1988
BMW 325iX
Electrical
Troubleshooting
Manual

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BMW of North America, Inc.
Montvale, New Jersey

FOREWORD

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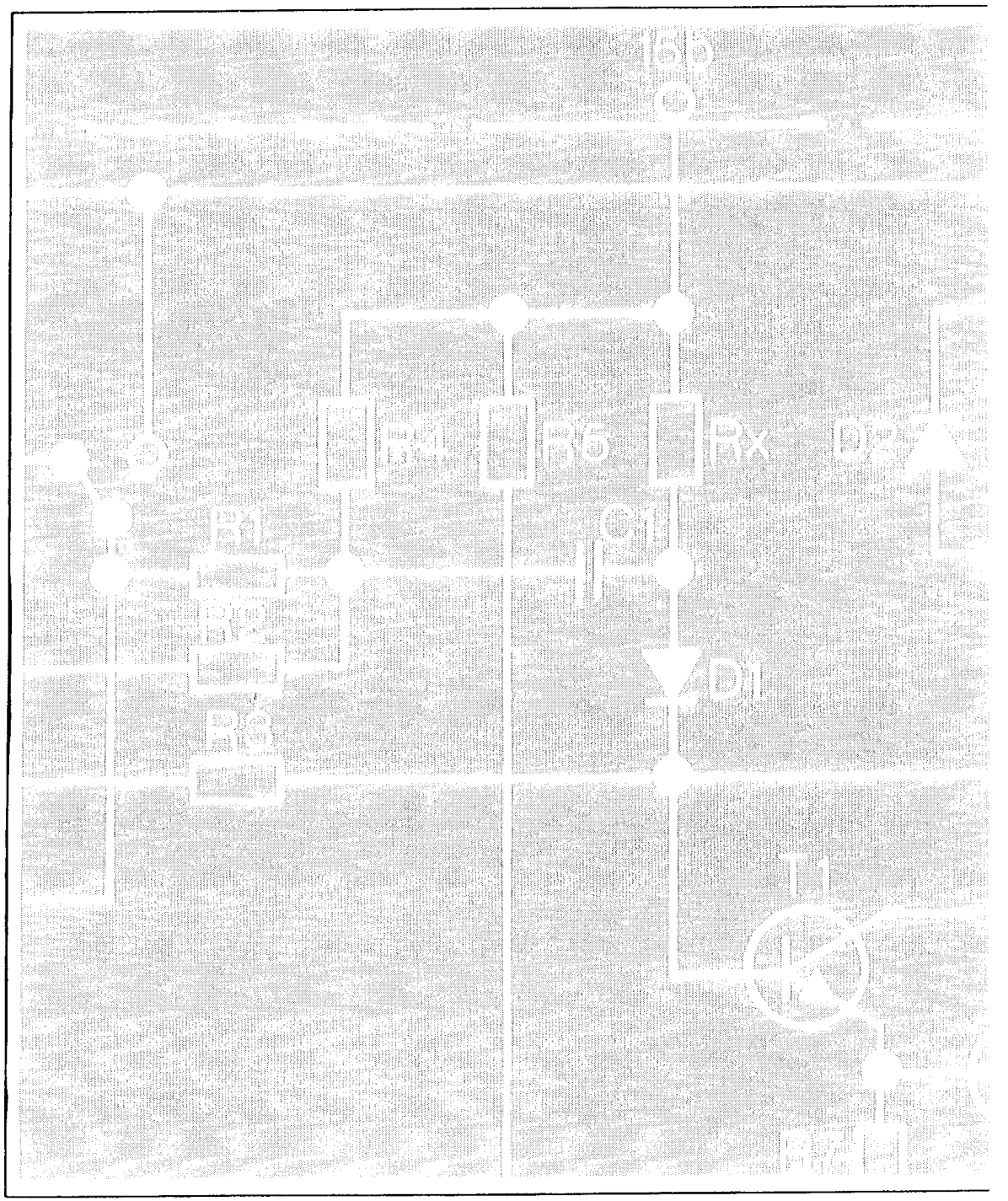

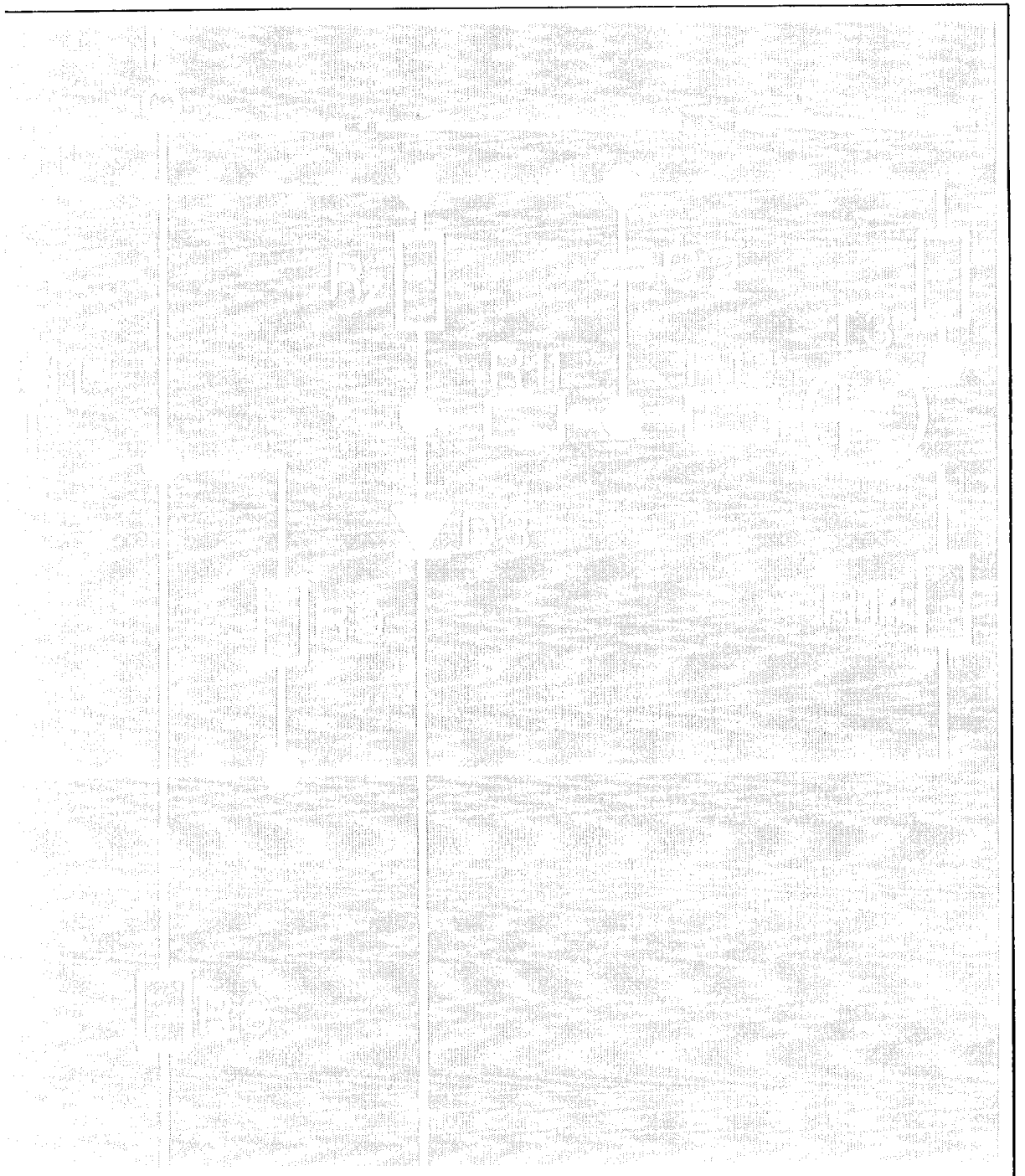

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Index — Alphabetical Listing of Electrical Circuits

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.

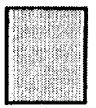
WIRE SIZE CONVERSION CHART

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

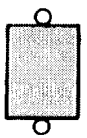
ABBREVIATIONS	COLOR
BK	BLACK
BR	BROWN
RD	RED
YL	YELLOW
GN	GREEN
BU	BLUE
VI	VIOLET
GY	GRAY
WT	WHITE
PK	PINK

4 SYMBOLS

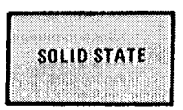


ENTIRE COMPONENT SHOWN

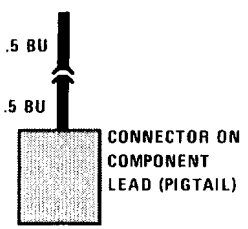
PART OF A COMPONENT SHOWN



COMPONENT WITH SCREW TERMINALS



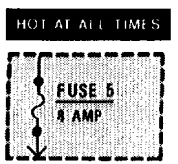
SOLID STATE (INCLUDES ONLY ELECTRONIC PARTS)



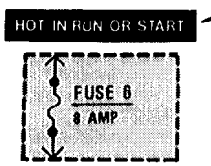
CONNECTOR ON COMPONENT LEAD (PIGTAIL)

CONNECTOR ATTACHED TO COMPONENT

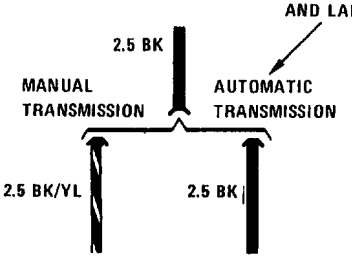
COMPONENT CASE IS DIRECTLY ATTACHED TO METAL PART OF CAR (GROUNDED)



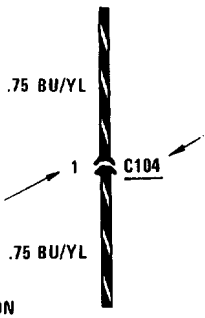
INDICATES THAT FUSE 5 IS ALWAYS SUPPLIED WITH POWER



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

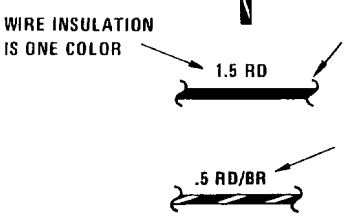


WIRE CHOICES FOR OPTIONS ARE SHOWN AND LABELED



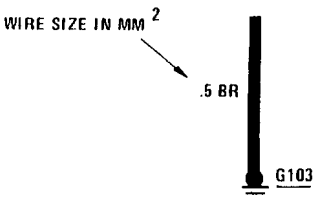
CONNECTOR REFERENCE NUMBER FOR COMPONENT LOCATION CHART

CHART ALSO SHOWS TOTAL NUMBER OF CONTACTS POSSIBLE: C103 (6 PIN)



A WAVY LINE MEANS A WIRE IS CONTINUED

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

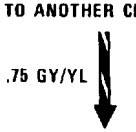


WIRE IS ATTACHED TO METAL PART OF CAR (GROUNDED)
GROUND IS NUMBERED FOR REFERENCE ON COMPONENT LOCATION CHART

OTHER CIRCUITS THAT SHARE A GROUND ARE SHOWN IN GROUND DISTRIBUTION

DIODE
CURRENT CAN FLOW ONLY IN THE DIRECTION OF THE ARROW

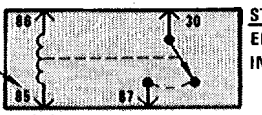
CIRCUIT REFERENCE – A WIRE WHICH CONNECTS TO ANOTHER CIRCUIT



ONE POLE,
TWO POSITION
SWITCH

NAME OF COMPONENT

COMPONENT
TERMINAL
NUMBER



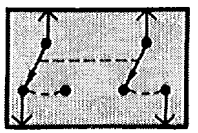
START RELAY
ENERGIZED
IN START

DETAILS ABOUT
COMPONENT OR
OPERATION

CONNECTOR
TERMINAL
NUMBER

LOW
BEAM
RELAY

TO POWER
DISTRIBUTION
BOX, PAGE 1

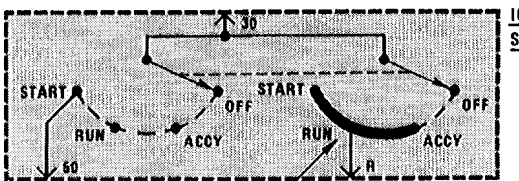


SWITCHES THAT
MOVE TOGETHER

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.

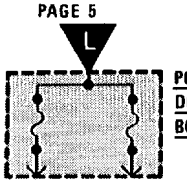
TWO POLE, FOUR
POSITION SWITCH



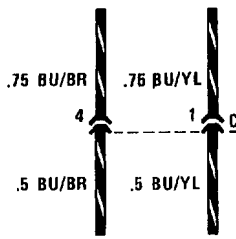
IGNITION
SWITCH

"R" IS ENERGIZED
IN ACCY, RUN OR START

FROM LOW
BEAM RELAY,
PAGE 5

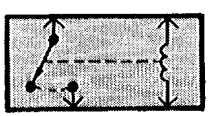


POWER
DISTRIBUTION
BOX



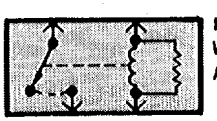
TWO CONNECTIONS
(PINS) IN THE SAME
CONNECTOR

DASHED LINE SHOWS
PARTS OF THE
SAME CONNECTOR



RELAY SHOWN
WITH NO
CURRENT
FLOWING
THROUGH
COIL

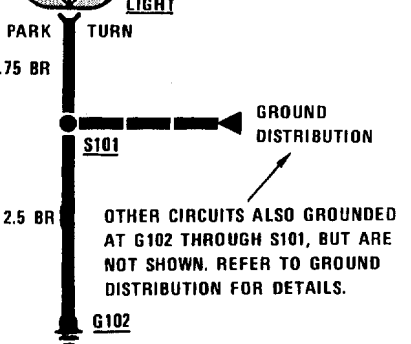
WHEN COIL IS
ENERGIZED, SWITCH
IS PULLED CLOSED



RELAY SHOWN
WITH RESISTOR
ACROSS COIL

RESISTOR ACROSS COIL
IS FOR NOISE
SUPPRESSION

RH FRONT
TURN/PARK
LIGHT



GROUND
DISTRIBUTION

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

LIGHT
EMITTING
DIODE

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

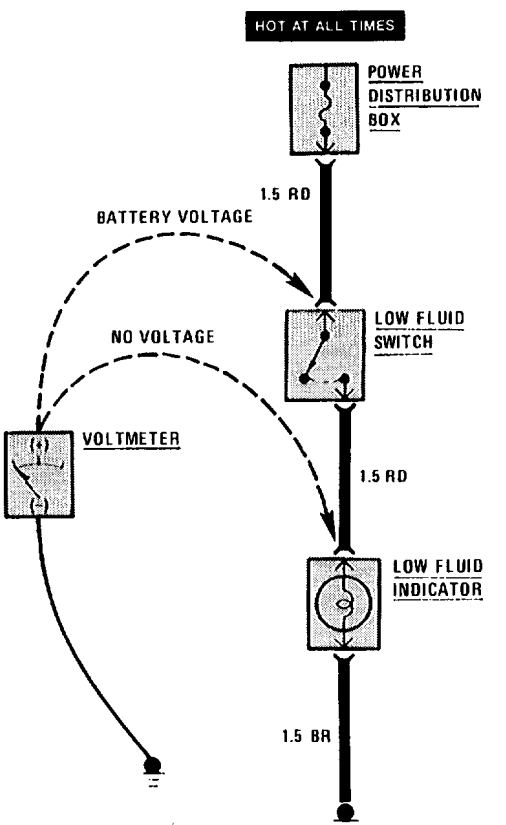
Isolating the problem (Step 3 of TROUBLESHOOTING PROCEDURES) requires the use of a **voltmeter** and/or **ohmmeter.** A voltmeter measures voltage at selected points in a circuit. An ohmmeter measures a circuit's resistance to current flow. It has an internal battery that provides current to the circuit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

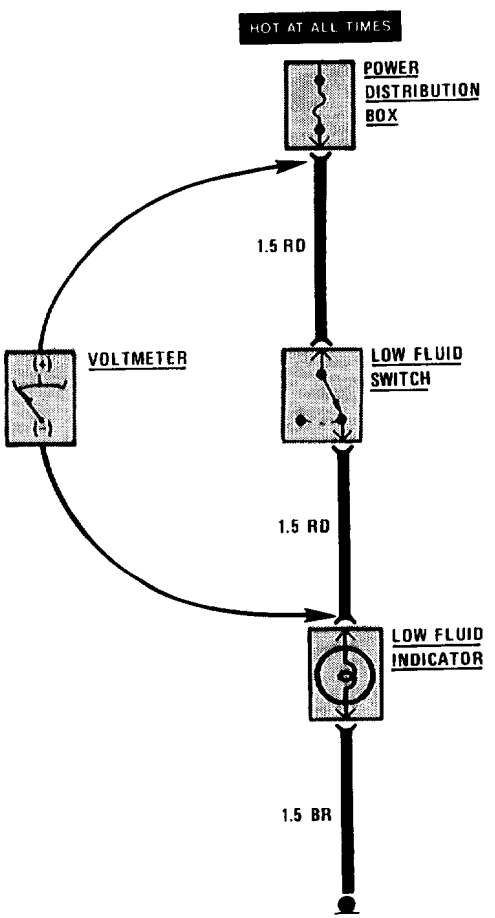


Voltage Test

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.

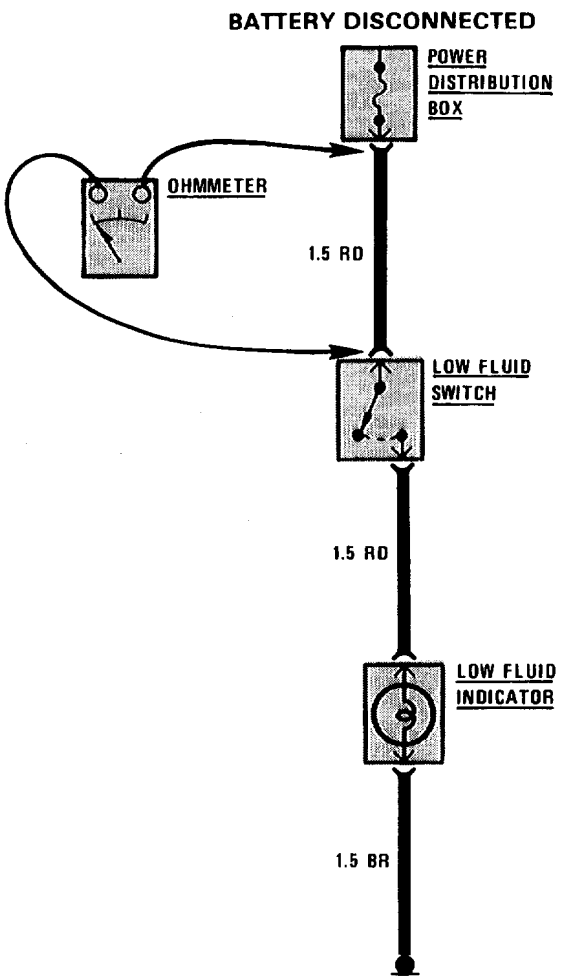
To test for voltage drop, connect the voltmeter leads to connectors at either end of the circuit's suspected problem area. The positive lead should be connected to the connector closest to the power source. The voltmeter will show the voltage drop between these two points.



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.

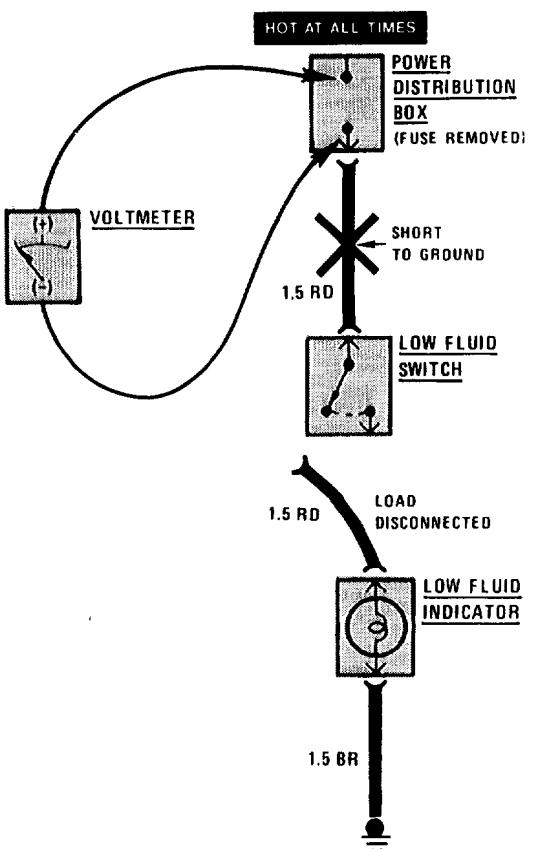


Continuity Test

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.

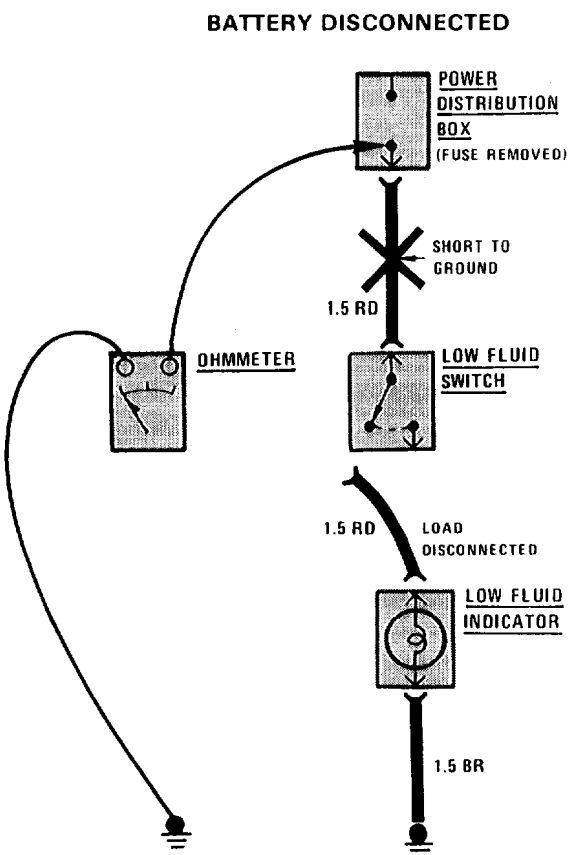


Short Test Using Voltmeter

Short Test Using Ohmmeter

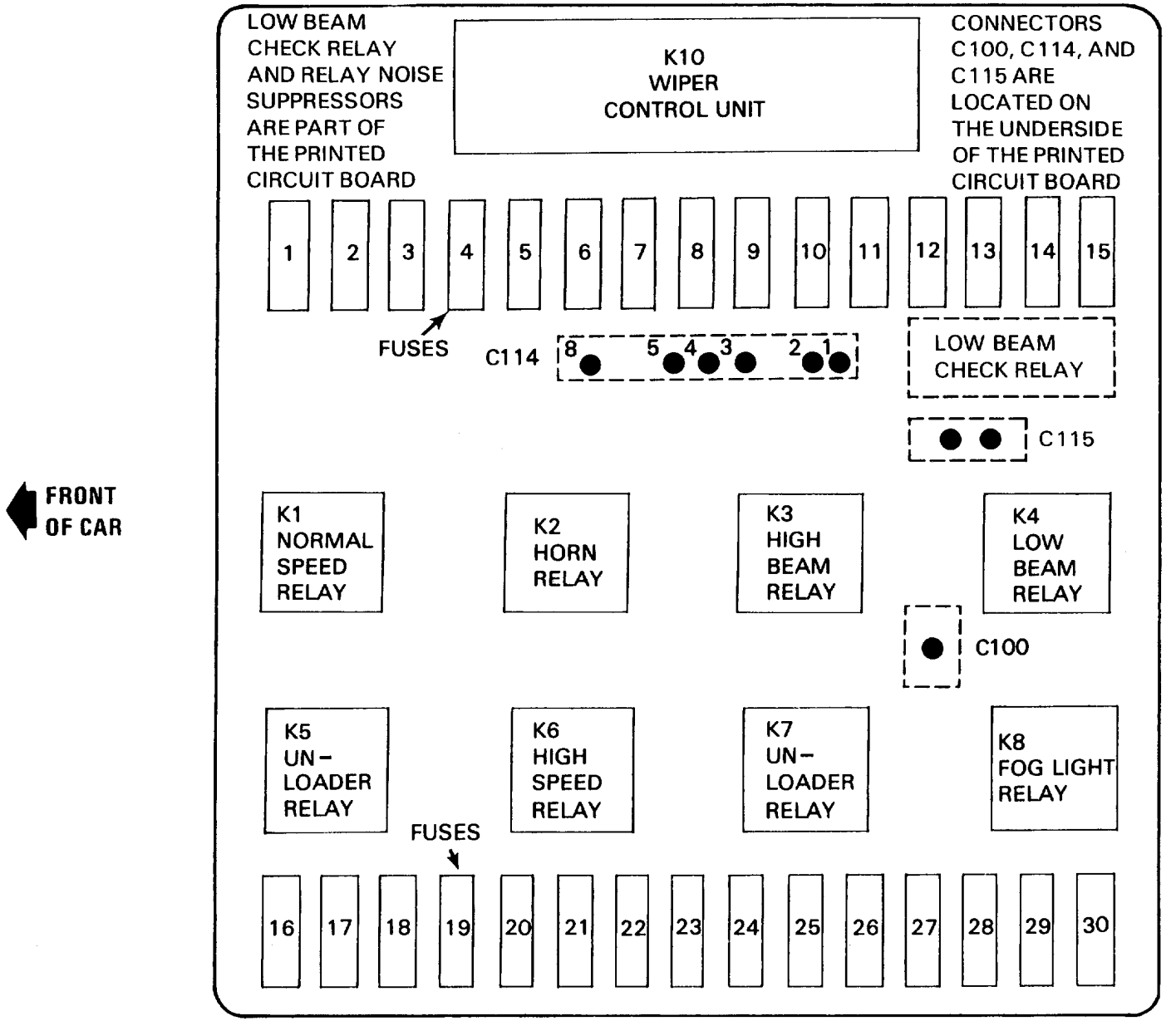
Disconnect the battery. Adjust the ohmmeter to read zero while holding the leads together. Remove the blown fuse and disconnect the load. Connect one lead of the ohmmeter to the fuse terminal that is closest to the load. Connect the other lead to a known good ground.

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

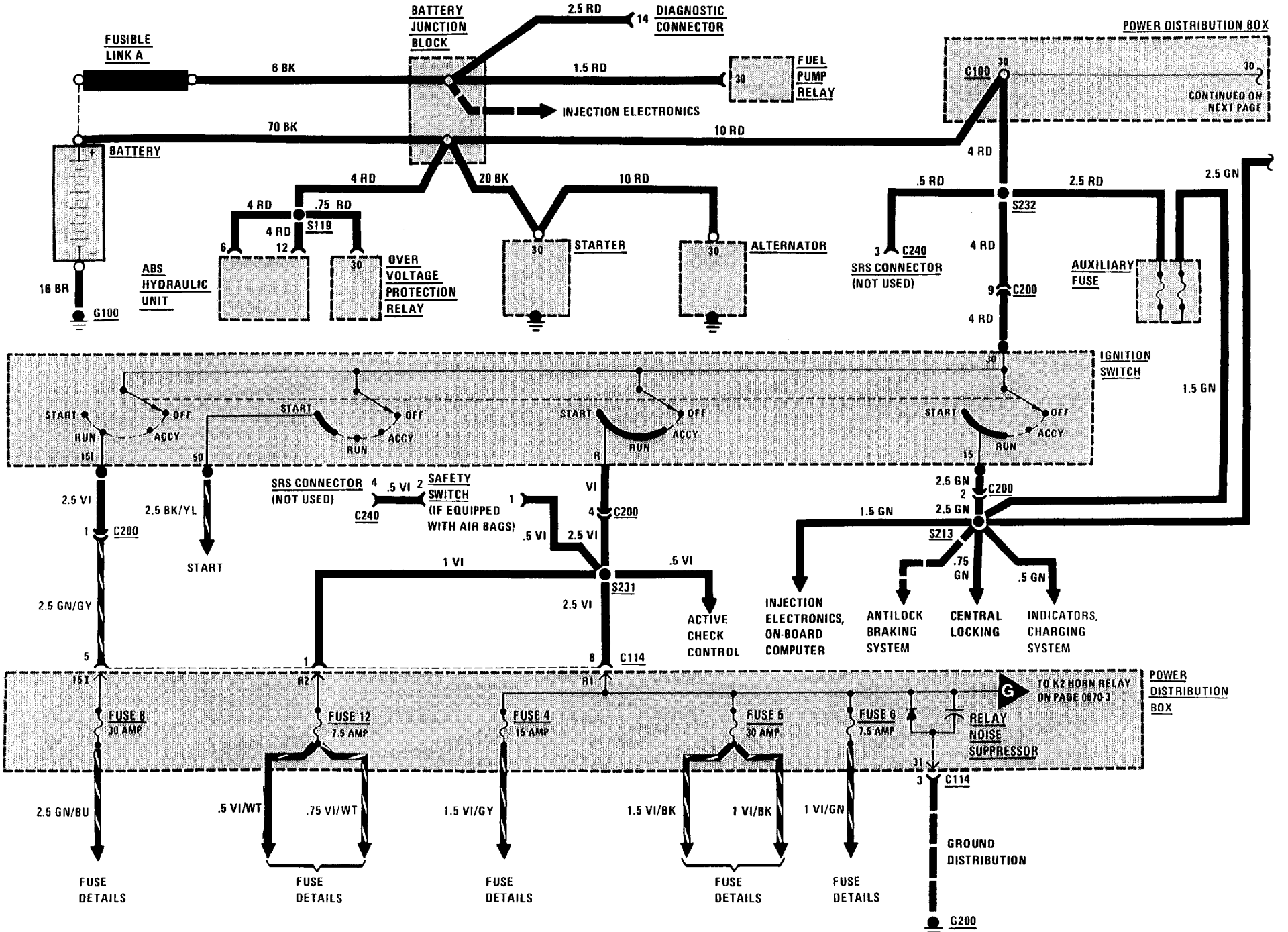


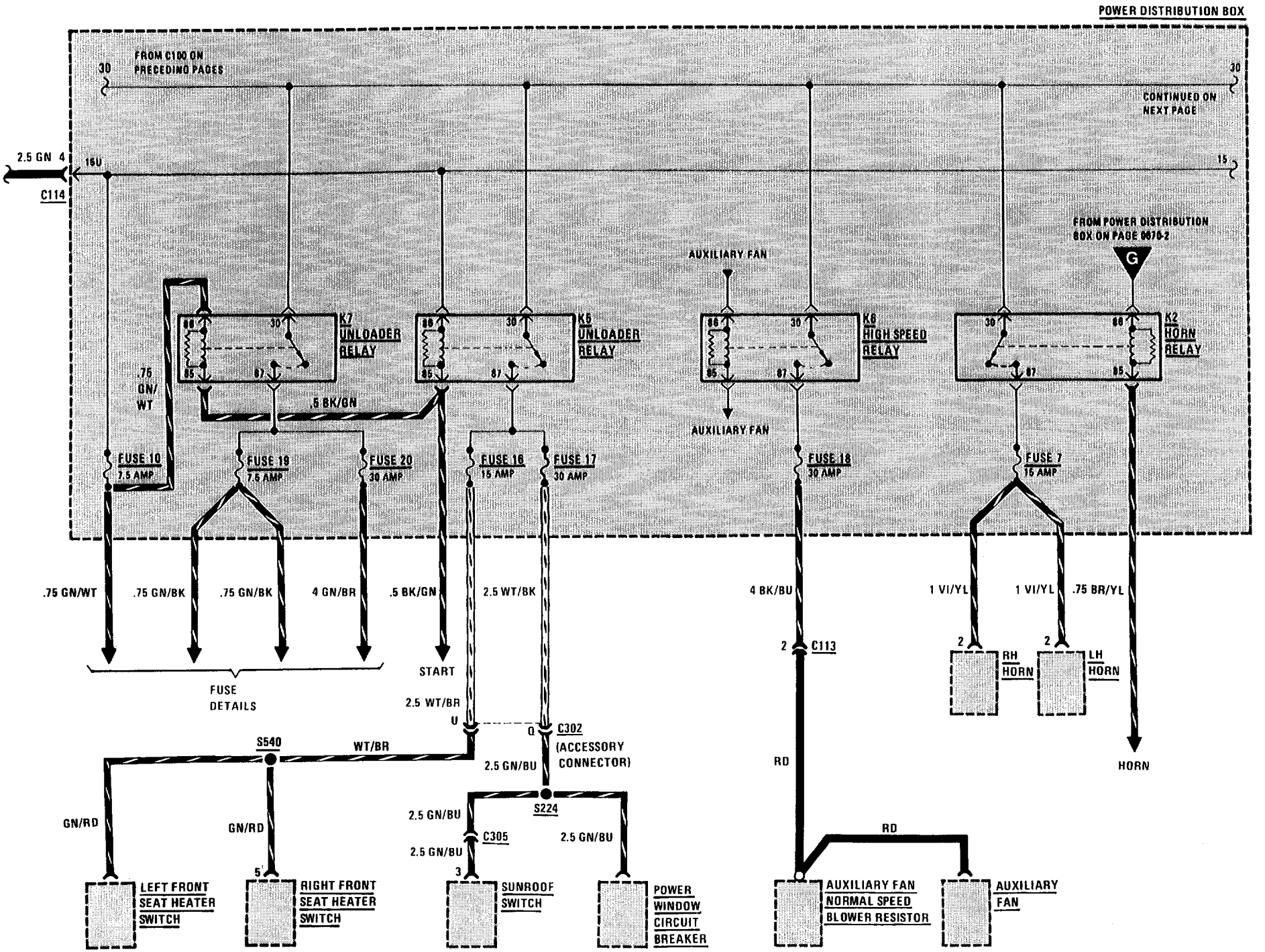
FUSE DATA CHART

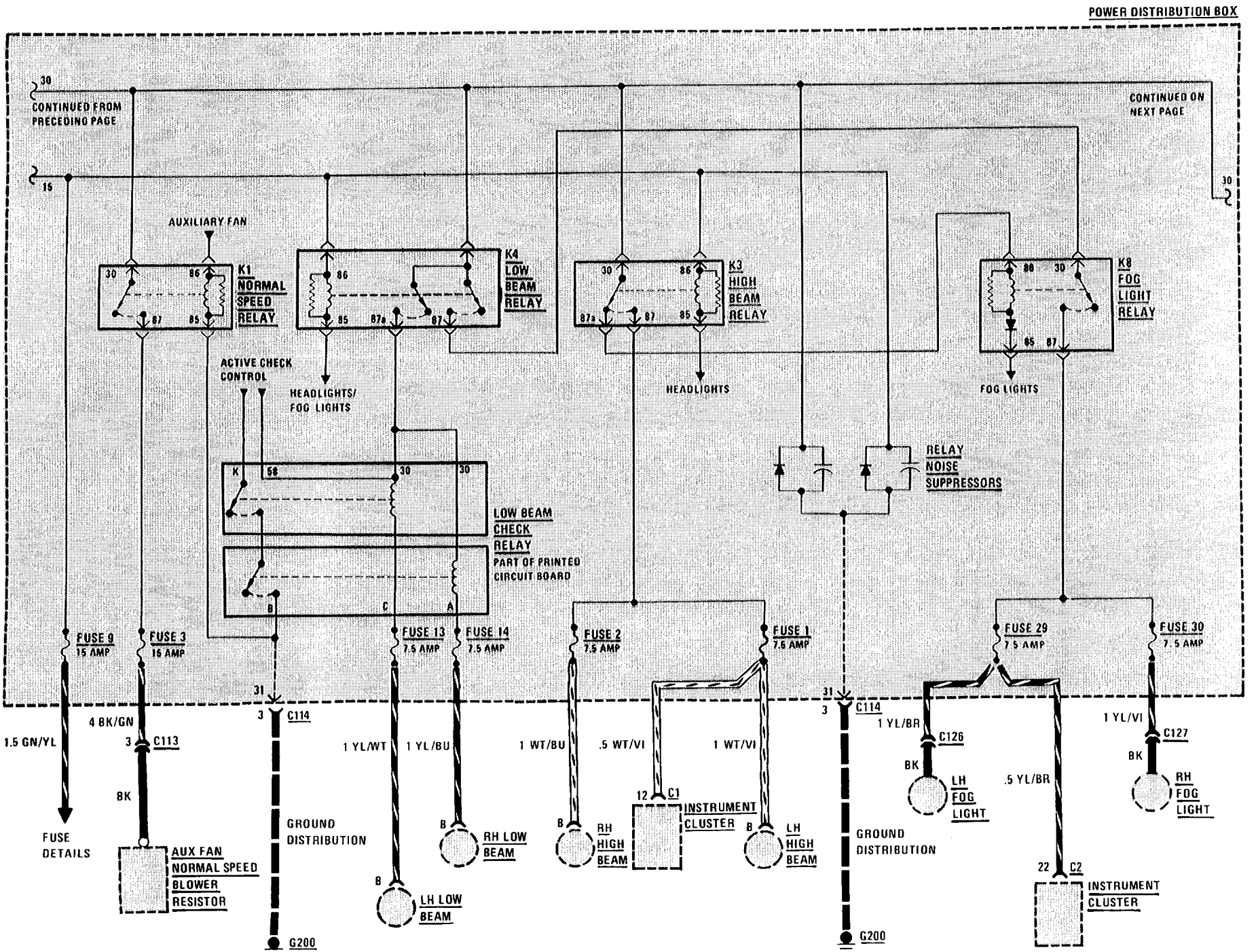
FUSE NO.	SIZE	CIRCUIT NAME
1	7.5A	Headlights (also fuses 2, 13, 14); High Beam Indicator.
2	7.5A	Headlights (also fuses 1, 13, 14).
3	15A	Auxiliary Fan (also fuses 18, 19, 20).
4	15A	Lights: Turn/Hazard Warning (also fuse 24); Active Check Control (also fuses 6, 10, 21, 22, 23).
5	30A	Wiper/Washer.
6	7.5A	Stop Lights/Cruise Control Active Check Control (also fuses 4, 10, 21, 22, 23); Antilock Braking System; Interior Lights (also fuses 19, 21, 27); Map Reading Light.
7	15A	Horn.
8	30A	Rear Defogger (also fuse 23).
9	15A	Idle Speed Control.
10	7.5A	Seatbelt Warning (also fuse 21); Service Interval Indicator (also fuse 21); Tachometer/Fuel Economy Gauges (also fuse 21); Gauges/Indicators; Brake Warning System; Back Up Lights; On-Board Computer (also fuses 12, 21, 23, 27); Start; Active Check Control (also fuses 4, 6, 21, 22, 23); Injection Electronics (also fuses 9, 11, 21);
11	7.5A	Fuel Delivery; Injection Electronics (also fuses 9, 10, 21).
12	7.5A	Radio (also fuses 21, 27, 28); Speedometer/Indicators; On-Board Computer (also fuses 10, 21, 23, 27).
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	Sunroof; Power Windows.
18	30A	Auxiliary Fan (also fuses 3, 19, 20).
19	7.5A	Auxiliary Fan (also fuses 3, 18, 20); Interior Lights (also fuses 21, 27); Power Mirrors.

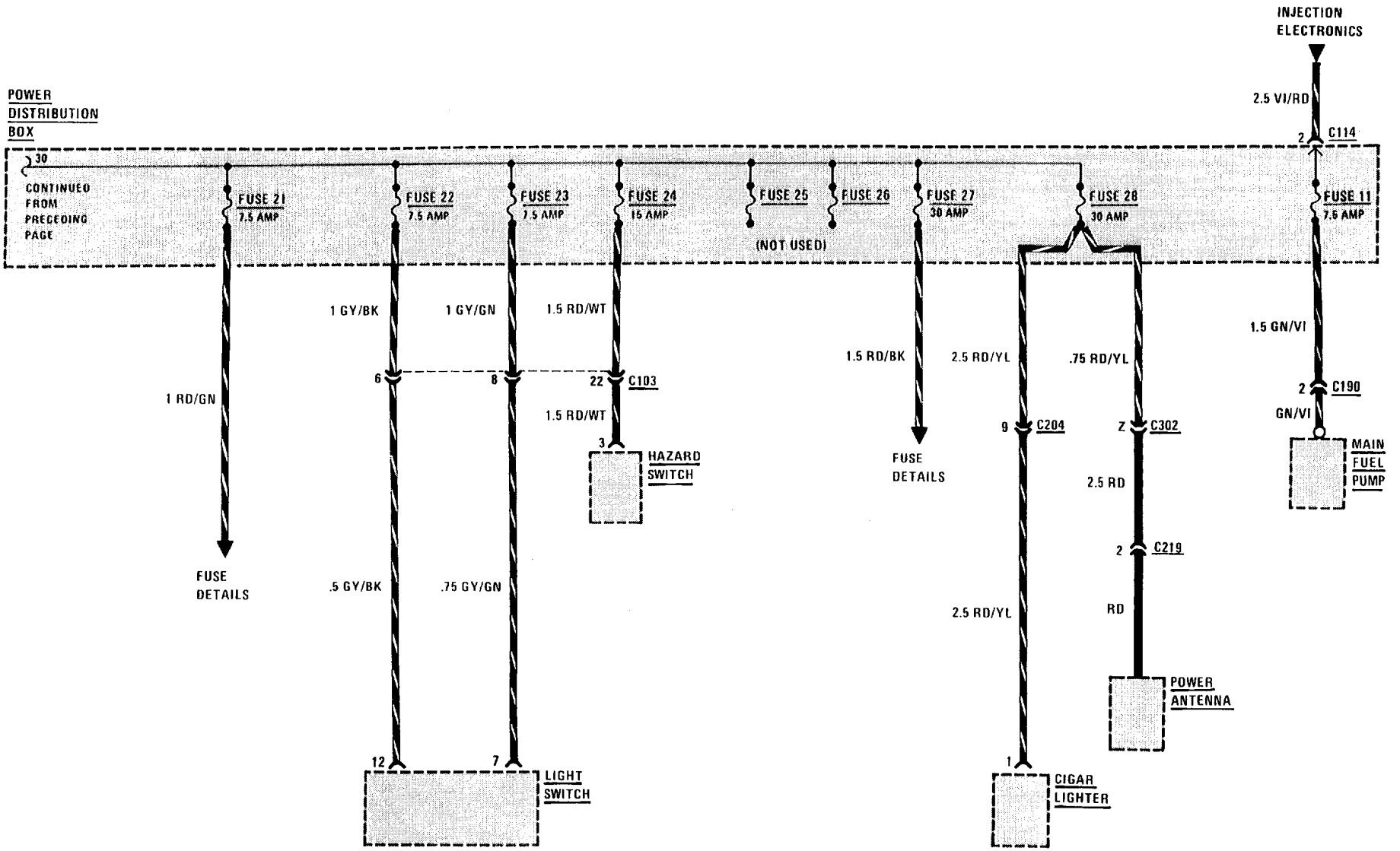
FUSE NO.	SIZE	CIRCUIT NAME
20	30A	Heater/Air Conditioning; Auxiliary Fan (also fuses 3, 18, 19).
21	7.5A	Auto-Charging Flashlight; Glove Box Light; Ignition Key Warning/Seatbelt Warning (also fuse 10); Interior Lights (also fuses 6, 19, 27); Radio (also fuses 12, 27, 28) Trunk Light; Active Check Control (also fuses 4, 6, 10, 22, 23); Service Interval Indicator (also fuse 10); On-Board Computer (also fuses 10, 12, 23, 27); 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); On-Board Computer (also fuses 10, 12, 21, 27); Rear Defogger (also fuse 8).
24	15A	Lights: Turn/Hazard Warning (also fuse 4).
25		Not Used.
26		Not Used.
27	30A	Interior Lights (also fuses 6, 19, 21); Central Locking; Radio/Antenna (also fuses 12, 21, 28); On-Board Computer (also fuses 10, 12, 21, 23).
28	30A	Cigar Lighter; Radio/Antenna (also fuses 12, 21, 27).
29	7.5A	Fog Lights (also fuse 30); Fog Light Indicator
30	7.5A	Fog Lights (also fuse 29).
POWER WINDOW CIRCUIT BREAKER	25A	Power Windows

0670-2 POWER DISTRIBUTION

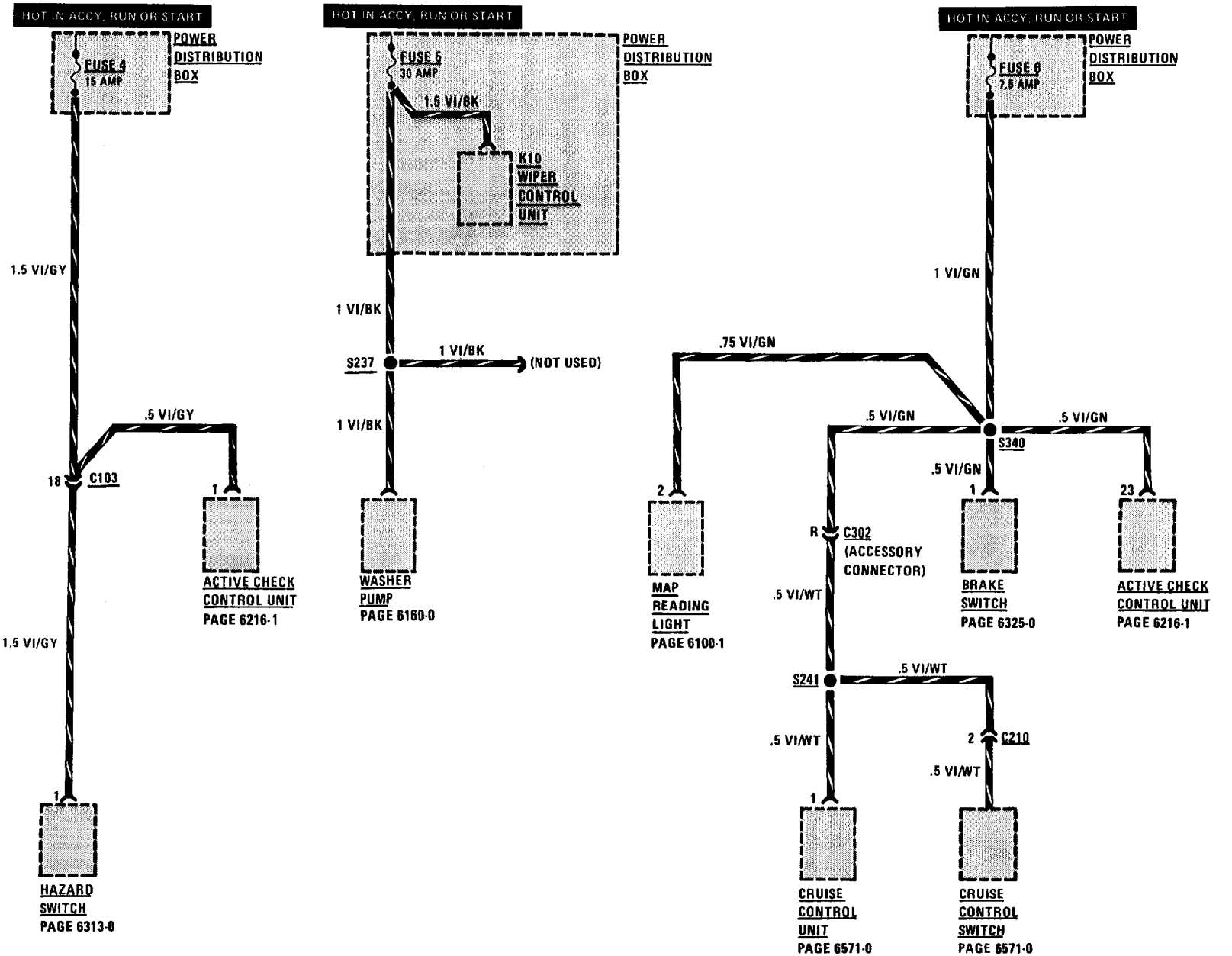



POWER DISTRIBUTION BOX
FROM C100 ON PRECEDING PAGES
30
CONTINUED ON NEXT PAGE
2.5 GN 4
15U
15
C114
FROM POWER DISTRIBUTION BOX ON PAGE 0670-2
G
AUXILIARY FAN
K7 UNLOADER RELAY
K5 UNLOADER RELAY
K8 HIGH SPEED RELAY
K2 HORN RELAY
86
85
87
.75 GN/WT
.5 BK/GN
AUXILIARY FAN
FUSE 10 7.5 AMP
FUSE 19 7.5 AMP
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 C113
RH HORN
LH HORN
HORN
2.5 WT/BR
U
Q
C302 (ACCESSORY CONNECTOR)
S540
WT/BR
2.5 GN/BU
RD
GN/RD
GN/RD
S224
2.5 GN/BU
C305
2.5 GN/BU
2.5 GN/BU
RD
5
3
LEFT FRONT SEAT HEATER SWITCH
RIGHT FRONT SEAT HEATER SWITCH
SUNROOF SWITCH
POWER WINDOW CIRCUIT BREAKER
AUXILIARY FAN NORMAL SPEED BLOWER RESISTOR
AUXILIARY FAN

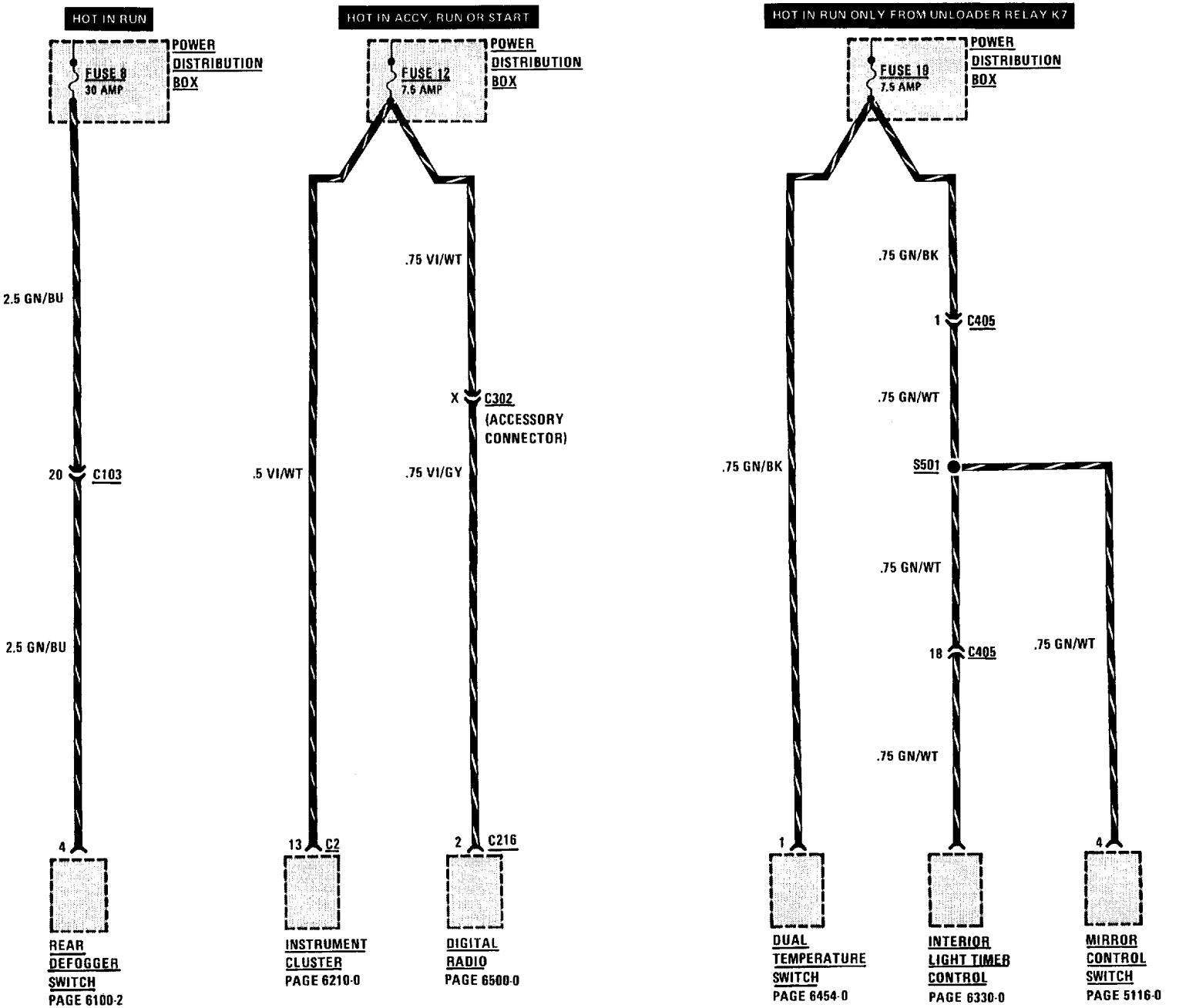

POWER DISTRIBUTION BOX
30
CONTINUED FROM PRECEDING PAGE
CONTINUED ON NEXT PAGE
15
AUXILIARY FAN
K1 NORMAL SPEED RELAY
K4 LOW BEAM RELAY
K3 HIGH BEAM RELAY
K8 FOG LIGHT RELAY
ACTIVE CHECK CONTROL
HEADLIGHTS/ FOG LIGHTS
HEADLIGHTS
FOG LIGHTS
RELAY NOISE SUPPRESSORS
LOW BEAM CHECK RELAY
PART OF PRINTED CIRCUIT BOARD
FUSE 9 15 AMP
FUSE 3 16 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
C113
BK
FUSE DETAILS
AUX FAN NORMAL SPEED BLOWER RESISTOR
C114
GROUND DISTRIBUTION
G200
1 YL/WT
1 YL/BU
LH LOW BEAM
RH LOW BEAM
1 WT/BU
.5 WT/VI
1 WT/VI
RH HIGH BEAM
LH HIGH BEAM
C1
INSTRUMENT CLUSTER
1 YL/BR
C126
LH FOG LIGHT
.5 YL/BR
1 YL/VI
C127
RH FOG LIGHT
C2


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
FUSE 26
FUSE 27 30 AMP
FUSE 28 30 AMP
(NOT USED)
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
.5 GY/BK
.75 GY/GN
12
7
LIGHT SWITCH
1.5 RD/BK
FUSE DETAILS
2.5 RD/YL
.75 RD/YL
9
C204
Z
C302
2.5 RD
2
C219
RD
POWER ANTENNA
2.5 RD/YL
1
CIGAR LIGHTER
1.5 GN/VI
2
C190
GN/VI
MAIN FUEL PUMP

