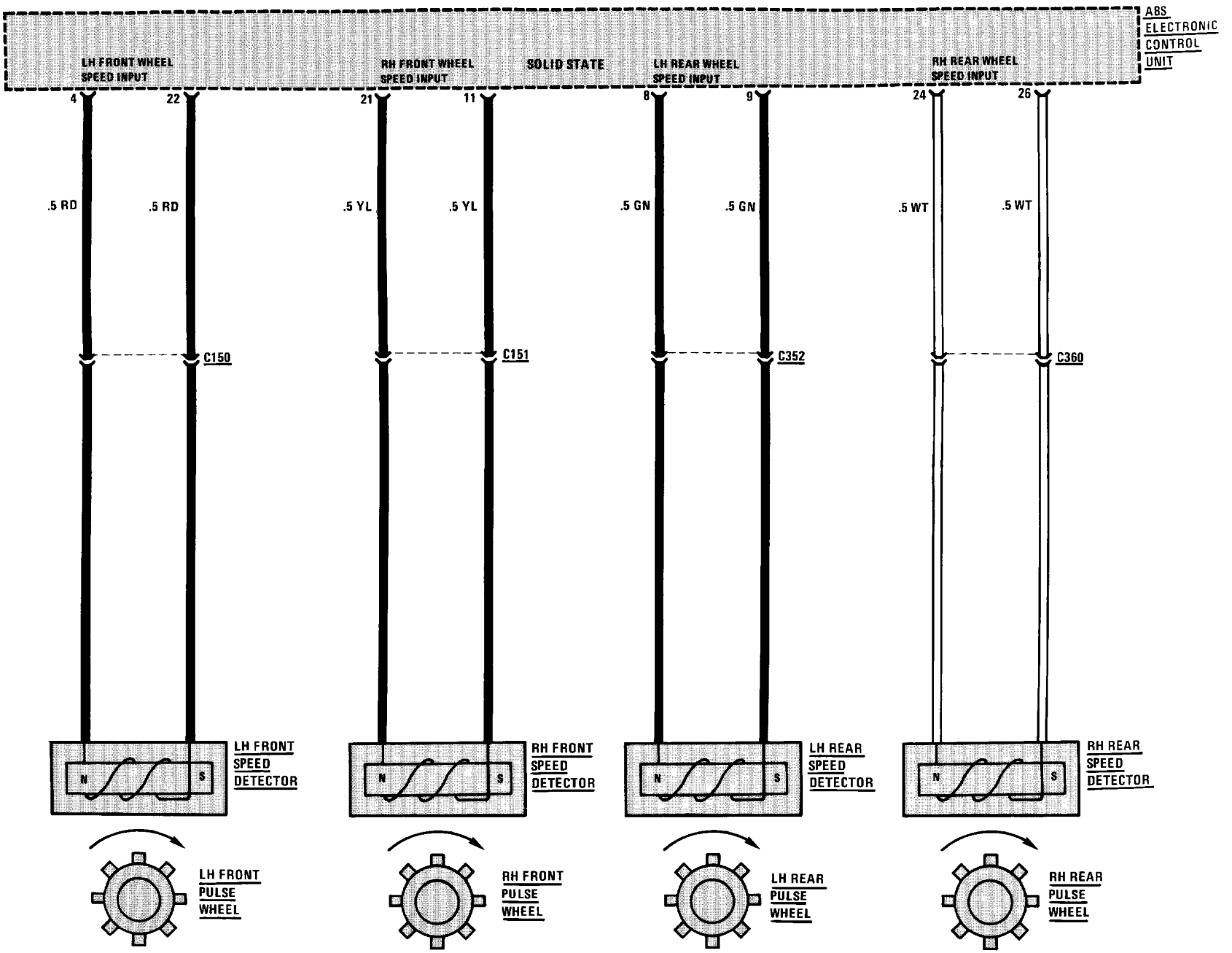

FROM SPLICE S233
PAGE 1240-0
R
.5 BK/GN
5
BLK YL
DIAGNOSTIC CONNECTOR
6
.5 WT/BK
16
C101
.5 WT/BK
6
WT/YL
HOT AT ALL TIMES
IGNITION SWITCH
START
OFF
ACCY
RUN
R
2.5 VI
4
C200
2.5 VI
POWER DISTRIBUTION
.5 VI
S231
4
"SRS"
SEATBELT AND SRS WARNING MODULE
.5 VI
4
VI/YL
3
.5 BR/BK
1
BU/BK
(NOT USED)
C240
WT/VI
AIR BAG GAS GENERATOR
2 OHMS
SHORTING BRIDGE
LOOP CONTACT RINGS
SHORTING BRIDGE
BU
BR
1
2
C260
.5 GY/BK
.5 GY
SHORTING BRIDGE
1
2
C290
BR/GY
BU/GY
50
ENABLE INPUT
LEFT FRONT CRASH SENSOR INPUT
LEFT FRONT CRASH SENSOR GROUND
POWER INPUT
INDICATOR LIGHT
SOLID STATE
GROUND
AIR BAG TRIGGERING OUTPUT
RIGHT FRONT CRASH SENSOR INPUT
RIGHT FRONT CRASH SENSOR GROUND
SRS DIAGNOSTIC MODULE
RD/WT
1
.75 BK
A
YL/WT
2
C270
.75 BR
B
BR
G202
RD/BU
3
.75 BK
A
YL/BL
4
C270
.75 BR
B
10K OHMS
CLOSES UPON SUFFICIENT IMPACT
LEFT FRONT CRASH SENSOR
10K OHMS
CLOSES UPON SUFFICENT IMPACT
RIGHT FRONT CRASH SENSOR

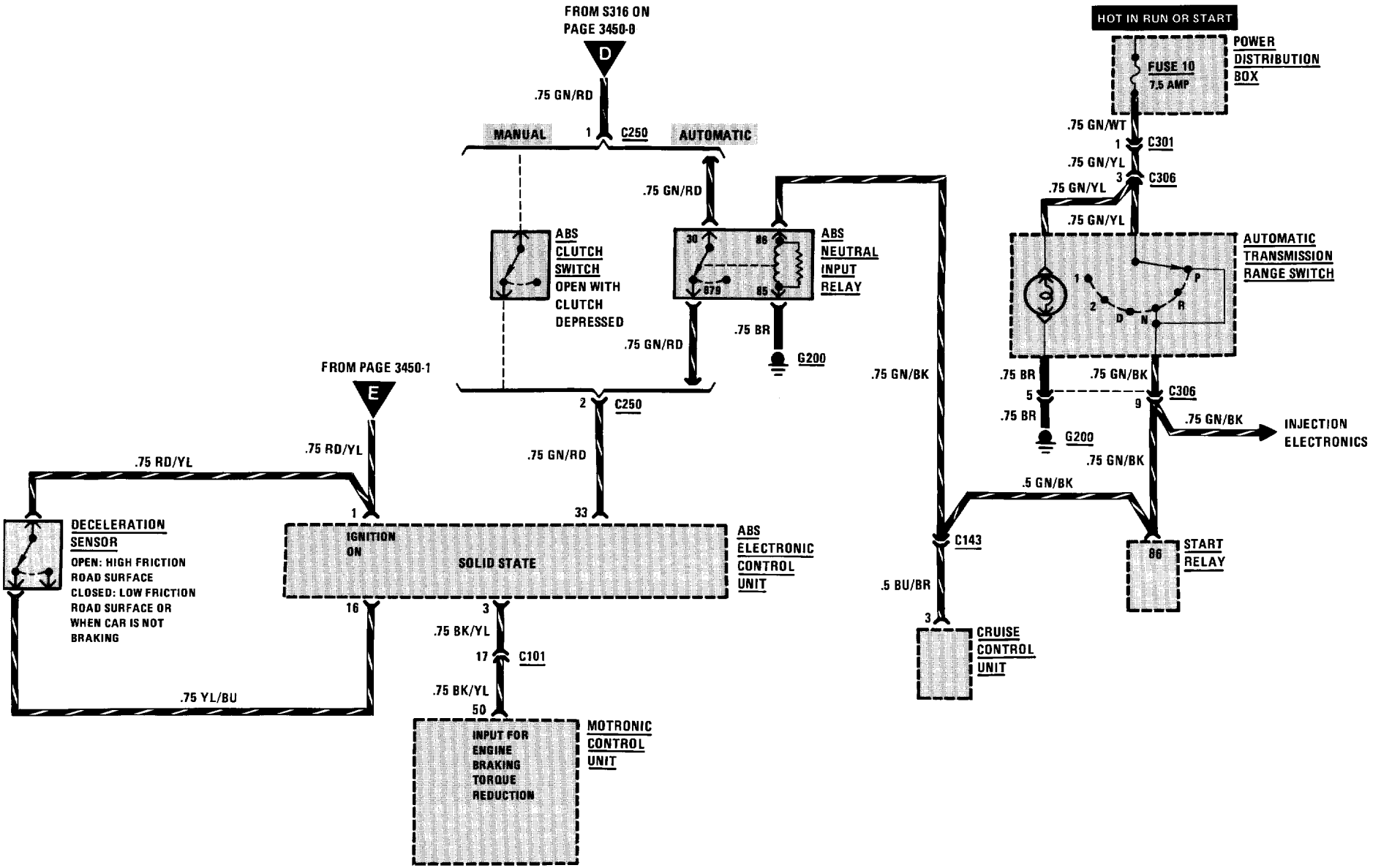
3435-0 BRAKE WARNING SYSTEM

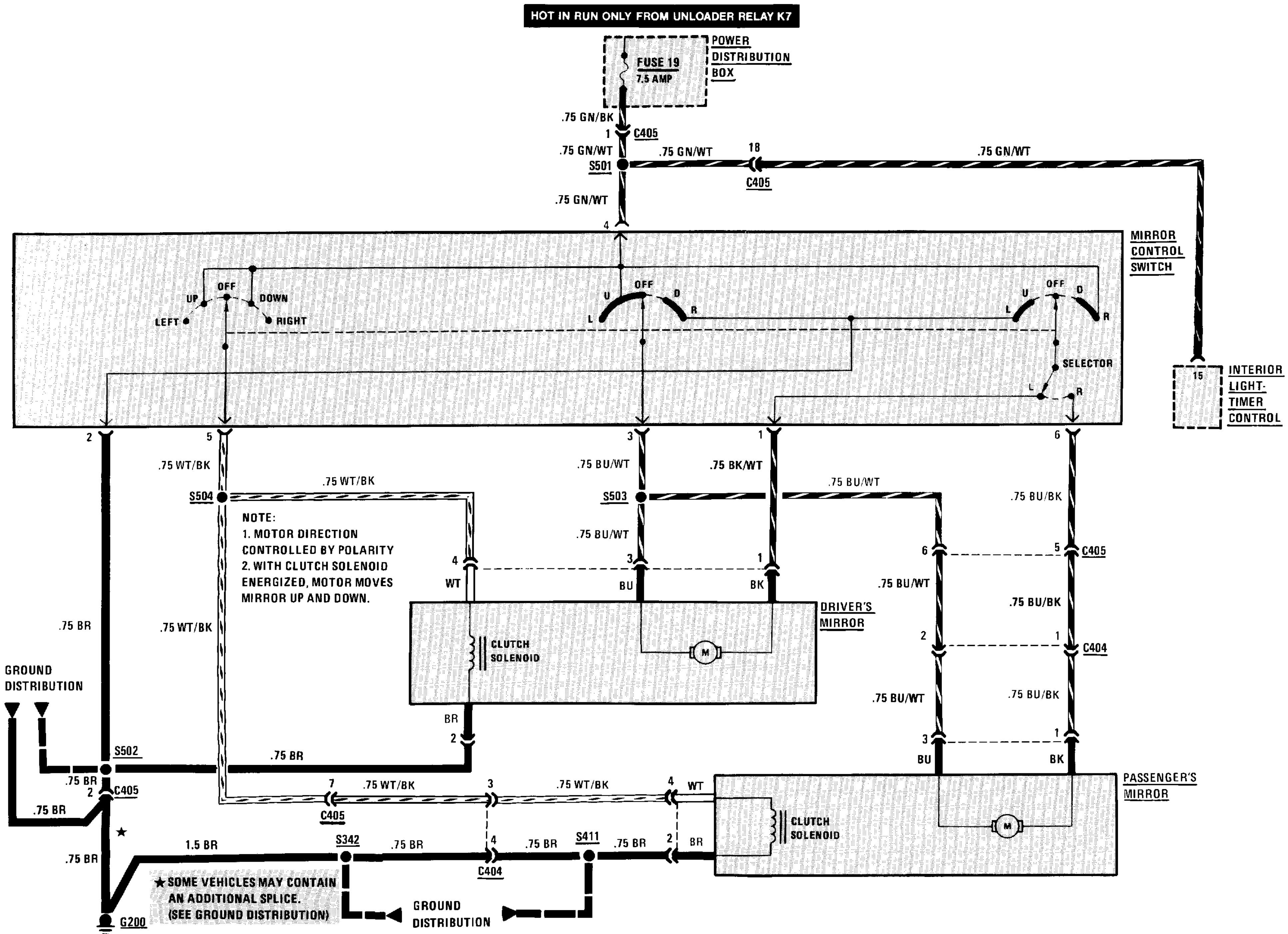



HOT AT ALL TIMES
IGNITION SWITCH
30
START
OFF
ACCY
RUN
15
2.5 GN
2
C200
2.5 GN
S213
POWER DISTRIBUTION
.75 GN
INSTRUMENT CLUSTER
"ANTI-LOCK" INDICATOR
.75 GR/RD
.75 GR/RD
S118
.75 GR/RD
29
G
TO ABS HYDRAULIC UNIT ON NEXT PAGE
HOT IN ACCY, RUN OR START
POWER DISTRIBUTION BOX
FUSE 6
7.5 AMP
1 VI/GN
S340
FUSE DETAILS
.5 VI/GN
BRAKE SWITCH
CLOSED WITH BRAKE PEDAL DEPRESSED
1 GN/RD
S316
.75 GN/RD
STOP LIGHTS
D
TO PIN 1 OF C250 PAGE 3450-3
.75 GN/RD
25
ABS INDICATOR CONTROL
SOLID STATE
BRAKES APPLIED INPUT
VOLTAGE MONITOR INPUT
ABS ELECTRONIC CONTROL UNIT
GROUND
10
20
34
15
.75 BU
CHARGING SYSTEM
.5 BU
S230
.75 BU
1
C101
.75 BU
.75 BR
.75 BR
1.5 BR
S109
.75 BU
12
DIAGNOSTIC CONNECTOR
1.5 BU
D+
ALTERNATOR
★SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)
★
G200

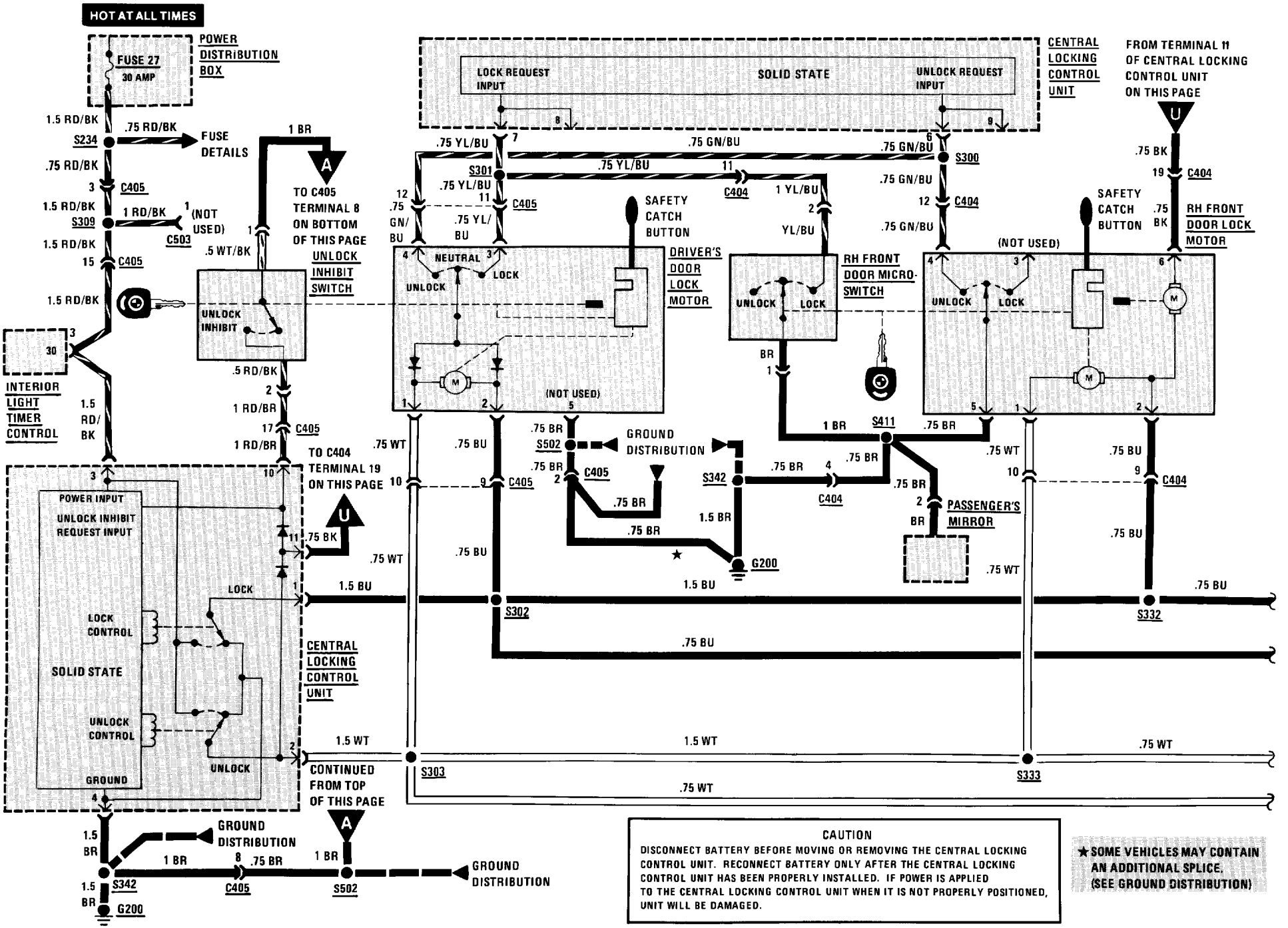

FUSIBLE LINK A
6 BK
BATTERY JUNCTION BLOCK
POWER DISTRIBUTION
.5 RD
4 RD
BATTERY
MAIN RELAY
86
85
30
87
87
RD
16 BR
G100
.5 BR
36
SOLID STATE
MAIN RELAY CONTROL
MOTRONIC CONTROL UNIT
.75 RD/YL
20
C101
INJECTION ELECTRONICS
.75 RD/YL
S119
4 RD
4 RD
6
TO ABS CONTROL UNIT PAGE 3450-3
E
.75 RD/YL
10
12
ABS HYDRAULIC UNIT
87
87a
30
86
85
VALVE RELAY
86
87
85
30
PUMP RELAY
CONTINUED FROM S118 ON PREVIOUS PAGE
G
.75 GR/RD
7
LH FRONT SOLENOID VALVE
RH FRONT SOLENOID VALVE
REAR SOLENOID VALVE
PUMP MOTOR
4
1
3
5
2
11
9
.75 YL/VI
1.5 BR/RD
1.5 BR/BK
1.5 BR/WT
.75 BK/WT
.75 BK
.75 BK/RD
6 BR
G104
32
2
35
18
27
28
14
VALVE RELAY CONDITION
LH FRONT VALVE CONTROL
RH FRONT VALVE CONTROL
REAR VALVE CONTROL
VALVE RELAY CONTROL
PUMP RELAY CONTROL
PUMP "ON" INPUT
SOLID STATE
ABS ELECTRONIC CONTROL UNIT


ABS ELECTRONIC CONTROL UNIT
SOLID STATE
LH FRONT WHEEL SPEED INPUT
RH FRONT WHEEL SPEED INPUT
LH REAR WHEEL SPEED INPUT
RH REAR WHEEL SPEED INPUT
4
22
21
11
8
9
24
26
.5 RD
.5 RD
.5 YL
.5 YL
.5 GN
.5 GN
.5 WT
.5 WT
C150
C151
C352
C360
N
S
LH FRONT SPEED DETECTOR
RH FRONT SPEED DETECTOR
LH REAR SPEED DETECTOR
RH REAR SPEED DETECTOR
LH FRONT PULSE WHEEL
RH FRONT PULSE WHEEL
LH REAR PULSE WHEEL
RH REAR PULSE WHEEL


FROM S316 ON
PAGE 3450-0
D
.75 GN/RD
MANUAL
1
C250
AUTOMATIC
.75 GN/RD
ABS
CLUTCH
SWITCH
OPEN WITH
CLUTCH
DEPRESSED
30
86
87
85
ABS
NEUTRAL
INPUT
RELAY
.75 GN/RD
.75 BR
G200
FROM PAGE 3450-1
E
2
C250
.75 RD/YL
.75 GN/RD
.75 RD/YL
1
33
DECELERATION
SENSOR
OPEN: HIGH FRICTION
ROAD SURFACE
CLOSED: LOW FRICTION
ROAD SURFACE OR
WHEN CAR IS NOT
BRAKING
IGNITION
ON
SOLID STATE
ABS
ELECTRONIC
CONTROL
UNIT
16
3
.75 BK/YL
17
C101
.75 BK/YL
50
.75 YL/BU
INPUT FOR
ENGINE
BRAKING
TORQUE
REDUCTION
MOTRONIC
CONTROL
UNIT
.75 GN/BK
C143
.5 BU/BR
3
CRUISE
CONTROL
UNIT
HOT IN RUN OR START
FUSE 10
7.5 AMP
POWER
DISTRIBUTION
BOX
.75 GN/WT
1
C301
.75 GN/YL
3
C306
.75 GN/YL
.75 GN/YL
AUTOMATIC
TRANSMISSION
RANGE SWITCH
1
2
D
N
P
R
.75 BR
.75 GN/BK
5
C306
9
.75 BR
G200
.75 GN/BK
INJECTION
ELECTRONICS
.75 GN/BK
.5 GN/BK
86
START
RELAY


HOT IN RUN ONLY FROM UNLOADER RELAY K7
FUSE 19
7.5 AMP
POWER DISTRIBUTION BOX
.75 GN/BK
C405
.75 GN/WT
S501
C405
MIRROR CONTROL SWITCH
UP
OFF
DOWN
LEFT
RIGHT
SELECTOR
INTERIOR LIGHT-TIMER CONTROL
.75 WT/BK
S504
.75 BU/WT
S503
.75 BK/WT
.75 BU/BK
NOTE:
1. MOTOR DIRECTION CONTROLLED BY POLARITY
2. WITH CLUTCH SOLENOID ENERGIZED, MOTOR MOVES MIRROR UP AND DOWN.
DRIVER'S MIRROR
CLUTCH SOLENOID
.75 BR
GROUND DISTRIBUTION
S502
C404
PASSENGER'S MIRROR
1.5 BR
S342
S411
G200
★ SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)

2 DOOR (SELECT)

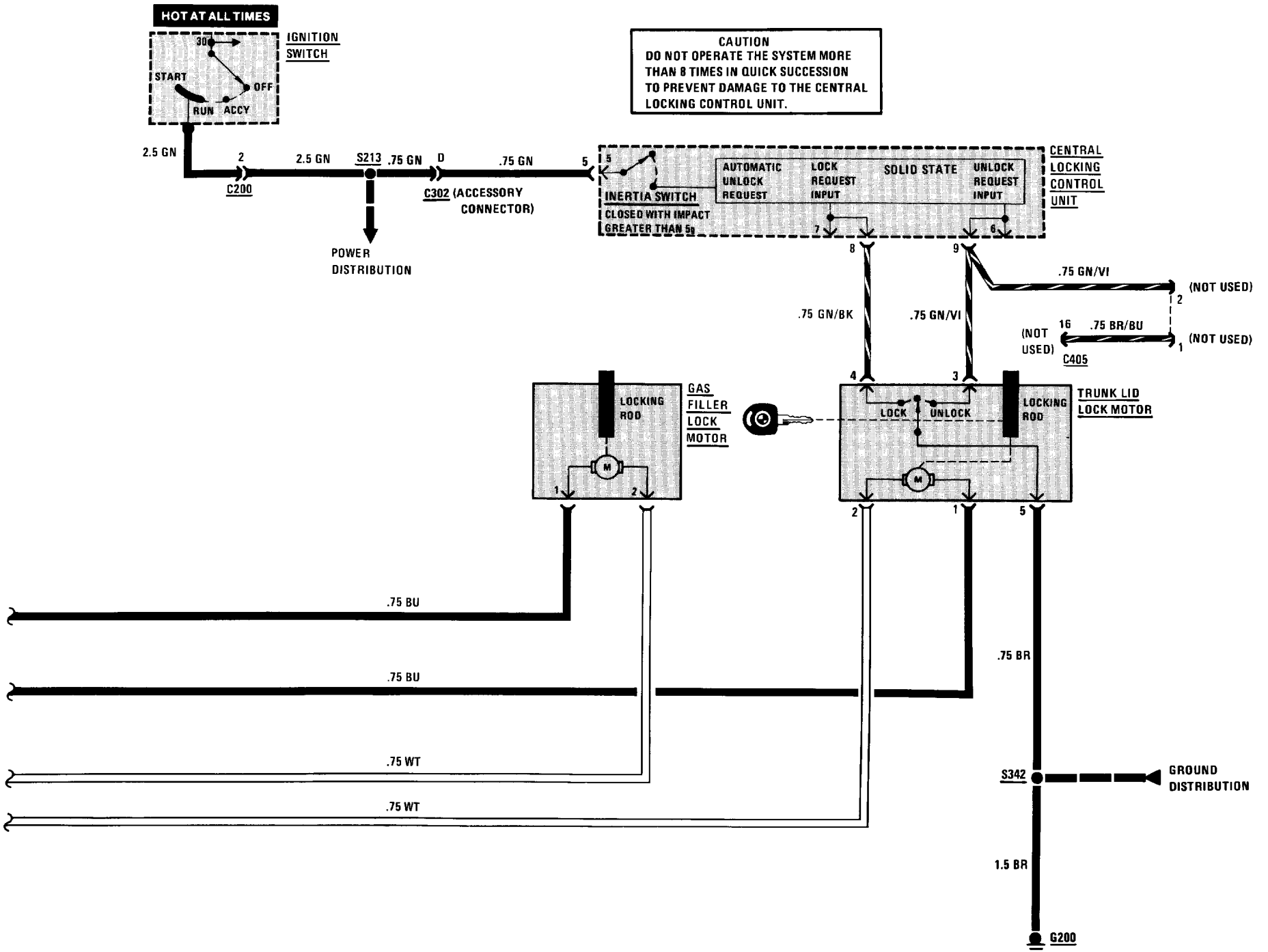


CAUTION

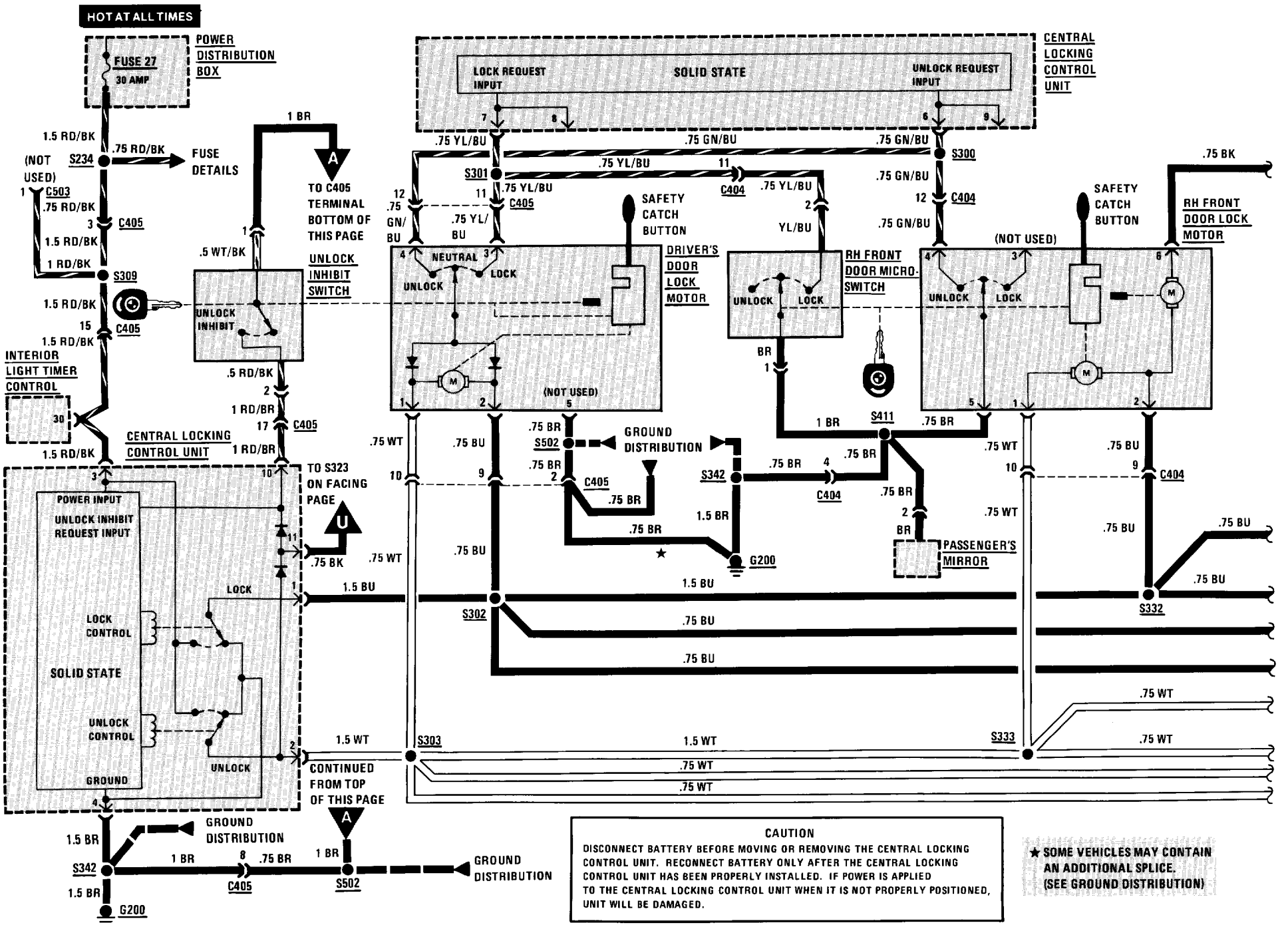
DISCONNECT BATTERY BEFORE MOVING OR REMOVING THE CENTRAL LOCKING CONTROL UNIT. RECONNECT BATTERY ONLY AFTER THE CENTRAL LOCKING CONTROL UNIT HAS BEEN PROPERLY INSTALLED. IF POWER IS APPLIED TO THE CENTRAL LOCKING CONTROL UNIT WHEN IT IS NOT PROPERLY POSITIONED, UNIT WILL BE DAMAGED.

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

2 DOOR (CONTROL)



4 DOOR (SELECT)

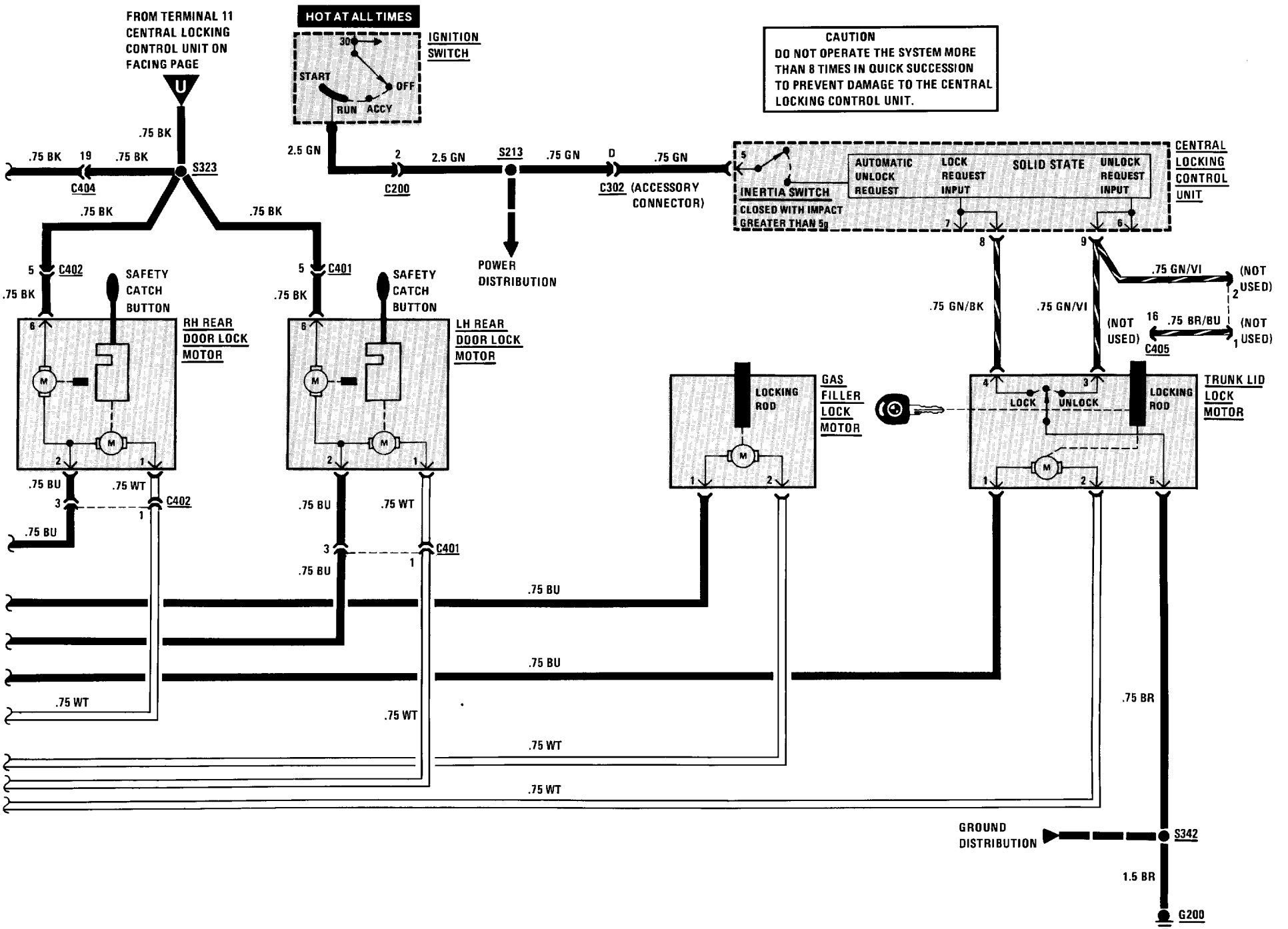


CAUTION

DISCONNECT BATTERY BEFORE MOVING OR REMOVING THE CENTRAL LOCKING CONTROL UNIT. RECONNECT BATTERY ONLY AFTER THE CENTRAL LOCKING CONTROL UNIT HAS BEEN PROPERLY INSTALLED. IF POWER IS APPLIED TO THE CENTRAL LOCKING CONTROL UNIT WHEN IT IS NOT PROPERLY POSITIONED, UNIT WILL BE DAMAGED.

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

4 DOOR (CONTROL)



TROUBLESHOOTING HINTS

1. Check Fuse by operating the Interior Light Timer for either Dome Light.
2. If all locks stay in unlock inhibit, check wires to terminal 10 of Central Locking Control Unit for a short to ground.

SYSTEM CHECK

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

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

SYSTEM CHECK TABLE

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

SYSTEM CHECK TABLE (CONT'D)

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

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, 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

- If voltages are correct, proceed to Table 2.

1. Check wire to terminal 3 for an open.
2. Check 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

- If the result is correct, repair/replace the switches and related wiring (see schematic).

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 2 & 4	Doors lock	See 1

- If the result is correct, replace the Central Locking Control Unit.

1. Check wire from terminal 1 to splice and wire from terminal 3 to splice for opens (see schematic).

B: UNLOCK INHIBIT TEST

Connect: A FUSED JUMPER
At: CONTROL UNIT CONNECTOR
(Connected)

Jumper Between	Correct Result	For Diagnosis
10 & Ground	Doors double lock	See 1

- If the result is correct, check wires from terminal 10 to ground for opens (see schematic). Replace the Unlock Inhibit Switch if the wires and connections are OK.

1. Check wires from terminal 11 for opens (see schematic). Replace the Central Locking Control Unit if wires and connections are OK.

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

- If the result is correct, repair/replace the switches and related wiring (see schematic).

1. Replace Central Locking Control Unit.

CIRCUIT DESCRIPTION

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

Lock

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

Unlock

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

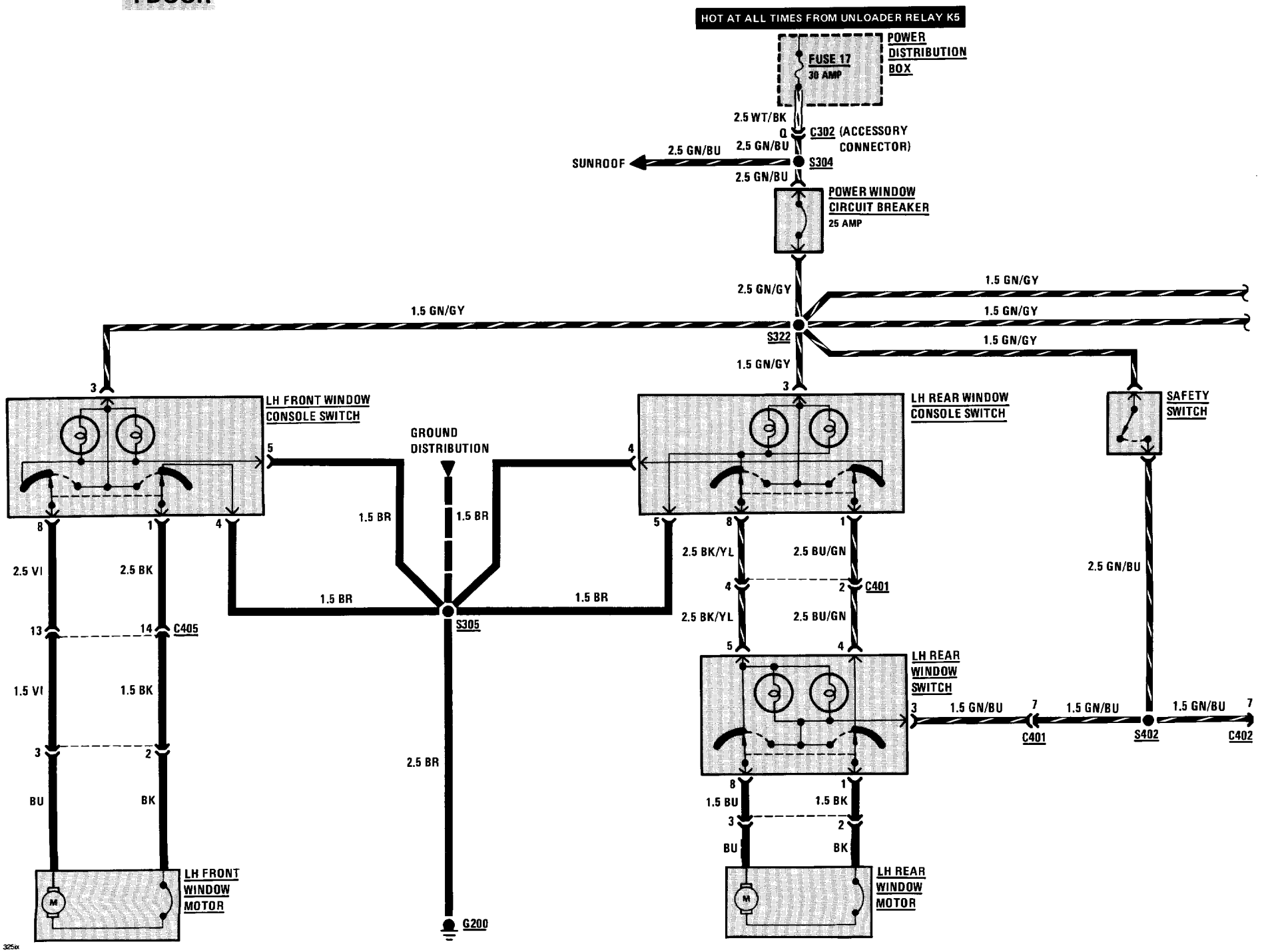
Unlock Inhibit

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

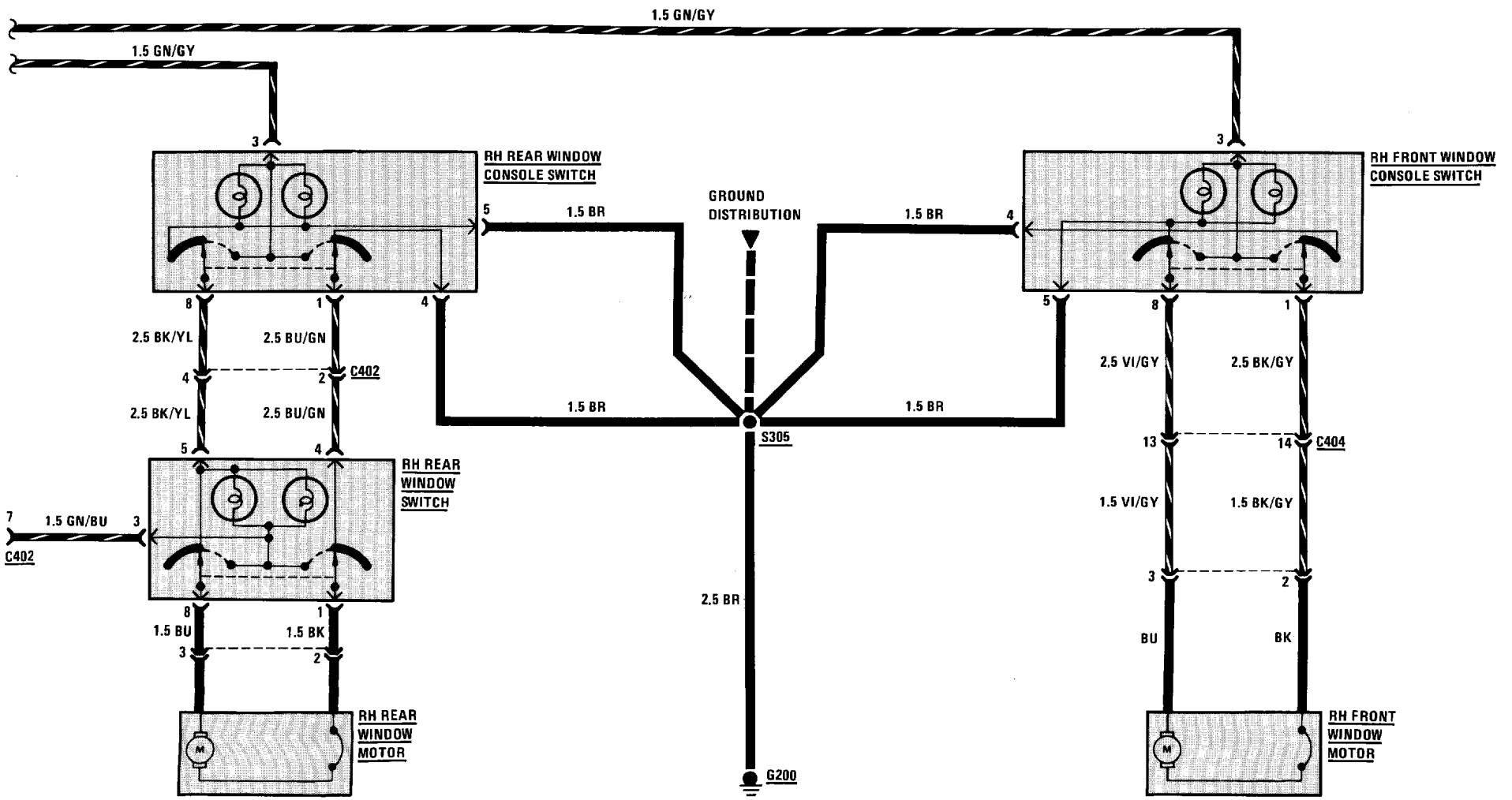
Trunk Lock

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

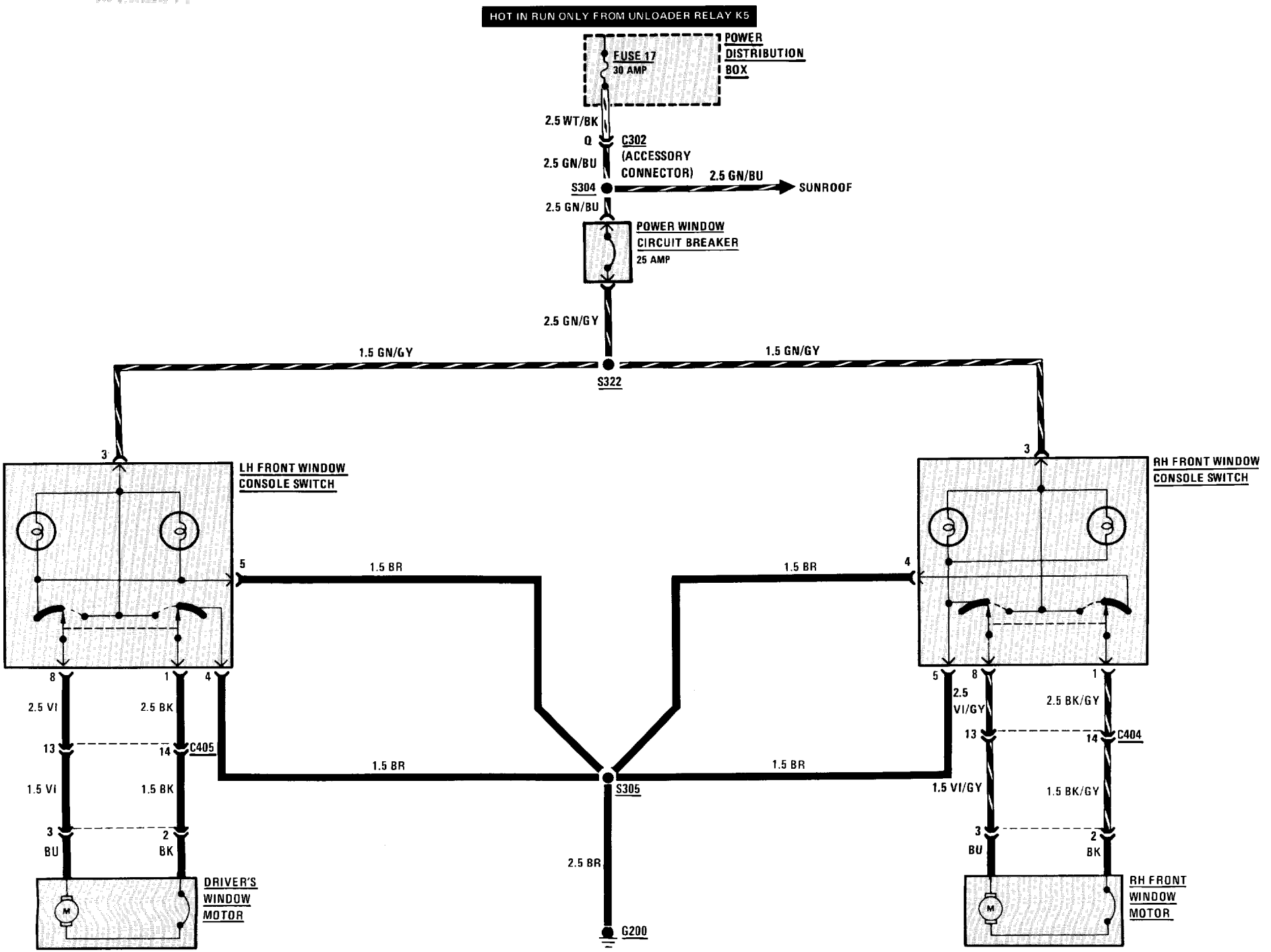
4 DOOR


HOT AT ALL TIMES FROM UNLOADER RELAY K5
POWER DISTRIBUTION BOX
FUSE 17
30 AMP
2.5 WT/BK
C302 (ACCESSORY CONNECTOR)
2.5 GN/BU
SUNROOF
S304
POWER WINDOW CIRCUIT BREAKER
25 AMP
2.5 GN/GY
1.5 GN/GY
S322
LH FRONT WINDOW CONSOLE SWITCH
LH REAR WINDOW CONSOLE SWITCH
SAFETY SWITCH
GROUND DISTRIBUTION
1.5 BR
2.5 VI
2.5 BK
2.5 BK/YL
2.5 BU/GN
C401
C405
S305
LH REAR WINDOW SWITCH
1.5 VI
1.5 BK
1.5 GN/BU
S402
C402
2.5 BR
BU
BK
LH FRONT WINDOW MOTOR
LH REAR WINDOW MOTOR
G200
325ix

