

1983 BMW 733i Electrical Troubleshooting Manual

BMW of North America, Inc. Montvale, New Jersey

FOREWORD

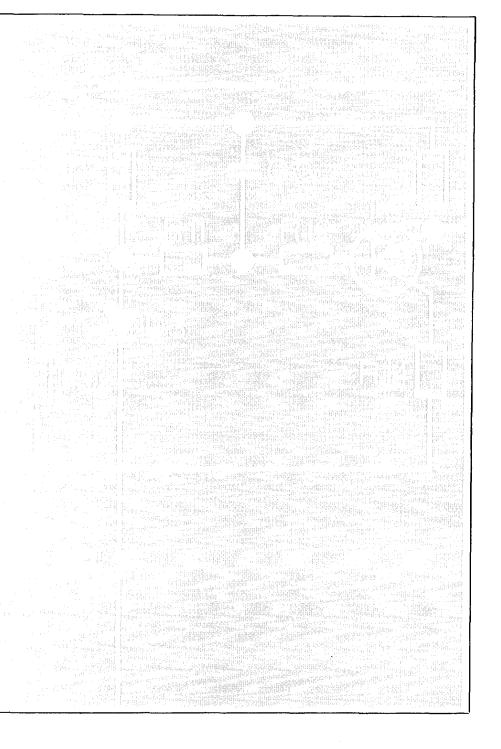
In the interests of continuing technical development work we reserve the right to modify designs and equipment.

Printed in USA

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1983 BMW 733i Electrical Troubleshooting Manual

CONTENTS

Index	2
How To Use This Manual	3
Symbols	4
Wire Size Conversion Chart	5
Systematic Troubleshooting	6
Diagnostic Connector	101
Power Distribution Box	102
Fuse Data	103
Schematic Diagrams	104
Component Charts and	
Figures	201

Index—Alphabetical Listing of Electrical Circuits

SCHEMATIC PAGE

Accessory Connector	155
Active Check Control	123
Air Conditioning	149
Auto-Charging Flashlight	140
Automatic Heater-Air Conditioner	149
Auxiliary Fan	148
Brake Lining Warning	126
Central Locking	144
Charging System	109
Cigar Lighter	140
Cruise Control	134
Diagnostic Connector	101
Evaporative Control	111
Fuel Control	114
Fuel Delivery	111
Fuel Gauge	119
Fuse Data	103
Gauges	118
Ground Distribution	156
Heater	149
Heated Door Lock	154
Horn	154
Idle Speed Control	112
Ignition	113
Ignition Key Warning	115
Lights	
-Backup	139
Center Console	138
Dash	136
—Fog	128
Front Park	132

SCHEMATIC PAGE

Lights (continued)	
—Glove Box	140
-Hazard Warning	130
-Headlights	128
-Interior	127
-License	133
-Rear Marker	133
-Stoplights	134
-Tail	133
-Turn	130
-Transmission Range	136
-Trunk	133
—Visor	136
-Underhood	132
On-Board Computer	116
Power Antenna	147
Power Distribution	104
Power Distribution Box	102
Power Mirrors	146
Power Windows	142
Radio	147
Rear Defogger	141
Seatbelt Warning	115
Service Interval Indicator	121
Speedometer	118
Start	110
Sunroof	141
Vacuum Pump	148
Warning Indicators	118
Windshield Washer Jet Heaters	161
Wiper/Washer	122

HOW TO USE THIS MANUAL 3

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

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

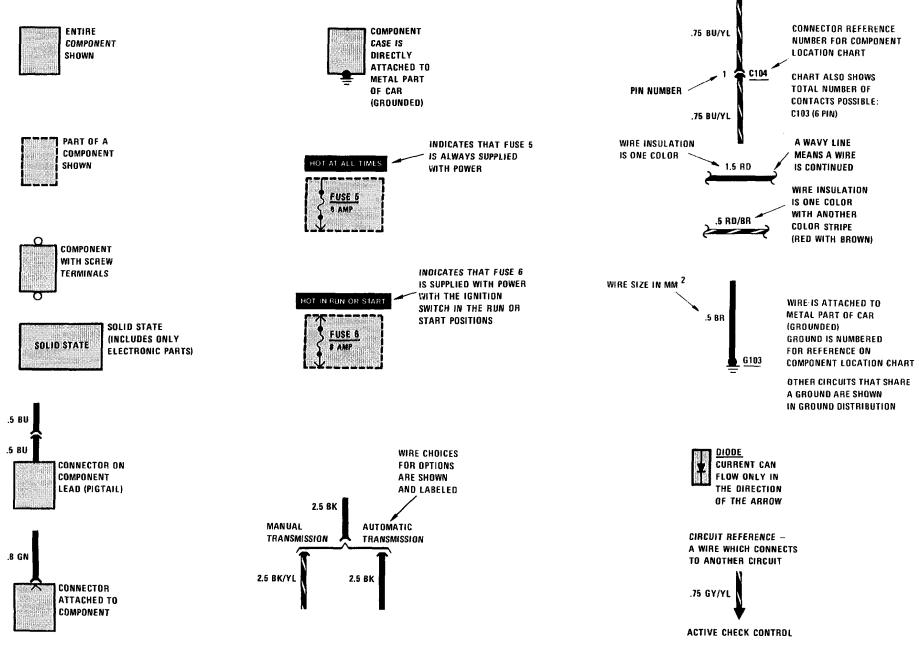
The power distribution schematic shows the current feed through all the connections from the Battery and Alternator to each fuse and the Ignition and Light Switches. If the Power Distribution schematic is combined with any other circuit schematic, a complete picture is made of how that circuit works.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

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

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

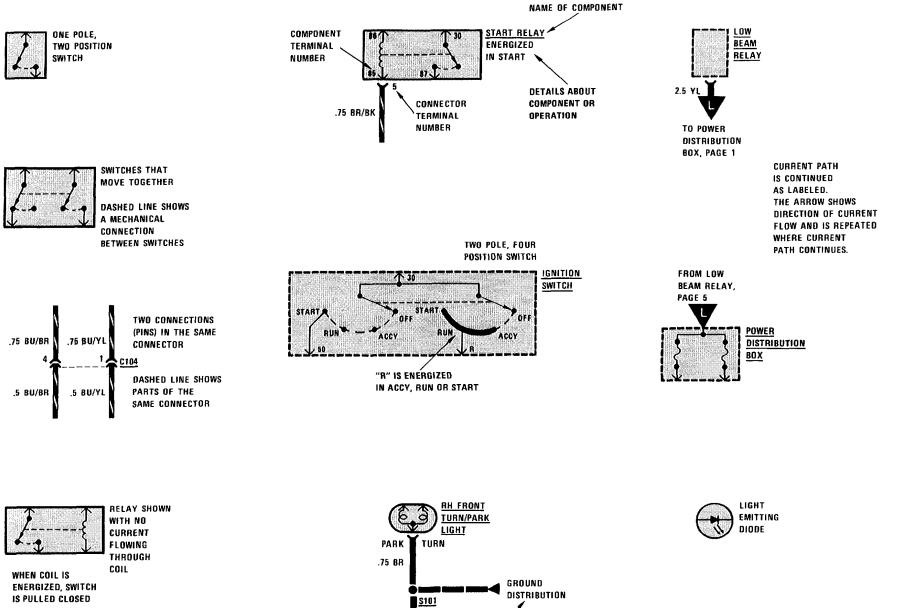
WIRE INSULATION			
ABBREVIATIONS	COLOR		
BK BR RD YL GN BU VI GY WT PK	BLACK BROWN RED YELLOW GREEN BLUE VIOLET GRAY WHITE PINK		

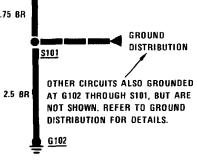
4 SYMBOLS



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SYMBOLS 5





6 SYSTEMATIC TROUBLESHOOTING

TROUBLESHOOTING PROCEDURE

1. Verify the Problem

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

2. Analyze the Problem

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

3. Isolate the Problem

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

4. Repair the Problem

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

5. Check the Problem

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

TROUBLESHOOTING TOOLS

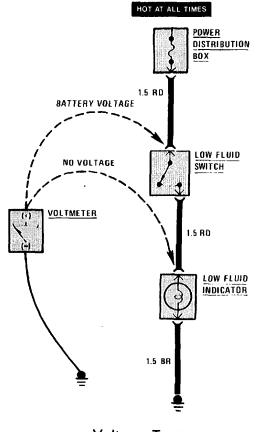
Isolating the problem (Step 3 of TROUBLESHOOTING PROCEDURES) requires the use of a voltmeter and/or ohmmeter. A voltmeter measures voltage at selected points in a circuit. An ohmmeter measures a circuit's resistance to current flow. It has an internal battery that provides current to the circuit under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

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.