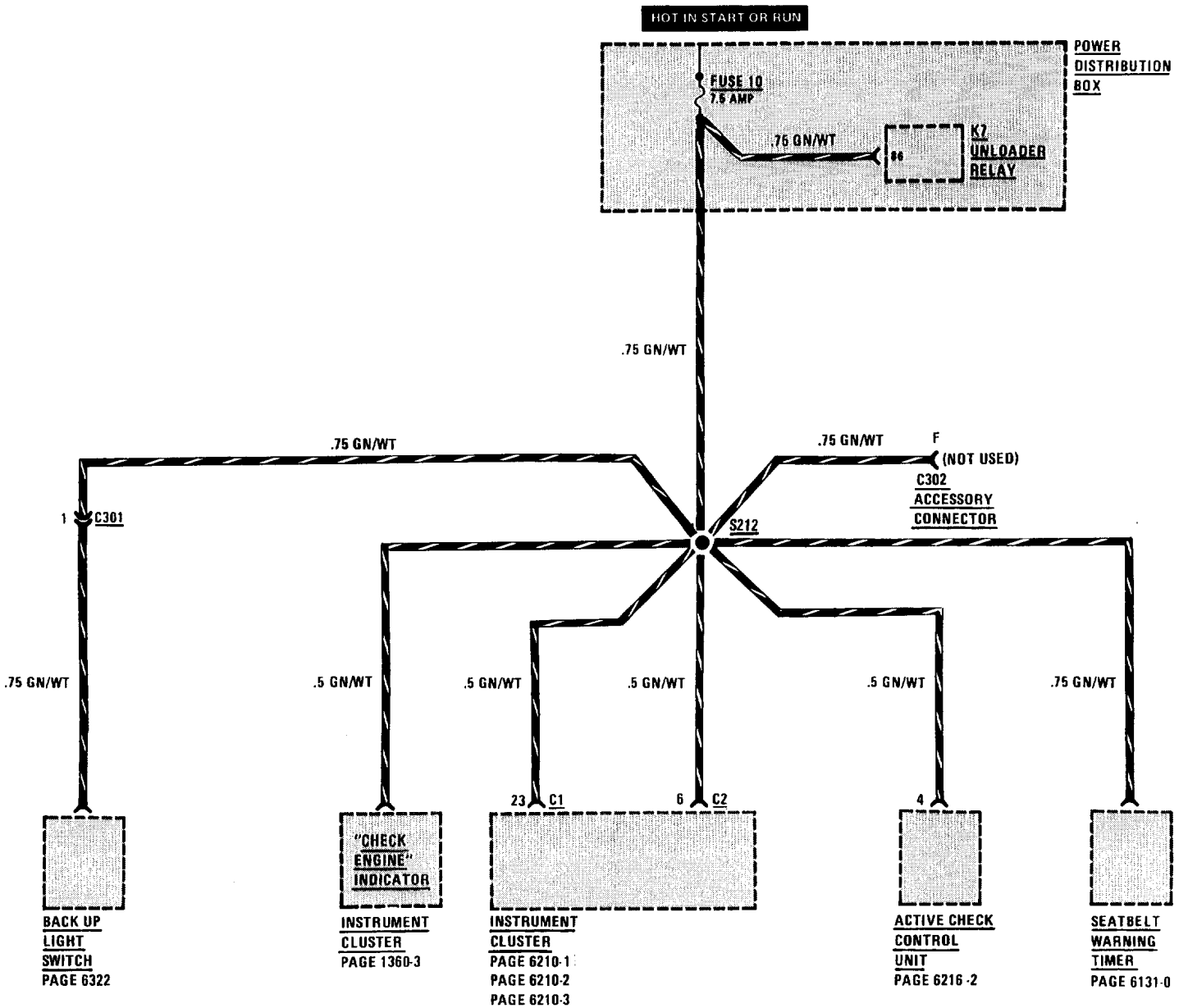
FUSE DETAILS: FUSES 4, 5, AND 6



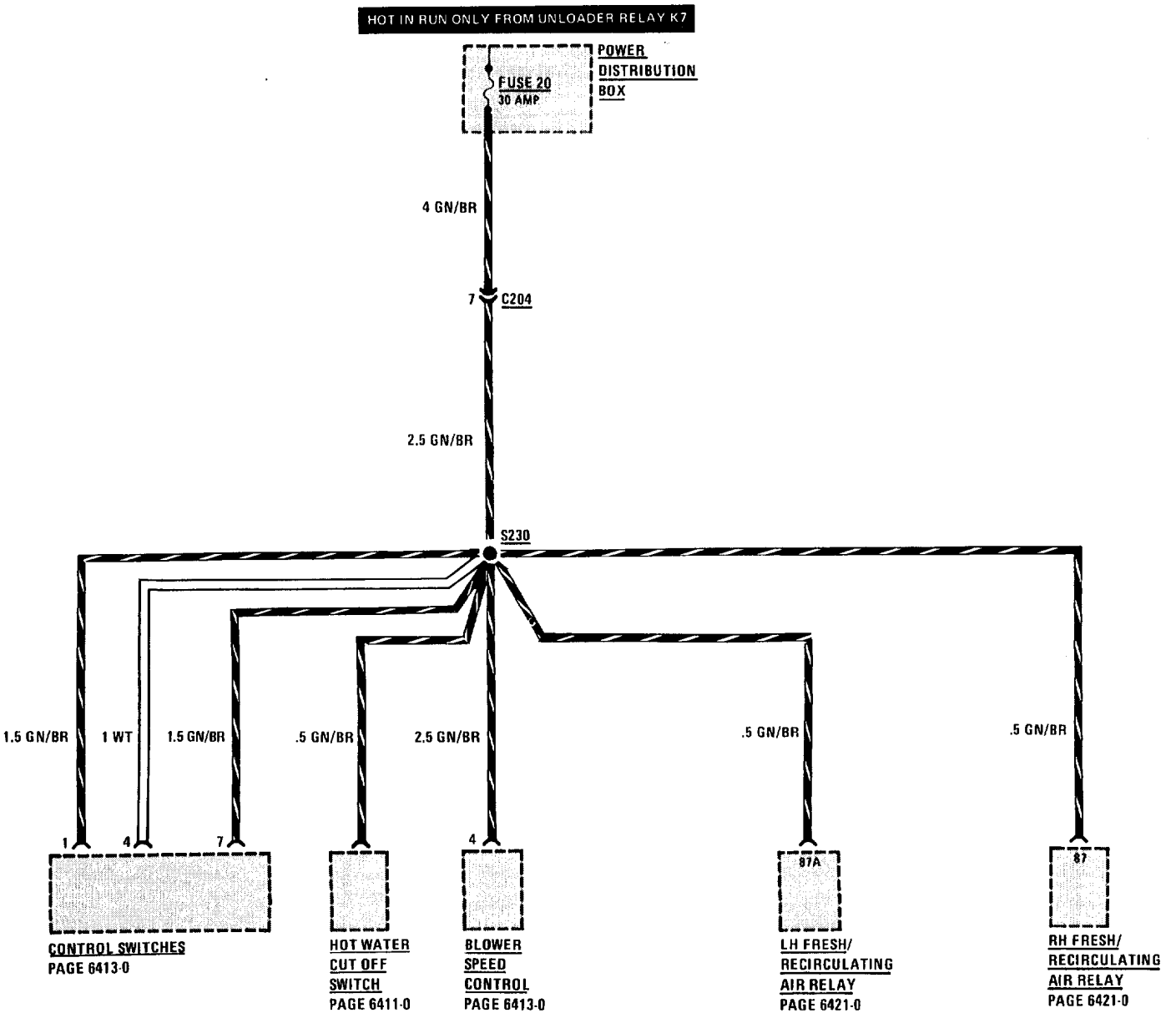
FUSE DETAILS: FUSES 8, 12 AND 19



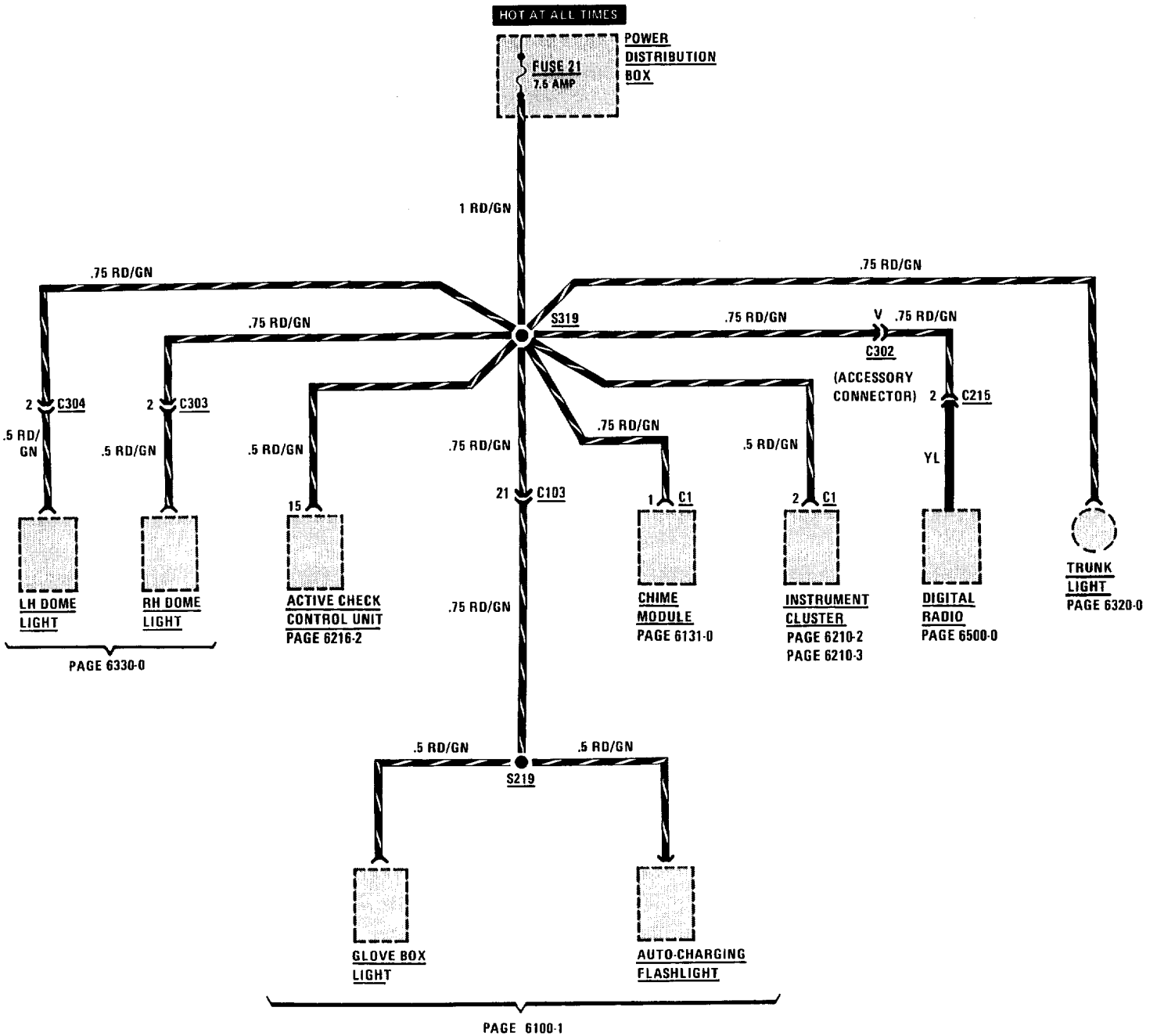
FUSE DETAILS: FUSE 10



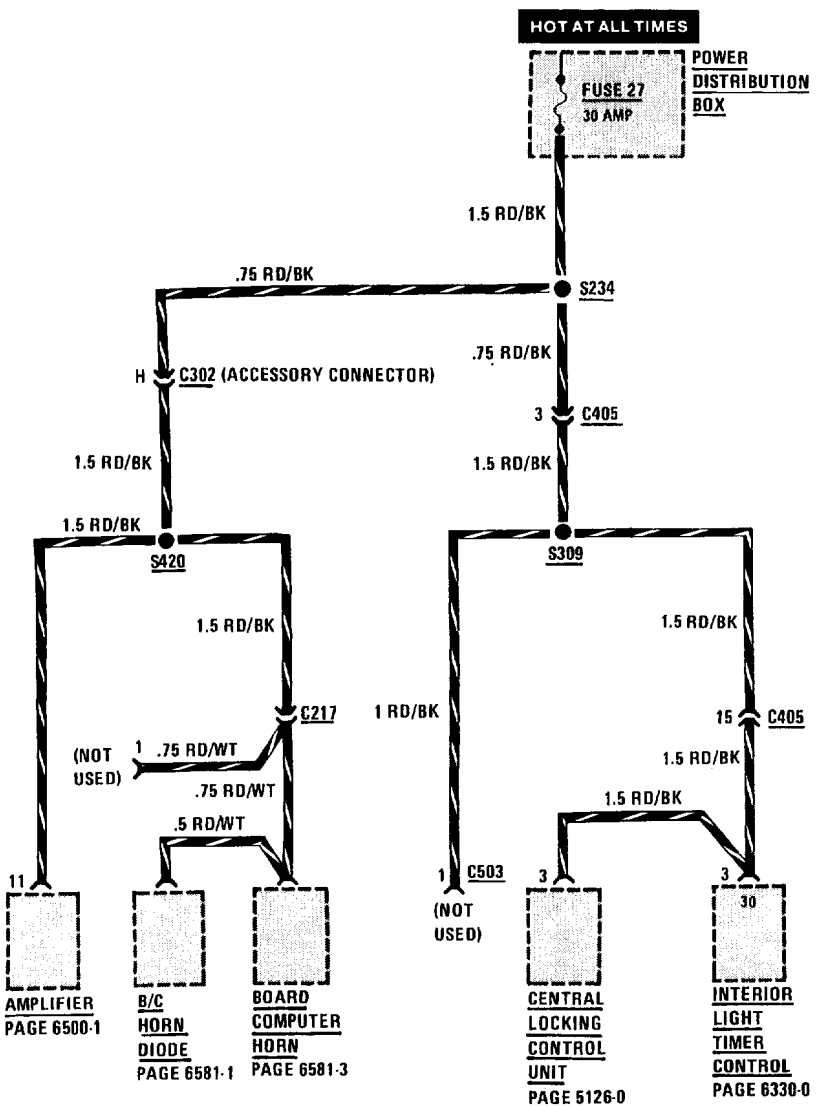
FUSE DETAILS: FUSE 20

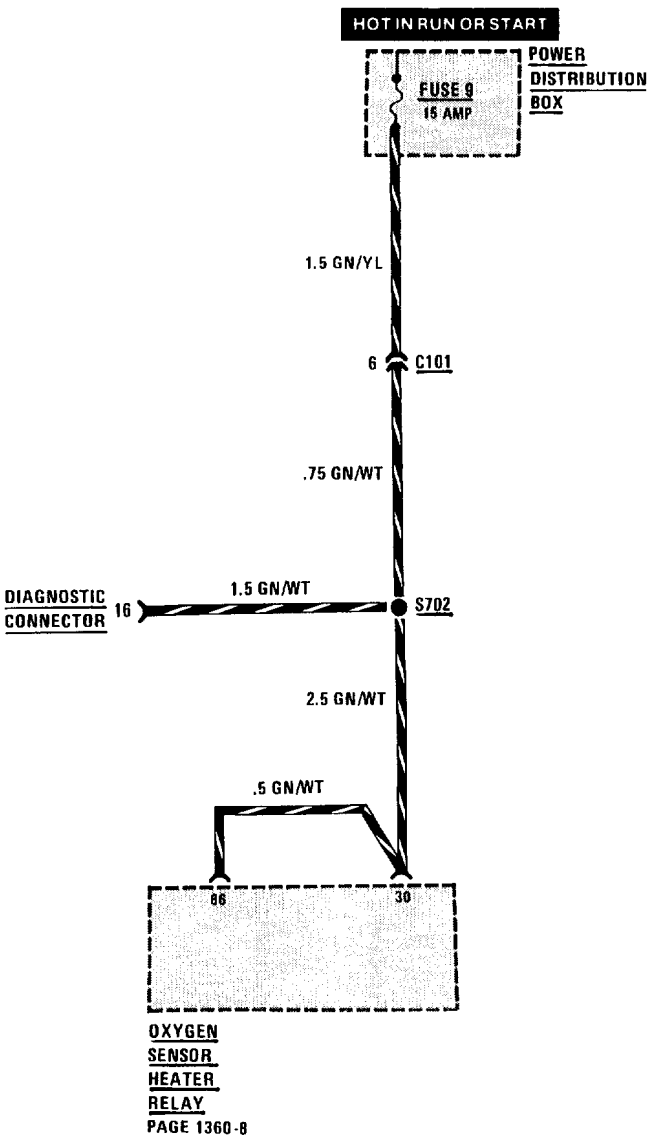


FUSE DETAILS: FUSE 21

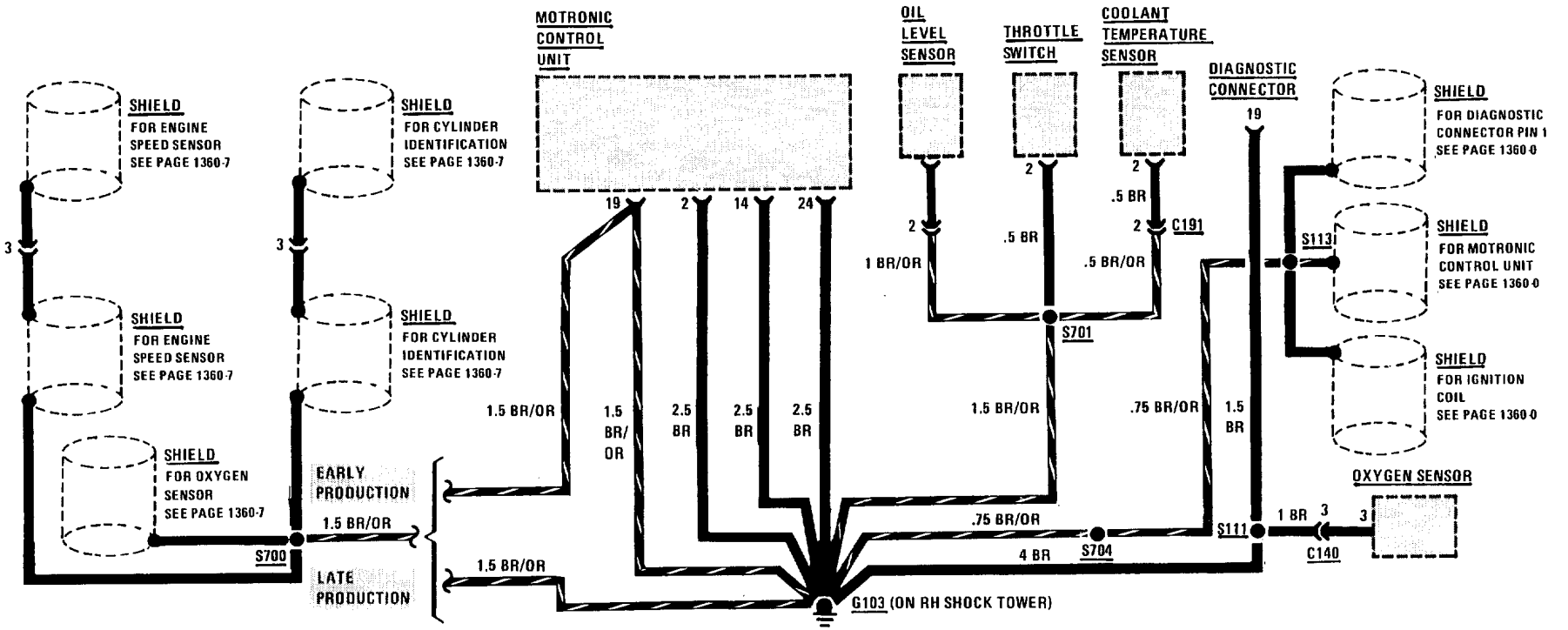


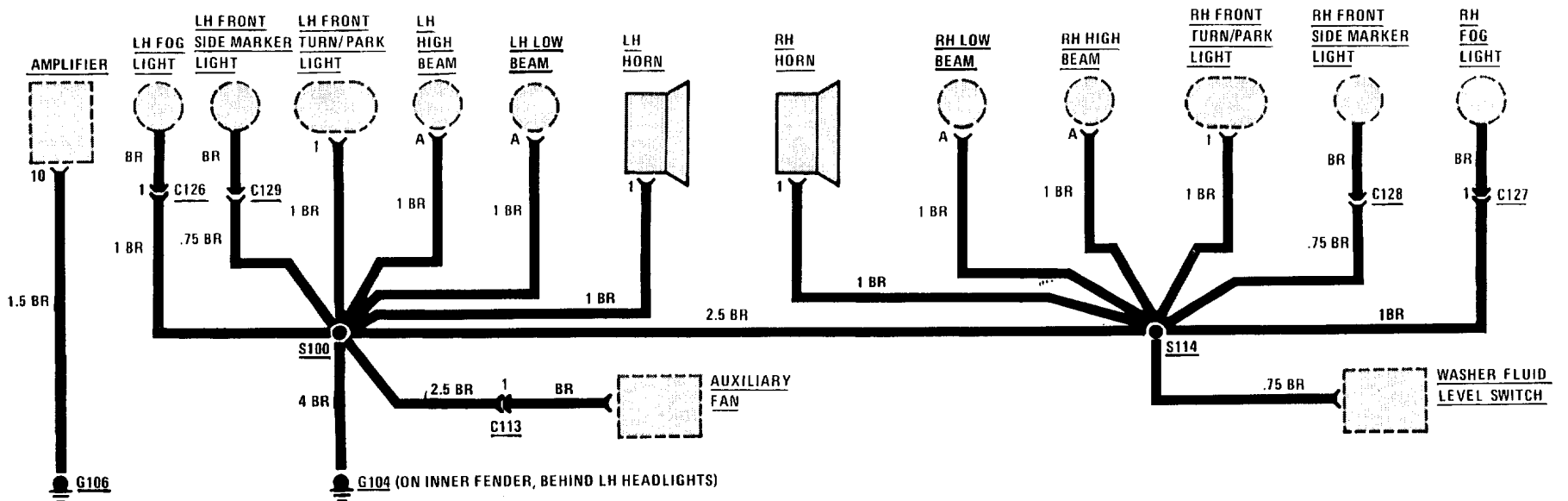
FUSE DETAILS: FUSES 27 AND 9



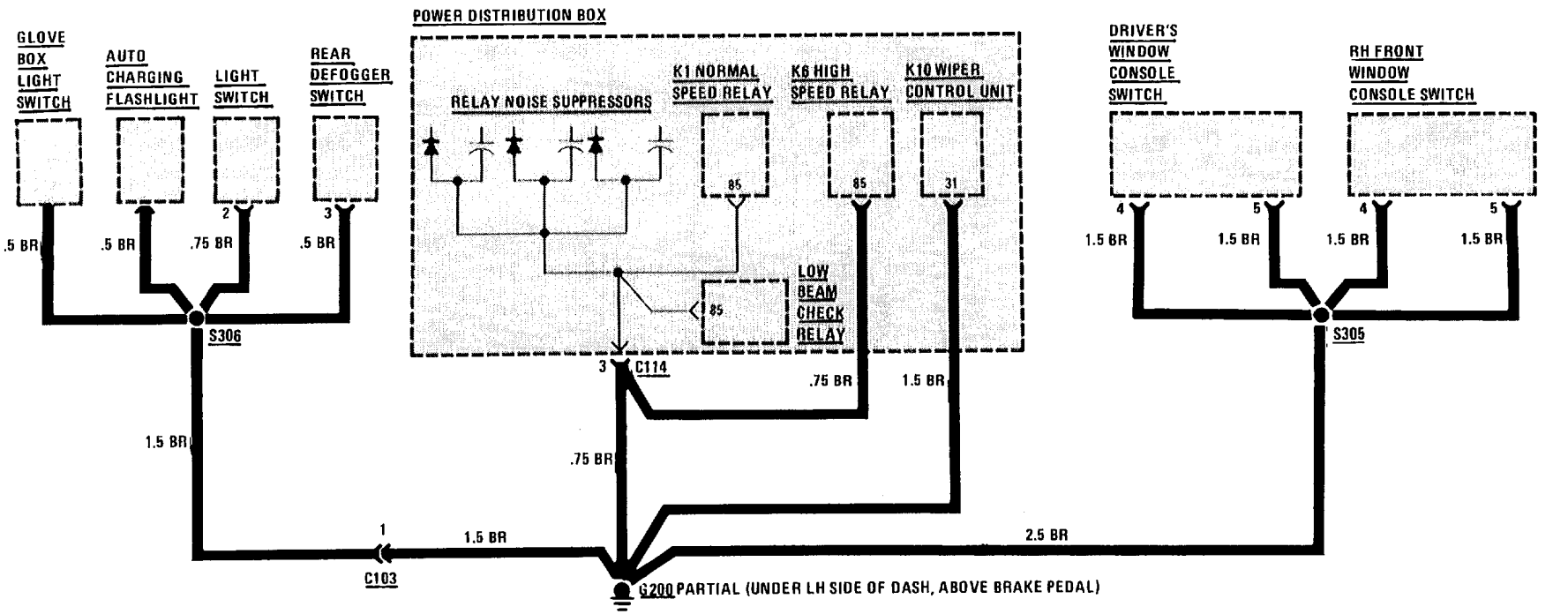


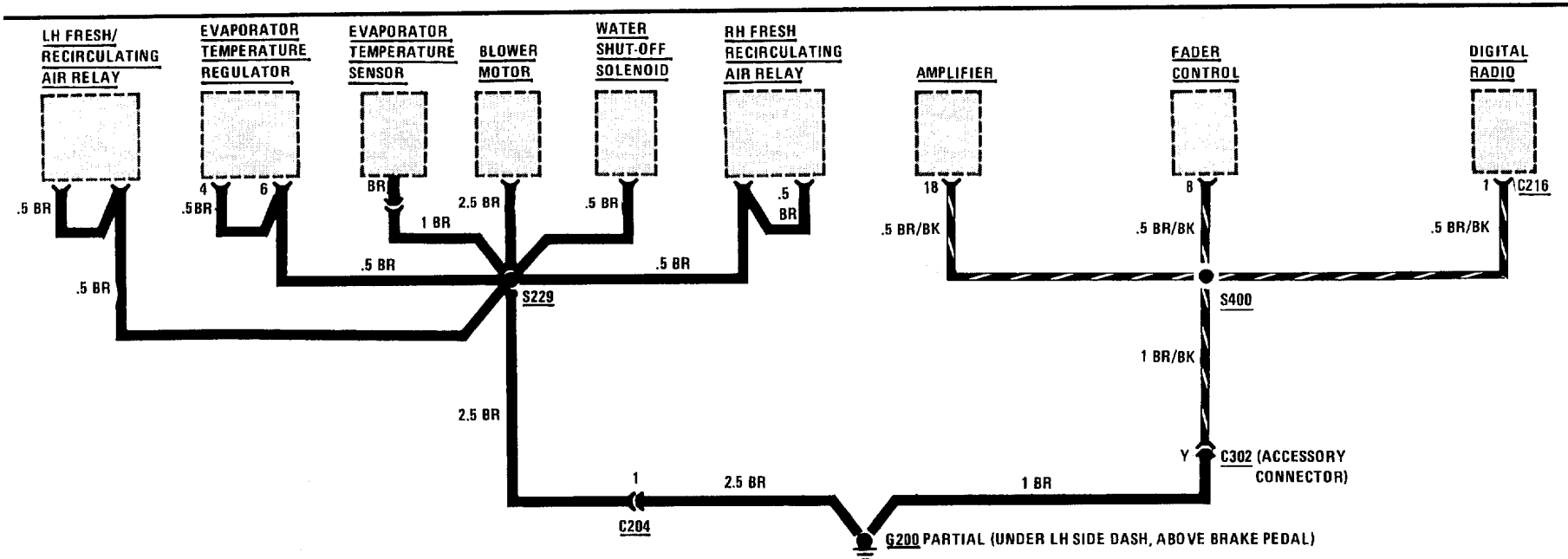
GROUND DISTRIBUTION: G103, G104 AND G106



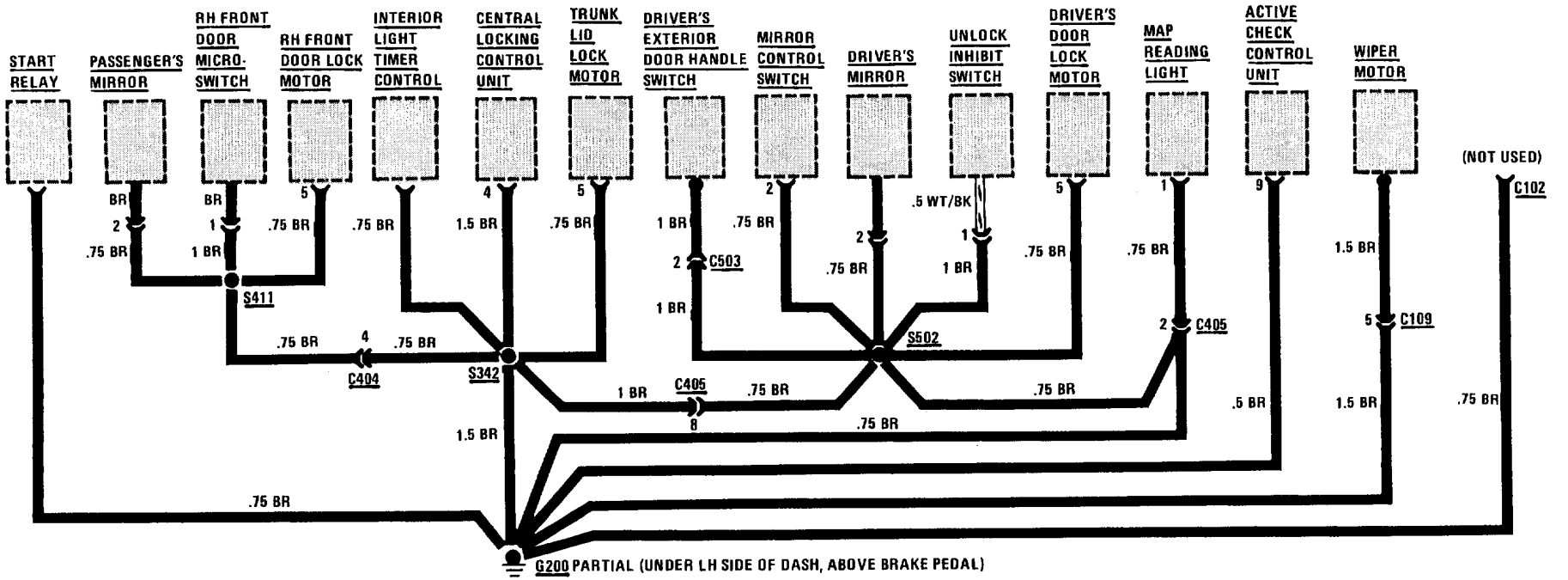


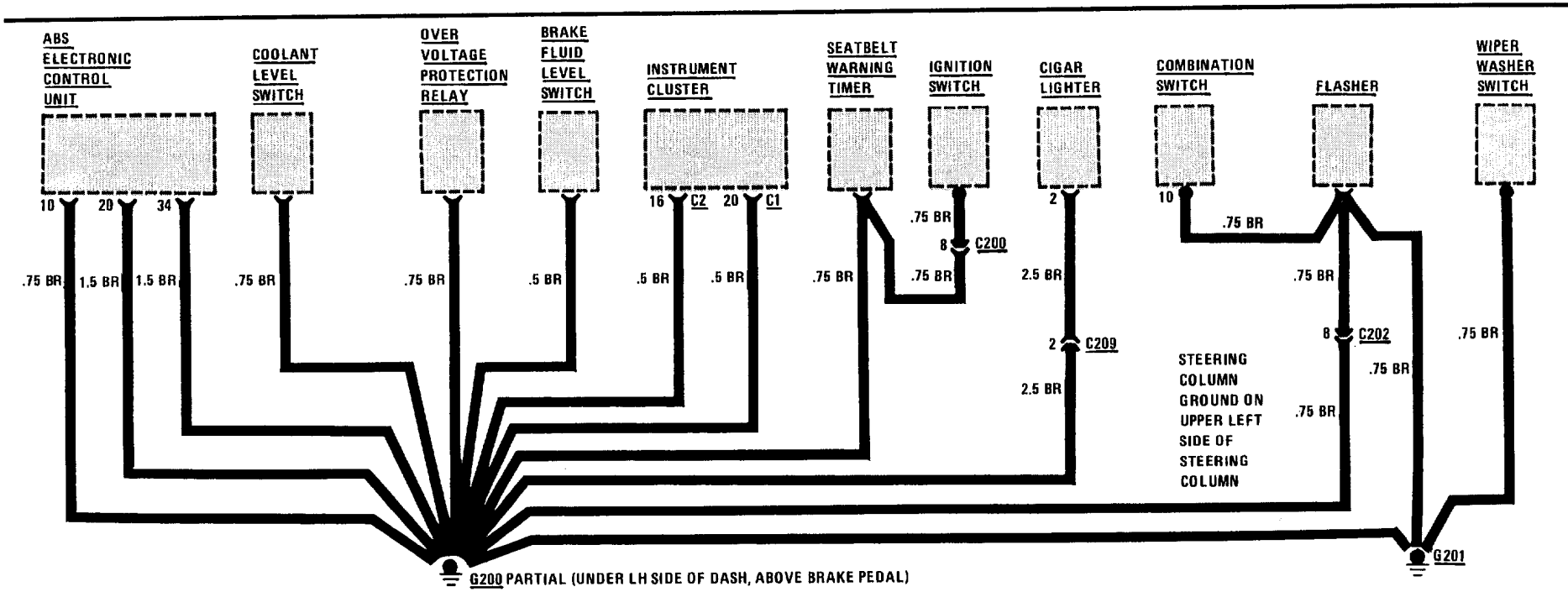
GROUND DISTRIBUTION: G200 (PARTIAL)



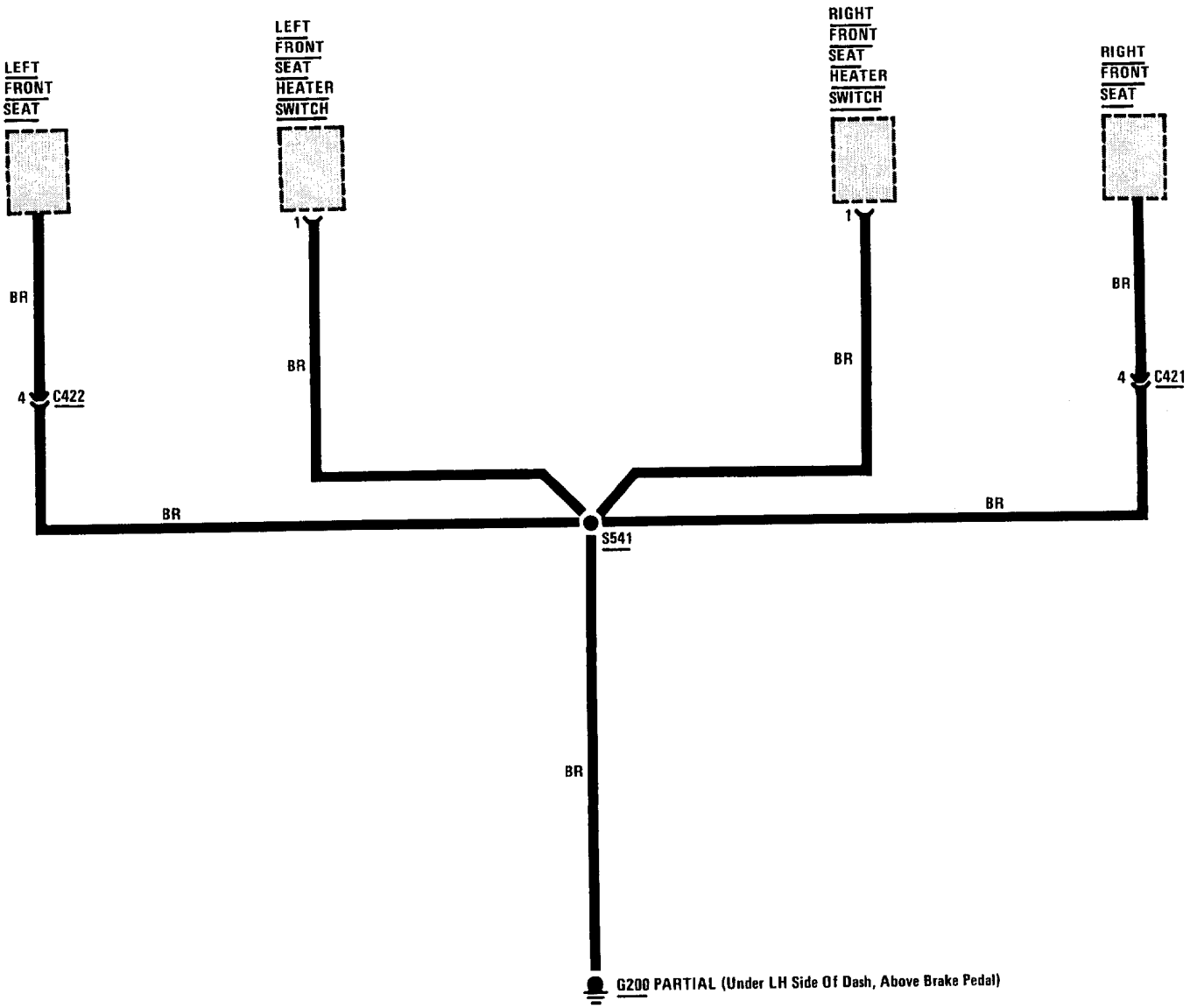


GROUND DISTRIBUTION: G200 (PARTIAL) AND G201

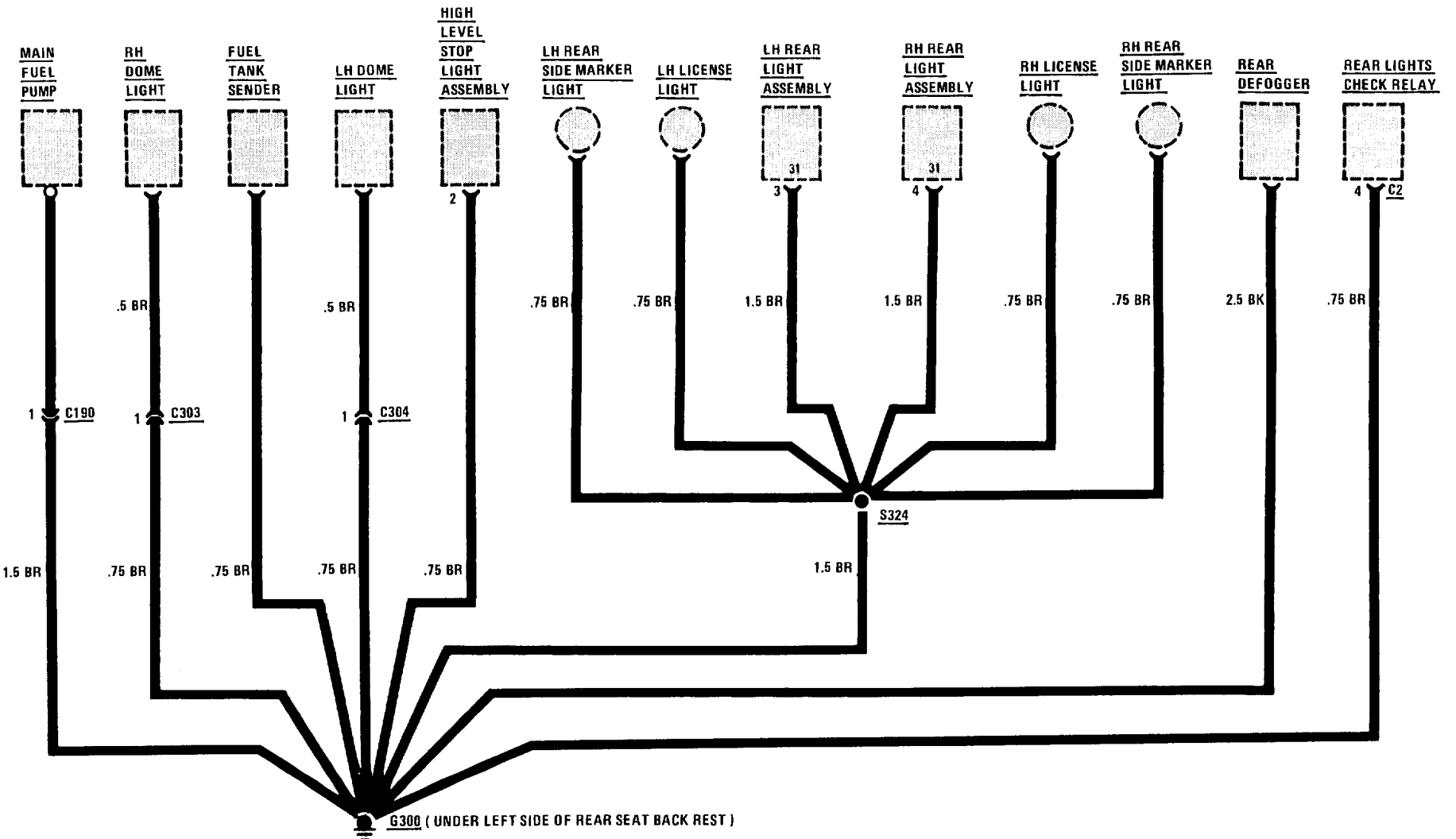


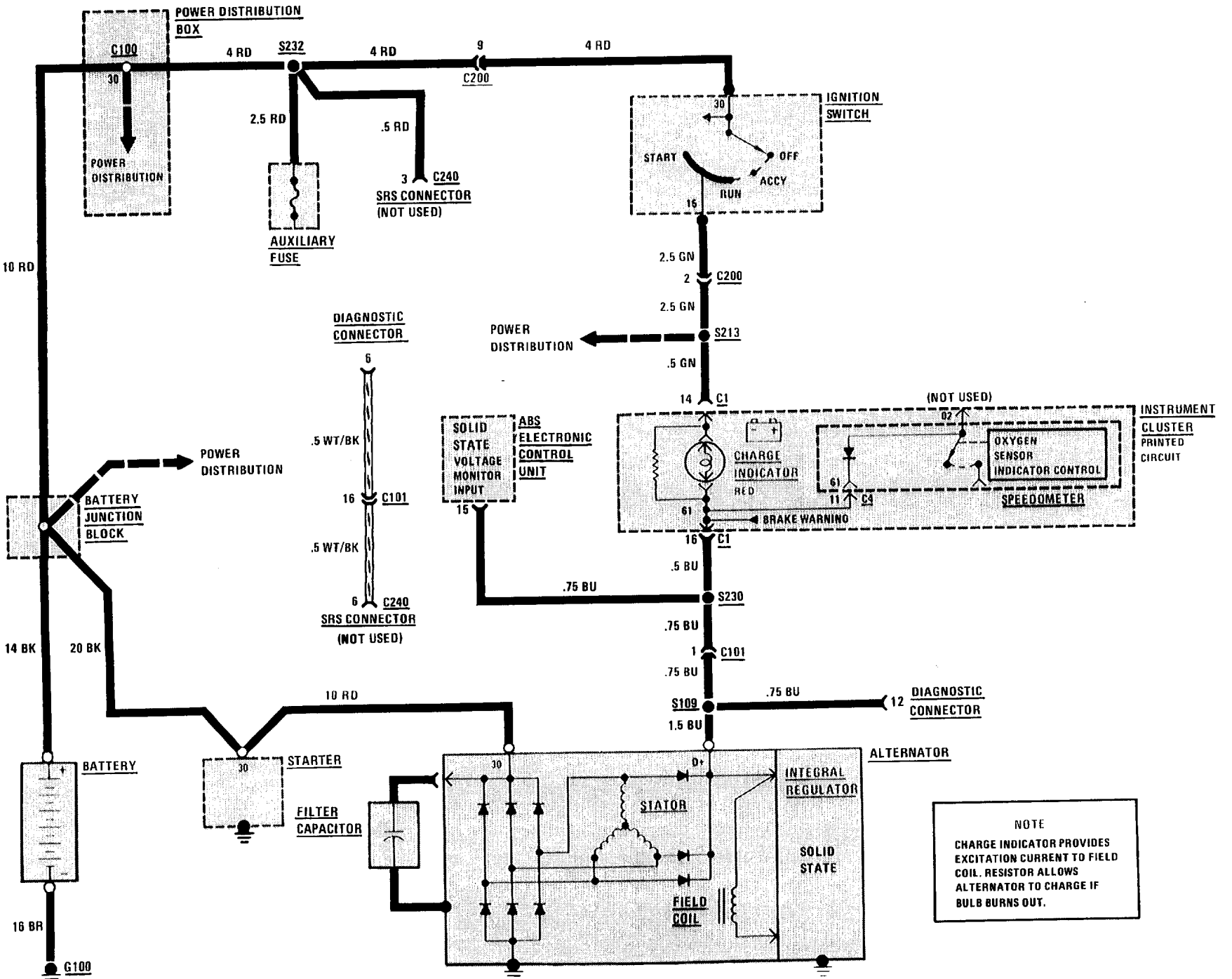


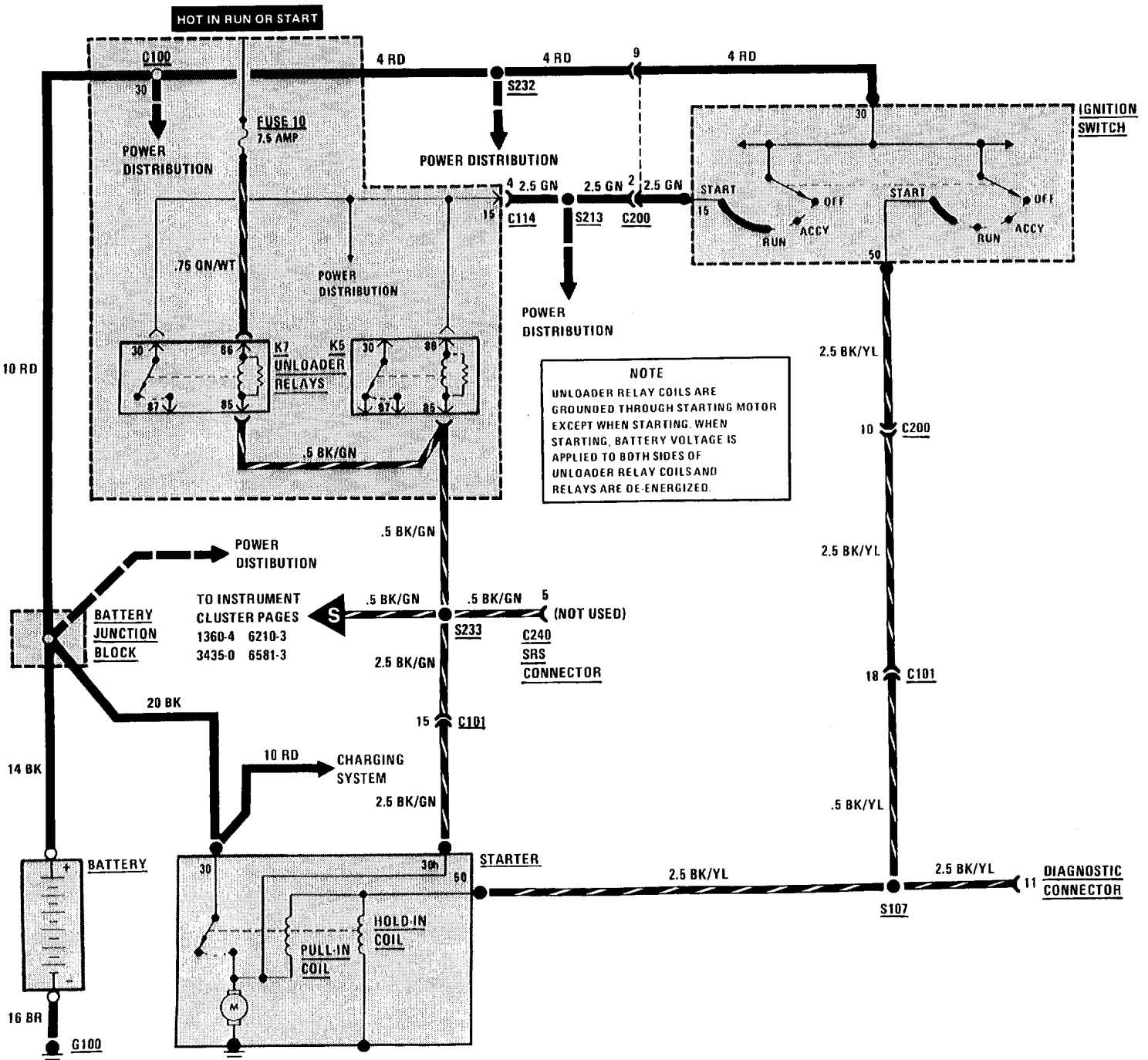
GROUND DISTRIBUTION: G200 (PARTIAL)



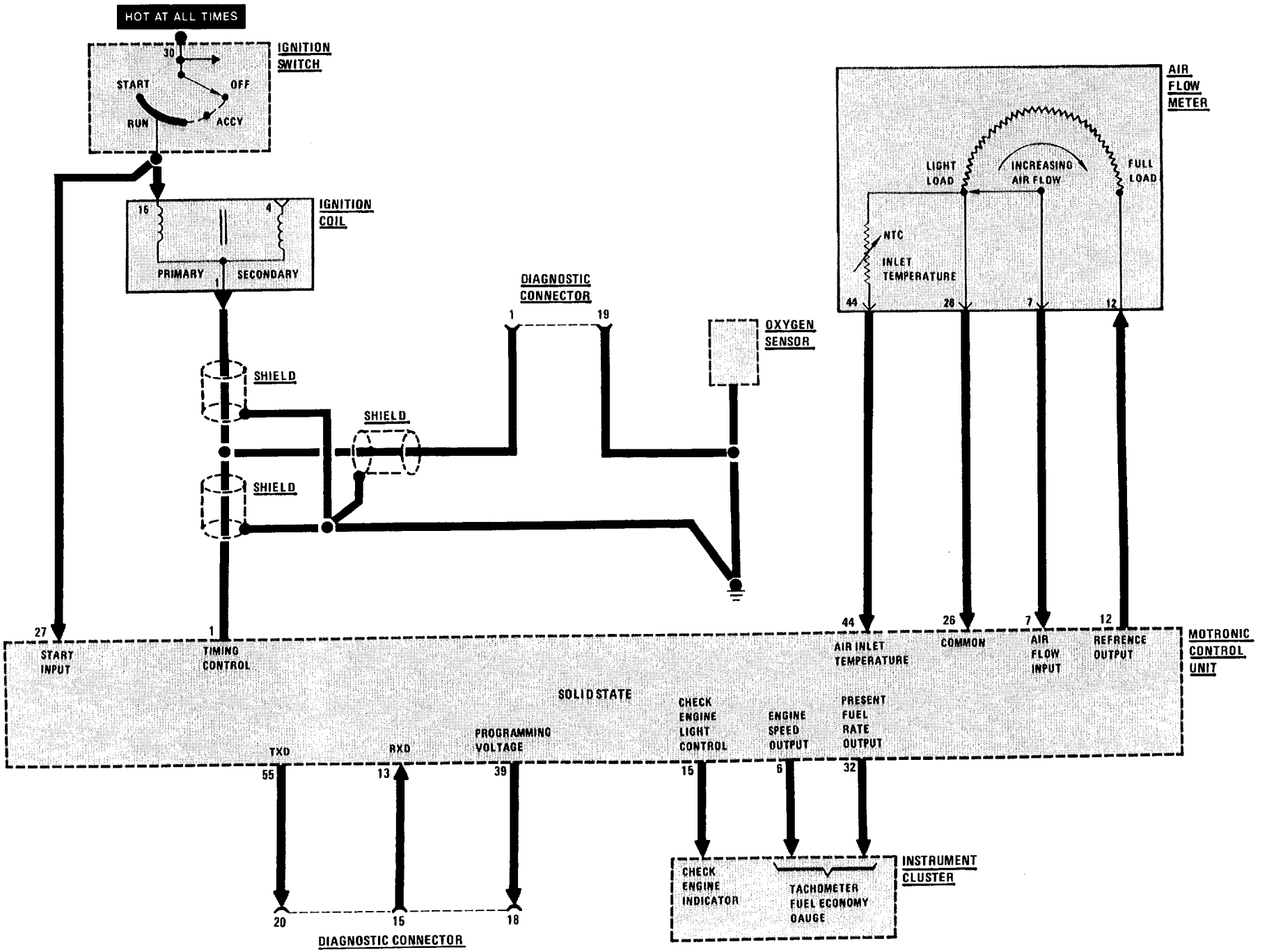
GROUND DISTRIBUTION: G300



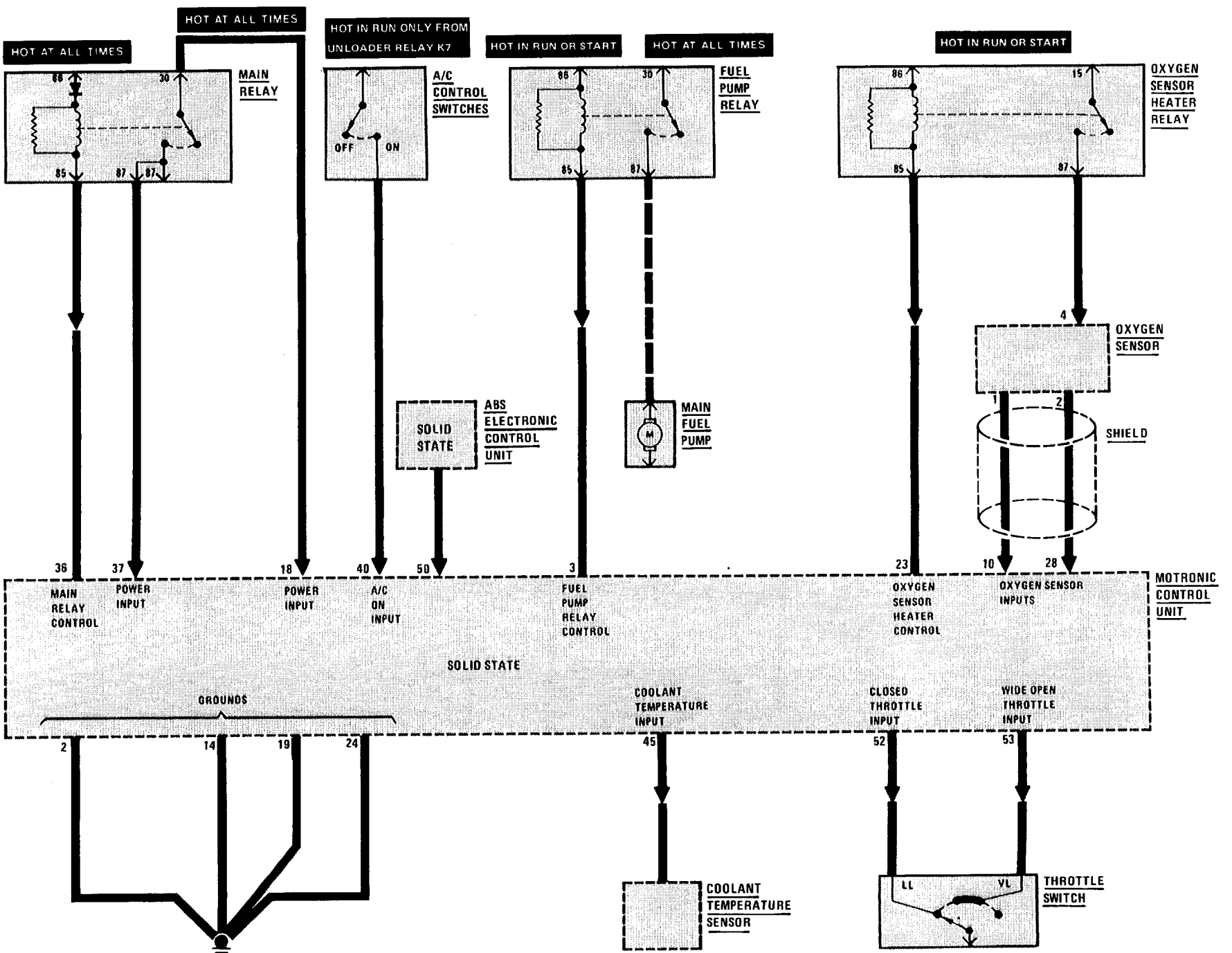

POWER DISTRIBUTION BOX
C100
30
POWER DISTRIBUTION
4 RD
S232
4 RD
9
C200
4 RD
2.5 RD
.5 RD
3 C240
SRS CONNECTOR
(NOT USED)
AUXILIARY FUSE
IGNITION SWITCH
30
START
OFF
ACCY
RUN
16
10 RD
2.5 GN
2 C200
2.5 GN
DIAGNOSTIC CONNECTOR
6
POWER DISTRIBUTION
S213
.5 GN
14 C1
(NOT USED)
INSTRUMENT CLUSTER PRINTED CIRCUIT
02
OXYGEN SENSOR INDICATOR CONTROL
SPEEDOMETER
SOLID STATE VOLTAGE MONITOR INPUT
ABS ELECTRONIC CONTROL UNIT
CHARGE INDICATOR
RED
61
11 C4
61
BRAKE WARNING
.5 WT/BK
16 C101
.5 WT/BK
6 C240
SRS CONNECTOR
(NOT USED)
POWER DISTRIBUTION
BATTERY JUNCTION BLOCK
15
16 C1
.5 BU
.75 BU
S230
.75 BU
1 C101
.75 BU
14 BK
20 BK
10 RD
S109
.75 BU
12 DIAGNOSTIC CONNECTOR
1.5 BU
BATTERY
30
STARTER
FILTER CAPACITOR
30
B+
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.