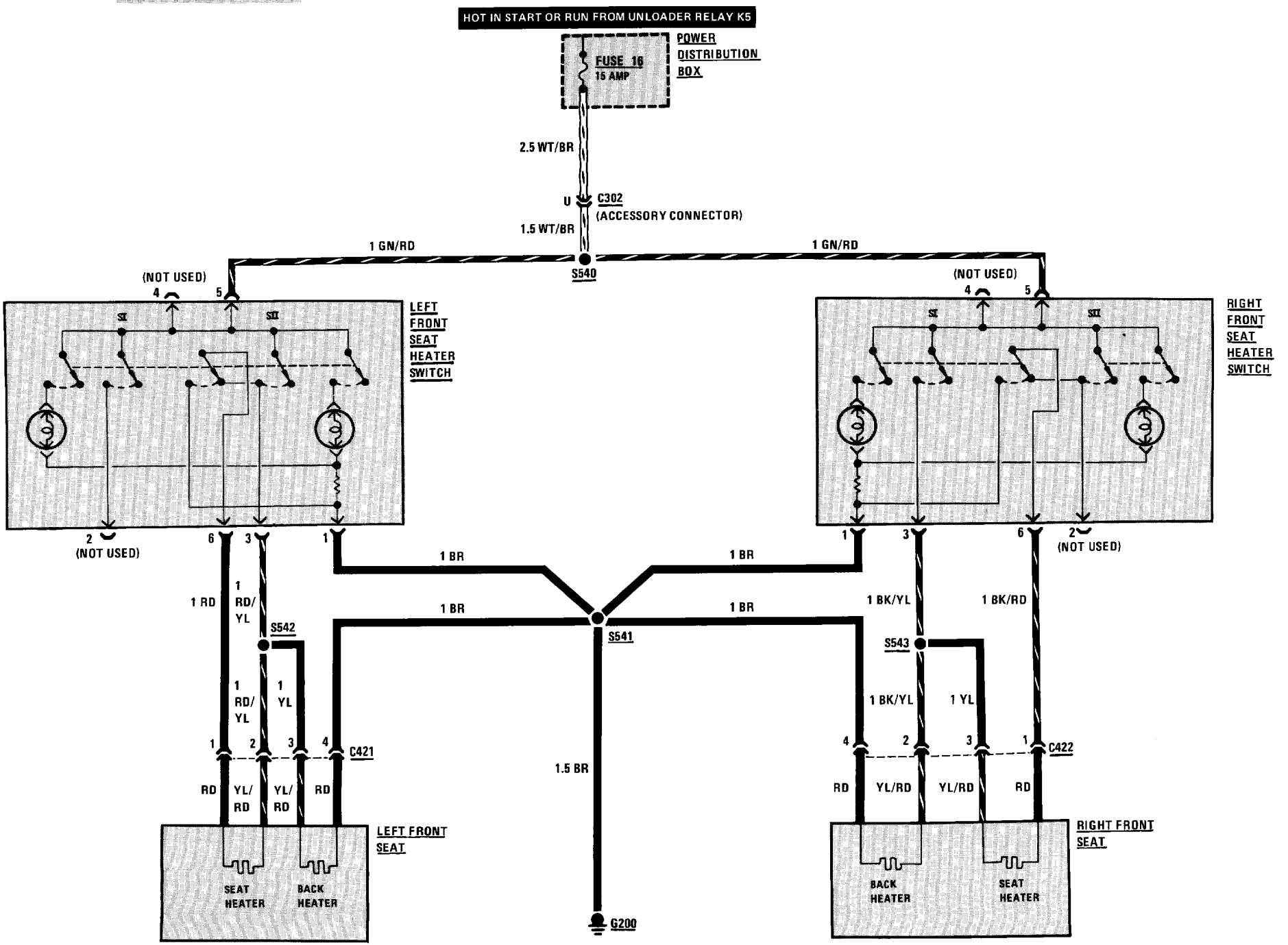
4 DOOR

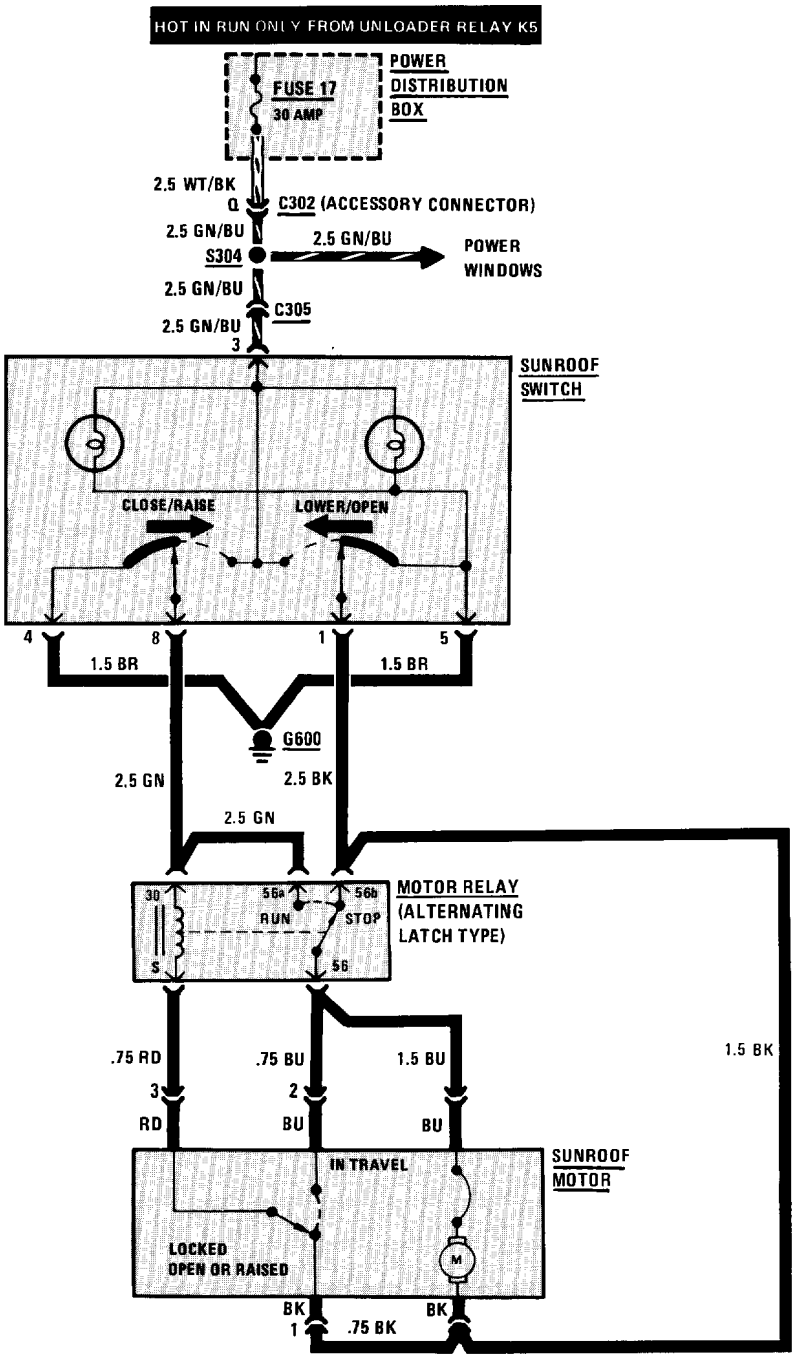

1.5 GN/GY
1.5 GN/GY
3
RH REAR WINDOW CONSOLE SWITCH
5
1.5 BR
GROUND DISTRIBUTION
1.5 BR
4
3
RH FRONT WINDOW CONSOLE SWITCH
8
1
4
5
8
1
2.5 BK/YL
2.5 BU/GN
2.5 VI/GY
2.5 BK/GY
4
2
C402
13
14
C404
2.5 BK/YL
2.5 BU/GN
1.5 BR
1.5 BR
5
4
S305
1.5 VI/GY
1.5 BK/GY
RH REAR WINDOW SWITCH
7
1.5 GN/BU
3
C402
3
2
2.5 BR
8
1
BU
BK
1.5 BU
1.5 BK
3
2
RH REAR WINDOW MOTOR
RH FRONT WINDOW MOTOR
G200

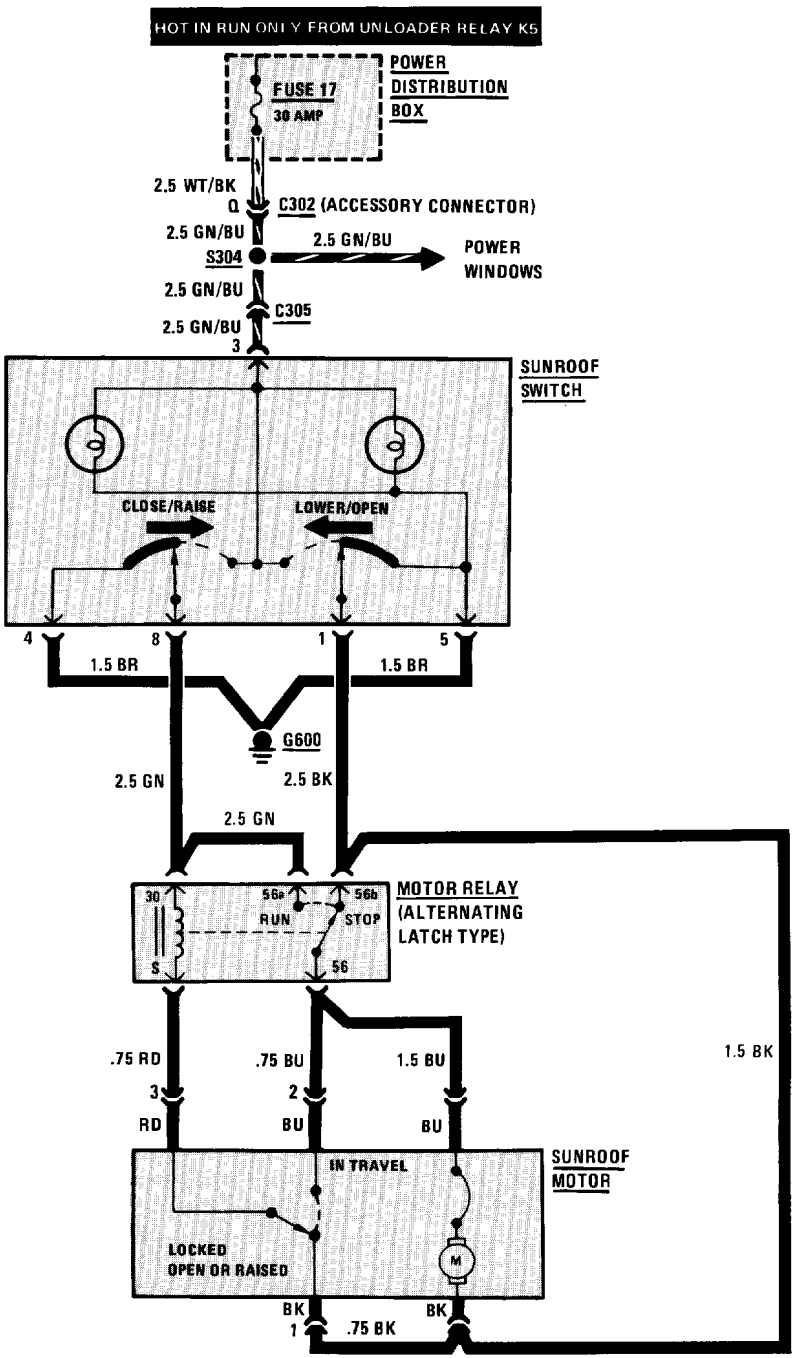
2 DOOR


HOT IN RUN ONLY FROM UNLOADER RELAY K5
POWER DISTRIBUTION BOX
FUSE 17
30 AMP
2.5 WT/BK
Q
C302
(ACCESSORY CONNECTOR)
2.5 GN/BU
S304
2.5 GN/BU
SUNROOF
POWER WINDOW CIRCUIT BREAKER
25 AMP
2.5 GN/GY
1.5 GN/GY
1.5 GN/GY
S322
LH FRONT WINDOW CONSOLE SWITCH
RH FRONT WINDOW CONSOLE SWITCH
1.5 BR
1.5 BR
1.5 BR
1.5 BR
S305
2.5 BR
G200
2.5 VI
2.5 BK
1.5 VI
1.5 BK
C405
BU
BK
DRIVER'S WINDOW MOTOR
2.5 VI/GY
2.5 BK/GY
1.5 VI/GY
1.5 BK/GY
C404
BU
BK
RH FRONT WINDOW MOTOR

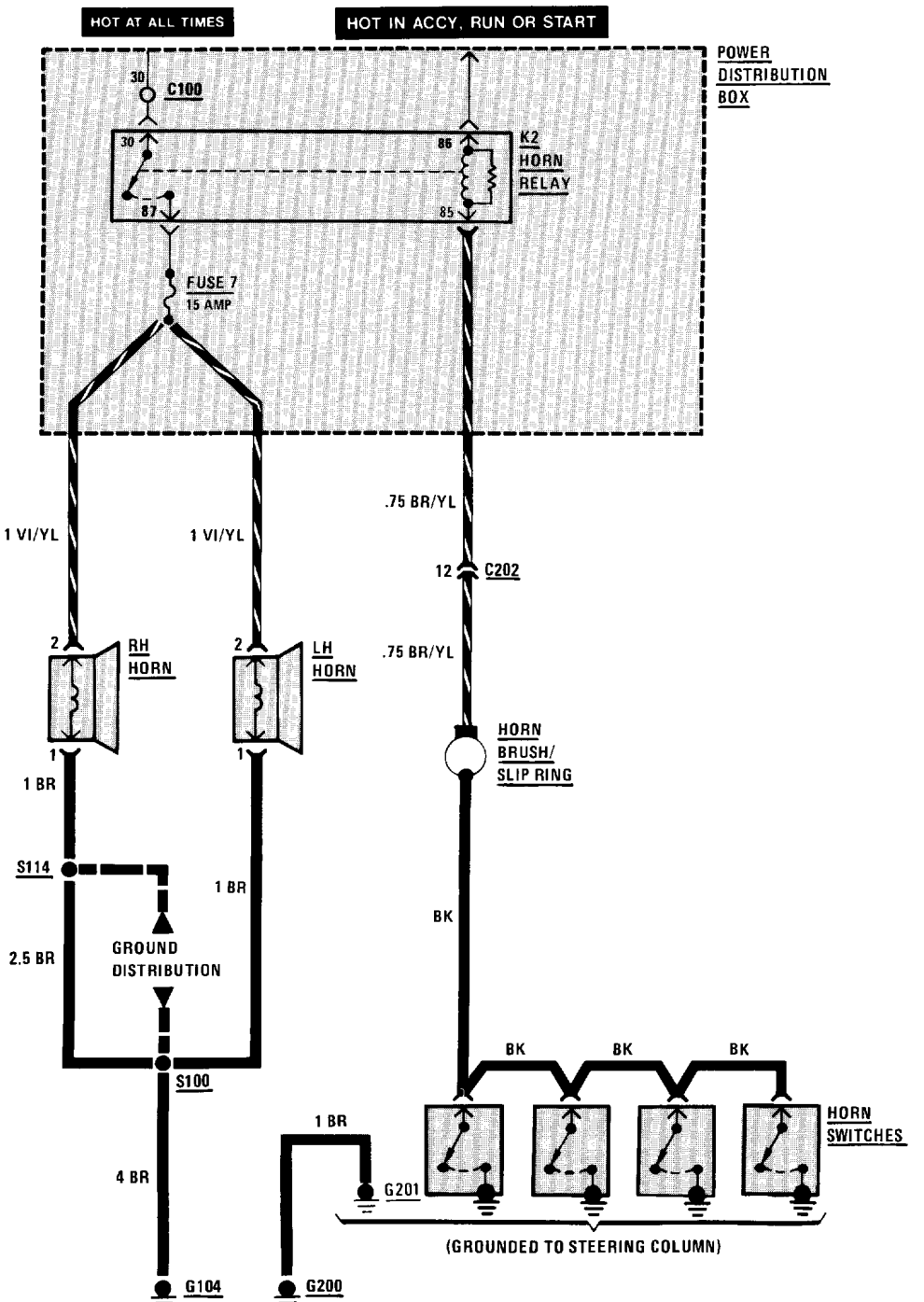
HEATED SEATS



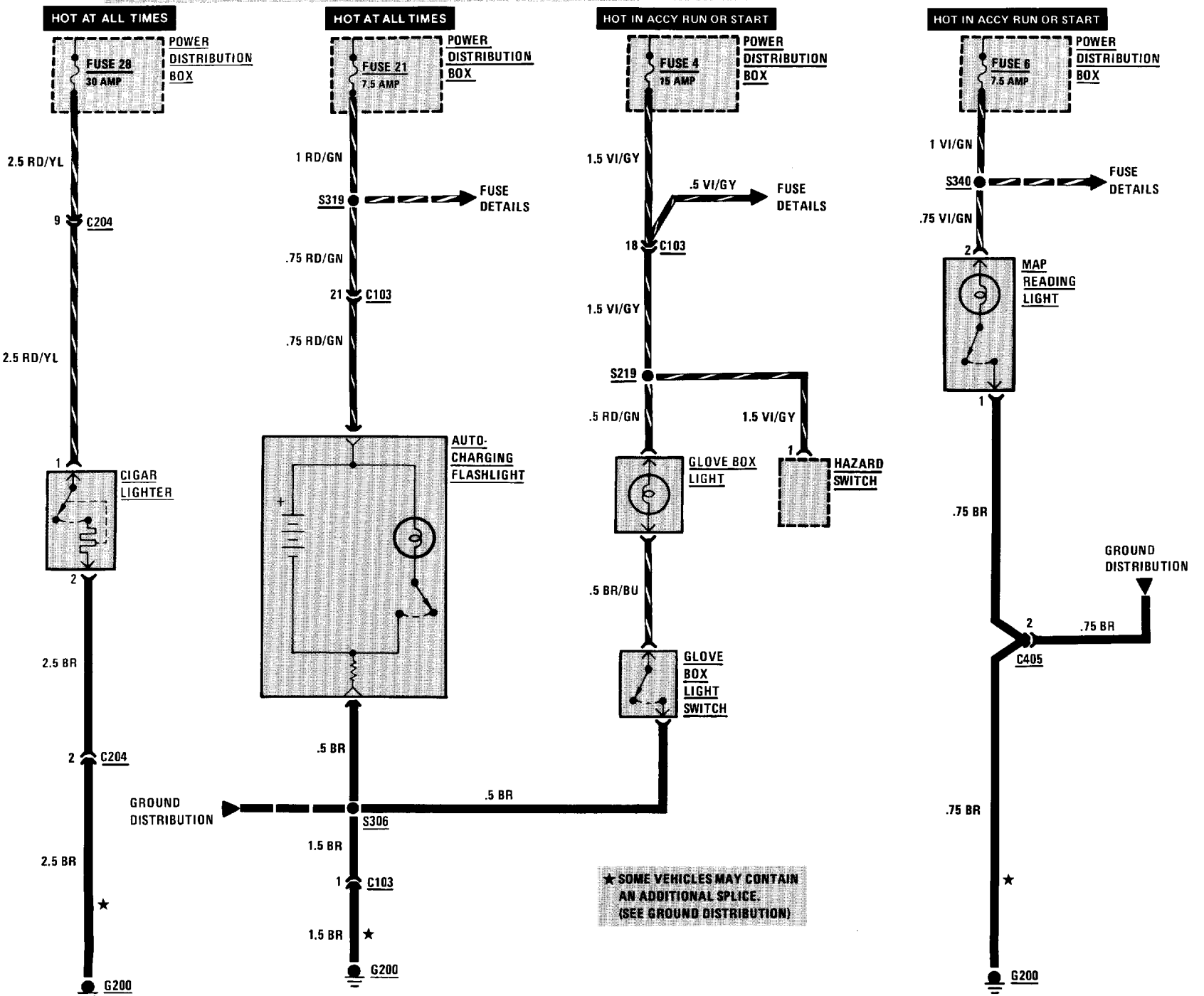

HOT IN RUN ONLY FROM UNLOADER RELAY K5
FUSE 17
30 AMP
POWER DISTRIBUTION BOX
2.5 WT/BK
Q
C302 (ACCESSORY CONNECTOR)
2.5 GN/BU
S304
2.5 GN/BU
POWER WINDOWS
2.5 GN/BU
C305
2.5 GN/BU
3
SUNROOF SWITCH
CLOSE/RAISE
LOWER/OPEN
4
8
1
5
1.5 BR
1.5 BR
G600
2.5 GN
2.5 BK
2.5 GN
30
56a
56b
RUN
STOP
S
56
MOTOR RELAY (ALTERNATING LATCH TYPE)
.75 RD
.75 BU
1.5 BU
1.5 BK
3
2
RD
BU
BU
IN TRAVEL
SUNROOF MOTOR
LOCKED OPEN OR RAISED
M
BK
BK
1
.75 BK


HOT IN RUN ONLY FROM UNLOADER RELAY K5
FUSE 17
30 AMP
POWER DISTRIBUTION BOX
2.5 WT/BK
Q
C302 (ACCESSORY CONNECTOR)
2.5 GN/BU
S304
2.5 GN/BU
POWER WINDOWS
2.5 GN/BU
C305
2.5 GN/BU
3
SUNROOF SWITCH
CLOSE/RAISE
LOWER/OPEN
4
8
1
5
1.5 BR
1.5 BR
G600
2.5 GN
2.5 BK
2.5 GN
30
56a
56b
RUN
STOP
S
56
MOTOR RELAY (ALTERNATING LATCH TYPE)
.75 RD
.75 BU
1.5 BU
1.5 BK
3
2
RD
BU
BU
IN TRAVEL
SUNROOF MOTOR
LOCKED OPEN OR RAISED
M
BK
BK
1
.75 BK

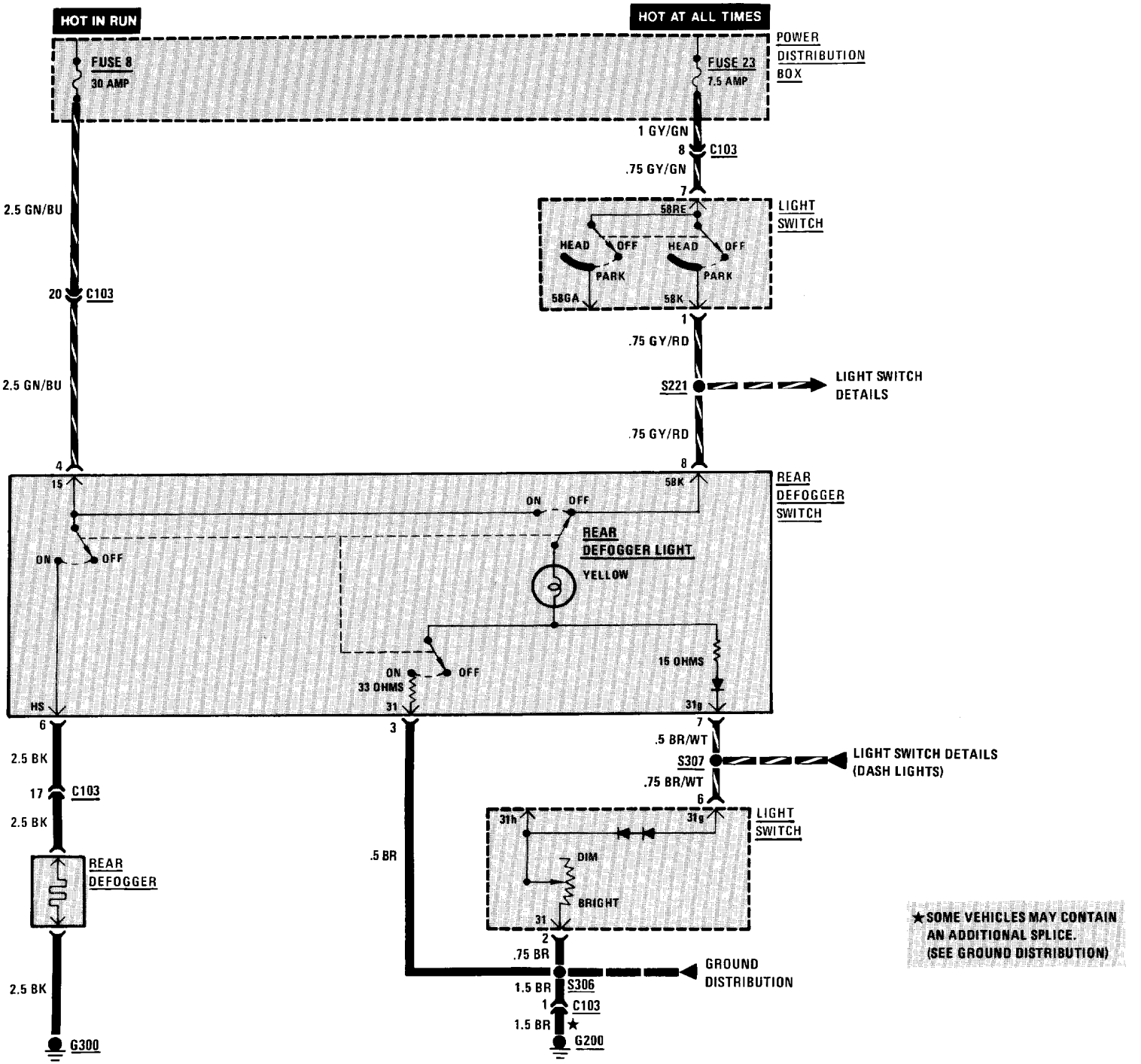
HORNS


HOT AT ALL TIMES
HOT IN ACCY, RUN OR START
POWER DISTRIBUTION BOX
30
C100
30
86
K2 HORN RELAY
87
85
FUSE 7
15 AMP
1 VI/YL
1 VI/YL
.75 BR/YL
12
C202
2
RH HORN
2
LH HORN
.75 BR/YL
1
1
HORN BRUSH/ SLIP RING
1 BR
S114
1 BR
BK
2.5 BR
GROUND DISTRIBUTION
BK
BK
BK
S100
1 BR
HORN SWITCHES
4 BR
G201
G104
G200
(GROUNDED TO STEERING COLUMN)

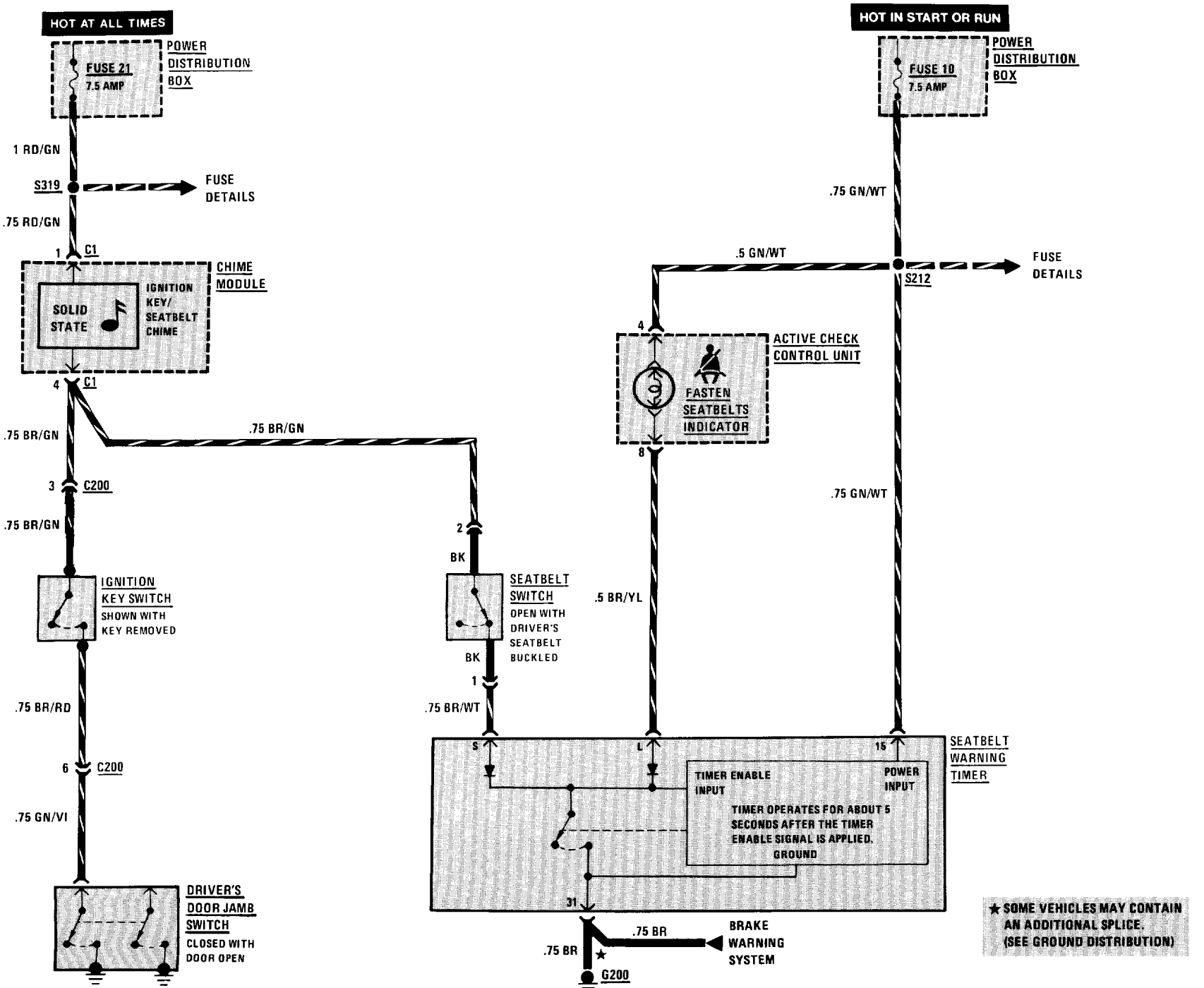
CIGAR LIGHTER/GLOVE BOX LIGHT/AUTO-CHARGING FLASHLIGHT/MAP READING LIGHT

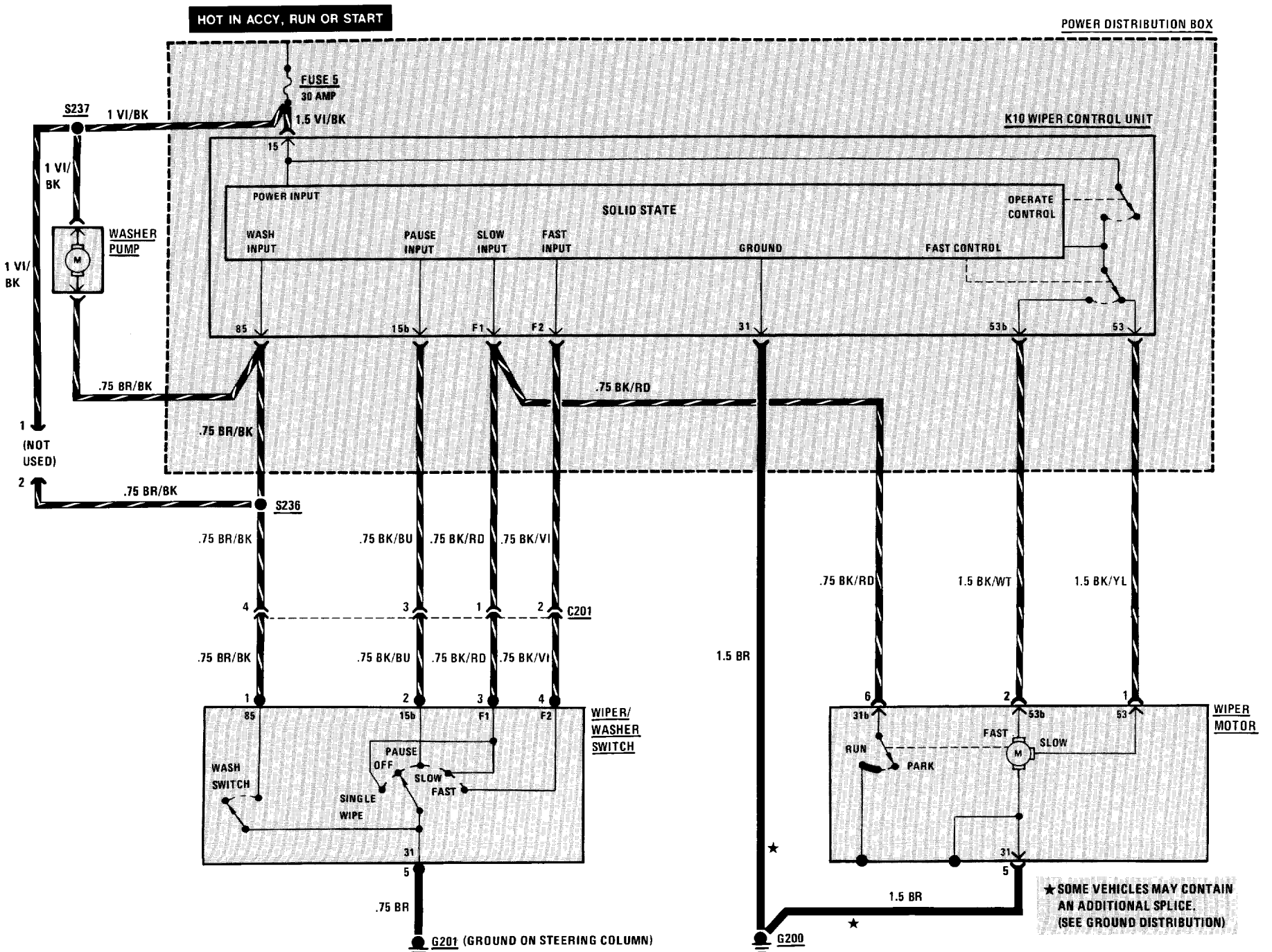


REAR DEFOGGER

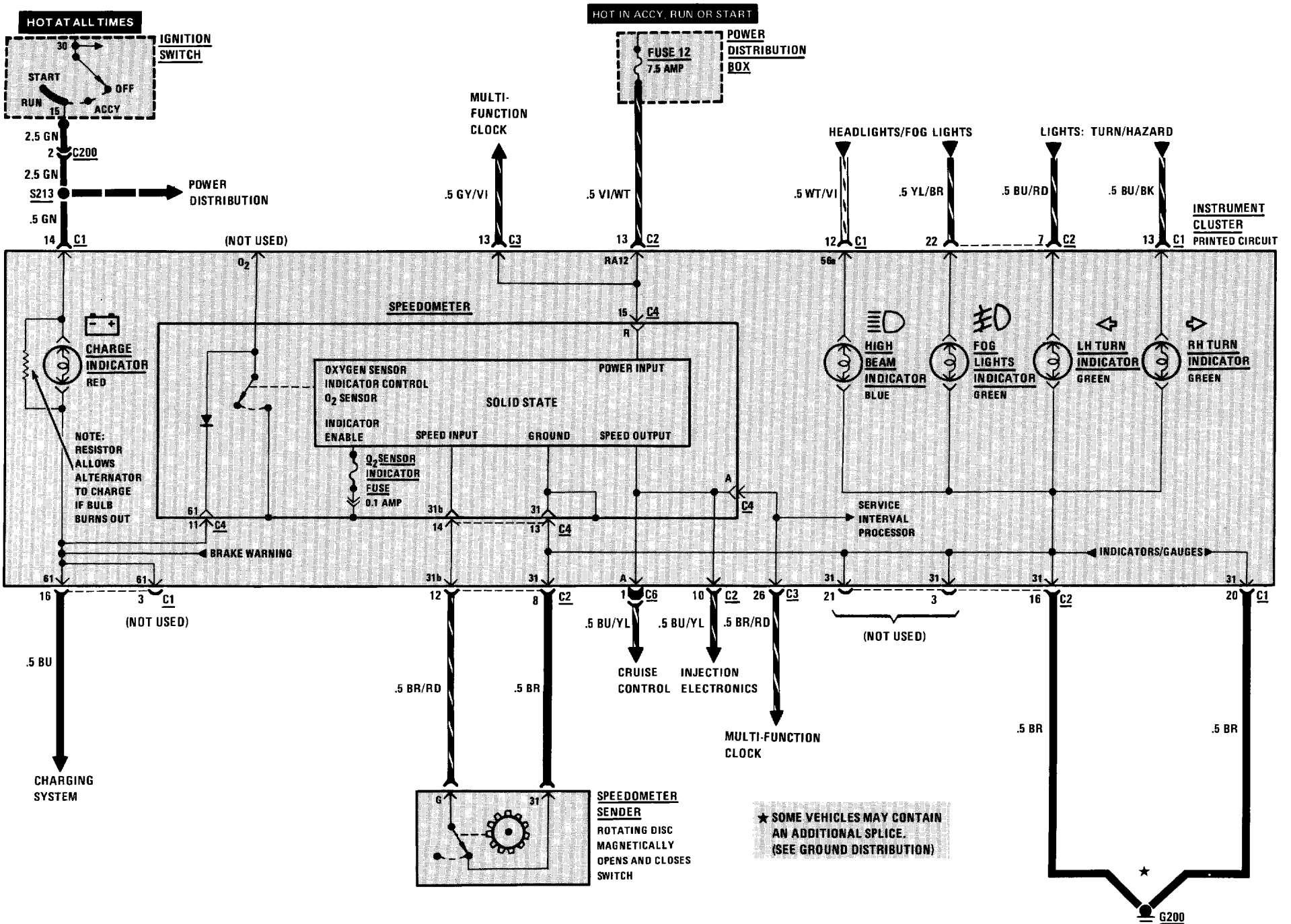


6131-0 IGNITION KEY WARNING/SEATBELT WARNING

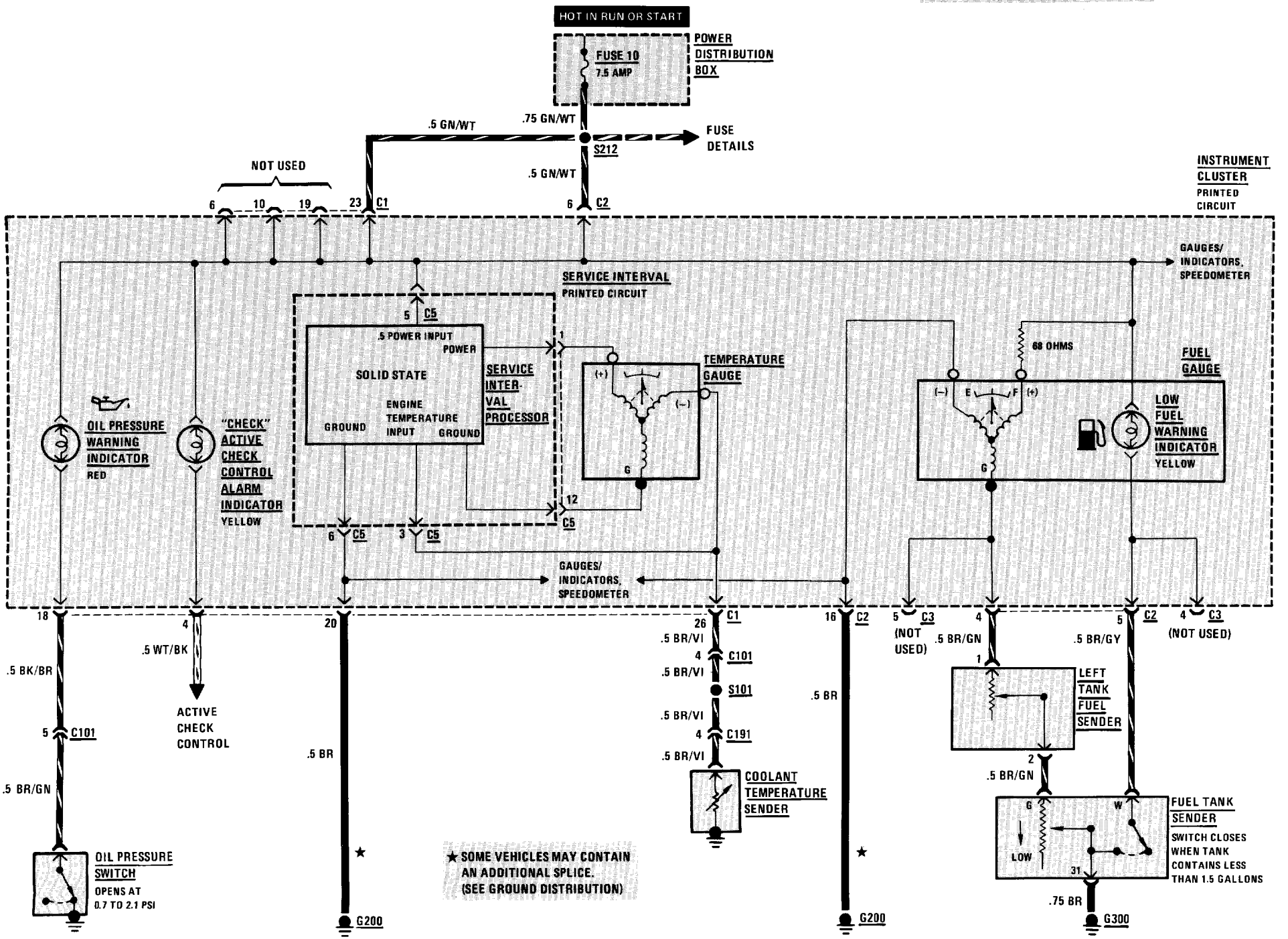



HOT IN ACCY, RUN OR START
POWER DISTRIBUTION BOX
FUSE 5
30 AMP
S237
1 VI/BK
1.5 VI/BK
K10 WIPER CONTROL UNIT
15
POWER INPUT
SOLID STATE
OPERATE CONTROL
WASH INPUT
PAUSE INPUT
SLOW INPUT
FAST INPUT
GROUND
FAST CONTROL
85
15b
F1
F2
31
53b
53
1 VI/BK
WASHER PUMP
.75 BR/BK
.75 BK/RD
1
(NOT USED)
2
S236
.75 BK/BU
.75 BK/VI
C201
1.5 BR
1.5 BK/WT
1.5 BK/YL
WIPER/WASHER SWITCH
WASH SWITCH
PAUSE
OFF
SLOW
FAST
SINGLE WIPE
WIPER MOTOR
31b
RUN
PARK
.75 BR
G201 (GROUND ON STEERING COLUMN)
G200
★SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)