BATTERY DISCONNECTED

Short Test Using Voltmeter

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.

HOT AT ALL TIMES

1.5 RD

1.5 80

1.5 BR

<u>POWER</u> DISTRIBUTION

BOX (FUSE REMOVED)

SHOAT

LOAD

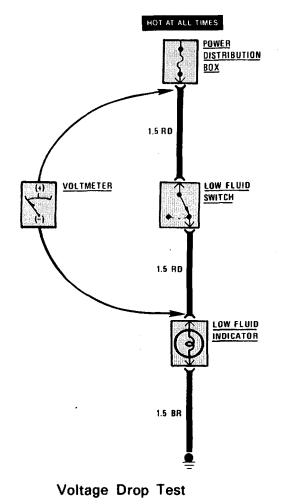
DISCONNECTED

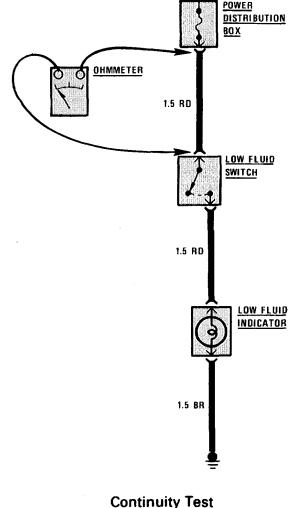
LOW FLUID

INDICATOR

TO GROUND

LOW FLUID SWITCH







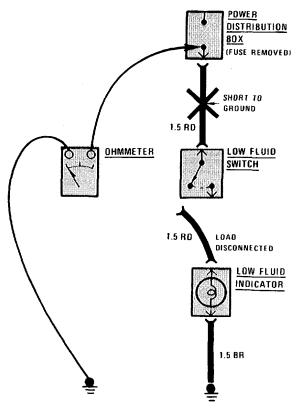
8 SYSTEMATIC TROUBLESHOOTING

Short Test Using Ohmmeter

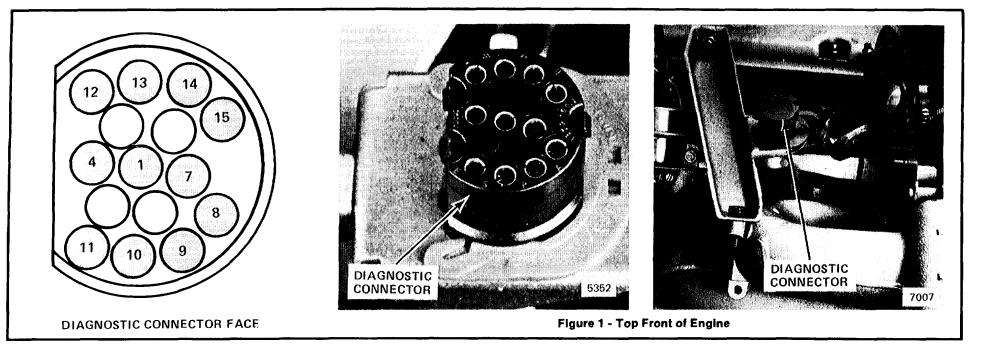
Disconnect the battery. Adjust the ohmmeter to read zero while holding the leads together. Remove the blown fuse and disconnect the load. Connect one lead of the ohmmeter to the fuse terminal that is closest to the load. Connect the other lead to a known good ground.

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



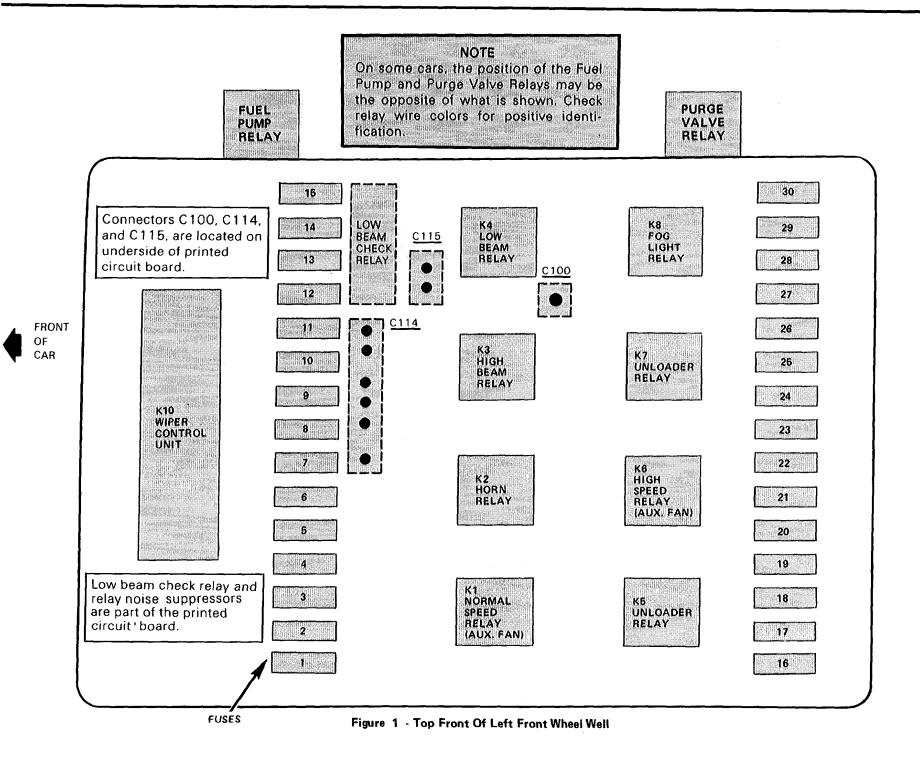


Short Test Using Ohmmeter



PIN	WIRE SIZE	WIRE COLOR	CIRCUIT AND COMPONENT CONNECTED
1	1.5	BR	Ground Distribution, G103
4	.5	BR/WT	Gauges/Warning Indicators, Coolant Temperature Sender.
7	.5		Service Interval Indicator, Service Interval Processor
8	.5	YL	Ignition, TDC Sensor.
9		SHIELD	Ignition, TDC Sensor.
10	.5	ВК	Ignition, TDC Sensor.
11	2.5	BK/YL	Start, Start Signal.
12	.75	BU	Charge System, Alternator.
13	.75	BK	Ignition, Ignition Coil.
14	2.5	RD	Charge System, Alternator.
15	1.5	GN/YL	Idle Speed Control, Idle Speed Control Unit.