HOT IN RUN OR START
C100
30
4 RD
4 RD
S232
9
4 RD
IGNITION SWITCH
POWER DISTRIBUTION
FUSE 10 7.5 AMP
POWER DISTRIBUTION
4 2.5 GN
2.5 GN
2
2.5 GN
START
OFF
RUN
ACCY
15
C114
S213
C200
50
.75 GN/WT
POWER DISTRIBUTION
POWER DISTRIBUTION
10 RD
30
86
K7
K6
UNLOADER RELAYS
87
85
.5 BK/GN
NOTE
UNLOADER RELAY COILS ARE GROUNDED THROUGH STARTING MOTOR EXCEPT WHEN STARTING. WHEN STARTING, BATTERY VOLTAGE IS APPLIED TO BOTH SIDES OF UNLOADER RELAY COILS AND RELAYS ARE DE-ENERGIZED.
2.5 BK/YL
10
C200
.5 BK/GN
POWER DISTIBUTION
2.5 BK/YL
BATTERY JUNCTION BLOCK
TO INSTRUMENT CLUSTER PAGES
1360-4 6210-3
3435-0 6581-3
.5 BK/GN
.5 BK/GN
5
(NOT USED)
S233
C240
SRS CONNECTOR
2.5 BK/GN
18
C101
20 BK
15
C101
14 BK
10 RD
CHARGING SYSTEM
2.5 BK/GN
.5 BK/YL
BATTERY
STARTER
30
30h
50
2.5 BK/YL
2.5 BK/YL
11
DIAGNOSTIC CONNECTOR
HOLD-IN COIL
PULL-IN COIL
S107
16 BR
G100

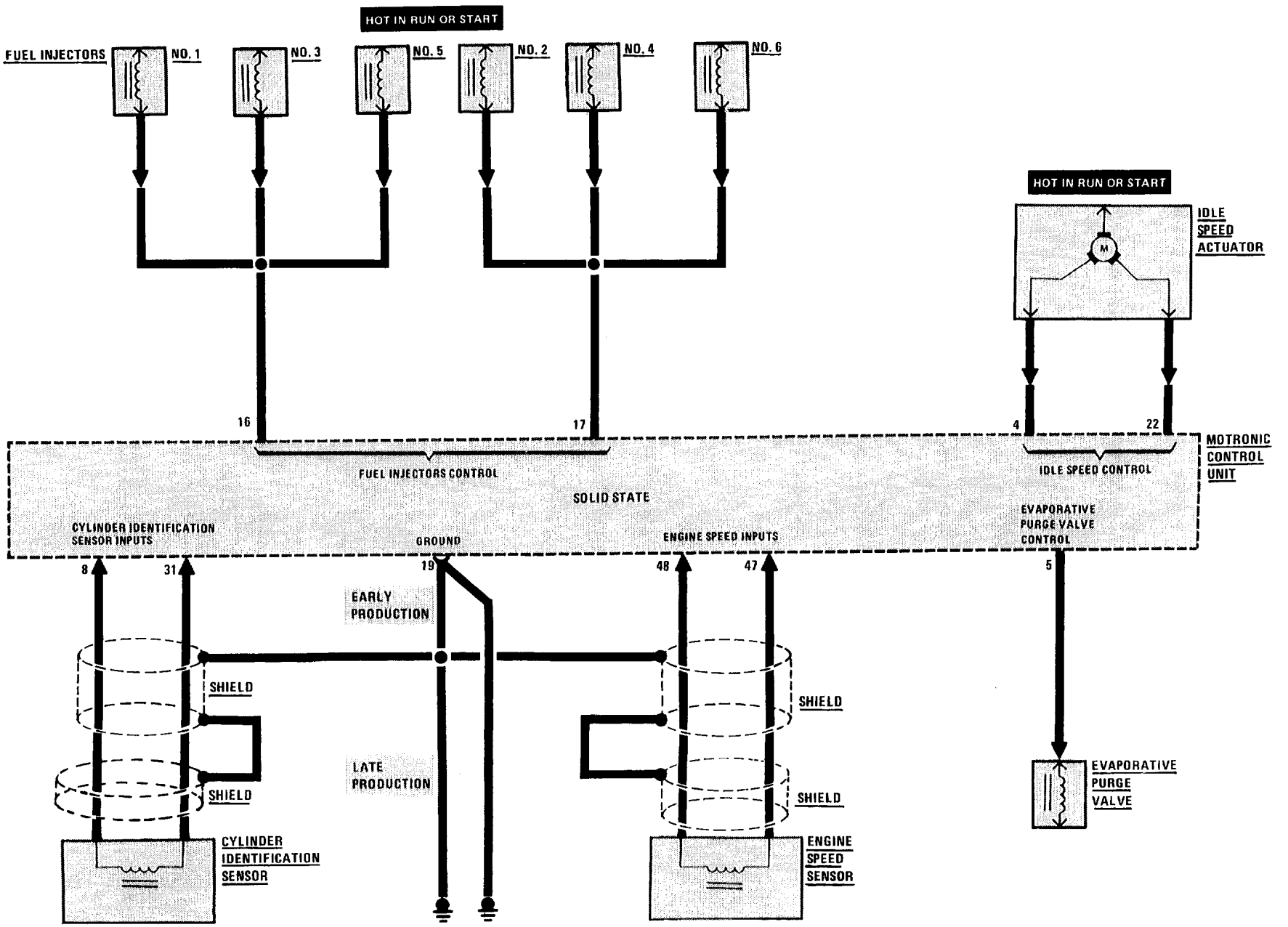
ENGINE BLOCK DIAGRAM

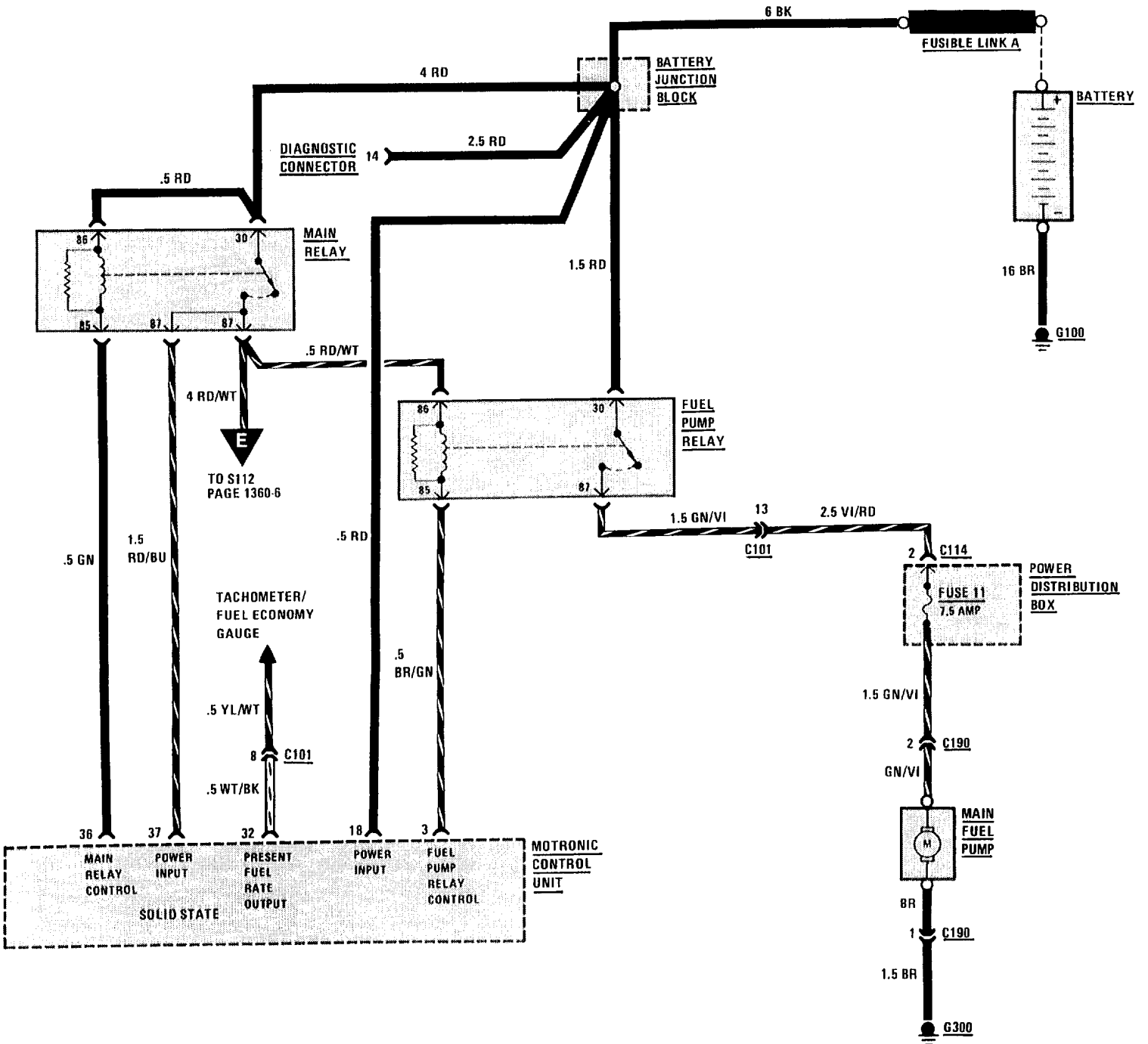


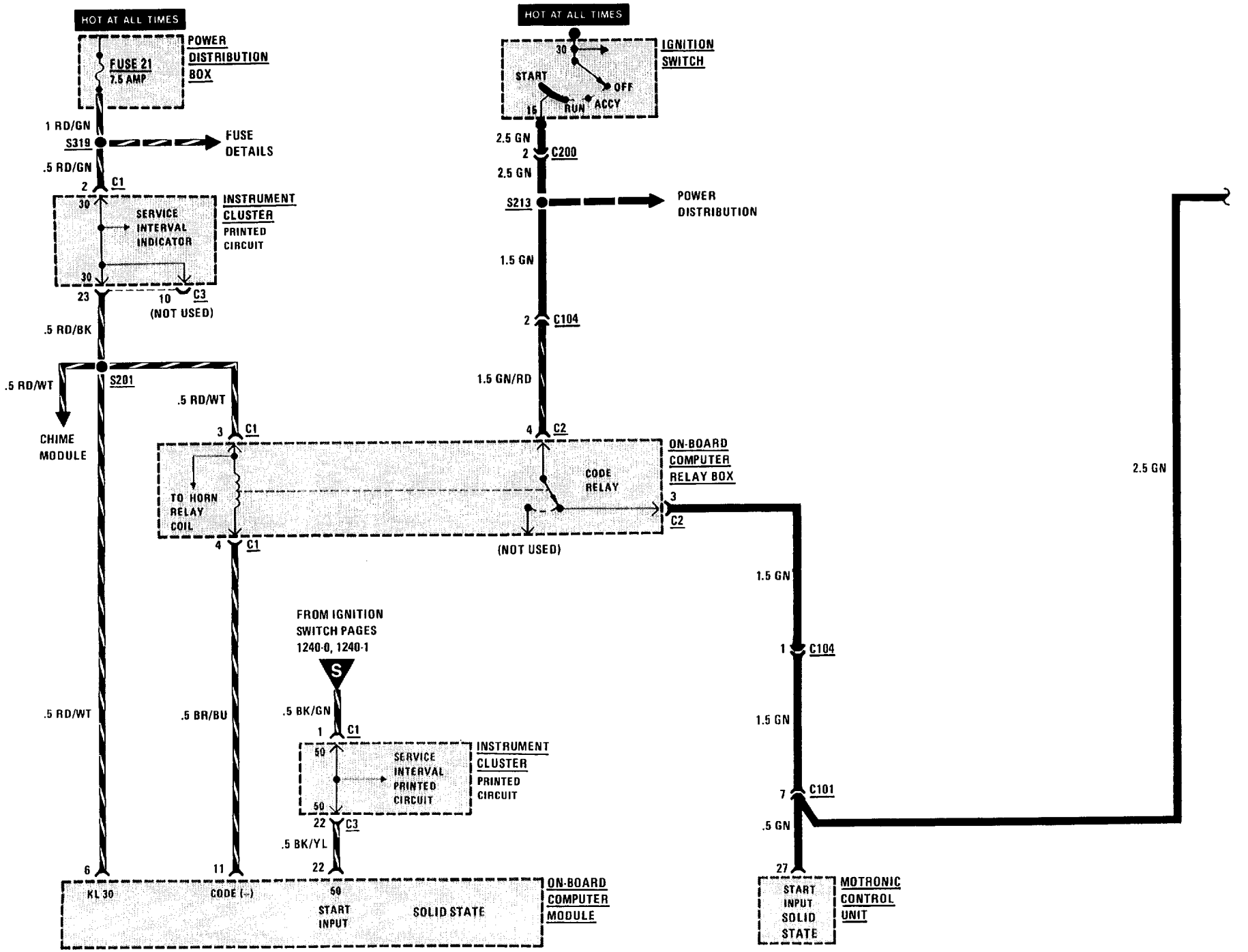
ENGINE BLOCK DIAGRAM

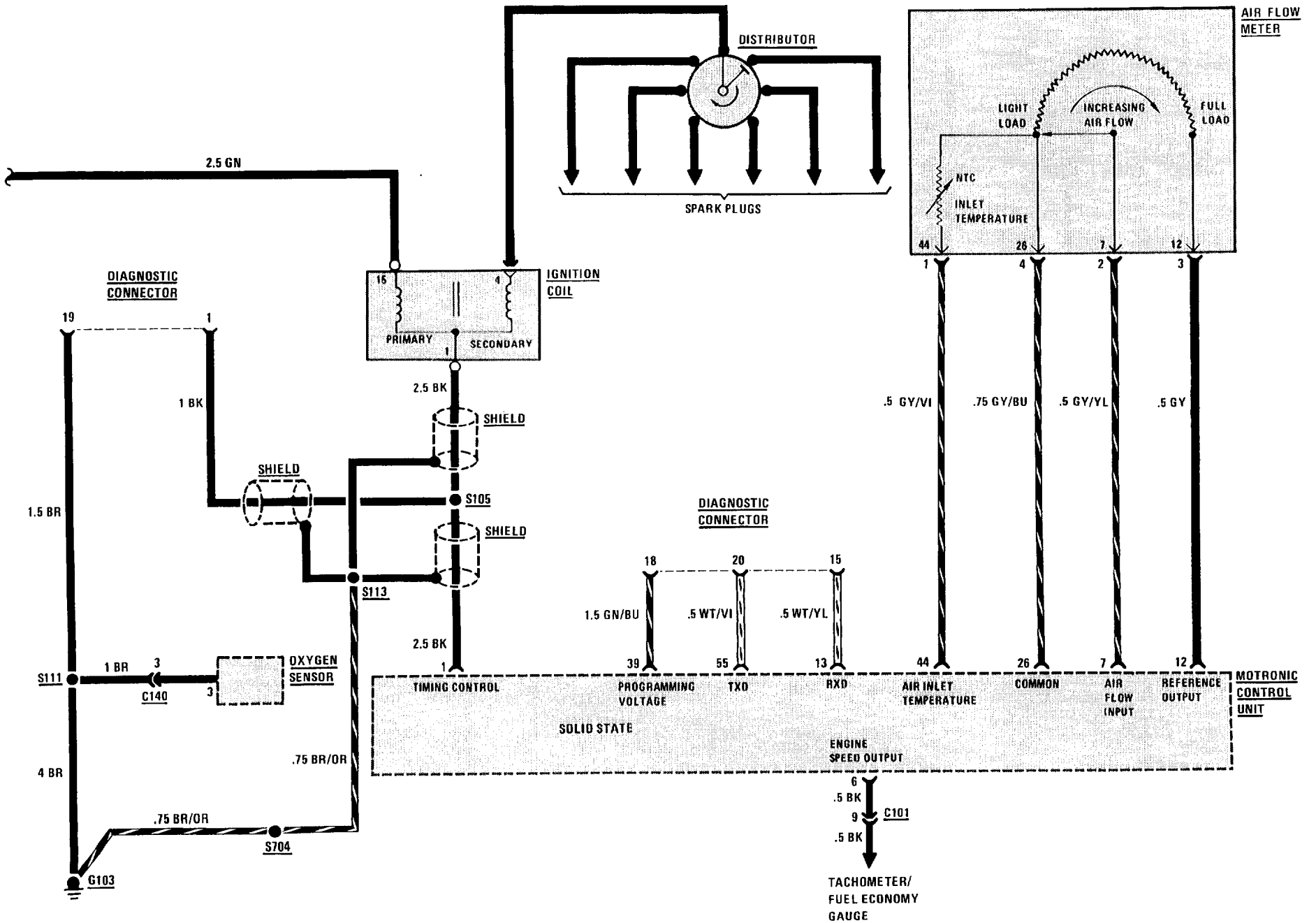


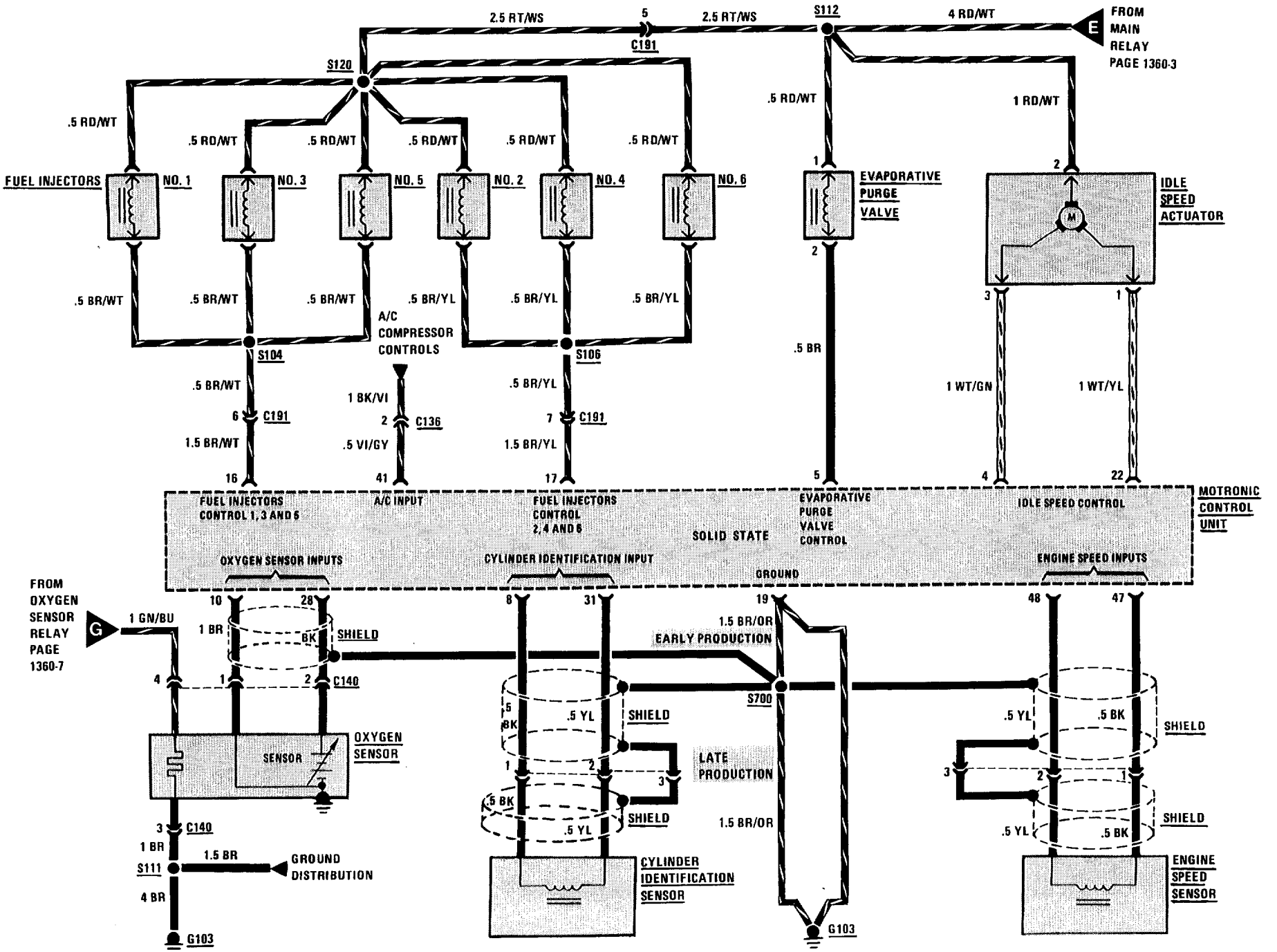
ENGINE BLOCK DIAGRAM

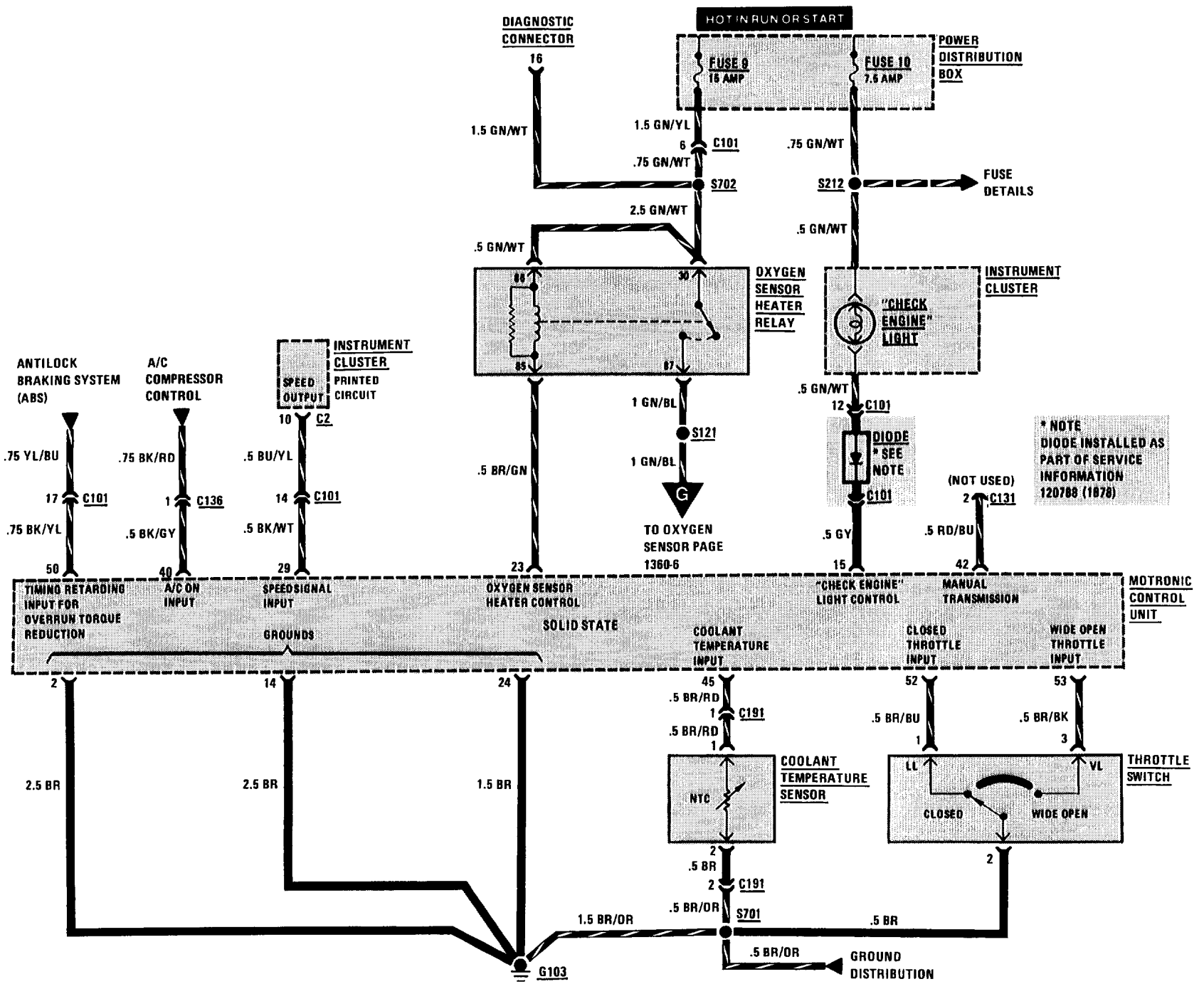



6 BK
FUSIBLE LINK A
BATTERY JUNCTION BLOCK
4 RD
BATTERY
DIAGNOSTIC CONNECTOR
14
2.5 RD
.5 RD
MAIN RELAY
86
30
85
87
87
1.5 RD
16 BR
G100
.5 RD/WT
4 RD/WT
E
TO S112
PAGE 1360-6
FUEL PUMP RELAY
86
30
85
87
1.5 GN/VI
13
2.5 VI/RD
C101
2
C114
POWER DISTRIBUTION BOX
FUSE 11
7.5 AMP
.5 GN
1.5 RD/BU
.5 RD
TACHOMETER/ FUEL ECONOMY GAUGE
.5 BR/GN
1.5 GN/VI
.5 YL/WT
8
C101
2
C190
.5 WT/BK
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

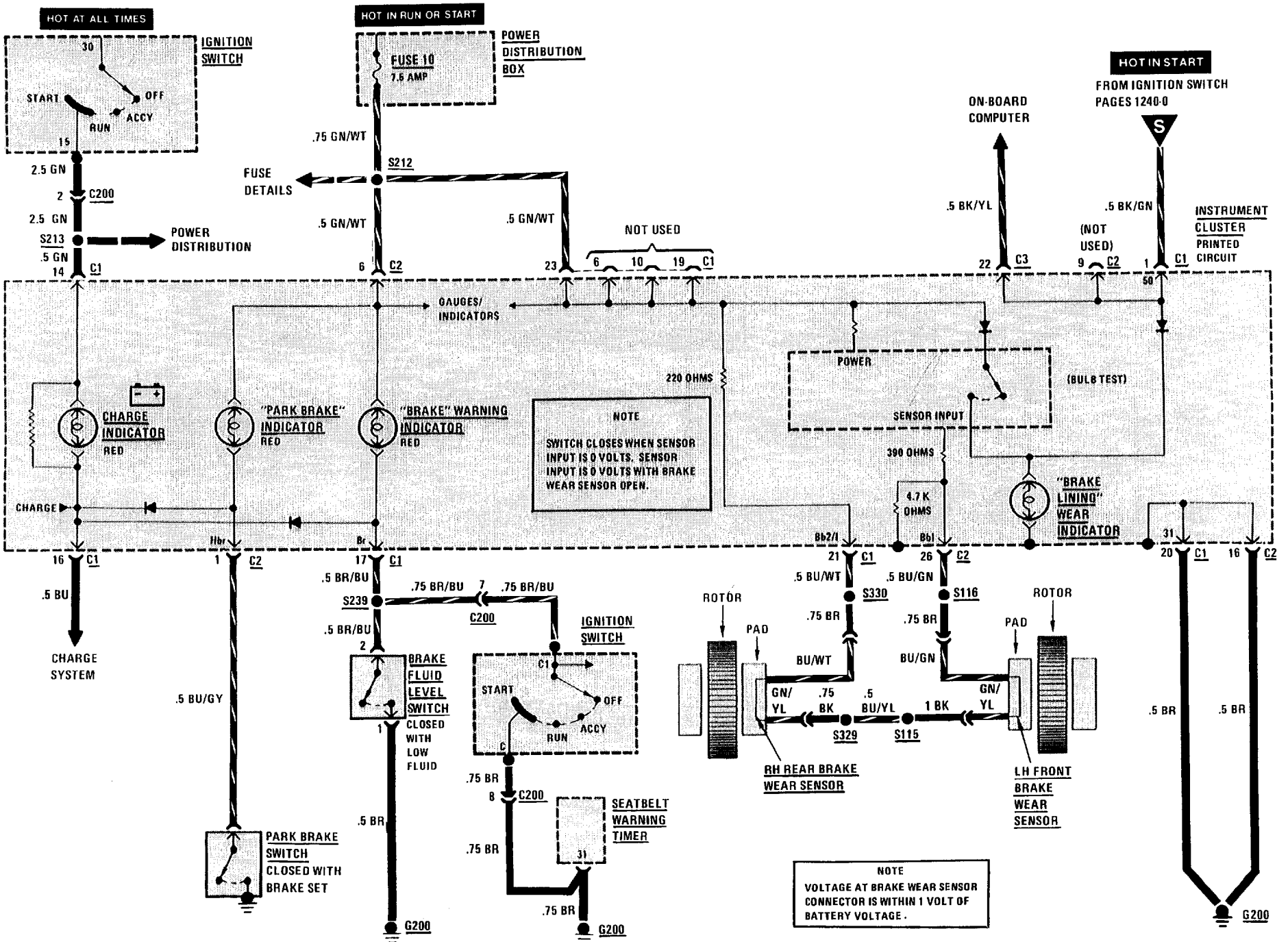

HOT AT ALL TIMES
POWER DISTRIBUTION BOX
FUSE 21
7.5 AMP
1 RD/GN
S319
FUSE DETAILS
.5 RD/GN
2
C1
30
SERVICE INTERVAL INDICATOR
INSTRUMENT CLUSTER
PRINTED CIRCUIT
30
23
10
C3
(NOT USED)
.5 RD/BK
.5 RD/WT
S201
CHIME MODULE
.5 RD/WT
3
C1
TO HORN RELAY COIL
4
C1
HOT AT ALL TIMES
30
START
OFF
15
RUN
ACCY
IGNITION SWITCH
2.5 GN
2
C200
2.5 GN
S213
POWER DISTRIBUTION
1.5 GN
2
C104
1.5 GN/RD
4
C2
CODE RELAY
ON-BOARD COMPUTER RELAY BOX
3
C2
(NOT USED)
2.5 GN
1.5 GN
1
C104
1.5 GN
7
C101
.5 GN
27
START INPUT SOLID STATE
MOTRONIC CONTROL UNIT
FROM IGNITION SWITCH PAGES 1240-0, 1240-1
S
.5 BK/GN
1
C1
50
SERVICE INTERVAL PRINTED CIRCUIT
INSTRUMENT CLUSTER
PRINTED CIRCUIT
50
22
C3
.5 BK/YL
22
.5 RD/WT
.5 BR/BU
6
11
KL 30
CODE (-)
50
START INPUT
SOLID STATE
ON-BOARD COMPUTER MODULE

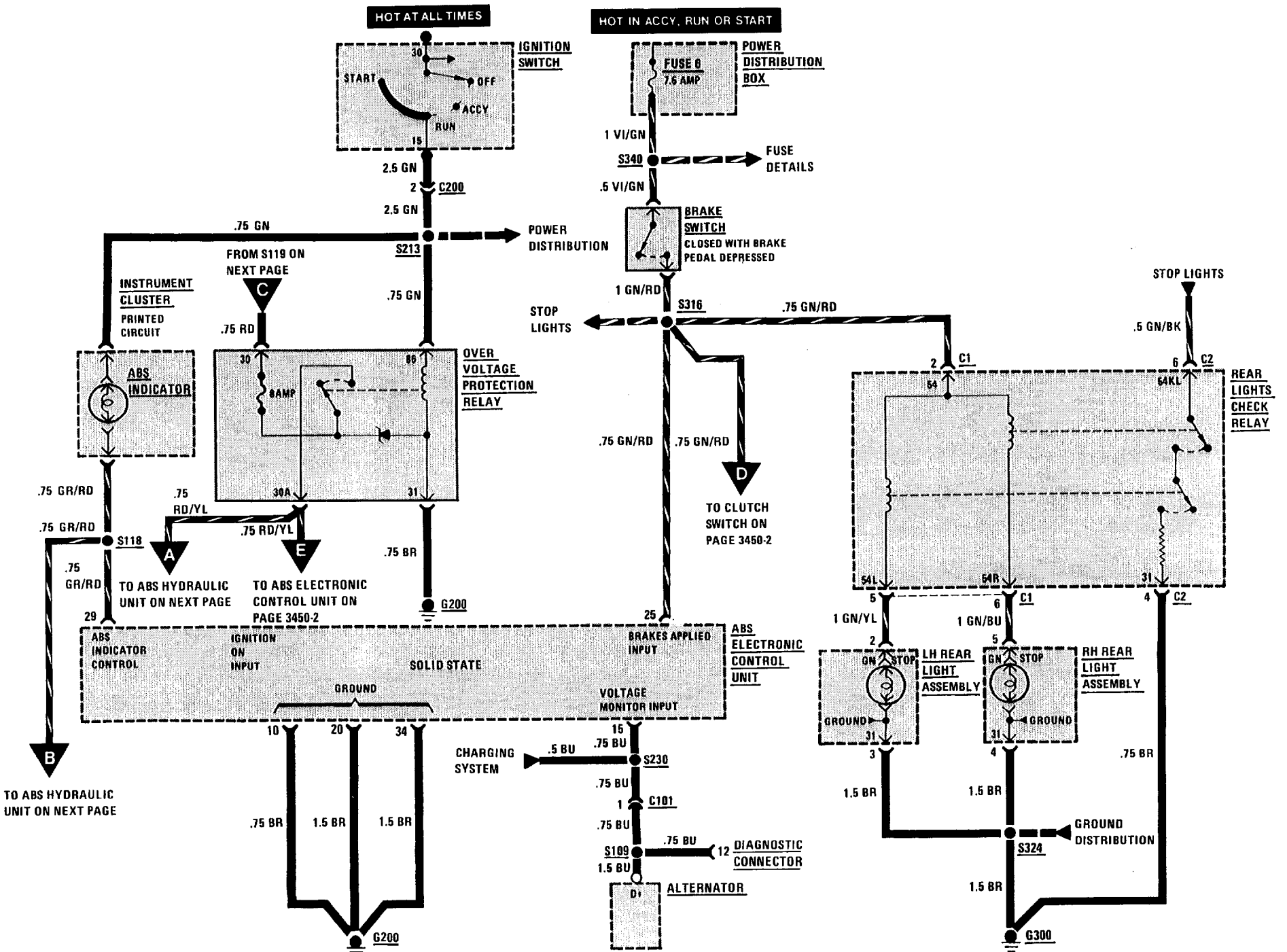

DISTRIBUTOR
SPARK PLUGS
AIR FLOW METER
LIGHT LOAD
INCREASING AIR FLOW
FULL LOAD
NTC
INLET TEMPERATURE
2.5 GN
DIAGNOSTIC CONNECTOR
IGNITION COIL
PRIMARY
SECONDARY
2.5 BK
1 BK
SHIELD
S105
S113
1.5 BR
.5 GY/VI
.75 GY/BU
.5 GY/YL
.5 GY
DIAGNOSTIC CONNECTOR
1.5 GN/BU
.5 WT/VI
.5 WT/YL
S111
1 BR
C140
OXYGEN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

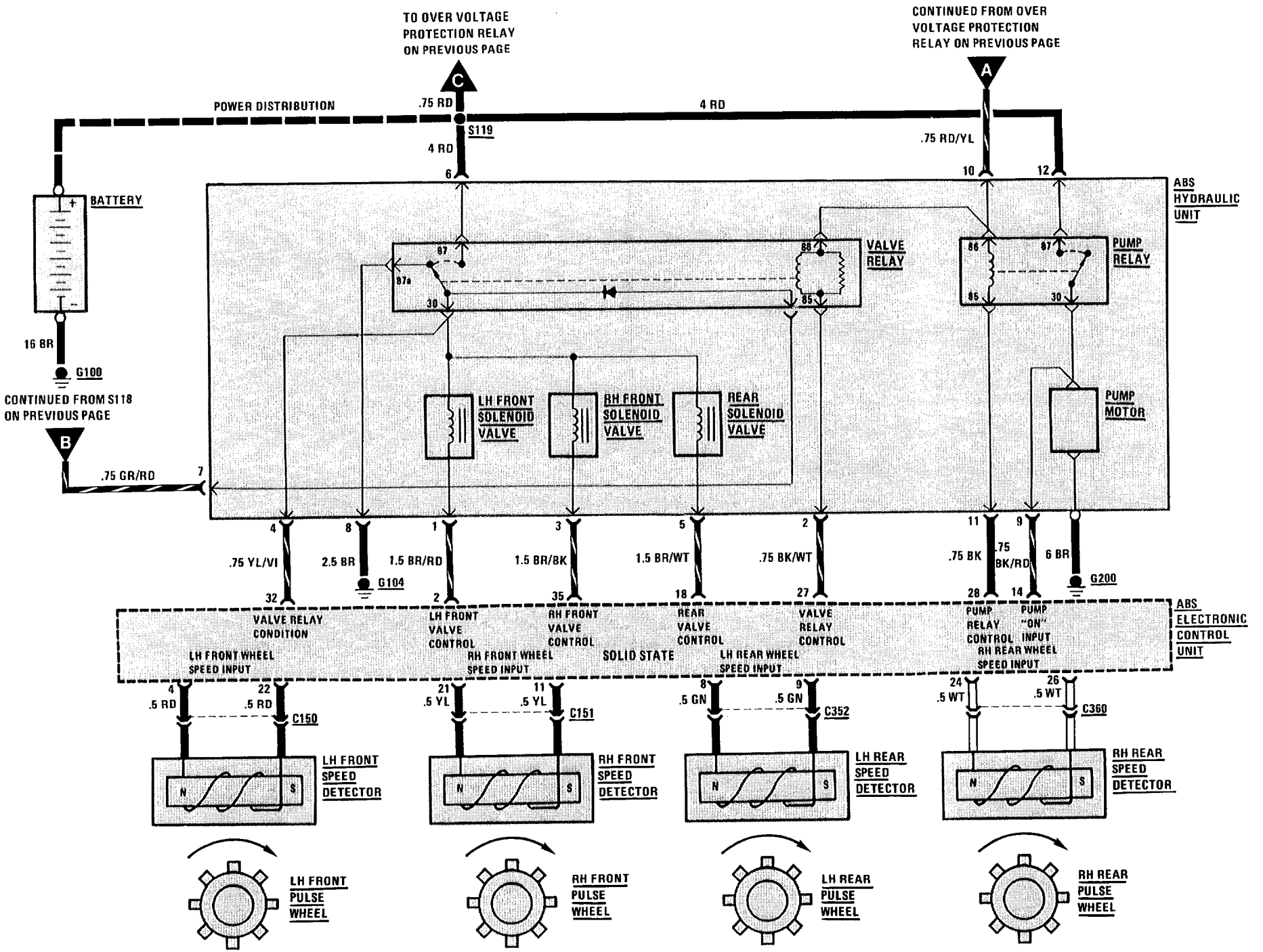

2.5 RT/WS
5
C191
2.5 RT/WS
S112
4 RD/WT
FROM MAIN RELAY PAGE 1360-3
S120
.5 RD/WT
.5 RD/WT
.5 RD/WT
.5 RD/WT
.5 RD/WT
.5 RD/WT
.5 RD/WT
1 RD/WT
FUEL INJECTORS
NO. 1
NO. 3
NO. 5
NO. 2
NO. 4
NO. 6
EVAPORATIVE PURGE VALVE
IDLE SPEED ACTUATOR
.5 BR/WT
.5 BR/WT
.5 BR/WT
.5 BR/YL
.5 BR/YL
.5 BR/YL
A/C COMPRESSOR CONTROLS
S104
S106
.5 BR
1 WT/GN
1 WT/YL
.5 BR/WT
1 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 1360-7
G
1 GN/BU
10
28
8
31
19
48
47
1 BR
BK
SHIELD
1.5 BR/OR
EARLY PRODUCTION
4
1
2
C140
S700
5 BK
.5 YL
SHIELD
.5 YL
.5 BK
SHIELD
OXYGEN SENSOR
SENSOR
1
2
3
LATE PRODUCTION
3
2
1
5 BK
SHIELD
1.5 BR/OR
SHIELD
3 C140
.5 YL
.5 YL
.5 BK
1 BR
1.5 BR
S111
GROUND DISTRIBUTION
CYLINDER IDENTIFICATION SENSOR
ENGINE SPEED SENSOR
4 BR
G103
G103

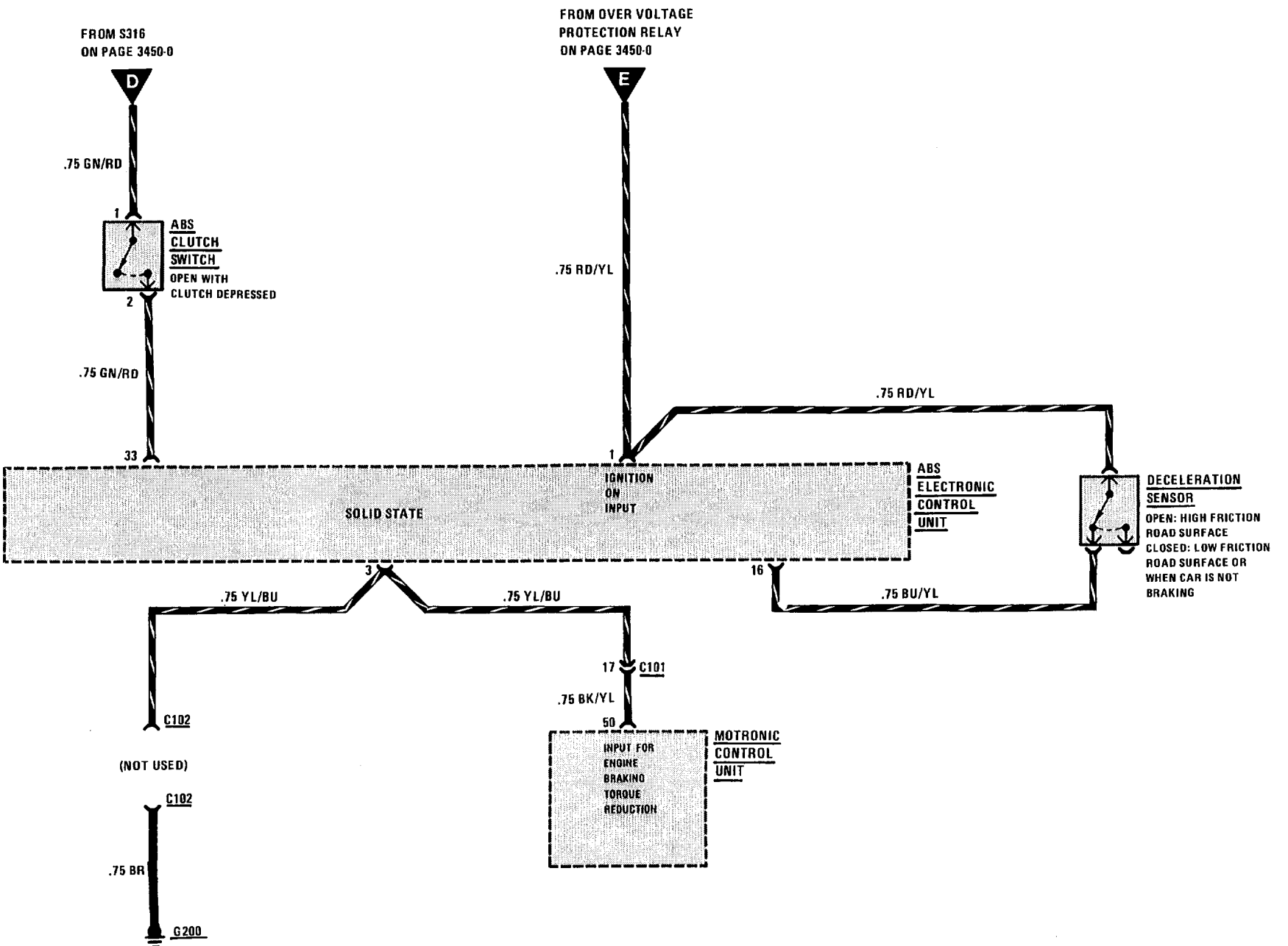

DIAGNOSTIC CONNECTOR
16
HOT IN RUN OR START
FUSE 9 15 AMP
FUSE 10 7.5 AMP
POWER DISTRIBUTION BOX
1.5 GN/WT
1.5 GN/YL
6 C101
.75 GN/WT
.75 GN/WT
S702
S212
FUSE DETAILS
2.5 GN/WT
.5 GN/WT
.5 GN/WT
OXYGEN SENSOR HEATER RELAY
86
30
85
87
INSTRUMENT CLUSTER
"CHECK ENGINE" LIGHT
.5 GN/WT
12 C101
1 GN/BL
S121
1 GN/BL
G
TO OXYGEN SENSOR PAGE 1360-6
DIODE * SEE NOTE
C101
* NOTE DIODE INSTALLED AS PART OF SERVICE INFORMATION 120788 (1878)
(NOT USED)
2 C131
.5 RD/BU
42
.5 BR/GN
23
.5 GY
15
ANTILOCK BRAKING SYSTEM (ABS)
.75 YL/BU
17 C101
.75 BK/YL
50
A/C COMPRESSOR CONTROL
.75 BK/RD
1 C136
.5 BK/GY
40
INSTRUMENT CLUSTER PRINTED CIRCUIT
SPEED OUTPUT
10 C2
.5 BU/YL
14 C101
.5 BK/WT
29
TIMING RETARDING INPUT FOR OVERRUN TORQUE REDUCTION
A/C ON INPUT
SPEED SIGNAL INPUT
GROUNDS
OXYGEN SENSOR HEATER CONTROL
SOLID STATE
"CHECK ENGINE" LIGHT CONTROL
MANUAL TRANSMISSION
MOTRONIC CONTROL UNIT
COOLANT TEMPERATURE INPUT
CLOSED THROTTLE INPUT
WIDE OPEN THROTTLE INPUT
2
14
24
45
.5 BR/RD
1 C191
.5 BR/RD
1
52
.5 BR/BU
1
53
.5 BR/BK
3
2.5 BR
2.5 BR
1.5 BR
NTC
COOLANT TEMPERATURE SENSOR
LL
VL
CLOSED
WIDE OPEN
THROTTLE SWITCH
2
.5 BR
2 C191
.5 BR/OR
S701
2
1.5 BR/OR
.5 BR
.5 BR/OR
GROUND DISTRIBUTION
G103

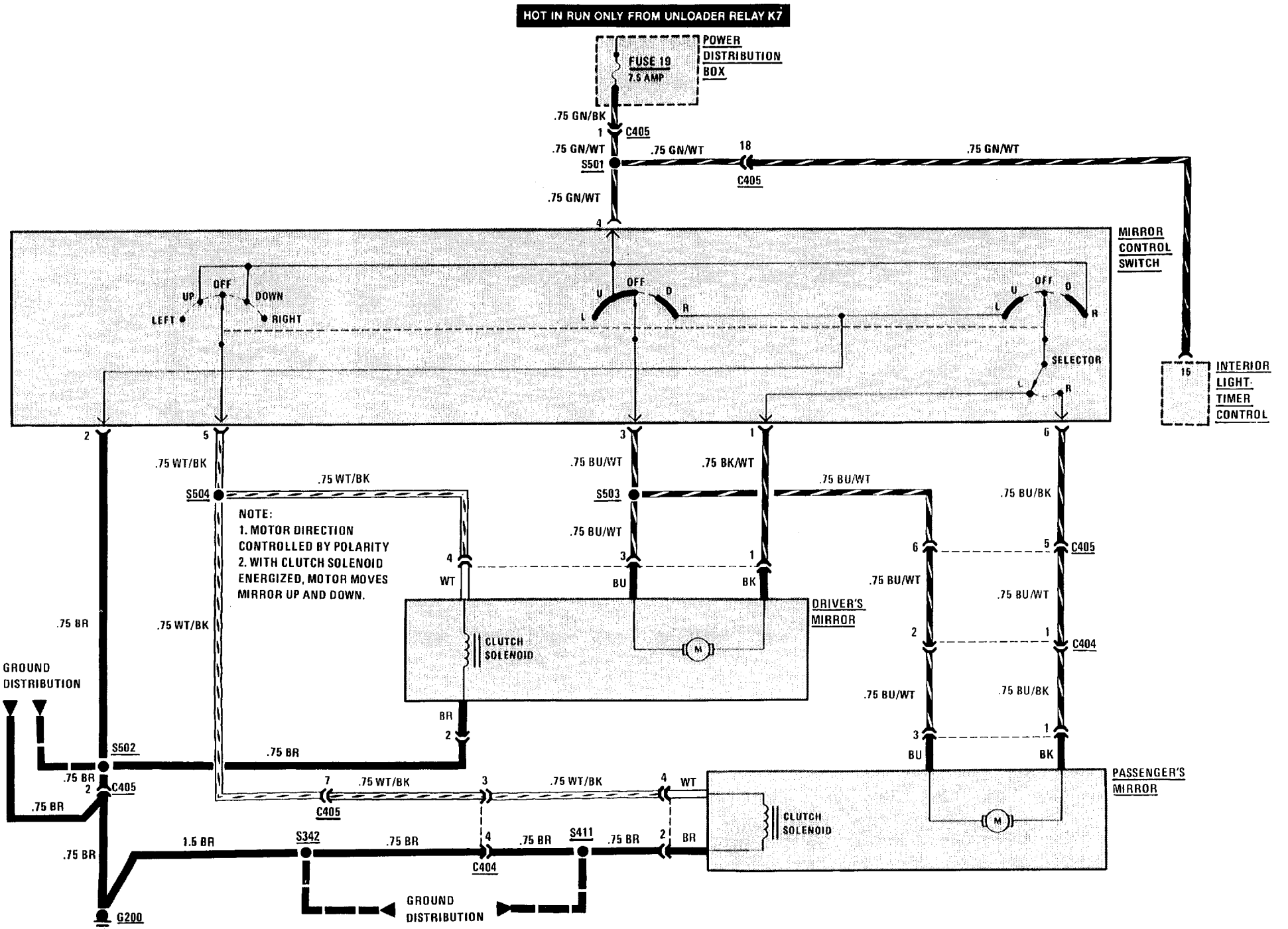
3435-0 BRAKE WARNING SYSTEM



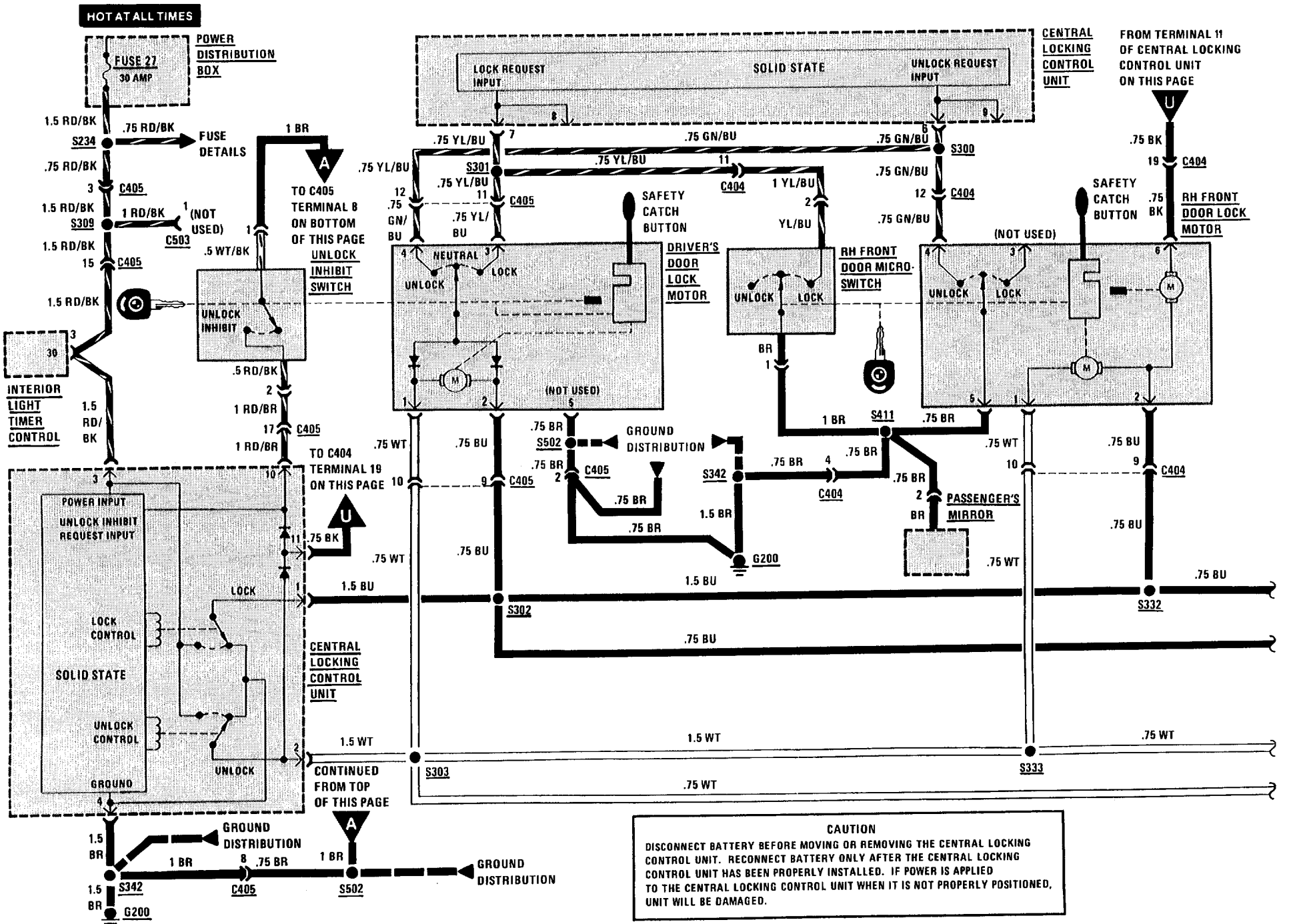

HOT AT ALL TIMES
HOT IN ACCY, RUN OR START
IGNITION SWITCH
START
OFF
ACCY
RUN
30
15
POWER DISTRIBUTION BOX
FUSE 6
7.5 AMP
1 VI/GN
S340
FUSE DETAILS
.5 VI/GN
BRAKE SWITCH
CLOSED WITH BRAKE PEDAL DEPRESSED
2.5 GN
2
C200
2.5 GN
.75 GN
S213
POWER DISTRIBUTION
FROM S119 ON NEXT PAGE
C
INSTRUMENT CLUSTER
PRINTED CIRCUIT
.75 RD
.75 GN
1 GN/RD
S316
STOP LIGHTS
.75 GN/RD
STOP LIGHTS
.5 GN/BK
ABS INDICATOR
OVER VOLTAGE PROTECTION RELAY
30
86
8 AMP
30A
31
2
C1
6
C2
REAR LIGHTS CHECK RELAY
54
54KL
54L
54R
.75 GR/RD
.75 GR/RD
.75 RD/YL
.75 RD/YL
S118
A
E
.75 BR
.75 GN/RD
.75 GN/RD
D
TO CLUTCH SWITCH ON PAGE 3450-2
TO ABS HYDRAULIC UNIT ON NEXT PAGE
TO ABS ELECTRONIC CONTROL UNIT ON PAGE 3450-2
G200
5
6
4
1 GN/YL
1 GN/BU
B
TO ABS HYDRAULIC UNIT ON NEXT PAGE
29
25
ABS INDICATOR CONTROL
IGNITION ON INPUT
SOLID STATE
BRAKES APPLIED INPUT
GROUND
VOLTAGE MONITOR INPUT
ABS ELECTRONIC CONTROL UNIT
2
5
GN
STOP
GROUND
31
LH REAR LIGHT ASSEMBLY
RH REAR LIGHT ASSEMBLY
10
20
34
15
.75 BU
CHARGING SYSTEM
.5 BU
S230
.75 BU
1
C101
.75 BU
3
4
.75 BR
1.5 BR
1.5 BR
.75 BR
1.5 BR
1.5 BR
.75 BU
S109
12
DIAGNOSTIC CONNECTOR
1.5 BU
D+
ALTERNATOR
GROUND DISTRIBUTION
S324
1.5 BR
G200
G200
G300


TO OVER VOLTAGE PROTECTION RELAY ON PREVIOUS PAGE
CONTINUED FROM OVER VOLTAGE PROTECTION RELAY ON PREVIOUS PAGE
POWER DISTRIBUTION
.75 RD
4 RD
S119
4 RD
.75 RD/YL
6
10
12
BATTERY
16 BR
G100
CONTINUED FROM S118 ON PREVIOUS PAGE
.75 GR/RD
7
ABS HYDRAULIC UNIT
VALVE RELAY
PUMP RELAY
LH FRONT SOLENOID VALVE
RH FRONT SOLENOID VALVE
REAR SOLENOID VALVE
PUMP MOTOR
4
8
1
3
5
2
11
9
.75 YL/VI
2.5 BR
1.5 BR/RD
1.5 BR/BK
1.5 BR/WT
.75 BK/WT
.75 BK
.75 BK/RD
6 BR
G104
G200
32
2
35
18
27
28
14
ABS ELECTRONIC CONTROL UNIT
VALVE RELAY CONDITION
LH FRONT WHEEL SPEED INPUT
LH FRONT VALVE CONTROL
RH FRONT WHEEL SPEED INPUT
RH FRONT VALVE CONTROL
SOLID STATE
REAR VALVE CONTROL
LH REAR WHEEL SPEED INPUT
VALVE RELAY CONTROL
PUMP RELAY CONTROL
PUMP "ON" 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
LH FRONT SPEED DETECTOR
RH FRONT SPEED DETECTOR
LH REAR SPEED DETECTOR
RH REAR SPEED DETECTOR
N
S
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
1
ABS
CLUTCH
SWITCH
OPEN WITH
CLUTCH DEPRESSED
2
.75 GN/RD
33
FROM OVER VOLTAGE
PROTECTION RELAY
ON PAGE 3450-0
E
.75 RD/YL
1
.75 RD/YL
SOLID STATE
IGNITION
ON
INPUT
ABS
ELECTRONIC
CONTROL
UNIT
DECELERATION
SENSOR
OPEN: HIGH FRICTION
ROAD SURFACE
CLOSED: LOW FRICTION
ROAD SURFACE OR
WHEN CAR IS NOT
BRAKING
3
16
.75 YL/BU
.75 YL/BU
.75 BU/YL
17
C101
.75 BK/YL
50
C102
(NOT USED)
INPUT FOR
ENGINE
BRAKING
TORQUE
REDUCTION
MOTRONIC
CONTROL
UNIT
C102
.75 BR
G200


HOT IN RUN ONLY FROM UNLOADER RELAY K7
FUSE 19
7.5 AMP
POWER DISTRIBUTION BOX
.75 GN/BK
1
C405
.75 GN/WT
.75 GN/WT
18
.75 GN/WT
S501
C405
.75 GN/WT
4
MIRROR CONTROL SWITCH
UP
OFF
DOWN
LEFT
RIGHT
U
OFF
D
L
R
SELECTOR
INTERIOR LIGHT-TIMER CONTROL
15
2
5
3
1
6
.75 WT/BK
.75 BU/WT
.75 BK/WT
.75 BU/BK
S504
S503
NOTE:
1. MOTOR DIRECTION CONTROLLED BY POLARITY
2. WITH CLUTCH SOLENOID ENERGIZED, MOTOR MOVES MIRROR UP AND DOWN.
4
3
1
6
5
C405
WT
BU
BK
DRIVER'S MIRROR
CLUTCH SOLENOID
M
.75 BR
.75 WT/BK
.75 BU/WT
.75 BU/BK
2
1
C404
GROUND DISTRIBUTION
BR
2
S502
.75 BR
.75 BR
2
C405
7
.75 WT/BK
3
.75 WT/BK
4
WT
C405
PASSENGER'S MIRROR
CLUTCH SOLENOID
M
.75 BR
1.5 BR
S342
.75 BR
4
.75 BR
S411
.75 BR
2
BR
C404
G200
GROUND DISTRIBUTION

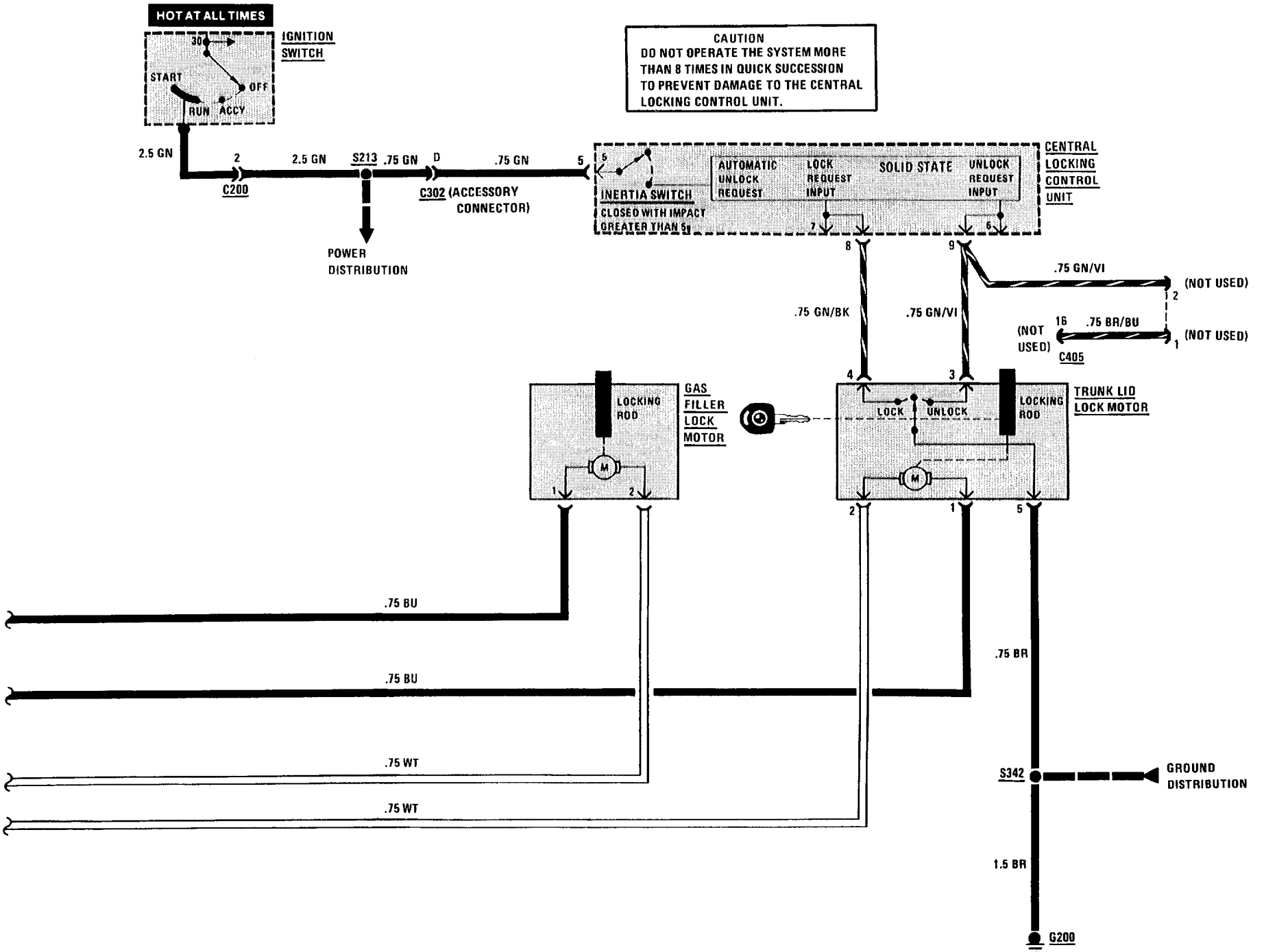
2 DOOR (SELECT)



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.