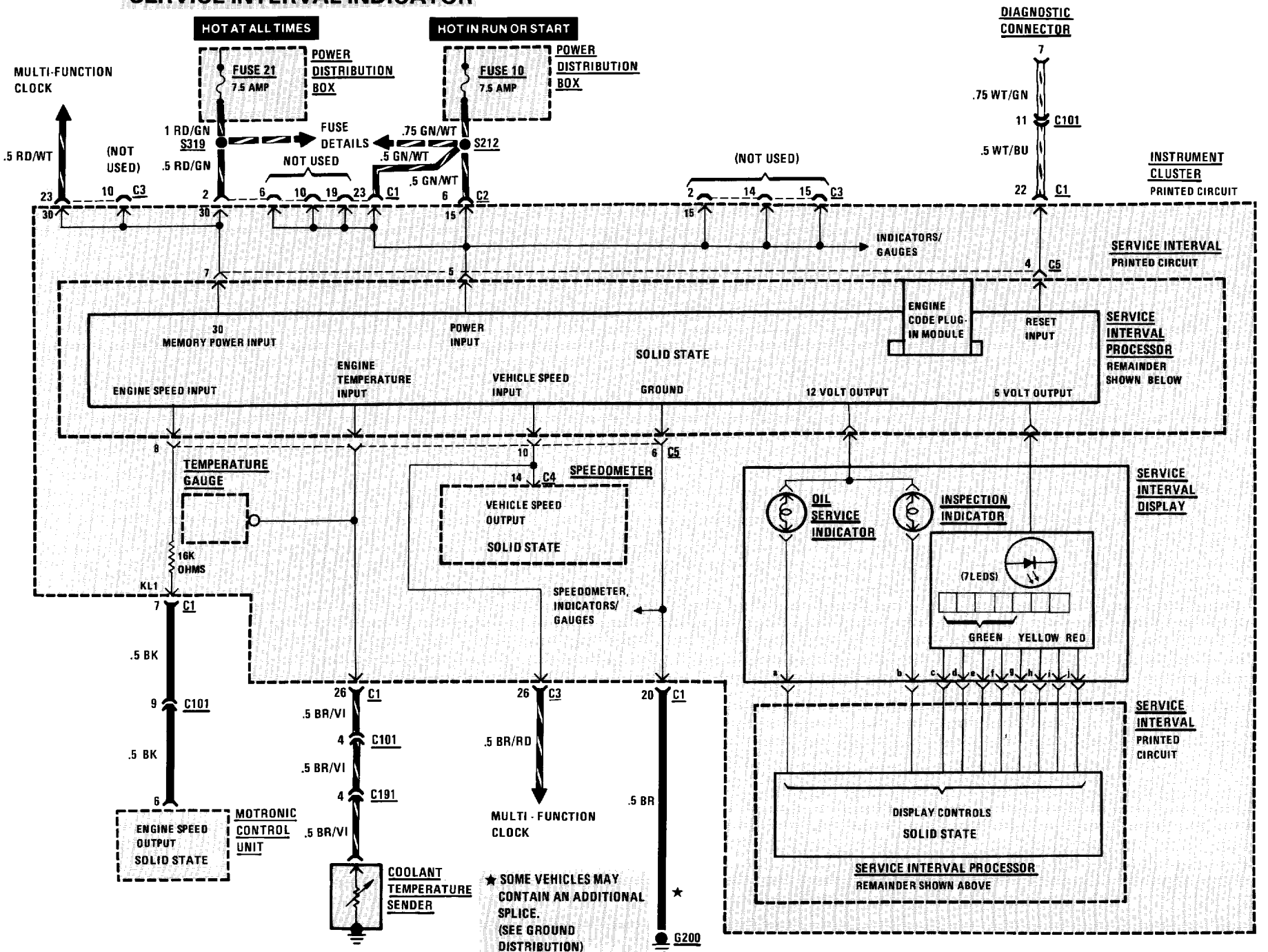
SPEEDOMETER/INDICATORS



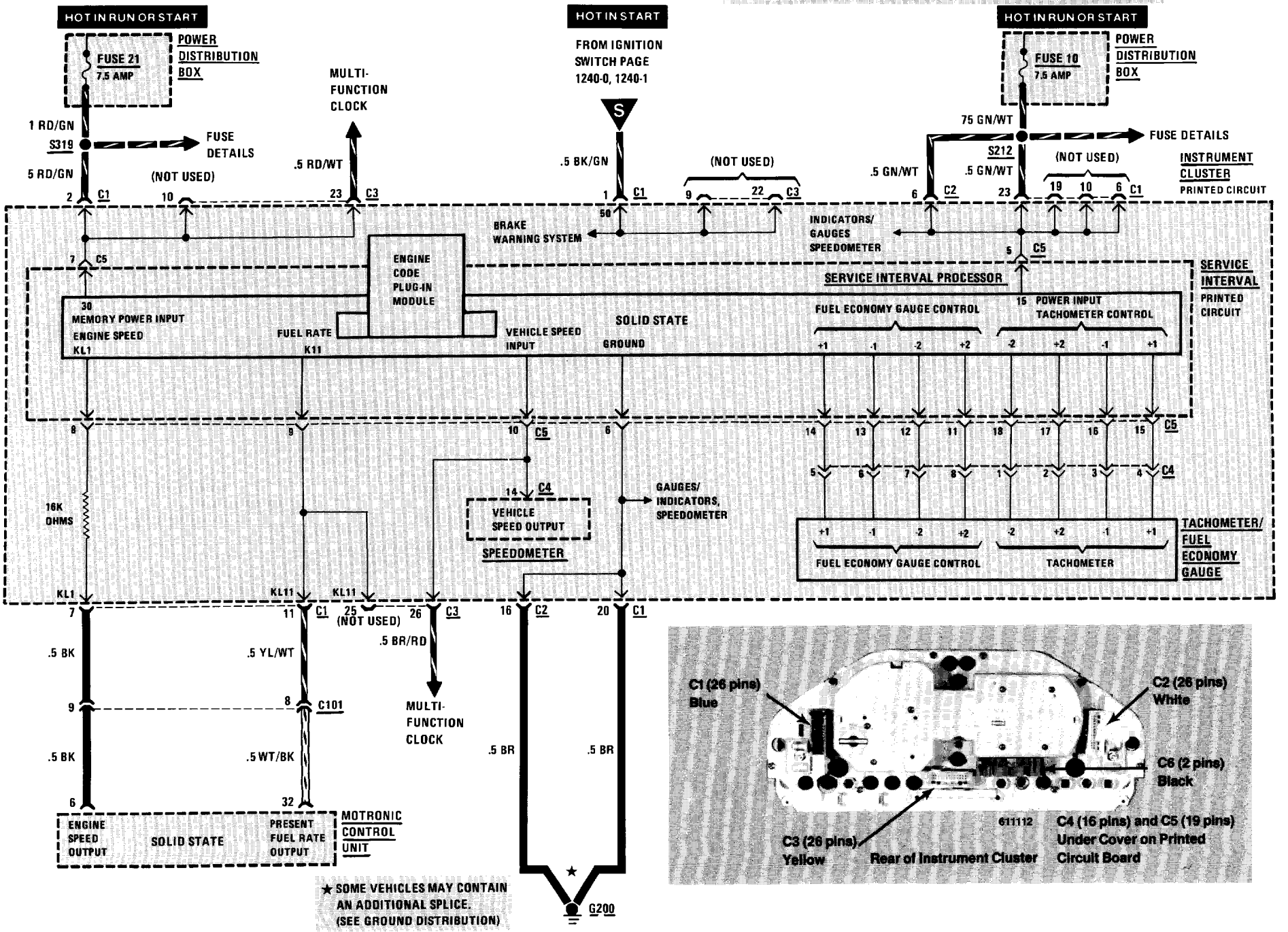
GAUGES/INDICATOR



SERVICE INTERVAL INDICATOR



TACHOMETER/FUEL ECONOMY GAUGE



ACTIVE CHECK CONTROL

1. When the Ignition Switch is initially placed in "Run," the Active Check Control Arm Indicator flashes, and the Active Check Control Unit Brake Light LED and panel light illuminate for test purposes. Depressing the brake pedal clears the display.

2. When the Ignition Switch is placed in "RUN," fault monitoring begins. To monitor the low beams, rear lights, or license lights, those circuits must be on. The brake lights are monitored only while the brake pedal is depressed. An exception to this is when all brake light circuits are open. A fault will be indicated with the Ignition Switch in "RUN."

3. When a fault occurs, the alarm indicator flashes, the appropriate LED fault indicator lights, and the panel light goes on for five seconds. Depressing the test button will clear the alarm indicator, but the LED fault indicator remains on.

4. To test the unit, depress the test button. The LED fault indicators and the panel lights should go on.

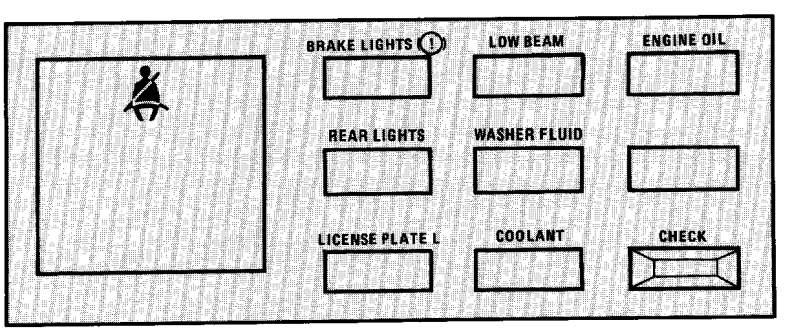
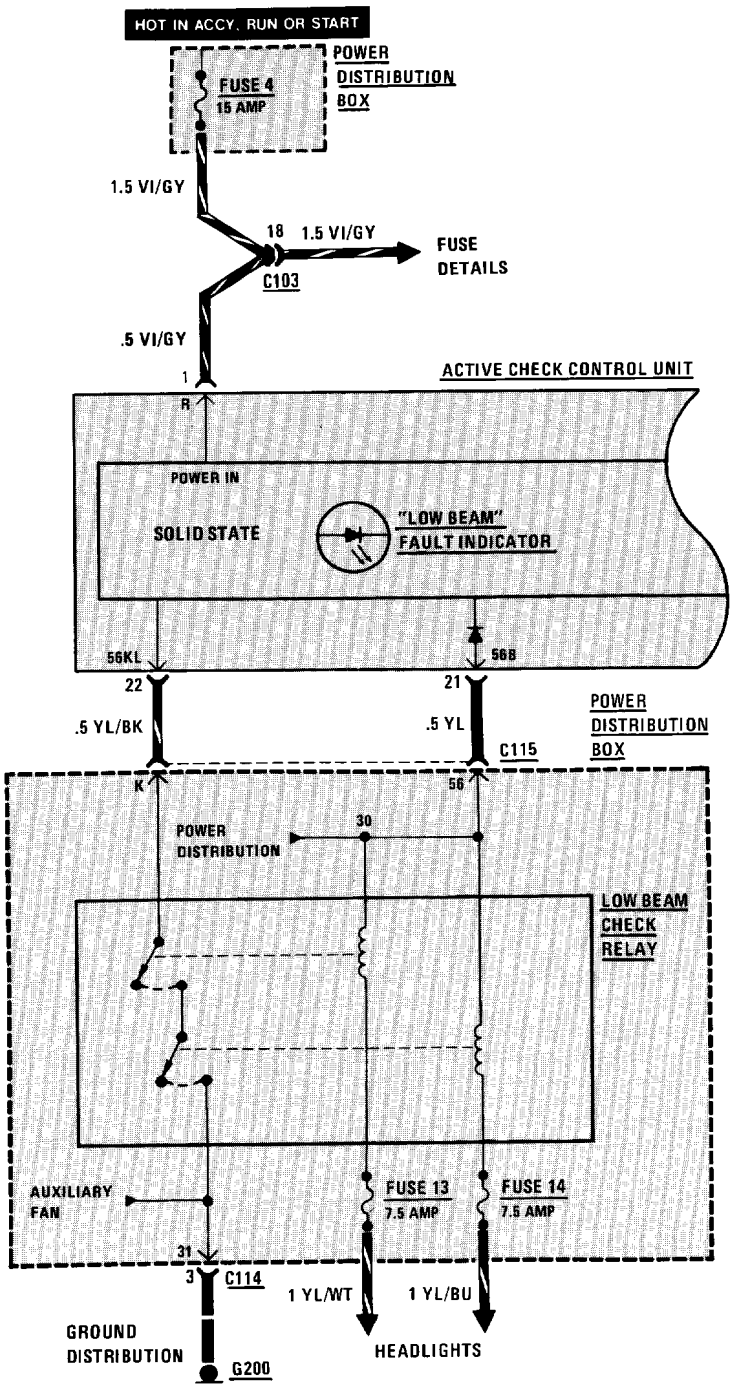
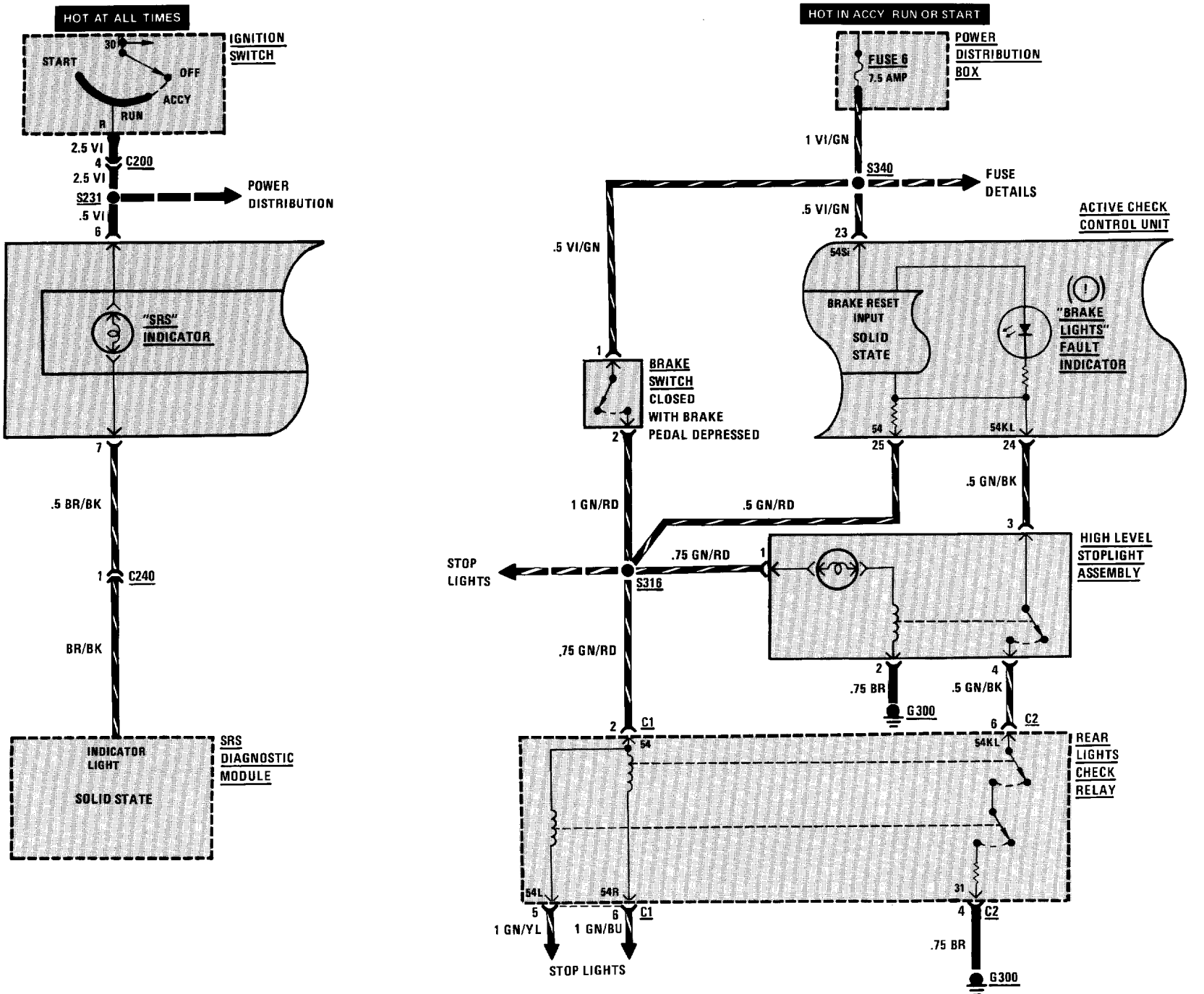
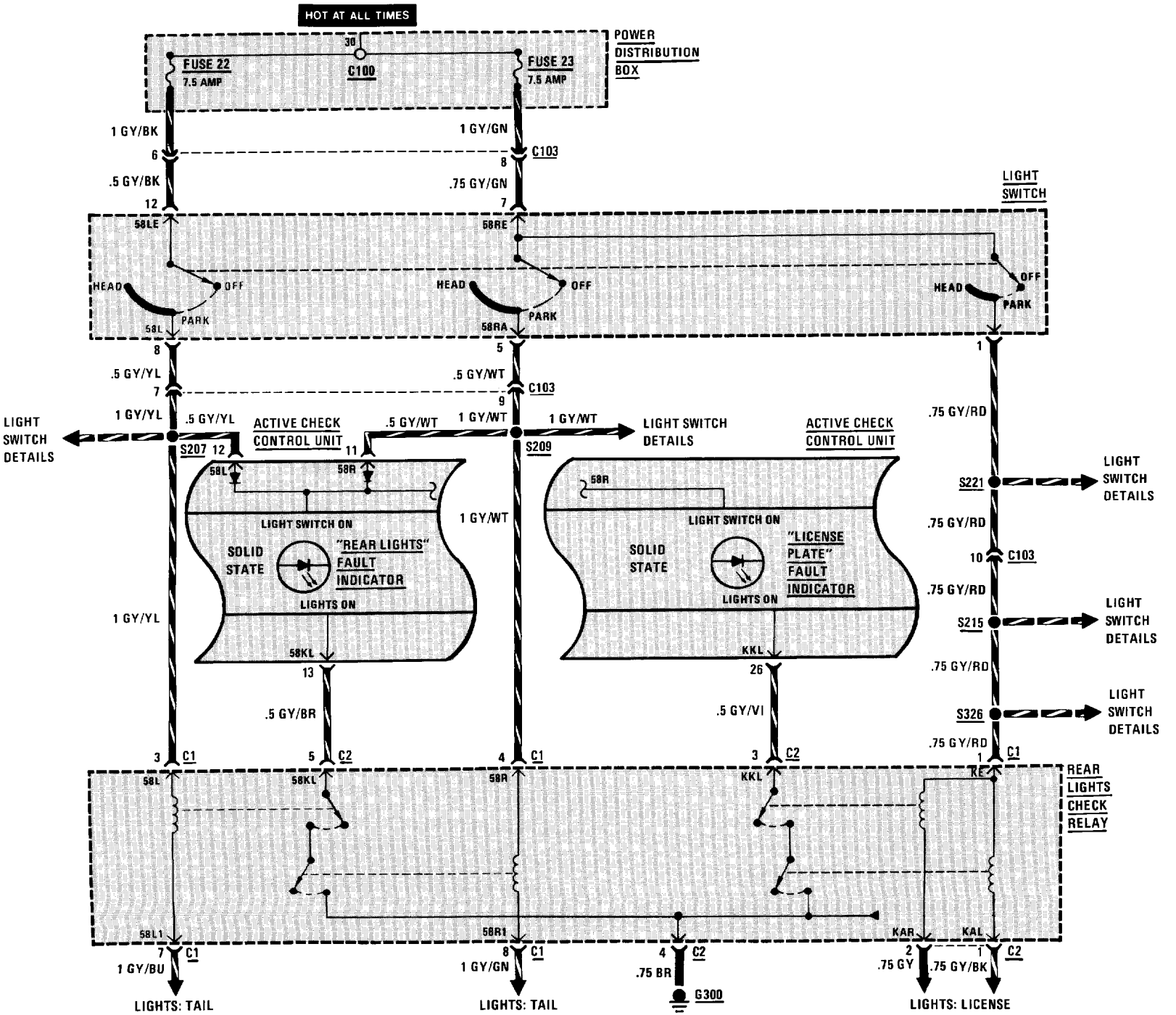
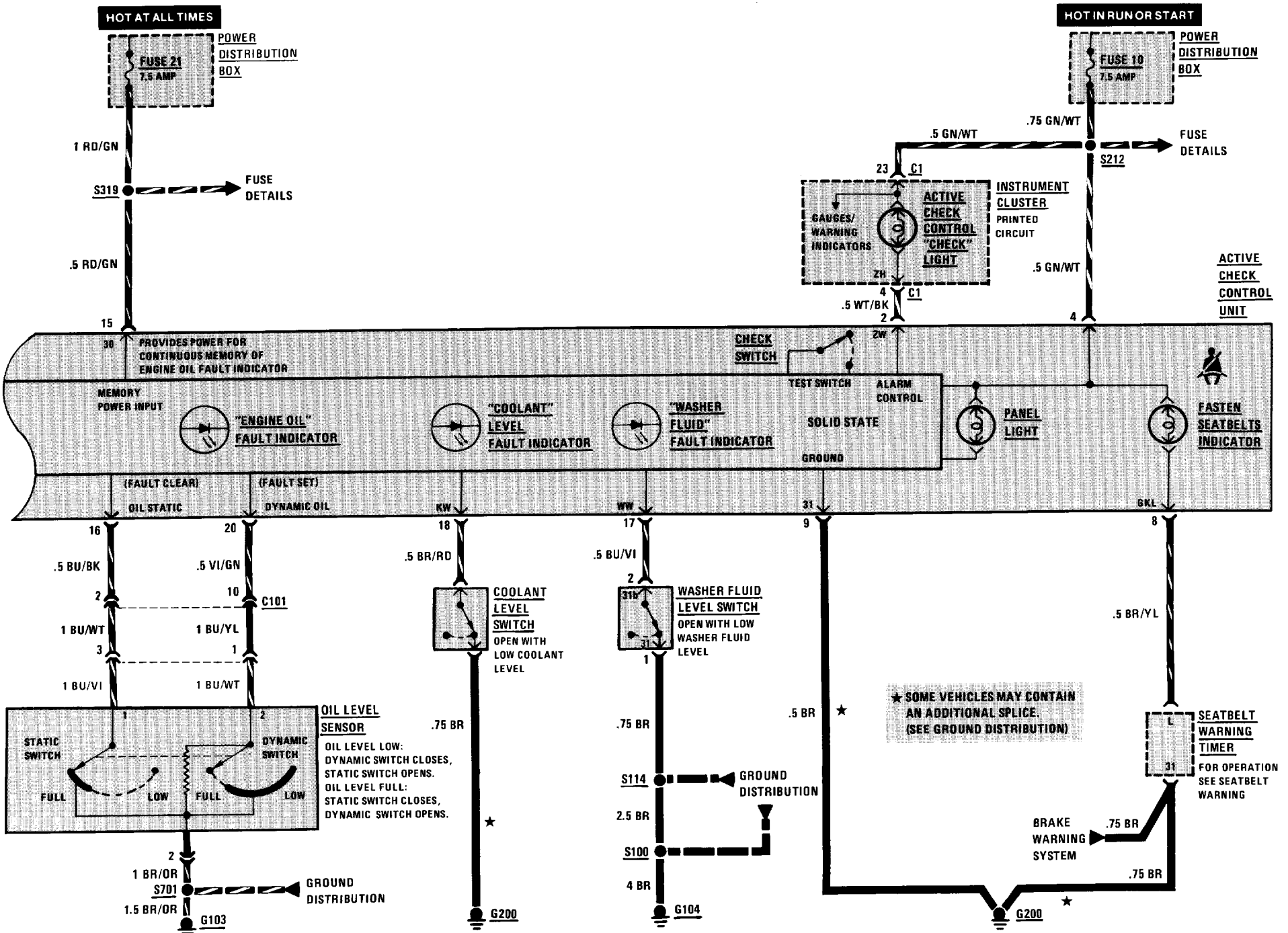


Figure 1 - Active Check Control Unit Above Rear View Mirror

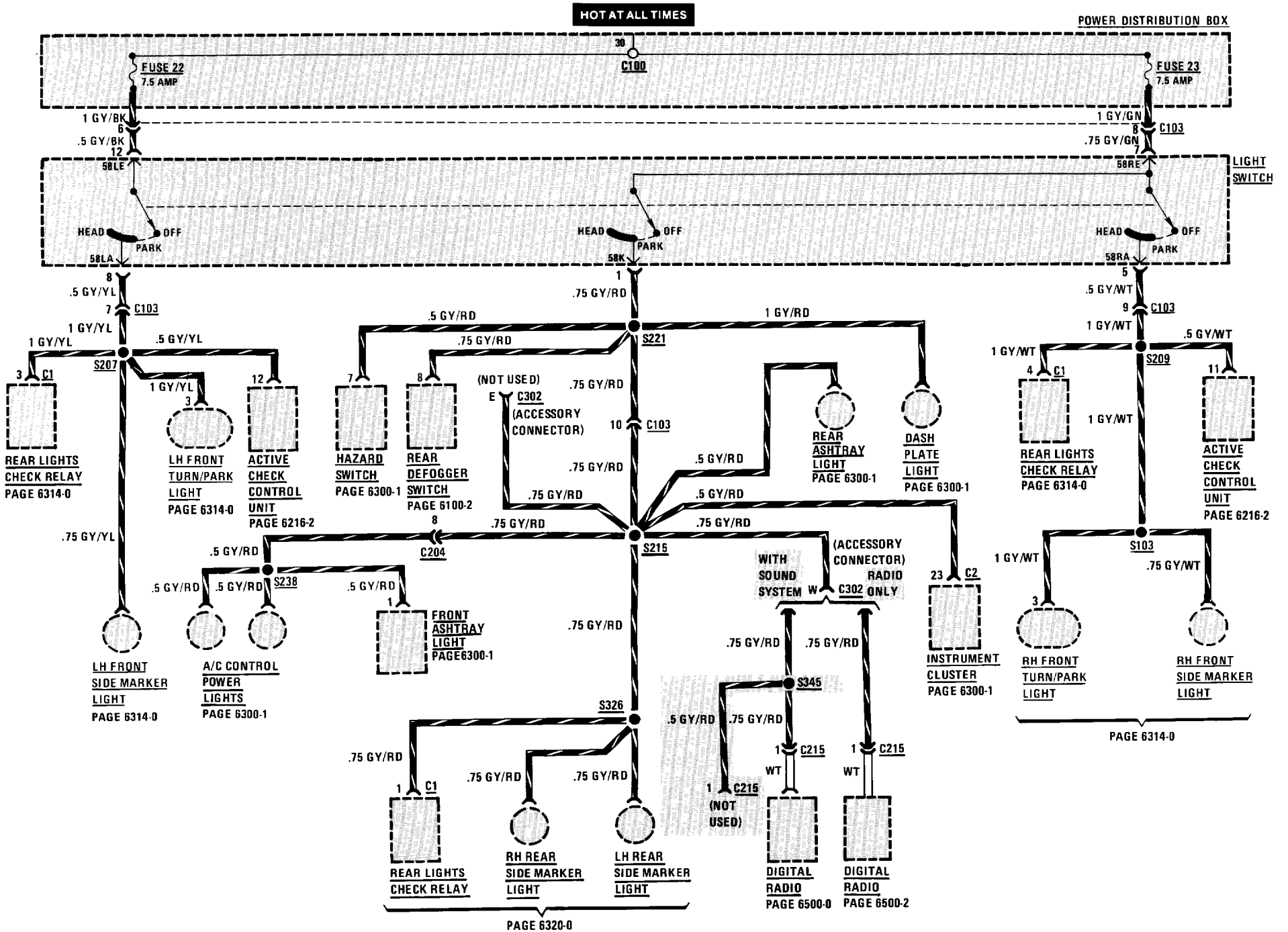



HOT AT ALL TIMES
IGNITION SWITCH
30
START
OFF
ACCY
RUN
R
2.5 VI
4
C200
2.5 VI
S231
POWER DISTRIBUTION
.5 VI
6
"SRS" INDICATOR
7
.5 BR/BK
1
C240
BR/BK
INDICATOR LIGHT
SOLID STATE
SRS DIAGNOSTIC MODULE
HOT IN ACCY RUN OR START
POWER DISTRIBUTION BOX
FUSE 6
7.5 AMP
1 VI/GN
S340
FUSE DETAILS
.5 VI/GN
23
ACTIVE CHECK CONTROL UNIT
54S
.5 VI/GN
BRAKE RESET INPUT
SOLID STATE
"BRAKE LIGHTS" FAULT INDICATOR
1
BRAKE SWITCH CLOSED WITH BRAKE PEDAL DEPRESSED
2
54
54KL
25
24
.5 GN/BK
1 GN/RD
.5 GN/RD
3
HIGH LEVEL STOPLIGHT ASSEMBLY
STOP LIGHTS
.75 GN/RD
1
S316
.75 GN/RD
2
4
.75 BR
.5 GN/BK
G300
2
C1
54
6
C2
54KL
REAR LIGHTS CHECK RELAY
54L
54R
31
5
6
C1
4
C2
1 GN/YL
1 GN/BU
.75 BR
STOP LIGHTS
G300

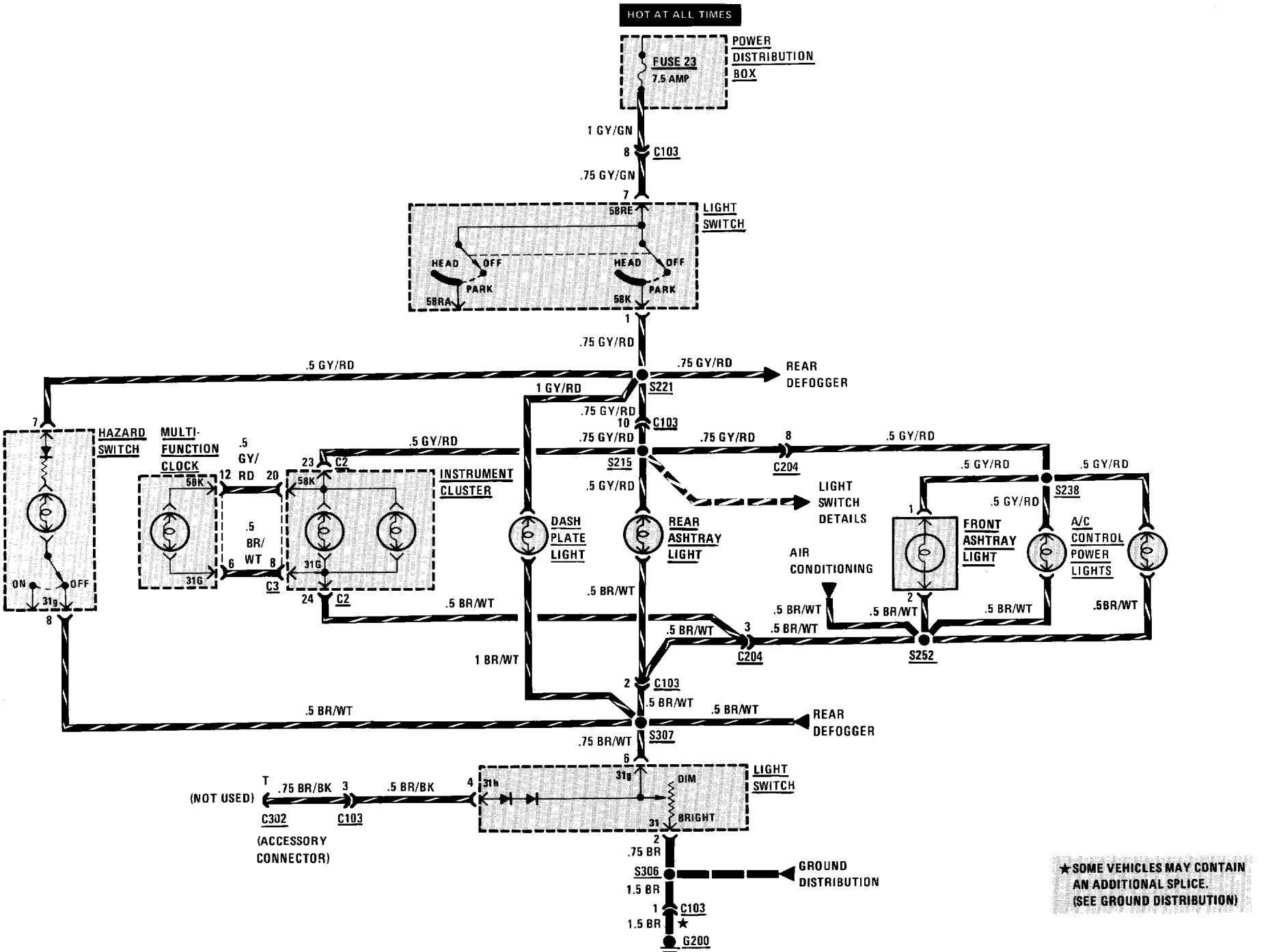

HOT AT ALL TIMES
POWER DISTRIBUTION BOX
30
C100
FUSE 22
7.5 AMP
FUSE 23
7.5 AMP
1 GY/BK
1 GY/GN
6
8
C103
.5 GY/BK
.75 GY/GN
12
7
LIGHT SWITCH
58LE
58RE
HEAD
OFF
PARK
58L
58RA
8
5
1
.5 GY/YL
.5 GY/WT
7
9
C103
1 GY/YL
.5 GY/YL
ACTIVE CHECK CONTROL UNIT
.5 GY/WT
1 GY/WT
1 GY/WT
LIGHT SWITCH DETAILS
S207
12
11
S209
LIGHT SWITCH DETAILS
ACTIVE CHECK CONTROL UNIT
.75 GY/RD
S221
LIGHT SWITCH DETAILS
58L
58R
LIGHT SWITCH ON
SOLID STATE
"REAR LIGHTS" FAULT INDICATOR
LIGHTS ON
1 GY/WT
58R
LIGHT SWITCH ON
SOLID STATE
"LICENSE PLATE" FAULT INDICATOR
LIGHTS ON
.75 GY/RD
10
C103
.75 GY/RD
1 GY/YL
58KL
KKL
S215
LIGHT SWITCH DETAILS
13
26
.75 GY/RD
.5 GY/BR
.5 GY/VI
S326
LIGHT SWITCH DETAILS
3
C1
5
C2
4
C1
3
C2
.75 GY/RD
1
C1
58L
58KL
58R
KKL
KE
REAR LIGHTS CHECK RELAY
58L1
58R1
KAR
KAL
7
C1
8
C1
4
C2
2
1
C2
1 GY/BU
1 GY/GN
.75 BR
.75 GY
.75 GY/BK
LIGHTS: TAIL
LIGHTS: TAIL
G300
LIGHTS: LICENSE


HOT AT ALL TIMES
FUSE 21
7.5 AMP
POWER DISTRIBUTION BOX
1 RD/GN
S319
FUSE DETAILS
.5 RD/GN
15
30
PROVIDES POWER FOR CONTINUOUS MEMORY OF ENGINE OIL FAULT INDICATOR
HOT IN RUN OR START
FUSE 10
7.5 AMP
POWER DISTRIBUTION BOX
.75 GN/WT
.5 GN/WT
FUSE DETAILS
S212
23
C1
INSTRUMENT CLUSTER
PRINTED CIRCUIT
GAUGES/ WARNING INDICATORS
ACTIVE CHECK CONTROL "CHECK" LIGHT
ZH
4
C1
.5 WT/BK
2
.5 GN/WT
4
ACTIVE CHECK CONTROL UNIT
ZW
CHECK SWITCH
TEST SWITCH
ALARM CONTROL
MEMORY POWER INPUT
"ENGINE OIL" FAULT INDICATOR
"COOLANT" LEVEL FAULT INDICATOR
"WASHER FLUID" FAULT INDICATOR
SOLID STATE
GROUND
PANEL LIGHT
FASTEN SEATBELTS INDICATOR
(FAULT CLEAR)
OIL STATIC
(FAULT SET)
DYNAMIC OIL
KW
WW
31
GKL
16
20
18
17
9
8
.5 BU/BK
.5 VI/GN
.5 BR/RD
.5 BU/VI
2
10
C101
2
31b
1 BU/WT
1 BU/YL
3
1
1
31
1 BU/VI
1 BU/WT
COOLANT LEVEL SWITCH
OPEN WITH LOW COOLANT LEVEL
WASHER FLUID LEVEL SWITCH
OPEN WITH LOW WASHER FLUID LEVEL
.5 BR/YL
1
2
OIL LEVEL SENSOR
STATIC SWITCH
DYNAMIC SWITCH
FULL
LOW
FULL
LOW
OIL LEVEL LOW:
DYNAMIC SWITCH CLOSES,
STATIC SWITCH OPENS.
OIL LEVEL FULL:
STATIC SWITCH CLOSES,
DYNAMIC SWITCH OPENS.
.75 BR
.75 BR
.5 BR
★
★ SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)
L
31
SEATBELT WARNING TIMER
FOR OPERATION SEE SEATBELT WARNING
S114
GROUND DISTRIBUTION
2.5 BR
S100
4 BR
BRAKE WARNING SYSTEM
.75 BR
.75 BR
2
1 BR/OR
S701
GROUND DISTRIBUTION
1.5 BR/OR
G103
G200
G104
G200
★
★

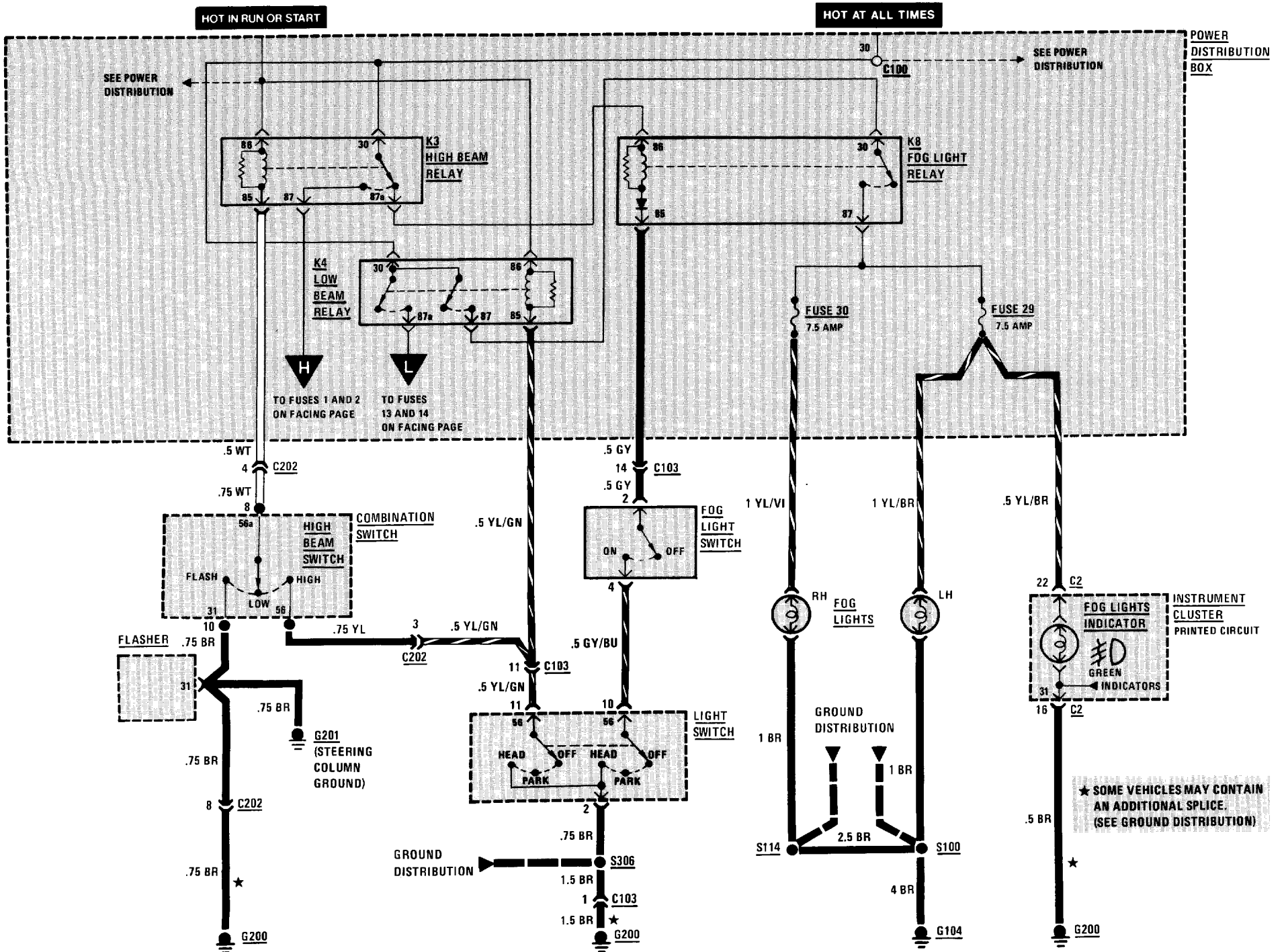
6300-0 LIGHT SWITCH DETAILS

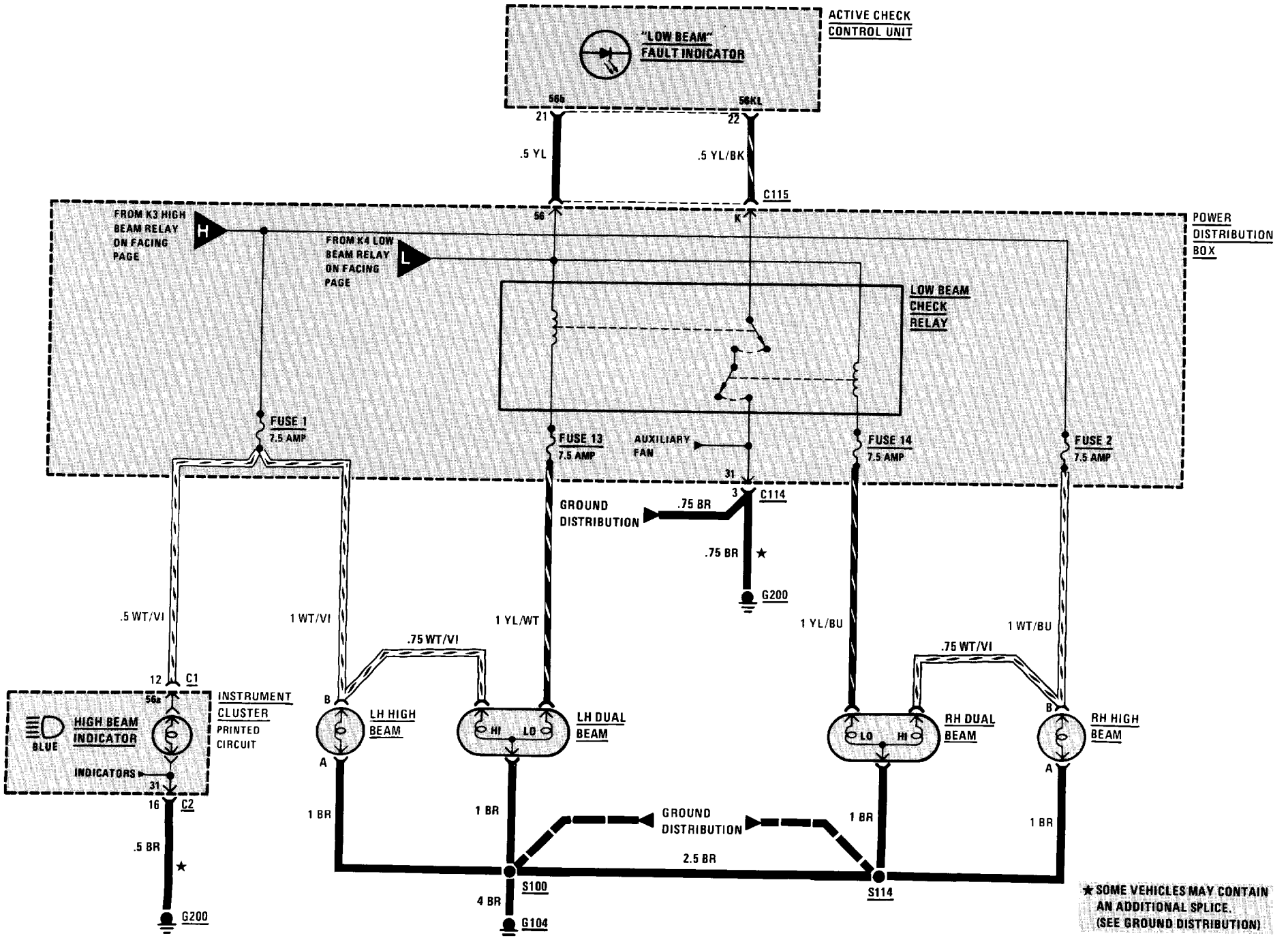


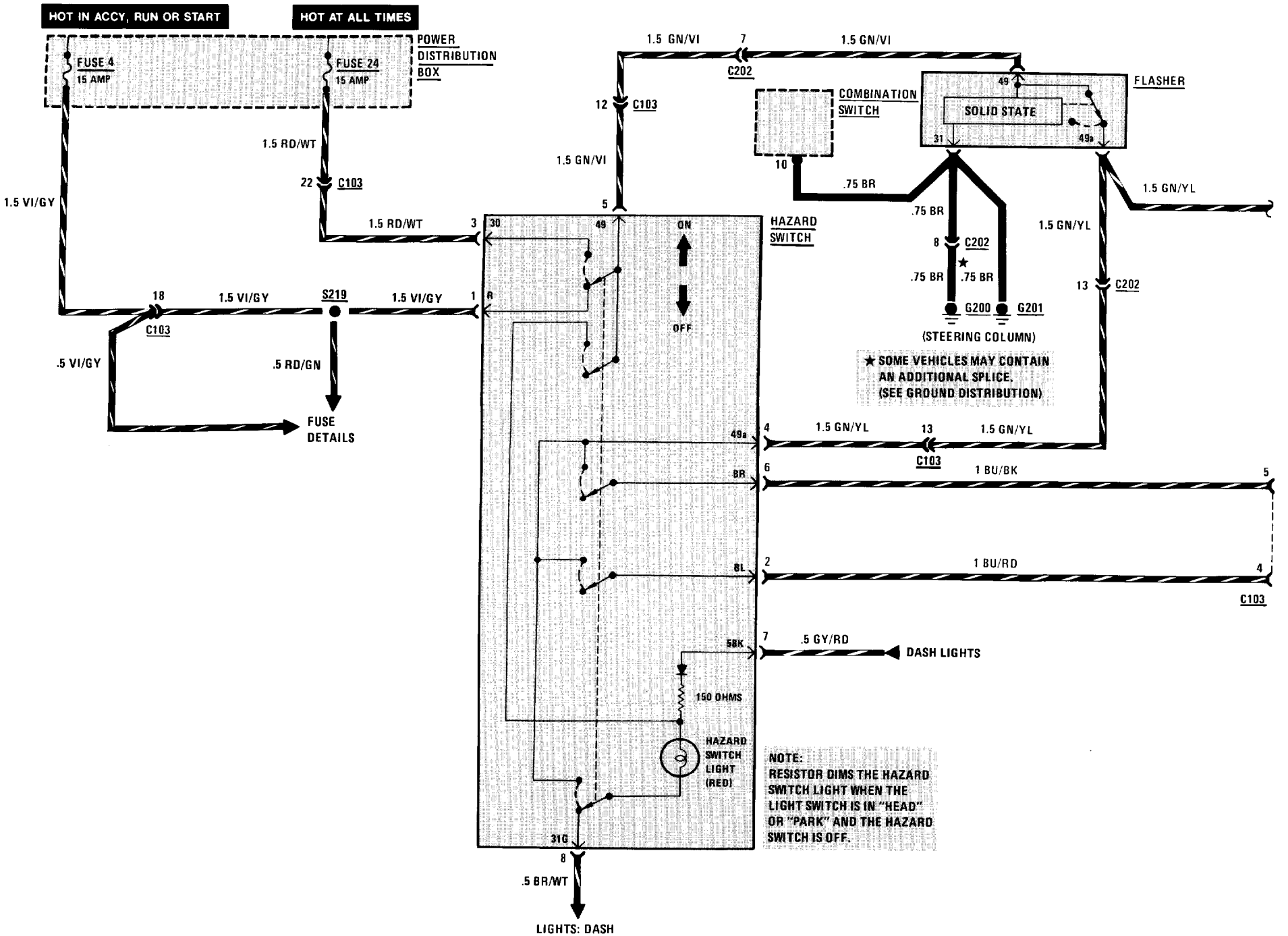
DASH LIGHTS

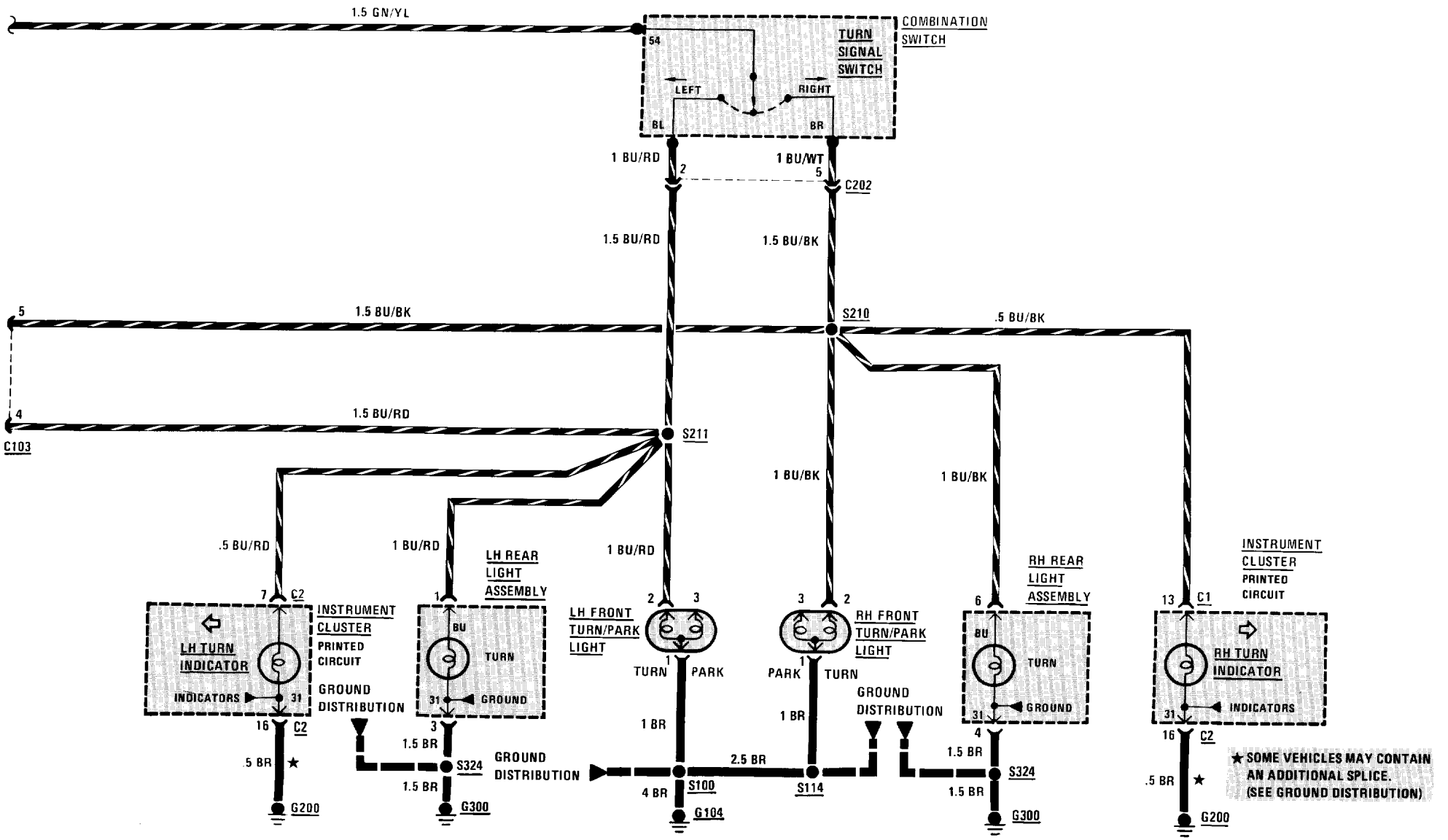

HOT AT ALL TIMES
POWER DISTRIBUTION BOX
FUSE 23
7.5 AMP
1 GY/GN
C103
.75 GY/GN
LIGHT SWITCH
58RE
HEAD
OFF
PARK
58RA
58K
.75 GY/RD
.5 GY/RD
REAR DEFOGGER
S221
1 GY/RD
HAZARD SWITCH
MULTI-FUNCTION CLOCK
.5 GY/RD
INSTRUMENT CLUSTER
C2
C3
S215
C204
LIGHT SWITCH DETAILS
DASH PLATE LIGHT
REAR ASHTRAY LIGHT
AIR CONDITIONING
FRONT ASHTRAY LIGHT
A/C CONTROL POWER LIGHTS
S238
S252
.5 BR/WT
1 BR/WT
S307
REAR DEFOGGER
(NOT USED)
.75 BR/BK
.5 BR/BK
C302
(ACCESSORY CONNECTOR)
DIM
BRIGHT
.75 BR
S306
GROUND DISTRIBUTION
1.5 BR
G200
★SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)