102 POWER DISTRIBUTION BOX

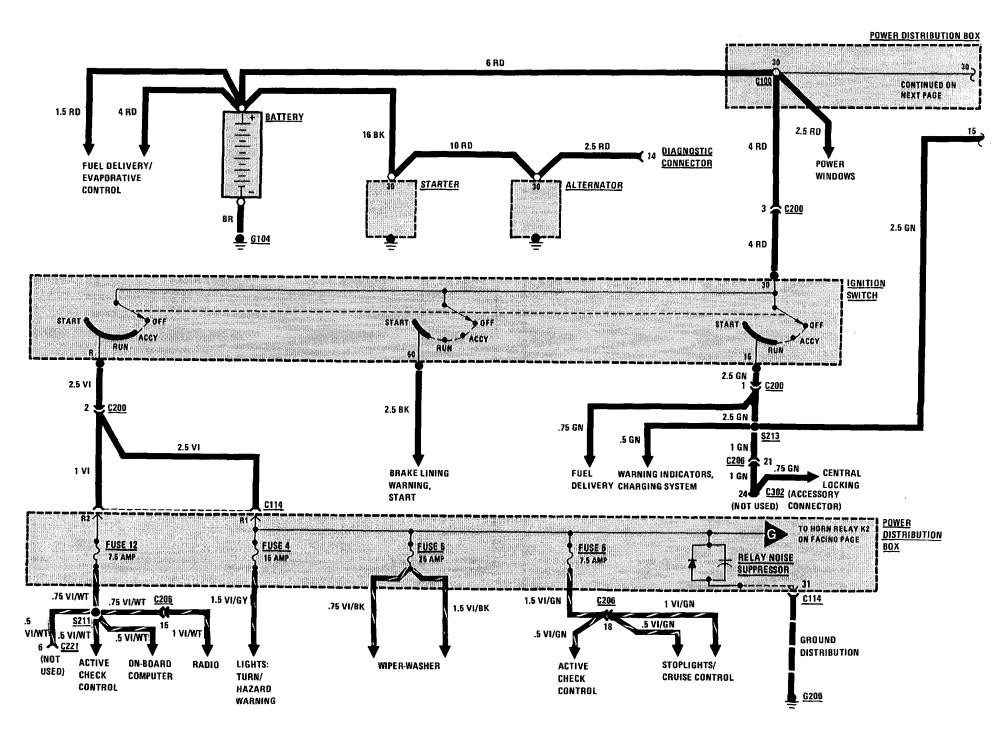


FUSE DATA 103

FUSE NO.	SIZE/ COLOR	CIRCUIT PROTECTED
1	15A (LT BU)	Headlights (also fuses 2, 13, 14).
2	15A (LT BU)	Headlights (also fuses 1, 13, 14).
3	15A (LT BU)	Auxiliary Fan (also fuses 16, 18).
4	15A (LT BU)	Lights: Turn/Hazard Warning (also fuse 24).
5	25A (WT)	Wiper/Washer.
6	7.5A (BR)	Active Check Control (also fuse 10, 12, 21, 22, 23): Stoplights/Cruise Control (also fuse 17).
7	15A (LT BU)	Horn.
8		Not Used.
9	15A (LT BU)	Idle Speed Cntrol (also fuse 17).
10	7.5A (BR)	Active Check Control (also fuses 6, 12, 21, 22, 23); Brake Linking Warning; On-Board Compter (also fuse 12, 21, 27); Service Interval Indicator (also fuse 21); Speedometer/Gauges/Warning Indicators (also fuses 12, 17, 21).
11	15A (LT BU)	Fuel Delivery.
12	7.5A (BR)	Active Check Control (also fuses 6, 10, 21, 22, 23); On-Board Computer (also fuses 10, 21, 27); Radio (also fuses 12, 28, Radio In-Line Fuse); Warning Indicators (also fuse 10).
13	7.5A (BR)	Headlights (also fuses 1, 2, 14).
14	7.5A (BR)	Headlights (also fuses 1, 2, 13).
15		Not Used.
16	30A (LT GRN)	Auxiliary Fan/Vacuum Pump (also fuses 3, 18); Heating/Air Conditioning.
17	15A (LT BU)	Back Up Lights; Idle Speed Control (also fuse 9); Interior Lights (also fuse 21); Power Mirrors; Power Windows (also fuse 17, Power Window Circuit Breaker); Seatbelt Warning (also fuse 10, 21); Stoplights/Cruise Control (also fuse 6); Lights: Dash/Transmission Range (also fuse 23); Windshield Washer Jet Heaters.

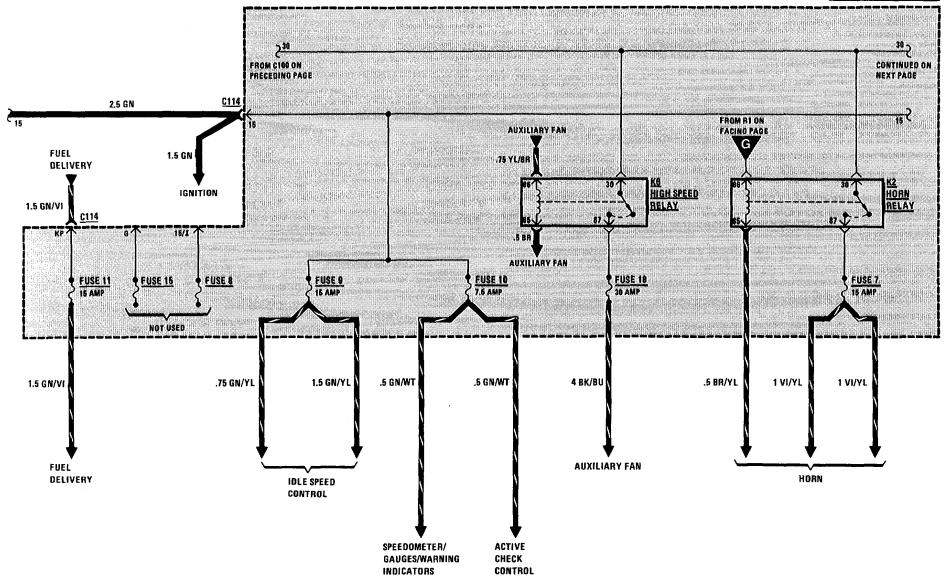
FUSE NO.	SIZE/ COLOR	CIRCUIT PROTECTED
18	30A (LT GRN)	Auxiliary Fan.
19	25A (WT)	Sunroof.
_20	25A (WT)	Rear Defogger.
21	7.5A (BR)	Active Check Cntrol (also fuses 6, 10, 12, 22, 23); Auto-Charging Flashlight: Gauges; Glove Box Light; Ignition Key Warning; Interior Lights (also fuse 17); On-Board Computer (also fuse 10, 12, 27); Radio (also fuses 12, 28, Radio In-Line Fuse); Seatbelt Warning (also fuses 10, 17); Service Interval Indicator (also fuse 10);
		Speedometer/Gauges/Warning Indicators (also fuse 10); Trunk Light.
22	7.5A (BR)	
23	7.5A (BR)	
24	15A (LT BU)	Lights: Turn/Hazard Warning (also fuse 4).
25		Not Used.
26	30A (LT GN)	
27	25A (WT)	Central Locking; Heated Door Lock.
28	25A (WT)	Cigar Lighter; Power Antenna (also fuse 17, Power Window Circuit Breaker).
29	7.5A (BR)	Fog Lights (also fuse 30).
30	7.5A (BR)	Fog Lights (also fuse 29).
Power Window Circuit Breaker	25	Power Windows.

(For Component Locations See Page 210)



(For Component Locations See Page 210)

POWER DISTRIBUTION BOX

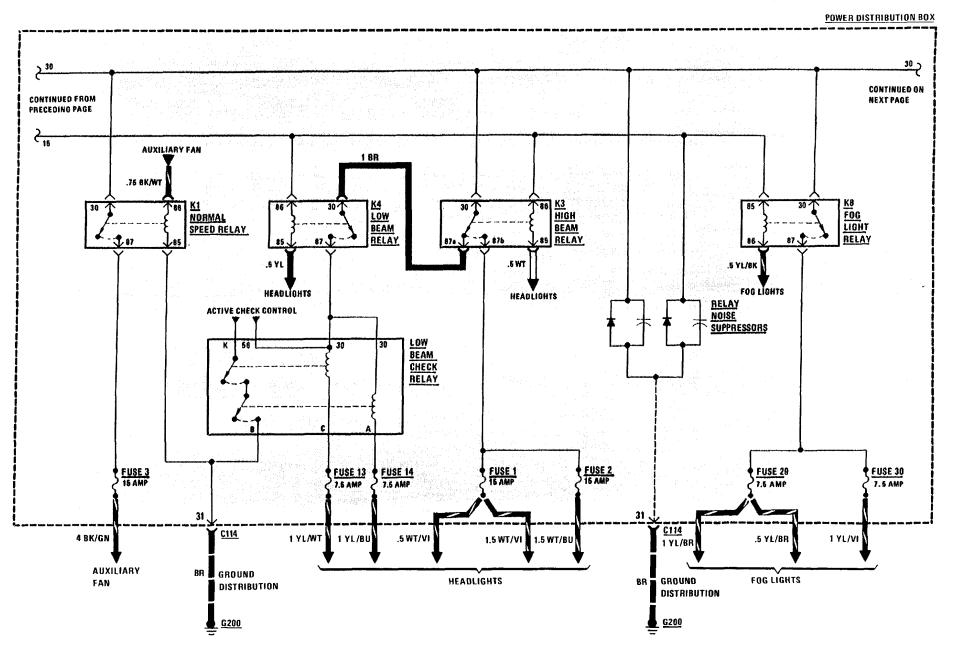


(For Component Locations See Page 210)