2 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 the wires to terminal 10 of the 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 the Response received (tests follow the System Check Table).**
- **After any repair, repeat System Check to verify proper system operation.**

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

SYSTEM CHECK TABLE

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

SYSTEM CHECK TABLE (CONT'D)

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

SYSTEM CHECK TABLE (CONT'D)

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

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

SYSTEM DIAGNOSIS

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

A: CONTROL UNIT LOCK TEST (TABLE 1)

Measure: VOLTAGE
At: CONTROL UNIT CONNECTOR (Connected)

Measure Between	Correct Voltage	For Diagnosis
3 & Ground	Battery	See 1
3 & 4	Battery	See 2

- If the voltages are correct, proceed to Table 2.

1. Check the wire to terminal 3 for an open.
2. Check the wire from terminal 4 for an open to ground (see schematic).

A: CONTROL UNIT LOCK TEST (TABLE 2)

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

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

- 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 the wire from terminal 1 to splice and the 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 the wires from terminal 10 to ground for opens (see schematic). Replace the Unlock Inhibit Switch if the wires and connections are OK.

1. Check the wires from terminal 11 for opens (see schematic). Replace the Central Locking Control Unit, if the 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 the 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 the Central Locking Control Unit terminal 2. The Lock Motor then pulls the lock down. The door locks also control the Trunk Lock and Gas Filler Lock.

Unlock

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

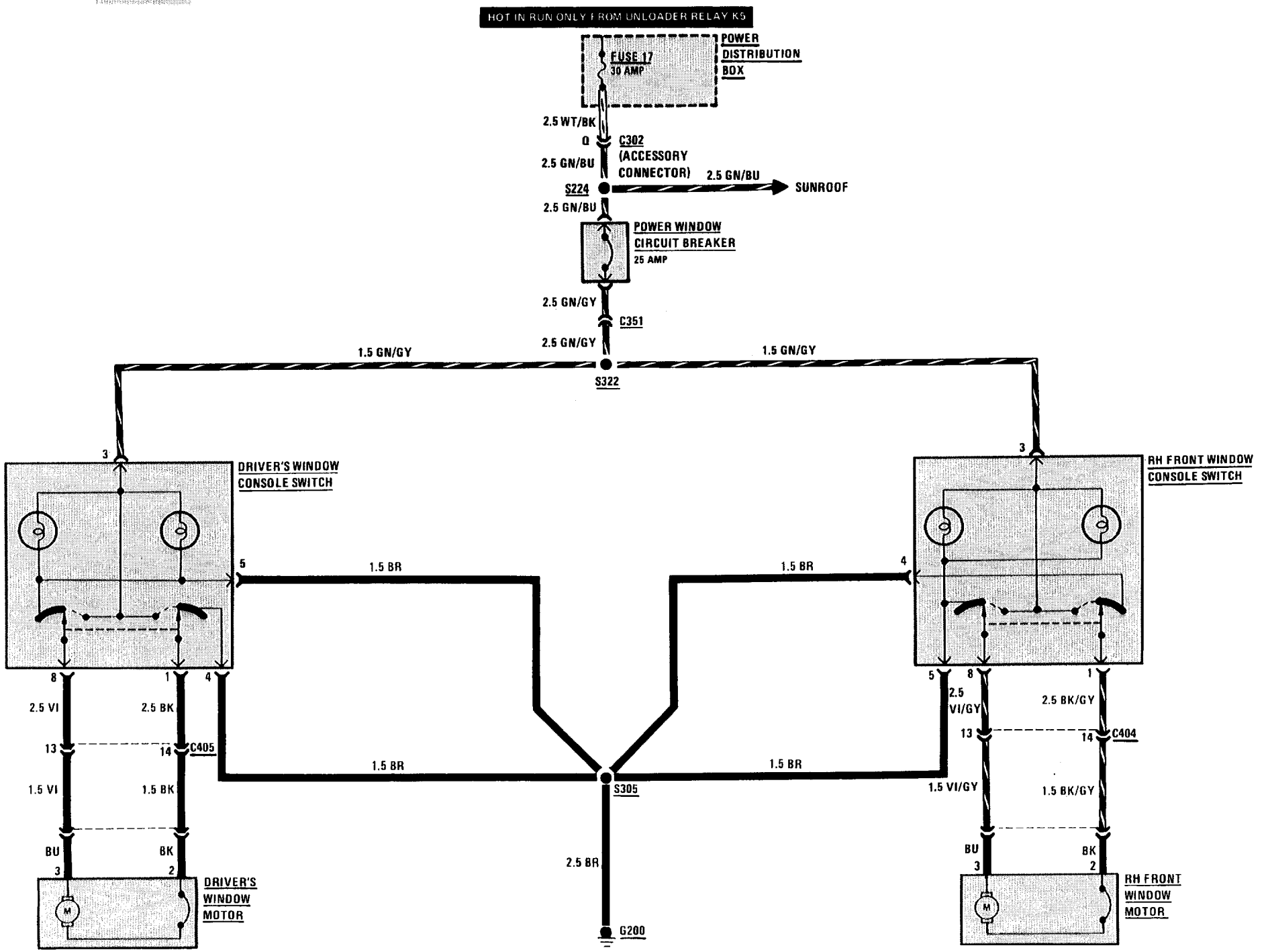
Unlock Inhibit

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

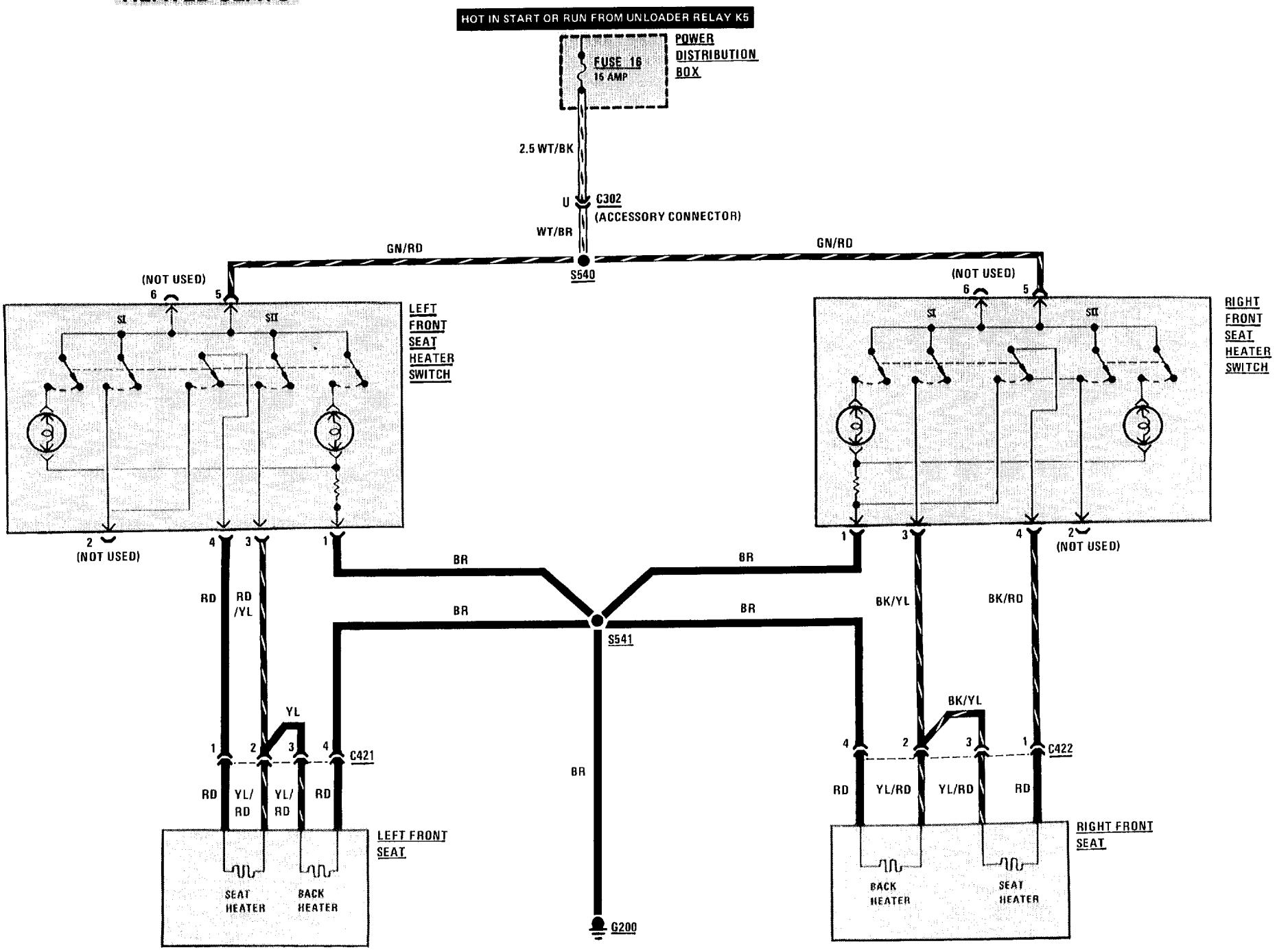
Trunk Lock

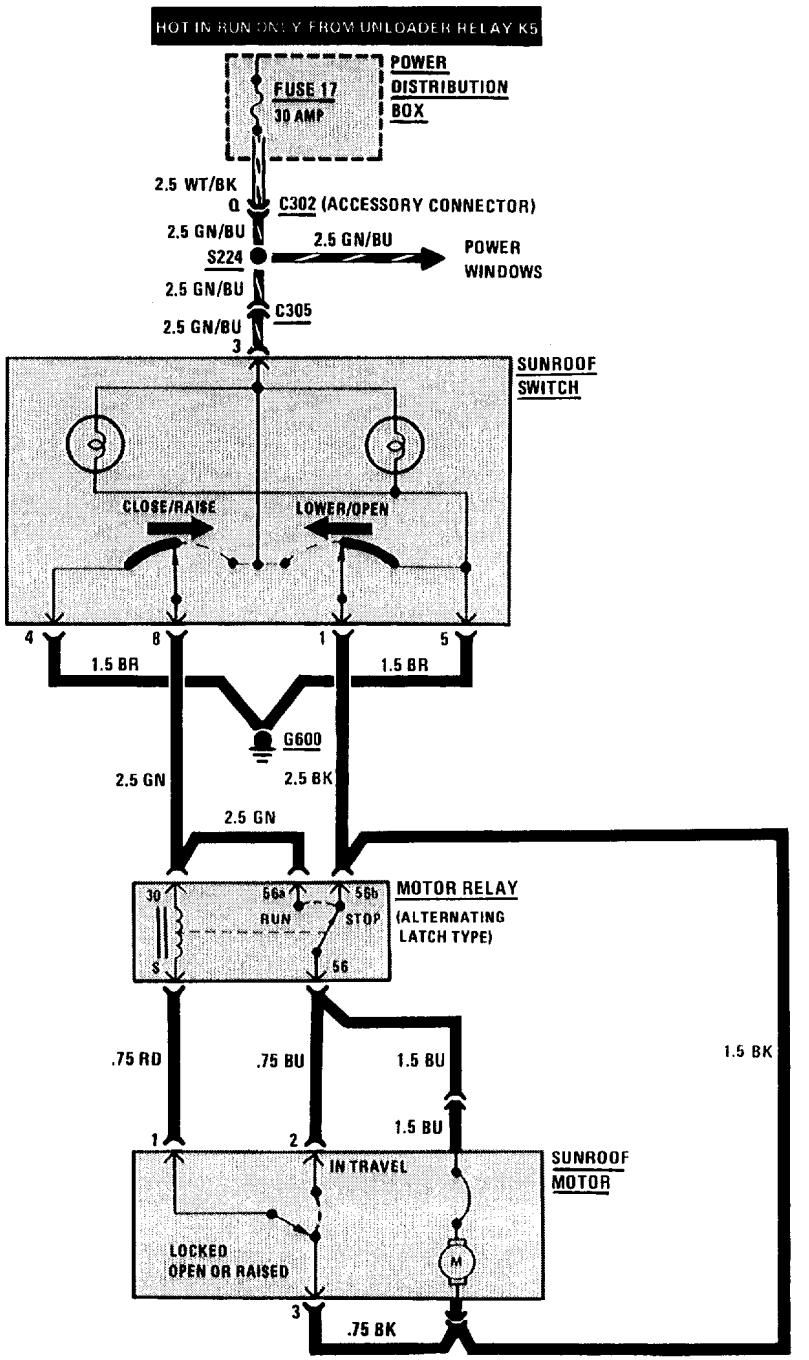
The Trunk Lock operates in a manner similar to the Door Locks.

2 DOOR

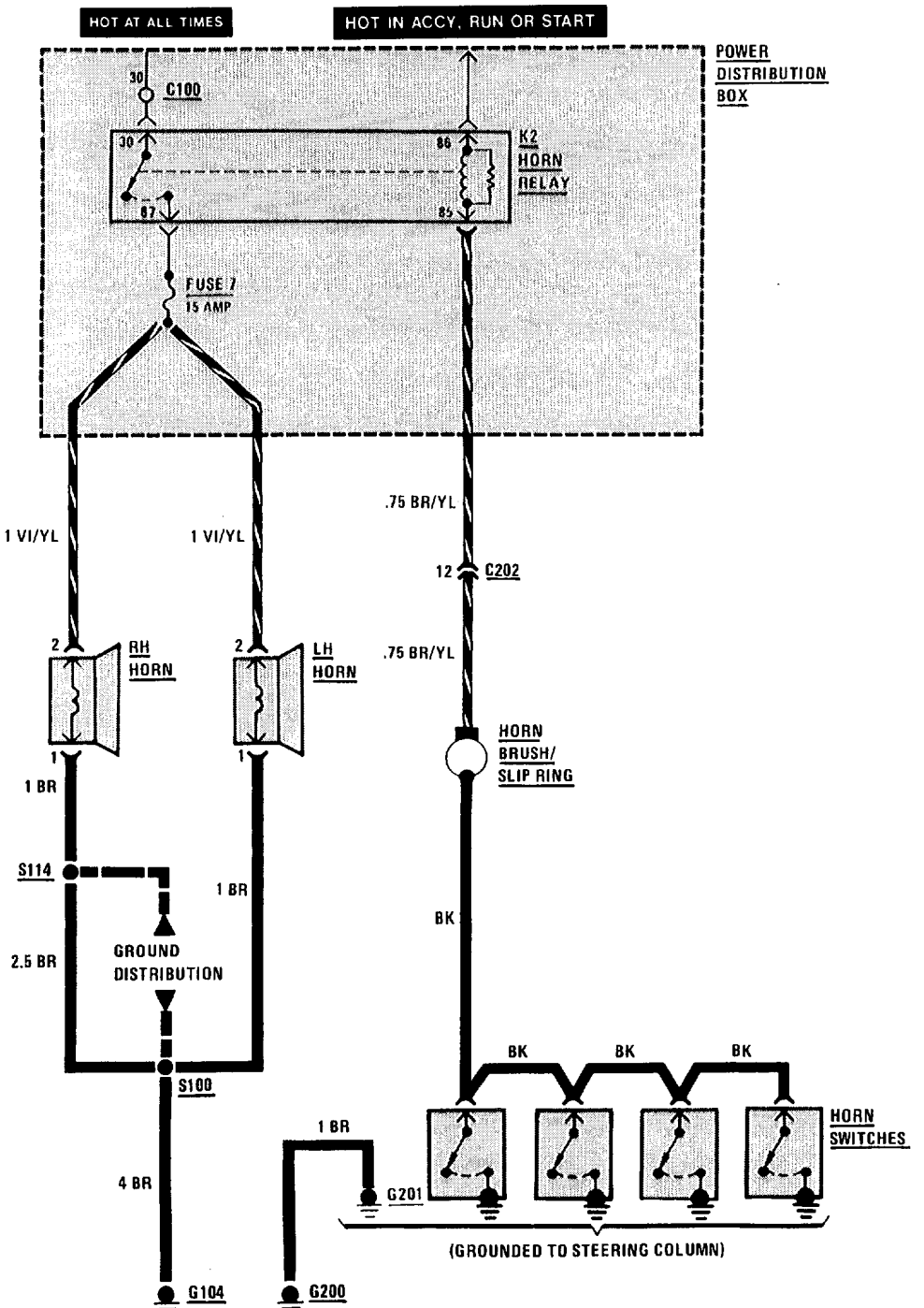

HOT IN RUN ONLY FROM UNLOADER RELAY K5
FUSE 17
30 AMP
POWER DISTRIBUTION BOX
2.5 WT/BK
C302 (ACCESSORY CONNECTOR)
2.5 GN/BU
2.5 GN/BU
S224
2.5 GN/BU
SUNROOF
POWER WINDOW CIRCUIT BREAKER
25 AMP
2.5 GN/GY
C351
2.5 GN/GY
1.5 GN/GY
1.5 GN/GY
S322
DRIVER'S WINDOW CONSOLE SWITCH
RH FRONT WINDOW CONSOLE SWITCH
1.5 BR
1.5 BR
1.5 BR
1.5 BR
S305
2.5 VI
2.5 BK
2.5 VI/GY
2.5 BK/GY
C405
C404
1.5 VI
1.5 BK
1.5 VI/GY
1.5 BK/GY
BU
BK
BU
BK
DRIVER'S WINDOW MOTOR
RH FRONT WINDOW MOTOR
2.5 BR
G200

HEATED SEATS

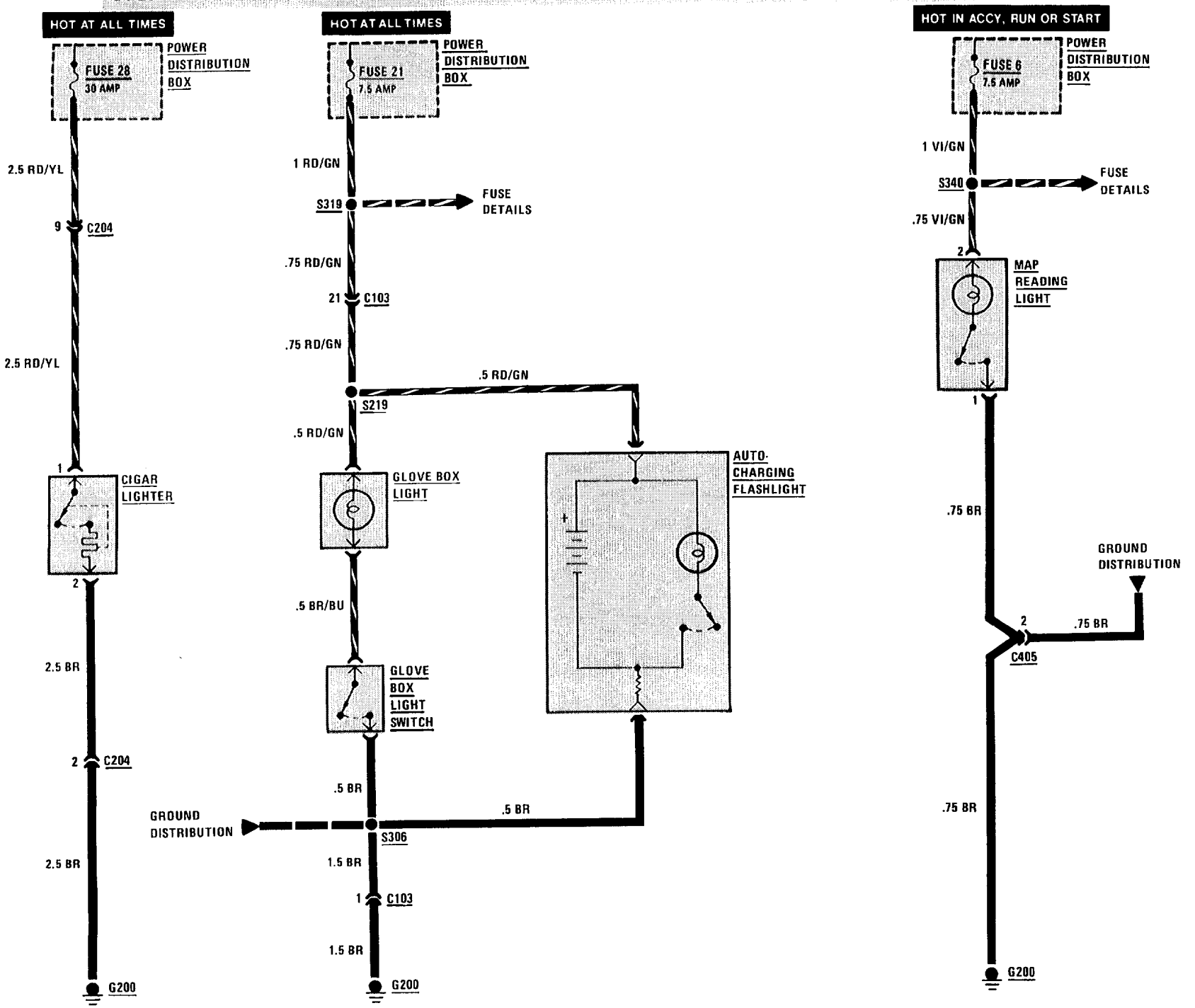



HOT IN RUN ONLY FROM UNLOADER RELAY K5
FUSE 17
30 AMP
POWER
DISTRIBUTION
BOX
2.5 WT/BK
Q
C302 (ACCESSORY CONNECTOR)
2.5 GN/BU
2.5 GN/BU
S224
POWER
WINDOWS
2.5 GN/BU
C305
2.5 GN/BU
3
SUNROOF
SWITCH
CLOSE/RAISE
LOWER/OPEN
4
8
1
5
1.5 BR
1.5 BR
G600
2.5 GN
2.5 BK
2.5 GN
30
86a
86b
RUN
STOP
MOTOR RELAY
(ALTERNATING
LATCH TYPE)
85
86
.75 RD
.75 BU
1.5 BU
1.5 BK
1.5 BU
1
2
IN TRAVEL
SUNROOF
MOTOR
LOCKED
OPEN OR RAISED
M
3
.75 BK

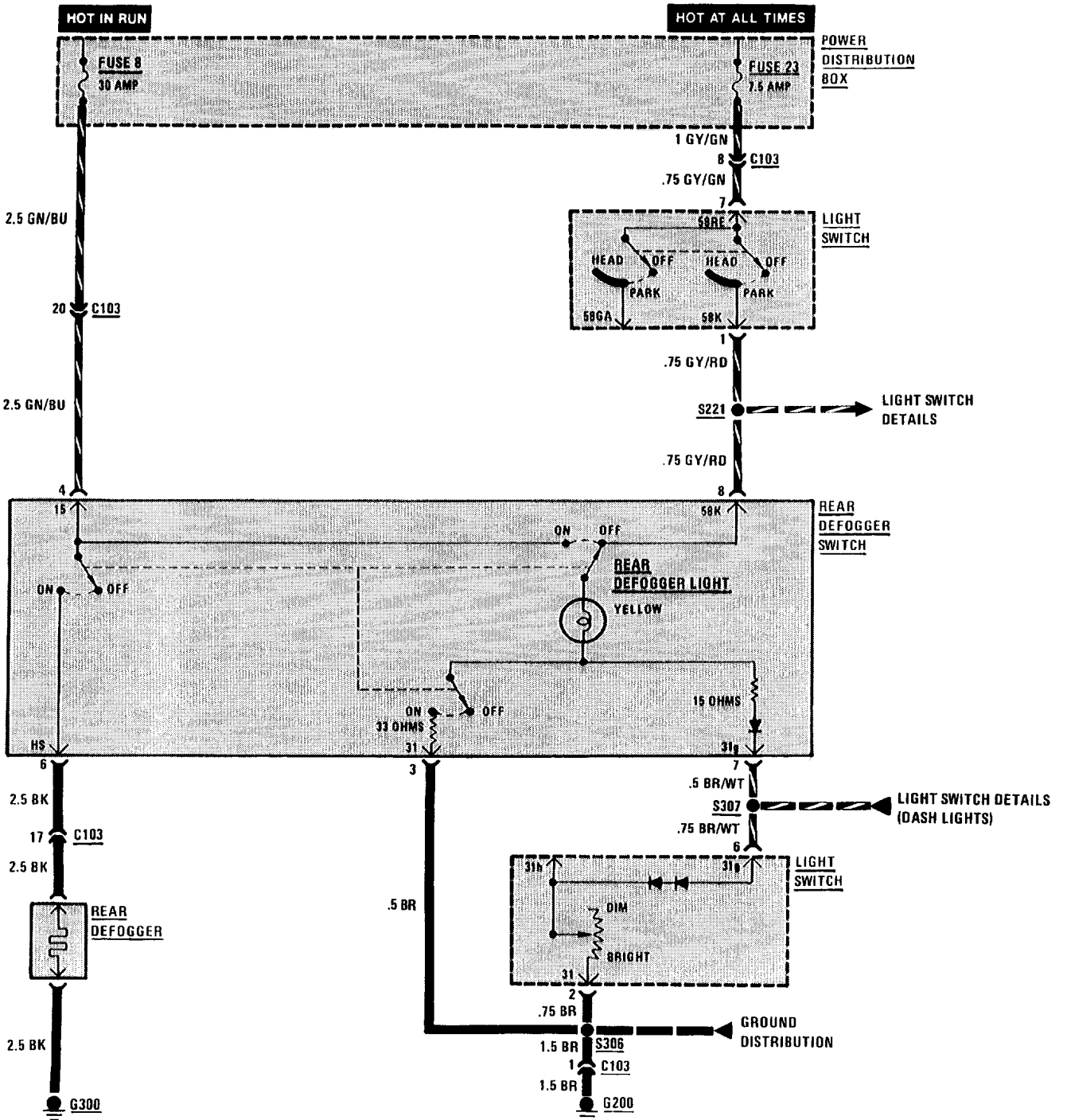
HORNS


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)

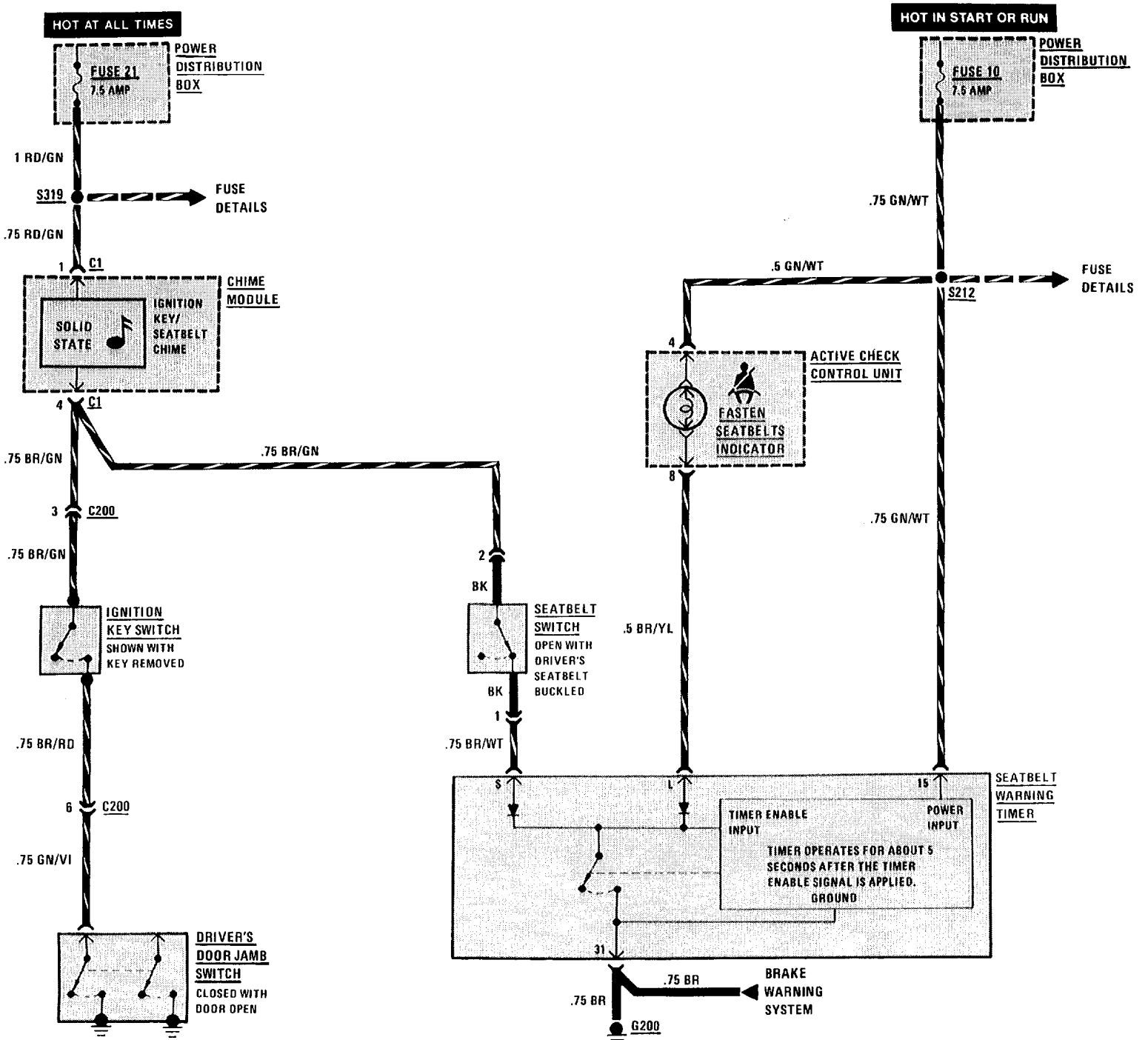
CIGAR LIGHTER/GLOVE BOX LIGHT/AUTO-CHARGING FLASHLIGHT/MAP READING LIGHT

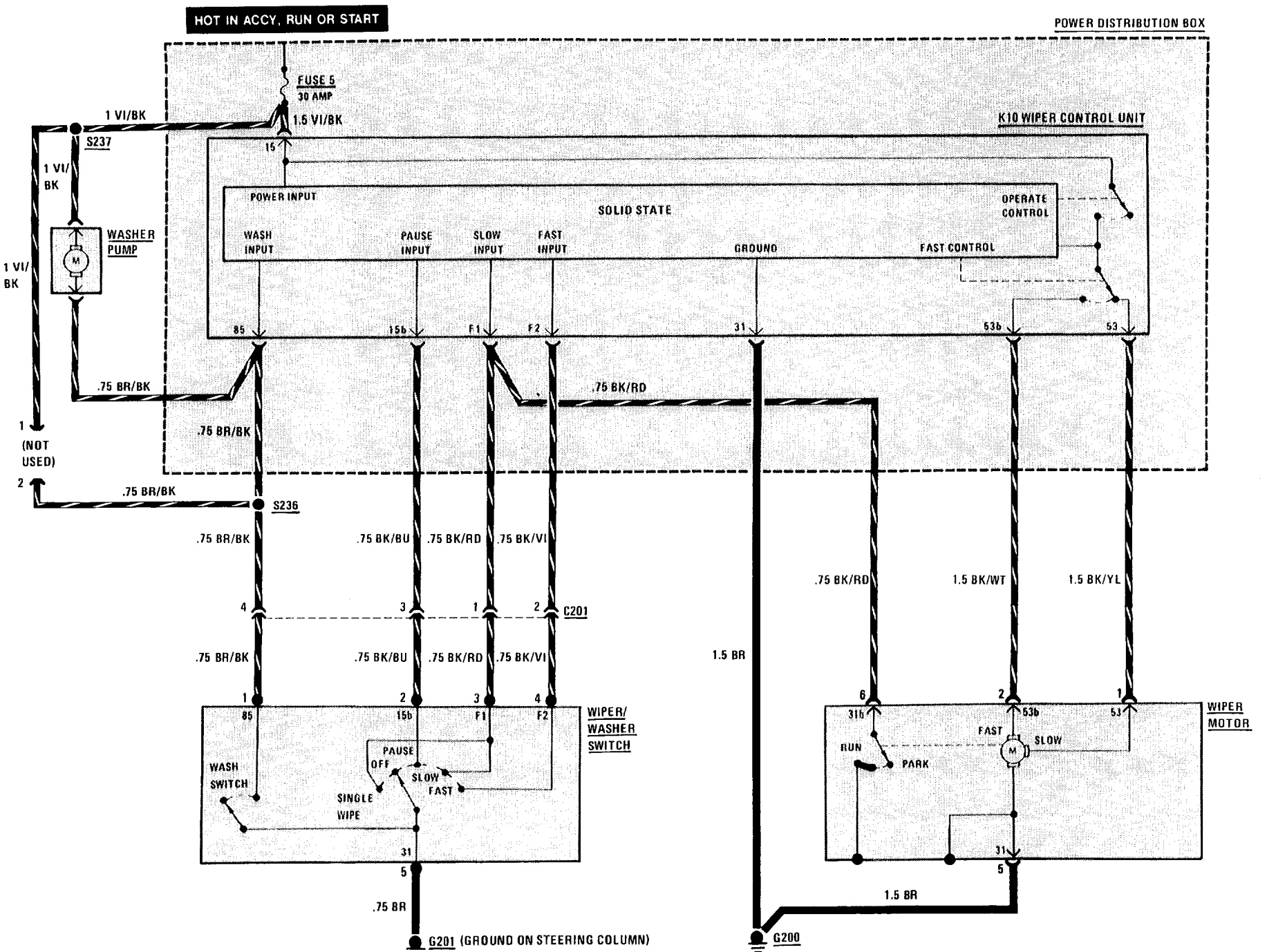


REAR DEFOGGER

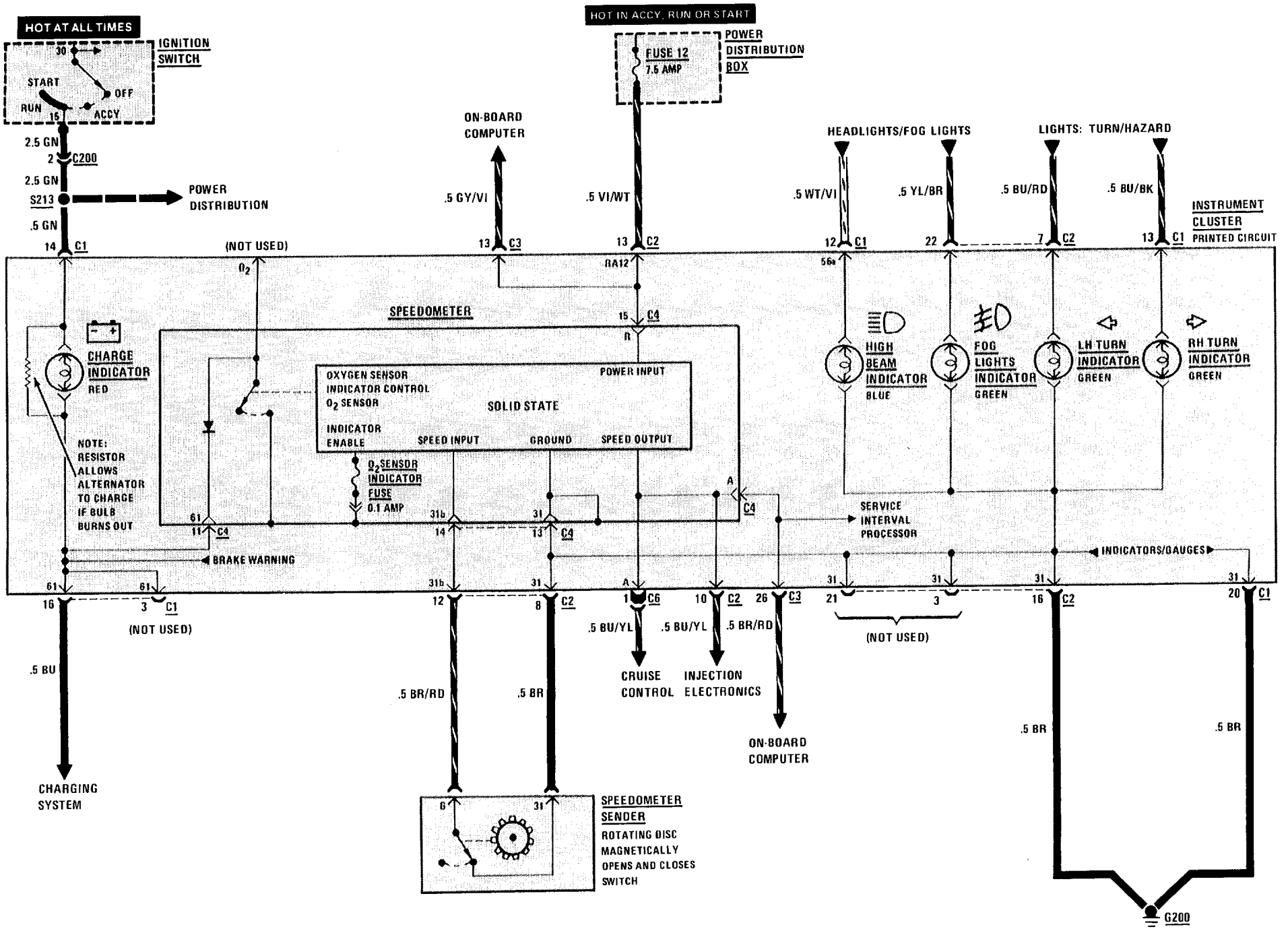


6131-0 IGNITION KEY WARNING/SEATBELT WARNING

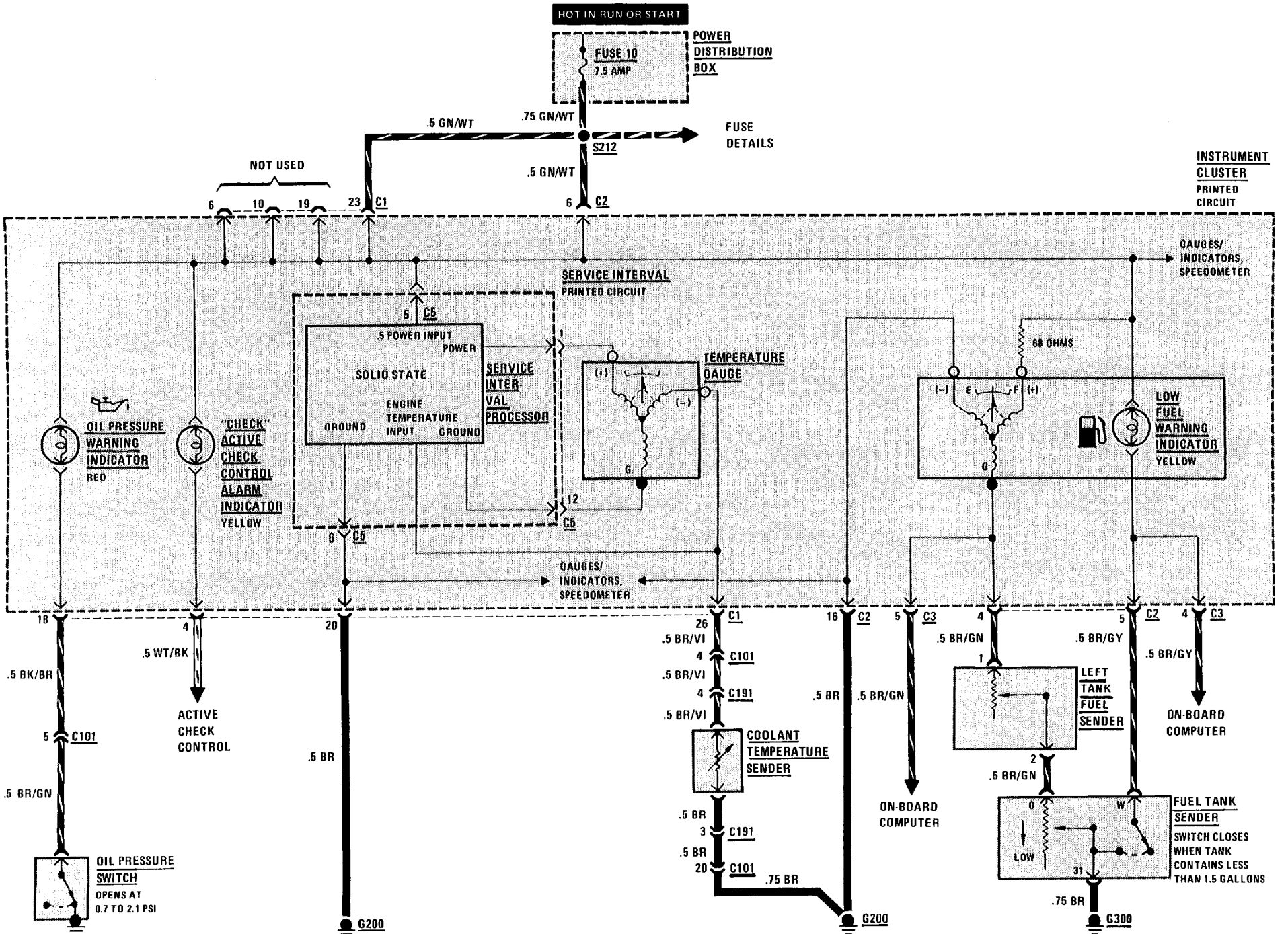



HOT IN ACCY, RUN OR START
POWER DISTRIBUTION BOX
FUSE 5
30 AMP
1 VI/BK
1.5 VI/BK
K10 WIPER CONTROL UNIT
S237
15
1 VI/BK
POWER INPUT
SOLID STATE
OPERATE CONTROL
WASHER PUMP
WASH INPUT
PAUSE INPUT
SLOW INPUT
FAST INPUT
GROUND
FAST CONTROL
1 VI/BK
85
15b
F1
F2
31
53b
53
.75 BR/BK
.75 BK/RD
1 (NOT USED)
.75 BR/BK
2
.75 BR/BK
S236
.75 BR/BK
.75 BK/BU
.75 BK/RD
.75 BK/VI
.75 BK/RD
1.5 BK/WT
1.5 BK/YL
4
3
1
2
C201
.75 BR/BK
.75 BK/BU
.75 BK/RD
.75 BK/VI
1.5 BR
1
2
3
4
6
2
1
85
15b
F1
F2
31b
53b
53
WIPER/ WASHER SWITCH
WIPER MOTOR
PAUSE
OFF
WASH SWITCH
SLOW
FAST
SINGLE WIPE
FAST
SLOW
RUN
PARK
31
31
5
5
.75 BR
1.5 BR
G201 (GROUND ON STEERING COLUMN)
G200

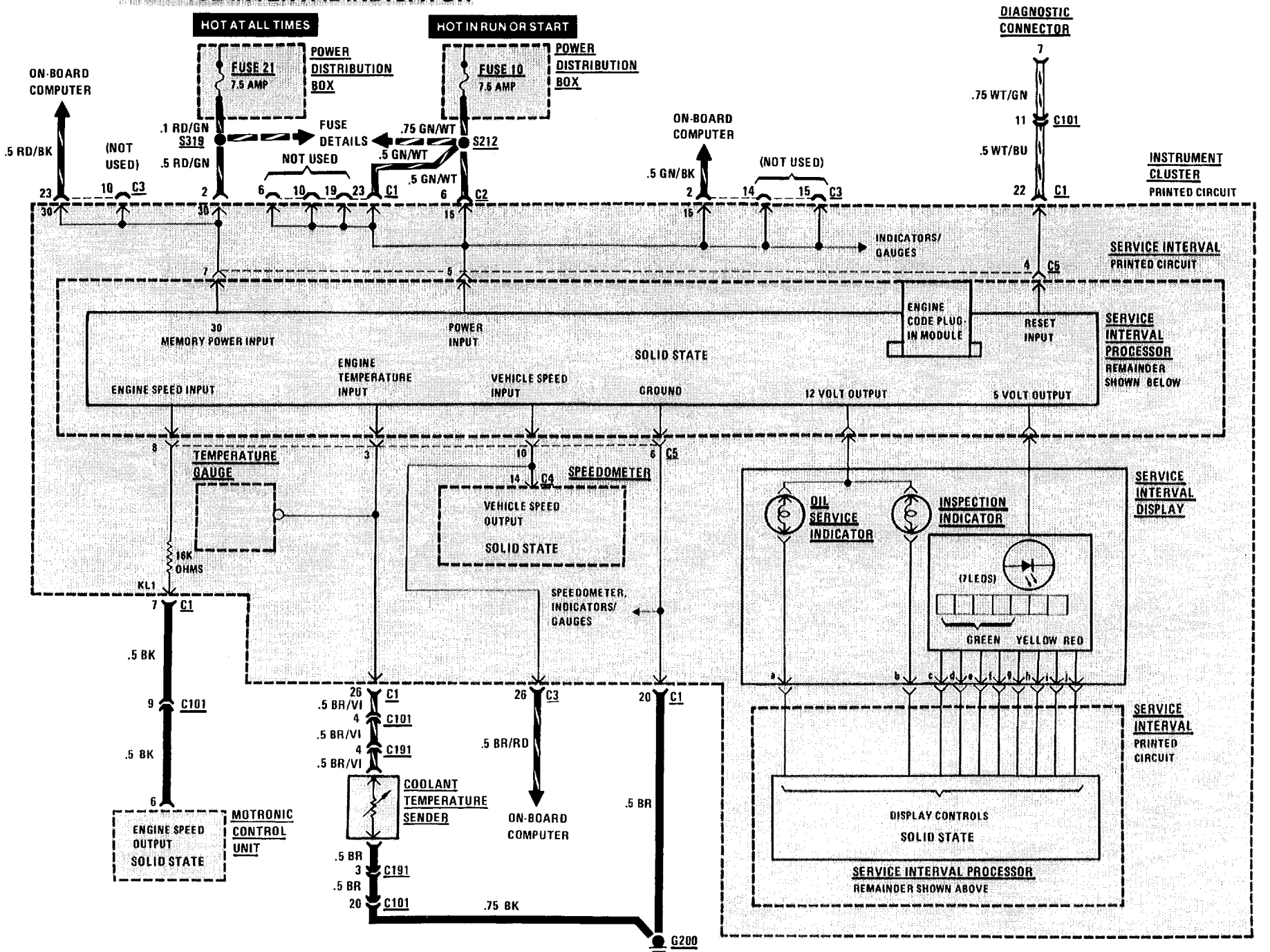
SPEEDOMETER/INDICATORS



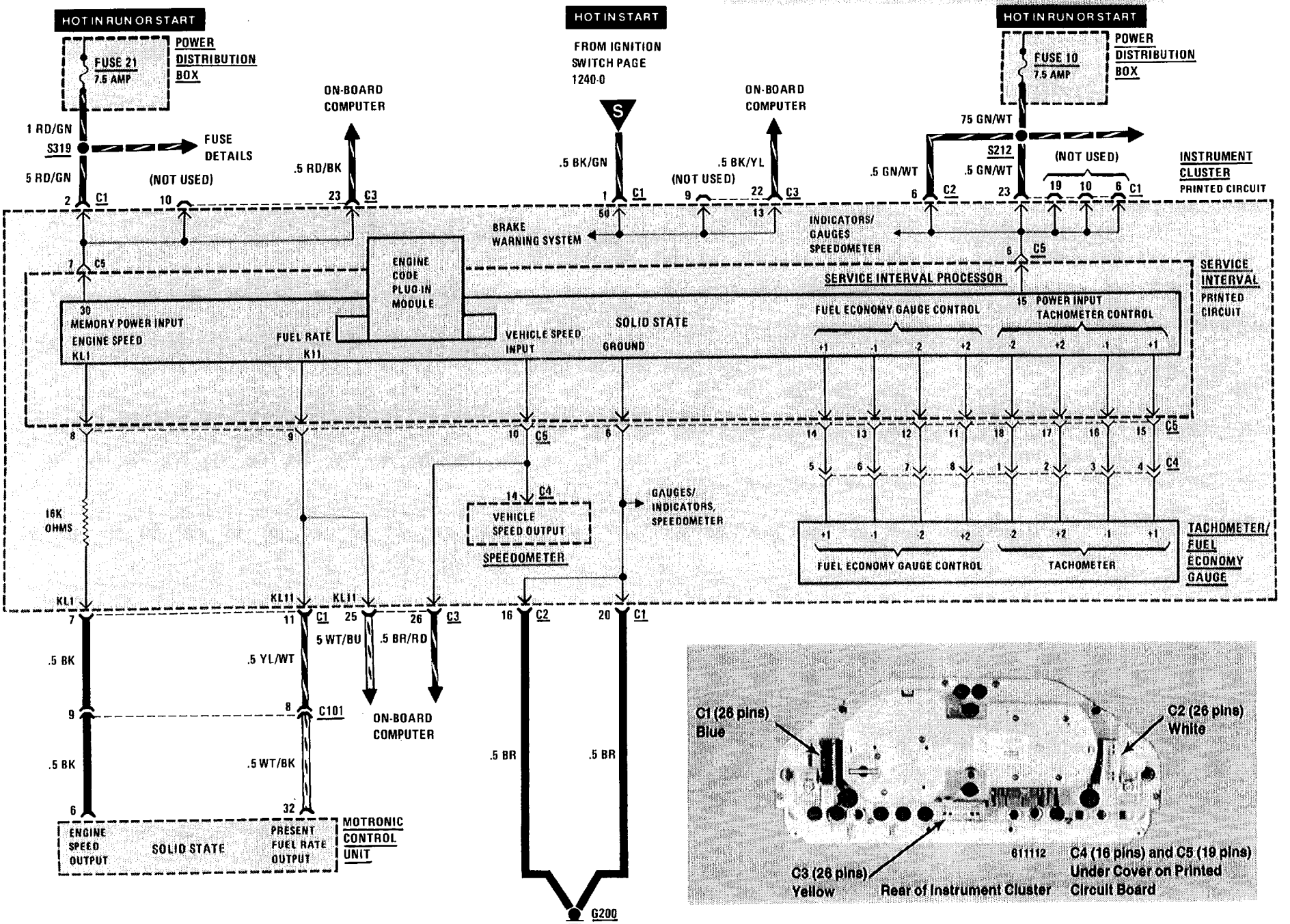
GAUGES/INDICATOR



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.