6312-0 HEADLIGHTS/FOG LIGHTS

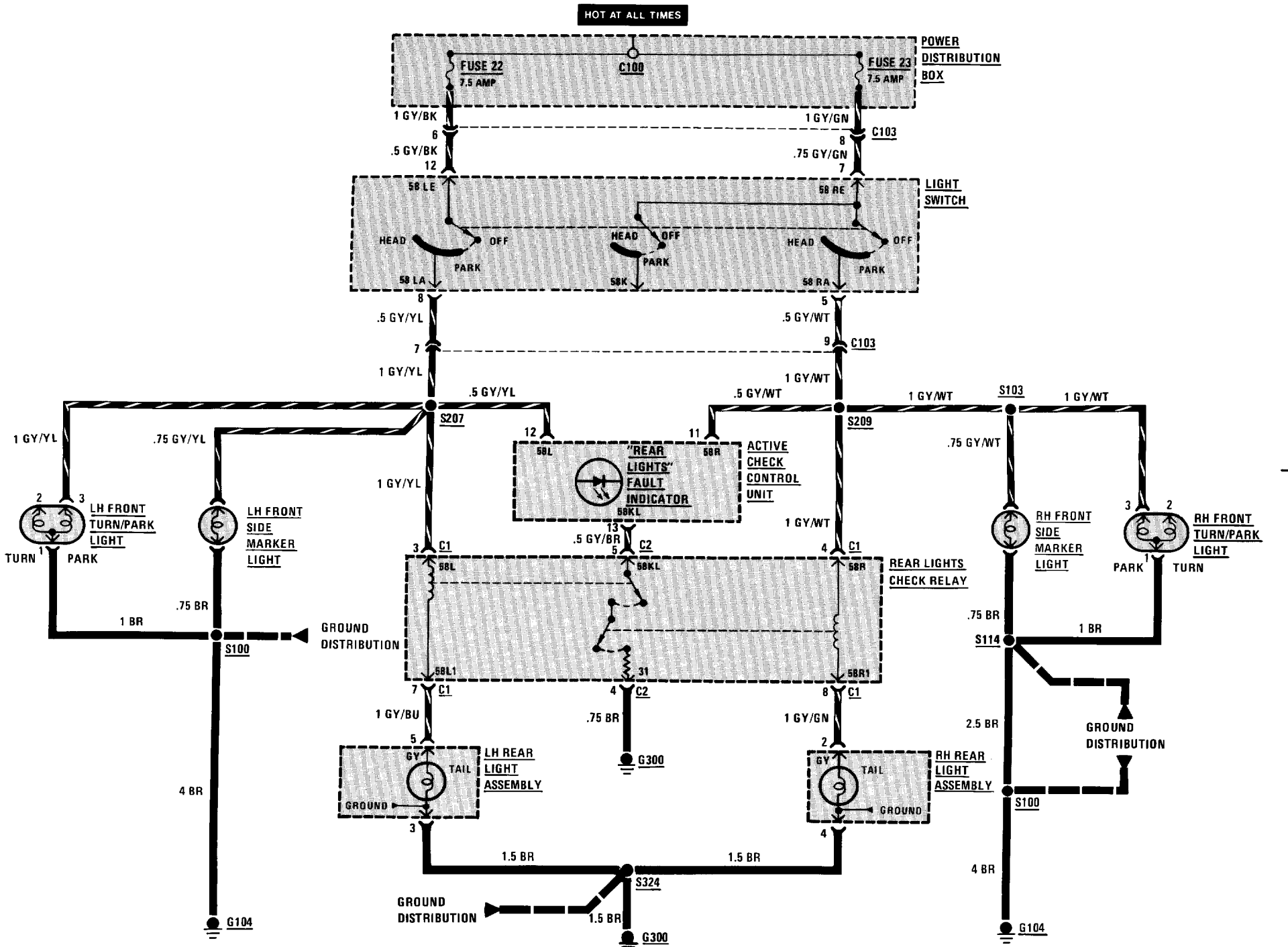



ACTIVE CHECK CONTROL UNIT
"LOW BEAM" FAULT INDICATOR
56b
56KL
21
22
.5 YL
.5 YL/BK
C115
56
K
POWER DISTRIBUTION BOX
FROM K3 HIGH BEAM RELAY ON FACING PAGE
H
FROM K4 LOW BEAM RELAY ON FACING PAGE
L
LOW BEAM CHECK RELAY
FUSE 1
7.5 AMP
FUSE 13
7.5 AMP
AUXILIARY FAN
FUSE 14
7.5 AMP
FUSE 2
7.5 AMP
31
3
C114
GROUND DISTRIBUTION
.75 BR
.75 BR ★
G200
.5 WT/VI
1 WT/VI
1 YL/WT
1 YL/BU
1 WT/BU
.75 WT/VI
.75 WT/VI
12
C1
56a
INSTRUMENT CLUSTER PRINTED CIRCUIT
HIGH BEAM INDICATOR
BLUE
INDICATORS
31
16
C2
.5 BR ★
G200
B
A
LH HIGH BEAM
LH DUAL BEAM
HI
LO
RH DUAL BEAM
RH HIGH BEAM
1 BR
1 BR
GROUND DISTRIBUTION
1 BR
1 BR
2.5 BR
S100
4 BR
G104
S114
★ SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)

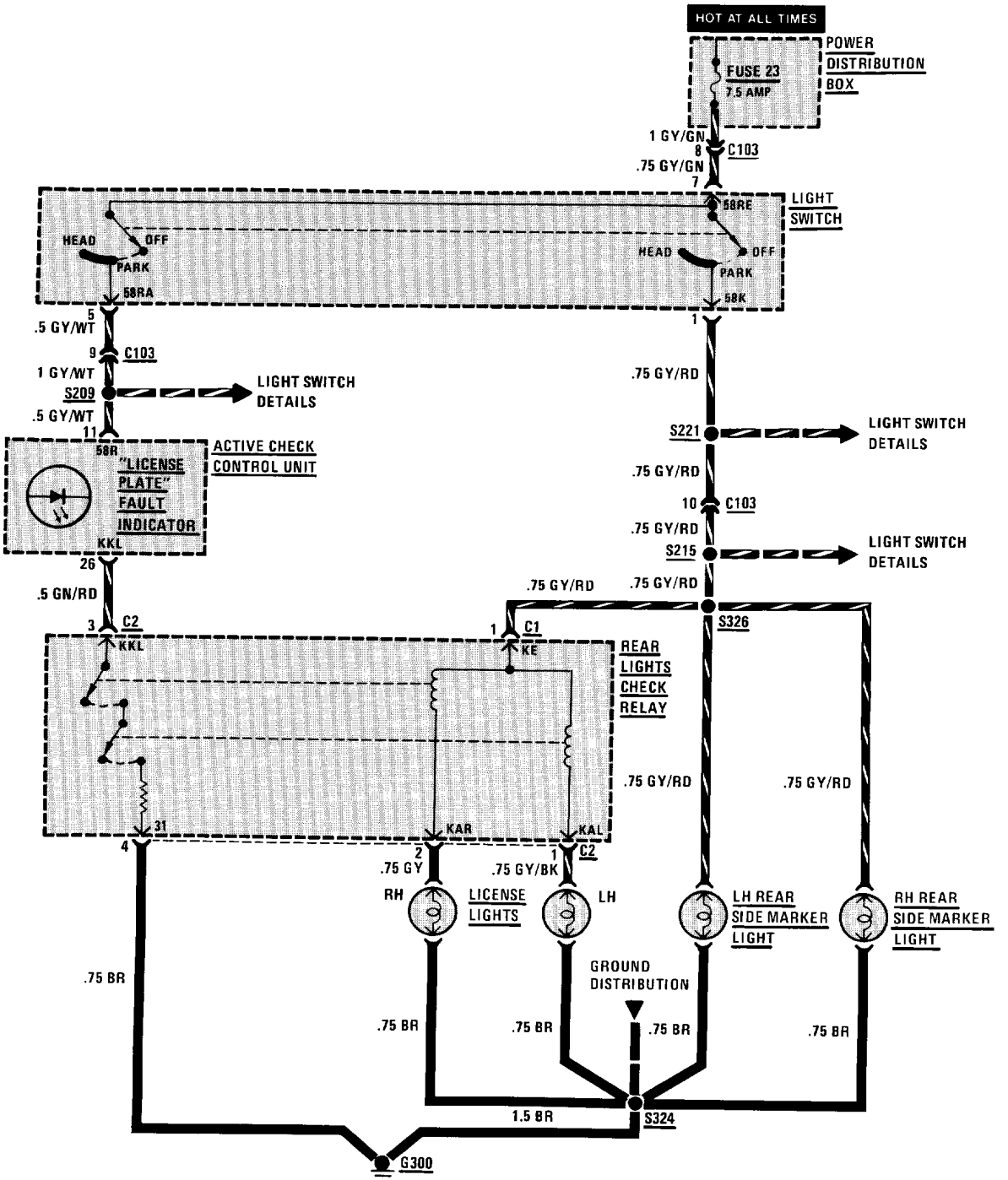

HOT IN ACCY, RUN OR START
HOT AT ALL TIMES
POWER DISTRIBUTION BOX
FUSE 4
15 AMP
FUSE 24
15 AMP
1.5 RD/WT
22
C103
1.5 VI/GY
1.5 RD/WT
3
30
18
1.5 VI/GY
S219
1.5 VI/GY
1
R
C103
.5 VI/GY
.5 RD/GN
FUSE DETAILS
1.5 GN/VI
7
1.5 GN/VI
C202
12
C103
1.5 GN/VI
5
COMBINATION SWITCH
10
.75 BR
FLASHER
49
SOLID STATE
31
49a
1.5 GN/YL
.75 BR
8
C202
.75 BR
.75 BR
1.5 GN/YL
13
C202
G200
G201
(STEERING COLUMN)
★ SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)
HAZARD SWITCH
49
ON
OFF
49a
4
1.5 GN/YL
13
1.5 GN/YL
C103
BR
6
1 BU/BK
5
BL
2
1 BU/RD
4
C103
58K
7
.5 GY/RD
DASH LIGHTS
150 OHMS
HAZARD SWITCH LIGHT (RED)
31G
8
.5 BR/WT
LIGHTS: DASH
NOTE:
RESISTOR DIMS THE HAZARD SWITCH LIGHT WHEN THE LIGHT SWITCH IS IN "HEAD" OR "PARK" AND THE HAZARD SWITCH IS OFF.

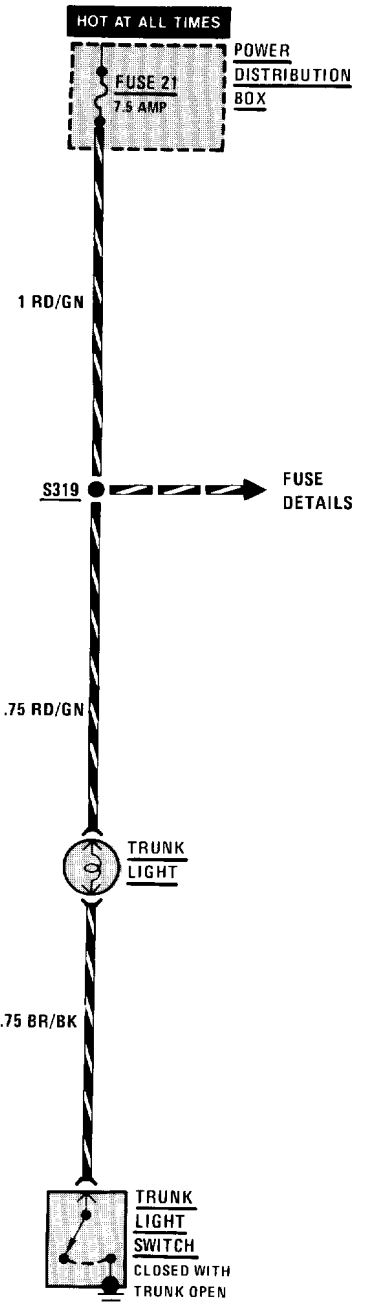

1.5 GN/YL
COMBINATION SWITCH
54
TURN SIGNAL SWITCH
LEFT
RIGHT
BL
BR
1 BU/RD
1 BU/WT
2
5
C202
1.5 BU/RD
1.5 BU/BK
5
1.5 BU/BK
S210
.5 BU/BK
4
1.5 BU/RD
C103
S211
1 BU/BK
1 BU/BK
.5 BU/RD
1 BU/RD
1 BU/RD
LH REAR LIGHT ASSEMBLY
RH REAR LIGHT ASSEMBLY
INSTRUMENT CLUSTER PRINTED CIRCUIT
7
C2
1
2
3
3
2
6
13
C1
INSTRUMENT CLUSTER PRINTED CIRCUIT
LH TURN INDICATOR
INDICATORS
31
GROUND DISTRIBUTION
BU
TURN
31
GROUND
LH FRONT TURN/PARK LIGHT
TURN
PARK
PARK
TURN
RH FRONT TURN/PARK LIGHT
BU
TURN
31
GROUND
RH TURN INDICATOR
31
INDICATORS
16
C2
1 BR
1 BR
GROUND DISTRIBUTION
2.5 BR
3
1.5 BR
4
1.5 BR
16
C2
.5 BR
★
S324
GROUND DISTRIBUTION
4 BR
S100
S114
1.5 BR
S324
.5 BR
★
G200
G300
G104
G300
G200
★ SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)

6314-0 PARK/TAIL/FRONT MARKER LIGHTS

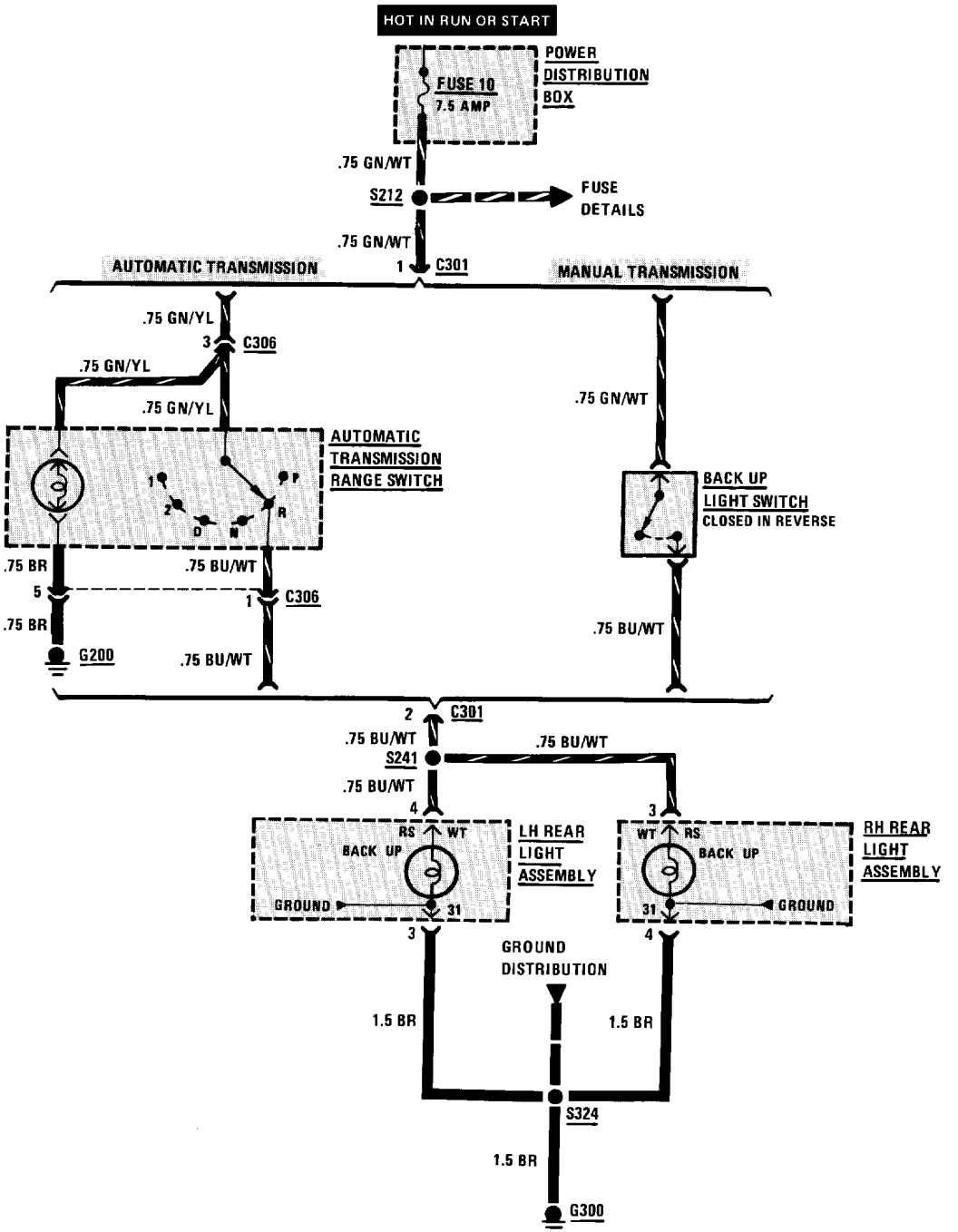


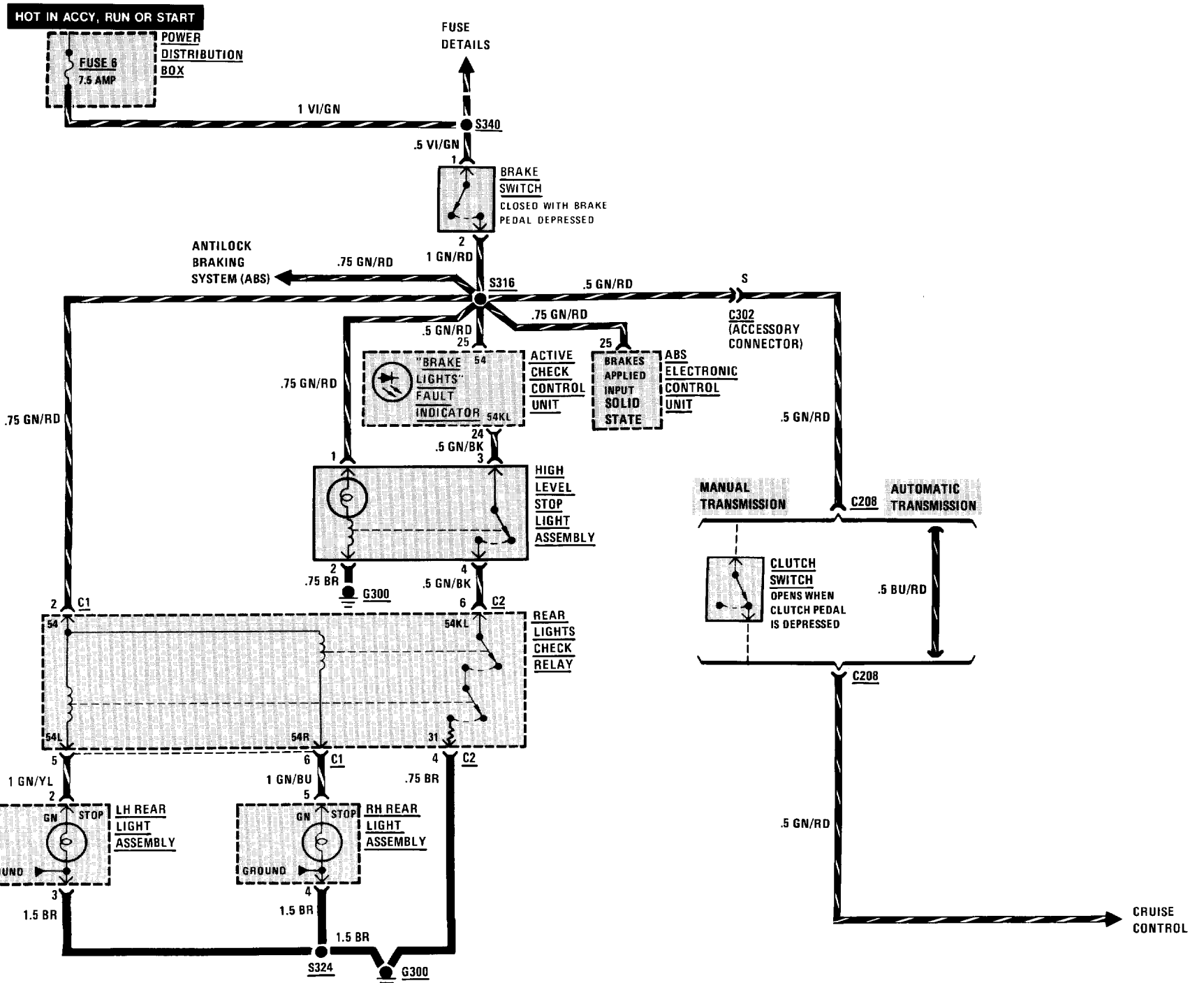
6320-0 REAR MARKER/LICENSE/TRUNK LIGHTS



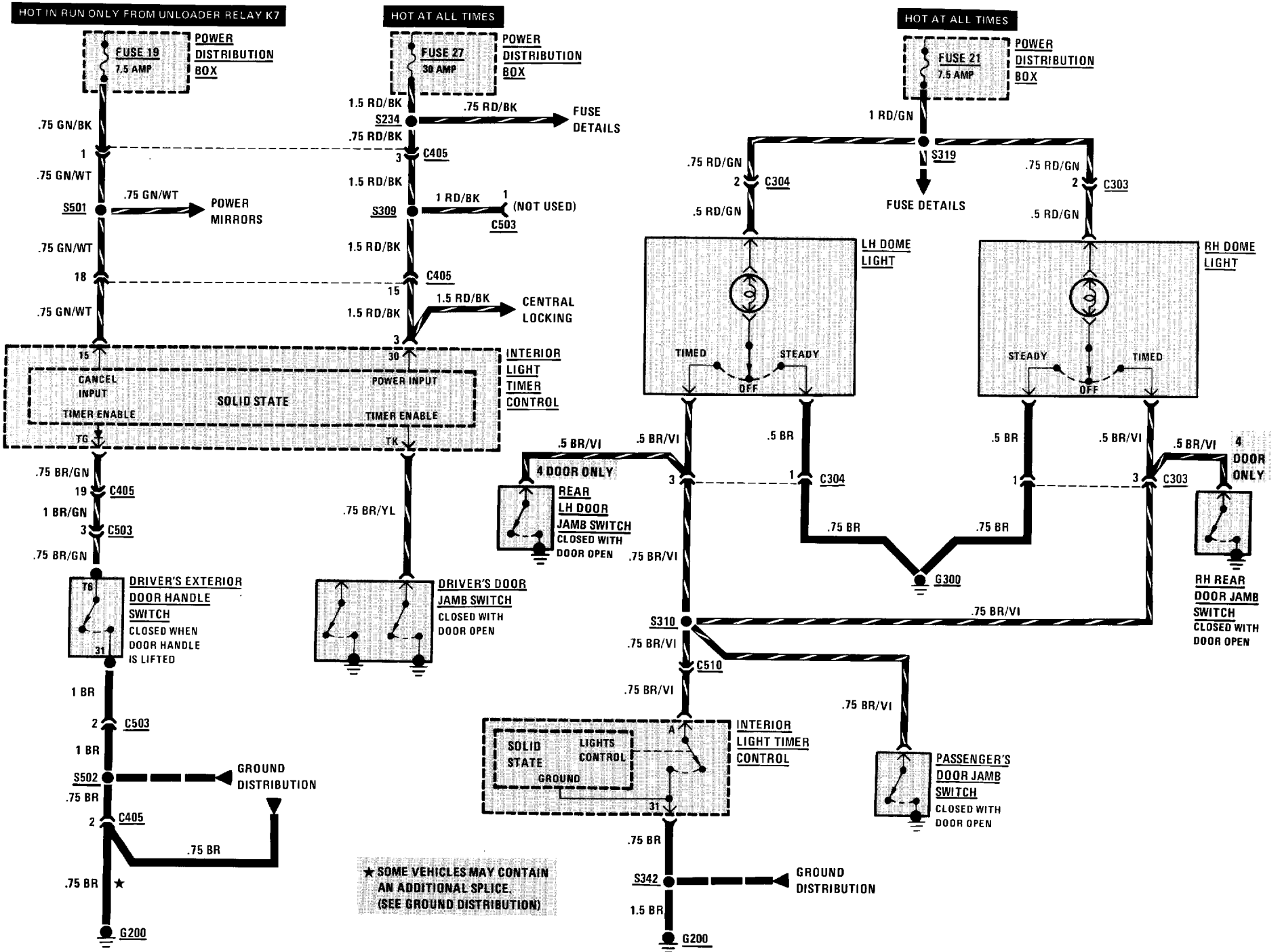


6322-0 BACK UP LIGHTS




HOT IN ACCY, RUN OR START
FUSE 6
7.5 AMP
POWER DISTRIBUTION BOX
FUSE DETAILS
1 VI/GN
S340
.5 VI/GN
BRAKE SWITCH
CLOSED WITH BRAKE PEDAL DEPRESSED
ANTILOCK BRAKING SYSTEM (ABS)
.75 GN/RD
2
1 GN/RD
S316
.5 GN/RD
S
C302 (ACCESSORY CONNECTOR)
.75 GN/RD
.5 GN/RD
25
"BRAKE LIGHTS" FAULT INDICATOR
54KL
54
ACTIVE CHECK CONTROL UNIT
25
BRAKES APPLIED INPUT
SOLID STATE
ABS ELECTRONIC CONTROL UNIT
.75 GN/RD
.5 GN/RD
24
.5 GN/BK
3
1
HIGH LEVEL STOP LIGHT ASSEMBLY
MANUAL TRANSMISSION
C208
AUTOMATIC TRANSMISSION
CLUTCH SWITCH
OPENS WHEN CLUTCH PEDAL IS DEPRESSED
.5 BU/RD
2
.75 BR
G300
4
.5 GN/BK
6
C2
2
C1
54
54KL
REAR LIGHTS CHECK RELAY
54L
54R
31
5
6
C1
4
C2
1 GN/YL
1 GN/BU
.75 BR
2
5
GN
STOP
GROUND
LH REAR LIGHT ASSEMBLY
RH REAR LIGHT ASSEMBLY
3
4
1.5 BR
1.5 BR
1.5 BR
S324
G300
C208
.5 GN/RD
CRUISE CONTROL

6330-0 INTERIOR LIGHTS



SYSTEM CHECK

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

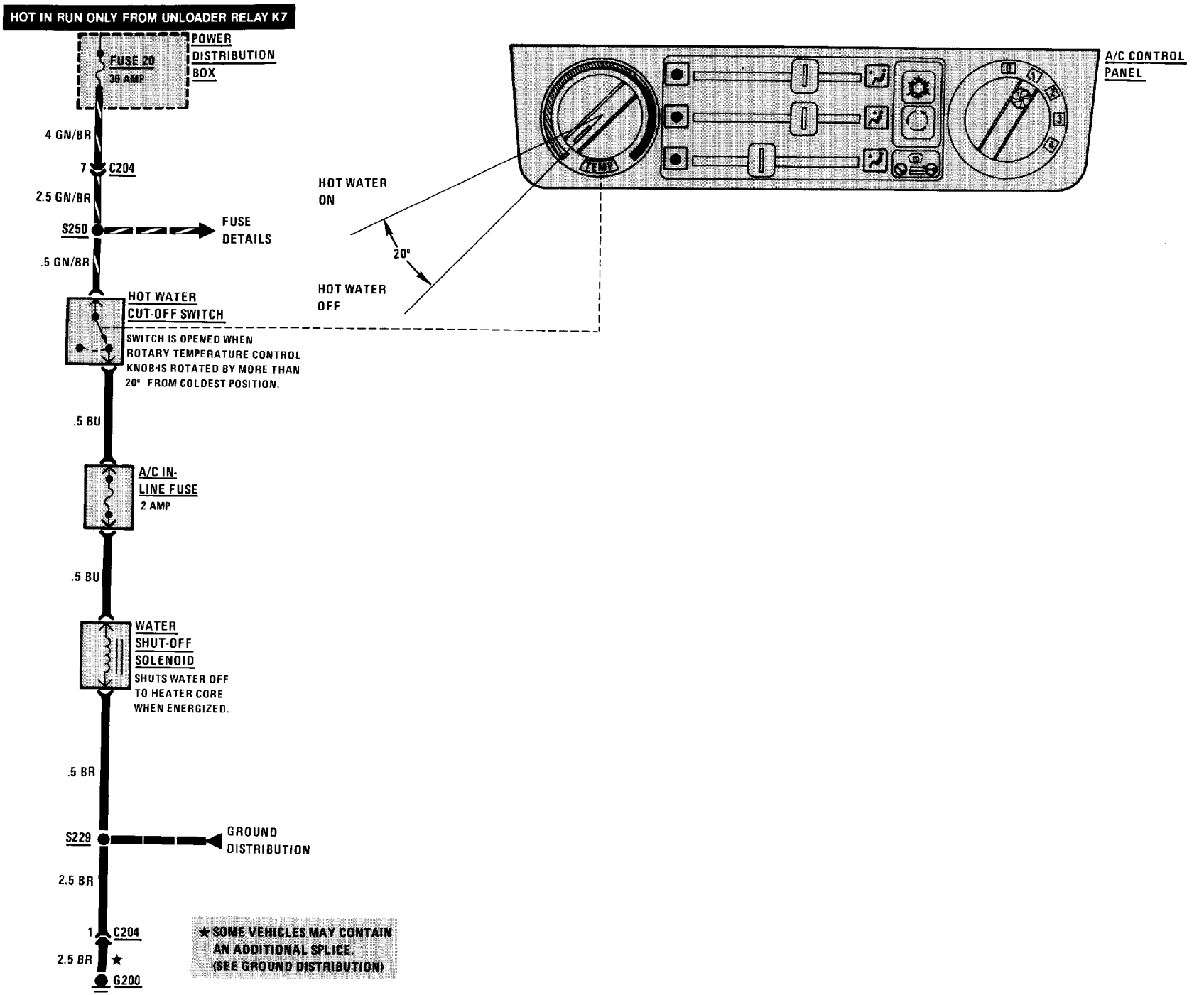
Complete this procedure with the temperature outside the car above 60 degrees F (16 degrees C) and the engine warm and running at idle.

SYSTEM CHECK TABLE

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

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

HEATING AND AIR CONDITIONING (HOT WATER CONTROL)



CIRCUIT OPERATION

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

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

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

The Water Shut-Off Solenoid and A/C In-Line Diode are protected by the A/C In-Line Fuse. If any failures occur in the Solenoid or Diode, the Fuse will isolate them to prevent the failure from affecting other parts of the Heating and Air Conditioning Circuits.

TROUBLESHOOTING HINTS

- **Try the following checks before doing the System Diagnosis.**

1. Check that Water Shut-Off Solenoid connector is firmly seated.
2. Check A/C In-Line Fuse. If fuse is blown, check for a shorted A/C In-Line Diode.

- **Go to Heating and Air Conditioning (6410A-0) System Check for a guide to normal operation.**
- **Go to System Diagnosis for diagnostic tests.**

SYSTEM DIAGNOSIS

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

WATER SHUT-OFF SOLENOID TEST (TABLE 1)

Measure: VOLTAGE
At: WATER SHUT-OFF SOLENOID CONNECTOR (Disconnected)
Conditions:
- **Ignition Switch: RUN**
- **A/C Control Panel TEMP Control: FULLY COUNTERCLOCKWISE**

Measure Between	Correct Voltage	For Diagnosis
BU & Ground	Battery	See 1
BU & BR/RD or BR	Battery	See 2
• Rotate A/C Control Panel TEMP Control to Mid Position		
BU & Ground	0 Volts	See 3

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- If all voltages are correct, replace the Water Shut-Off Solenoid.

1. Check the BU wire and A/C In-Line Fuse for an open. If fuse is open, check that A/C In-Line Diode is not shorted. If it is, replace it. If wire, Fuse and Diode are good, go to Table 2.
2. Check the BR/RD or BR wire for an open to ground. Check that connector C204 is properly mated.
3. Check BU wire for a wire to wire short to voltage. If wire is good, replace the A/C Control Panel TEMP Control.

WATER SHUT-OFF SOLENOID TEST (TABLE 2)

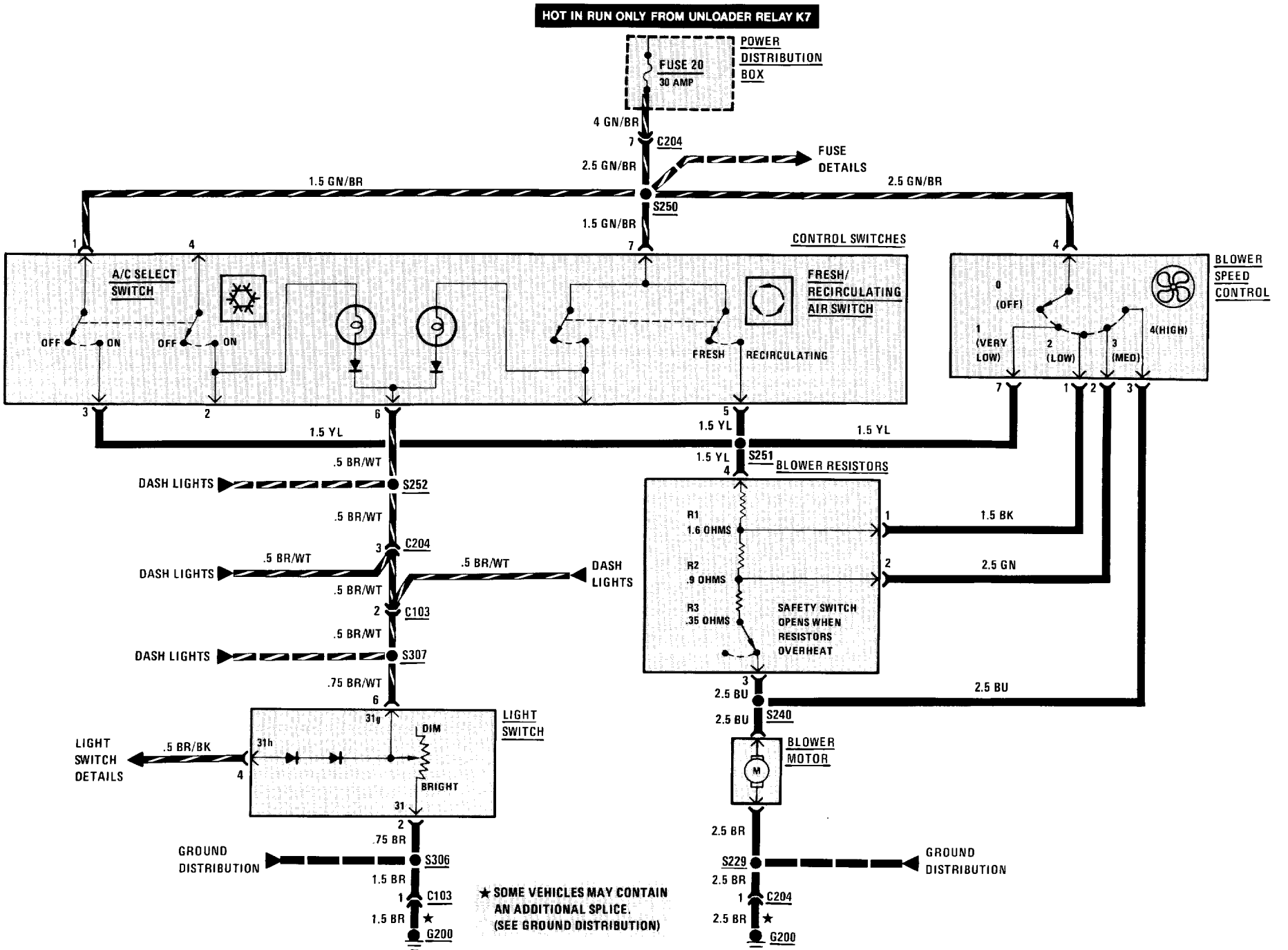
Measure: VOLTAGE
At: HOT WATER CUT-OFF SWITCH CONNECTOR (Disconnected)
Conditions:
- **Ignition Switch: RUN**
- **Water Shut-Off Solenoid: CONNECTED**

Measure Between	Correct Voltage	For Diagnosis
GN/BR & Ground	Battery	See 1
GN/BR & BU	Battery	See 2

- If both voltages are correct, replace the A/C Control Panel TEMP Control.

1. Check the GN/BR wire for an open back to Fuse 20.
2. Check the BU wire for an open.

HEATING AND AIR CONDITIONING (BLOWER CONTROLS)



CIRCUIT OPERATION

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

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

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

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

TROUBLESHOOTING HINTS

- **Try the following checks before doing the System Diagnosis.**

1. Check Fuse 20 by visual inspection.
2. If Blower will run in high only, check the Blower Resistors' Safety Switch for an open.

- **Go to Heating and Air Conditioning (6410-0) System Check for a guide to normal operation.**
- **Go to System Diagnosis for diagnostic tests.**

SYSTEM DIAGNOSIS

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

SYMPTOM TABLE

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

A: CONTROL SWITCH VOLTAGE TEST

Measure: VOLTAGE
At: CONTROL SWITCHES CONNECTOR (Disconnected)
Conditions:
- **Ignition Switch: RUN**
- **Blower Speed Control: OFF**

Measure Between	Correct Voltage	For Diagnosis
1 (GN/BR) & Ground	Battery	See 1
1 (GN/BR) & 3 (YL)	Battery	See 2 & 4
7 (GN/BR) & Ground	Battery	See 1
7 (GN/BR) & 5 (YL)	Battery	See 2 & 4
7 (GN/BR) & 6(BR/WT)	Battery	See 3

- If all voltages are correct, do Test B.

1. Check the GN/BR wire for an open.
2. Check the YL wire for an open.
3. Check the BR/WT wire for an open.
4. If voltage is not present between the GN/BR wire and both the YL wires (terminals 3 and 5), do Test B.

B: BLOWER SPEED CONTROL TEST

Measure: VOLTAGE
AT: BLOWER SPEED CONTROL CONNECTOR (Disconnected)
Conditions:
- **Ignition Switch: RUN**
- **A/C Select Switch: ON (Depressed)**
- **Fresh/Recirculating Air Switch: FRESH (Not Depressed)**

Measure Between	Correct Voltage	For Diagnosis
4 (GN/BR) & Ground	Battery	See 1
7 (YL) & Ground	Battery	See 2
• A/C Select Switch: OFF (Not Depressed)		
7 (YL) & Ground	0 Volts	See 3
4 (GN/BR) & 7 (YL)	Battery	See 4, 8, 9, & 10
4 (GN/BR) & 1 (BK)	Battery	See 5, 8, 9, & 10
4 (GN/BR) & 2 (GN)	Battery	See 6, 8, 9, & 10
4 (GN/BR) & 3 (BU)	Battery	See 7 & 10

- If all voltages are correct, replace the Blower Motor.

1. Check the GN/BR wire for an open.
2. Check the YL wire for an open between Blower Speed Control and splice S231.
3. Check the YL wire for a wire to wire short to voltage.