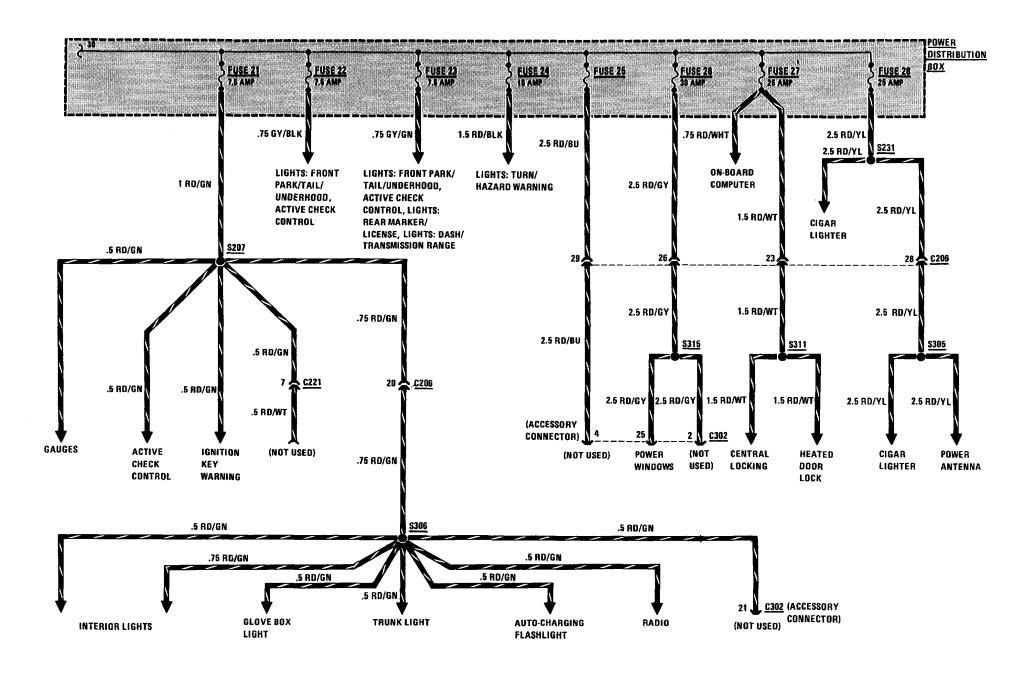
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POWER DISTRIBUTION BOX

(For Component Locations See Page 210)

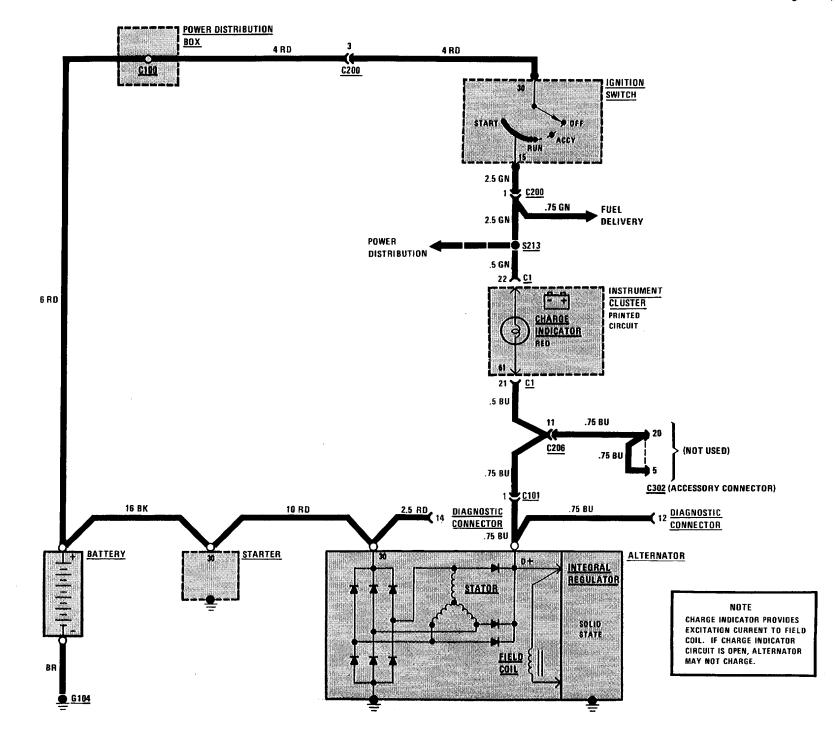


(For Component Locations See Page 210)



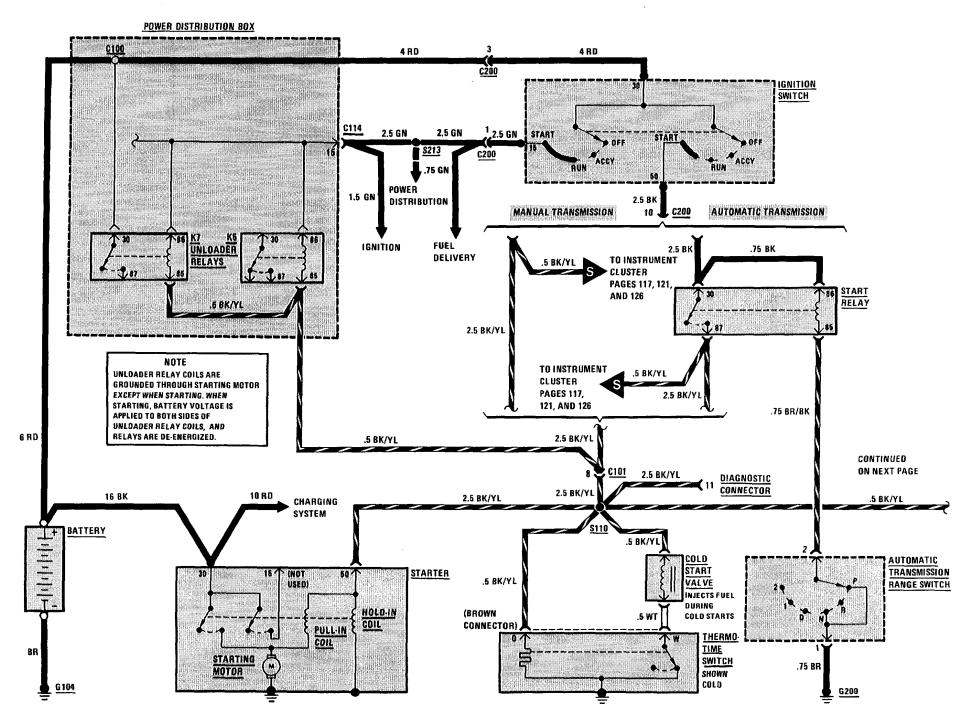
CHARGING SYSTEM 109

(For Component Locations See Page 204)



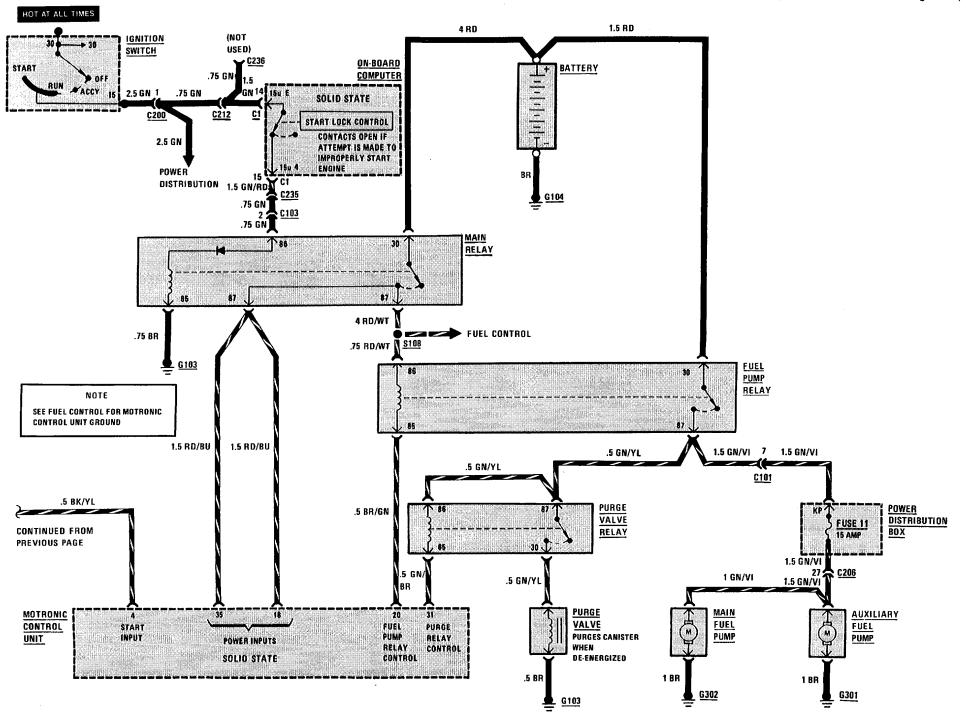
110 START

(For Component Locations See Page 212)