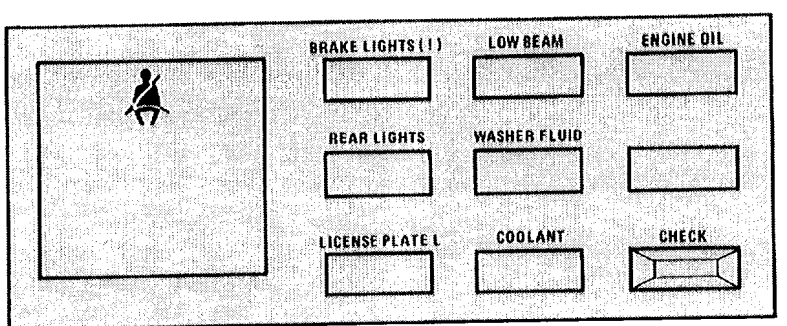
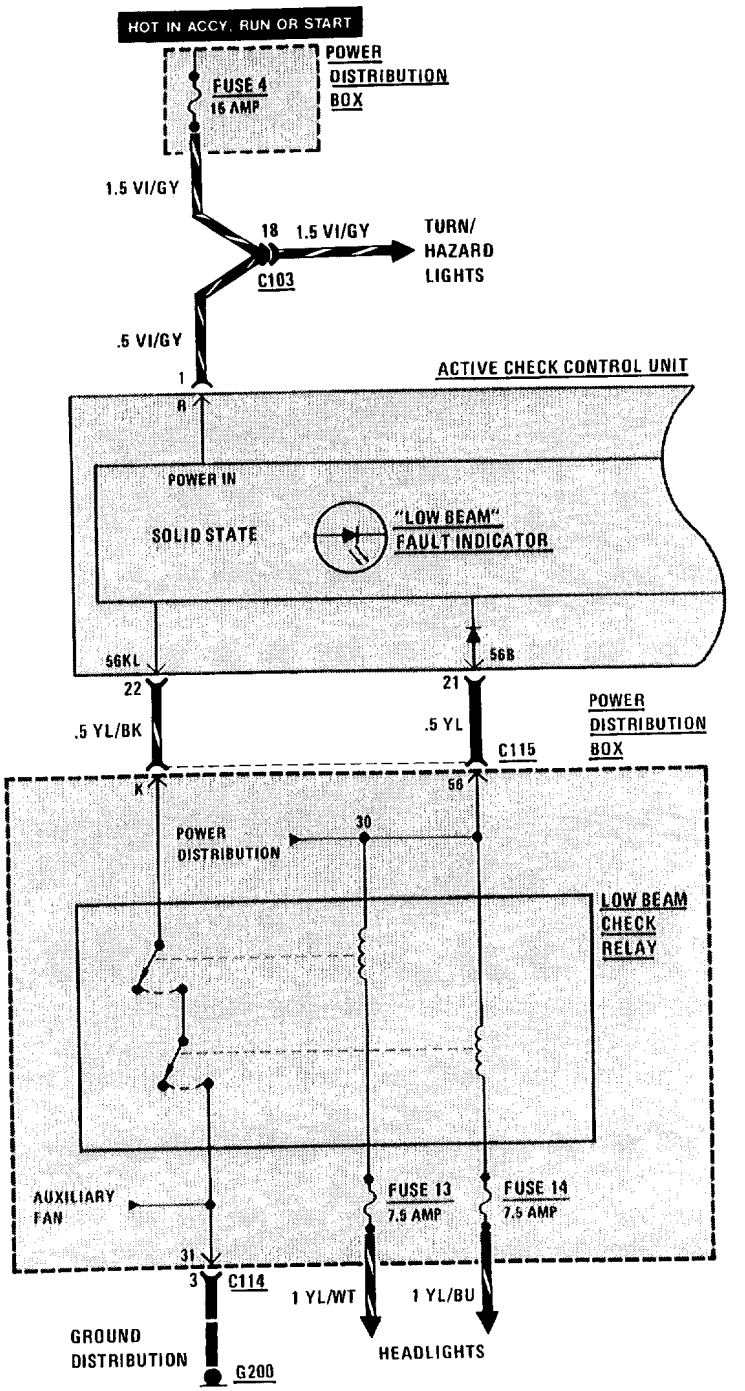
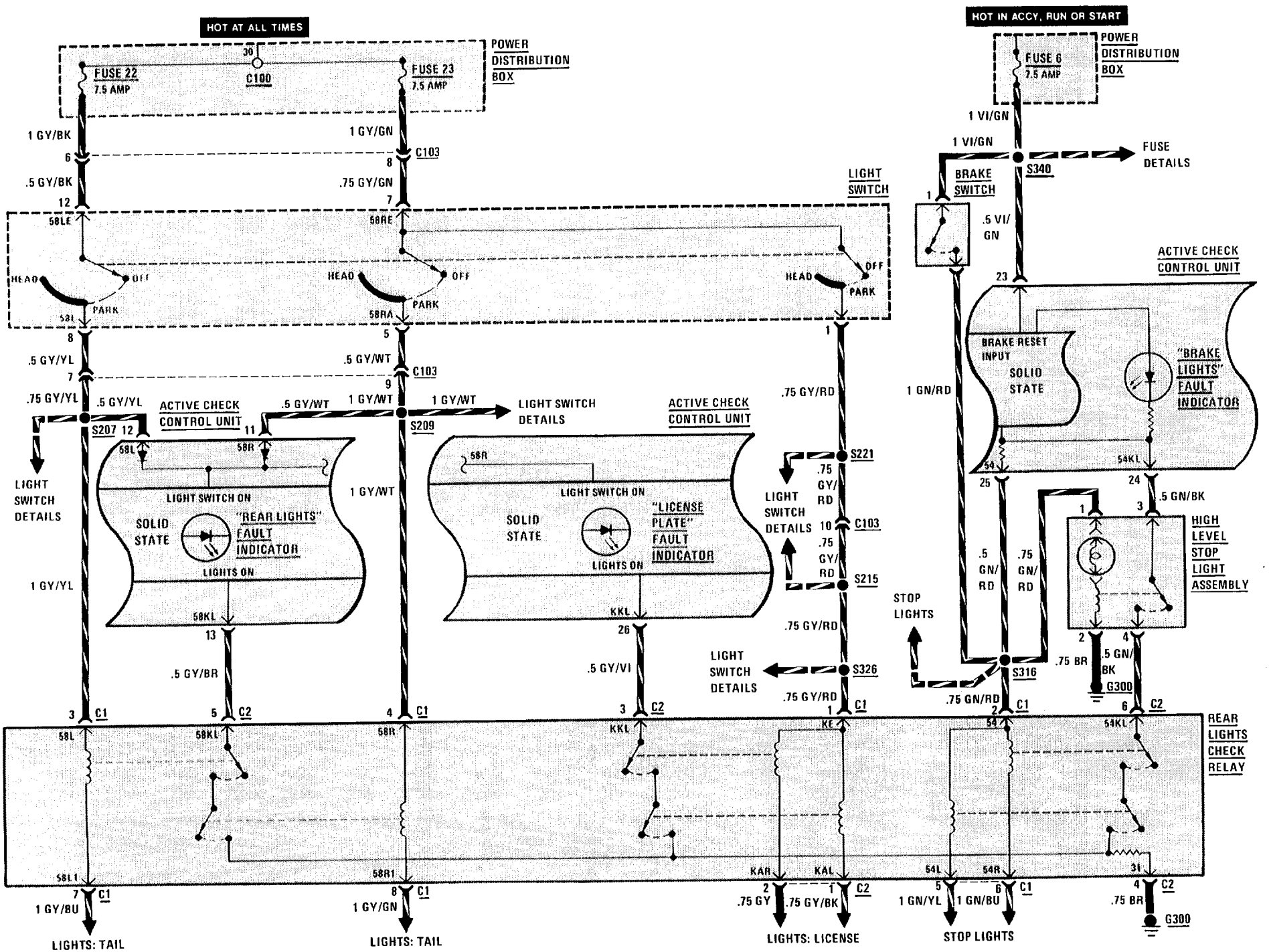
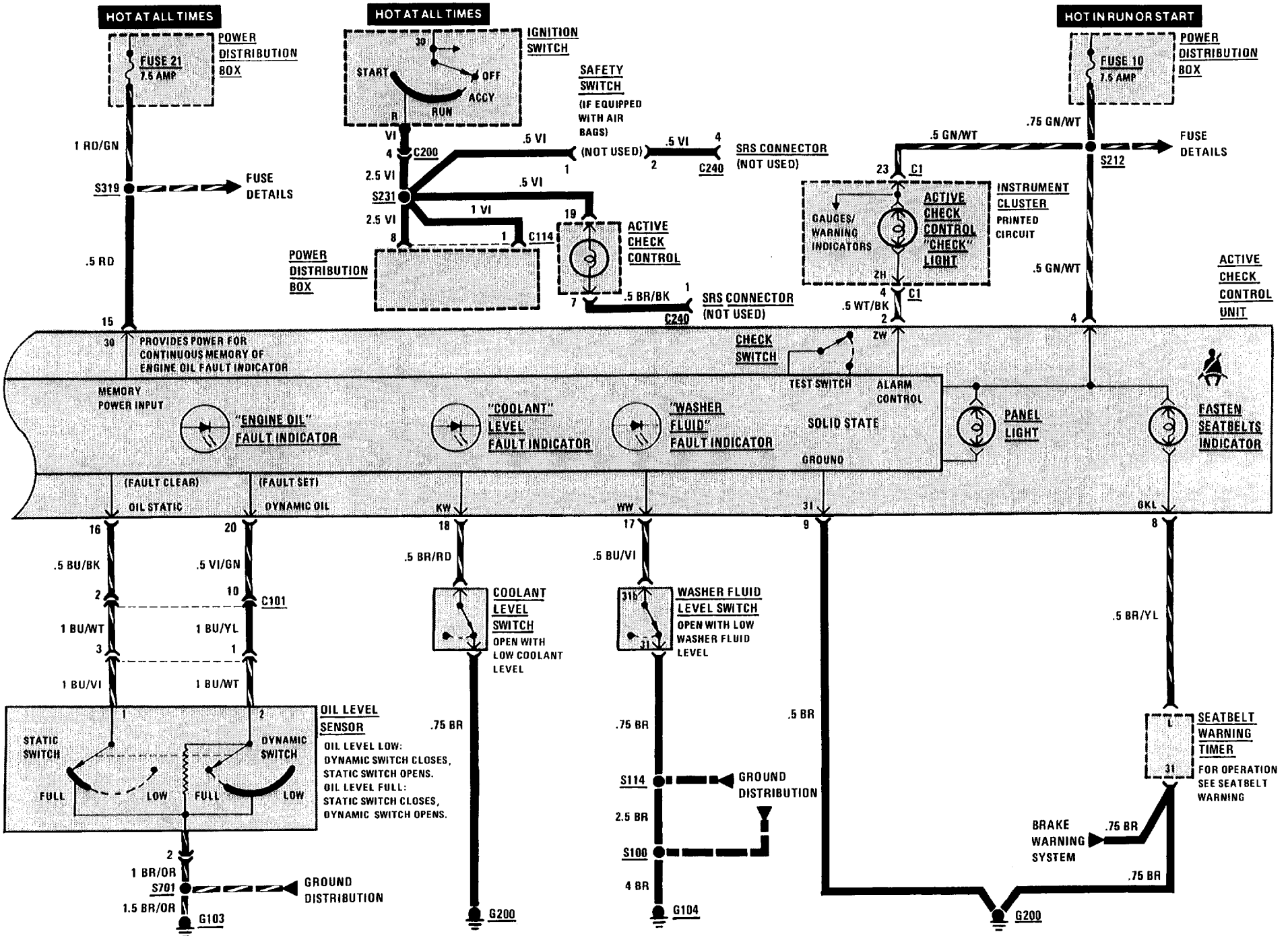


Figure 1 - Active Check Control Unit Above Rear View Mirror

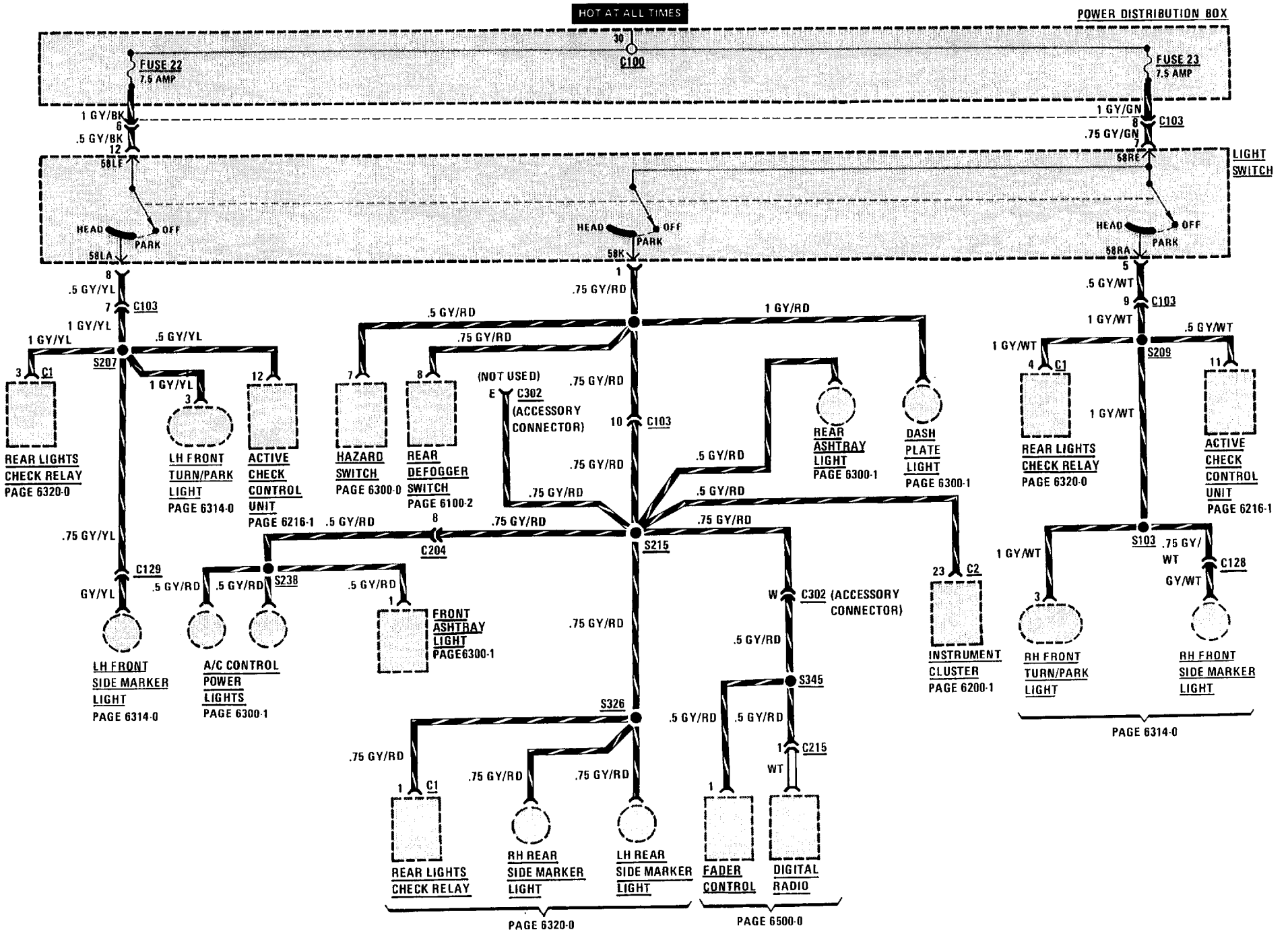



HOT AT ALL TIMES
HOT IN ACCY, RUN OR START
POWER DISTRIBUTION BOX
FUSE 22 7.5 AMP
FUSE 23 7.5 AMP
FUSE 6 7.5 AMP
C100
C103
S340
FUSE DETAILS
BRAKE SWITCH
LIGHT SWITCH
HEAD
OFF
PARK
ACTIVE CHECK CONTROL UNIT
BRAKE RESET INPUT
SOLID STATE
"BRAKE LIGHTS" FAULT INDICATOR
LIGHT SWITCH ON
LIGHTS ON
"REAR LIGHTS" FAULT INDICATOR
"LICENSE PLATE" FAULT INDICATOR
LIGHT SWITCH DETAILS
S207
S209
S221
S215
S326
S316
HIGH LEVEL STOP LIGHT ASSEMBLY
G300
REAR LIGHTS CHECK RELAY
STOP LIGHTS
1 GY/BK
1 GY/GN
.5 GY/BK
.75 GY/GN
.5 GY/YL
.5 GY/WT
.75 GY/YL
1 GY/WT
1 GY/YL
.5 GY/BR
.5 GY/VI
.75 GY/RD
1 VI/GN
.5 VI/GN
1 GN/RD
.5 GN/RD
.75 GN/RD
.5 GN/BK
.75 BR
1 GY/BU
1 GY/GN
.75 GY
.75 GY/BK
1 GN/YL
1 GN/BU
LIGHTS: TAIL
LIGHTS: TAIL
LIGHTS: LICENSE
STOP LIGHTS

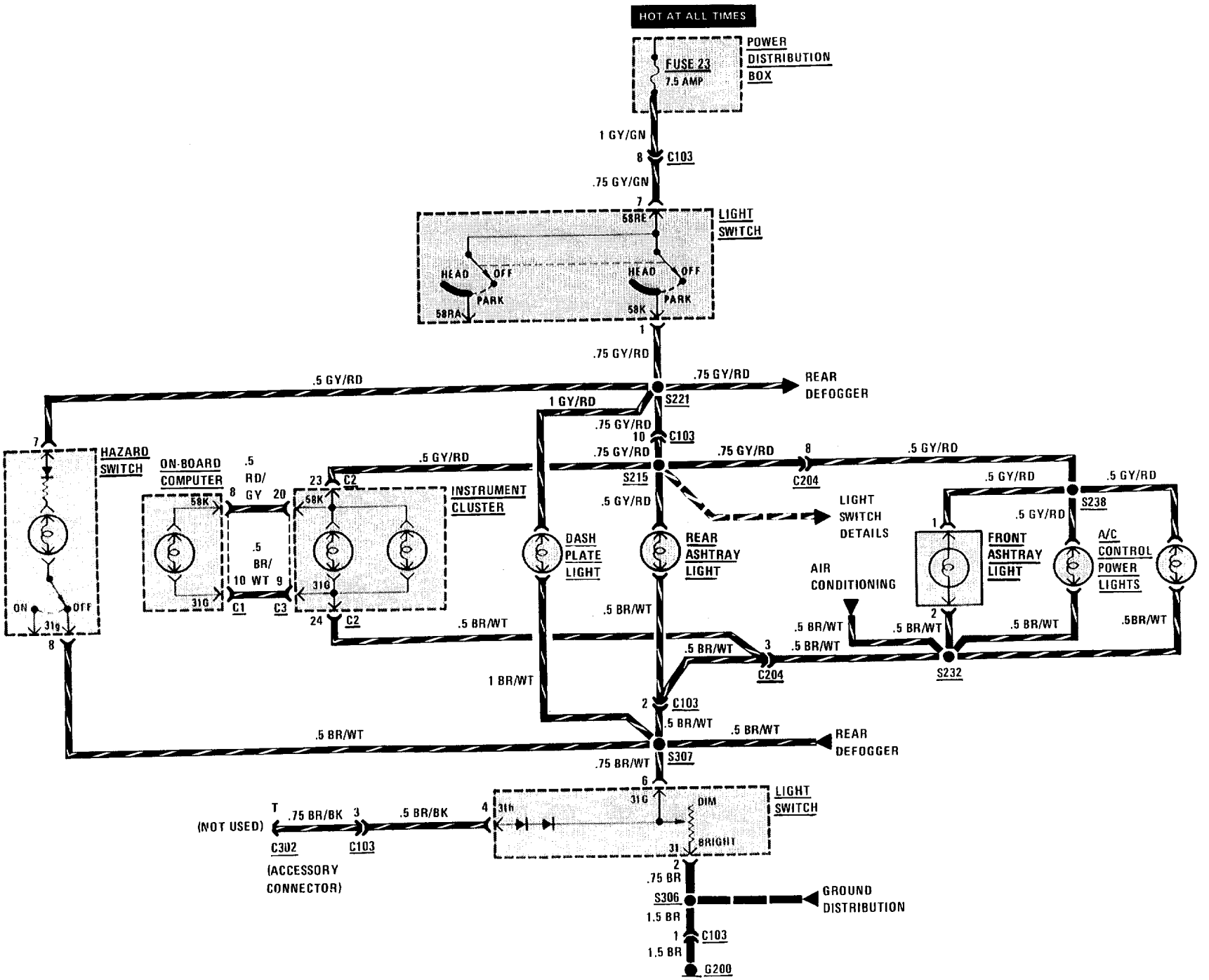
6216-2 ACTIVE CHECK CONTROL



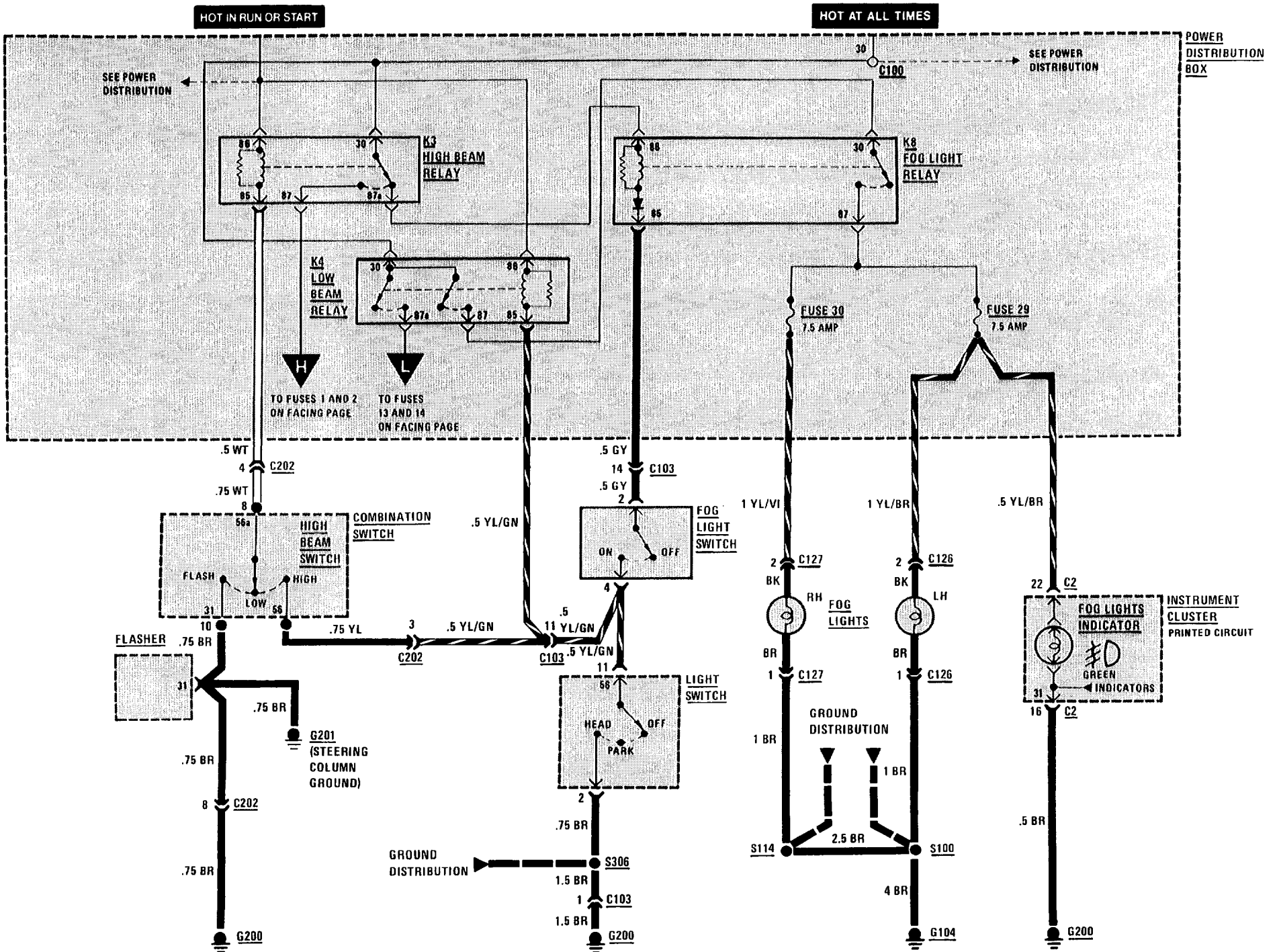
6300-0 LIGHT SWITCH DETAILS

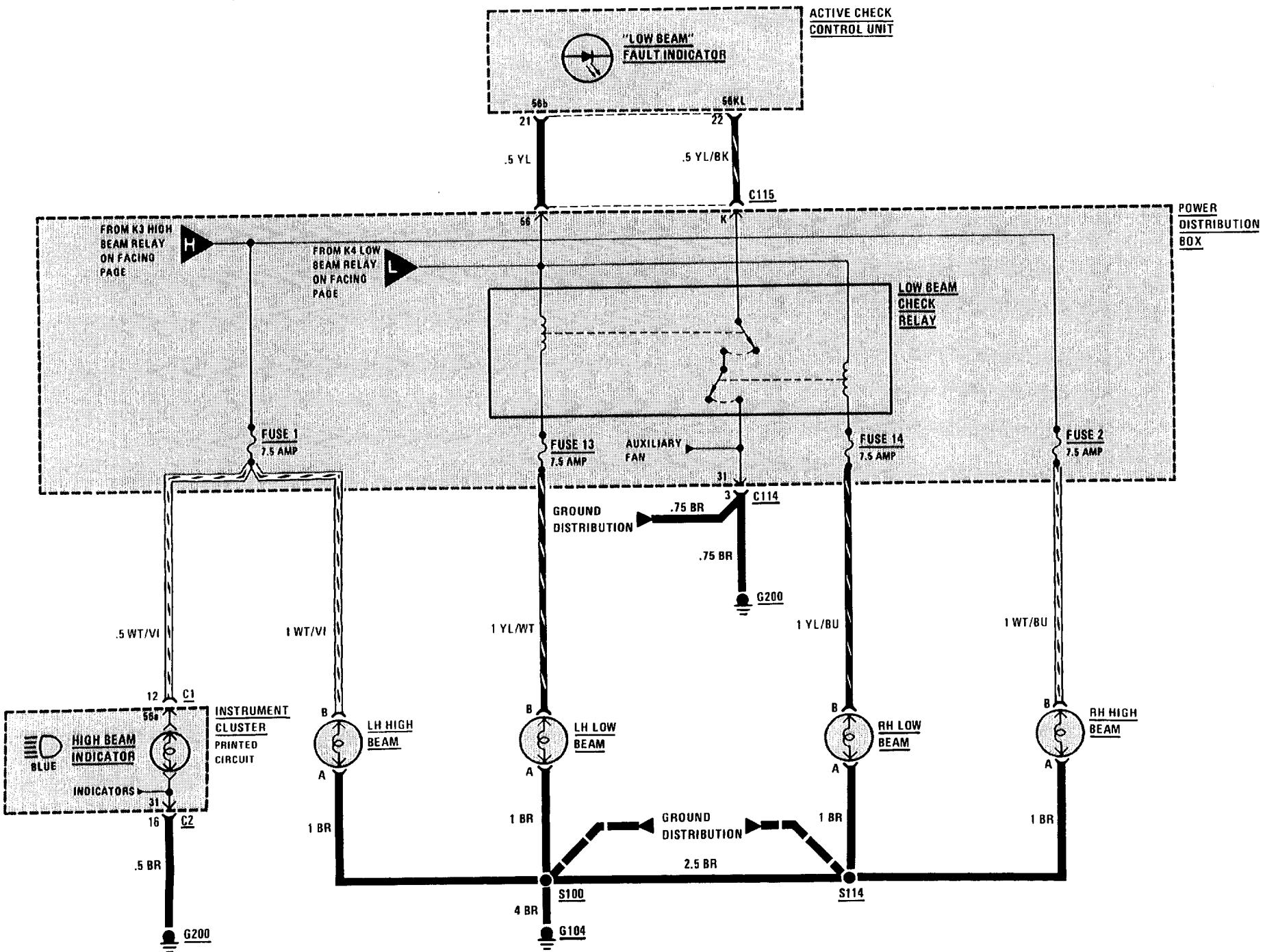


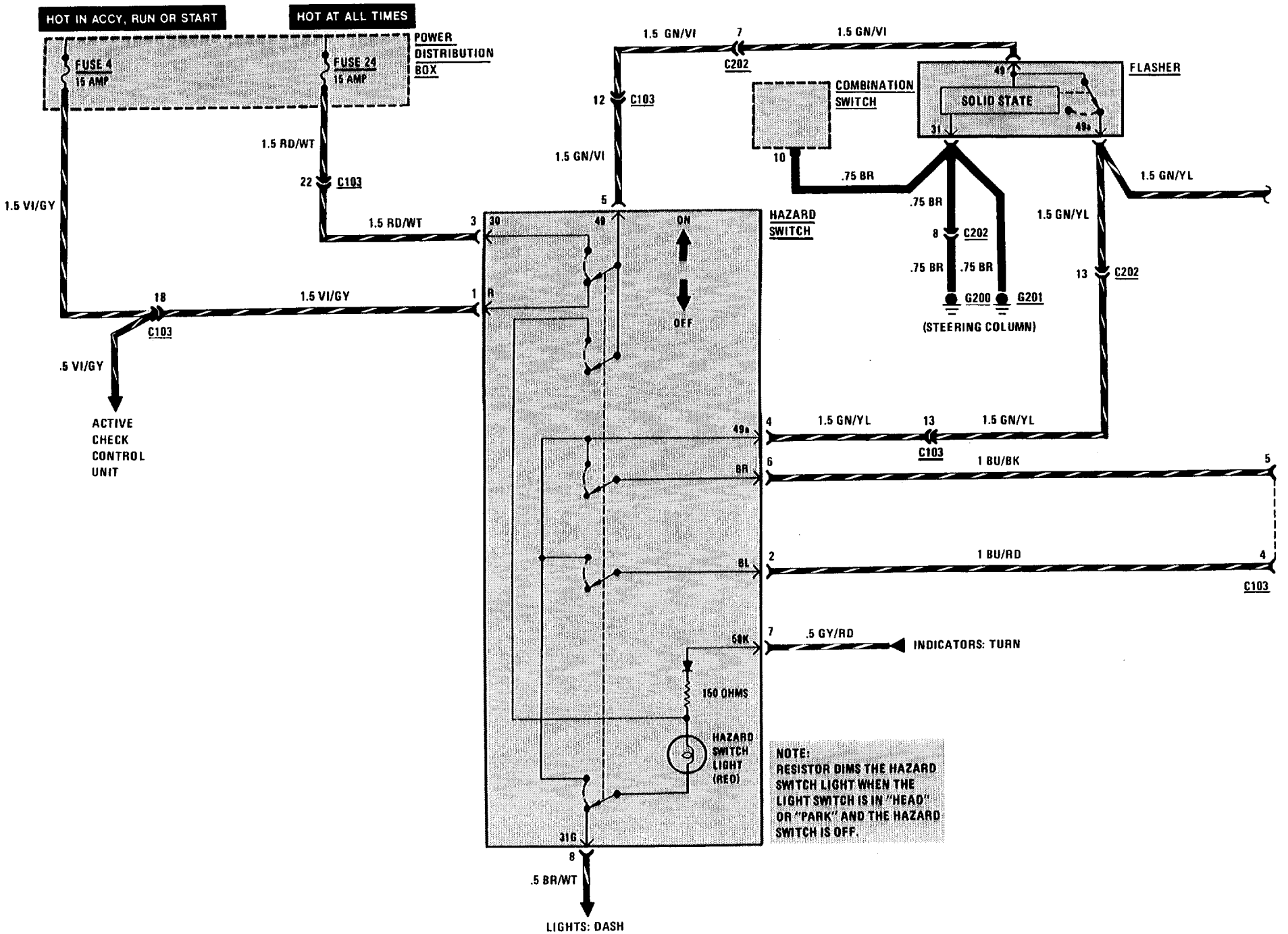
DASH LIGHTS

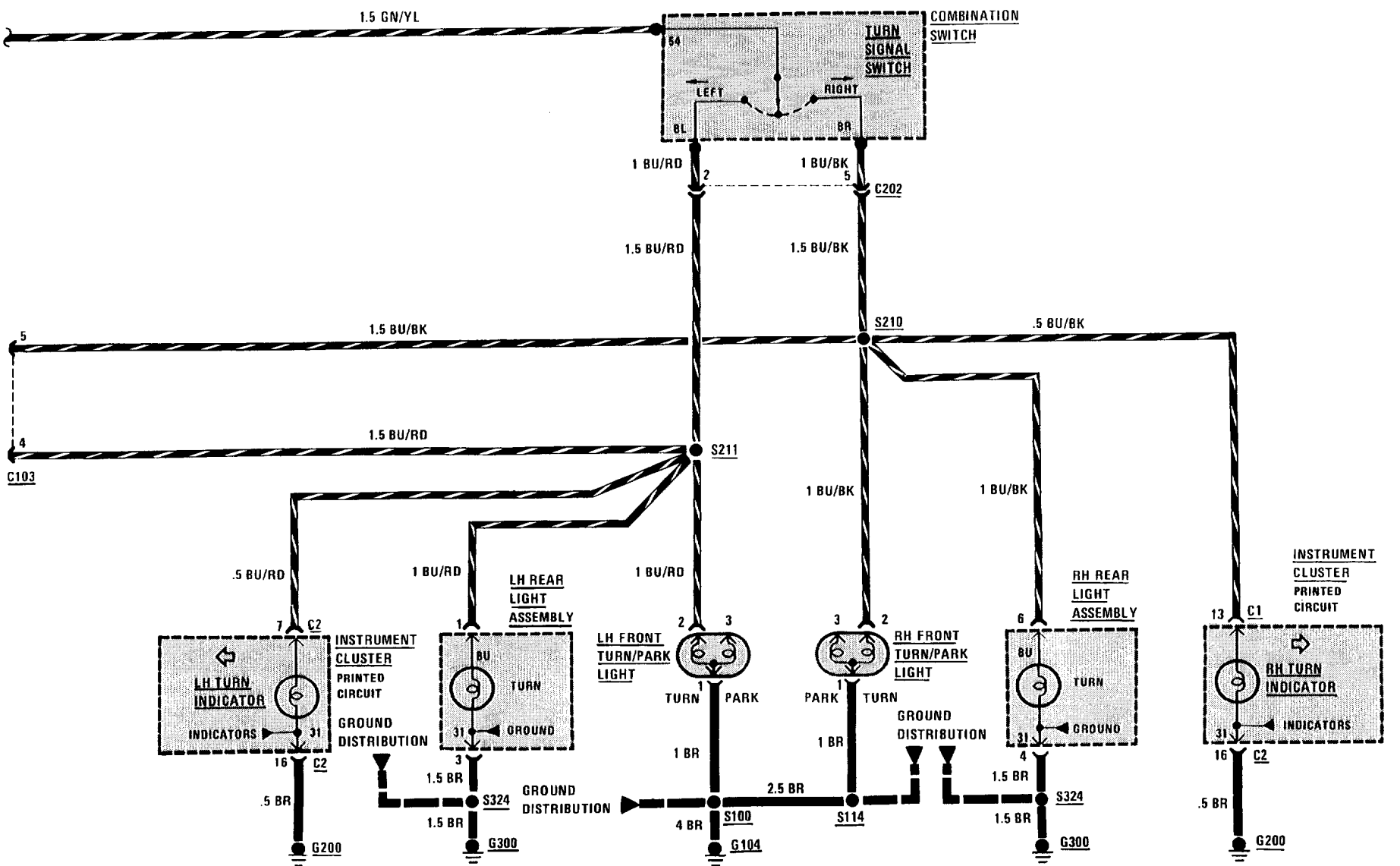

HOT AT ALL TIMES
FUSE 23
7.5 AMP
POWER DISTRIBUTION BOX
1 GY/GN
8
C103
.75 GY/GN
7
58RE
LIGHT SWITCH
HEAD
OFF
PARK
58RA
58K
1
.75 GY/RD
.5 GY/RD
.75 GY/RD
REAR DEFOGGER
1 GY/RD
S221
10
C103
7
HAZARD SWITCH
ON
OFF
31g
8
ON-BOARD COMPUTER
.5 RD/ GY 20
.5 BR/ 10 WT 9
31G
C1
C3
23
C2
24
INSTRUMENT CLUSTER
S215
C204
8
LIGHT SWITCH DETAILS
DASH PLATE LIGHT
REAR ASHTRAY LIGHT
AIR CONDITIONING
FRONT ASHTRAY LIGHT
A/C CONTROL POWER LIGHTS
S238
.5 BR/WT
1 BR/WT
2
3
S232
.75 BR/WT
6
S307
REAR DEFOGGER
T
(NOT USED)
.75 BR/BK
.5 BR/BK
C302
(ACCESSORY CONNECTOR)
31h
DIM
BRIGHT
31
.75 BR
S306
GROUND DISTRIBUTION
1.5 BR
G200

6312-0 HEADLIGHTS/FOG LIGHTS

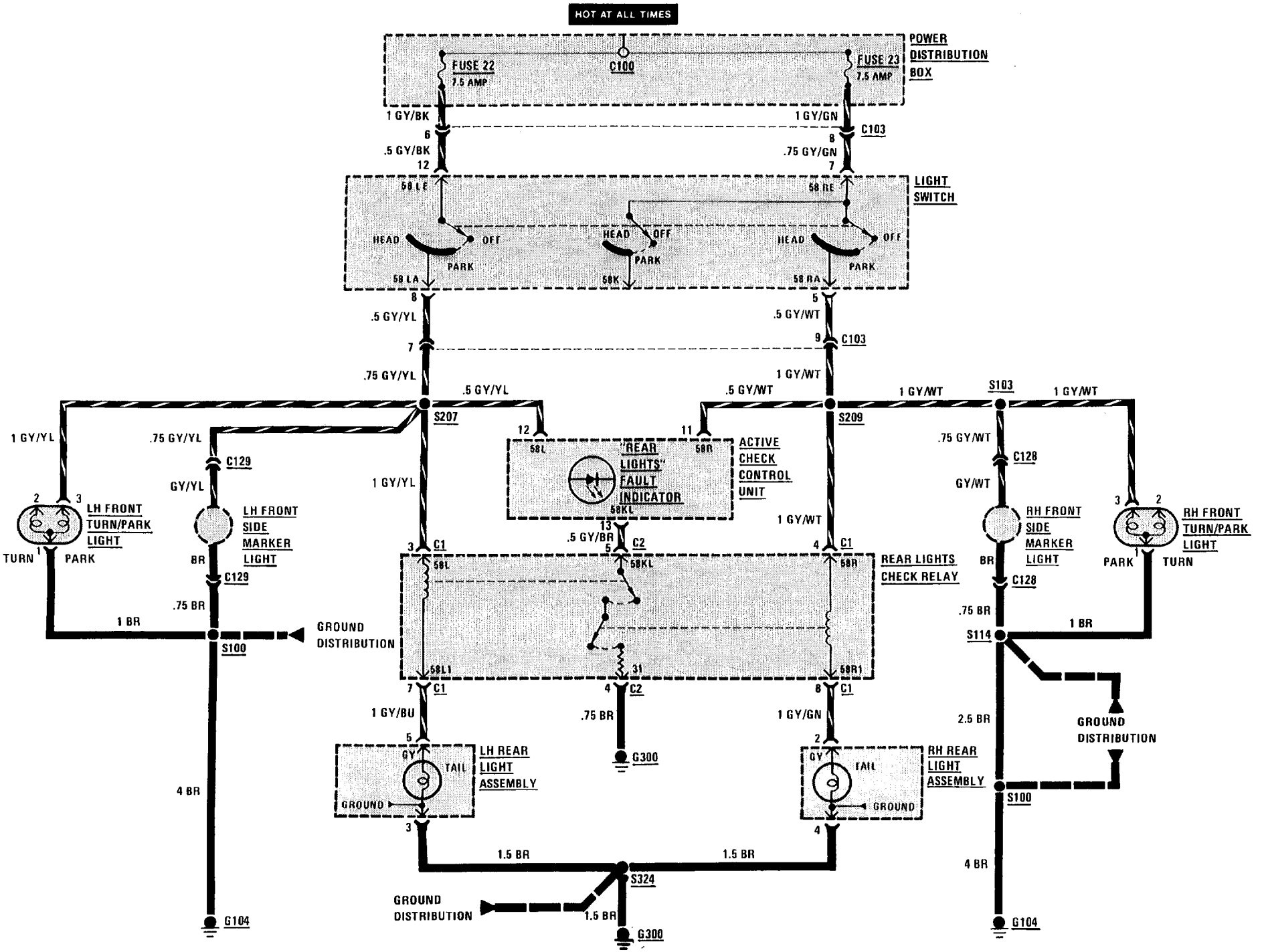



ACTIVE CHECK CONTROL UNIT
"LOW BEAM" FAULT INDICATOR
56b
56KL
21
22
.5 YL
.5 YL/BK
C115
66
K
POWER DISTRIBUTION BOX
FROM K3 HIGH BEAM RELAY ON FACING PAGE
H
FROM K4 LOW BEAM RELAY ON FACING PAGE
L
LOW BEAM CHECK RELAY
FUSE 1 7.5 AMP
FUSE 13 7.5 AMP
AUXILIARY FAN
FUSE 14 7.5 AMP
FUSE 2 7.5 AMP
31
3
C114
GROUND DISTRIBUTION
.75 BR
.75 BR
G200
.5 WT/VI
1 WT/VI
1 YL/WT
1 YL/BU
1 WT/BU
12
C1
56a
INSTRUMENT CLUSTER PRINTED CIRCUIT
HIGH BEAM INDICATOR
BLUE
INDICATORS
31
16
C2
.5 BR
G200
B
A
LH HIGH BEAM
LH LOW BEAM
RH LOW BEAM
RH HIGH BEAM
1 BR
1 BR
1 BR
1 BR
GROUND DISTRIBUTION
2.5 BR
S100
S114
4 BR
G104

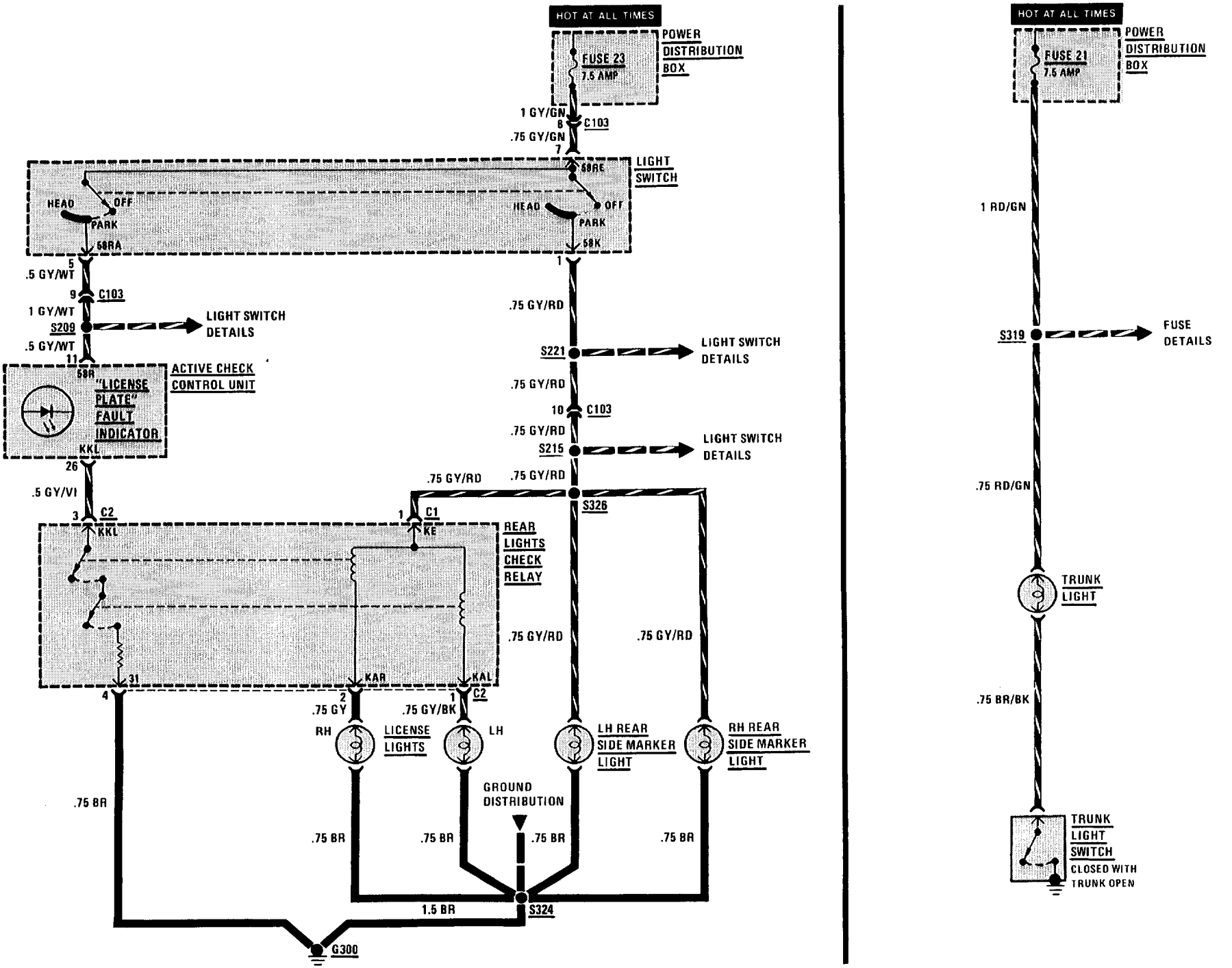

HOT IN ACCY, RUN OR START
HOT AT ALL TIMES
POWER DISTRIBUTION BOX
FUSE 4 15 AMP
FUSE 24 15 AMP
1.5 RD/WT
22 C103
1.5 VI/GY
1.5 RD/WT
3
30
49
ON
OFF
HAZARD SWITCH
1.5 GN/VI
7
C202
1.5 GN/VI
12 C103
1.5 GN/VI
5
COMBINATION SWITCH
10
.75 BR
FLASHER
49
SOLID STATE
31
49a
1.5 GN/YL
.75 BR
8 C202
.75 BR
.75 BR
G200
G201
(STEERING COLUMN)
1.5 GN/YL
13 C202
18
1.5 VI/GY
1
R
C103
.5 VI/GY
ACTIVE CHECK CONTROL UNIT
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
INDICATORS: TURN
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/BK
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
S211
C103
.5 BU/RD
1 BU/RD
1 BU/RD
1 BU/BK
1 BU/BK
LH REAR LIGHT ASSEMBLY
RH REAR LIGHT ASSEMBLY
INSTRUMENT CLUSTER PRINTED CIRCUIT
7
C2
LH TURN INDICATOR
INDICATORS
31
INSTRUMENT CLUSTER PRINTED CIRCUIT
GROUND DISTRIBUTION
BU
TURN
GROUND
LH FRONT TURN/PARK LIGHT
RH FRONT TURN/PARK LIGHT
TURN
PARK
1 BR
2.5 BR
GROUND DISTRIBUTION
1.5 BR
S324
S100
S114
4 BR
G104
G200
G300
RH TURN INDICATOR
13
C1
16
.5 BR

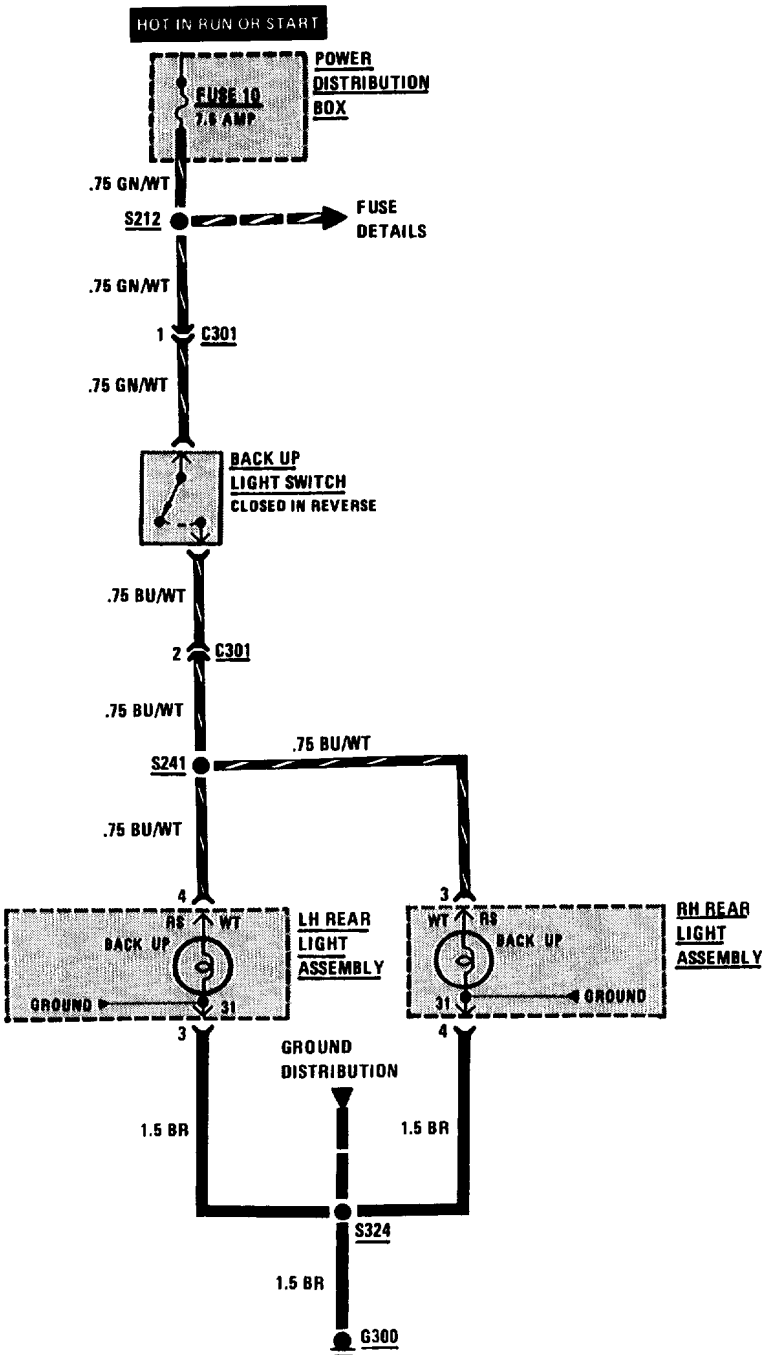
6314-0 PARK/TAIL/FRONT MARKER LIGHTS



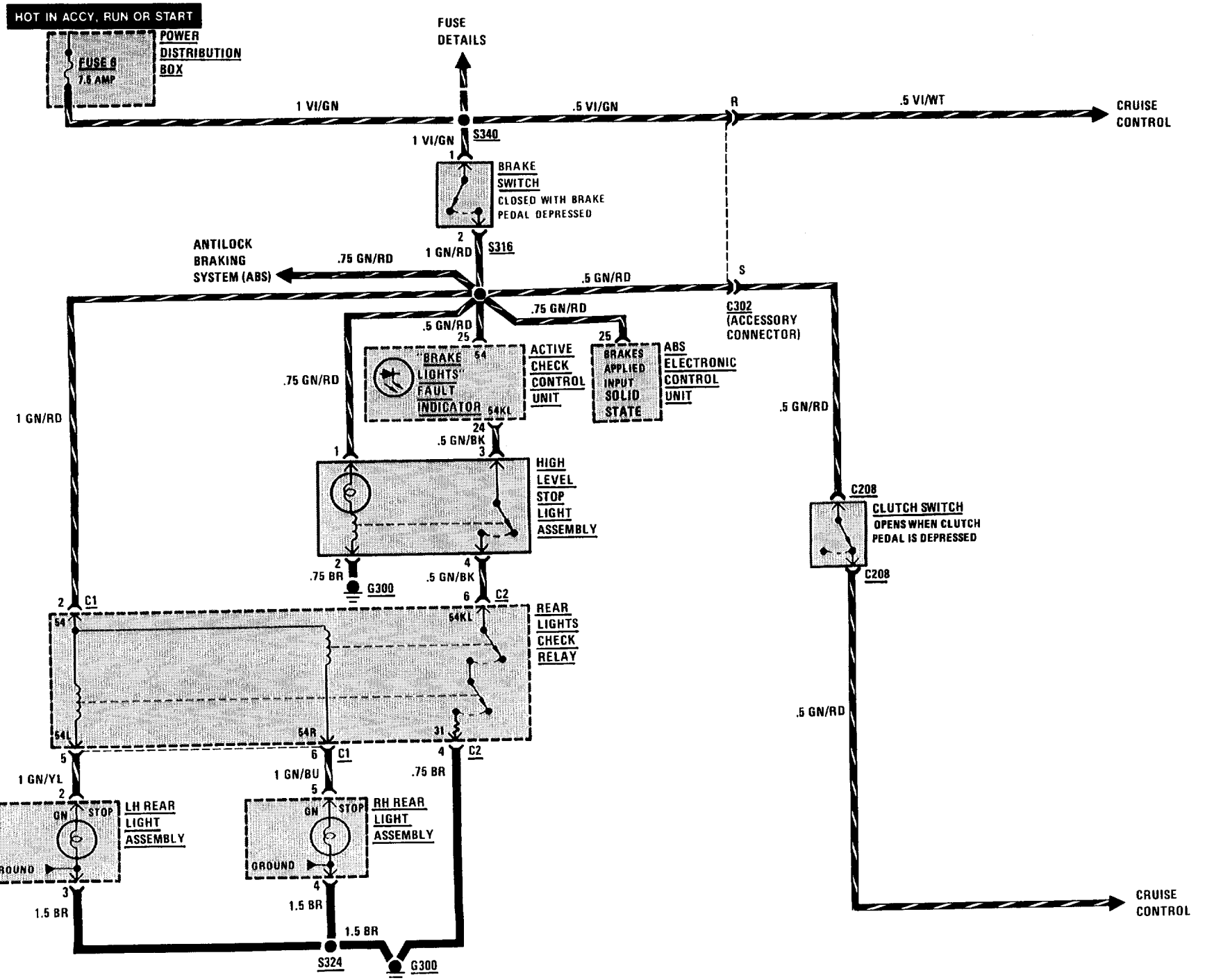
6320-0 REAR MARKER/LICENSE/TRUNK LIGHTS

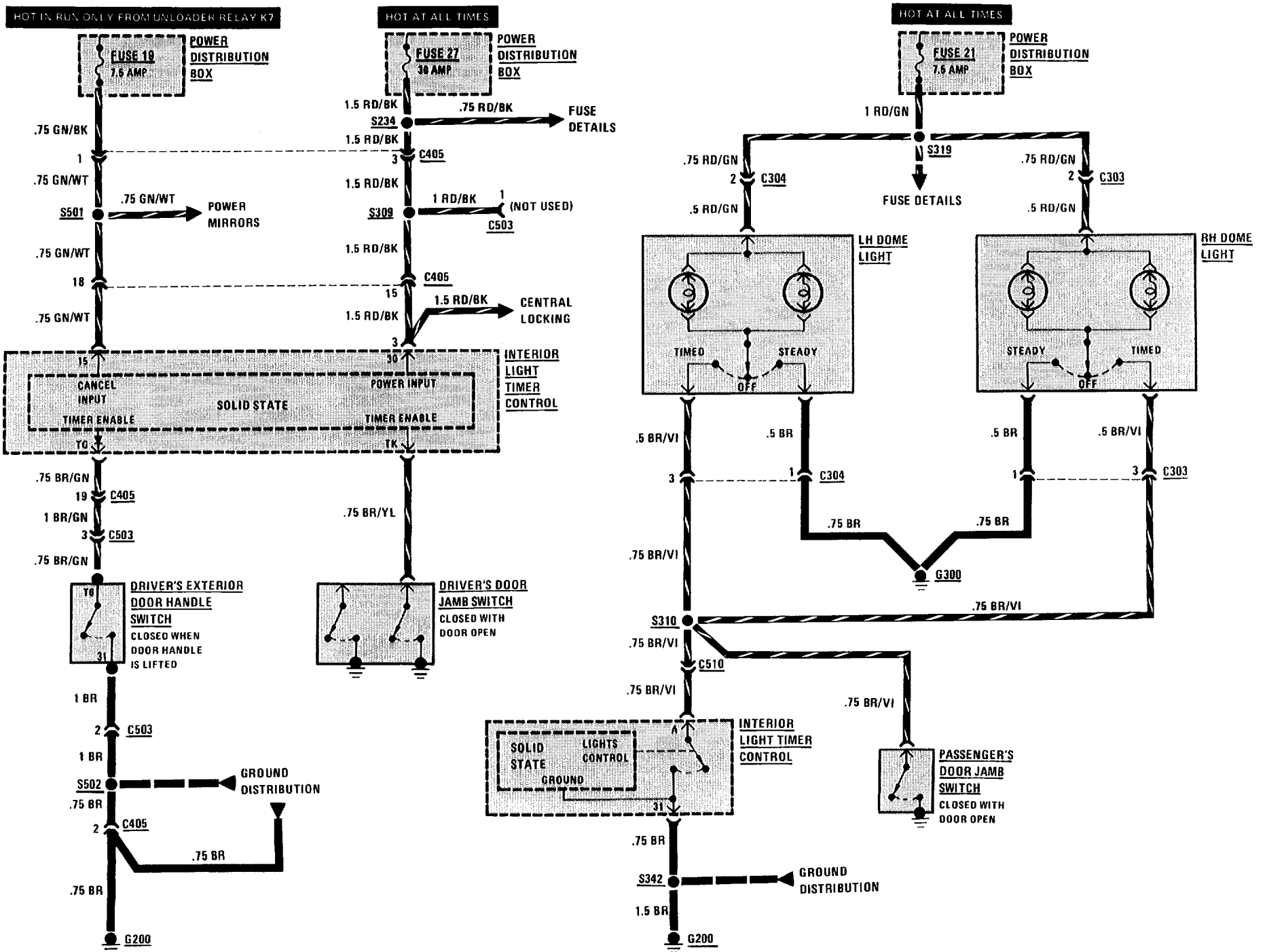


6322-0 BACK UP LIGHTS



6325-0 STOP LIGHTS




HOT IN RUN ONLY FROM UNLOADER RELAY K7
FUSE 19
7.5 AMP
POWER DISTRIBUTION BOX
.75 GN/BK
1
.75 GN/WT
S501
.75 GN/WT
POWER MIRRORS
.75 GN/WT
18
.75 GN/WT
15
CANCEL INPUT
TIMER ENABLE
SOLID STATE
TG
.75 BR/GN
19
C405
1 BR/GN
3
C503
.75 BR/GN
T6
31
DRIVER'S EXTERIOR DOOR HANDLE SWITCH
CLOSED WHEN DOOR HANDLE IS LIFTED
1 BR
2
C503
1 BR
S502
GROUND DISTRIBUTION
.75 BR
2
C405
.75 BR
.75 BR
G200
HOT AT ALL TIMES
FUSE 27
30 AMP
POWER DISTRIBUTION BOX
1.5 RD/BK
S234
.75 RD/BK
FUSE DETAILS
1.5 RD/BK
3
C405
1.5 RD/BK
S309
1 RD/BK
1
(NOT USED)
C503
1.5 RD/BK
C405
15
1.5 RD/BK
CENTRAL LOCKING
1.5 RD/BK
3
30
POWER INPUT
TIMER ENABLE
TK
INTERIOR LIGHT TIMER CONTROL
.75 BR/YL
DRIVER'S DOOR JAMB SWITCH
CLOSED WITH DOOR OPEN
HOT AT ALL TIMES
FUSE 21
7.5 AMP
POWER DISTRIBUTION BOX
1 RD/GN
S319
FUSE DETAILS
.75 RD/GN
2
C304
.5 RD/GN
.75 RD/GN
2
C303
.5 RD/GN
LH DOME LIGHT
TIMED
STEADY
OFF
RH DOME LIGHT
STEADY
TIMED
OFF
.5 BR/VI
3
.5 BR
1
C304
.5 BR
1
.5 BR/VI
3
C303
.75 BR
.75 BR
G300
.75 BR/VI
.75 BR/VI
S310
.75 BR/VI
C510
.75 BR/VI
.75 BR/VI
A
SOLID STATE
LIGHTS CONTROL
GROUND
31
INTERIOR LIGHT TIMER CONTROL
PASSENGER'S DOOR JAMB SWITCH
CLOSED WITH DOOR OPEN
.75 BR
S342
GROUND DISTRIBUTION
1.5 BR
G200

SYSTEM CHECK

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

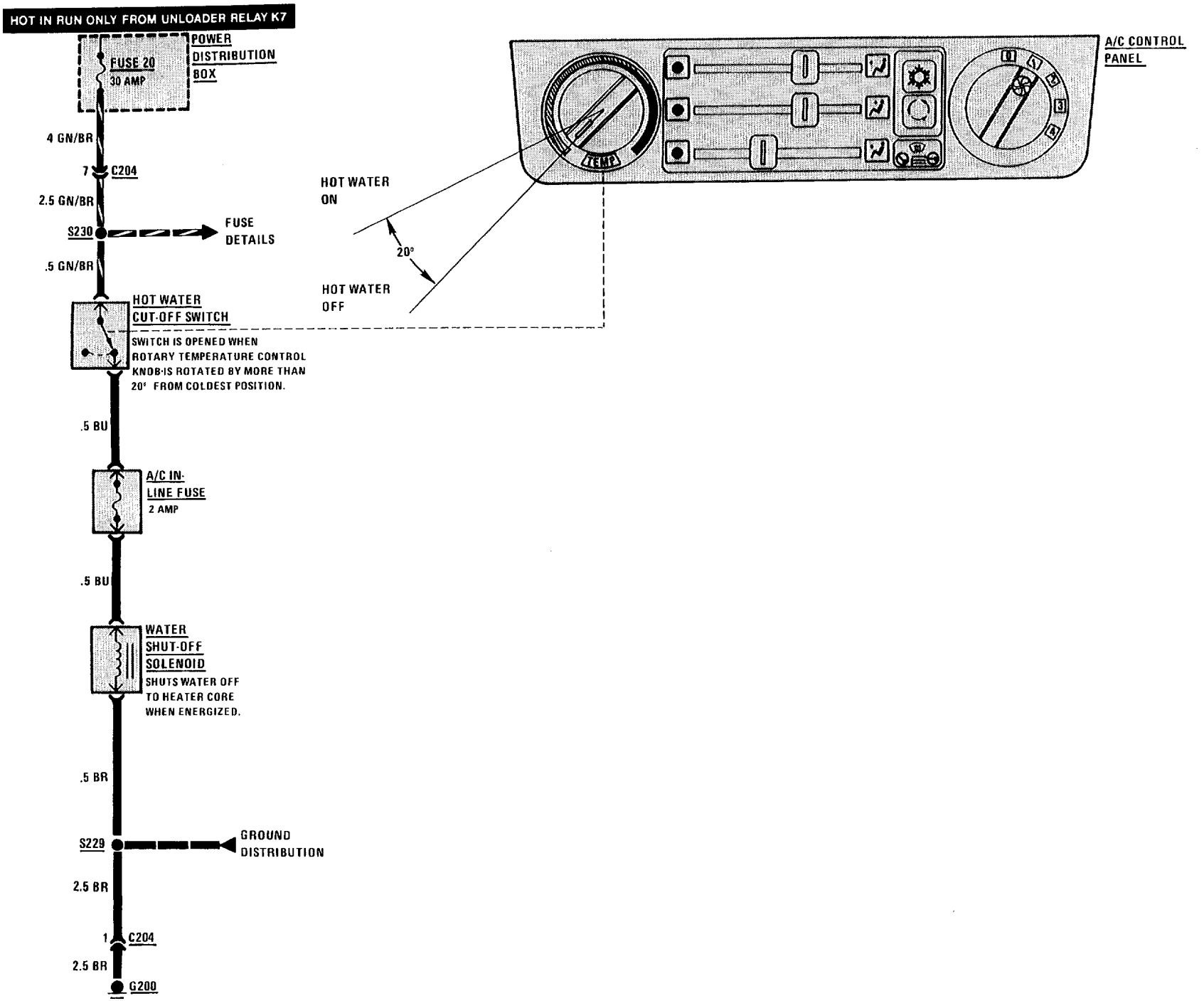
Complete this procedure with the temperature outside the car above 60 degrees F (16 degrees C) and the engine warm and running at idle.