(Continued in next column)

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4. Check the YL wire for an open between splice S231 and the Blower Resistors.
5. Check the BK wire for an open.
6. Check the GN wire for an open.
7. Check the BU wire for an open.
8. If voltage is not present at the YL wire, but is present at the GN wire or BK wire, replace the Blower Resistors.
9. If voltage is not present at the YL, BK or GN wires, check for an open Blower Resistors' Safety Switch.
10. If voltage is not present at the YL, BK, GN and BU wires, do Test C.

C: BLOWER MOTOR TEST

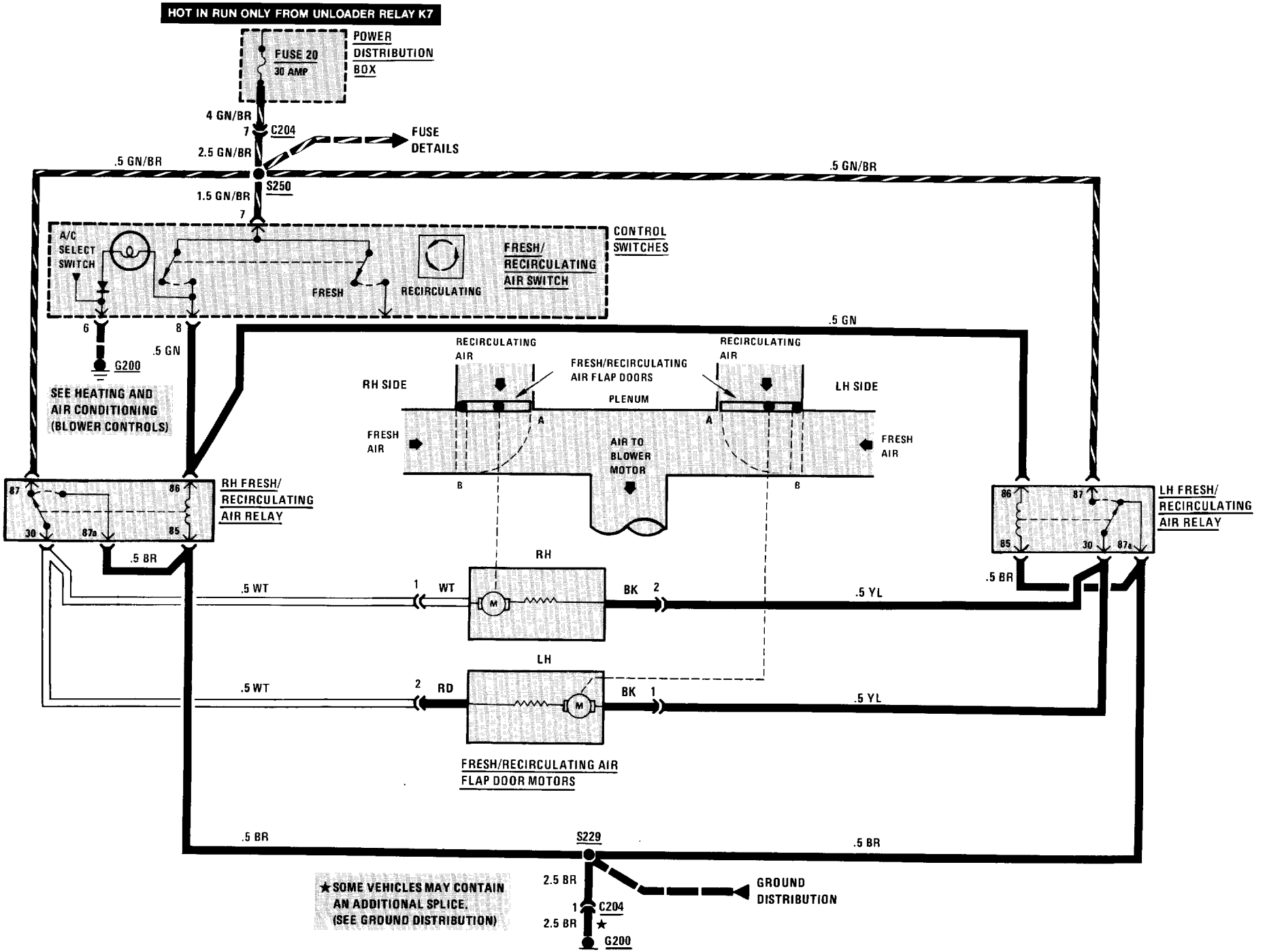
Measure: VOLTAGE
At: BLOWER MOTOR CONNECTOR (Disconnected)
Conditions:
- **Ignition Switch: RUN**
- **A/C Select Switch: ON**
- **Blower Speed Control: HIGH**

Measure Between	Correct Voltage	For Diagnosis
BU & Ground	Battery	See 1
BU & BR	Battery	See 2

- If both voltages are correct, replace the Blower Motor.

1. Check the BU wire for an open. If wire is good, recheck Test B.
2. Check the BR wire to ground G200 for an open.

HEATING AND AIR CONDITIONING (FRESH/RECIRCULATING AIR CONTROLS)



CIRCUIT OPERATION

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

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

TROUBLESHOOTING HINTS

- **Try the following checks before doing the System Diagnosis.**

1. Check that LH and RH Fresh/Recirculating Air Relays are firmly seated.
2. Check that LH and RH Fresh/Recirculating Air Relay pigtail connectors are properly mated.

- **Go to Heating and Air Conditioning (6410-0) System Check for a guide to normal operation.**
- **Go to System Diagnosis for diagnostic tests.**

SYSTEM DIAGNOSIS

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

A: FRESH/RECIRCULATING AIR FLAP DOOR MOTOR VOLTAGE TEST

Measure: VOLTAGE
At: FRESH/RECIRCULATING AIR FLAP DOOR MOTOR PIGTAIL CONNECTORS (Disconnected)
Conditions:
- **Ignition Switch: RUN**
- **Fresh/Recirculating Air Switch: RELEASED (FRESH)**

Measure Between	Correct Voltage	For Diagnosis
WT and Ground	Battery	See 1
WT and YL	Battery	See 2
• Fresh/Recirculating Air Switch: DEPRESSED (RECIRCULATING)		
YL and Ground	Battery	See 3

(Continued in next column)

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YL and WT	Battery	See 3

- If all voltages are correct, replace the inoperative motor.

1. Check the WT wire for an open. If wire is good, do Test B for RH Air Relay.
2. Check the YL wire for an open. If wire is good, do Test B for LH Air Relay.
3. Do Test B for both Air Relays.

B: FRESH/RECIRCULATING AIR RELAY VOLTAGE TEST

Measure: VOLTAGE
At: FRESH/RECIRCULATING AIR RELAY CONNECTOR (Disconnected)
Conditions:
- **Ignition Switch: RUN**
- **Fresh/Recirculating Air Switch: DEPRESSED (RECIRCULATING)**
- **Fresh/Recirculating Air Flap Door Motor Connectors: CONNECTED**

Measure Between	Correct Voltage	For Diagnosis
87 (GN/BR) and Ground	Battery	See 1
86 (GN) and Ground	Battery	See 2
86 (GN) and 85 (BR)	Battery	See 3
86 (GN) and 87a (BR)	Battery	See 3

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- If all voltages are correct, replace the suspect Fresh/Recirculating Air Relay.

1. Check the GN/BR wire for an open.
2. Check the GN wire back to the Control Switches for an open. If wire is good, do Test C.
3. Check the BR wire for an open.

C: CONTROL SWITCHES VOLTAGE TEST

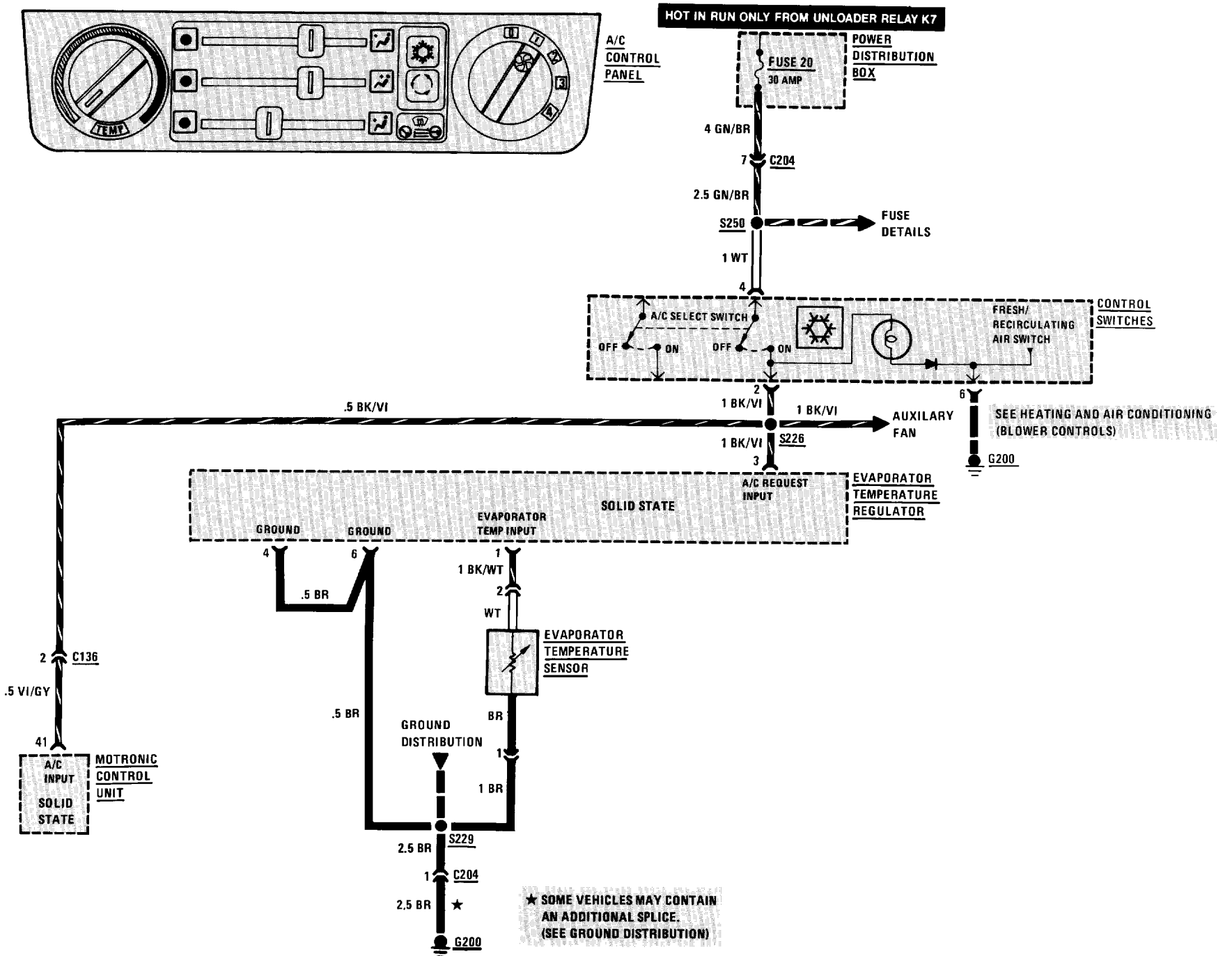
Measure: VOLTAGE
At: CONTROL SWITCHES CONNECTOR (Disconnected)
Condition:
- **Ignition Switch: RUN**

Measure Between	Correct Voltage	For Diagnosis
7 (GN/BR) & Ground	Battery	See 1
7 (GN/BR) & 8 (GN)	Battery	See 2

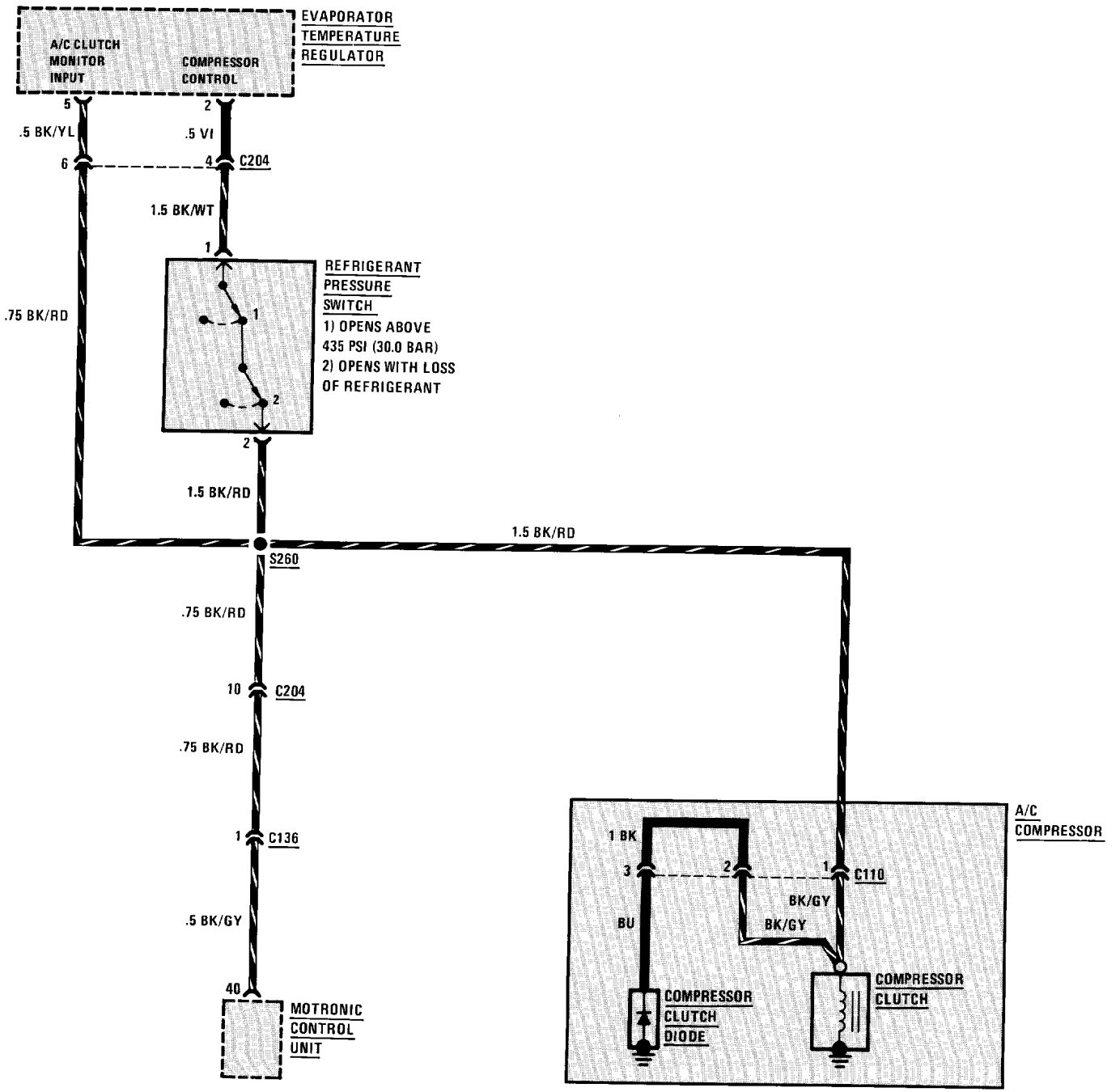
- If both voltages are correct, replace the Control Switches.

1. Check the GN/BR wire for an open. If wire is good, check that connector C204 is properly mated.
2. Check the GN wire for an open between the Control Switches and the LH and RH Fresh/Recirculating Air Relays.

HEATING AND AIR CONDITIONING (COMPRESSOR CONTROLS)



HEATING AND AIR CONDITIONING (COMPRESSOR CONTROLS)



CIRCUIT OPERATION

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

The Refrigerant Pressure Switch will disengage the Compressor Clutch when refrigerant pressure rises above 435 PSI (30.0 Bar), or when a loss of refrigerant brings the pressure below 21 PSI (1.5 Bar). The Evaporator Temperature Regulator will detect the Refrigerant Pressure Switch opening at terminal 5 and will turn off the output voltage at the Compressor Control terminal. The Evaporator Temperature Regulator will not allow the Compressor Clutch to be turned on again until circuit continuity has been restored between terminals 5 and 2. The Evaporator Temperature Regulator tests for continuity by momentarily applying voltage at the Compressor Control every 8 to 10 seconds. Voltage at the A/C Clutch Monitor Input indicates continuity. The Evaporator Temperature Regulator will continue to apply voltage at the Compressor Control output, which will energize the Compressor Clutch.

Clutch Diode

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

A/C On Input

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

TROUBLESHOOTING HINTS

- **Try the following checks before doing the System Diagnosis.**

1. Check Fuse 20 by visual inspection.
2. Check that Compressor Clutch connector is firmly seated.

- **Go to Heating and Air Conditioning (6410A-0) System Check for a guide to normal operation.**
- **Go to System Diagnosis for diagnostic tests.**

SYSTEM DIAGNOSIS

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

SYMPTOM TABLE

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

A: A/C ISOLATION TEST (TABLE 1)

Measure: VOLTAGE
At: EVAPORATOR TEMPERATURE REGULATOR (Disconnected)
Conditions:
- **Ignition Switch: RUN (Engine need not be running)**
- **A/C Selector Switch: ON (Depressed)**

Measure Between	Correct Voltage	For Diagnosis
3 & Ground	Battery	See 1

- If voltage is correct, go to Table 2.

1. Go to Test E.

A: A/C ISOLATION TEST (TABLE 2)

Connect: FUSED JUMPER
At: EVAPORATOR TEMPERATURE REGULATOR (Disconnected)
Conditions:
- **Ignition Switch: RUN**
- **A/C Selector Switch: ON (Depressed)**

Connect Across	Correct Result	For Diagnosis
2 & 3	Compressor Clutch Engages	See 1

- If result is correct go to Test C.

1. Go to Test B.

B: PRESSURE SWITCH TEST

Measure: RESISTANCE
At: EVAPORATOR TEMPERATURE REGULATOR CONNECTOR (Disconnected)
Conditions:
- **Ignition Switch: OFF**
- **Negative Battery Terminal: DISCONNECTED**

Measure Between	Correct Resistance	For Diagnosis
2 & Ground	Approximately 3 to 4 ohms	See 1

- If measurement is correct replace the Evaporator Temperature Regulator.

1. Check for an open Refrigerant Pressure Switch, A/C Temperature Switch, or associated wiring (see schematic). If Refrigerant Pressure Switch is open, check refrigerant pressure to be sure it is normal before replacing the switch. Replace the A/C Temperature Switch if it is open and engine coolant temperature is below 226 °C (108 °C). If the switches and related wiring is OK, replace the Compressor Clutch.

C: EVAPORATOR TEMPERATURE REGULATOR VOLTAGE AND RESISTANCE TEST

Measure: RESISTANCE
At: EVAPORATOR TEMPERATURE REGULATOR CONNECTOR (Disconnected)
Conditions:
- **Ignition Switch: OFF**
- **Negative Battery Terminal: DISCONNECTED**

Measure Between	Correct Resistance	For Diagnosis
1 & Ground	Approximately 3.5K to 4.5K ohms at 70 °F (21 °C)	See 1
4 & Ground	Less than 0.5 ohms	See 2
6 & Ground	Less than 0.5 ohms	See 2
5 & 2	Less than 0.5 ohms	See 3

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

1. Check the BK/WT wire for an open or a short to ground (see schematic). Check the BR wire for an open (see schematic). If wires are good, replace the Evaporator Temperature Sensor.
2. Check the BR wire for an open (see schematic).
3. Check BK/RD for an open between terminal 5 and the Refrigerant Pressure Switch.

D: IDLE SPEED CONTROL VOLTAGE TEST

Measure: VOLTAGE
At: MOTRONIC CONTROL UNIT CONNECTOR (Connected — Universal Adapter)
Conditions:
- **Ignition Switch: RUN**
- **A/C Control Panel: A/C ON**
- **Temperature Outside Car: Above 60 degrees F (16 degrees C)**

Measure Between	Correct Voltage	For Diagnosis
40 (BK/GY) & Ground	Battery	See 1
41 (VI/GY) & Ground	Battery	See 2

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

1. Check for an open in the BL/WT and BK/RD wires.
2. Check for an open in the VI/GY and BK/VI wires.

E: A/C SELECT SWITCH VOLTAGE TEST

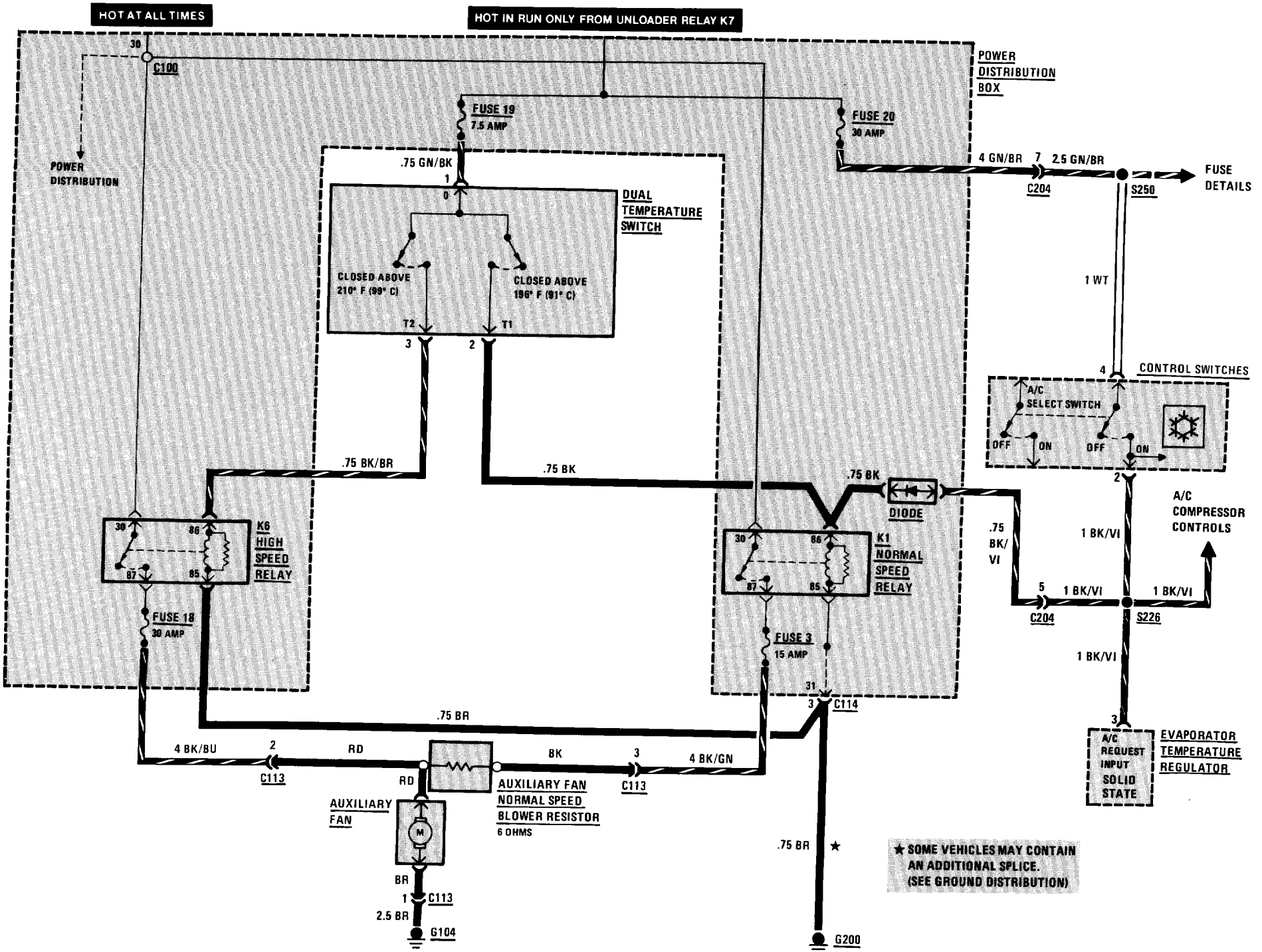
Measure: VOLTAGE
At: CONTROL SWITCHES CONNECTOR (Connected)
Conditions:
- **Ignition Switch: RUN**
- **A/C Control Panel: A/C ON**
- **Temperature Outside Car: Above 60 degrees F (16 degrees C)**

Measure Between	Correct Voltage	For Diagnosis
4 (WT) & Ground	Battery	See 1
2 (BK/VI) & Ground	Battery	See 2

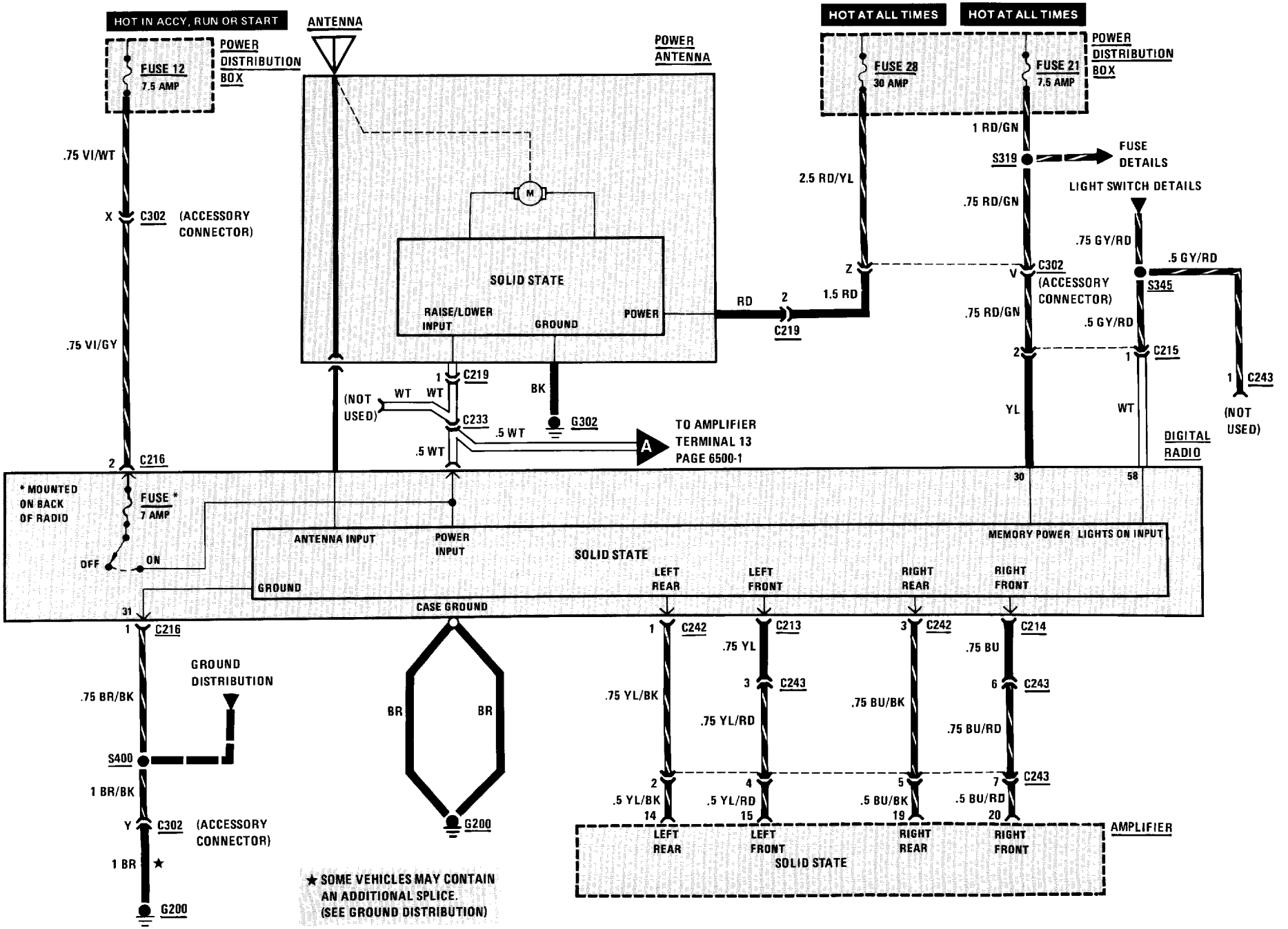
- If both voltages are correct, check connections at Evaporator Temperature Regulator.

1. Check for an open in the WT and GN/BR wires.
2. Replace the A/C Select Switch.

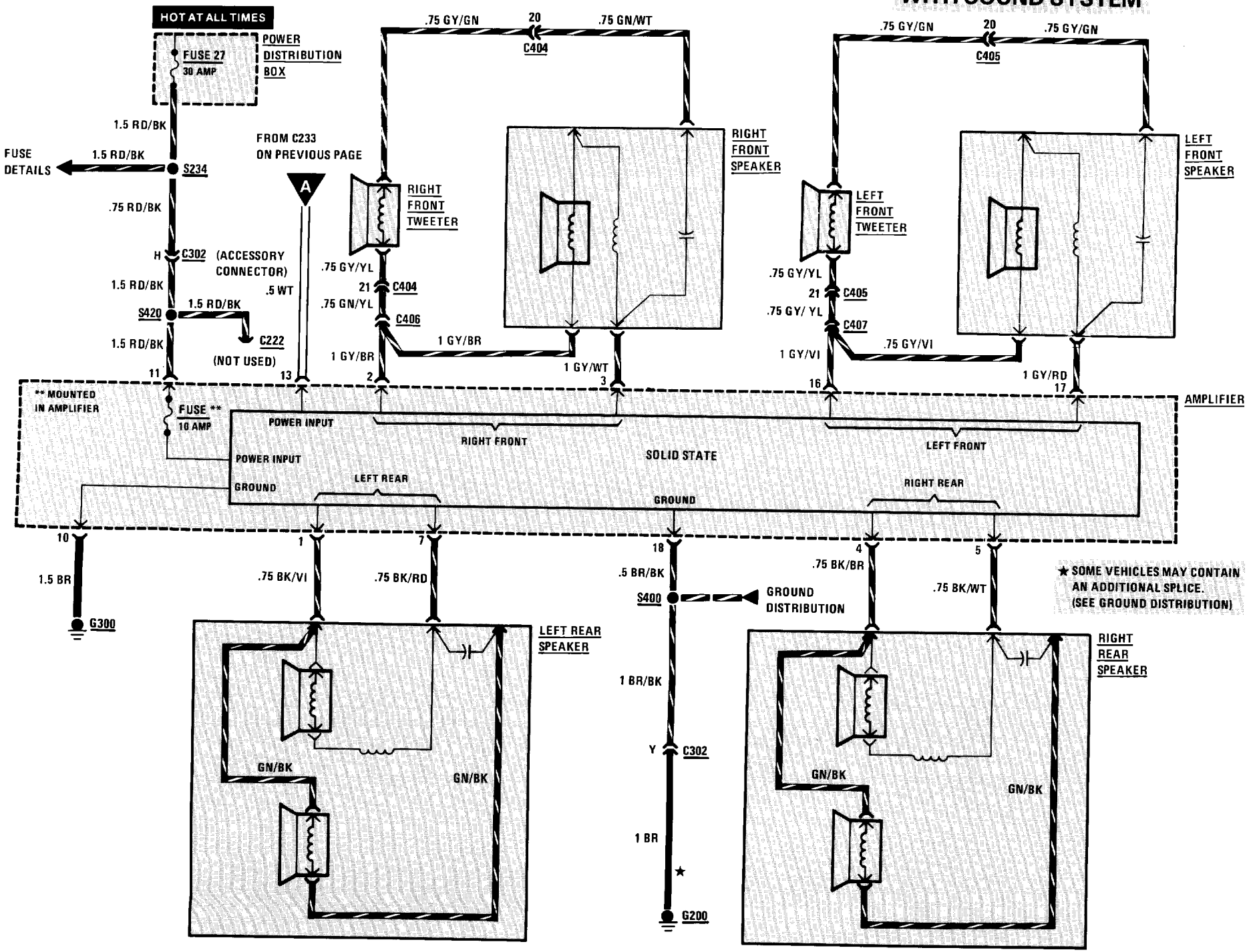
6454-0 AUXILIARY FAN



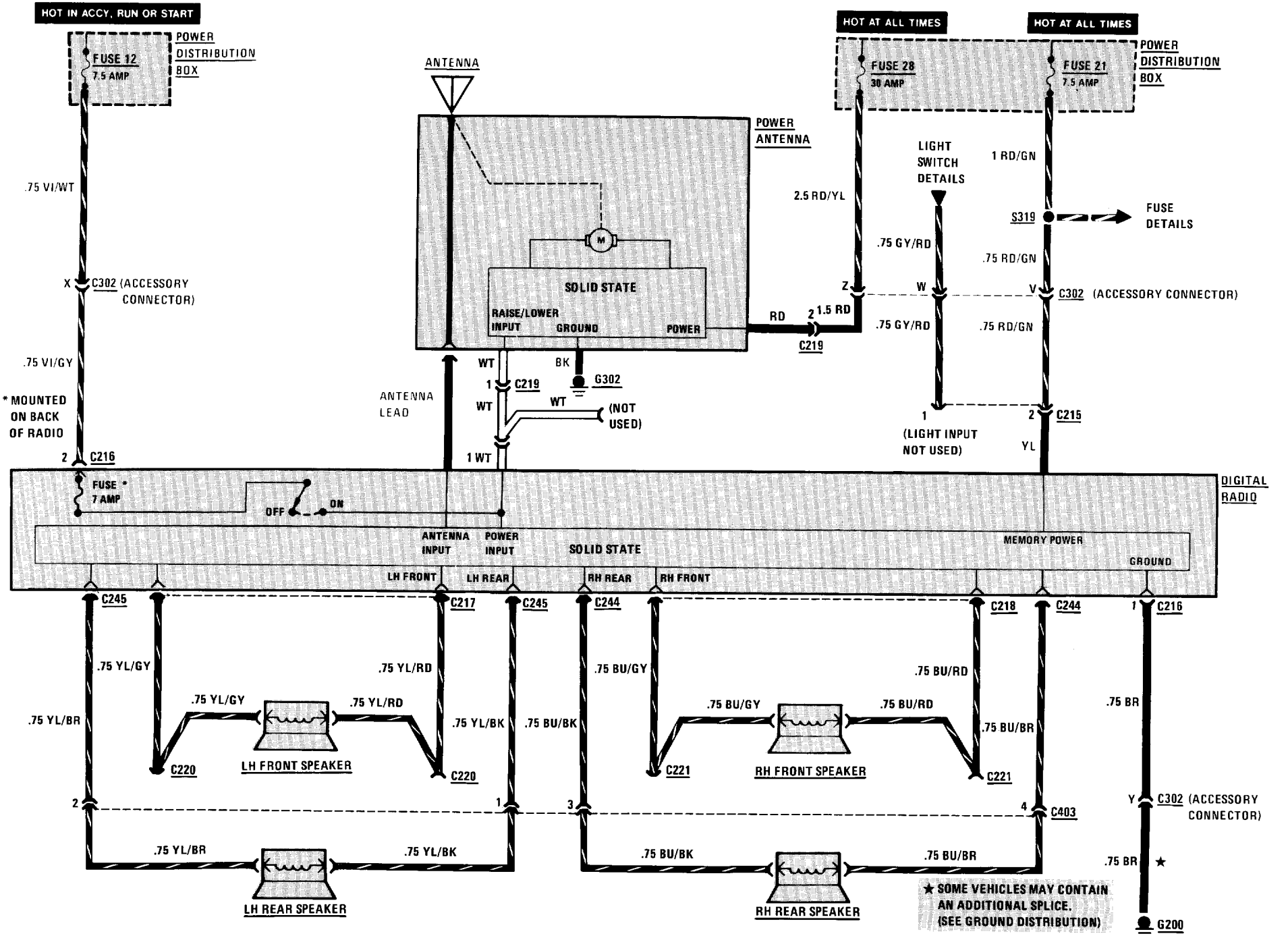
WITH SOUND SYSTEM



WITH SOUND SYSTEM



RADIO ONLY


HOT IN ACCY, RUN OR START
FUSE 12
7.5 AMP
POWER DISTRIBUTION BOX
.75 VI/WT
X C302 (ACCESSORY CONNECTOR)
.75 VI/GY
* MOUNTED ON BACK OF RADIO
2 C216
FUSE * 7 AMP
OFF
ON
ANTENNA
ANTENNA LEAD
POWER ANTENNA
SOLID STATE
RAISE/LOWER INPUT
GROUND
POWER
M
WT
BK
1 C219
G302
WT
WT
(NOT USED)
1 WT
RD
2 1.5 RD
C219
HOT AT ALL TIMES
FUSE 28
30 AMP
HOT AT ALL TIMES
FUSE 21
7.5 AMP
POWER DISTRIBUTION BOX
LIGHT SWITCH DETAILS
1 RD/GN
2.5 RD/YL
S319
FUSE DETAILS
.75 GY/RD
.75 RD/GN
Z
W
V
C302 (ACCESSORY CONNECTOR)
.75 GY/RD
.75 RD/GN
1 (LIGHT INPUT NOT USED)
2 C215
YL
DIGITAL RADIO
ANTENNA INPUT
POWER INPUT
SOLID STATE
MEMORY POWER
GROUND
LH FRONT
LH REAR
RH REAR
RH FRONT
C245
C217
C245
C244
C218
C244
1 C216
.75 YL/GY
.75 YL/RD
.75 BU/GY
.75 BU/RD
.75 BR
.75 YL/GY
.75 YL/RD
.75 BU/GY
.75 BU/RD
.75 YL/BR
.75 YL/BK
.75 BU/BK
.75 BU/BR
C220
LH FRONT SPEAKER
C220
C221
RH FRONT SPEAKER
C221
2
1
3
4
C403
Y C302 (ACCESSORY CONNECTOR)
.75 YL/BR
.75 YL/BK
.75 BU/BK
.75 BU/BR
.75 BR ★
LH REAR SPEAKER
RH REAR SPEAKER
★ SOME VEHICLES MAY CONTAIN AN ADDITIONAL SPLICE. (SEE GROUND DISTRIBUTION)
G200

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 and the Power Antenna Raise/Lower Input. 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 actual Radio signal originates at the Antenna. It is supplied to the Radio, processed, and output from the Left Channel and Right Channel Outputs. The signal is then input to the Left Front, Left Rear, Right Front and Right Rear Inputs to the Amplifier.

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 that the Antenna is properly connected.
5. Before troubleshooting a suspect Speaker, check all connections to that Speaker.
6. If display shows "CODE" and Radio will not operate, the individual Anti-Theft Code must be entered. Refer to "Anti-Theft" instruction booklet.
7. Check Radio Fuse located on back of Radio.
8. If a speaker is inoperative, switch with a good speaker. If still inoperative, check related wiring. Remove Radio for service if wiring is OK.

SYSTEM CHECK

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

SYSTEM CHECK TABLE

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

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

SYSTEM DIAGNOSIS

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

SYMPTOM TABLE

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

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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 C
Excessive noise comes from all Speakers.	Do Test D

A: RADIO POWER TEST

Measure: VOLTAGE
At: RADIO CONNECTOR C216 (Disconnected) or CONNECTOR C215 (Disconnected)
Condition:
- **Ignition Switch: RUN**

Measure Between	Correct Voltage	For Diagnosis
C216 & Ground	Battery	See 1
C216/2 & C216/1	Battery	See 2
C215/2 & Ground	Battery	See 3

- If all voltages are correct, check wire from connector C215 to Radio for an open. If wire is OK, remove Radio for service.

1. Check power input wire for an open.
2. Check ground wire for an open to ground. Make sure ground G200 is clean and tight.
3. Check memory power supply wire for an open.

B: SUSPECT SPEAKER TEST

Connect: OHMMETER
At: SUSPECT SPEAKER (Disconnected)
Condition:
- **Ohmmeter set on Rx 1 scale or Diode Check Scale**

Action	Correct Result	For Diagnosis
Connect Ohmmeter across Speaker Terminals	Speaker "pops"	See 1

- If the result is correct, check wires to the Radio for opens or shorts. If OK, removed Radio for service.

1. Replace the suspect Speaker.

C: 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 Megohm (open circuit)	See 2

- If both resistances are correct, check the hood ground strap. If OK, substitute different Antenna at Radio. If good, replace Antenna. If noise is still present, refer to Noise Symptom Table.

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.

D: SUSPECT SPEAKER TEST

Connect: OHMMETER
At: SUSPECT SPEAKER (Disconnected)
Condition:
- **Ohmmeter set on Rx 1 scale or Diode Check Scale**

Action	Correct Result	For Diagnosis
Connect Ohmmeter across Speaker Terminals	Speaker "pops"	See 1

- If the result is correct, check wires to the Amplifier or Radio for opens or shorts. If OK, check wires between Amplifier (if equipped) and the Radio. Remove Radio for service.

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 Megohm (open circuit)	See 2

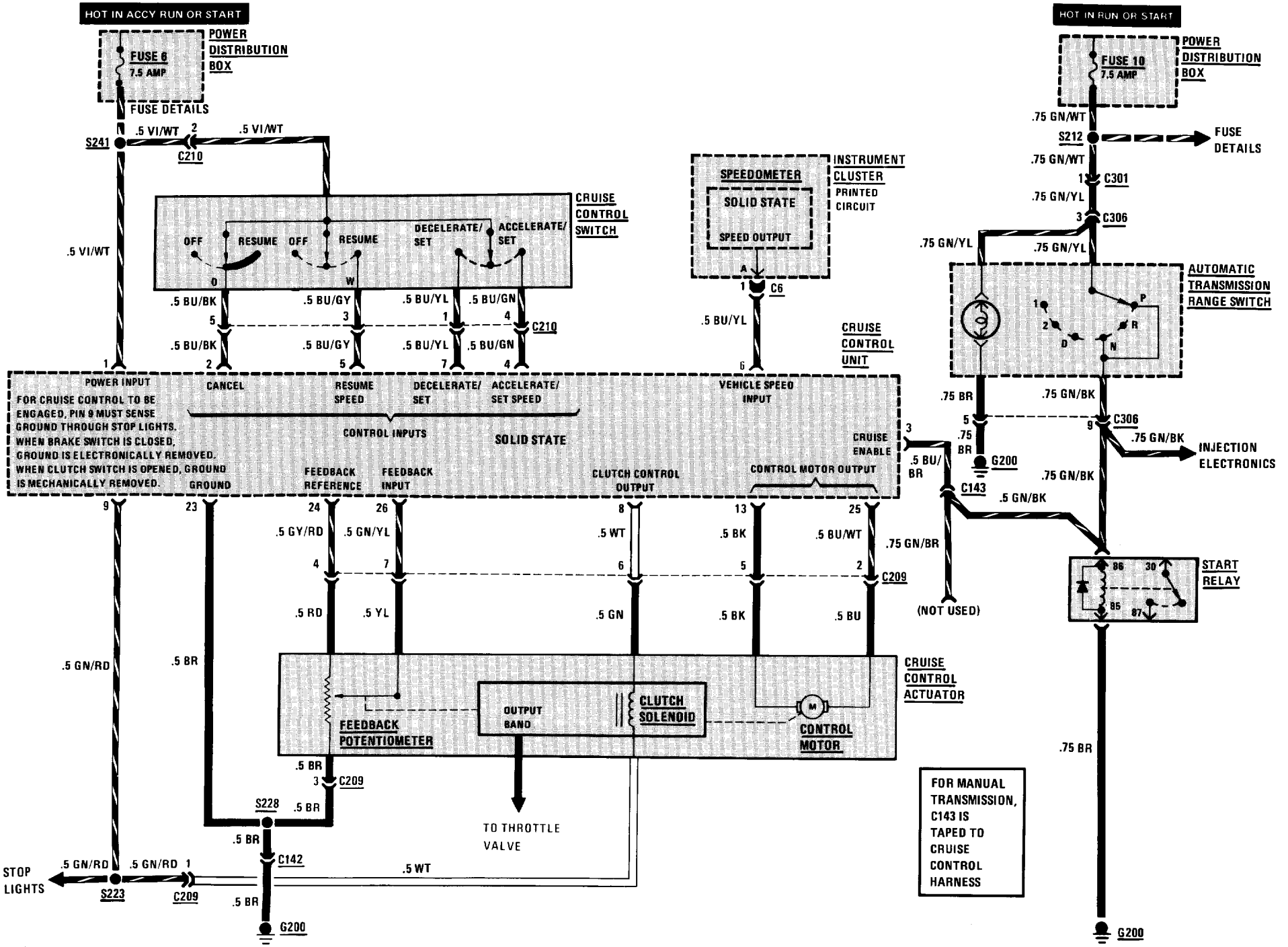
- If both resistances are correct, check the hood ground strap. If OK, substitute different Antenna at Radio. If good, replace Antenna. If noise is still present, refer to Noise Symptom Table.

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.