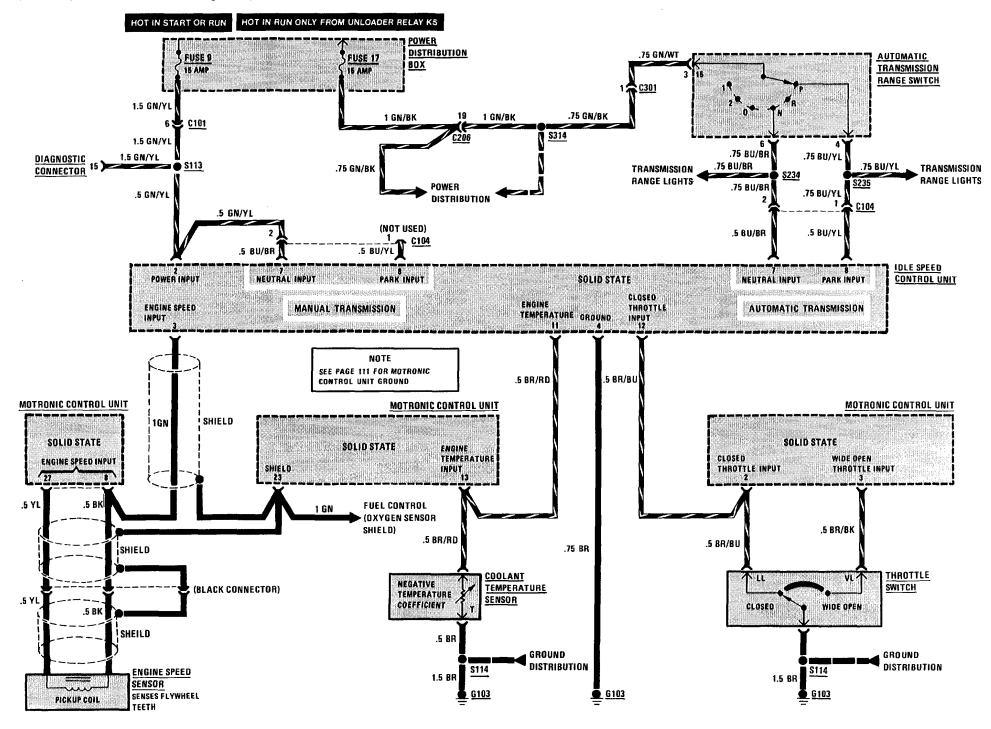
FUEL DELIVERY/EVAPORATIVE CONTROL 111

(For Component Locations See Page 205)



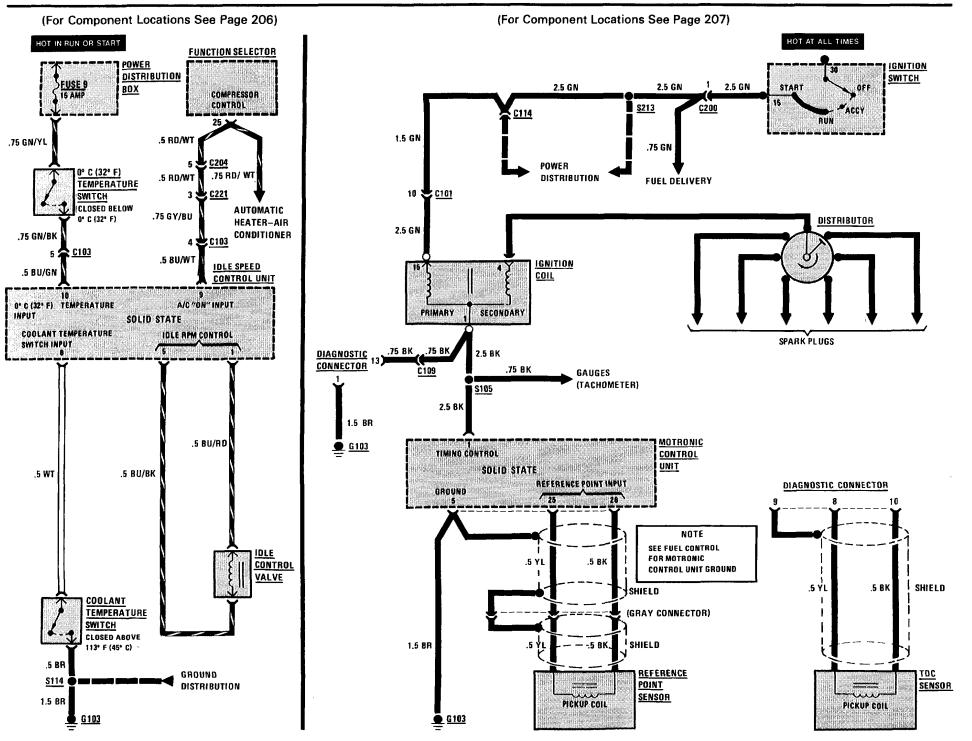
112 IDLE SPEED CONTROL

(For Component Locations See Page 206)