SYSTEM CHECK TABLE

SET: Temperature Control fully counterclockwise Upper and Lower Slide Levers to extreme left Center Slide Lever to extreme right Blower Speed Control at 0 (OFF)	
ACTION	**NORMAL RESULT**
Press Fresh/Recirculating Air Switch (ON). Release A/C button (OFF).	Fresh/Recirculating pushbutton lights. Blower runs slowly.
Rotate Blower Speed Control through steps 1 to 4	Blower speed increases at each step to maximum speed at Step 4
Press Fresh/Recirculating Air Switch to release it (OFF)	Fresh/Recirculating button is no longer 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 Fans runs.
Move Center Slide Lever to the extreme left	A/C button is no longer lighted. A/C Compressor turns off. Auxiliary Cooling Fan turns off.
Move Bottom Slide Lever to the center	A/C button lights. A/C Compressor turns off. Auxiliary Cooling Fan runs.
Press A/C button to release it (OFF)	A/C button is no longer lighted. A/C Compressor turns off. Auxiliary Cooling Fan turns off.
Set Blower Speed Control to 0 (OFF)	Blower turns off

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

HEATING AND AIR CONDITIONING (HOT WATER CONTROL)



CIRCUIT OPERATION

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

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

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

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

TROUBLESHOOTING HINTS

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

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

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

SYSTEM DIAGNOSIS

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

WATER SHUT-OFF SOLENOID TEST (TABLE 1)

Measure: VOLTAGE
At: WATER SHUT-OFF SOLENOID CONNECTOR (Disconnected)
Conditions:
- **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

(Continued in next column)

(Continued from previous column)

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

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

WATER SHUT-OFF SOLENOID TEST (TABLE 2)

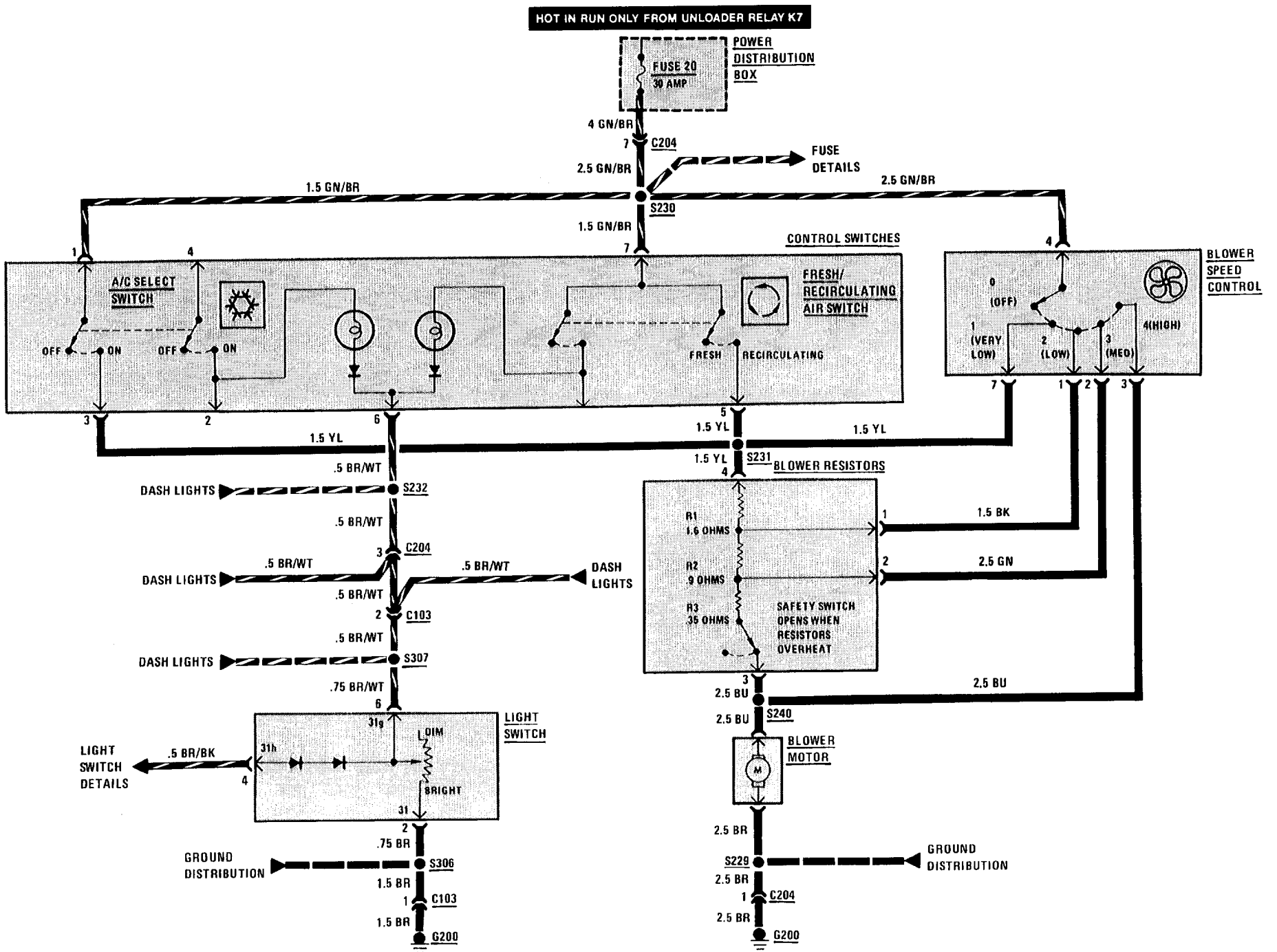
Measure: VOLTAGE
At: HOT WATER CUT-OFF SWITCH CONNECTOR (Disconnected)
Conditions:
- **Ignition Switch: RUN**
- **Water Shut-Off Solenoid: CONNECTED**

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

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

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

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

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

TROUBLESHOOTING HINTS

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

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

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

SYSTEM DIAGNOSIS

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

SYMPTOM TABLE

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

A: CONTROL SWITCH VOLTAGE TEST

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)

(Continued from previous column)

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

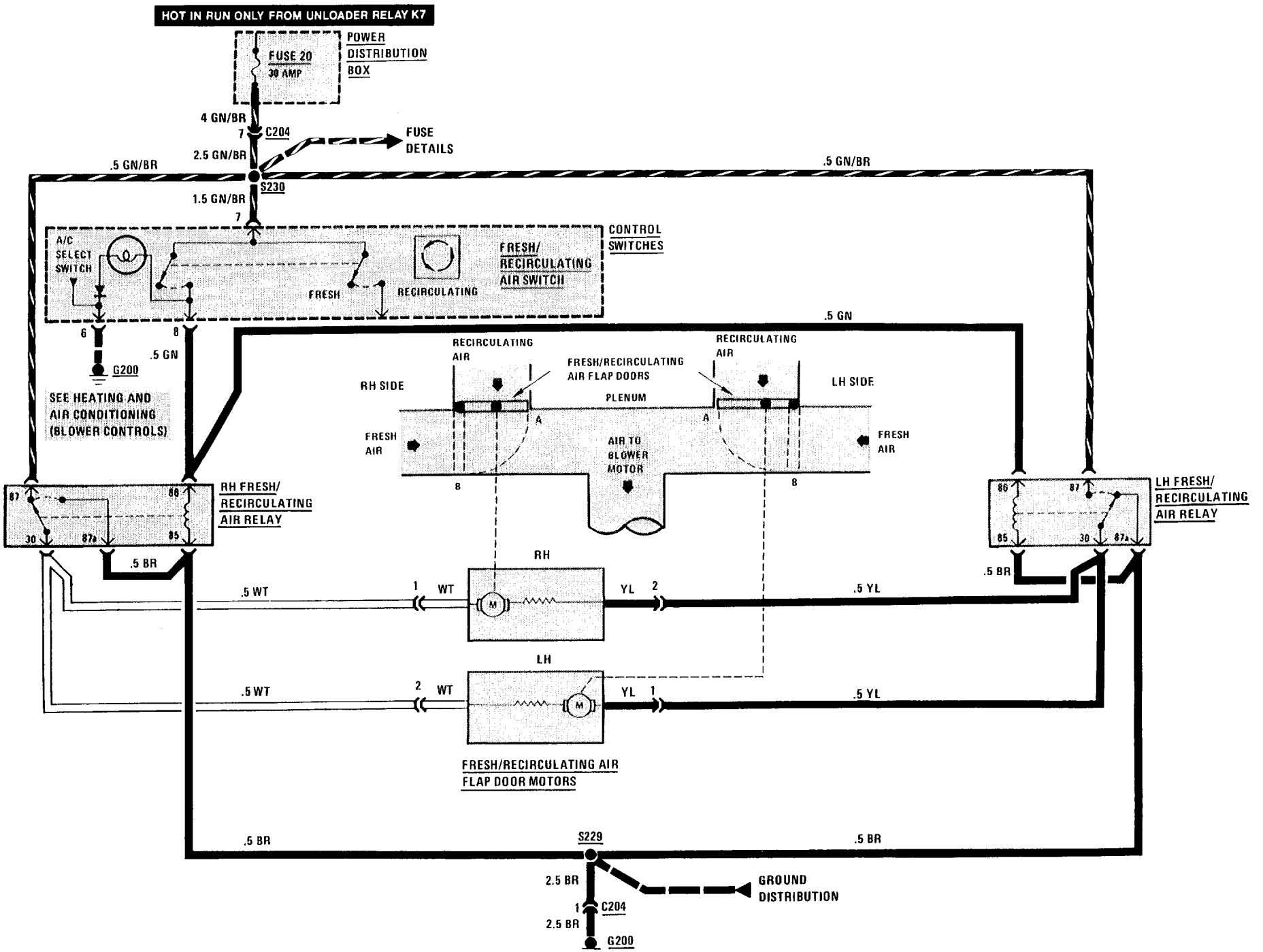
Measure: VOLTAGE
At: BLOWER MOTOR CONNECTOR (Disconnected)
Conditions:
- **Ignition Switch: RUN**
- **A/C Select Switch: ON**
- **Blower Speed Control: HIGH**

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)

(Continued from previous column)

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

(Continued on next page)

(Continued from previous page)

- 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

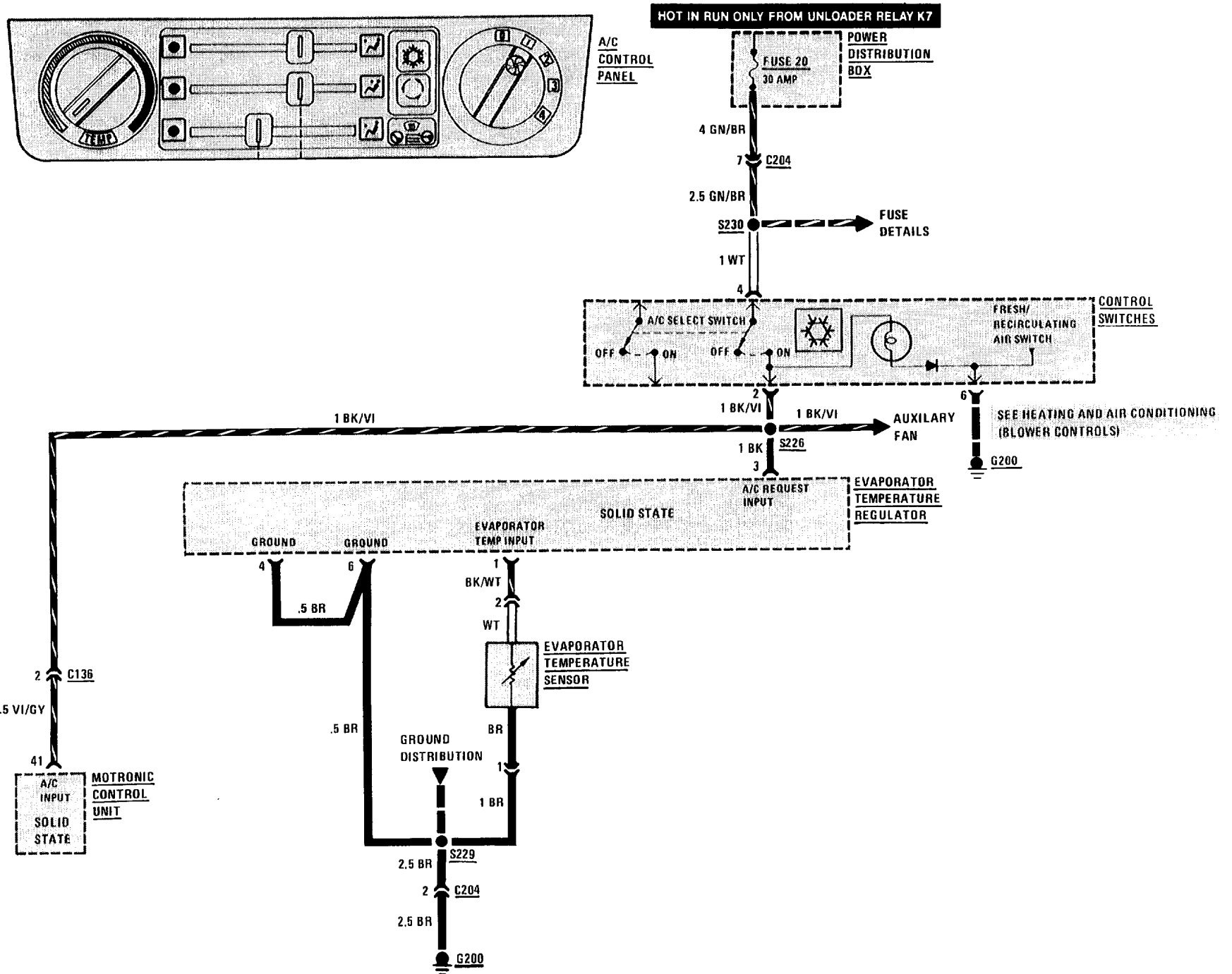
Measure: VOLTAGE
At: CONTROL SWITCHES CONNECTOR (Disconnected)
Condition:
- **Ignition Switch: RUN**

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

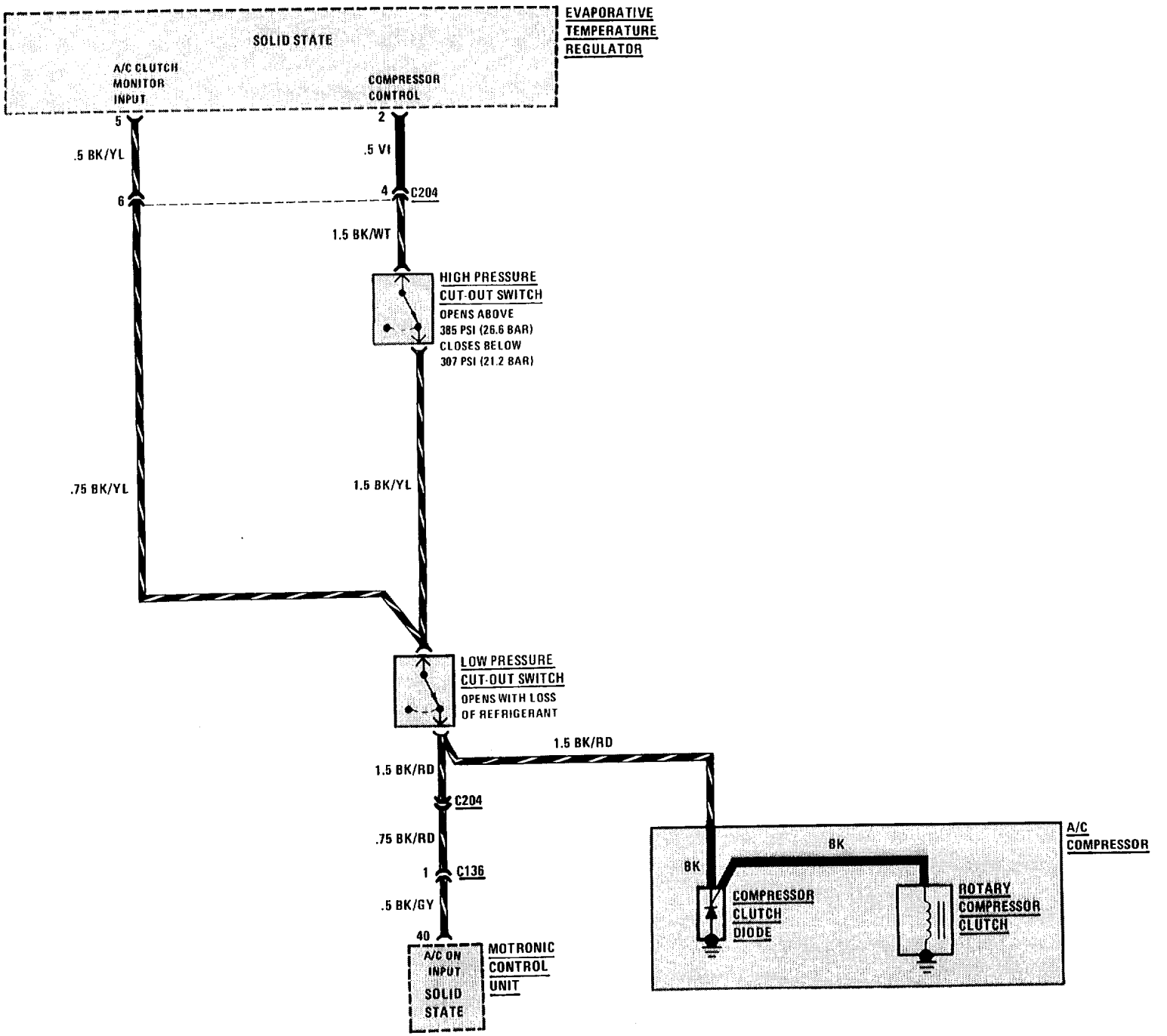
- If both voltages are correct, replace the Control Switches.

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 High Pressure Cut-Out Switch, the Low Pressure Cut-Out Switch, and the Temperature Switch.

The High Pressure Cut-Out Switch will disengage the Compressor Clutch when refrigerant pressure rises above 385 PSI (26.6 Bar). The Evaporator Temperature Regulator will detect the High Pressure Cut-Out 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.

The Temperature Switch opens to remove the compressor load from the engine if the engine coolant temperature rises above 226 °F (108 °C). The Evaporator Temperature Sensor signals the Evaporator Temperature Regulator to de-energize the Compressor Clutch when evaporator temperature is low enough for freezing to result.

Clutch Diode

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

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 (325 engine only)	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 Low Pressure Cut-Out Switch, High Pressure Cut-Out Switch, A/C Temperature Switch, or associated wiring (see schematic). If High Pressure Cut-Out Switch is open, 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/YL for an open between terminal 5 and the Low Pressure Cut-Out 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

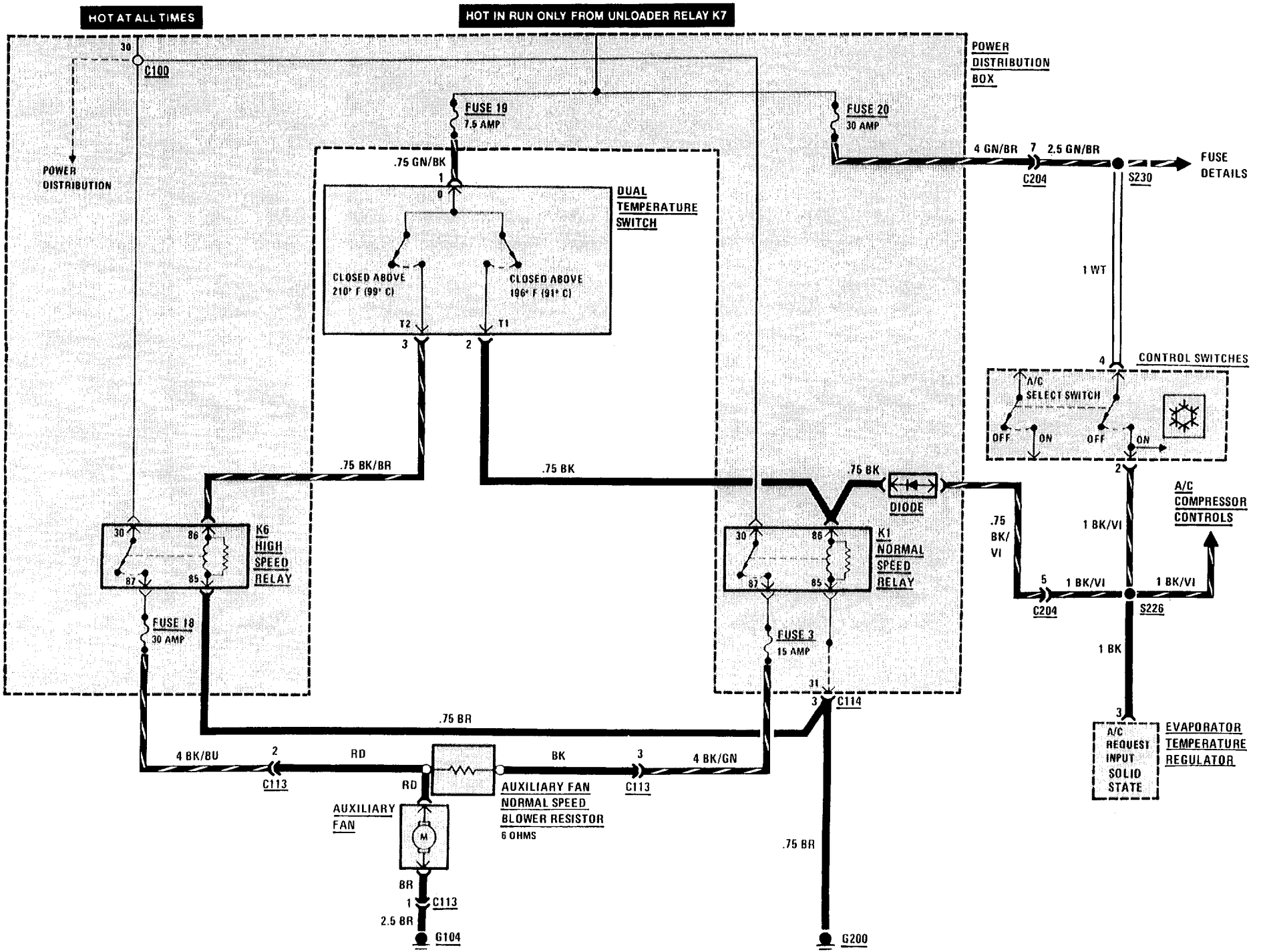
Measure: VOLTAGE
At: CONTROL SWITCHES CONNECTOR (Connected)
Conditions:
- **Ignition Switch: RUN**
- **A/C Control Panel: A/C ON**
- **Temperature Outside Car: Above 60 degrees F (16 degrees C)**

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

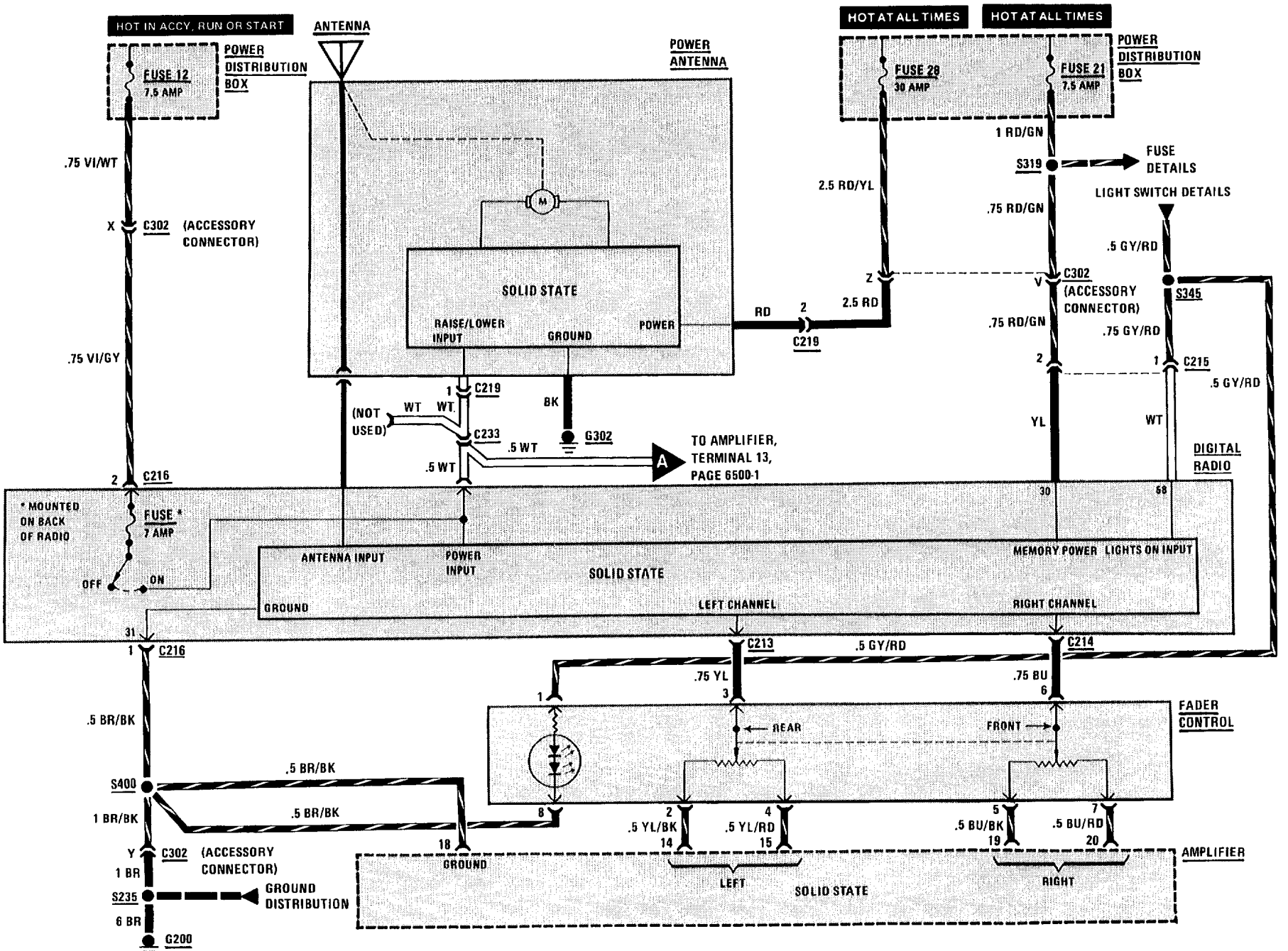
- If both voltages are correct, check connections at Evaporator Temperature Regulator.

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

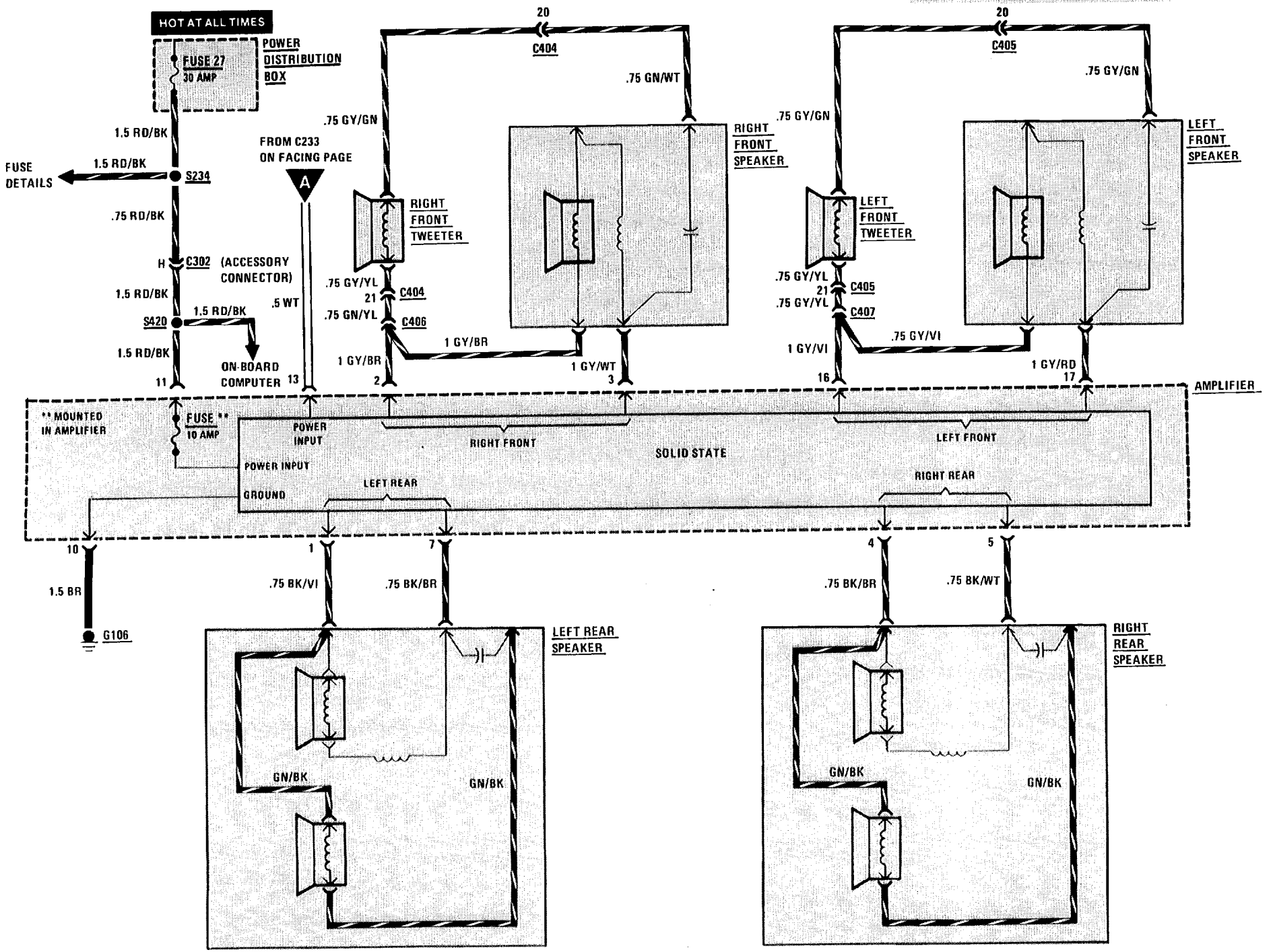
6454-0 AUXILIARY FAN



WITH SOUND SYSTEM



WITH SOUND SYSTEM



CIRCUIT OPERATION

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

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

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

The Amplifier receives constant power at terminal 11 from Fuse 28. When the Radio is on, voltage is applied to terminal 13 to enable the Amplifier.

The actual Radio signal originates at the Antenna. It is supplied to the Radio, processed, and output from the Left Channel and Right Channel Outputs to the Fader Control. The Fader Control alters the front to rear volume by decreasing the resistance to the desired higher volume outputs. The signal is then input to the Left Front, Left Rear, Right Front, and Right Rear Inputs to the Amplifier. After amplification, the signal is output to the corresponding speakers.

TROUBLESHOOTING HINTS

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

1. Check power input to the Radio by observing if Instrument Cluster Indicators light.
2. Check power input to Antenna by observing the Cigar Lighter.
3. Check memory power to Radio by checking operation of the Glove Box Light.
4. Check power input to the Amplifier.
5. If Fader Control has no effect, but sound is heard from all speakers, replace the Fader Control.
6. Check that the Antenna is properly connected.
7. Before troubleshooting a suspect Speaker, check all connections to that Speaker.
8. If display shows "CODE" and Radio will not operate, the individual Anti-Theft Code must be entered. Refer to "Anti-Theft" instruction booklet.
9. Check Radio Fuse located on back of Radio.
10. Check Amplifier Fuse located on back of Amplifier.

- **Go to System Check for a guide to normal operation.**
- **Go to System Diagnosis for diagnostic tests.**

SYSTEM CHECK

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

SYSTEM CHECK TABLE

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

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

SYSTEM DIAGNOSIS

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

SYMPTOM TABLE

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

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

A: RADIO POWER TEST

Measure: VOLTAGE
At: RADIO CONNECTOR 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: AMPLIFIER POWER TEST

Measure: VOLTAGE
At: AMPLIFIER CONNECTOR (Disconnected)
Conditions:
- **Ignition Switch: RUN**
- **Radio: ON**

Measure Between	Correct Voltage	For Diagnosis
11 & Ground	Battery	See 1
11 & 18	Battery	See 2
13 & Ground	Battery	See 3
11 & 10	Battery	See 4

- If all voltages are correct, go to Test C.

1. Check power supply wire for an open.
2. Check Amplifier ground to Amplifier for an open to ground. Make sure ground G200 is clean and tight.
3. Check Amplifier "Radio On" wire for an open.
4. Check wire from terminal 10 for an open to ground. Make sure ground G302 is clean and tight.

C: FADER SIGNAL TEST (TABLE 1)

Measure: VOLTAGE
At: FADER CONTROL CONNECTOR (Disconnected)
Conditions:
- **Ignition Switch: RUN**
- **Radio: ON**

Measure Between	Correct Voltage	For Diagnosis
3 & Ground	Approximately 6 Volts	See 1
6 & Ground	Approximately 6 Volts	See 2

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

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

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C: FADER SIGNAL TEST (TABLE 2)

Measure: VOLTAGE
At: AMPLIFIER CONNECTOR (Disconnected)
Conditions:
- **Ignition Switch: RUN**
- **Radio: ON**

Measure Between	Correct Voltage	For Diagnosis
14 & Ground	Approximately 6 Volts	See 1
15 & Ground	Approximately 6 Volts	See 2
19 & Ground	Approximately 6 Volts	See 3
20 & Ground	Approximately 6 Volts	See 4

- If all voltages are correct but sound was not present, remove Amplifier for service.

1. Check between pin 2 (Fader) to pin 14 (Amplifier) for an open in the wiring. If wire is OK, replace Fader Control.
2. Check between pin 4 (Fader) to pin 15 (Amplifier) for an open in the wiring. If wire is OK, replace Fader Control.
3. Check between pin 5 (Fader) to pin 19 (Amplifier) for an open in the wiring. If wire is OK, replace Fader Control.
4. Check between pin 7 (Fader) to pin 20 (Amplifier) for an open in the wiring. If wire is OK, replace Fader Control.

D: SUSPECT SPEAKER TEST

Connect: OHMMETER
At: SUSPECT SPEAKER (Disconnected)
Condition:
- **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 for opens or shorts. If wires are OK, check the related wire between Fader and Amplifier.

1. Replace the suspect Speaker.

E: NOISE DIAGNOSIS

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

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

ANTENNA NOISE TEST

Measure: RESISTANCE
At: ANTENNA

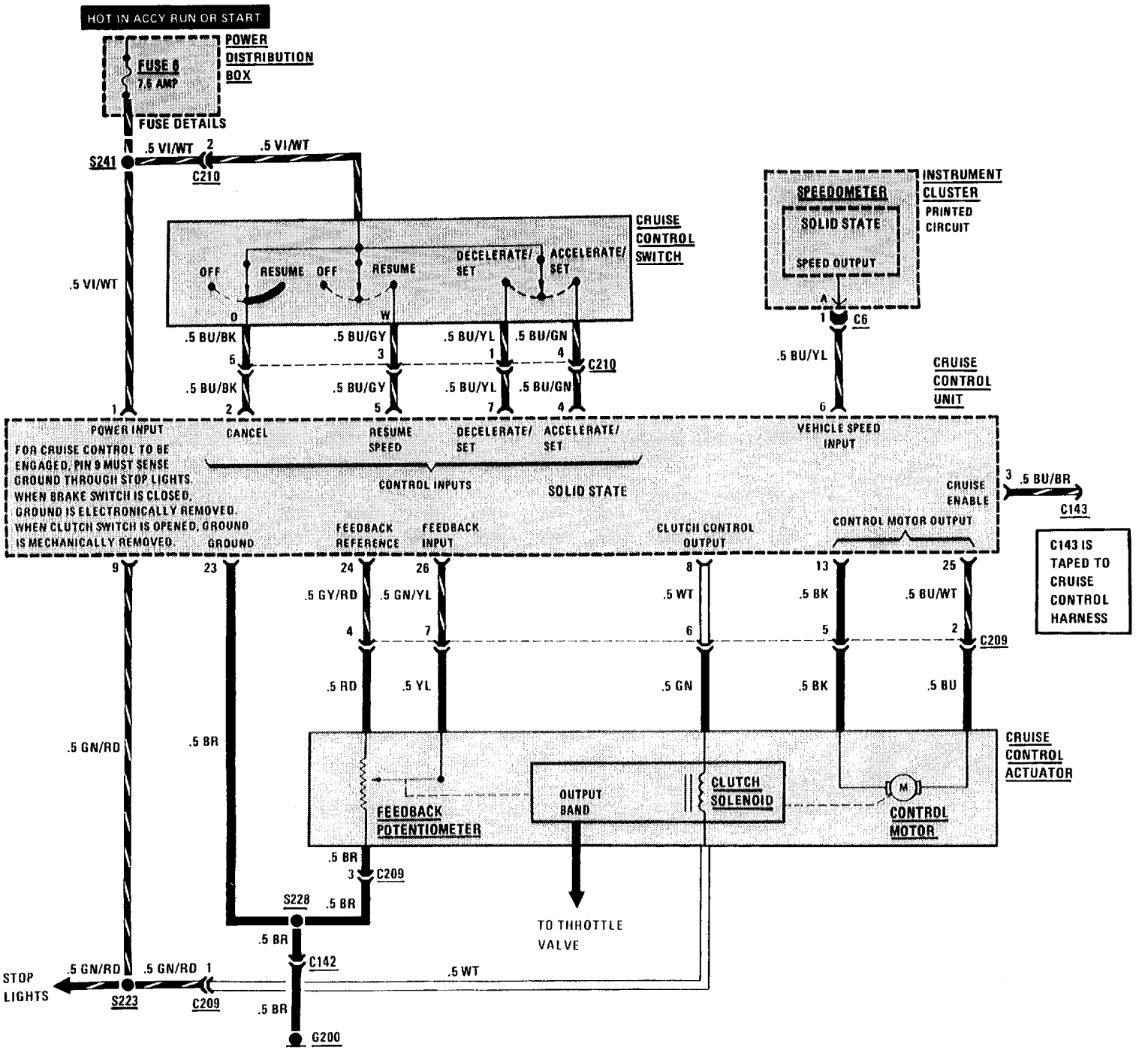
Measure Between	Correct Resistance	For Diagnosis
Antenna Plug Base & Ground	Less than 3 Ohms	See 1
Antenna Plug Tip & Antenna Plug Base	Greater than 1 Megaohm (open circuit)	See 2

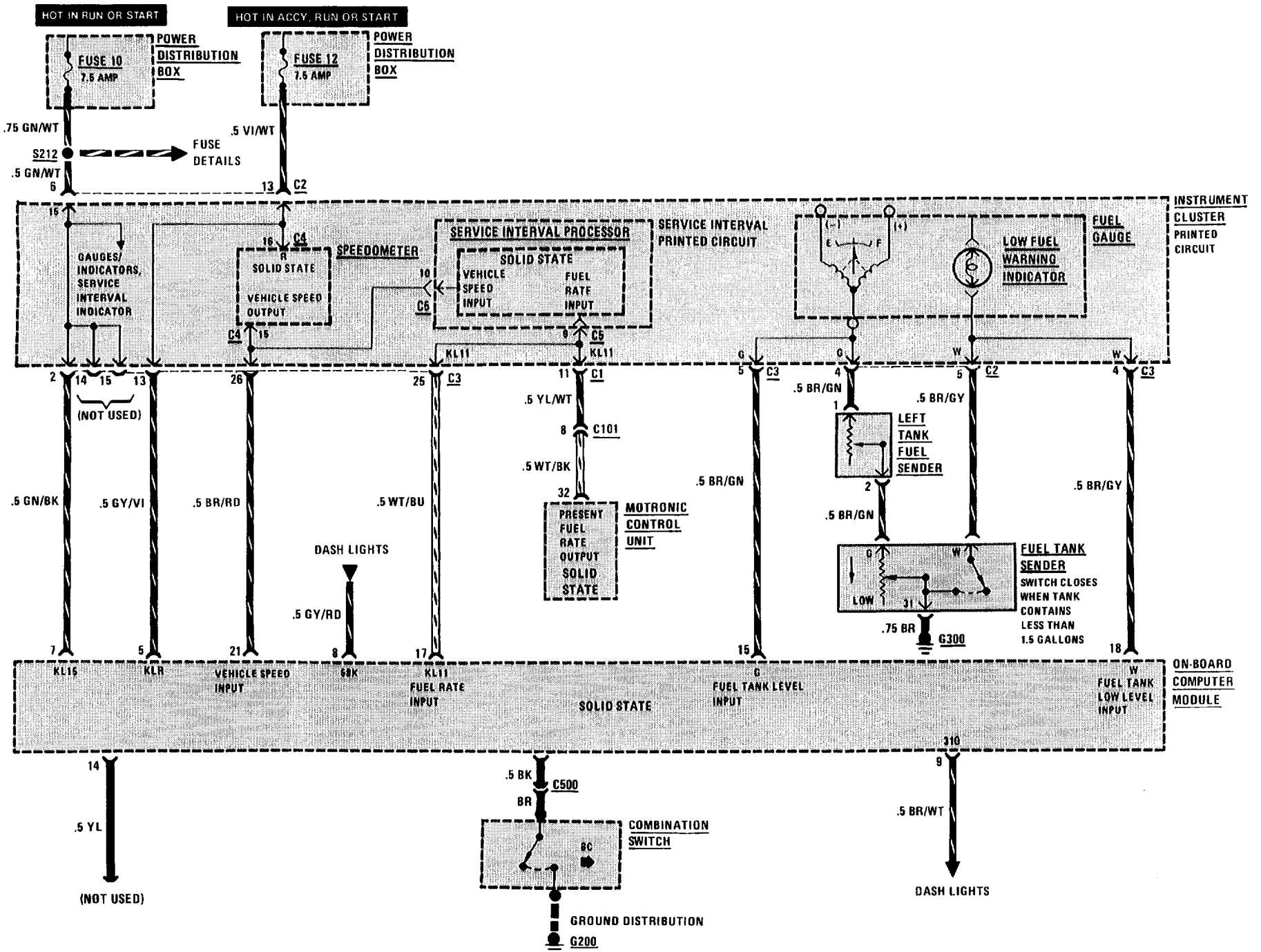
- If both resistances are correct, check the hood ground strap. If hood ground strap is OK, substitute a different Antenna at Radio. If the new Antenna is good, replace Antenna. If noise is still present, refer to Noise Symptom Table.

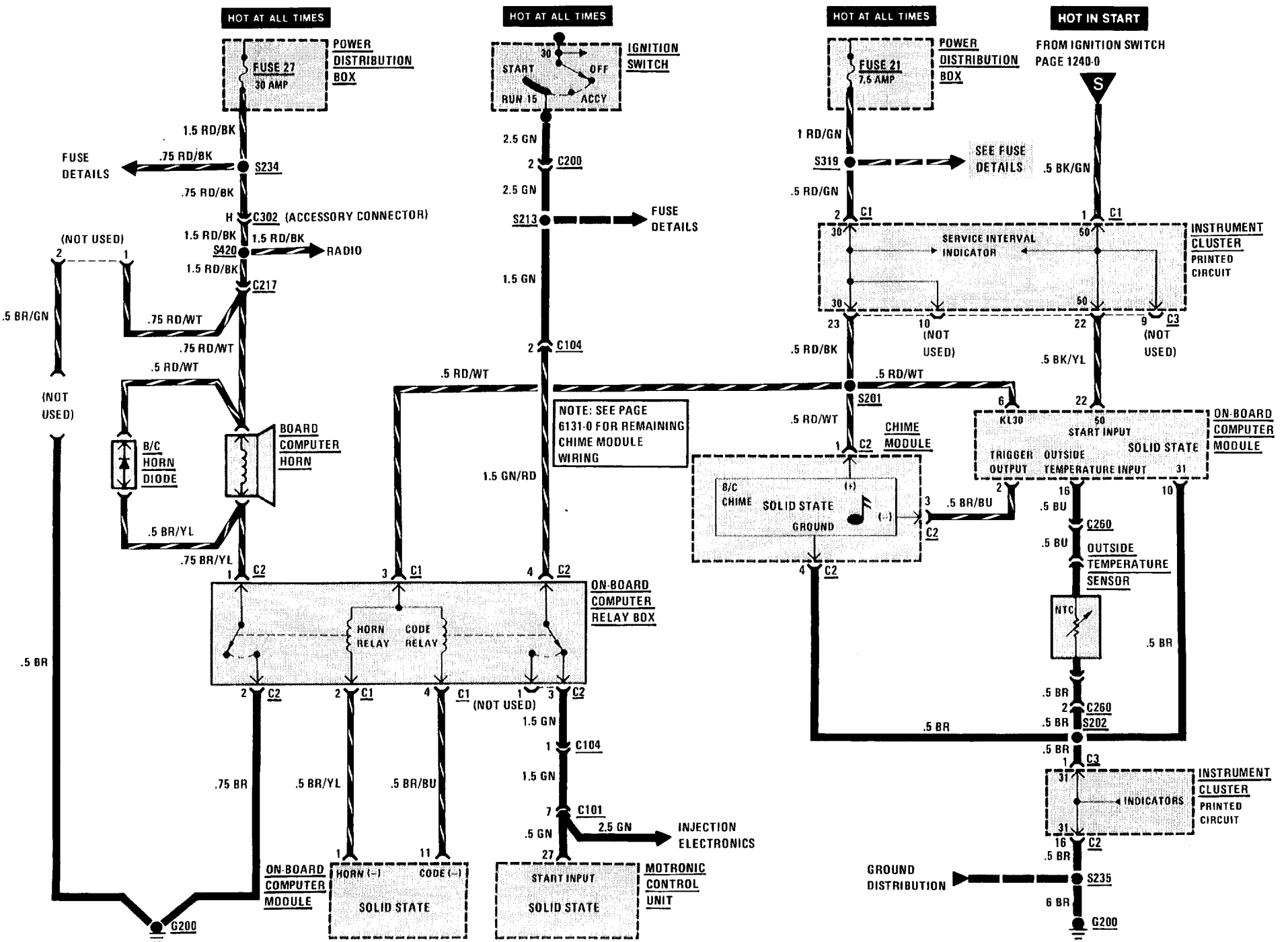
1. Check ground contact at Antenna base. If necessary, install a braided ground strap from the Antenna Base to Chassis ground. Check for an open in the Antenna Cable.
2. Check for a short to ground at the Antenna or Antenna cable.

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.