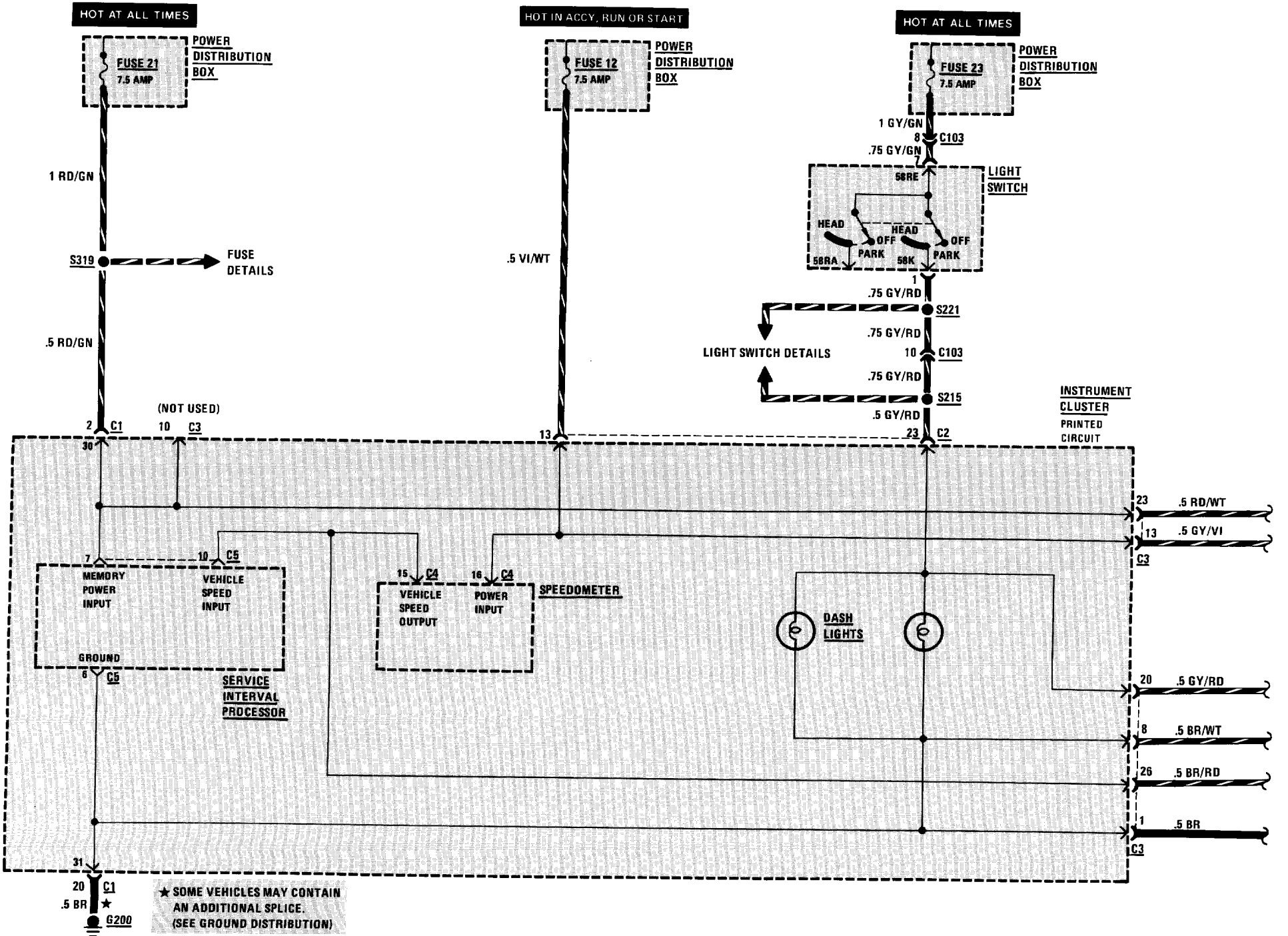
NOISE SYMPTOM TABLE

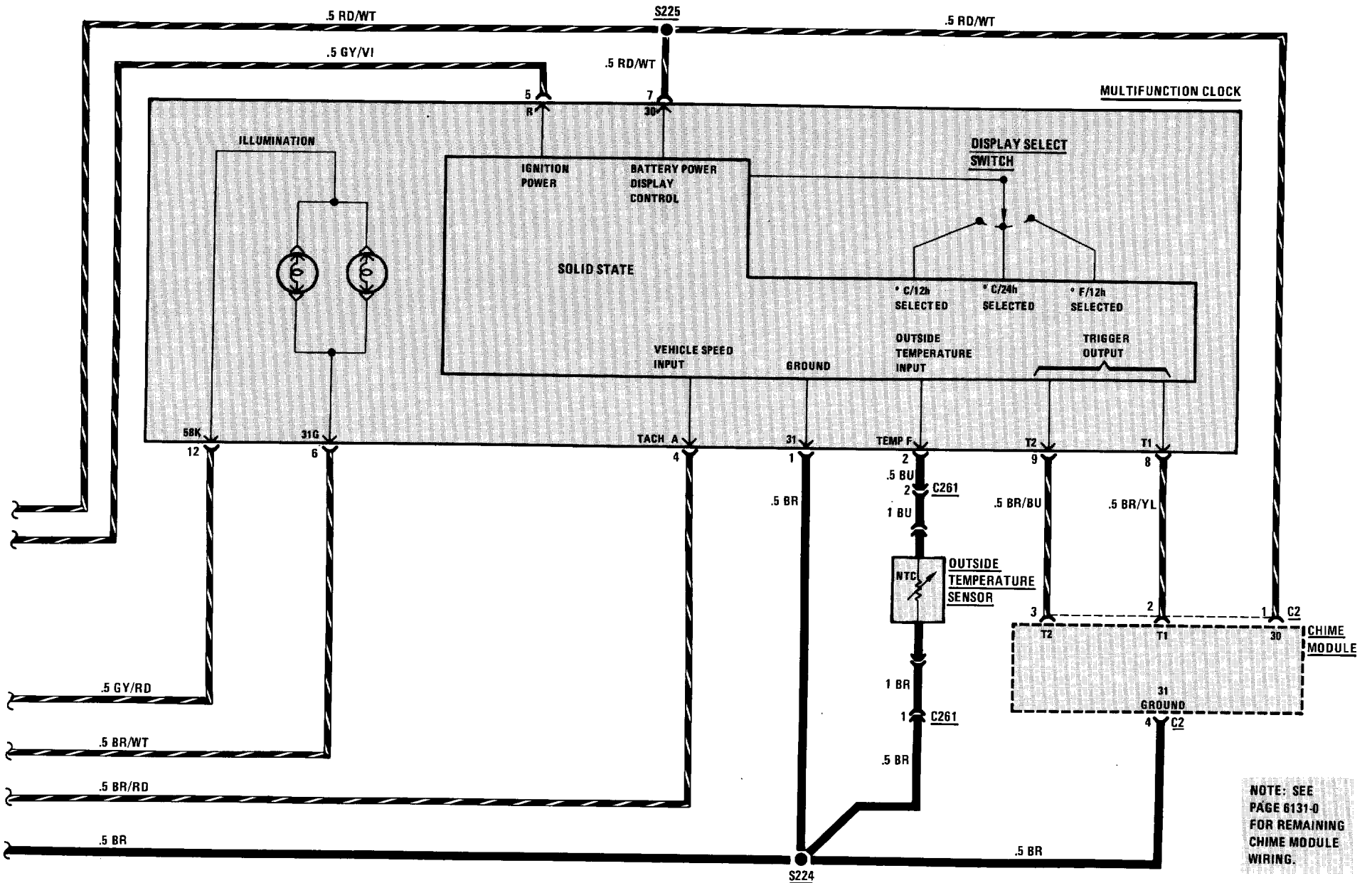
SYMPTOM	POSSIBLE CAUSE	REPAIR ACTION
Harsh popping or crackling noise present when ignition on-changes with engine rpm.	Ignition Noise	• Check for proper distributor cap shielding. • Check shielding ground strap. If not present, install. • Check for defective spark plug or spark plug wire. • Reroute 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	• Connect dedicated ground strap to Radio. • Run a direct wire from Battery to Alternator.
AM only is weak and noisy.	AM alignment	• Remove Radio for service.
FM only is weak and noisy.	FM alignment	• Remove Radio for service.

6571-0 CRUISE CONTROL



6581-0 MULTIFUNCTION CLOCK




.5 RD/WT
S225
.5 RD/WT
.5 GY/VI
.5 RD/WT
5
R
7
30
MULTIFUNCTION CLOCK
ILLUMINATION
IGNITION POWER
BATTERY POWER
DISPLAY CONTROL
DISPLAY SELECT SWITCH
SOLID STATE
° C/12h SELECTED
° C/24h SELECTED
° F/12h SELECTED
VEHICLE SPEED INPUT
GROUND
OUTSIDE TEMPERATURE INPUT
TRIGGER OUTPUT
58K
12
31G
6
TACH A
4
31
1
TEMP F
2
T2
9
T1
8
.5 BU
2
C261
1 BU
.5 BR
.5 BR/BU
.5 BR/YL
NTC
OUTSIDE TEMPERATURE SENSOR
3
2
1
C2
T2
T1
30
CHIME MODULE
31
GROUND
4
C2
1 BR
1
C261
.5 BR
.5 GY/RD
.5 BR/WT
.5 BR/RD
.5 BR
.5 BR
S224
NOTE: SEE PAGE 6131-0 FOR REMAINING CHIME MODULE WIRING.

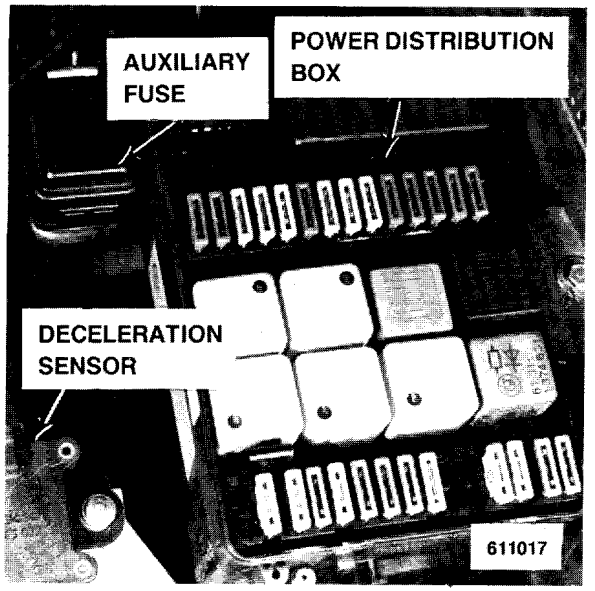


Figure 1 - LH Rear of Engine Compartment

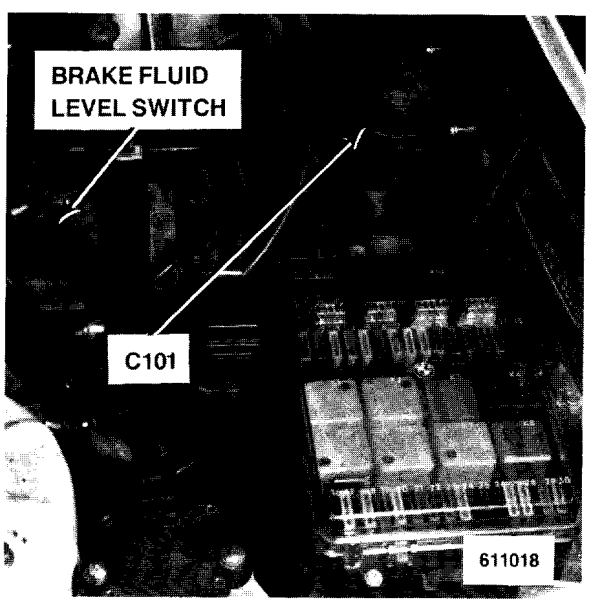


Figure 2 - LH Rear of Engine Compartment

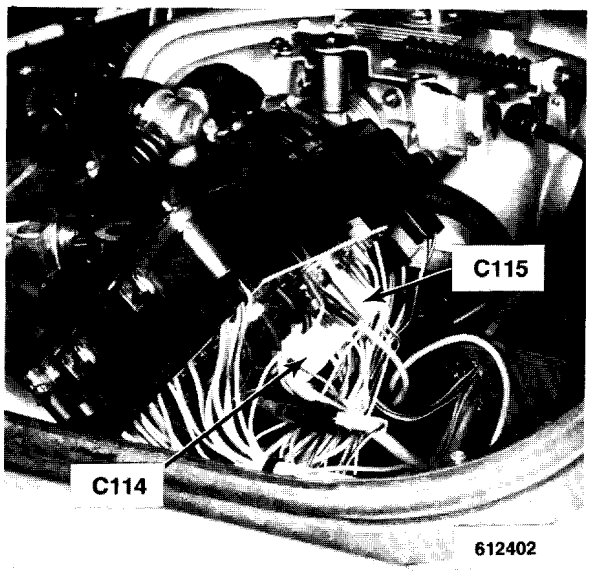


Figure 3 - LH Rear of Engine Compartment (Inside Power Distribution Box)

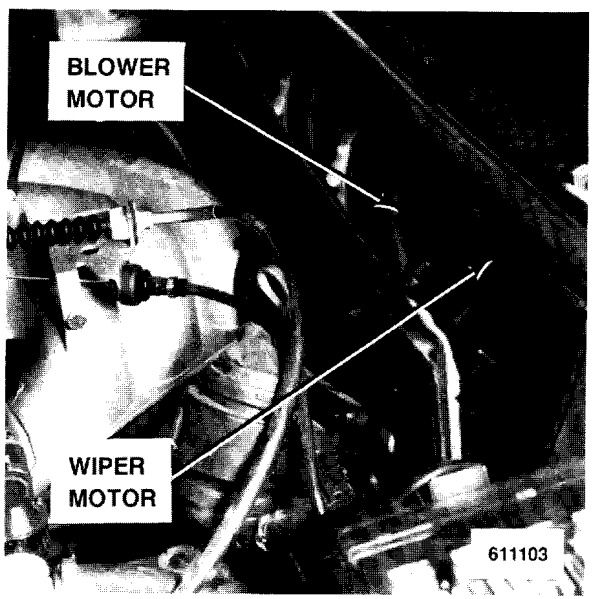


Figure 4 - Rear of Engine Compartment, Behind Cowl Panel

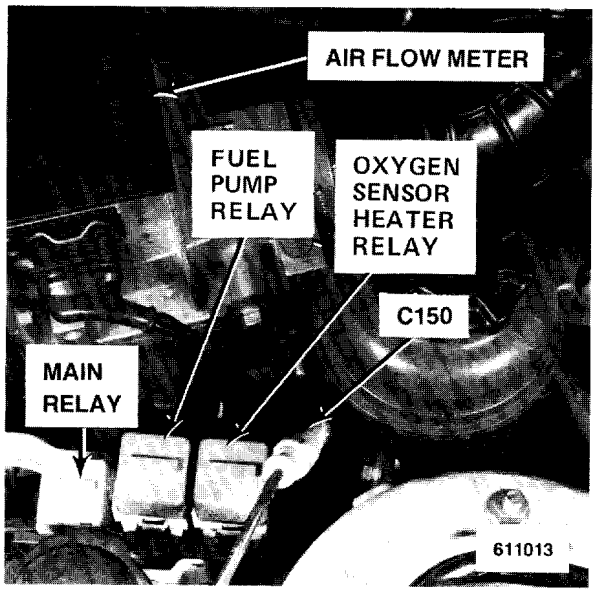


Figure 5 - Forward of LH Front Shock Tower (Relay Cover Removed)

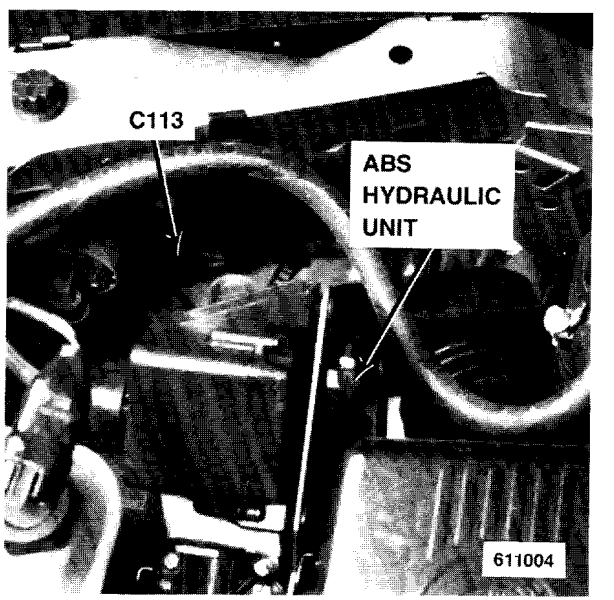


Figure 6 - LH Front of Engine Compartment

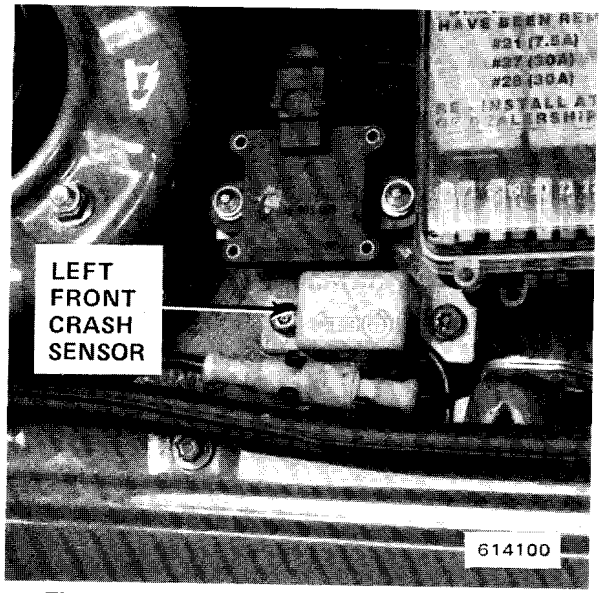


Figure 1 - LH Side of Engine Compartment

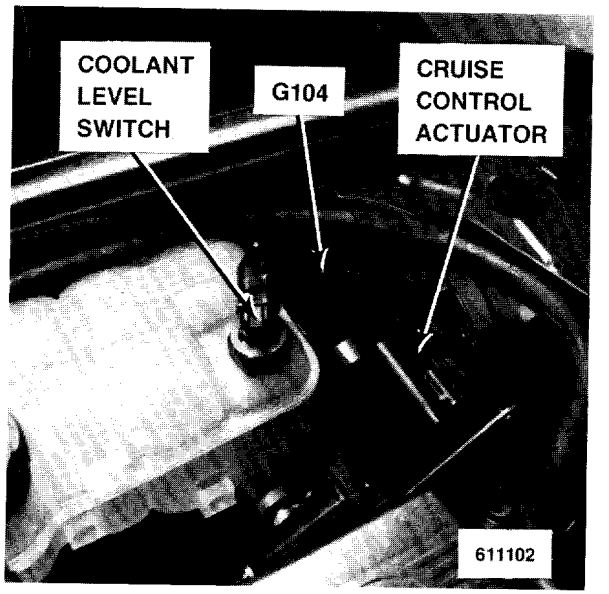


Figure 3 - Forward of LH Front Wheel Well

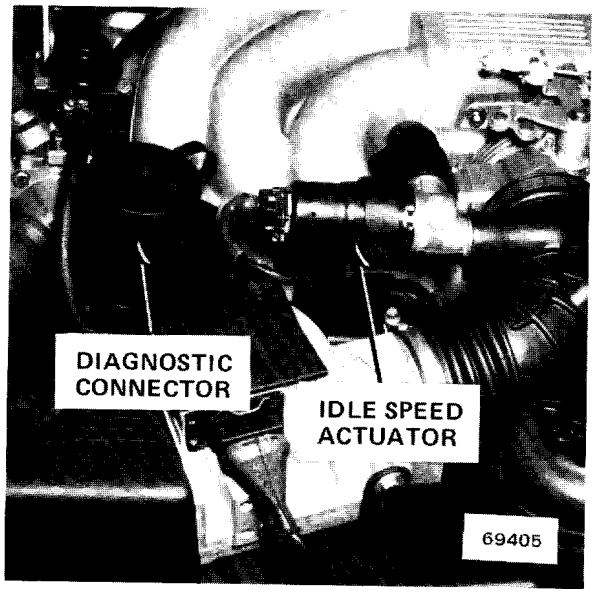


Figure 5 - Lower LH Front of Engine (From Below)

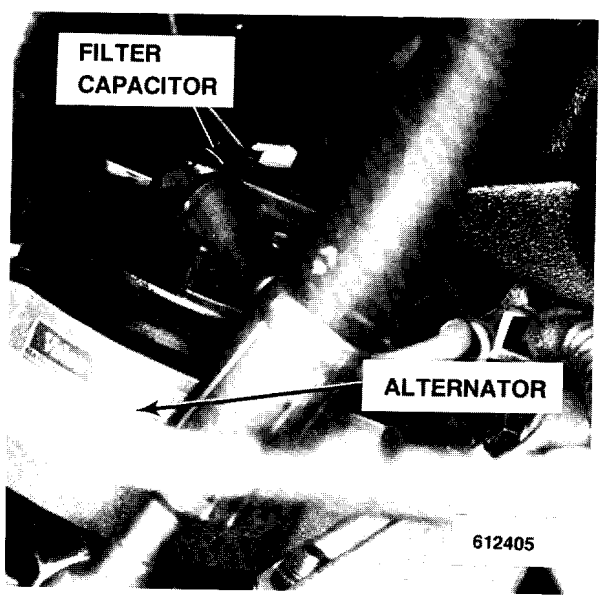


Figure 2 - LH Front of Engine

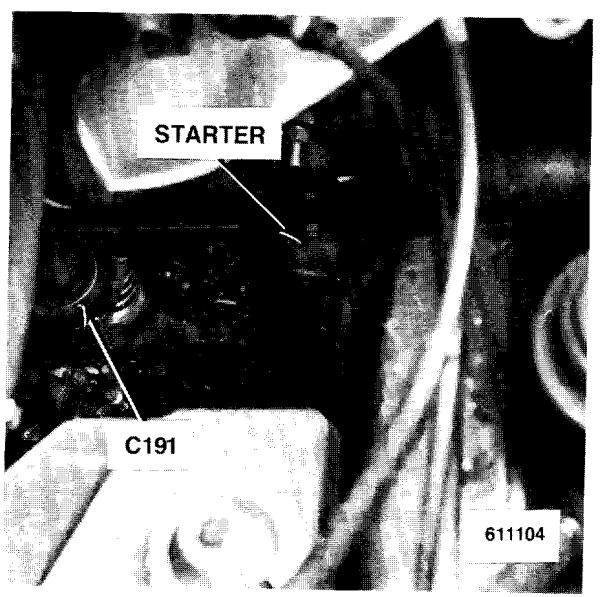


Figure 4 - Lower LH Rear of Engine

Figure 6 - LH Front of Engine

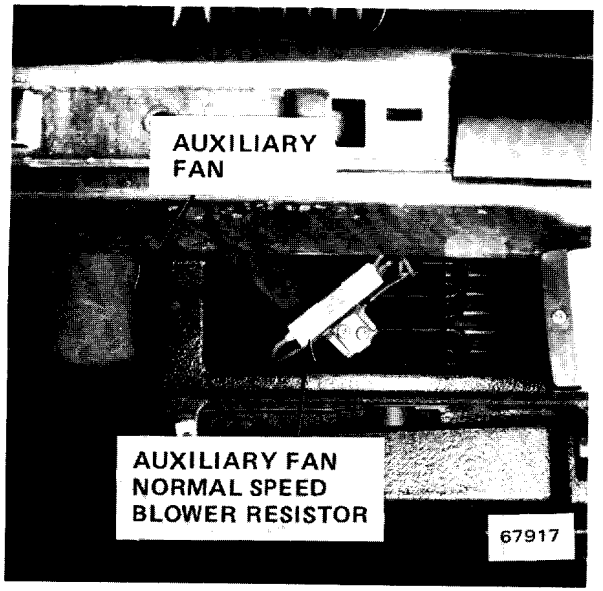


Figure 1 - Under Middle of Front Bumper

Figure 3 - Top RH Side of Radiator

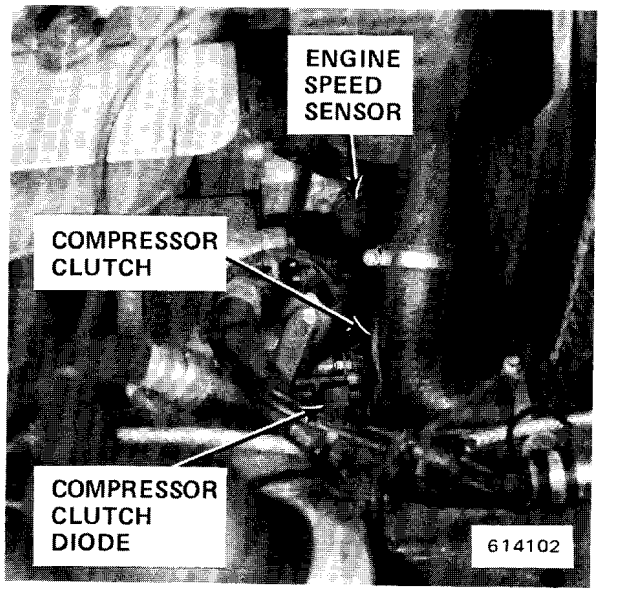


Figure 5 - RH Front of Engine

Figure 2 - Under RH Side of Front Bumper (LH Similar)

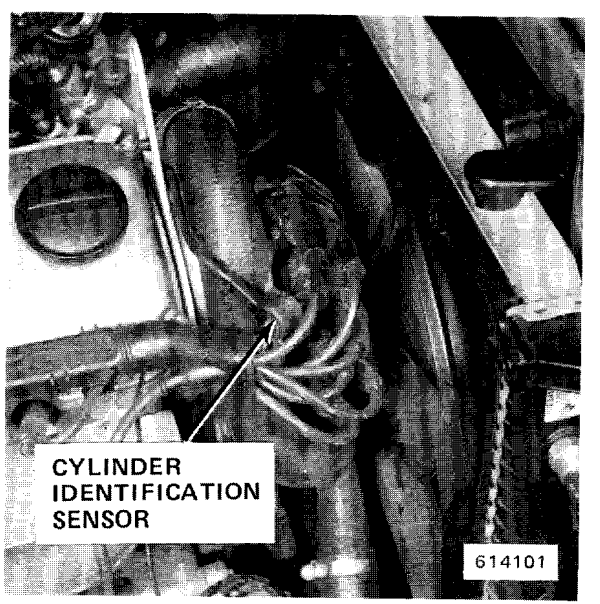


Figure 4 - Top RH Front of Engine

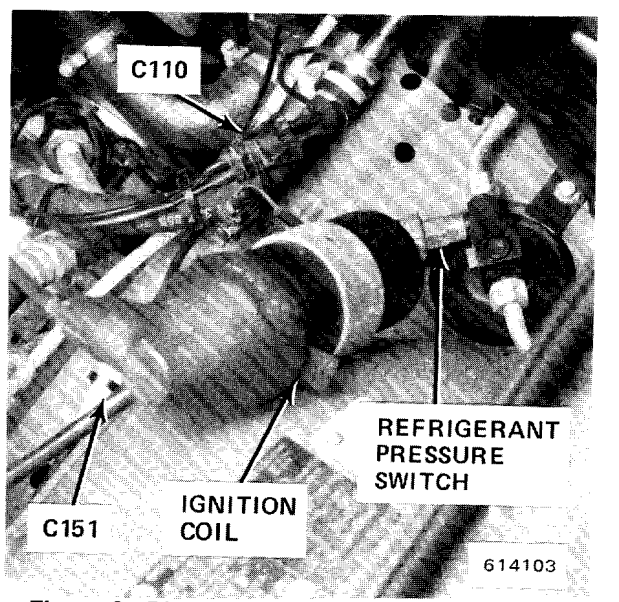


Figure 6 - RH Front of Engine Compartment

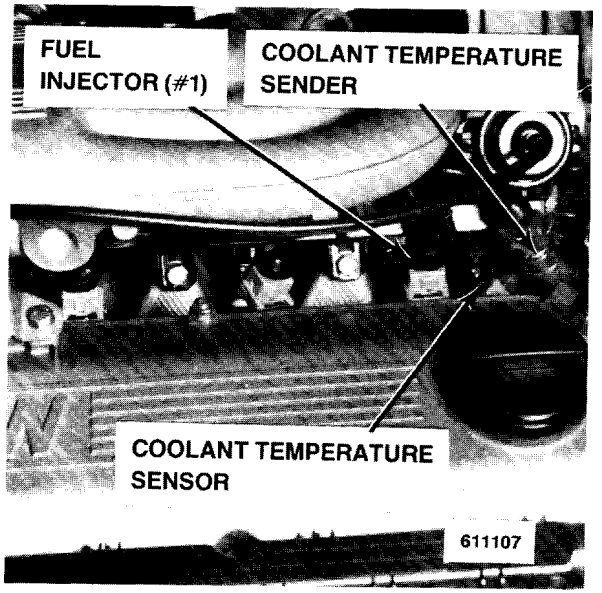


Figure 1 - Top RH Front of Engine

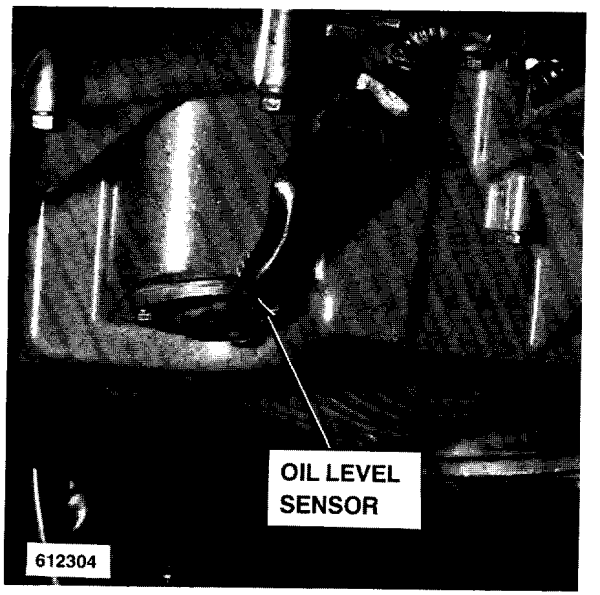


Figure 3 - Lower RH Side of Engine

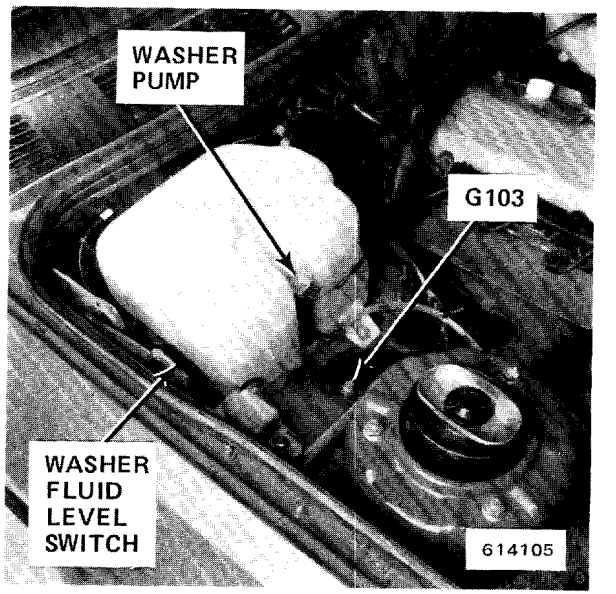


Figure 5 - RH Rear of Engine Compartment

Figure 2 - Lower RH Front of Engine

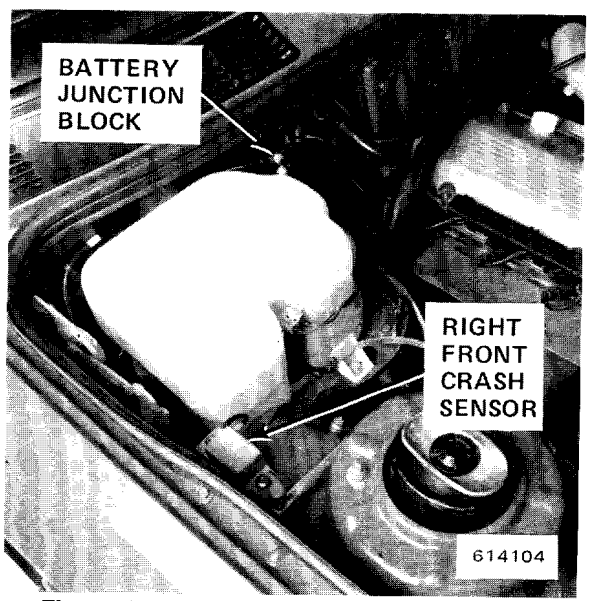


Figure 4 - RH Rear of Engine Compartment

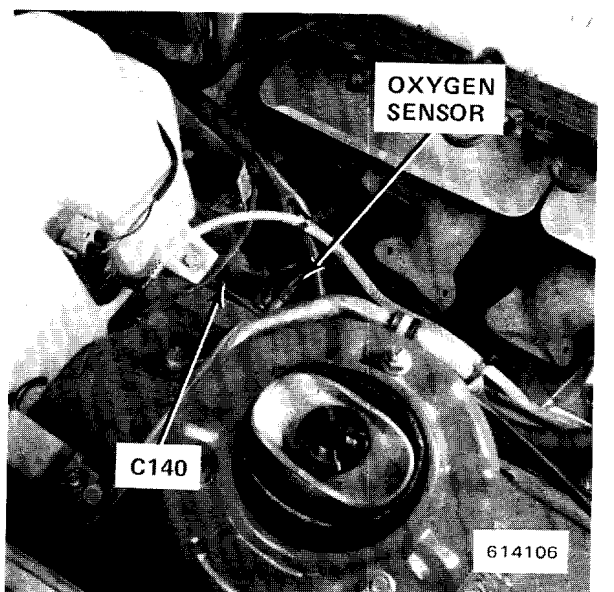


Figure 6 - RH Rear of Engine Compartment

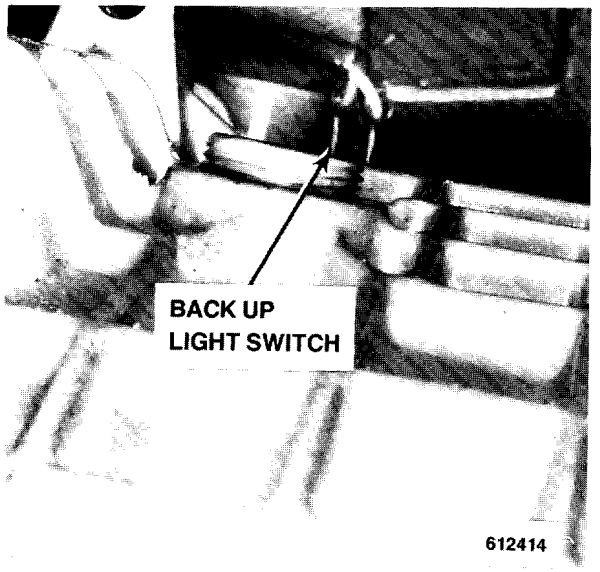


Figure 1 - Below Center of Car, RH Side of Transmission

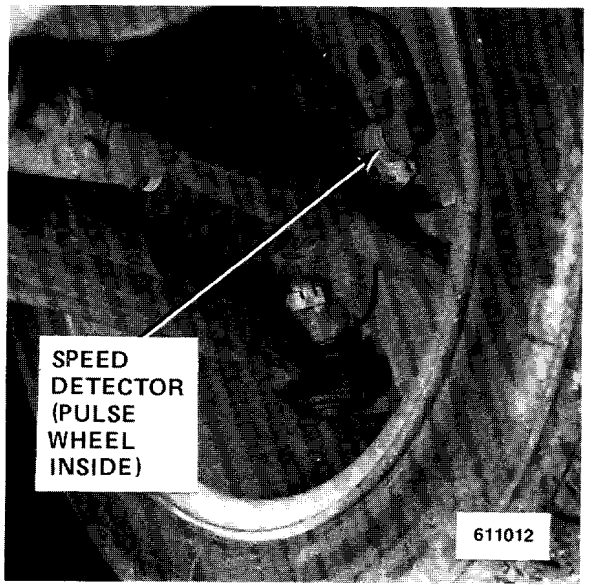


Figure 3 - Behind LH Front Wheel (All Others Similar)

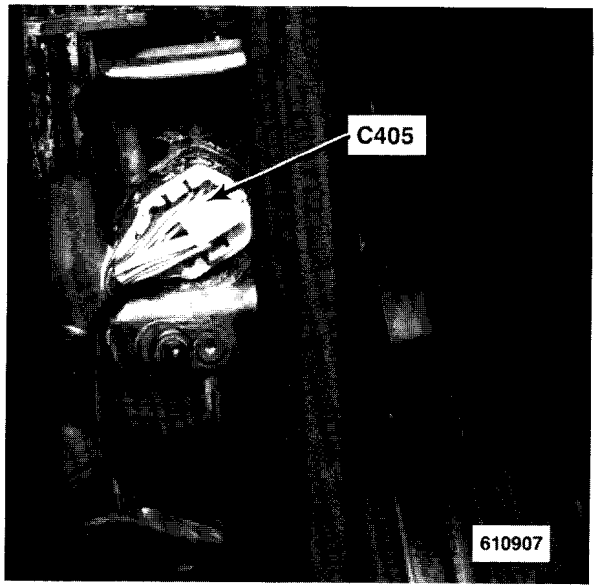


Figure 5 - Above LH Front Door Jamb Switch

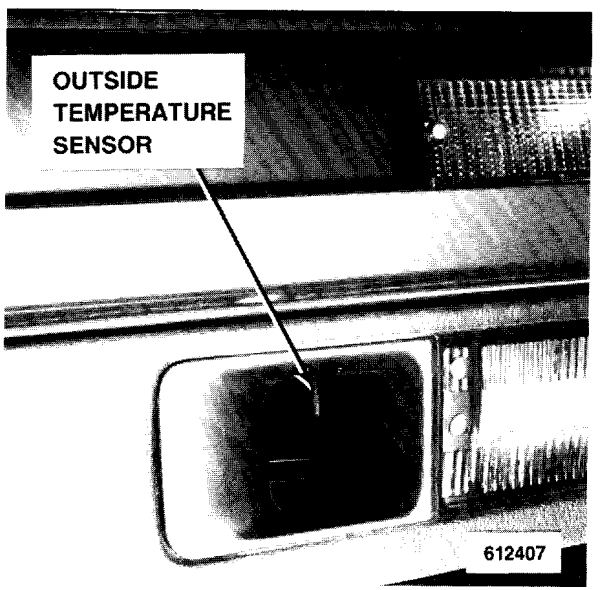


Figure 2 - Inside Air Intake, Near LH Fog Light

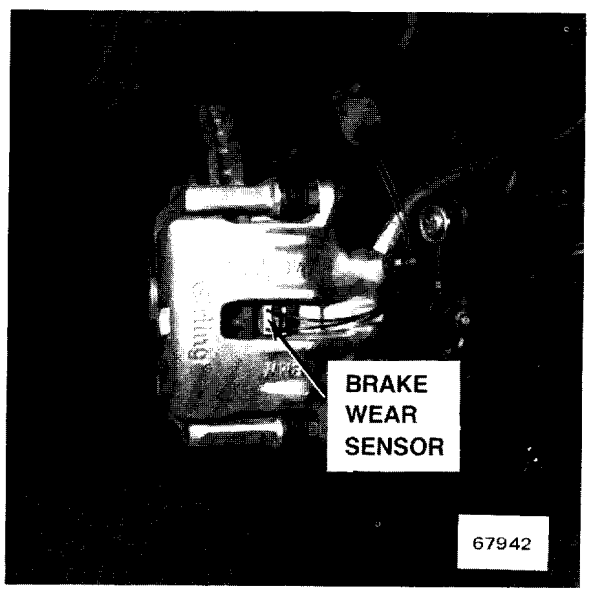


Figure 4 - LH Front Brake Caliper Assembly (RH Rear Similar)

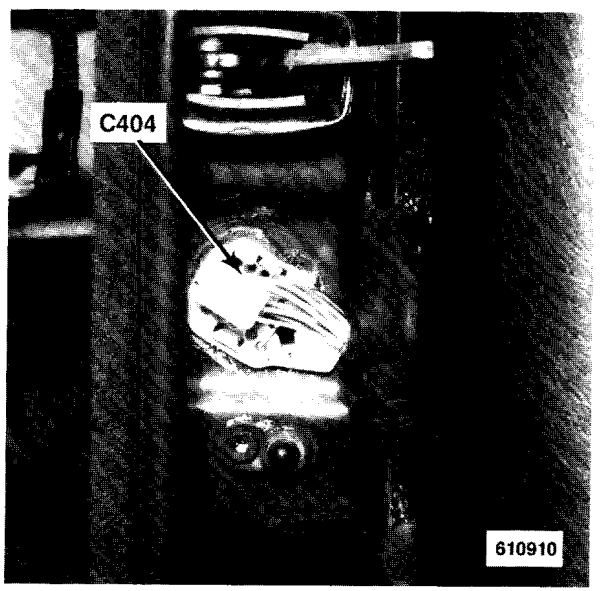


Figure 6 - Above RH Front Door Jamb Switch

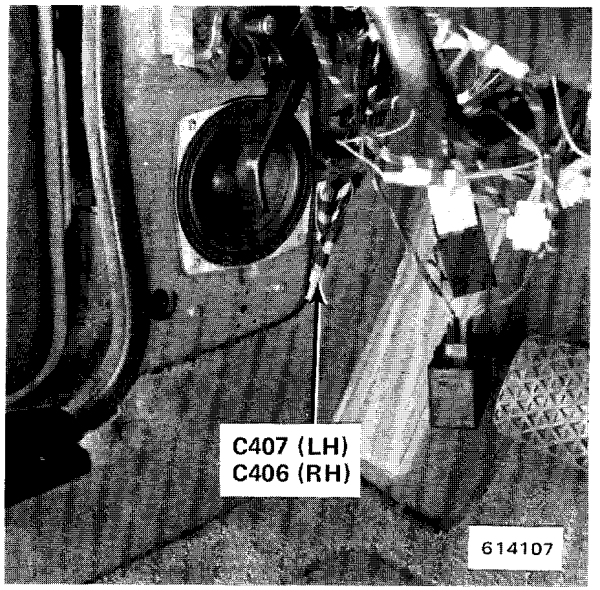


Figure 1 - LH Kick Panel

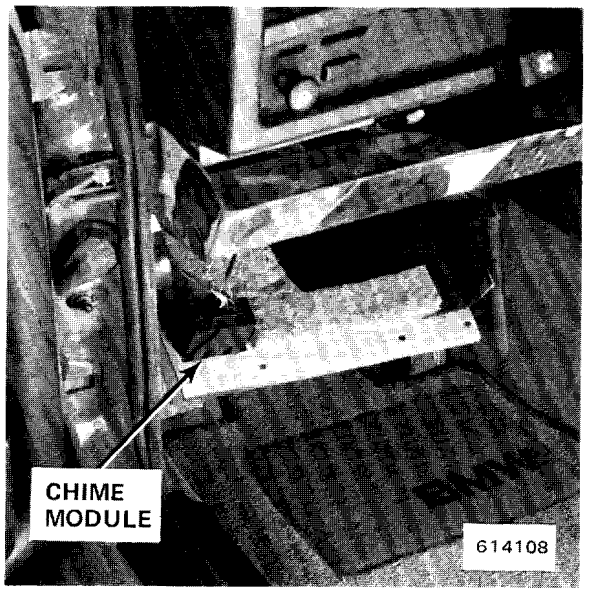


Figure 3 - Under LH Side of Dash

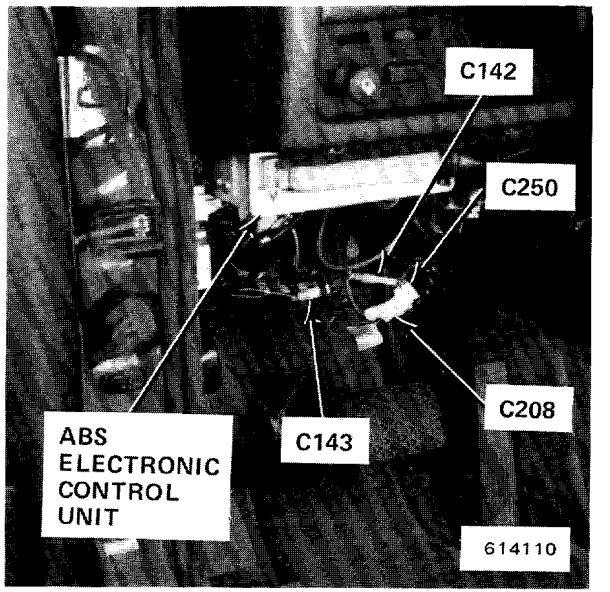


Figure 5 - Under LH Side of Dash, Left of Steering Column

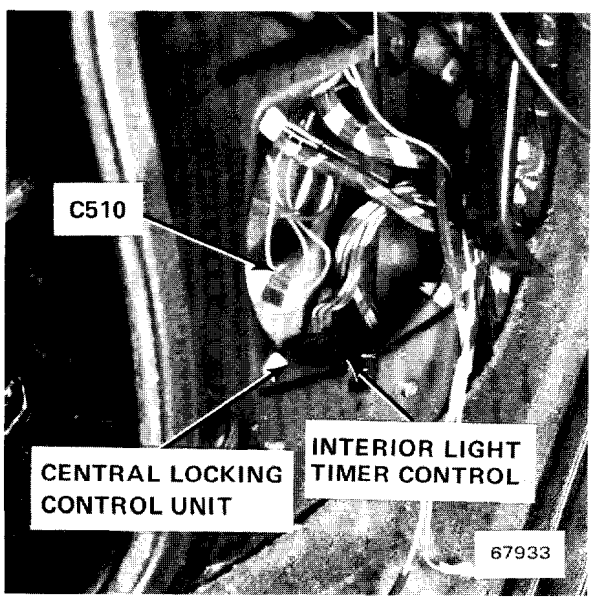


Figure 2 - Behind Left Front Speaker

Figure 4 - Under LH Side of Dash (SRS Knee Pad Dropped)