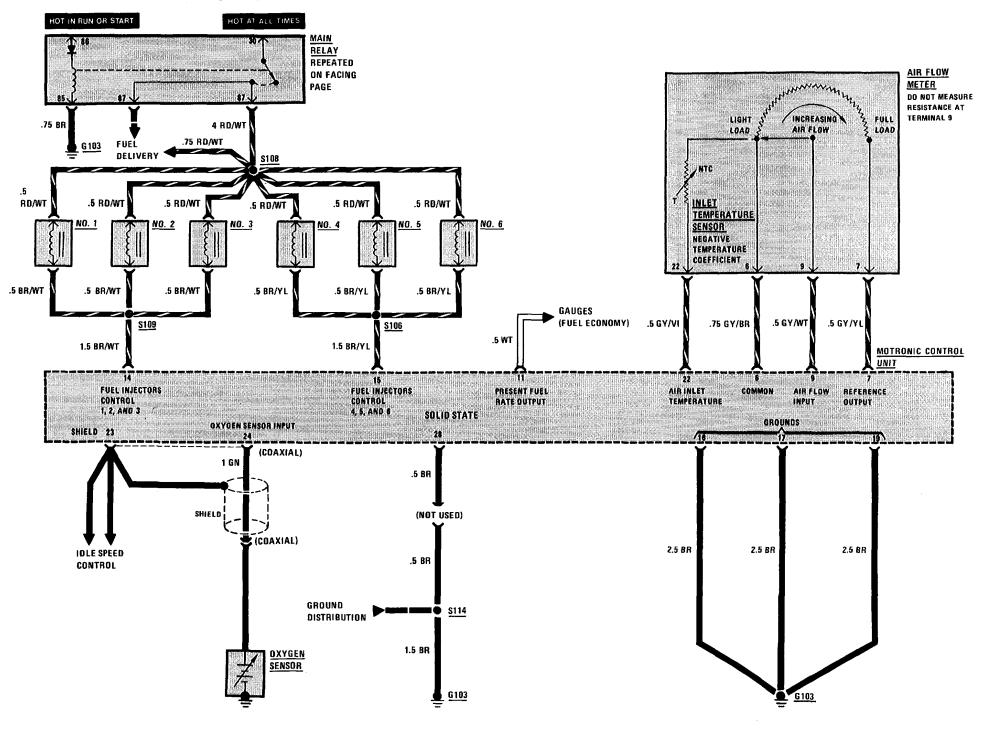
IDLE SPEED CONTROL

IGNITION



114 FUEL CONTROL

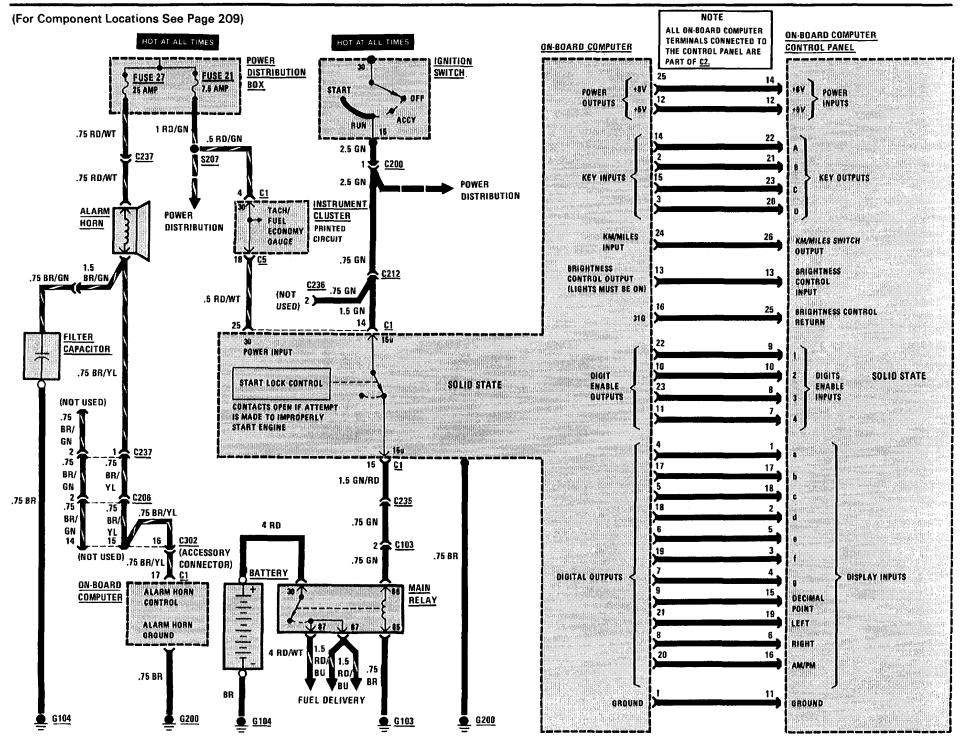
(For Component Locations See Page 204)



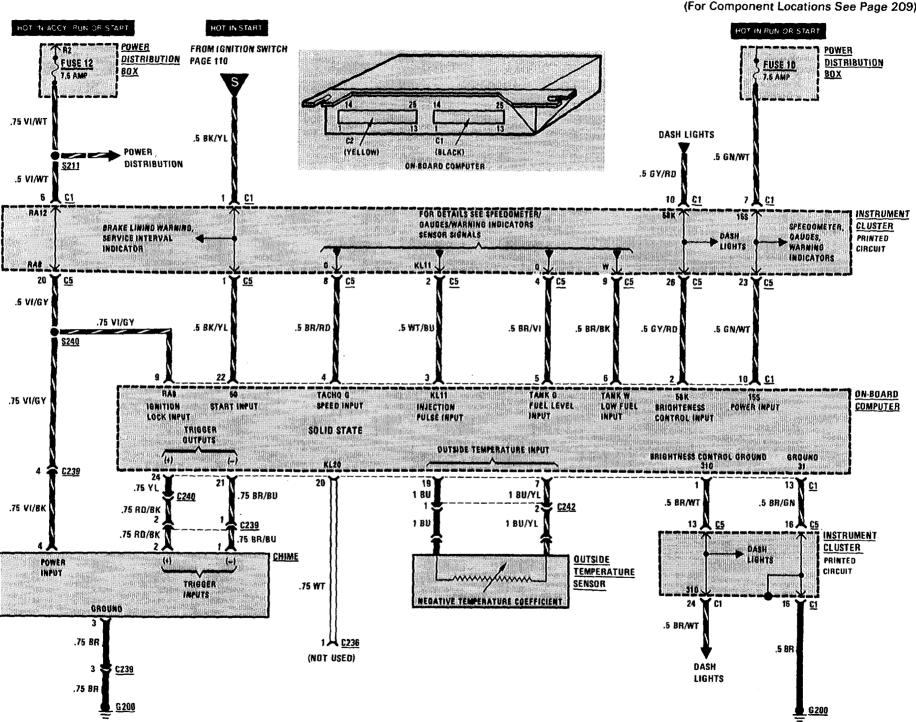
HOT AT ALL TIMES HOT IN START OR RUN HOT IN RUN ONLY FROM UNLOADER RELAY K5 POWER POWER DISTRIBUTION DISTRIBUTION FUSE 10 <u>FUSE 17</u> FUSE 21 <u> BO X</u> BOX 7.6 AMP 15 AMP 7.5 AMP 1 RD/GN POWER .5 GN/WT DISTRIBUTION <u>\$207</u> 1 GN/BK .5 RD/GN <u>C200</u> 8 .75 RD/GN ACTIVE WARNING 165 CHECK BUZZER .75 GN/BK CONTROL 50 - -UNIT ASTEN SEATBELTS 19 🛣 C2<u>06</u> INDICATOR 8 .75 BR/RD 2 .75 BR/RD 7 .5 BR/RD 2 .75 BR/RD 1 GN/BK .5 BR/VI - -C200 C205 <u>ç203</u> .75 8R/RD BK SEATBELT IGNITION 3 🛣 C205 SWITCH KEY SWITCH POWER OPEN WITH SHOWN WITH DISTRIBUTION S314 ۵. DRIVER'S KEY REMOVED SEATBELT 8K BUCKLED .75 BR/YL .75 GN/8K .75 8R/GN .75 BR/WT <u>C203</u> 17 SEATBELT .75 BR/GN L 15 ŝ WARNING 9 🛎 <u>C200</u> TIMER .5 BR/GN POWER TIMER ENABLE INPUT INPUT <u>C205</u> 1 TIMER OPERATES FOR ABOUT 5 SECONDS AFTER ENABLE .75 BR/GN SIGNAL IS APPLIED. GROUND 31 <u>ORIVER'S</u> DODR JAMB ۲ SWITCH SEE GROUND CLOSED WITH DISTRIBUTION DOOR OPEN G200

(For Component Locations See Page 207)