HOT IN ACCY RUN OR START
FUSE 6
7.5 AMP
FUSE DETAILS
POWER DISTRIBUTION BOX
S241
.5 VI/WT
C210
CRUISE CONTROL SWITCH
OFF
RESUME
OFF
RESUME
DECELERATE/ SET
ACCELERATE/ SET
SPEEDOMETER
SOLID STATE
SPEED OUTPUT
INSTRUMENT CLUSTER PRINTED CIRCUIT
C6
.5 BU/BK
.5 BU/GY
.5 BU/YL
.5 BU/GN
.5 BU/YL
CRUISE CONTROL UNIT
POWER INPUT
FOR CRUISE CONTROL TO BE ENGAGED, PIN 9 MUST SENSE GROUND THROUGH STOP LIGHTS. WHEN BRAKE SWITCH IS CLOSED, GROUND IS ELECTRONICALLY REMOVED. WHEN CLUTCH SWITCH IS OPENED, GROUND IS MECHANICALLY REMOVED.
CANCEL
RESUME SPEED
DECELERATE/ SET
ACCELERATE/ SET
CONTROL INPUTS
SOLID STATE
VEHICLE SPEED INPUT
CRUISE ENABLE
.5 BU/BR
C143
C143 IS TAPED TO CRUISE CONTROL HARNESS
GROUND
FEEDBACK REFERENCE
FEEDBACK INPUT
CLUTCH CONTROL OUTPUT
CONTROL MOTOR OUTPUT
.5 GY/RD
.5 GN/YL
.5 WT
.5 BK
.5 BU/WT
C209
.5 RD
.5 YL
.5 GN
.5 BK
.5 BU
.5 GN/RD
.5 BR
CRUISE CONTROL ACTUATOR
FEEDBACK POTENTIOMETER
OUTPUT BAND
CLUTCH SOLENOID
CONTROL MOTOR
S228
TO THROTTLE VALVE
C142
STOP LIGHTS
S223
G200


HOT IN RUN OR START
HOT IN ACCY, RUN OR START
FUSE 10
7.5 AMP
POWER DISTRIBUTION BOX
FUSE 12
7.5 AMP
POWER DISTRIBUTION BOX
.75 GN/WT
.5 VI/WT
S212
FUSE DETAILS
.5 GN/WT
INSTRUMENT CLUSTER PRINTED CIRCUIT
GAUGES/ INDICATORS, SERVICE INTERVAL INDICATOR
SPEEDOMETER
SOLID STATE
VEHICLE SPEED OUTPUT
SERVICE INTERVAL PROCESSOR
SOLID STATE
VEHICLE SPEED INPUT
FUEL RATE INPUT
SERVICE INTERVAL PRINTED CIRCUIT
FUEL GAUGE
LOW FUEL WARNING INDICATOR
(NOT USED)
.5 GN/BK
.5 GY/VI
.5 BR/RD
.5 WT/BU
DASH LIGHTS
.5 GY/RD
.5 YL/WT
.5 WT/BK
PRESENT FUEL RATE OUTPUT SOLID STATE
MOTRONIC CONTROL UNIT
.5 BR/GN
.5 BR/GY
LEFT TANK FUEL SENDER
FUEL TANK SENDER
SWITCH CLOSES WHEN TANK CONTAINS LESS THAN 1.5 GALLONS
.75 BR
G300
KL15
KLR
VEHICLE SPEED INPUT
KL11 FUEL RATE INPUT
SOLID STATE
FUEL TANK LEVEL INPUT
FUEL TANK LOW LEVEL INPUT
ON-BOARD COMPUTER MODULE
.5 YL
(NOT USED)
.5 BK
BR
C500
COMBINATION SWITCH
GROUND DISTRIBUTION
G200
.5 BR/WT
DASH LIGHTS


HOT AT ALL TIMES
POWER DISTRIBUTION BOX
FUSE 27 30 AMP
1.5 RD/BK
FUSE DETAILS
.75 RD/BK
S234
.75 RD/BK
H C302 (ACCESSORY CONNECTOR)
(NOT USED)
1.5 RD/BK
1.5 RD/BK
S420
RADIO
1.5 RD/BK
C217
.5 BR/GN
.75 RD/WT
.75 RD/WT
.5 RD/WT
(NOT USED)
B/C HORN DIODE
BOARD COMPUTER HORN
.5 BR/YL
.75 BR/YL
1 C2
.5 BR
.75 BR
2 C2
ON-BOARD COMPUTER MODULE
G200
HORN (–)
CODE (–)
SOLID STATE
HORN RELAY
CODE RELAY
ON-BOARD COMPUTER RELAY BOX
3 C1
.5 RD/WT
1.5 GN/RD
2 C1
.5 BR/YL
4 C1
.5 BR/BU
1 C2
3 C2
(NOT USED)
HOT AT ALL TIMES
IGNITION SWITCH
30
START
OFF
RUN 15
ACCY
2.5 GN
2 C200
2.5 GN
S213
FUSE DETAILS
1.5 GN
2 C104
.5 RD/WT
NOTE: SEE PAGE 6131-0 FOR REMAINING CHIME MODULE WIRING
4 C2
1.5 GN
1 C104
1.5 GN
7 C101
.5 GN
2.5 GN
INJECTION ELECTRONICS
27
START INPUT
SOLID STATE
MOTRONIC CONTROL UNIT
HOT AT ALL TIMES
POWER DISTRIBUTION BOX
FUSE 21 7.5 AMP
1 RD/GN
S319
SEE FUSE DETAILS
.5 RD/GN
2 C1
30
SERVICE INTERVAL INDICATOR
50
INSTRUMENT CLUSTER PRINTED CIRCUIT
30
50
23
10 (NOT USED)
22
9 C3 (NOT USED)
.5 RD/BK
.5 BK/YL
.5 RD/WT
S201
6
22
.5 RD/WT
1 C2
CHIME MODULE
B/C CHIME
SOLID STATE
GROUND
(+)
(–)
3
.5 BR/BU
2 C2
4 C2
HOT IN START
FROM IGNITION SWITCH PAGE 1240-0
S
.5 BK/GN
1 C1
KL30
50
START INPUT
SOLID STATE
TRIGGER OUTPUT
OUTSIDE TEMPERATURE INPUT
31
ON-BOARD COMPUTER MODULE
2
16
10
.5 BU
C260
.5 BU
OUTSIDE TEMPERATURE SENSOR
NTC
.5 BR
.5 BR
2 C260
.5 BR
S202
.5 BR
.5 BR
1 C3
31
INDICATORS
INSTRUMENT CLUSTER PRINTED CIRCUIT
31
16 C2
.5 BR
GROUND DISTRIBUTION
S235
6 BR
G200

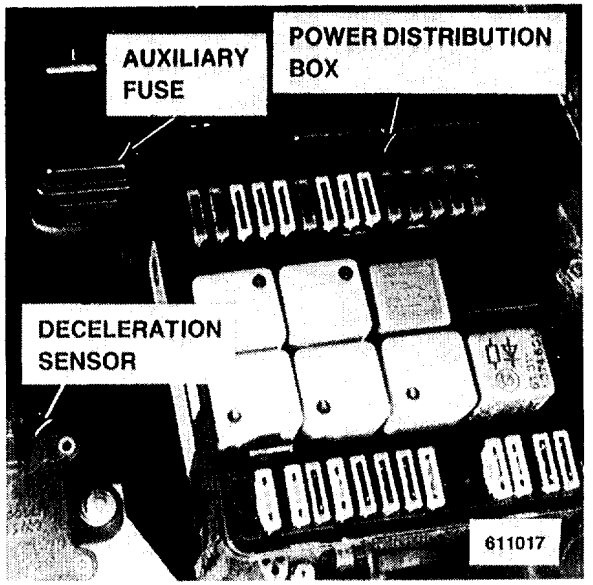


Figure 1 - LH Rear of Engine Compartment

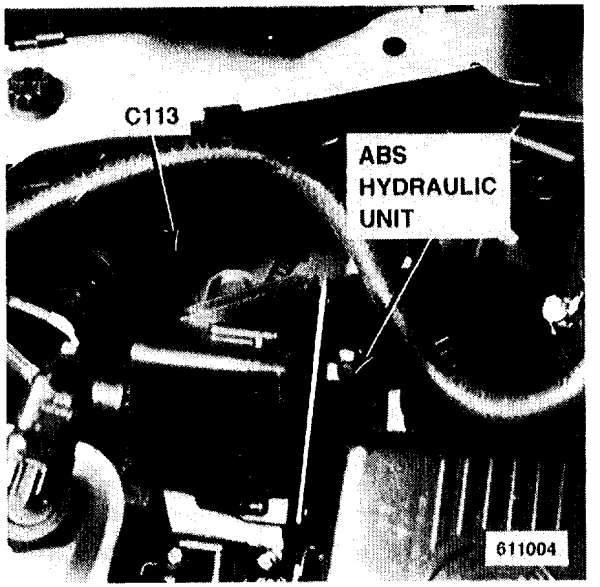


Figure 3 - LH Front of Engine Compartment

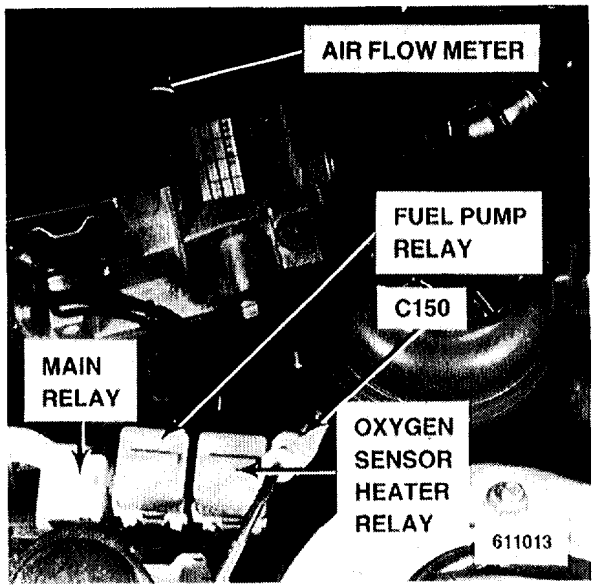


Figure 5 - Forward of LH Front Shock Tower (Relay Cover Removal)

Figure 2 - LH Rear of Engine Compartment

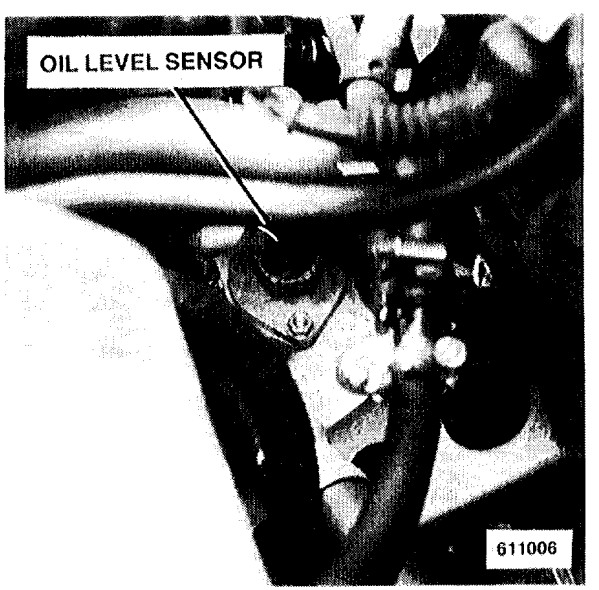


Figure 4 - Lower LH Side of Engine

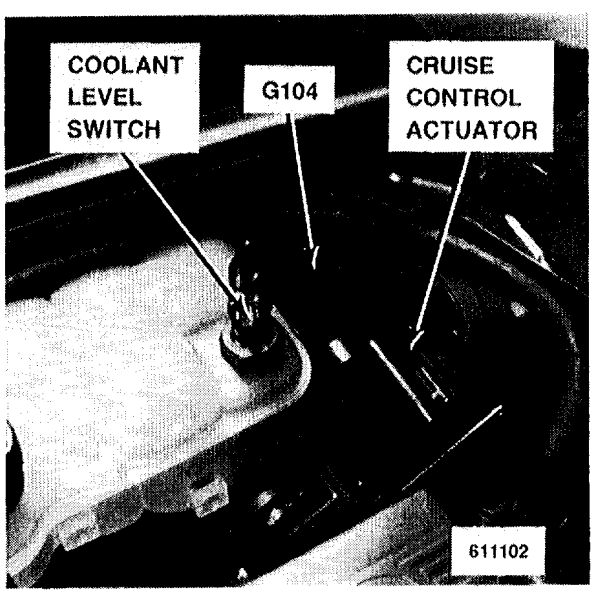


Figure 6 - Forward of LH Front Wheel Well

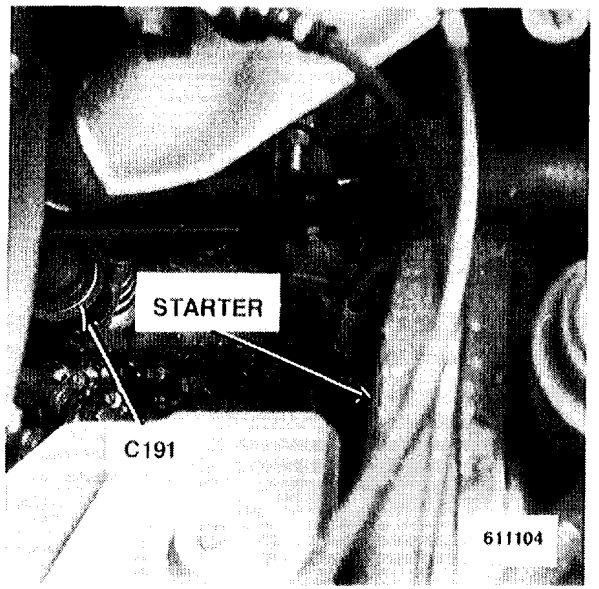


Figure 1 - Lower LH Rear of Engine

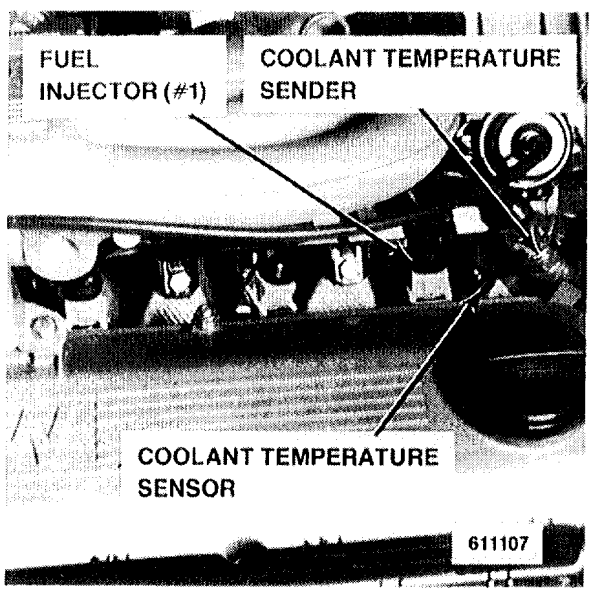


Figure 2 - Top Front of Engine

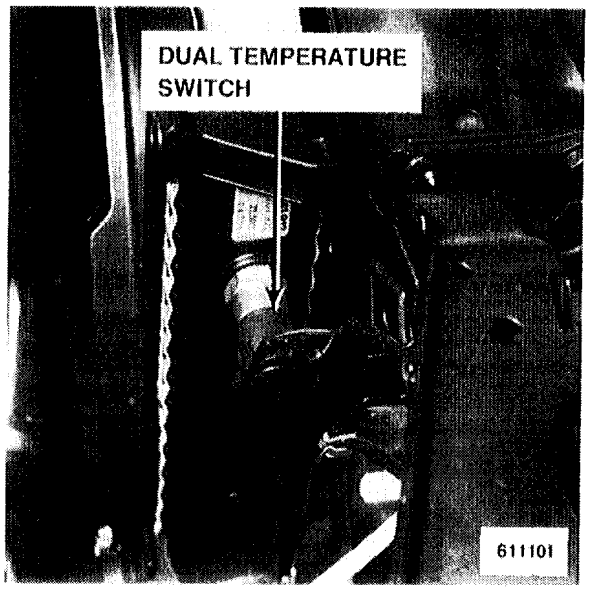


Figure 3 - Top RH Side of Radiator

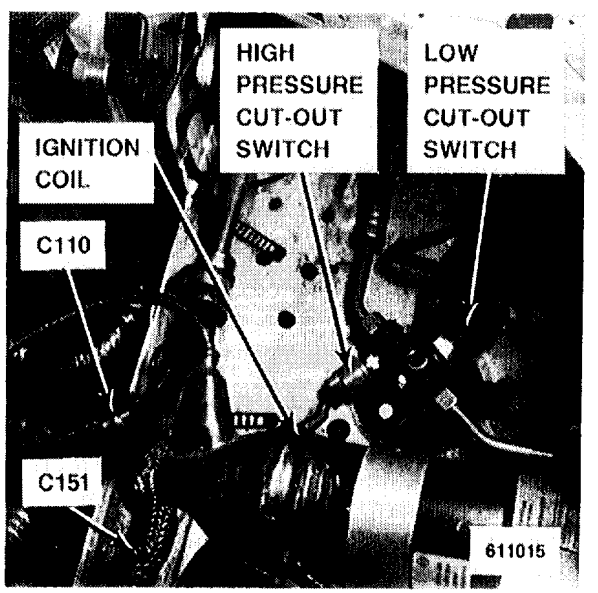


Figure 4 - Behind RH Headlights (Cover Removed)

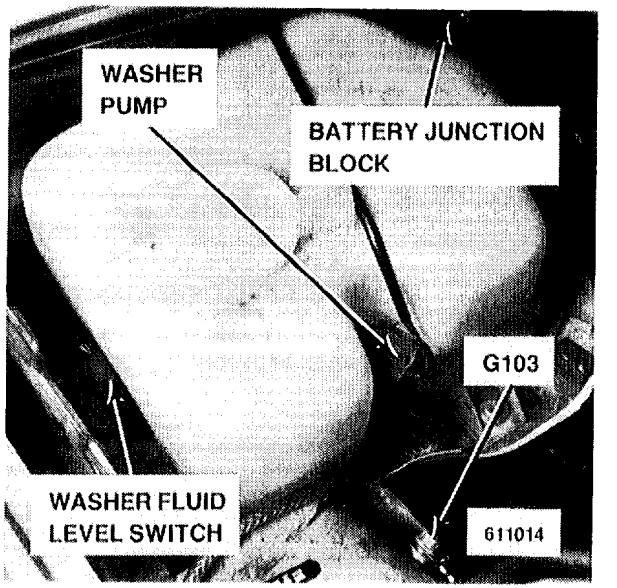


Figure 5 - RH Rear of Engine Compartment

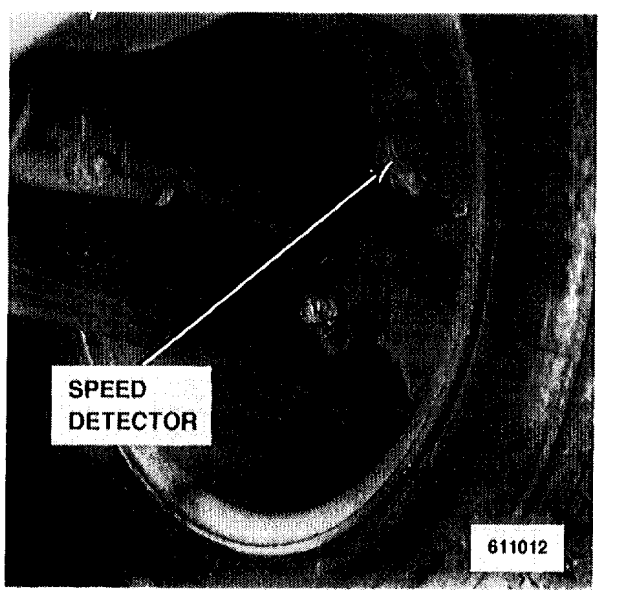


Figure 6 - Behind LH Front Wheel

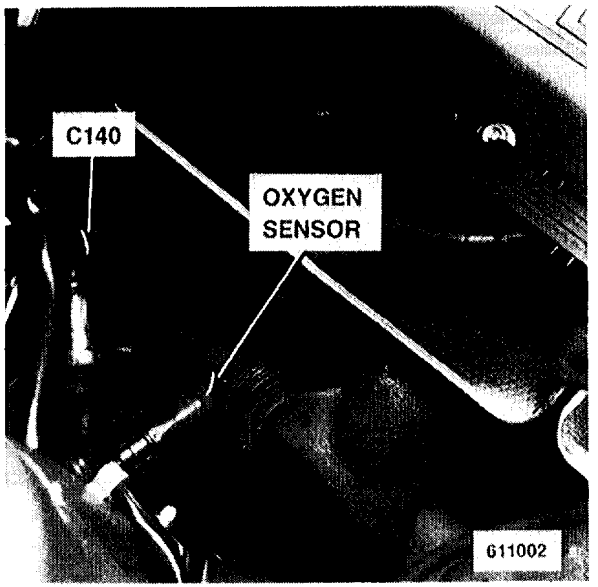


Figure 1 - Lower RH Rear of Engine Compartment

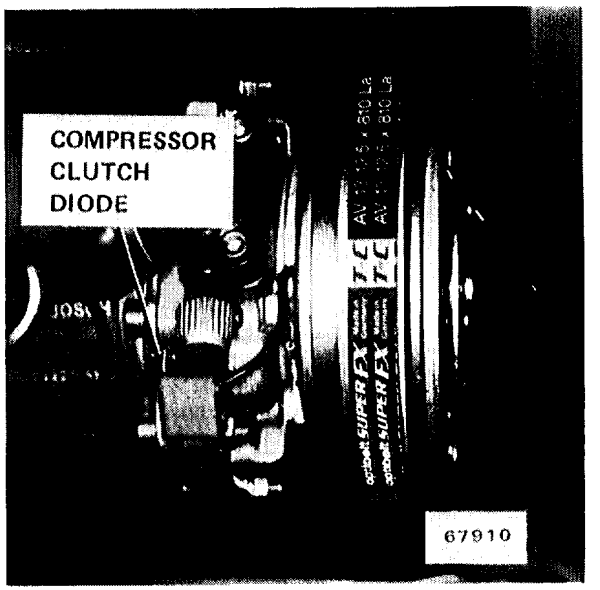


Figure 3 - Lower RH Front of Engine

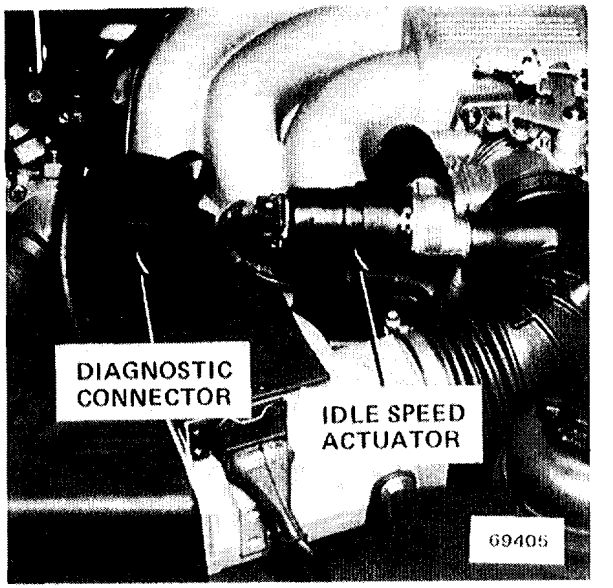


Figure 5 - LH Front of Engine

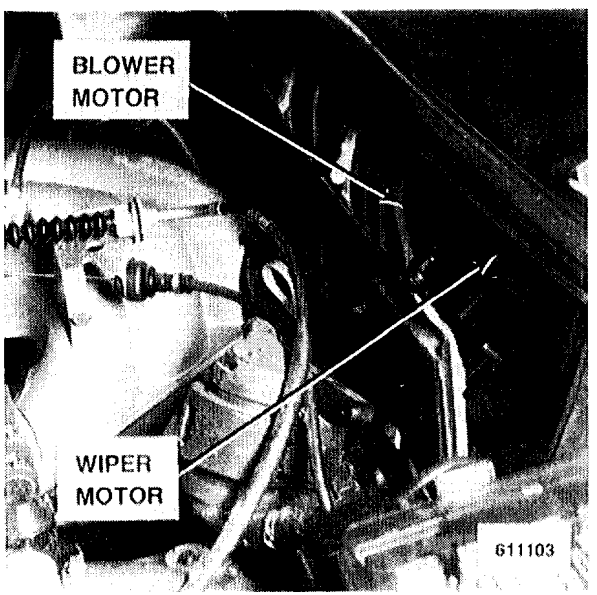


Figure 2 - Behind Cowl

Figure 4 - Lower RH Front of Engine

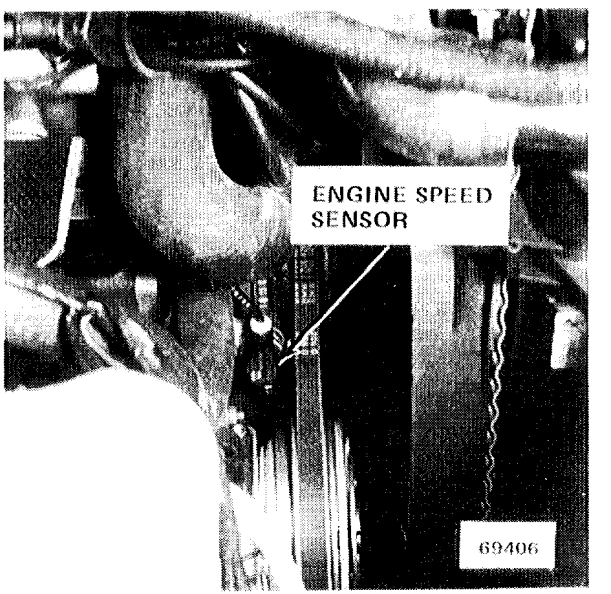


Figure 6 - Lower RH Front of Engine

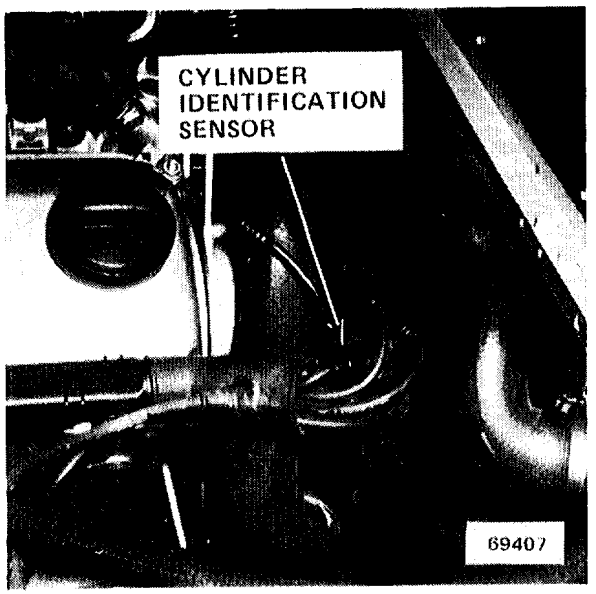


Figure 1 - RH Front of Engine
(Cover Removed)

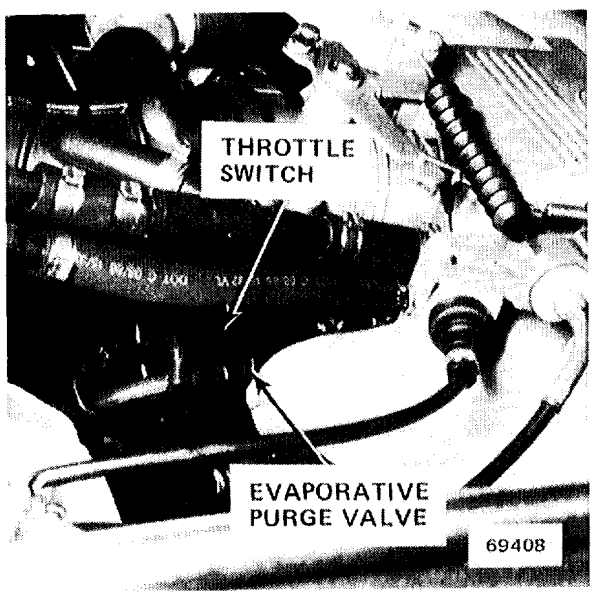


Figure 2 - LH Side of Engine

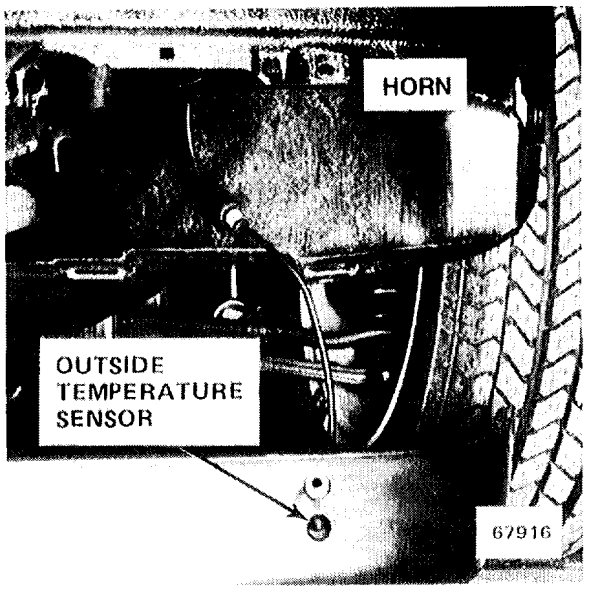


Figure 3 - Under LH Side of Front Bumper
(Splash Guard Pulled Down)

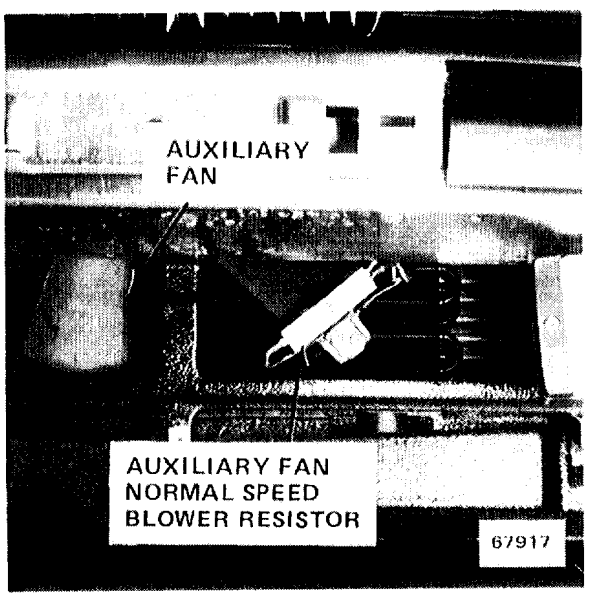


Figure 4 - Under Middle of Front Bumper

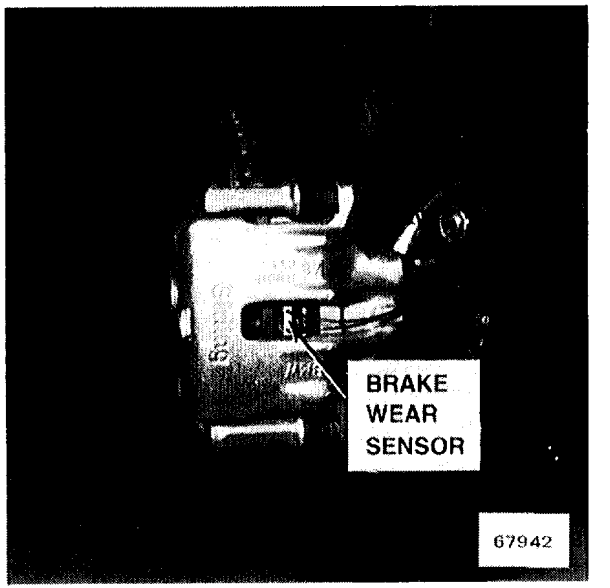


Figure 5 - LH Front Brake Assembly
(Wheel Removed)

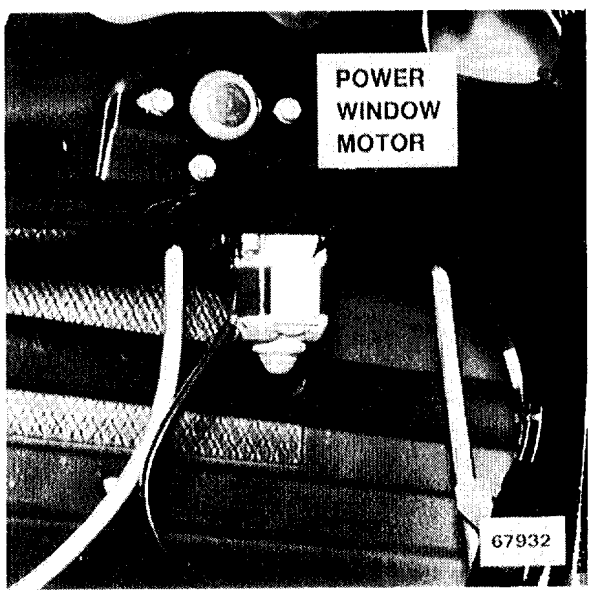


Figure 6 - Unside LH Front Door
(Panel Removed)

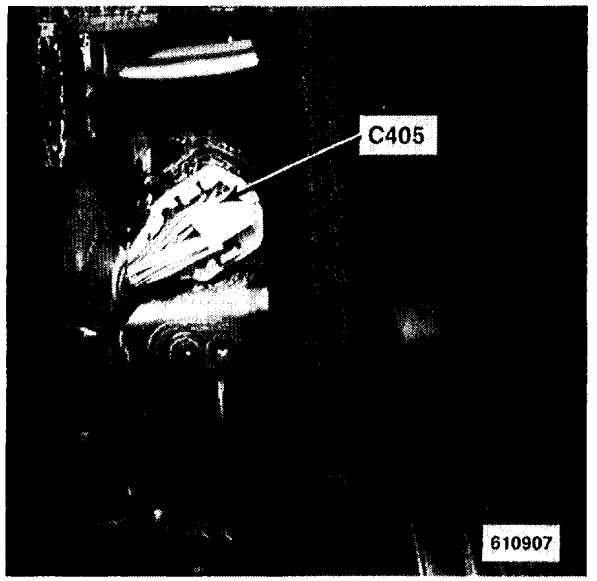


Figure 1 - Above LH Front Door Jamb Switch

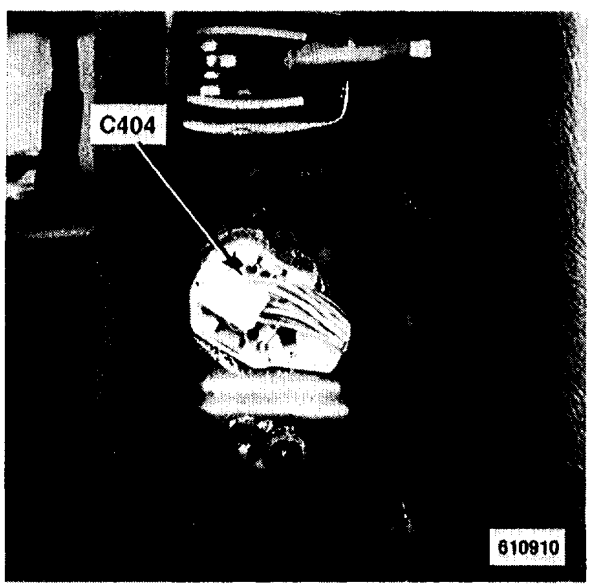


Figure 2 - Above RH Front Door Jamb Switch

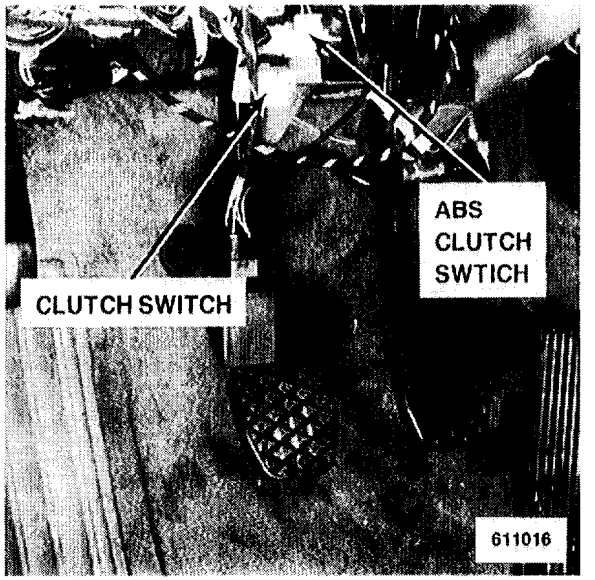


Figure 3 - Under LH Side of Dash

Figure 4 - RH Rear of Differential

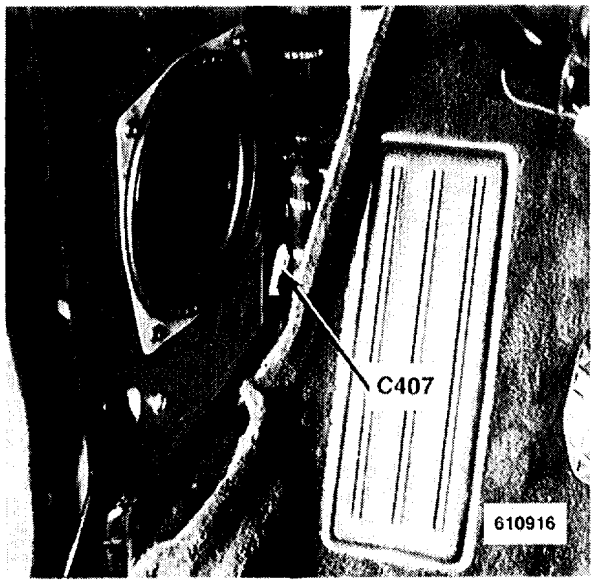


Figure 5 - Below LH Front Speaker

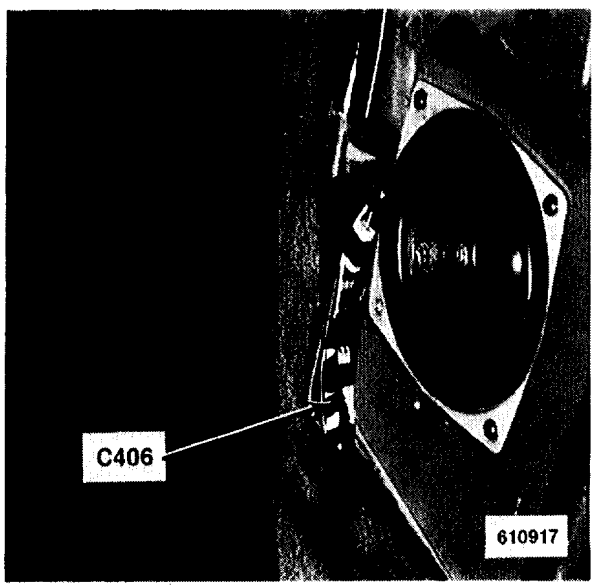


Figure 6 - Below RH Front Speaker

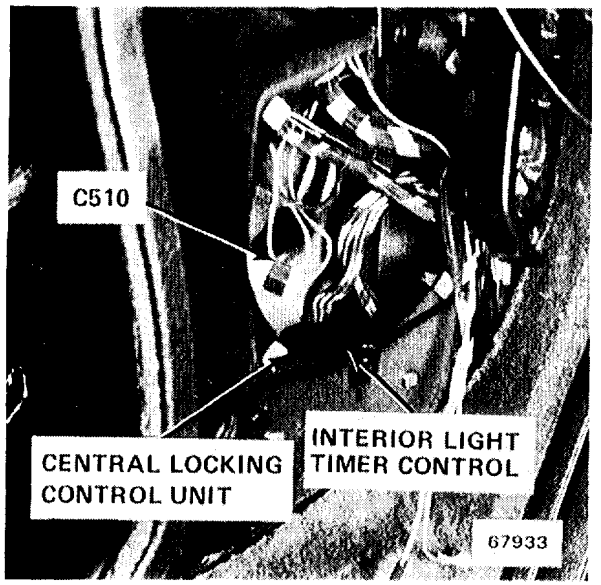


Figure 1 - Behind LH Front Speaker

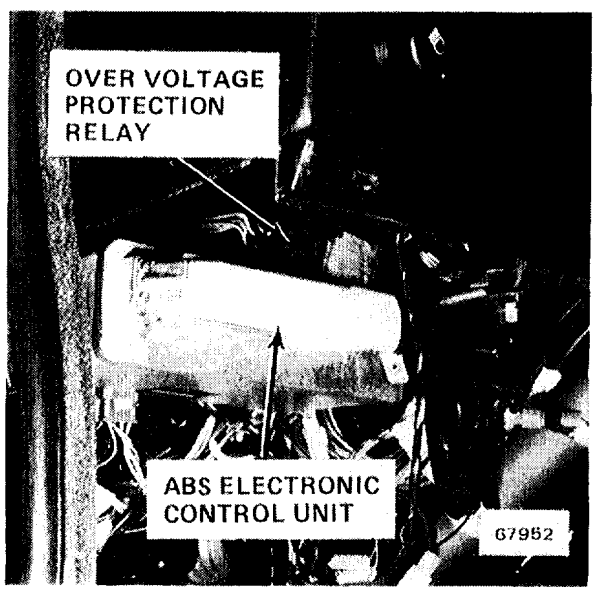


Figure 2 - Under LH Side of Dash

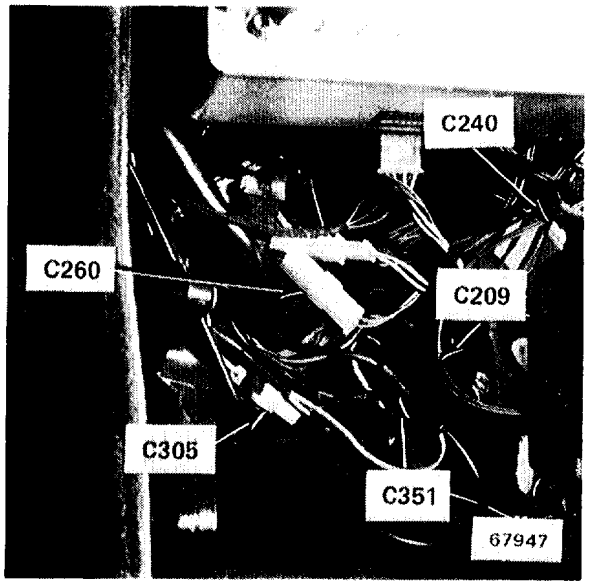


Figure 3 - Under LH Side of Dash

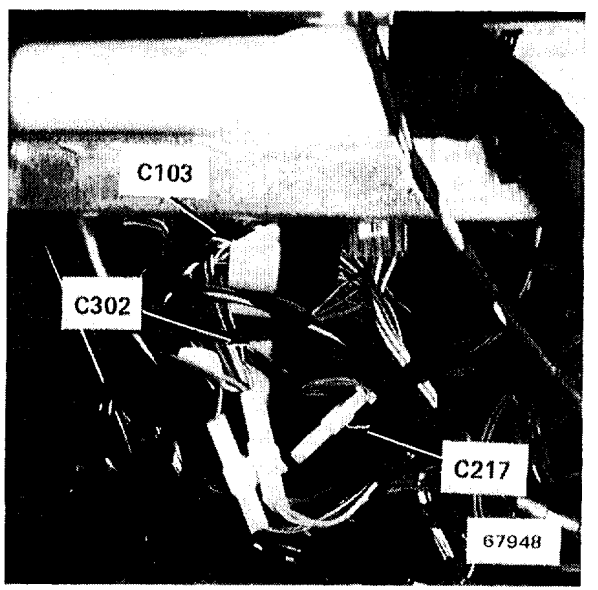


Figure 4 - Under LH Side of Dash

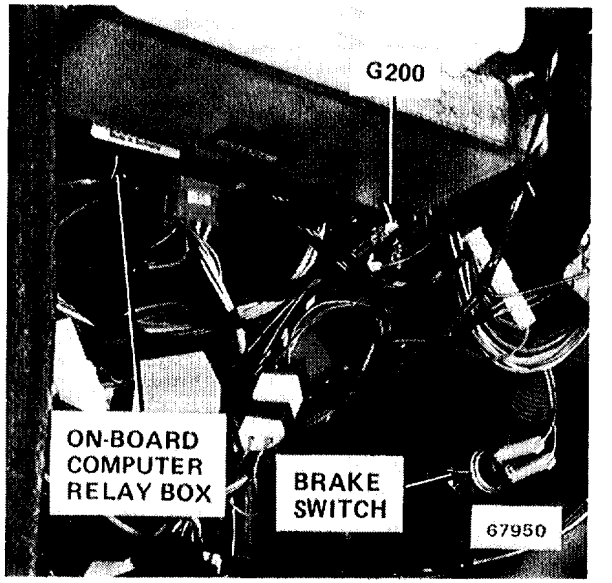


Figure 5 - Under LH Side of Dash

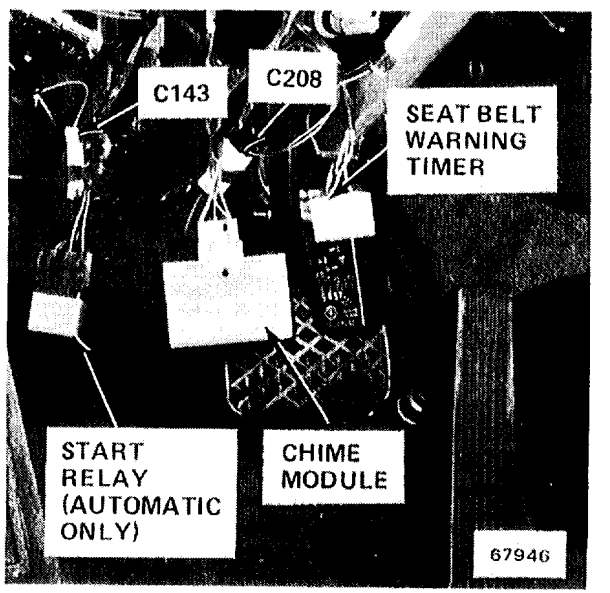


Figure 6 - Under LH Side of Dash

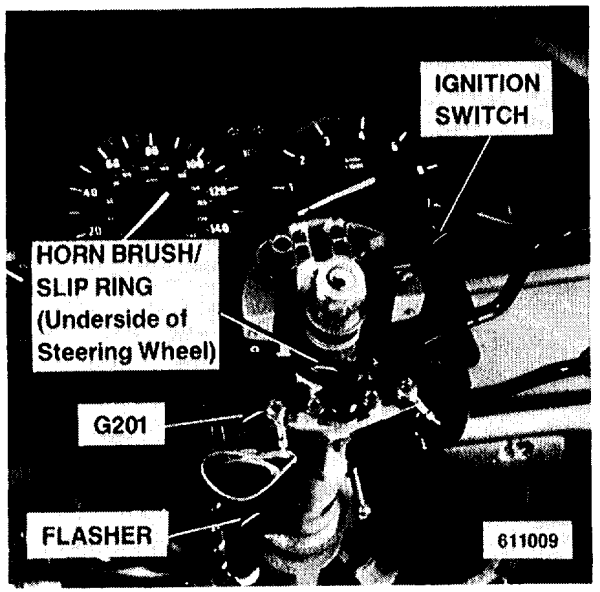


Figure 1 - Under LH Side of Dash

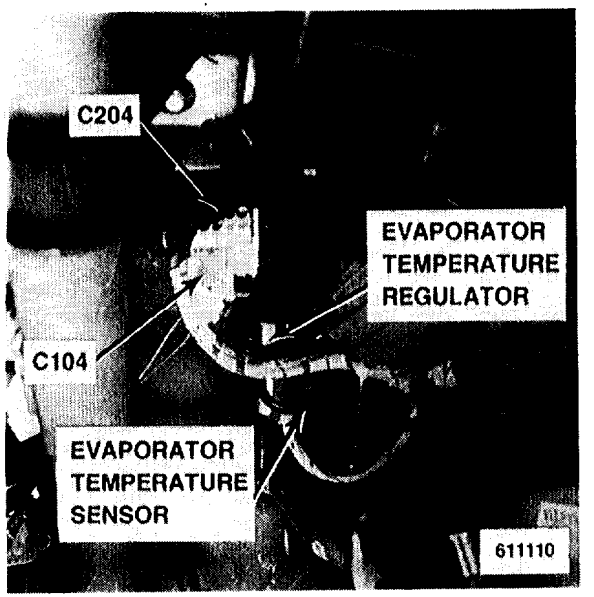


Figure 3 - Under LH Side of Dash

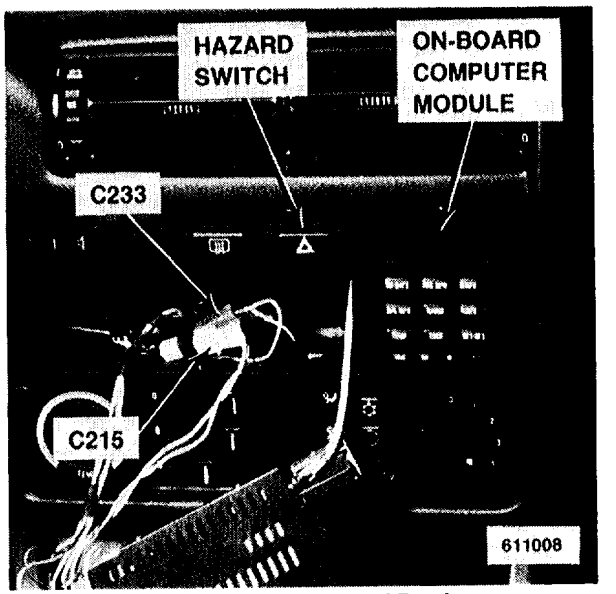


Figure 5 - Center of Dash

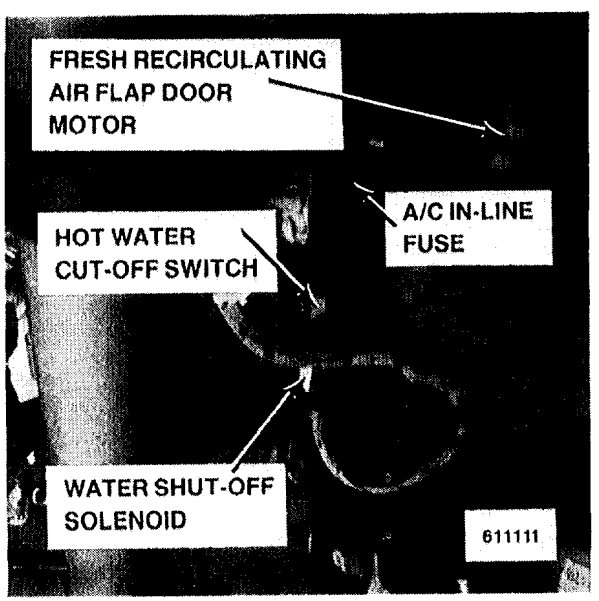


Figure 2 - Under LH Side of Dash

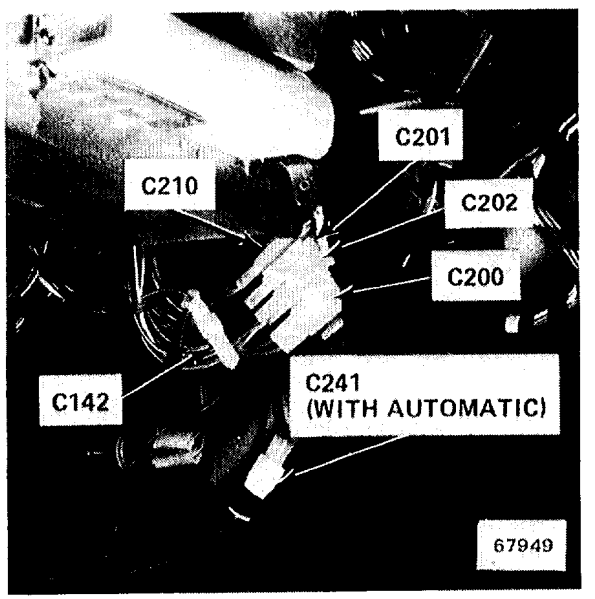


Figure 4 - Top of Steering Column

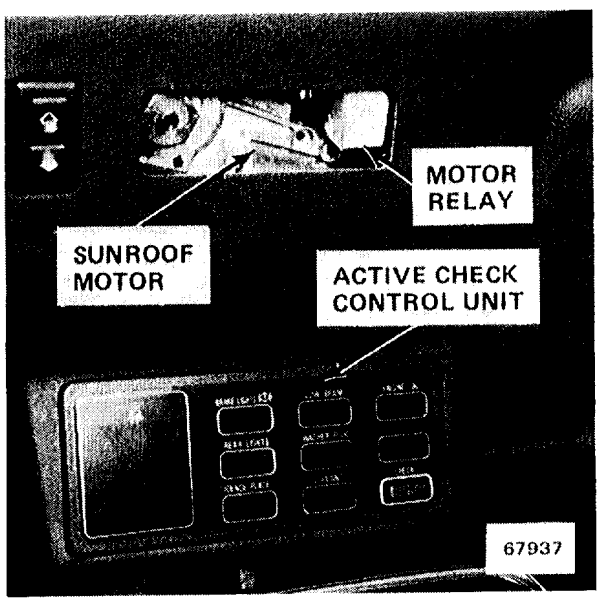


Figure 6 - Center of Windshield Header

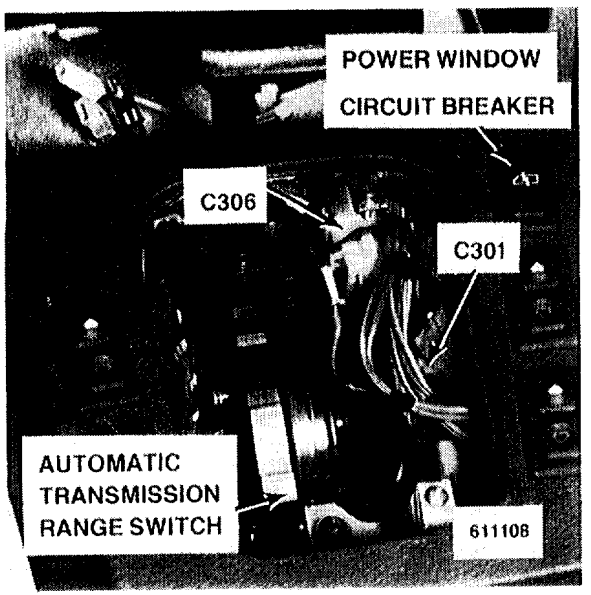


Figure 1 - Center Console

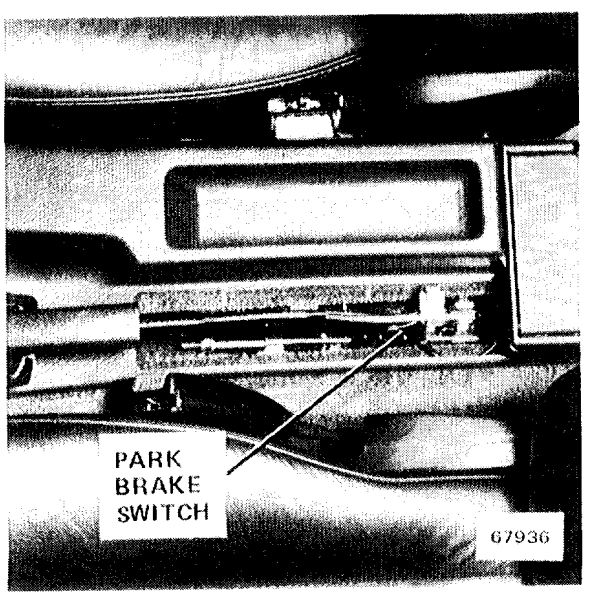


Figure 2 - Rear of Center Console

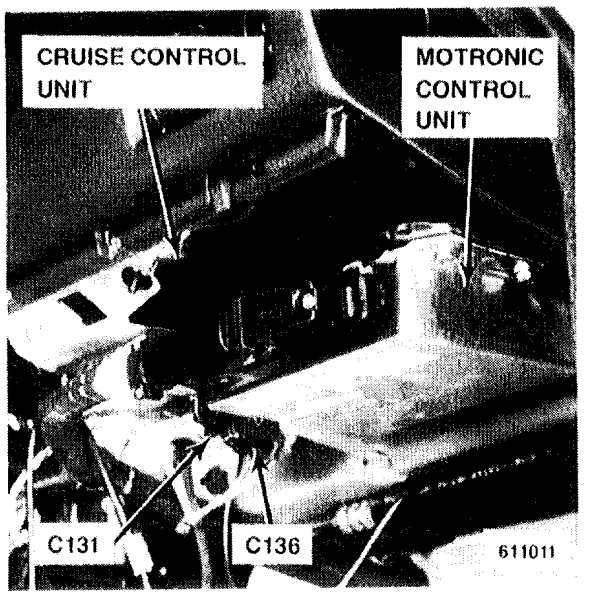


Figure 3 - Under RH Side of Dash

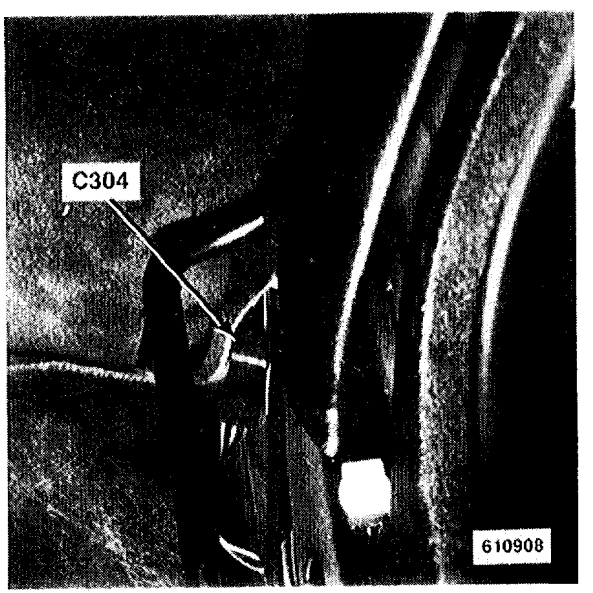


Figure 4 - At Base of LH "B" Pillar

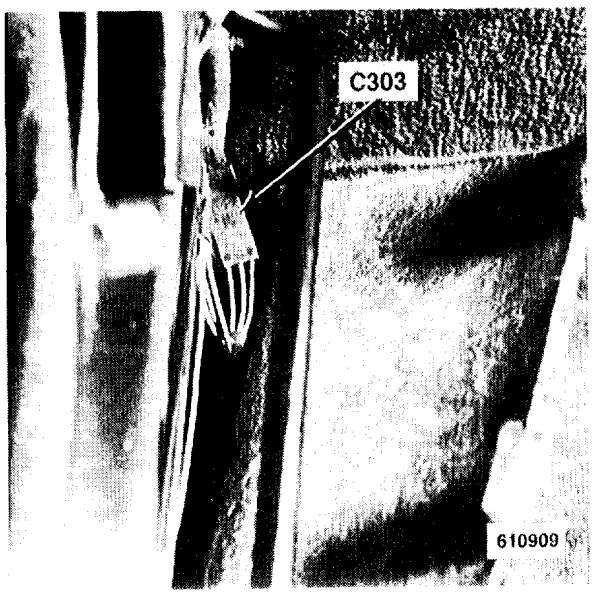


Figure 5 - At Base of RH "B" Pillar

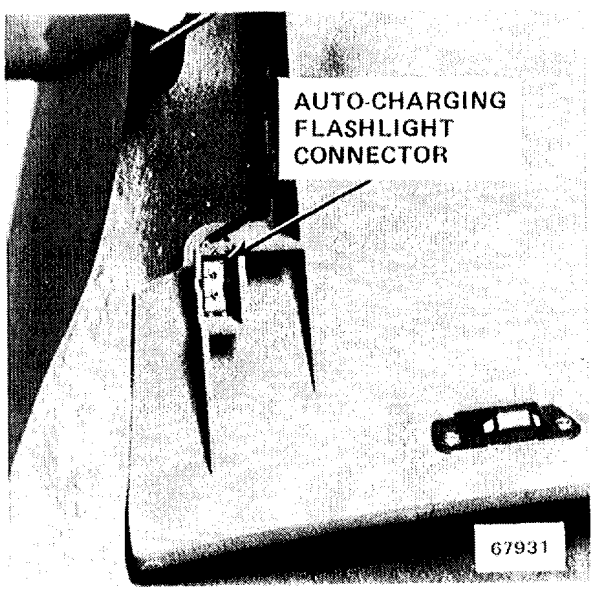


Figure 6 - Inside Glove Box

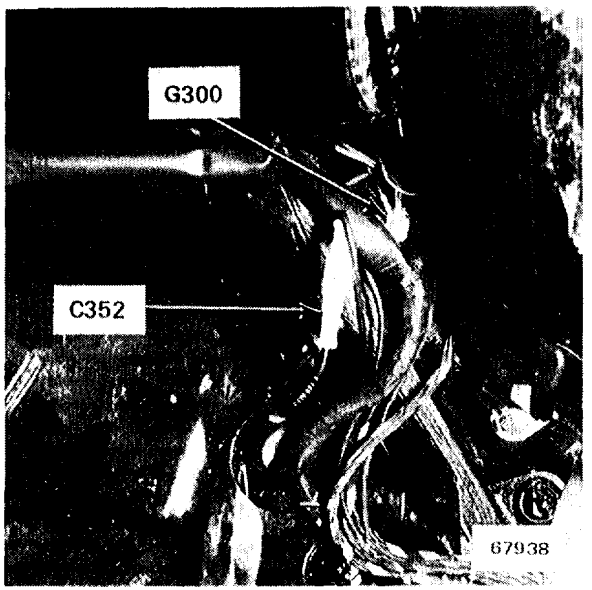


Figure 1 - Under LH Side of Rear Seat

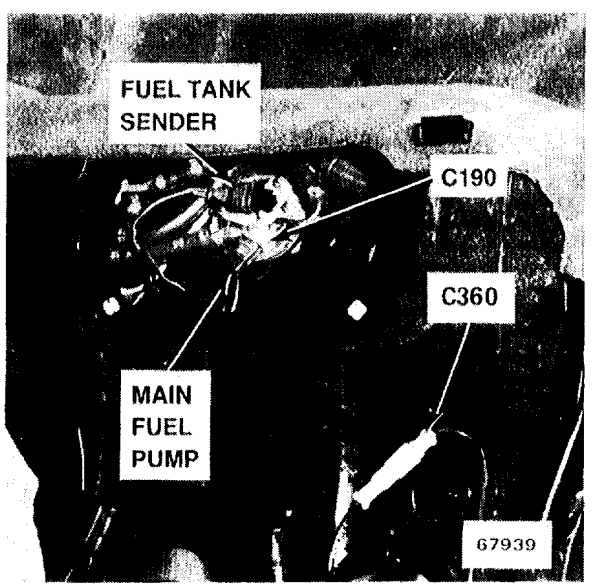


Figure 2 - Under RH Side of Rear Seat

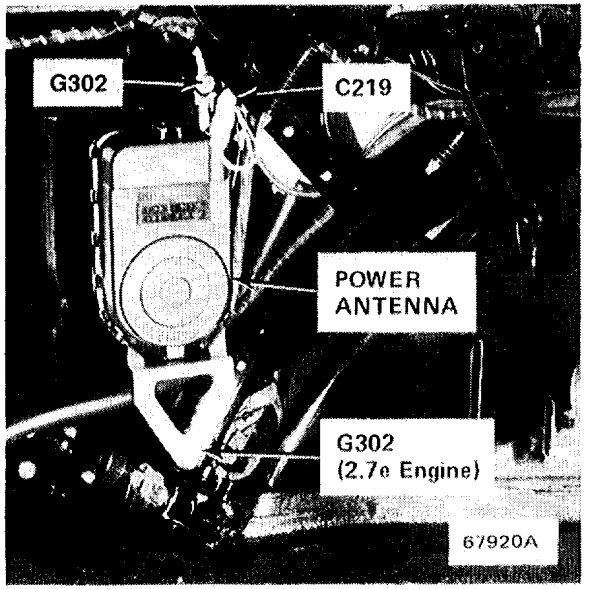


Figure 3 - LH Front of Trunk

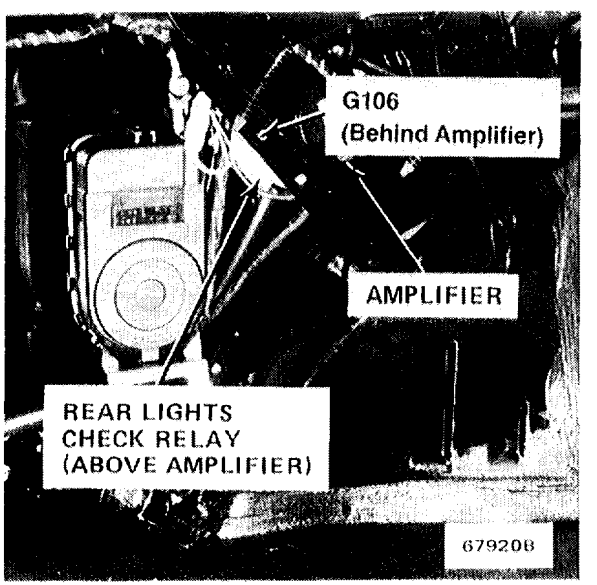


Figure 4 - LH Front of Trunk

Figure 5 - Middle Rear of Trunk

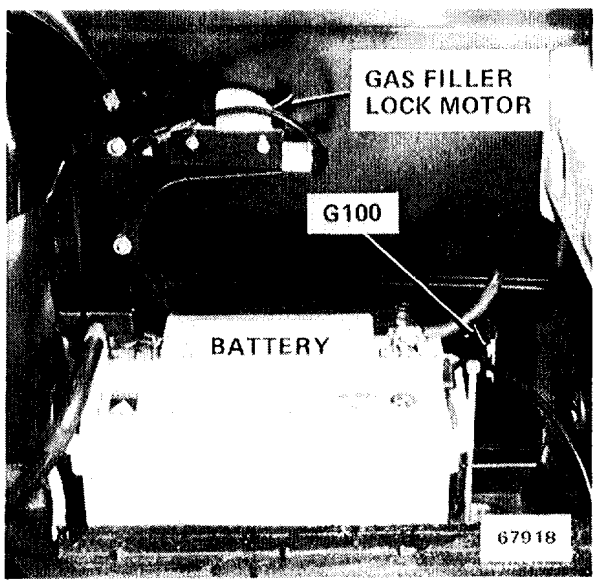


Figure 6 - RH Rear of Trunk

Figure 1 - Under LH Side of Rear Seat

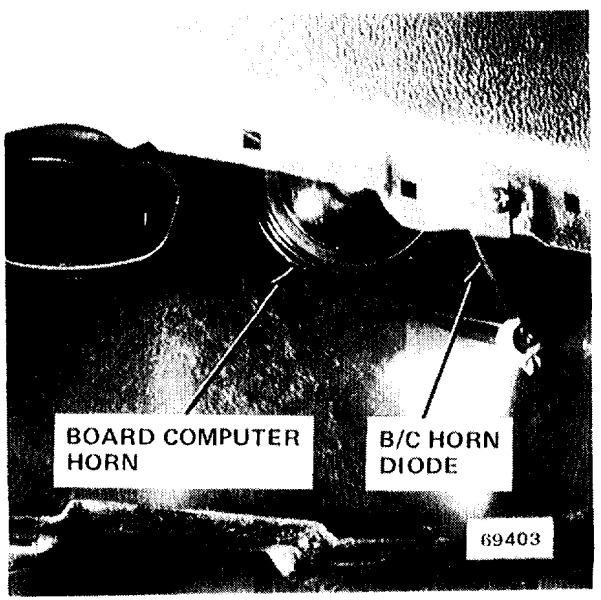


Figure 2 - Under LH Side of Front Bumper
(Splash Guard Pulled Down)