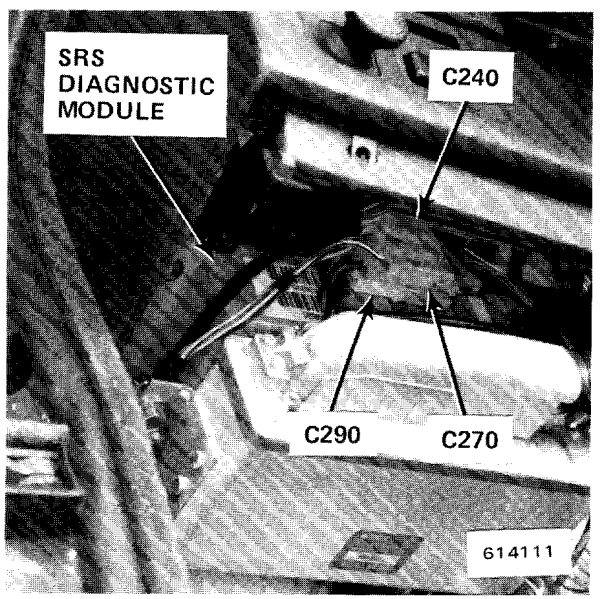


Figure 6 - Under LH Side of Dash, Left of Steering Column

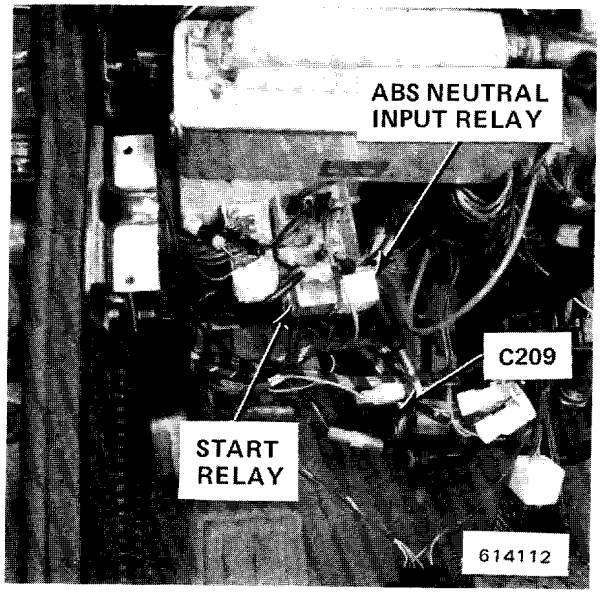


Figure 1 - Under LH Side of Dash, Left of Steering Column

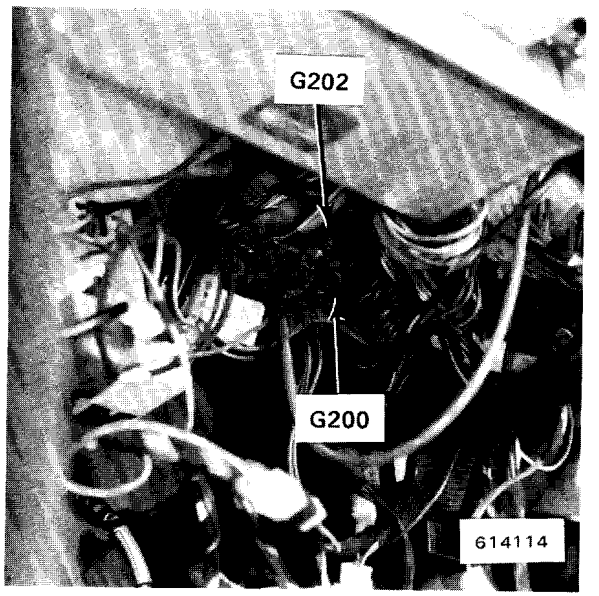


Figure 3 - Under LH Side of Dash, Left of Steering Column

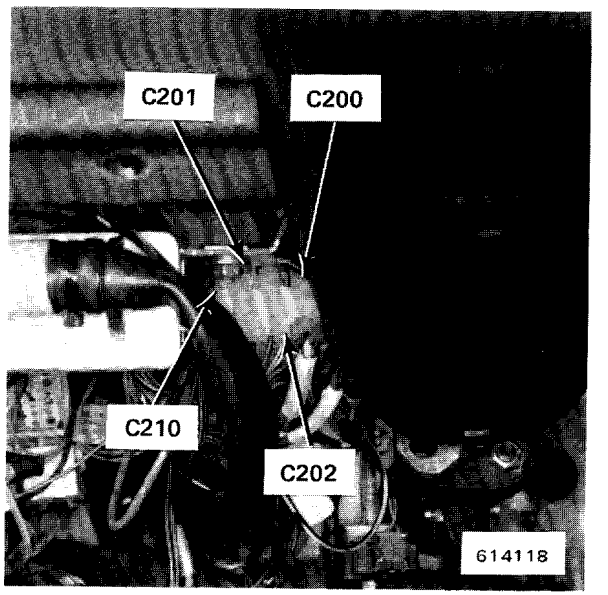


Figure 5 - Under LH Side of Dash, Left of Steering Column

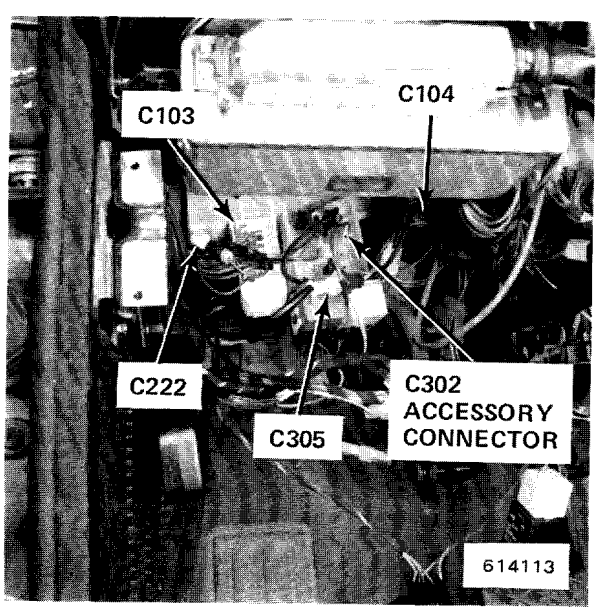


Figure 2 - Under LH Side of Dash, Left of Steering Column

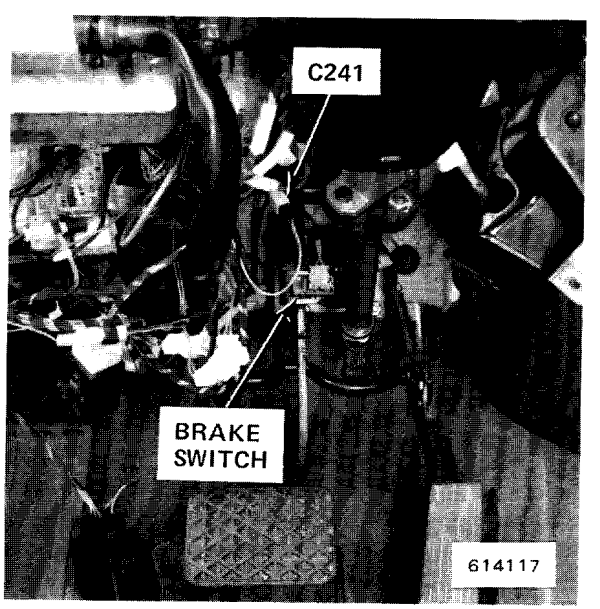


Figure 4 - Under LH Side of Dash, Below Steering Column

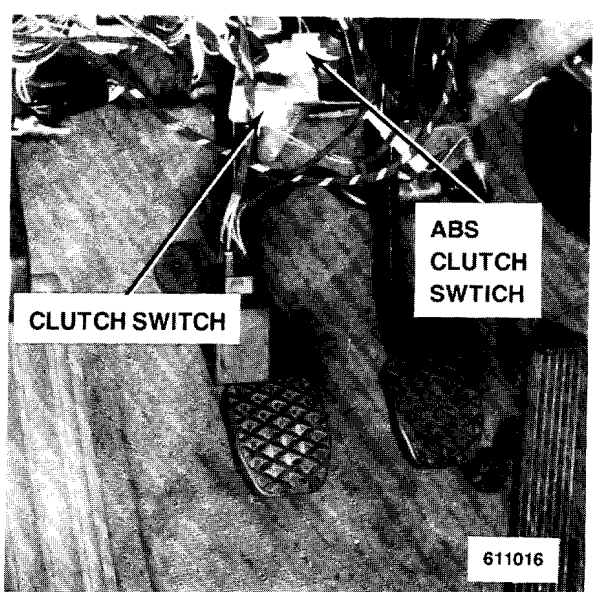


Figure 6 - Under LH Side of Dash, Below Steering Column

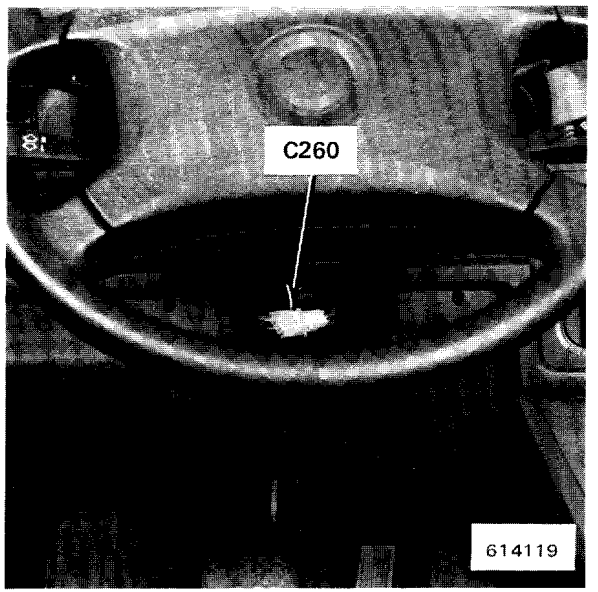


Figure 1 - Underside of Steering Column

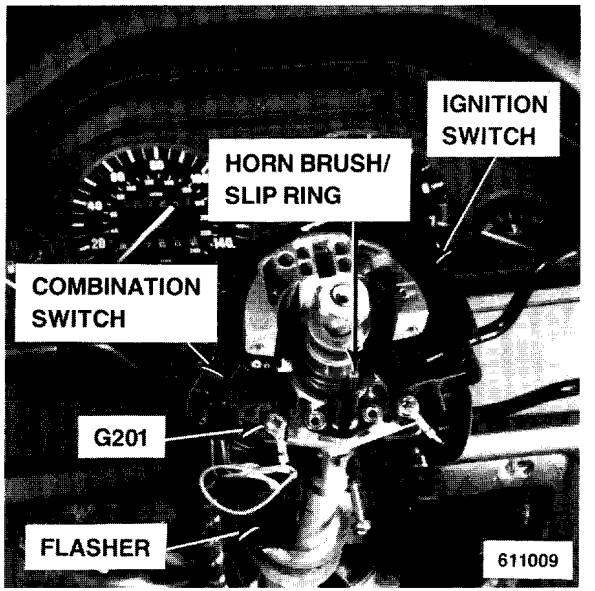


Figure 3 - Top of Steering Column (Steering Wheel Removed)

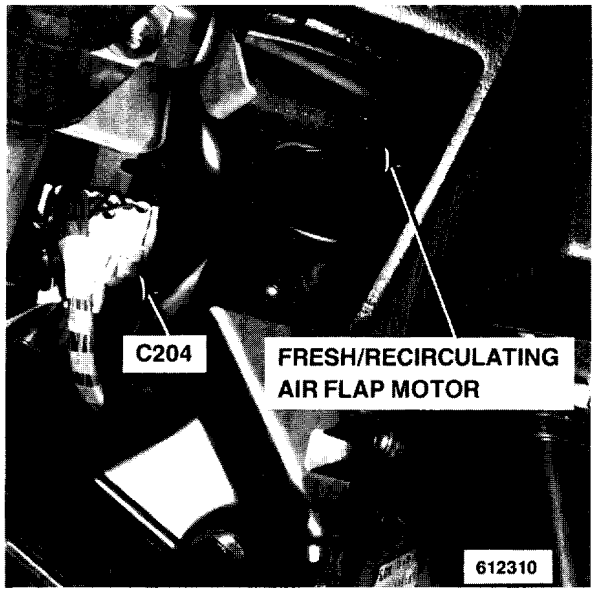


Figure 5 - Under LH Side of Dash, Right of Steering Column

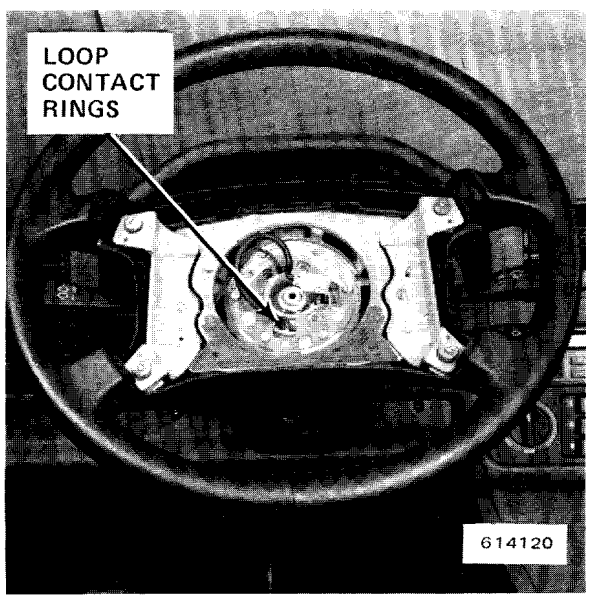


Figure 2 - Top of Steering Column (Air Bag Gas Generator Removed)

Figure 4 - Inside Steering Wheel (Removed From Car)

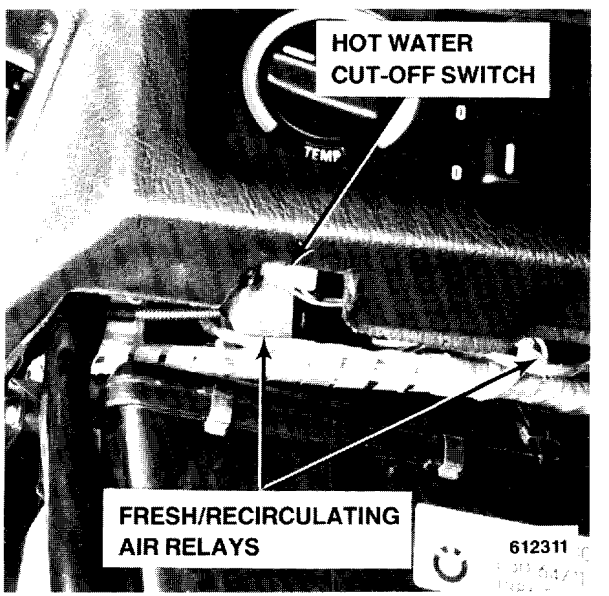


Figure 6 - Center of Dash

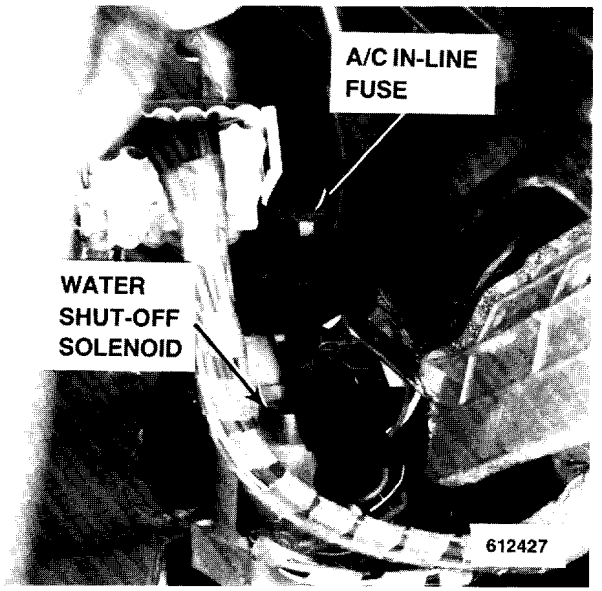


Figure 1 - LH Side of Evaporator Housing

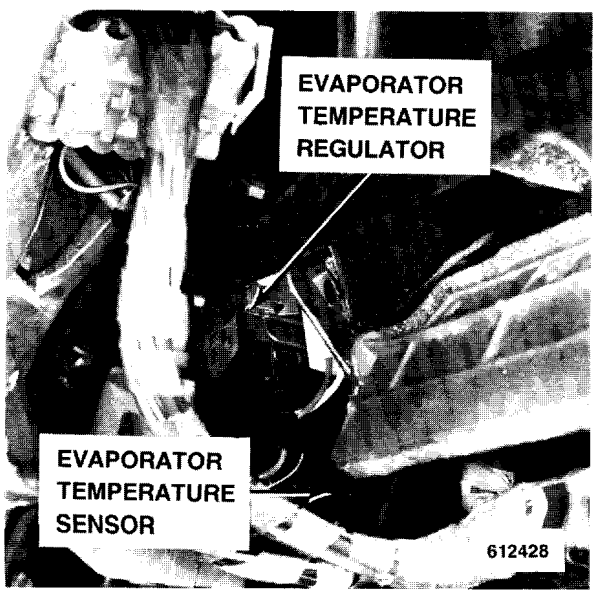


Figure 2 - LH Side of Evaporator Housing

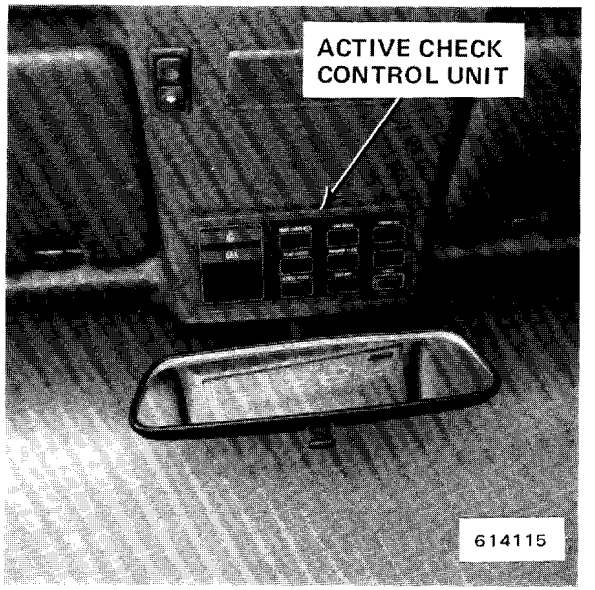


Figure 3 - Center of Windshield Header

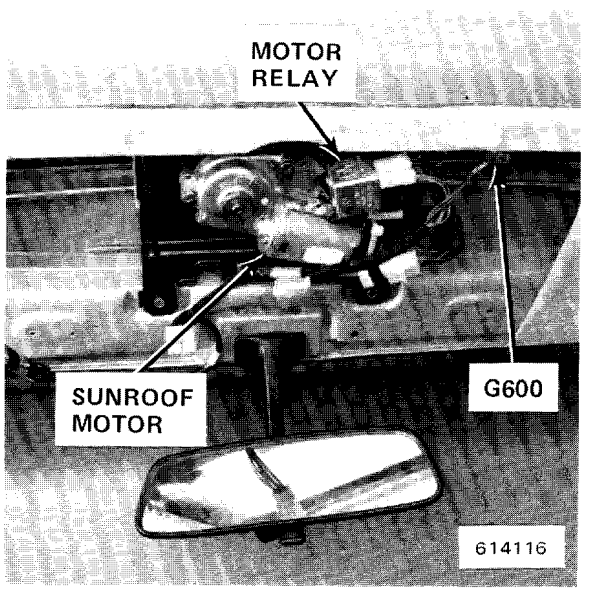


Figure 4 - Center of Windshield Header

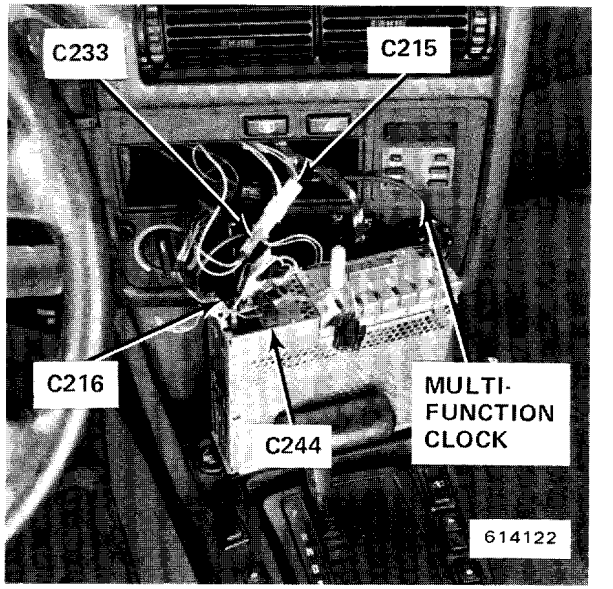


Figure 5 - Center of Dash

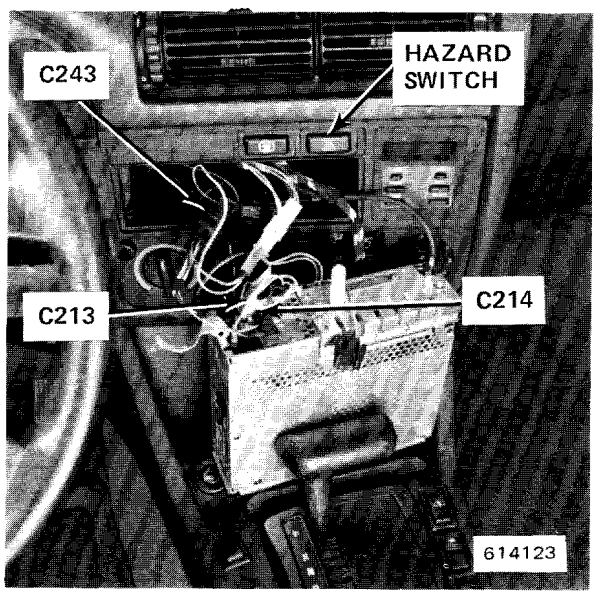


Figure 6 - Center of Dash

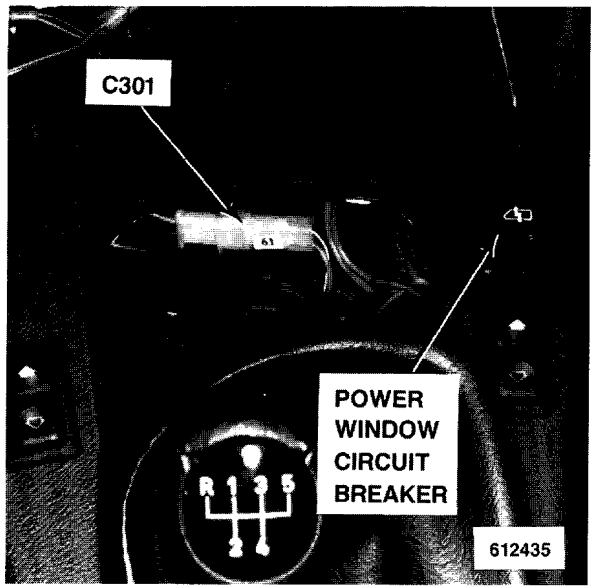


Figure 1 - Center Console (Manual Transmission)

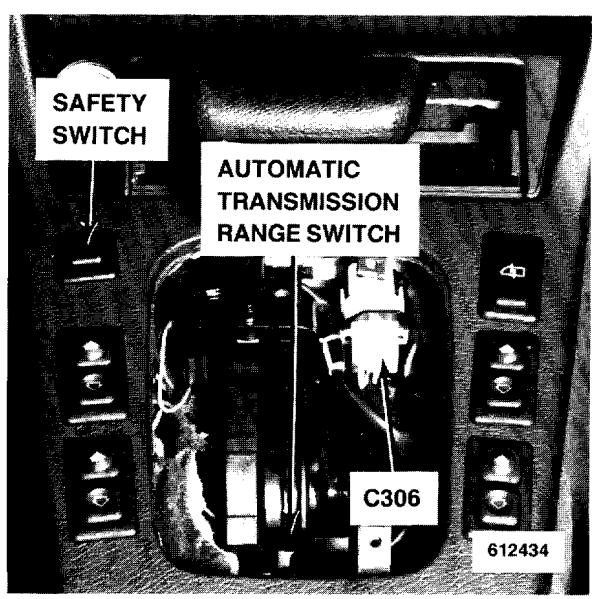


Figure 2 - Center Console (Automatic Transmission)

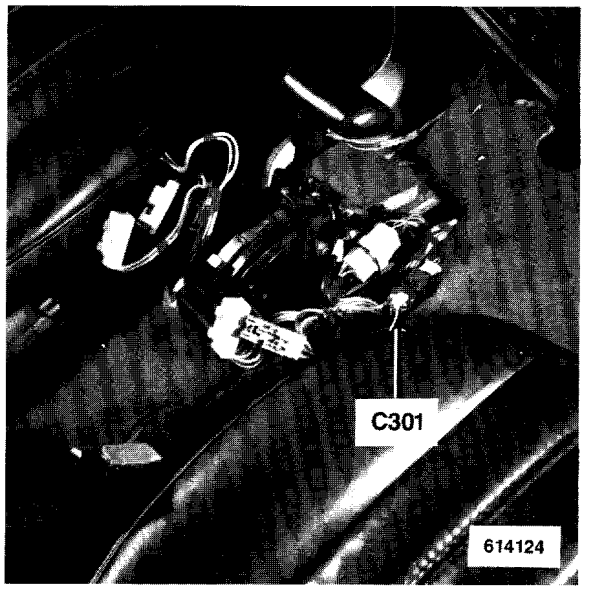


Figure 3 - Below RH Side of Center Console (Automatic Transmission)

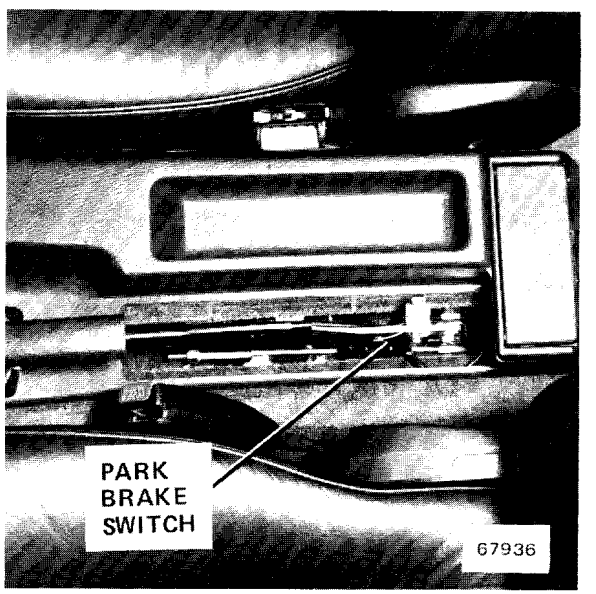


Figure 4 - Rear of Center Console

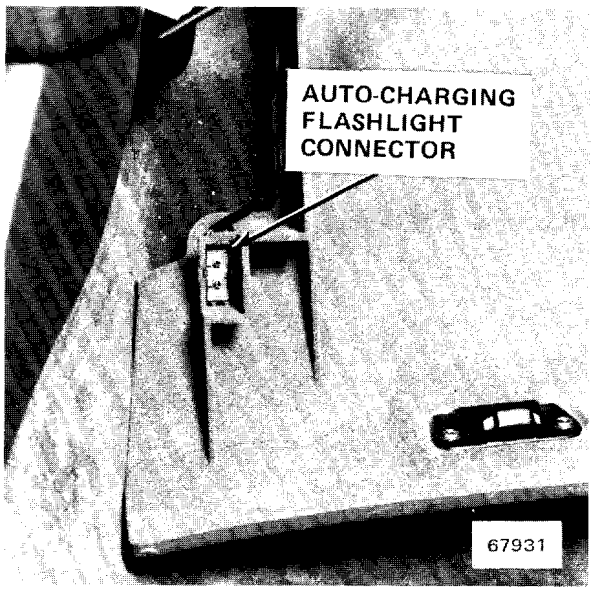


Figure 5 - Inside Glove Box

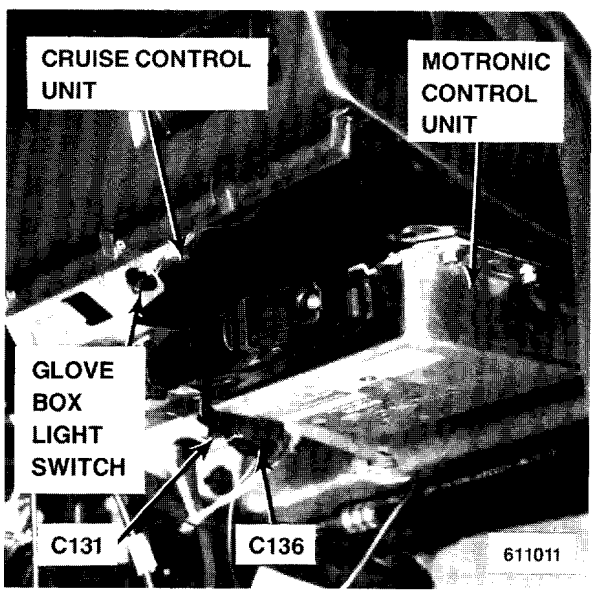


Figure 6 - Under RH Side of Dash, Above Glove Box

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

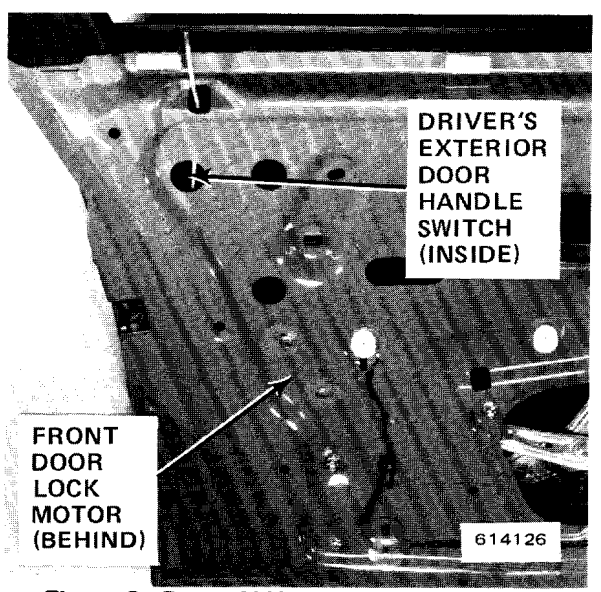


Figure 2 - Rear of LH Front Door (RH Similar)

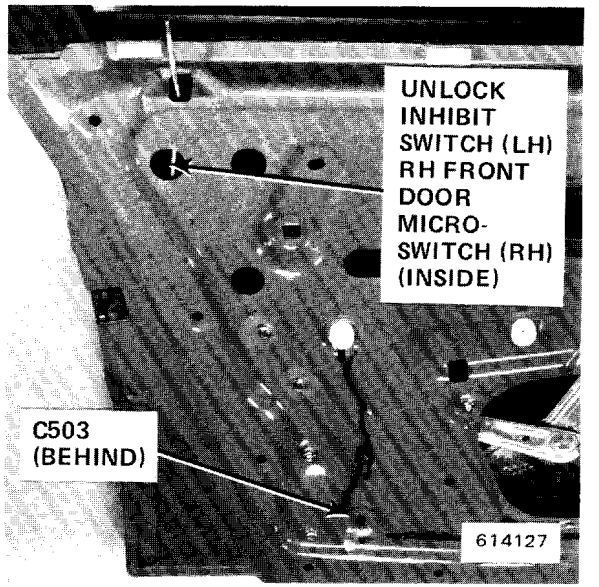


Figure 3 - Rear of LH Front Door (RH Similar)

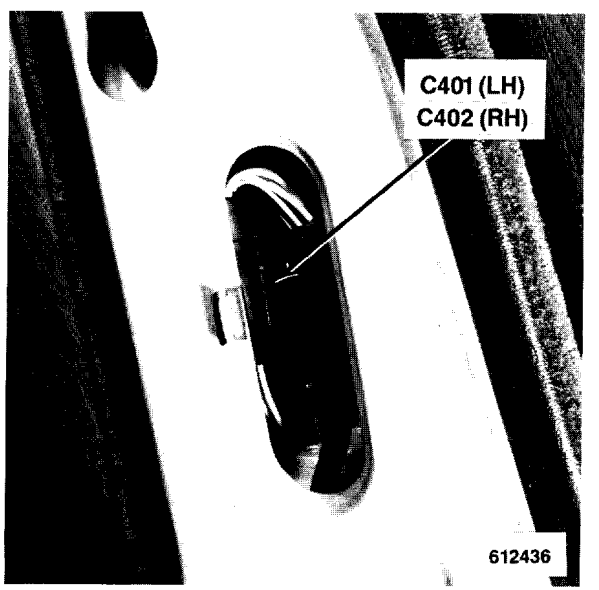


Figure 4 - In LH "B" Pillar (RH Similar)

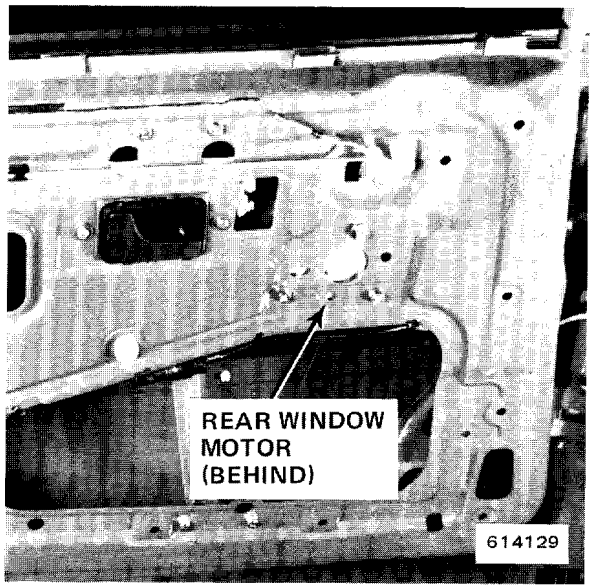


Figure 5 - Front of LH Rear Door (RH Similar)

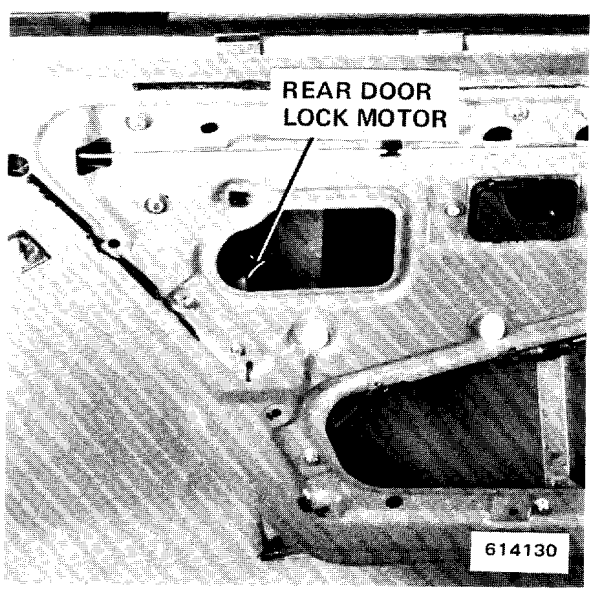


Figure 6 - Rear of LH Rear Door (RH Similar)

Figure 1 - Base of LH ''B'' Pillar (RH Similar)