116 ON-BOARD COMPUTER

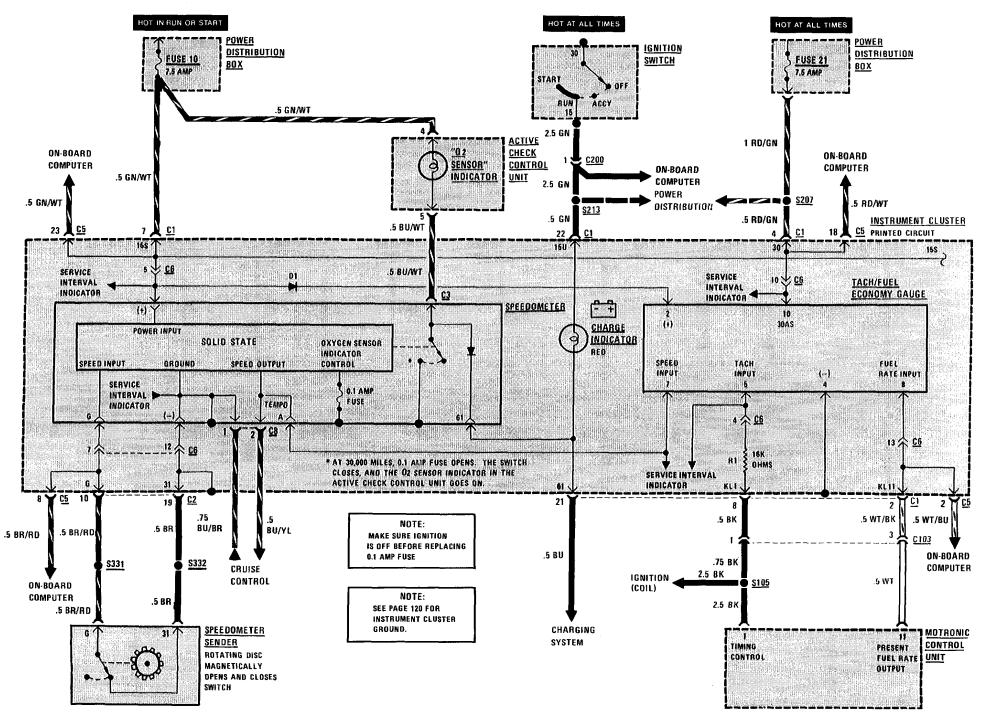


ON-BOARD COMPUTER 117

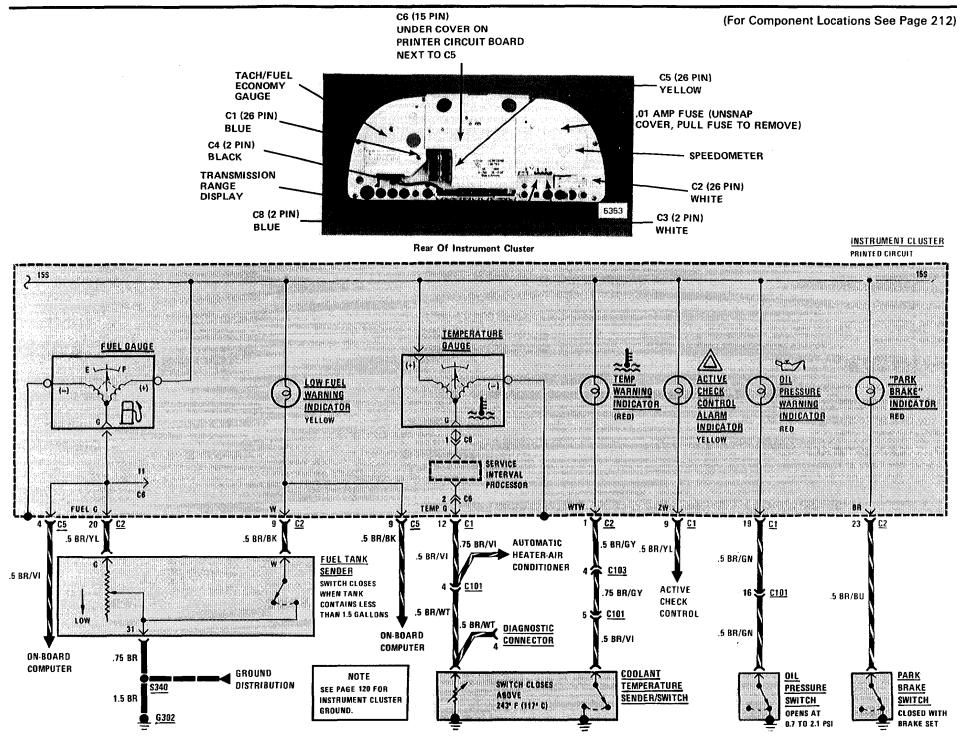


118 SPEEDOMETER/GAUGES/WARNING INDICATORS

(For Component Locations See Page 212)

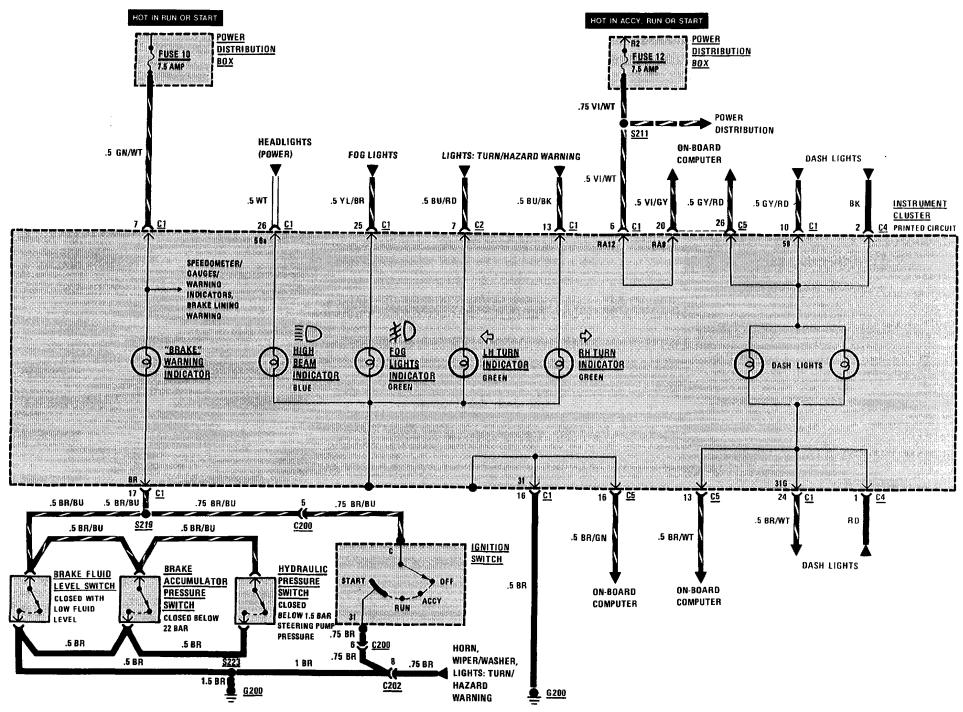


GAUGES/WARNING INDICATORS 119



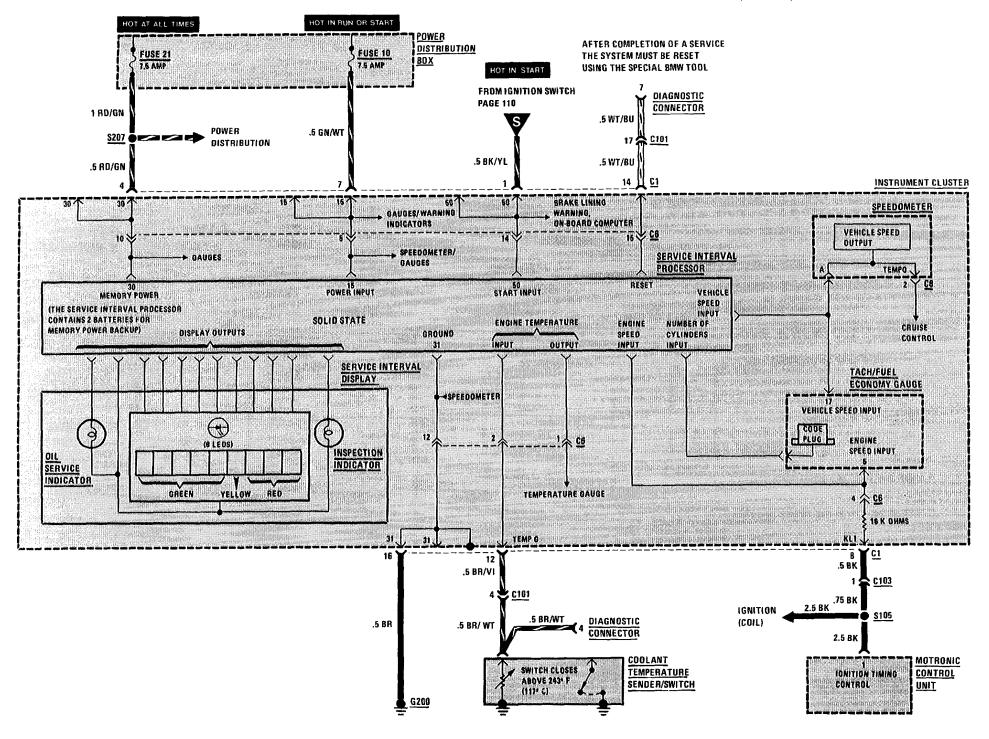
120 WARNING INDICATORS

(For Component Locations See Page 212)



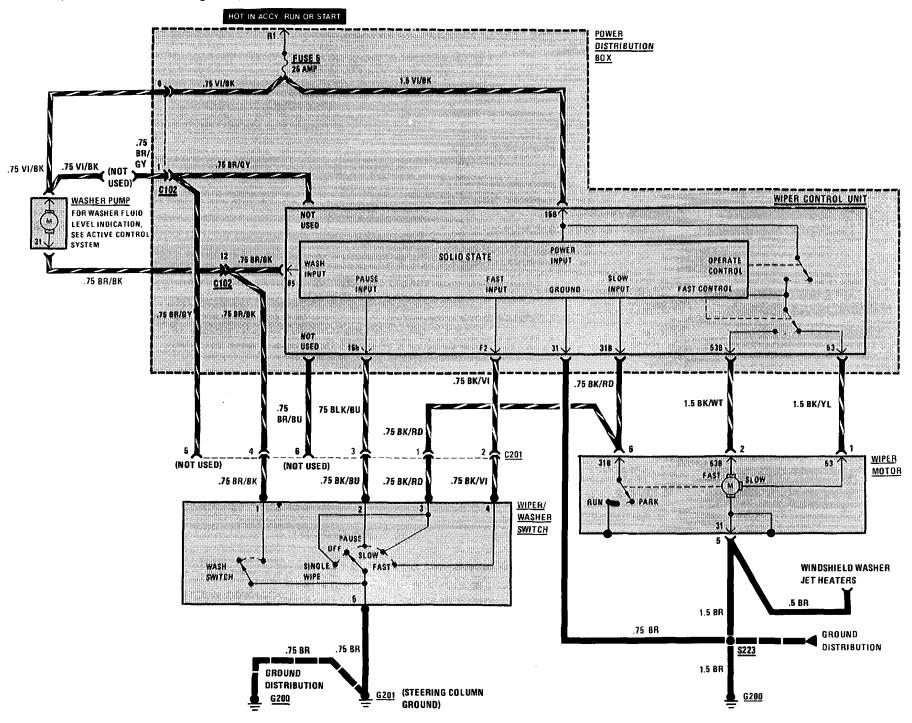
SERVICE INTERVAL INDICATOR 121

(For Component Locations See Page 211)