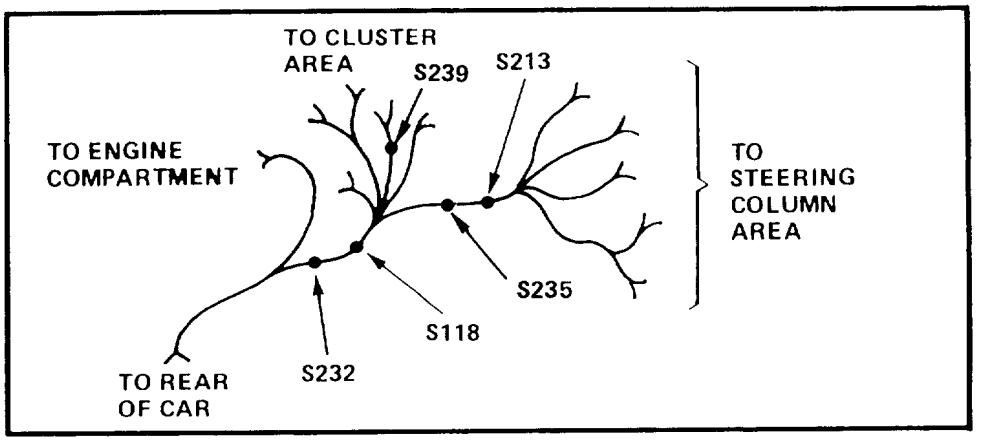
8000-0 SPLICE LOCATION VIEWS

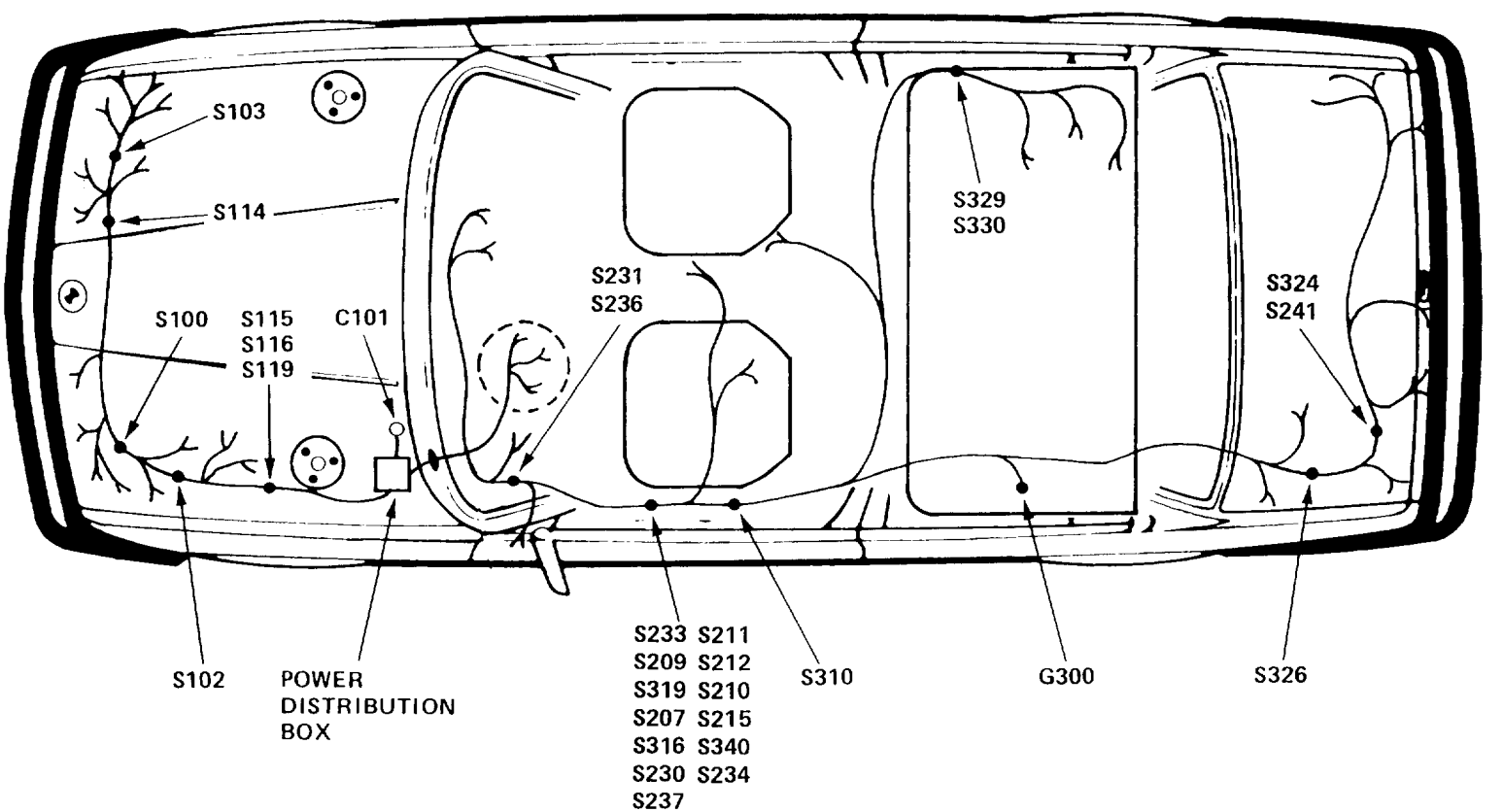
INDEX

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.

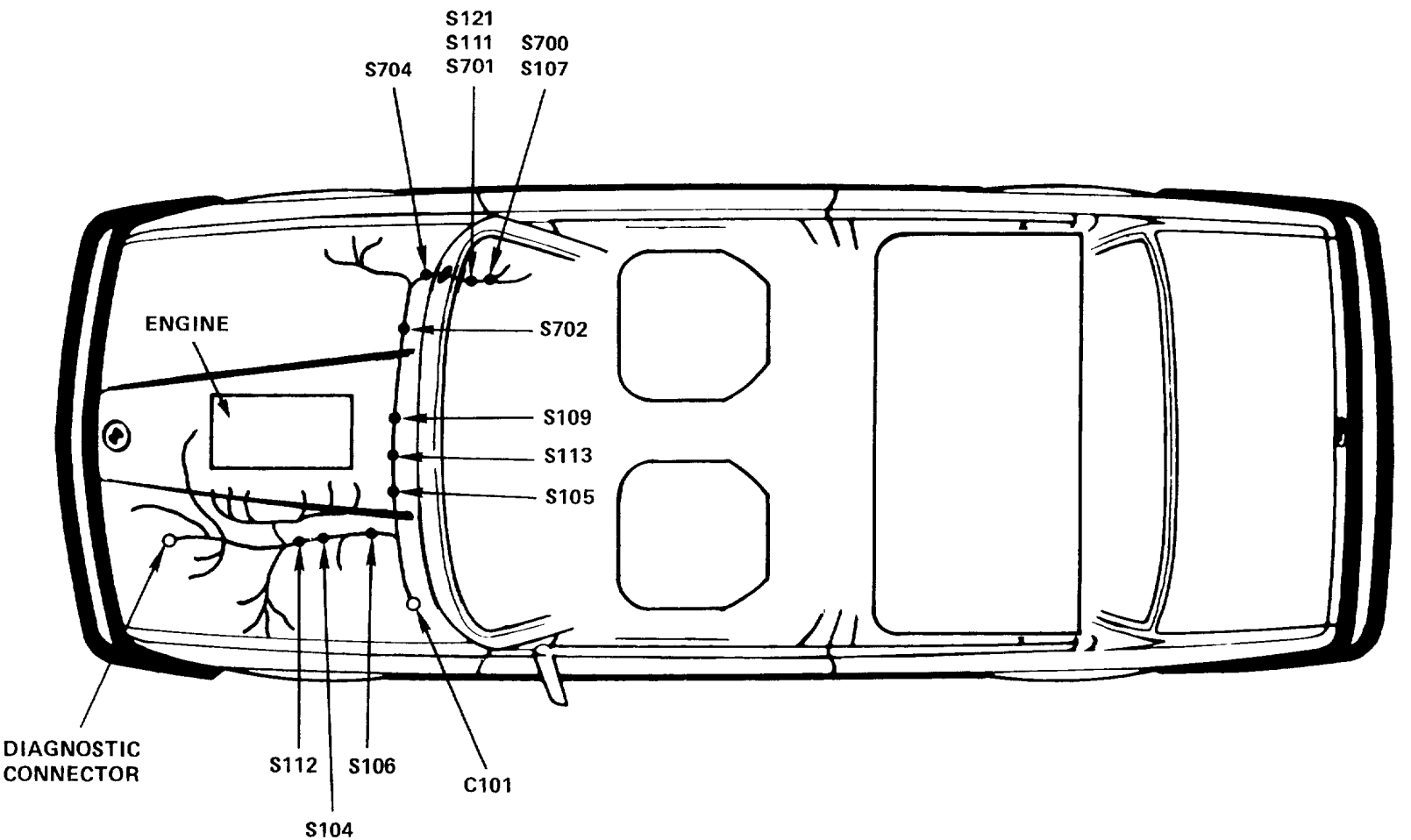
INDEX

MAIN HARNESS SPLICE LOCATIONS

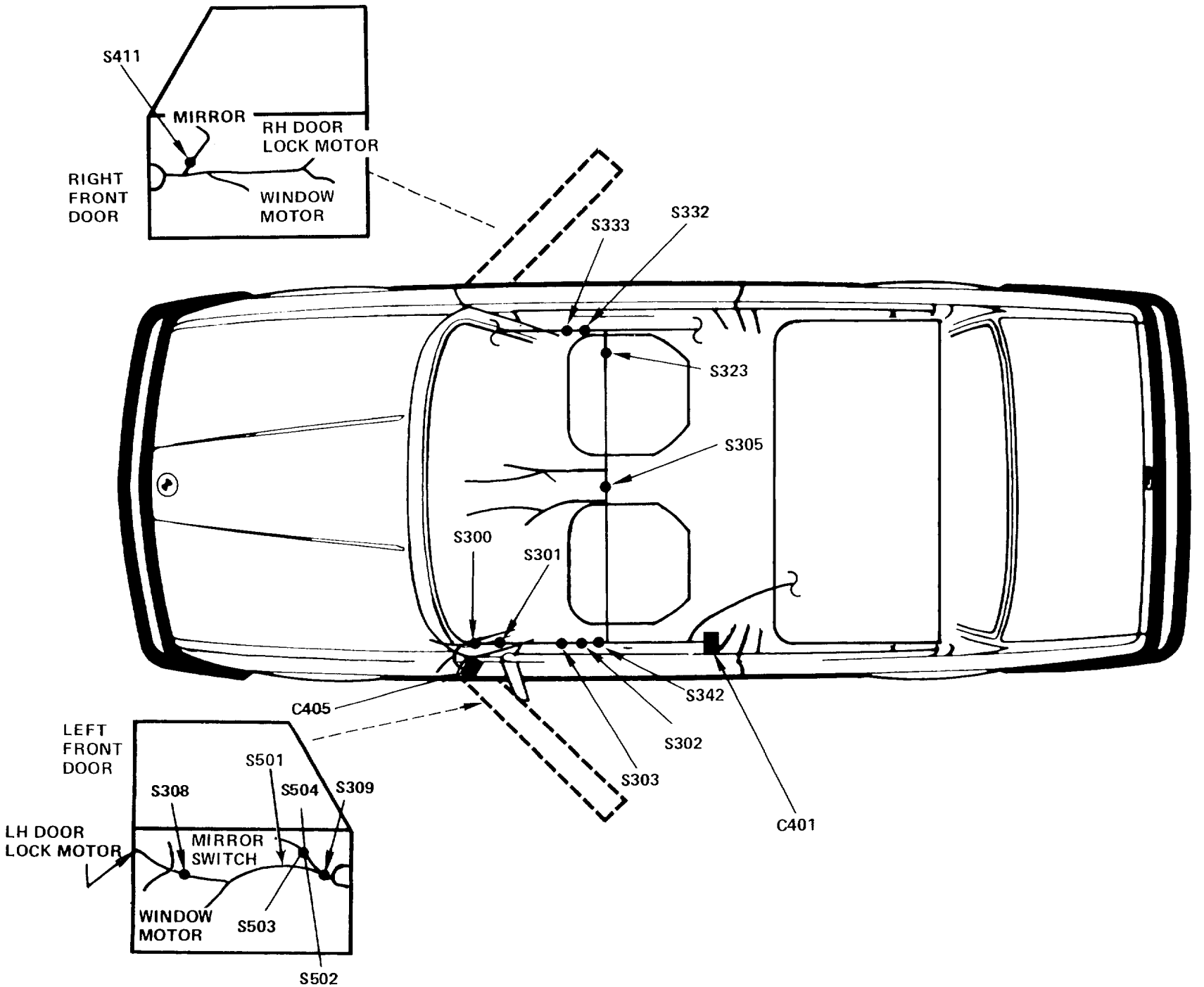




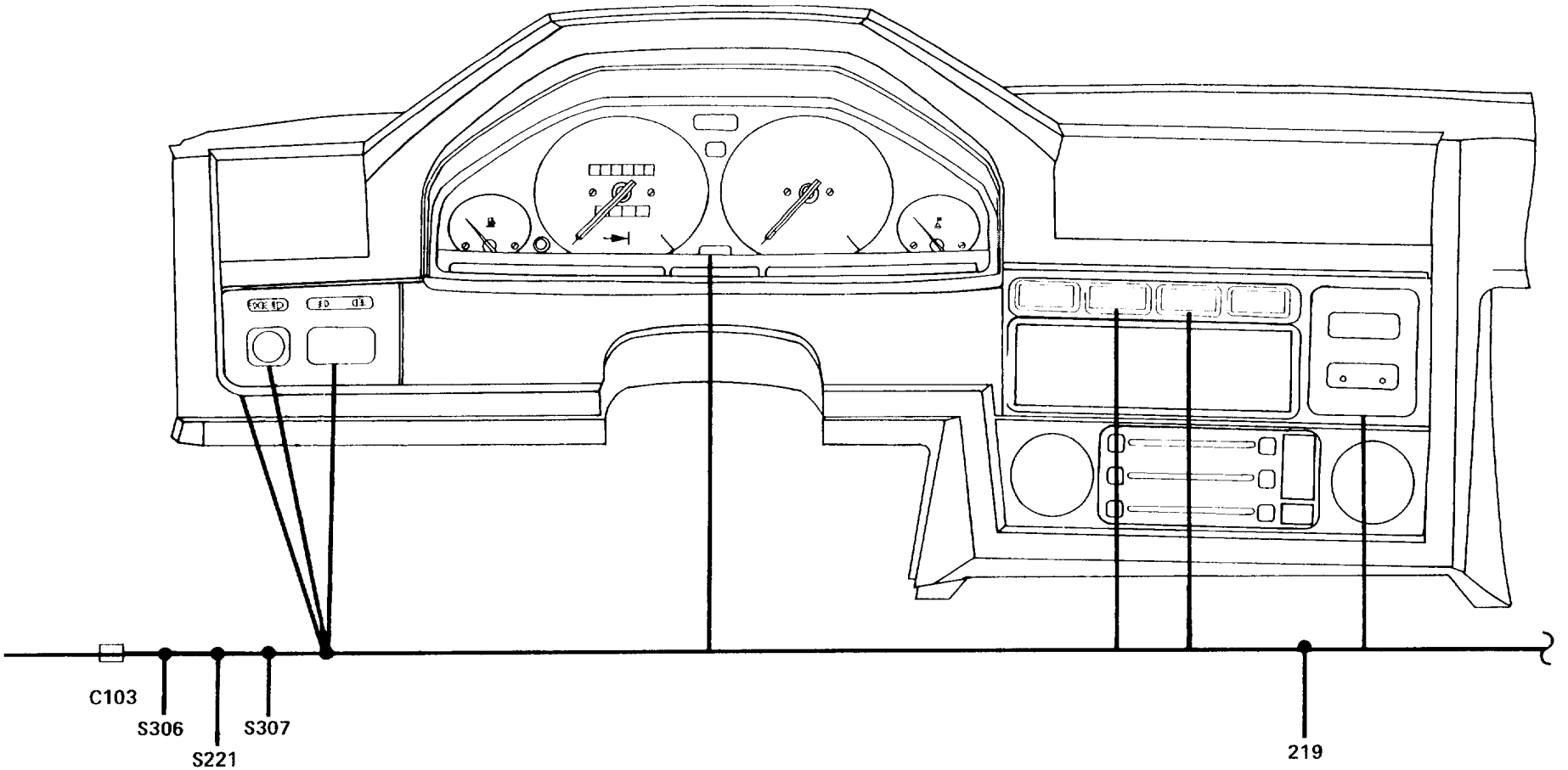
ENGINE HARNESS SPLICE LOCATIONS



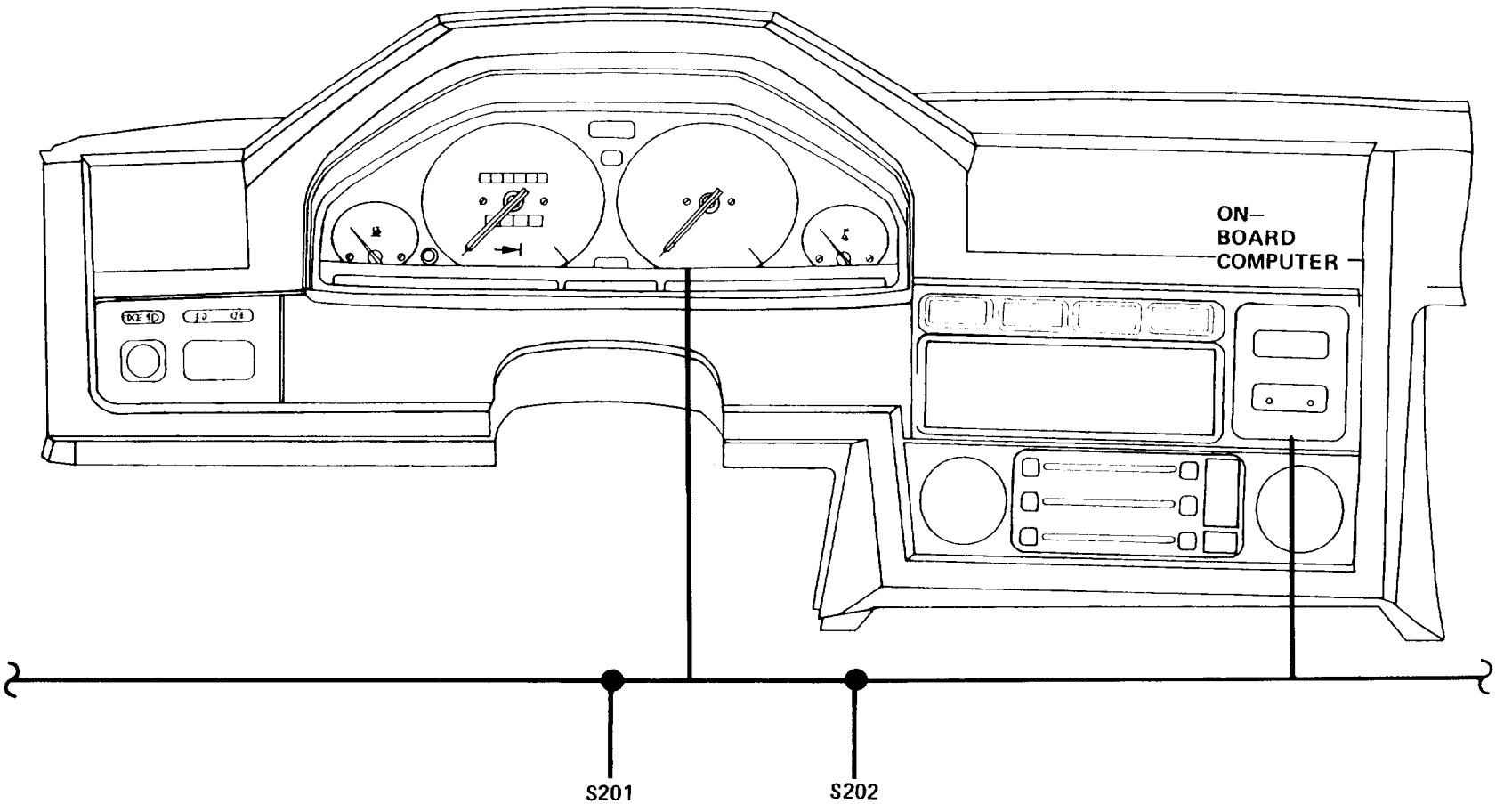
DOOR HARNESS SPLICE LOCATIONS



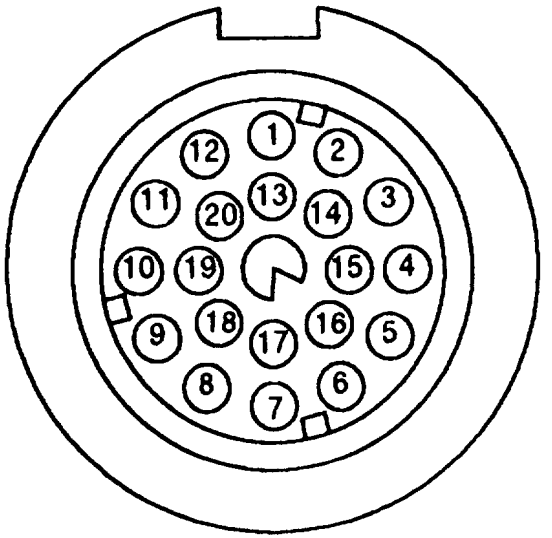
INSTRUMENT PANEL HARNESS SPLICE LOCATION



ON-BOARD COMPUTER HARNESS SPLICE LOCATIONS



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 (Not Used)
7	.75	WT/GN	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	WT/YL	Motronic Control Unit (RXD)
16	1.5	GN/WT	Oxygen Sensor
18	1.5	GN/BU	Motronic Control Unit (Programming Voltage)
19	1.5	BR	Ground Distribution (G103)
20	.5	WT/VI	Motronic Control Unit (TXD)

ACCESSORY CONNECTOR

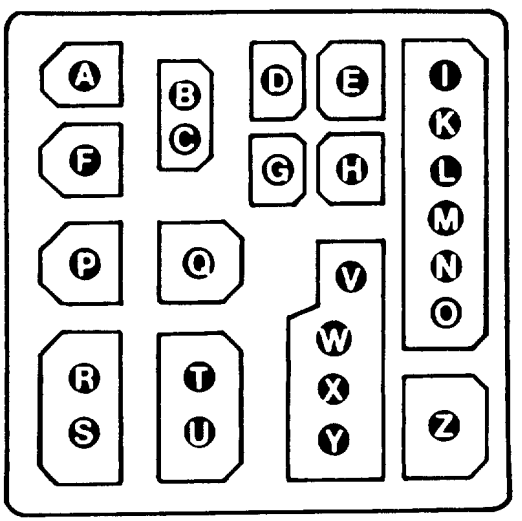
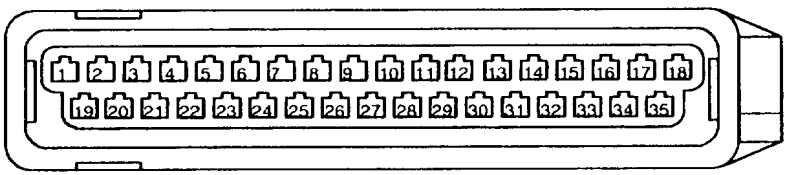


Figure 1-C302 (Accessory Connector)
Front View—Under LH Side
of Dash Ahead of Pedal Assembly

CIRCUITS USING C302 (ACCESSORY CONNECTOR)

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

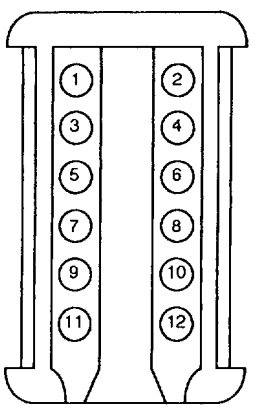
B350002



Mating Face

ABS CONTROL UNIT

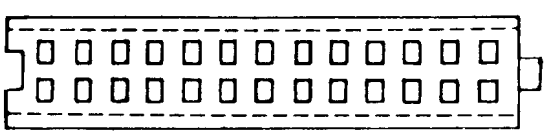
B120014



Wiring Face

ABS HYDRAULIC UNIT

14 26

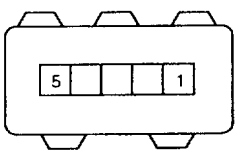


1 13

Wiring Face

ACTIVE CHECK CONTROL

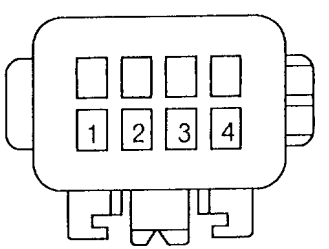
B050010.00



Mating Face

AIR FLOW METER

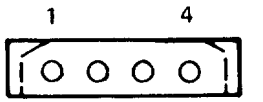
B080012



Wiring Face

AUXILIARY FUSE

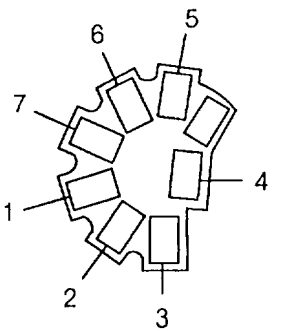
1 4



Wiring Face

BLOWER RESISTORS

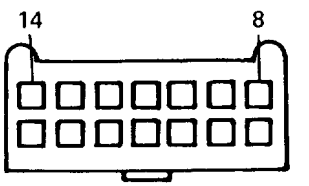
B080014



Wiring Face

BLOWER SPEED CONTROL

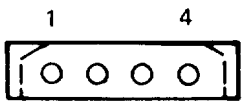
14 8



1 7

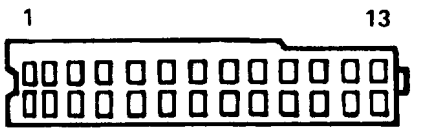
Wiring Face

CENTRAL LOCKING CONTROL UNIT



Wiring Face

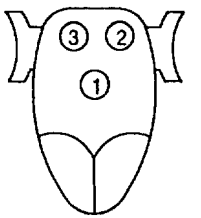
CHIME MODULE (C1)



Wiring Face

CRUISE CONTROL

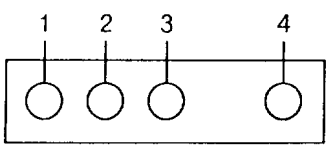
B030019.00



Wiring Face

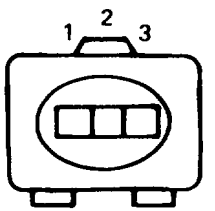
DUAL TEMPERATURE SWITCH

B040013



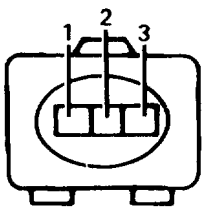
Wiring Face

CHIME MODULE (C2)



Mating Face

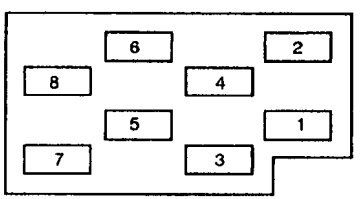
CYLINDER IDENTIFICATION SENSOR



Wiring Face

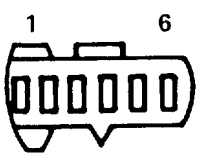
ENGINE SPEED SENSOR

B080013



Wiring Face

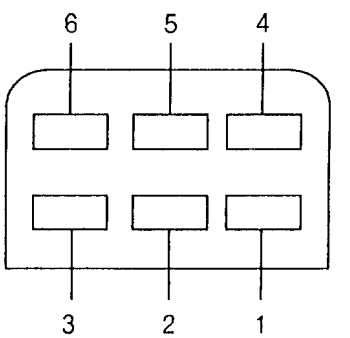
CONTROL SWITCHES



Wiring Face

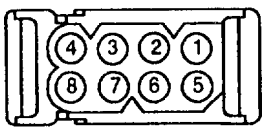
DOOR LOCK MOTOR

B060024



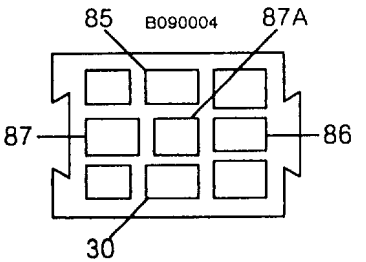
Wiring Face

EVAPORATOR TEMPERATURE REGULATOR



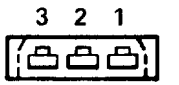
Mating Face

FADER CONTROL



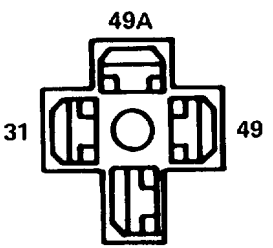
Wiring Face

FRESH/RECIRCULATING AIR RELAY



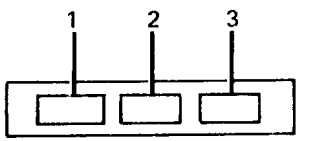
Wiring Face

FUEL TANK SENDER



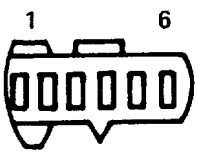
Wiring Face

FLASHER



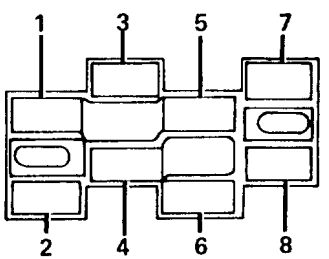
Wiring Face

FRONT TURN/PARK LIGHT



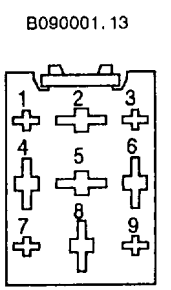
Wiring Face

GAS FILLER LOCK MOTOR



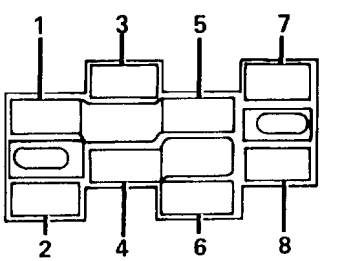
Wiring Face

FOG LIGHT SWITCH



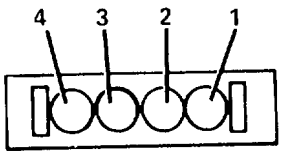
Wiring Face

FUEL PUMP RELAY



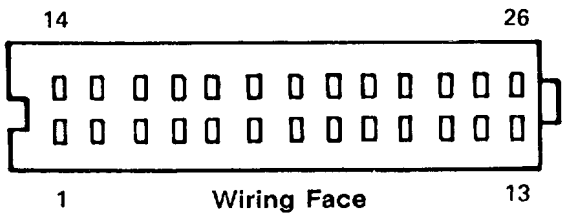
Wiring Face

HAZARD SWITCH



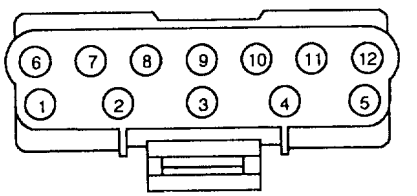
Wiring Face

HIGH LEVEL STOP LIGHT



INSTRUMENT CLUSTER (C1, C2)

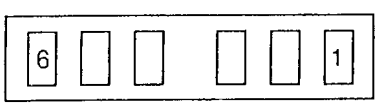
B120006.00



Wiring face

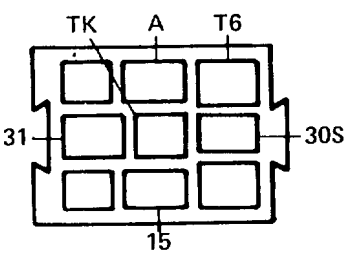
LIGHT SWITCH

B060026

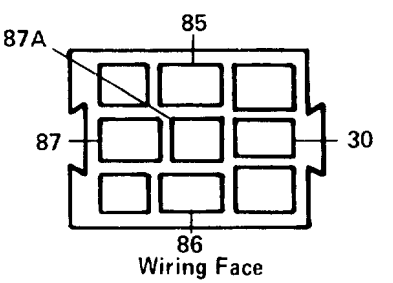


Wiring Face

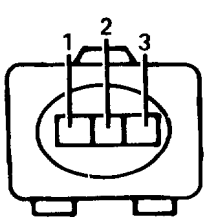
HOT WATER CUT-OFF SWITCH



INTERIOR LIGHT TIMER CONTROL



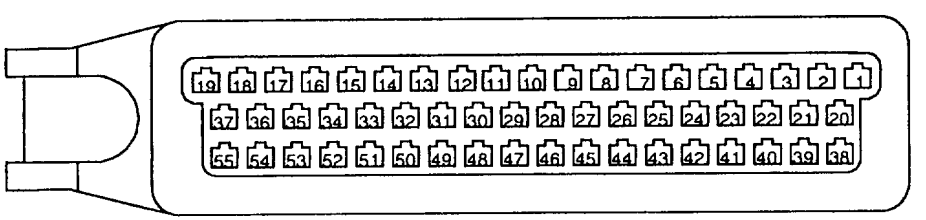
MAIN RELAY



Wiring Face

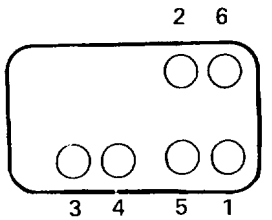
IDLE SPEED ACTUATOR

B550001.02



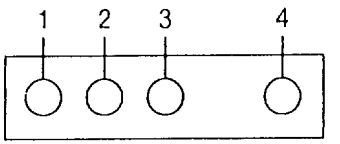
Mating Face

MOTRONIC CONTROL UNIT



Mating Face

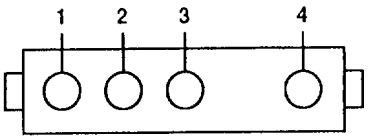
MIRROR CONTROL SWITCH



Wiring Face

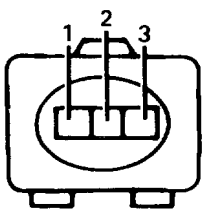
ON-BOARD COMPUTER RELAY BOX

B040012.01



Wiring Face

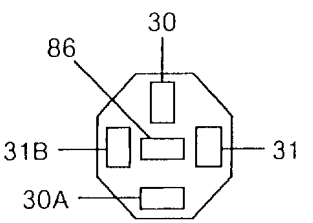
POWER MIRRORS



Wiring Face

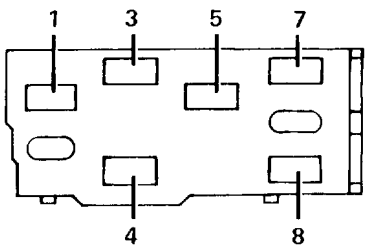
OIL LEVEL SENSOR

B060027



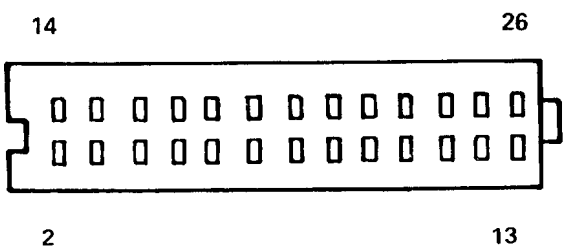
Wiring Face

OVER VOLTAGE PROTECTION RELAY



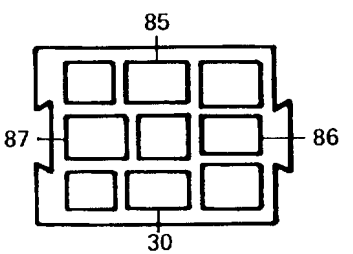
Wiring Face

POWER WINDOW SWITCHES



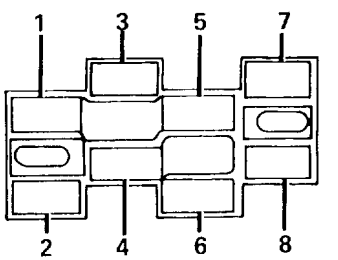
Wiring Face

ON-BOARD COMPUTER MODULE



Wiring Face

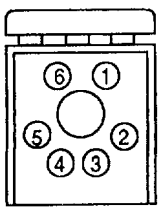
OXYGEN SENSOR HEATER RELAY



Wiring Face

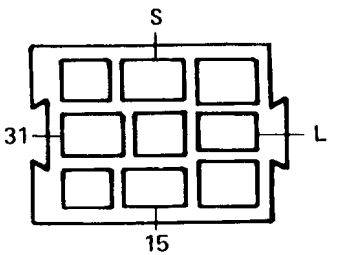
REAR DEFOGGER SWITCH

B060027.00



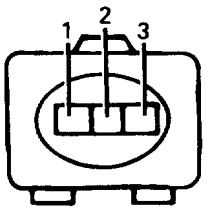
Wiring Face

REAR LIGHT ASSEMBLY



Wiring Face

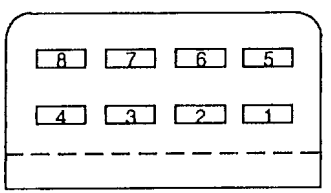
SEAT BELT WARNING TIMER



Wiring Face

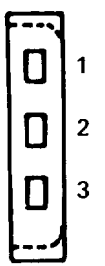
THROTTLE SWITCH

B080015.01



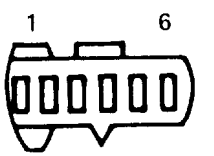
Wiring Face

REAR LIGHTS CHECK RELAY (C1)



Wiring Face

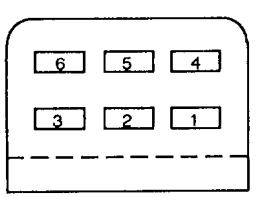
SUNROOF MOTOR (CI)



Wiring Face

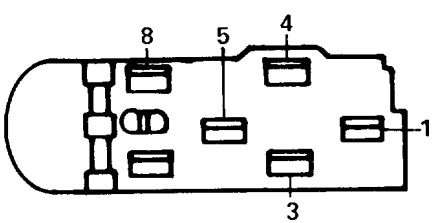
TRUNK LID LOCK MOTOR

B060028 .01



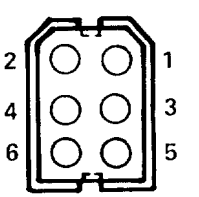
Wiring Face

REAR LIGHTS CHECK RELAY (C2)



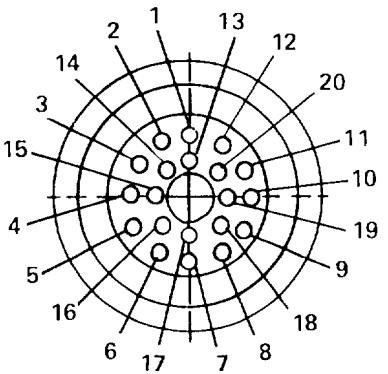
Wiring Face

SUNROOF SWITCH



Wiring Face

C109



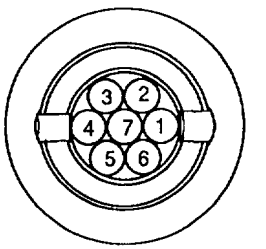
Wiring Face

C101

Wiring Face

C114

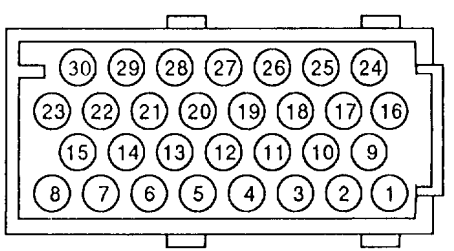
B070002.00



Wiring Face

C191

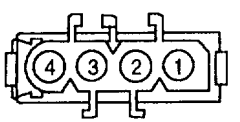
B300001.00



Wiring Face

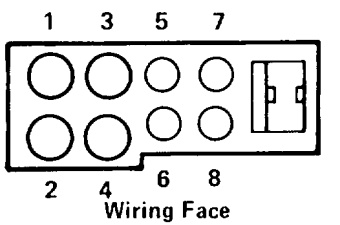
C103

B040002.04



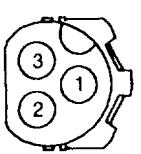
Wiring Face

C136



Wiring Face

C200

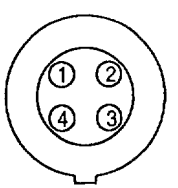


Mating Face

C110

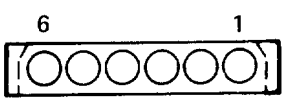
C113

B040006.01



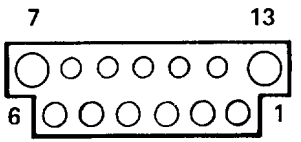
Wiring Face

C140



Wiring Face

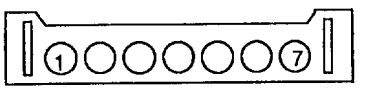
C201



Wiring Face

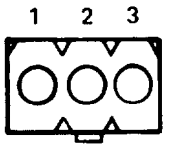
C202

B070004.00



Wiring Face

C210

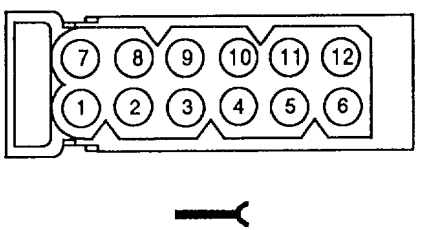


Wiring Face

C303

C304

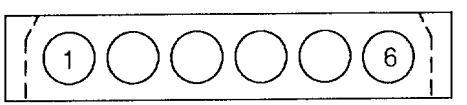
B120002.06



Wiring Face

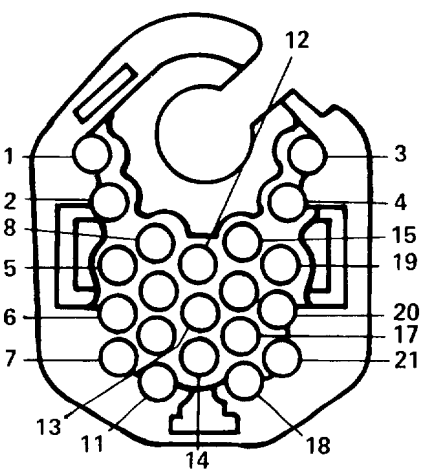
C204

B060025



Wiring Face

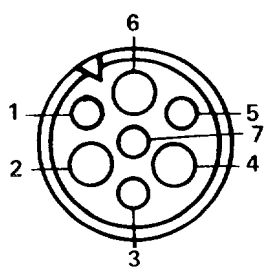
C240



Wiring Face

C404

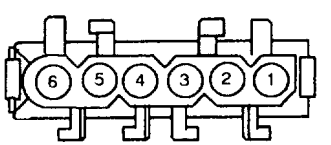
C405



Wiring Face

C209

B060003.03



Mating Face

C242

COMPONENTS		Page-Figure
A/C In-Line Fuse	LH side of evaporator housing	7000-6-2
ABS Clutch Switch	Under LH side of dash, above clutch pedal	7000-4-3
ABS Electronic Control Unit	Under LH side of dash, above hood release	7000-5-2
ABS Hydraulic Unit	In front of LH front wheel well	7000-0-3
Active Check Control Unit	Above rear view mirror	7000-6-6
Air Flow Meter	Behind air cleaner	7000-0-5
Amplifier	In trunk, above LH wheel well	7000-8-4
Auto-Charging Flashlight	In glove box	7000-7-6
Automatic Transmission Range Switch	At base of shift lever	7000-7-1
Auxiliary Fan	In front of radiator	7000-3-4
Auxiliary Fan Normal Speed Blower Resistor	Front RH side of auxiliary fan	7000-3-4
Auxiliary Fuse	On top of LH front shock tower	7000-0-1
B/C Horn Diode	Above LH horn, behind splash guard	7000-9-2
Backup Light Switch	On transmission	
Battery	In RH rear of trunk	7000-8-6
Battery Junction Block	Engine compartment at RH bulkhead	7000-1-5
Blower Motor	Behind cowl	7000-2-2
Blower Resistors	Behind cowl, inside blower housing	
Board Computer Horn	Above LH horn, behind splash guard	7000-9-2
Brake Fluid Level Switch	Left of engine, on brake fluid reservoir	7000-0-2
Brake Switch	On brake pedal support, above brake pedal	7000-5-5
Brake Wear Sensors	On LH front and RH rear brake calipers	7000-3-5
Central Locking Control Unit	Below and behind LH front speaker	7000-5-1
Chime Module	Mounted on LH dash hush panel	7000-5-6
Clutch Switch	Above clutch pedal	7000-4-3
Combination Switch	Upper LH side of steering column	
Compressor Clutch Diode	Lower RH front of engine, on compressor	7000-2-3
Coolant Level Switch	In front of LH front wheel well, in coolant reservoir	7000-0-6
Coolant Temperature Sender	Front of engine, top of thermostat housing	7000-1-2
Coolant Temperature Sensor	Front of engine, top of thermostat housing	7000-1-2
Cruise Control Actuator	Forward of LH front shock tower	7000-0-6
Cruise Control Unit	Mounted under RH side of dash	7000-7-3
Cylinder Identification Sensor	On ignition wire, at distributor	7000-3-1
Deceleration Sensor	Behind LH front shock tower	7000-0-1
Diagnostic Connector	Top LH front of engine	7000-2-5
Door Lock Motors	Rear part of each door	
Driver Exterior Door Handle Switch	In rear of LH front door	
Dual Temperature Switch	Top LH side of radiator	7000-1-3
Engine Speed Sensor	Lower RH front of engine	7000-2-6

COMPONENTS

		Page-Figure
Evaporative Purge Valve	Below LH side of throttle body	7000-3-2
Evaporator Temperature Regulator	Under LH side of dash, near evaporator	7000-6-3
Evaporator Temperature Sensor	On LH side of evaporator housing	7000-6-3
Flasher	Upper part of steering column	7000-6-1
Fresh/Recirculating Air Flap Door Motors	Behind A/C face plate	7000-6-2
Fresh/Recirculating Air Relays	Behind A/C face plate	
Fuel Injectors	Below intake manifold, at each port	7000-1-2
Fuel Pump Relay	On bracket, in front of LH front shock tower	7000-0-5
Fuel Tank Sender	Top of fuel tank	7000-8-2
Fusible Link A	In RH rear of trunk	
Gas Filler Lock Motor	In trunk, behind RH wheel well	7000-8-6
Hazard Switch	In center console, above radio	7000-6-5
High Pressure Cut-Out Switch	On receiver dryer, behind RH headlight	7000-1-4
Horn Brush/Slip Ring	In upper steering column	7000-6-1
Horns	Near fog lights, behind splash guard	7000-3-3
Hot Water Cut-Off Switch	Under LH side of dash, near evaporator	7000-6-2
Idle Speed Actuator	LH top of engine	7000-2-5
Ignition Coil	On RH front wheel well	7000-1-4
Ignition Key Switch	Part of ignition switch, in upper part of steering column	
Ignition Switch	Upper part of steering column	7000-6-1
Interior Light Timer Control	Below LH front speaker	7000-5-1
Left Tank Fuel Sender	Under LH side of rear seat	7000-9-1
Low Pressure Cut-Out Switch	Behind RH headlights	7000-1-4
Main Fuel Pump	In fuel tank	7000-8-2
Main Relay	On bracket in front of LH front shock tower	7000-0-5
Motor Relay	In windshield header, above rear view mirror	7000-6-6
Motronic Control Unit	Under RH side of dash, above glove box	7000-7-3
Oil Level Sensor	Top LH side of oil pan	7000-0-4
Oil Pressure Switch	Below oil filter	7000-2-4
On-Board Computer Module	In center console, on RH side of radio	7000-6-5
On-Board Computer Relay Box	Under LH side of dash, above hood release	7000-5-5
Oscillating Plate Compressor Clutch	Lower RH front of engine, on compressor	7000-2-3
Outside Temperature Sensor	Behind splash guard, near LH fog light	7000-3-3
Over Voltage Protection Relay	Under LH side of dash, near ABS Electronic Control Unit	7000-5-2
Oxygen Sensor	Lower RH rear of engine compartment	7000-2-1
Oxygen Sensor Heater Relay	On bracket, in front of LH front shock tower	7000-0-5
Park Brake Switch	At base of parking brake	7000-7-2

COMPONENTS		Page-Figure
Power Antenna	In trunk, behind LH wheel well	7000-8-3
Power Distribution Box	At top rear of LH front wheel well	7000-0-1
Power Window Circuit Breaker	On center console, above radio	7000-7-1
Power Window Motors	Forward part of each door	7000-3-6
Pulse Wheels	On wheel, in brake housing	
Rear Lights Check Relay	In trunk, above LH wheel well	7000-8-4
RH Front Door Micro-Switch	In rear of RH front door	
Rotary Compressor Clutch	Lower RH front of engine, on compressor	7000-2-3
Safety Switch	On top of LH wheel well, near cruise control actuator	
Seatbelt Switch	In driver's seatbelt buckle	
Seatbelt Warning Timer	Under LH side of dash, on electrical bracket	7000-5-6
Speed Detectors	On wheel, in brake housing	7000-1-6
Speedometer Sender	In rear of differential	7000-4-4
Start Relay	Upper LH corner of driver's footwell	7000-5-6
Starter	Lower LH rear of engine	7000-1-1
Sunroof Motor	In windshield header, above rear view mirror	7000-6-6
Throttle Switch	Below LH side of throttle body	7000-3-2
Trunk Lid Lock Motor	On trunk lock center support	7000-8-5
Unlock Inhibit Switch	Rear of LH front door	
Washer Fluid Level Switch	In reservoir, behind RH front shock tower	7000-1-5
Washer Pump	Behind RH front shock tower, on reservoir	7000-1-5
Water Shut-Off Solenoid	LH side of evaporator housing	7000-6-2
Wiper Motor	Under LH fresh air intake cowl	7000-2-2

CONNECTORS

		Page-Figure
C101 (20 pins)	Next to power distribution box, mounted on engine dash	7000-0-2
C102	LH rear of engine compartment	
C103 (29 pins)	Behind LH side of dash, on body electrical bracket	7000-5-4
C104 (3 pins)	Under LH side of dash	7000-6-3
C109 (6 pins)	Near wiper motor	
C110	RH front of engine compartment	7000-1-4
C113 (3 pins)	Behind LH headlights	7000-0-3
C126 (2 pins)	Behind LH headlights	7000-0-3
C127 (2 pins)	Behind RH headlights	
C128 (2 pins)	Behind RH front side marker light	
C129 (2 pins)	Behind LH front side marker light	
C131 (1 pin)	Behind RH side of dash, above glove box	7000-7-3
C136	Under RH side of dash	7000-7-3
C140 (3 pins)	Near RH rear side of engine	7000-2-1
C142 (1 pin)	Under LH side of dash, near steering column	7000-6-4
C143 (1 pin)	Under LH side of dash, near body electrical bracket	7000-5-6
C150 (2 pins)	On top of LH front wheel well	7000-0-5
C151 (2 pins)	On top of RH front wheel well	7000-1-4
C190	Under RH side of rear seat	7000-8-2
C191	Lower LH side of engine	7000-1-1
C200 (9 pins)	Under LH side of dash, on steering column	7000-6-4
C201 (6 pins)	Under LH side of dash, on steering column	7000-6-4
C202 (13 pins)	Under LH side of dash, on steering column	7000-6-4
C204 (12 pins)	Under LH side of dash, near steering column	7000-6-3
C208 (2 pins)	Near brake pedal support bracket	7000-5-6
C209 (7 pins)	Above brake pedal	7000-5-3
C210 (4 pins)	On LH side of steering column	7000-6-4
C215 (2 pins)	Center console, behind radio	7000-6-5
C217 (2 pins)	Under LH side of dash, near accessory connector	7000-5-4
C219 (2 pins)	In trunk, above LH wheel well	7000-8-3
C233 (2 pins)	Behind center of dash	7000-6-5
C240 (6 pins)	Under LH side of dash, above body electrical bracket	7000-5-3
C260 (2 pins)	Behind LH side of dash	7000-5-3
C301 (2 pins)	At base of shift lever	7000-7-1
C302 (25 pins) Accessory Connector	Upper LH corner of driver's footwell	7000-5-4
C303 (3 pins)	At base of RH "B" pillar	7000-7-5
C304 (3 pins)	At base of LH "B" pillar	7000-7-4
C305 (1 pin)	Under LH side of dash, near accessory connector	7000-5-3
C306	In center console	7000-7-1

		Page-Figure
C351 (1 pin)	Under LH side of dash, near accessory connector	7000-5-3
C352 (2 pins)	Behind LH side of rear seat	7000-8-1
C360 (2 pins)	Behind RH side of rear seat	7000-8-2
C404 (21 pins)	Above RH front door jamb switch	7000-4-2
C405 (21 pins)	Above LH front door jamb switch	7000-4-1
C406	Below RH front speaker	7000-4-6
C407	Below LH front speaker	7000-4-5
C421	Under RH front seat	
C422	Under LH front seat	
C503 (3 pins)	In rear of LH front door	
C510 (1 pin)	Behind and above LH front speaker	7000-5-1
GROUNDS		
G100	RH rear of trunk, behind battery	7000-8-6
G103	Behind RH shock tower	7000-1-5
G104	On inner fender, behind LH headlights	7000-0-6
G106	In trunk, near LH wheel well	7000-8-4
G200	Under LH side of dash, above brake pedal	7000-5-5
G201 (Steering Column Ground)	Upper LH side of steering column	7000-6-1
G300	Behind LH side of rear seat	7000-8-1
G302	In trunk, behind LH wheel well	7000-8-3
G600	In windshield header	