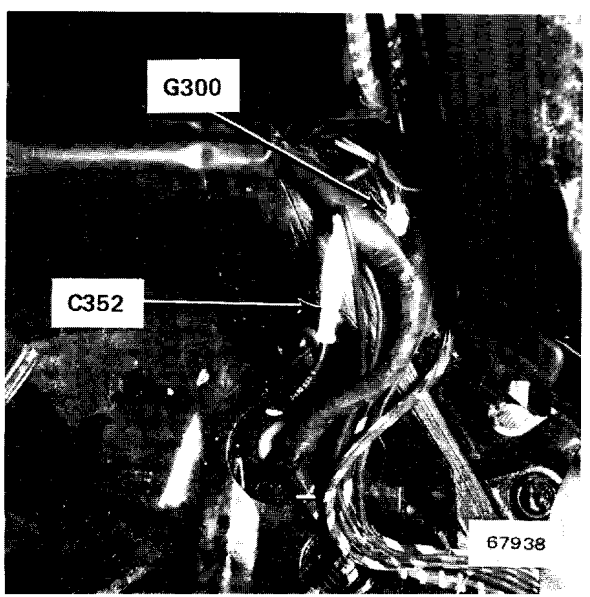


Figure 2 - Under LH Side of Rear Seat

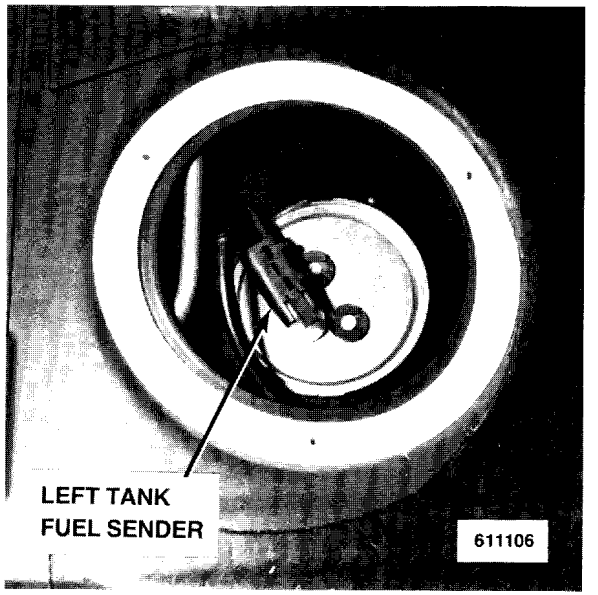


Figure 3 - Under LH Side of Rear Seat

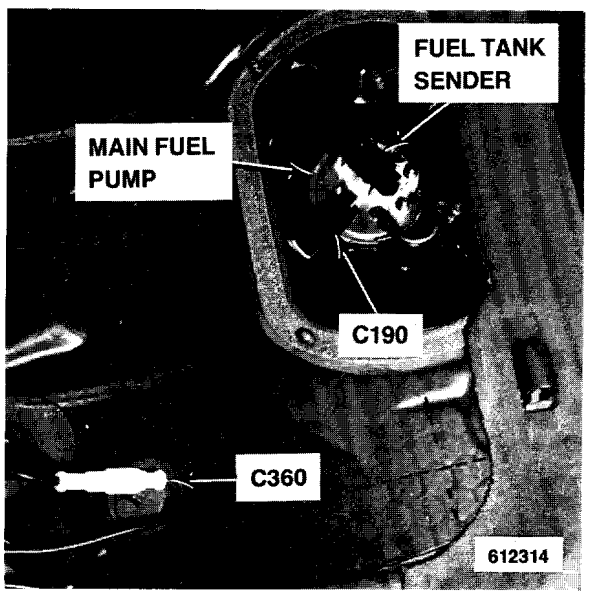


Figure 4 - Under RH Side of Rear Seat

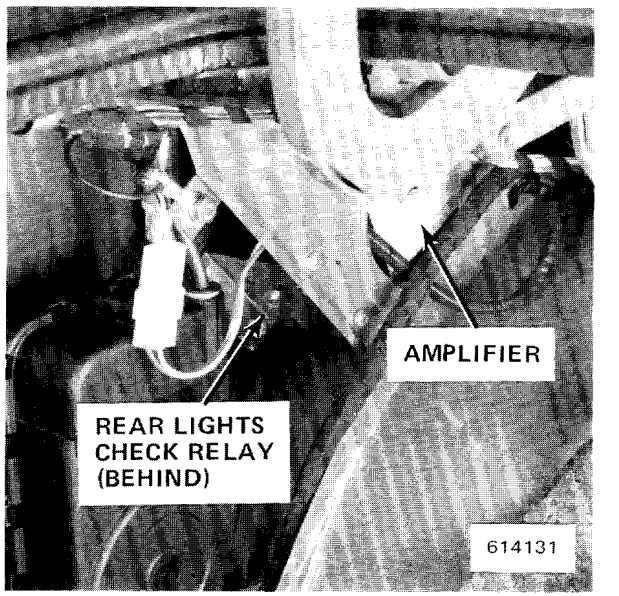


Figure 5 - LH Side of Trunk

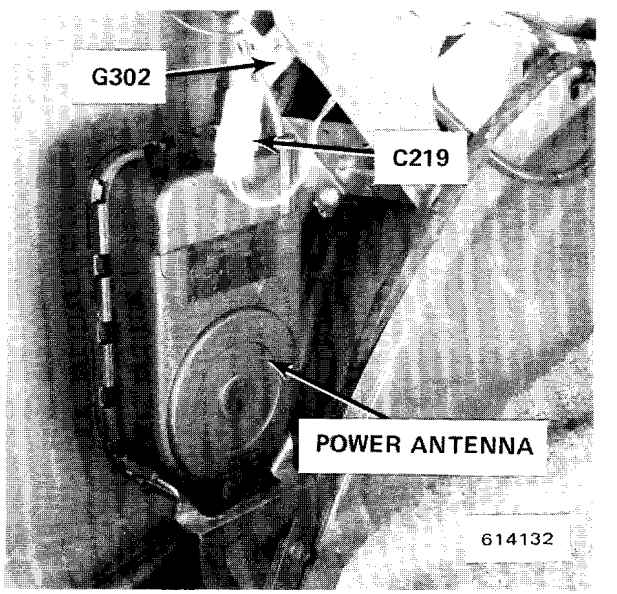


Figure 6 - LH Side of Trunk

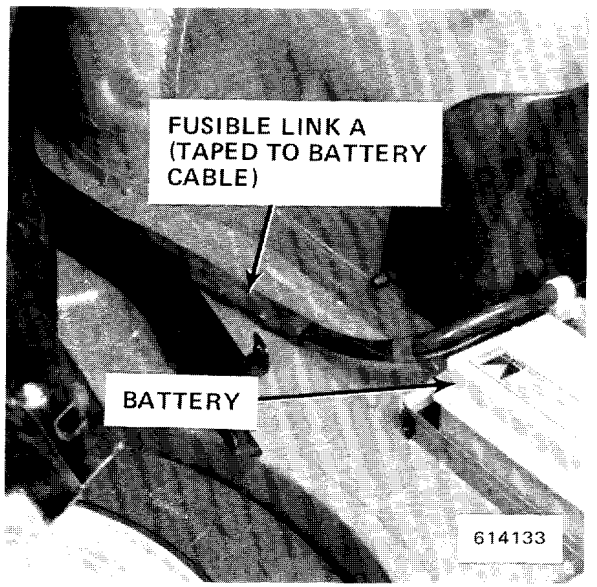


Figure 1 - RH Front of Trunk

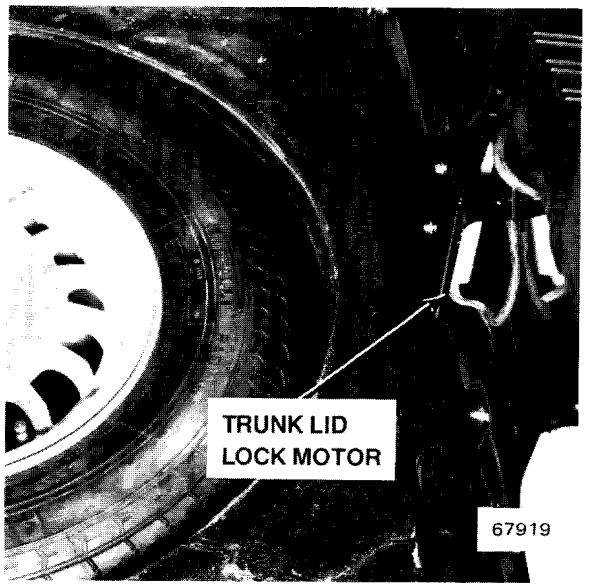


Figure 3 - Center Rear of Trunk

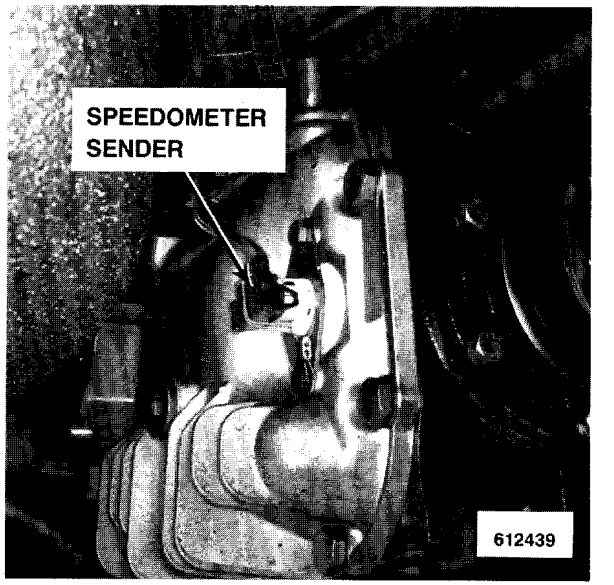


Figure 5 - RH Rear of Rear Differential

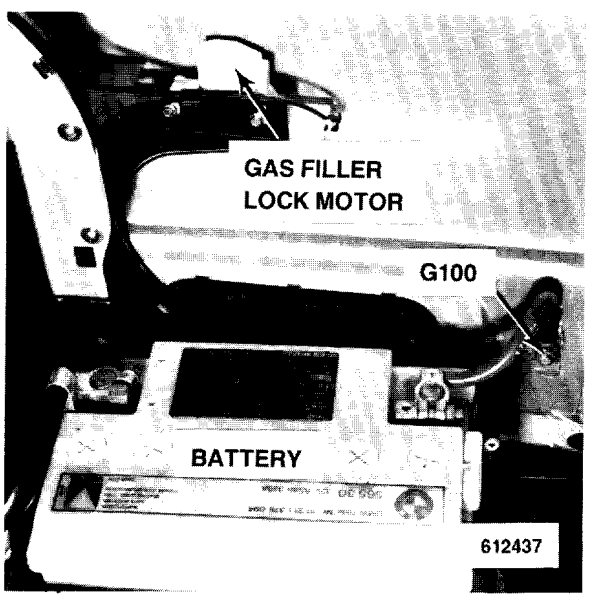


Figure 2 - RH Side of Trunk

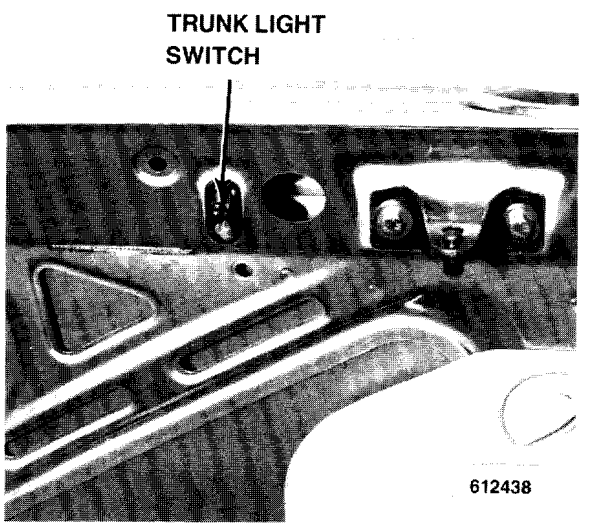


Figure 4 - Center Rear of Trunk Lid

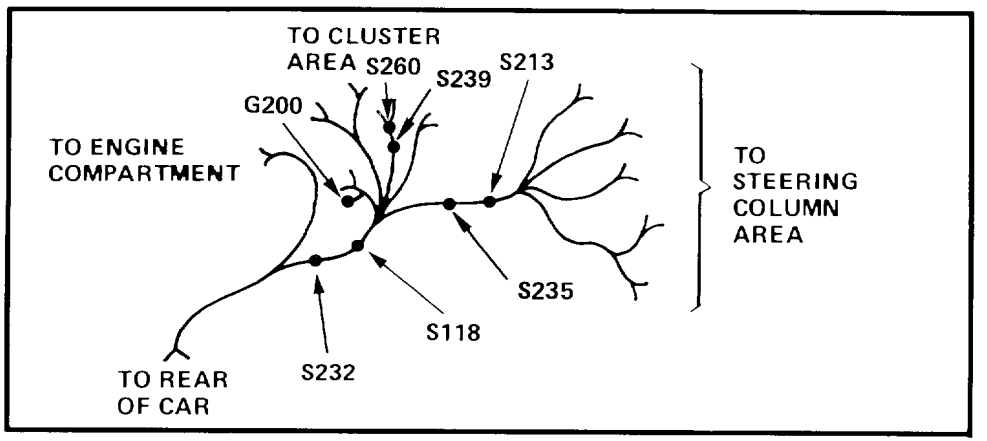
8000-0 SPLICE LOCATION VIEWS

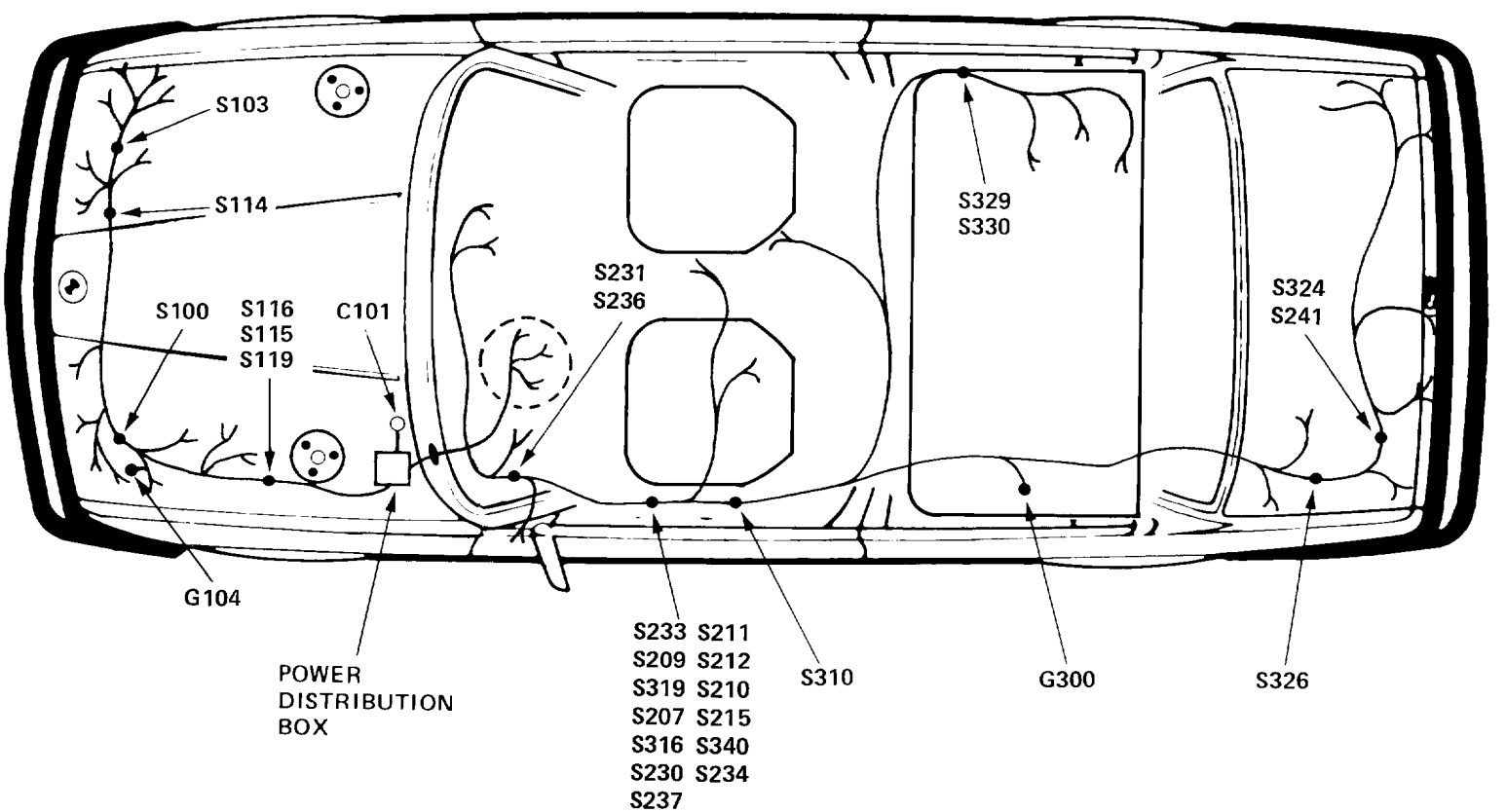
INDEX

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

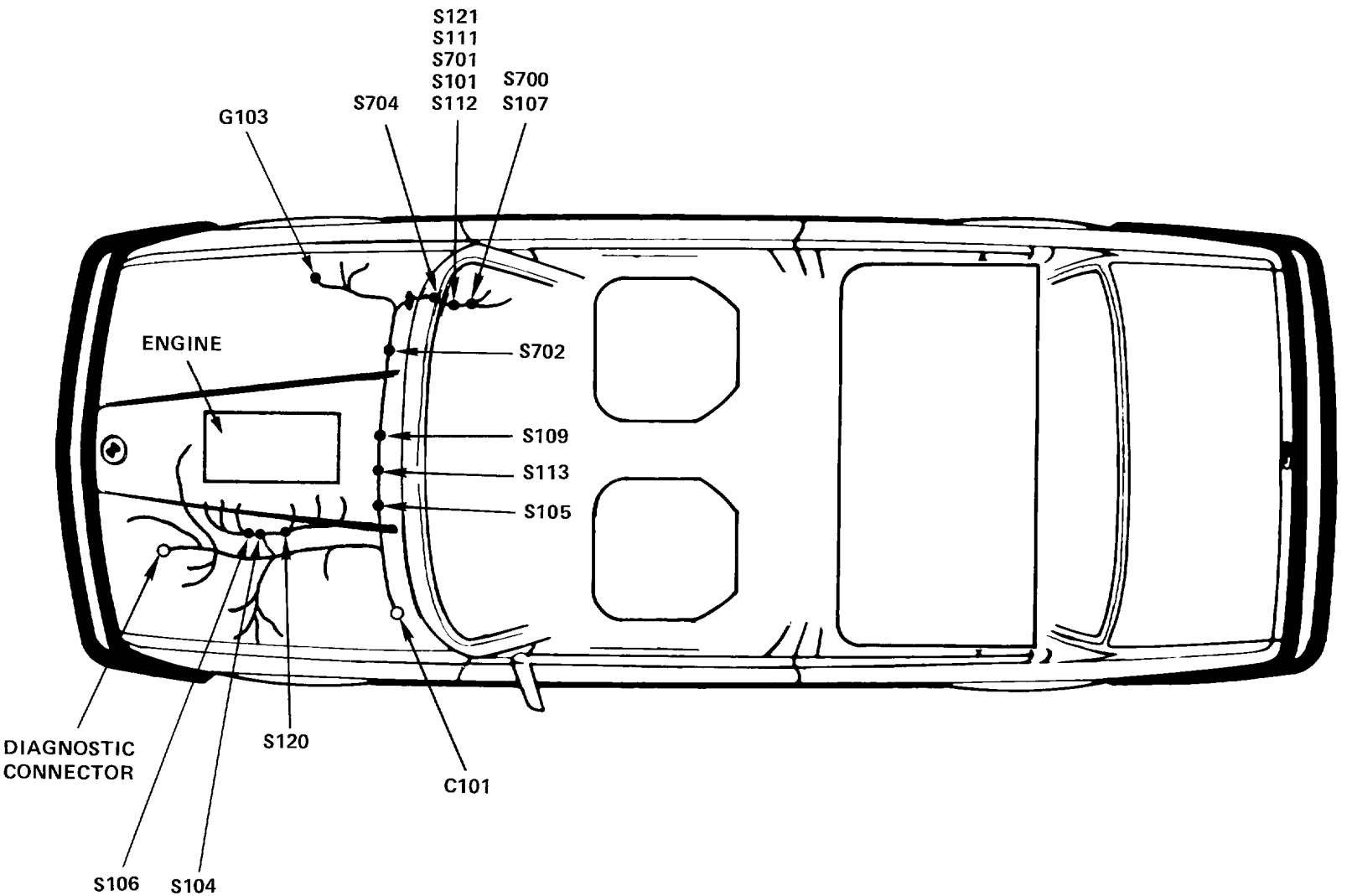
INDEX

MAIN HARNESS SPLICE LOCATIONS

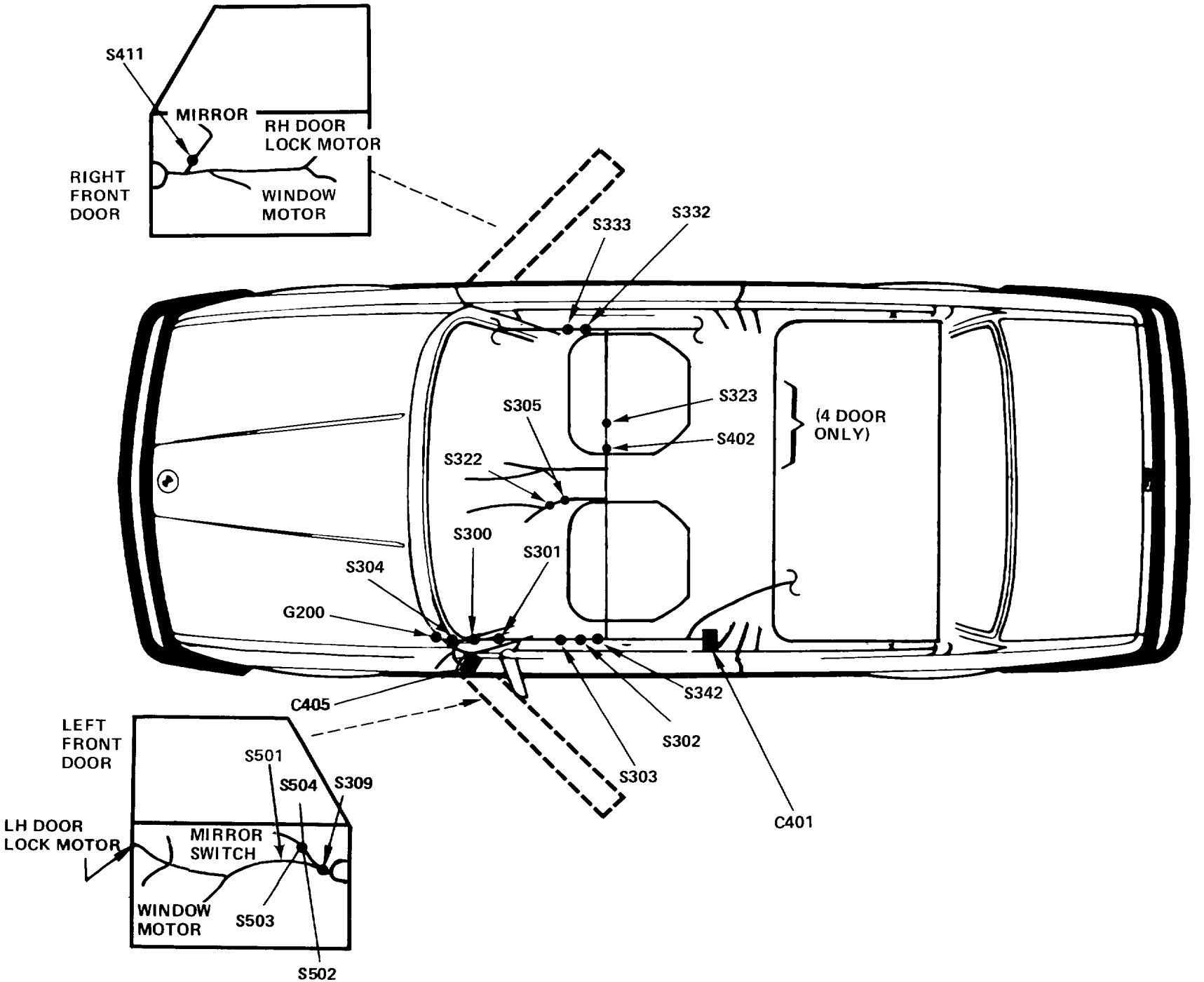




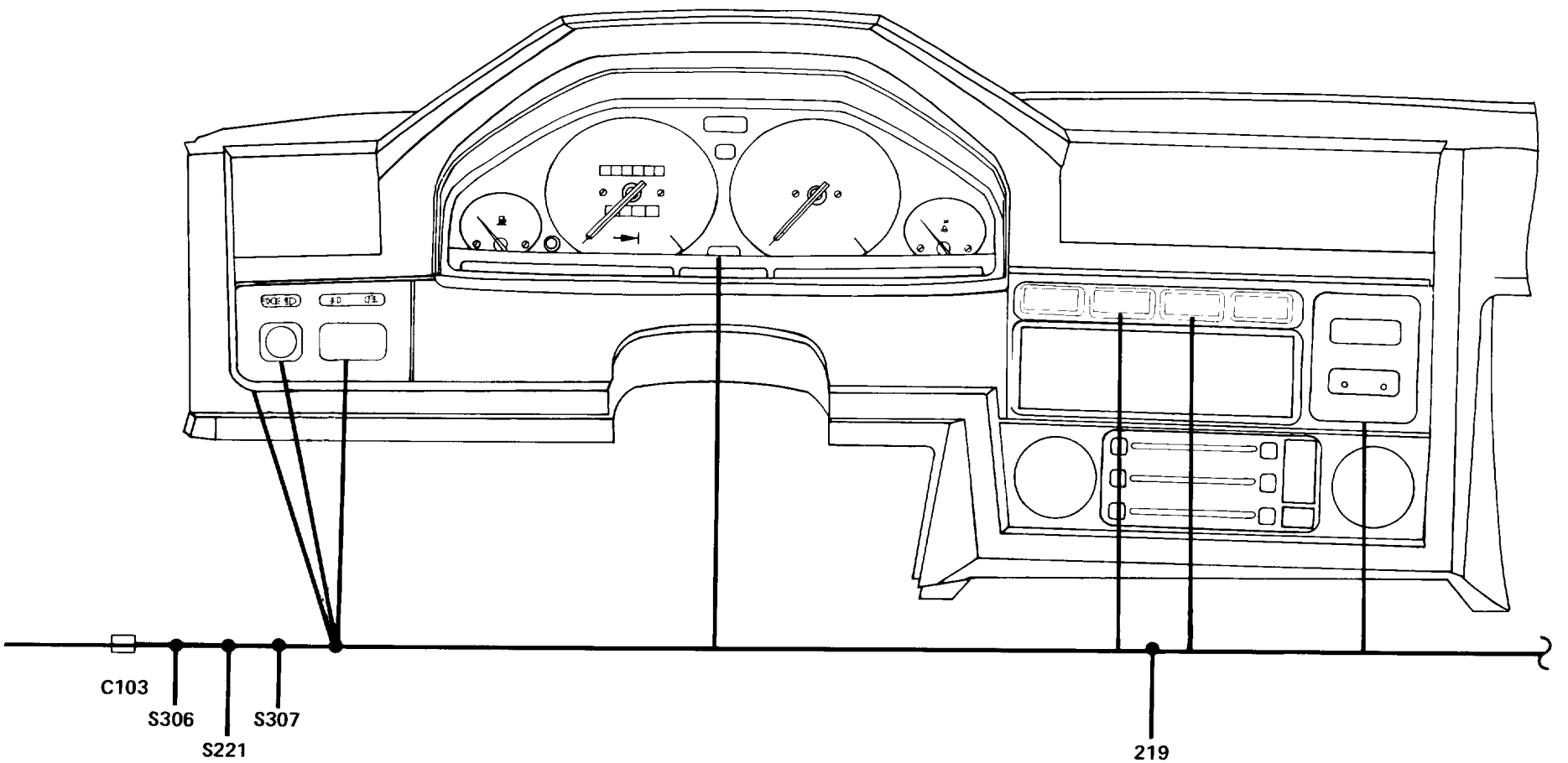
ENGINE HARNESS SPLICE LOCATIONS



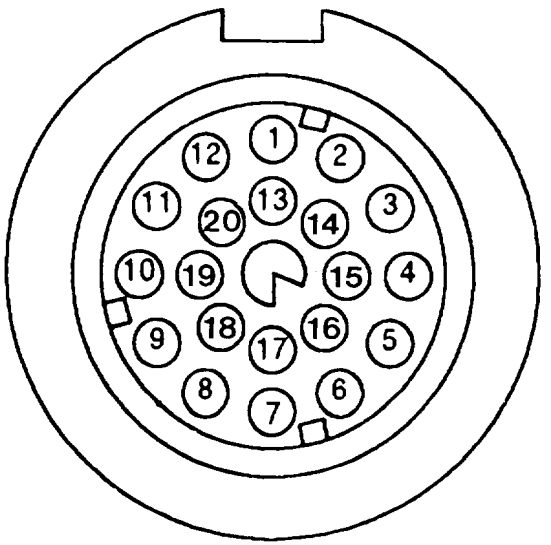
DOOR HARNESS SPLICE LOCATIONS



INSTRUMENT PANEL HARNESS SPLICE LOCATION



DIAGNOSTIC CONNECTOR



DIAGNOSTIC CONNECTOR FACE

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

ACCESSORY CONNECTOR

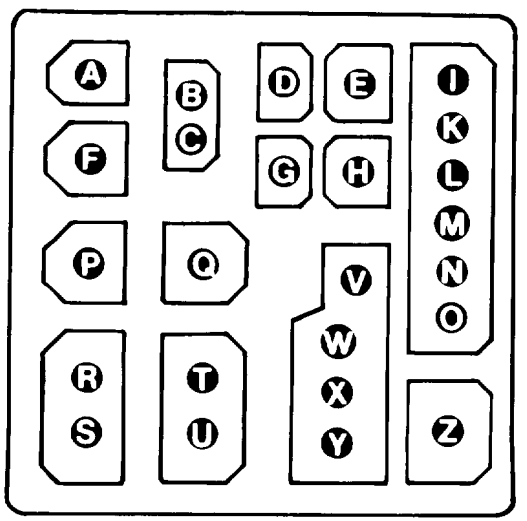
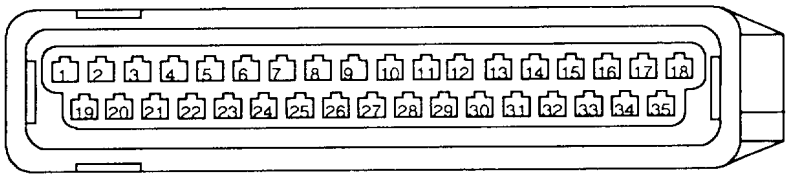


Figure 1-C302 (Accessory Connector)
Front View—Under LH Side
of Dash Ahead of Pedal Assembly

CIRCUITS USING C302 (ACCESSORY CONNECTOR)

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

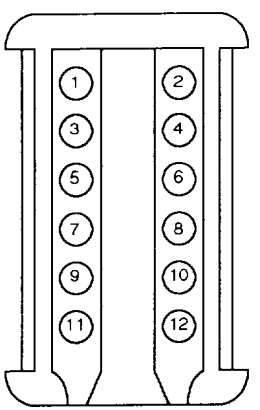
B350002.04



Mating Face

ABS CONTROL UNIT

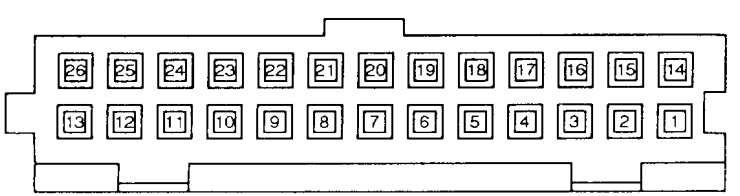
B120014



Wiring Face

ABS HYDRAULIC UNIT

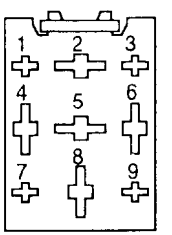
B260002.01



Mating Face

ACTIVE CHECK CONTROL

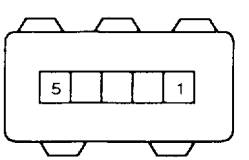
B090001.14



Mating Face

ABS NEUTRAL INPUT RELAY

B050010.00

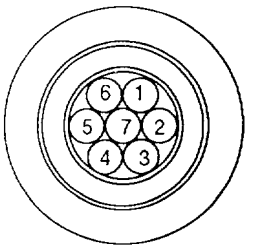


Mating Face

AIR FLOW METER

325i/is, M3, 325ix, 325ic

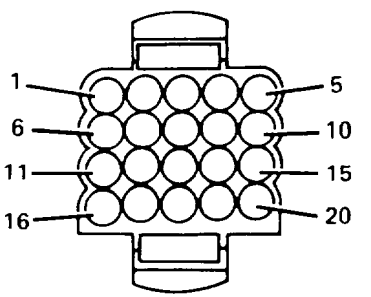
B070008.00



Mating Face

AIR FLOW METER

318is

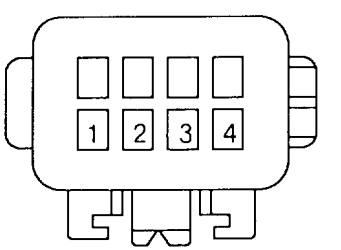


Wiring Face

AMPLIFIER

(SOUND SYSTEM)

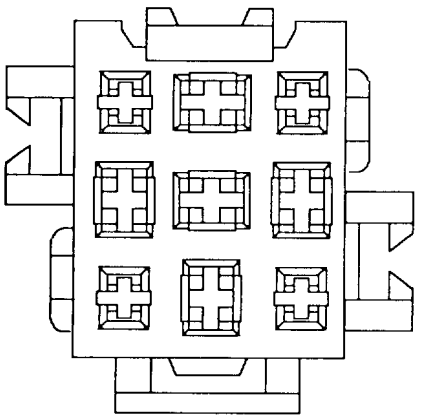
B080012



Wiring Face

AUXILIARY FUSE

B090005

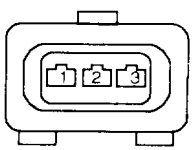


Mating Face

A/C COMPRESSOR CONTROL UNIT

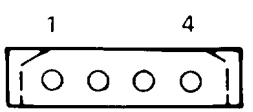
318is

B030015.03



Wiring Face

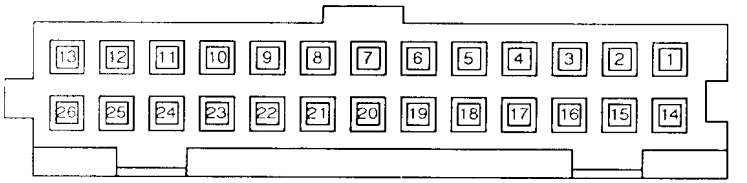
BAROMETRIC PRESSURE SENSOR



Wiring Face

BLOWER RESISTORS

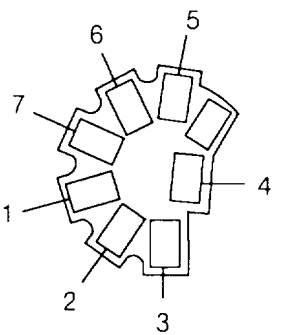
B260002.03



Wiring Face

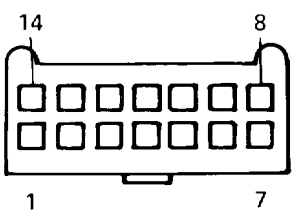
CRUISE CONTROL UNIT

B080014.00



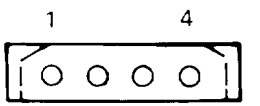
Wiring Face

BLOWER SPEED CONTROL



Wiring Face

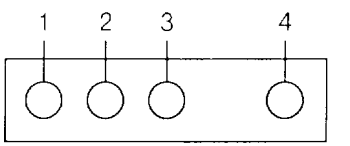
CENTRAL LOCKING CONTROL UNIT



Wiring Face

CHIME MODULE (C1)

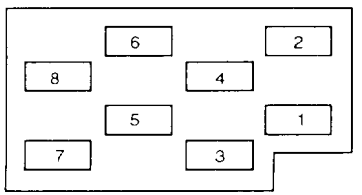
B040013



Wiring Face

CHIME MODULE (C2)

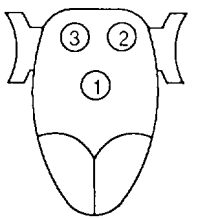
B080013.00



Wiring Face

CONTROL SWITCHES

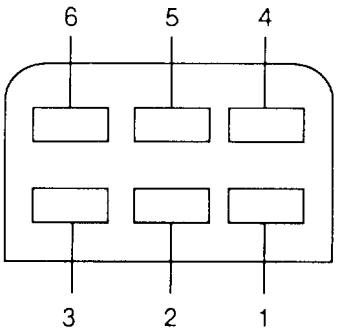
B030019.00



Wiring Face

DUAL TEMPERATURE SWITCH

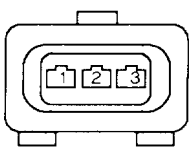
B060024



Wiring Face

EVAPORATOR TEMPERATURE REGULATOR

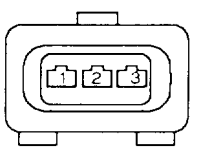
B030015.05



Mating Face

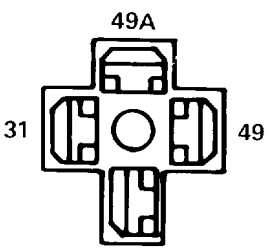
CYLINDER IDENTIFICATION SENSOR

B030015.04



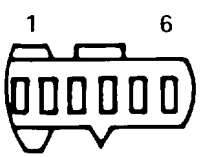
Wiring Face

ENGINE SPEED SENSOR



Wiring Face

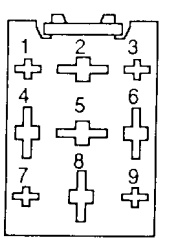
FLASHER



Wiring Face

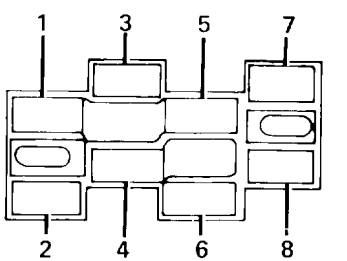
DOOR LOCK MOTOR

B090001.04



Mating Face

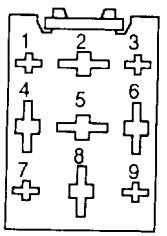
EVAPORATIVE PURGE VALVE RELAY



Wiring Face

FOG LIGHT SWITCH

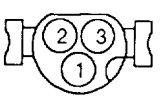
B090001.17



Mating Face

FRESH/RECIRCULATING AIR RELAY

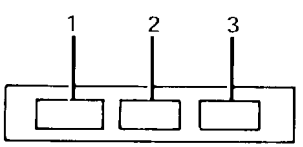
B030017.00



Wiring Face

FRONT TURN/PARK LIGHT

325i/325is, 325ix

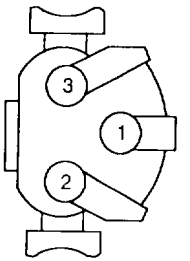


Wiring Face

FRONT TURN/PARK LIGHT

325ic, M3

B030025.00

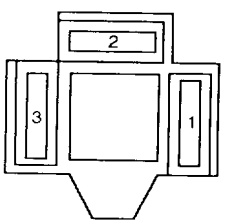


Mating Face

FRONT TURN/PARK LIGHT

318is

B030015.09

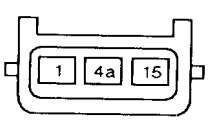


Mating Face

HEADLIGHTS

Low and High Beams

B030015.08

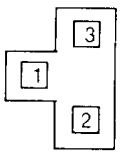


Mating Face

IGNITION COILS

318is

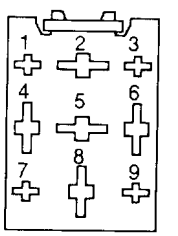
B030020.00



Wiring Face

INSTRUMENT CLUSTER (C6)

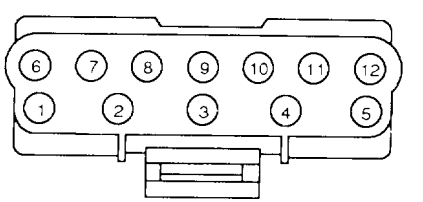
B090001.16



Mating Face

INTERIOR LIGHT TIMER CONTROL

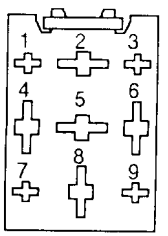
B120006.00



Wiring face

LIGHT SWITCH

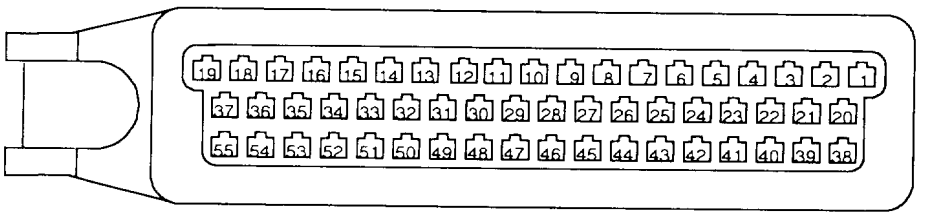
B090001.06



Mating Face

MAIN RELAY

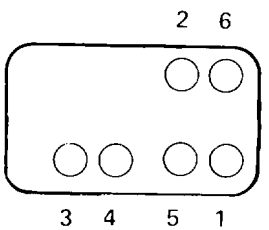
B550001.02



Mating Face

MOTRONIC CONTROL UNIT

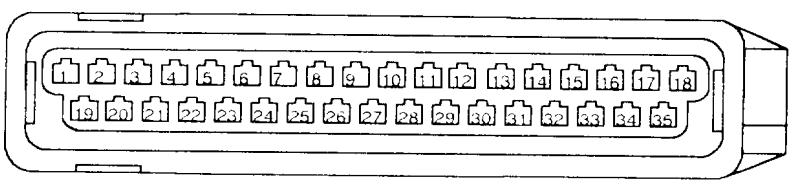
All except M3 and 318is



Mating Face

MIRROR CONTROL SWITCH

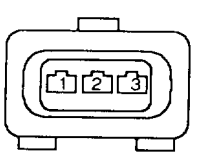
B350002



Mating Face

MOTRONIC CONTROL UNIT

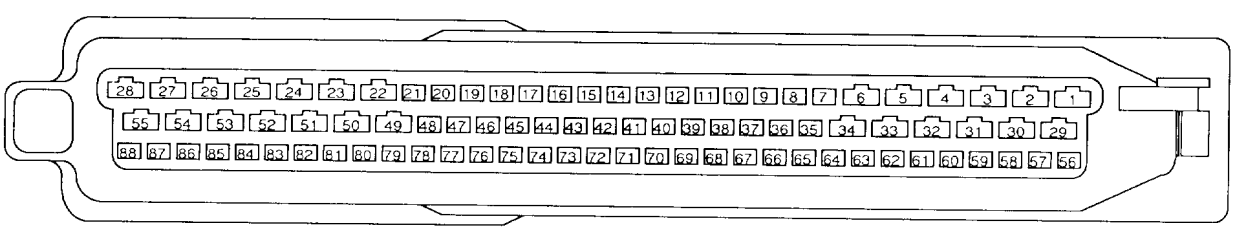
B030015.06



Wiring Face

OIL LEVEL SENSOR

B880002.00

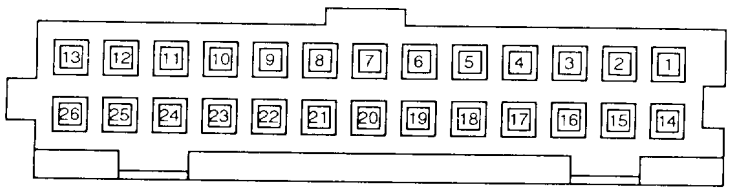


Mating Face

MOTRONIC CONTROL UNIT

318is

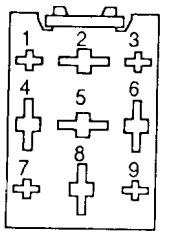
B260002.00



Wiring Face

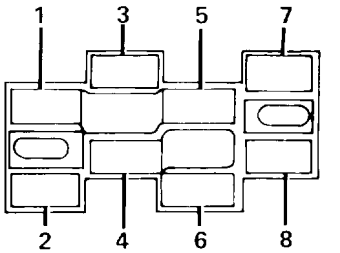
ON - BOARD COMPUTER MODULE

B090001.05



Mating Face

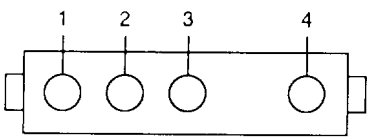
OXYGEN SENSOR HEATER RELAY



Wiring Face

REAR DEFOGGER SWITCH

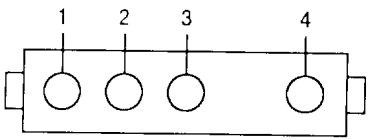
B040012.02



Wiring Face

ON - BOARD COMPUTER RELAY BOX (C2)

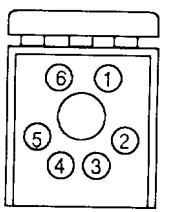
B040012.01



Wiring Face

POWER MIRRORS

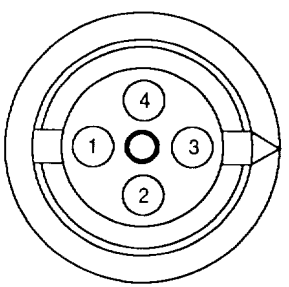
B060027.00



Wiring Face

REAR LIGHT ASSEMBLY

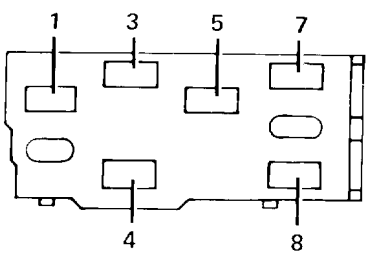
B040018



Mating Face

OXYGEN SENSOR HEATER

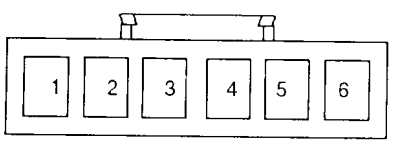
318is



Wiring Face

POWER WINDOW SWITCHES

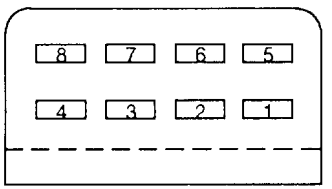
B060033.00



Wiring Face

REAR LIGHT ASSEMBLY

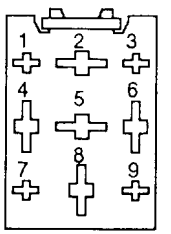
B080015.01



Wiring Face

REAR LIGHTS CHECK RELAY (C1)

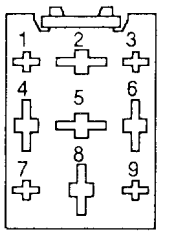
B090001.14



Mating Face

REAR WINDOW BLOWER RELAY

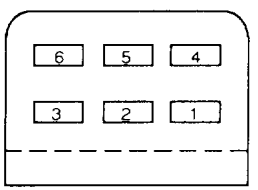
B090001.00



Wiring Face

START RELAY

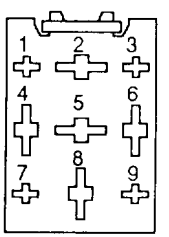
B060028 .01



Wiring Face

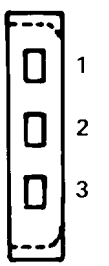
REAR LIGHTS CHECK RELAY (C2)

B090001.05



Mating Face

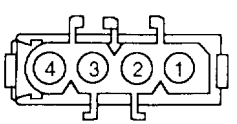
SEATBELT WARNING TIMER



Wiring Face

SUNROOF MOTOR (CI)

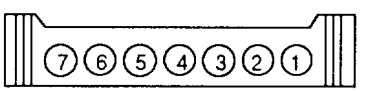
B0400002.03



Mating Face

REAR WINDOW BLOWER

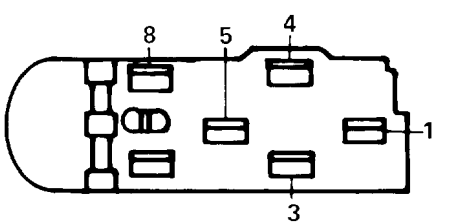
B070009.00



Mating Face

SEATBELT AND SRS WARNING MODULE

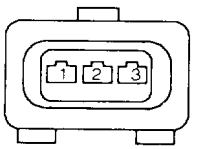
318is



Wiring Face

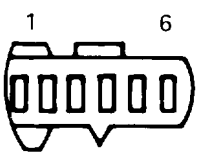
SUNROOF SWITCH

B030015.07



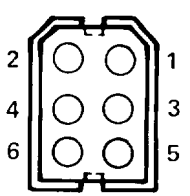
Wiring Face

THROTTLE SWITCH, POTENTIOMETER



Wiring Face

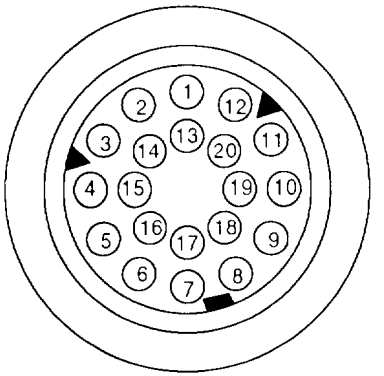
TRUNK LID LOCK MOTOR



Wiring Face

WIPER MOTOR

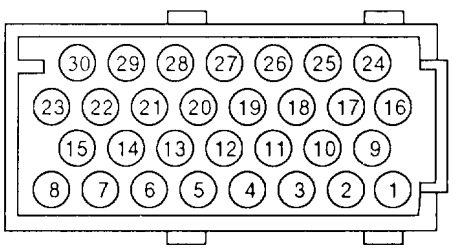
B200002.00



Wiring Face

C101

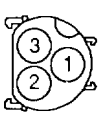
B300001.00



Wiring Face

C103

B030004.02



Mating Face

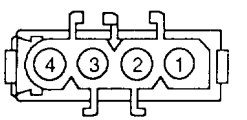
C110

C113

Wiring Face

C114

B040002.00



Wiring Face

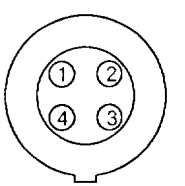
C107

C131

C136

C270

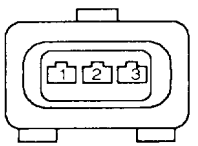
B040006.01



Wiring Face

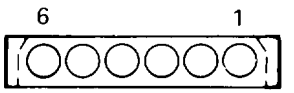
C140

B030015.06



Wiring Face

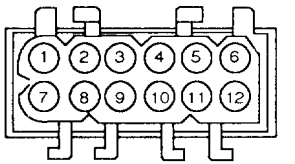
C152, C153, C154



Wiring Face

C201

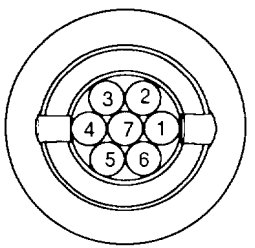
B120004.00



Wiring Face

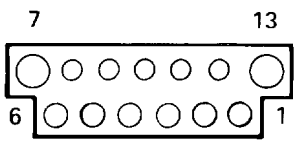
C204

B070002.00



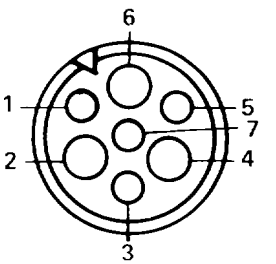
Wiring Face

C191



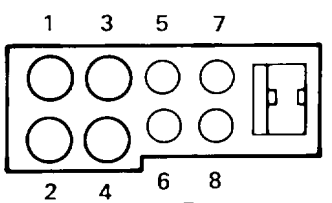
Wiring Face

C202



Wiring Face

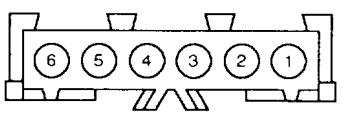
C209



Wiring Face

C200

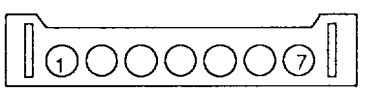
B060032.00



Wiring Face

C203

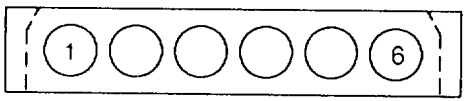
B070004.00



Wiring Face

C210

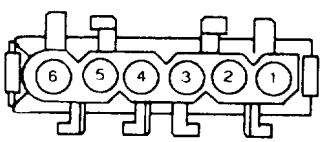
B060025



Wiring Face

C240

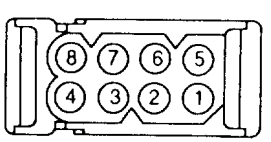
B060003.03



Mating Face

C242

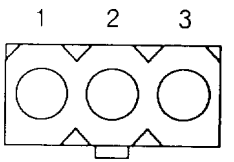
B080002.00



Mating Face

C243

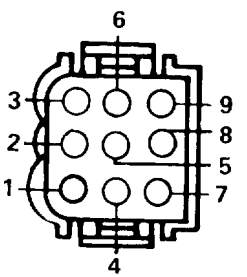
B030001.01



Wiring Face

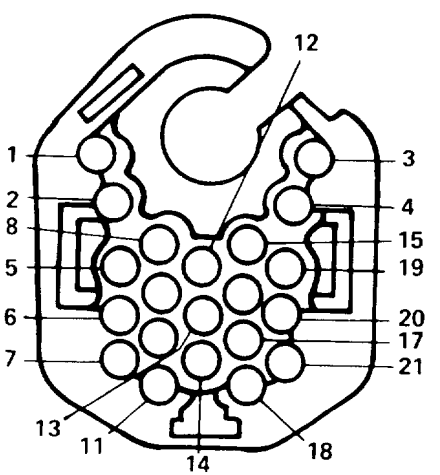
C303

C304



Wiring Face

C306

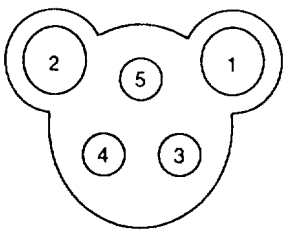


Wiring Face

C404

C405

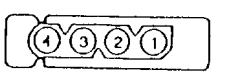
B050011.00



Wiring Face

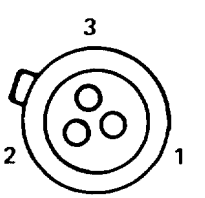
C413

B040004.00



C421

C422



Wiring Face

C503

COMPONENTS

COMPONENTS

COMPONENTS

COMPONENTS

CONNECTORS

CONNECTORS

CONNECTORS

C222 (1 pin)	Behind LH side of dash, near C302 accessory connector	7000- 6-2
C233 (1 pin)	Behind center of dash, near digital radio	7000- 8-5
C240 (6 pins)	Behind LH side of dash, on SRS diagnostic module bracket	7000- 5-6
C241 (1 pin)	Behind LH side of dash, above steering column	7000- 6-4
C243 (1 pin)	Behind center of dash, near digital radio	7000- 8-6
C244 (4 pins)	Behind center of dash, on digital radio	7000- 8-5
C245 (2 pins)	Behind center of dash, on digital radio	
C250 (2 pins)	Behind LH side of dash, base of steering column	7000- 5-5
C260 (2 pins)	Underside of steering column, above access panel	7000- 7-1
C261	Under LH side of dash, near C302 accessory connector	
C270 (4 pins)	Behind LH side of dash, on SRS diagnostic module bracket	7000- 5-6
C290 (2 pins)	Behind LH side of dash, on SRS diagnostic module bracket	7000- 5-6
C301 (2 pins) (Automatic)	Below center console, near gear shift lever	7000- 9-3
C301 (2 pins) (Manual)	Below center console, near gear shift lever	7000- 9-1
C302 (25 pins) Accessory Connector	Behind LH side of dash, on body electrical bracket	7000- 6-2
C303 (3 pins)	At base of RH "B" pillar	7000- 11-1
C304 (3 pins)	At base of LH "B" pillar	7000- 11-1
C305 (1 pin)	Behind LH side of dash, near C302 accessory connector	7000- 6-2
C306 (9 pins)	Below center console, near gear shift lever	7000- 9-2
C352 (2 pins)	Behind LH side of rear seat	7000- 11-2
C360 (2 pins)	Below RH side of rear seat	7000- 11-4
C401 (7 pins)	In LH "B" pillar	7000- 10-4
C402 (7 pins)	In RH "B" pillar	7000- 10-4
C403 (4 pins)	Behind LH side of dash	
C404 (21 pins)	Above RH front door jamb switch	7000- 4-6

GROUNDS