122 WIPER/WASHER

(For Component Locations See Page 215)



(For Component Locations See Page 201)



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

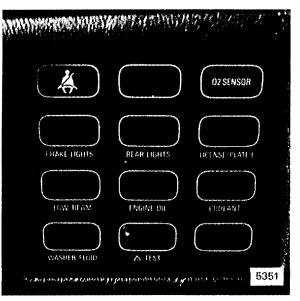
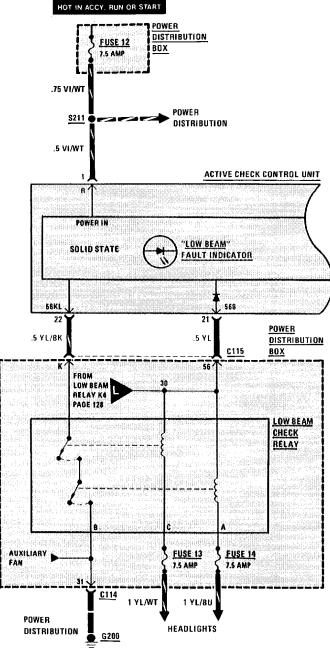


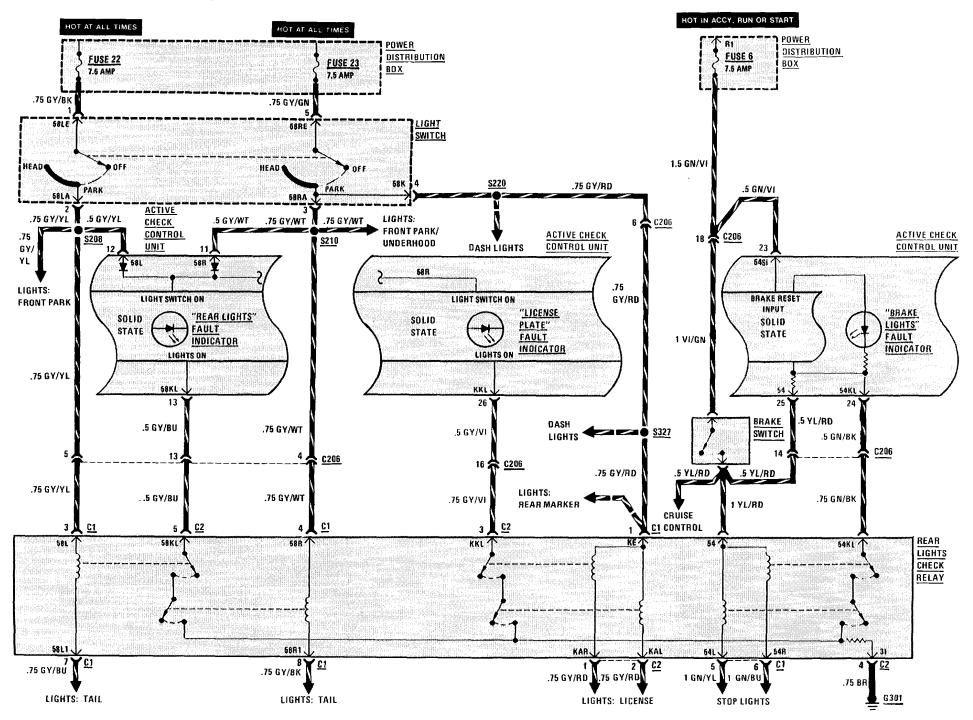
Figure 1 - Active Check Control Unit (Dash, Left Of Steering Column)

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



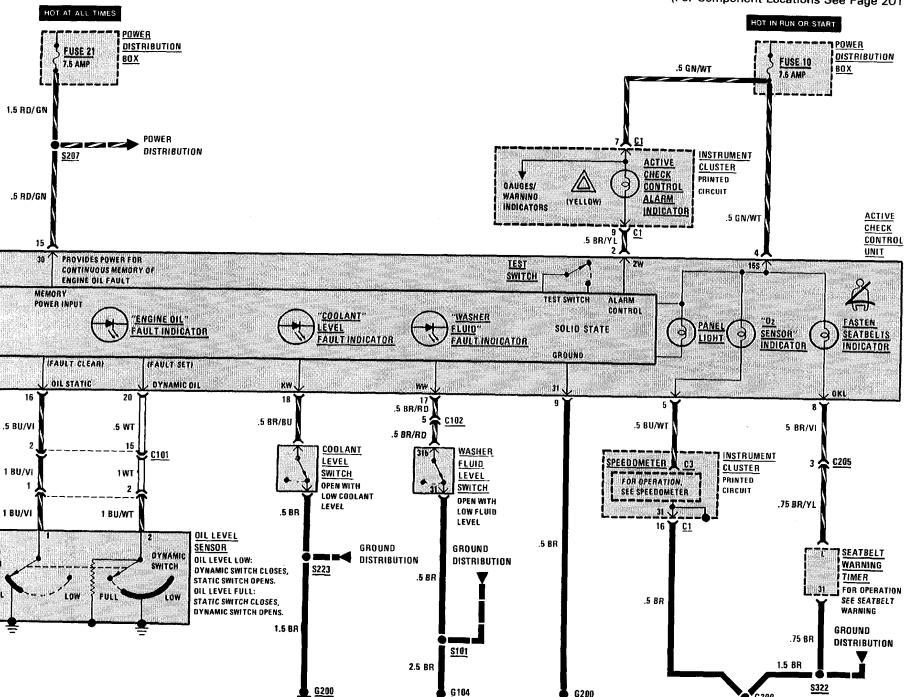
124 ACTIVE CHECK CONTROL

(For Component Locations See Page 201)



ACTIVE CHECK CONTROL 125

G200



G104

<u>6200</u>

STATIC

SWITCH

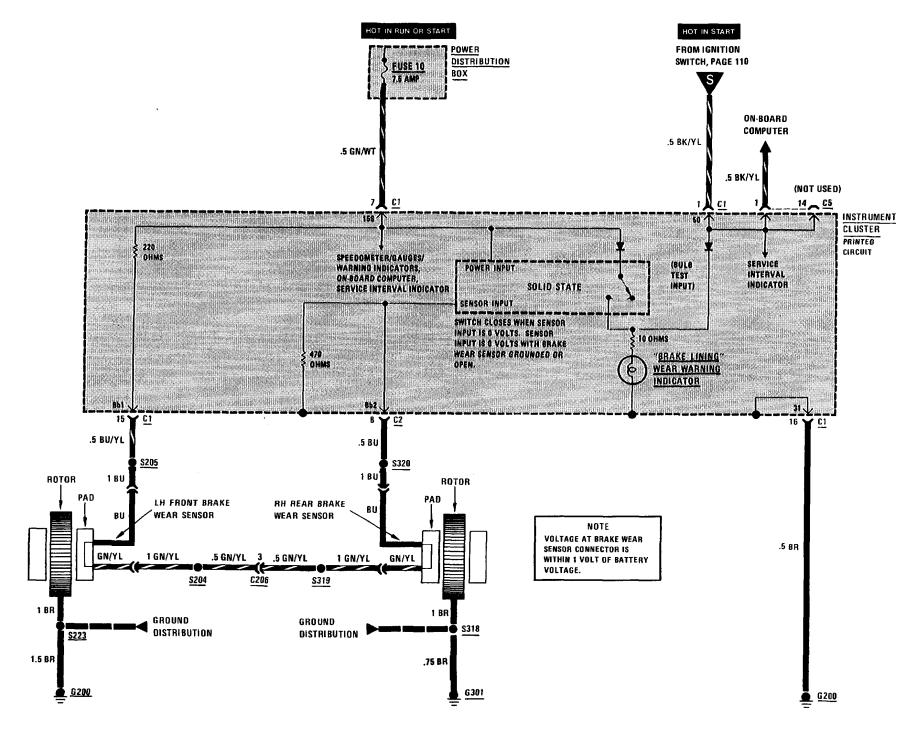
FULL

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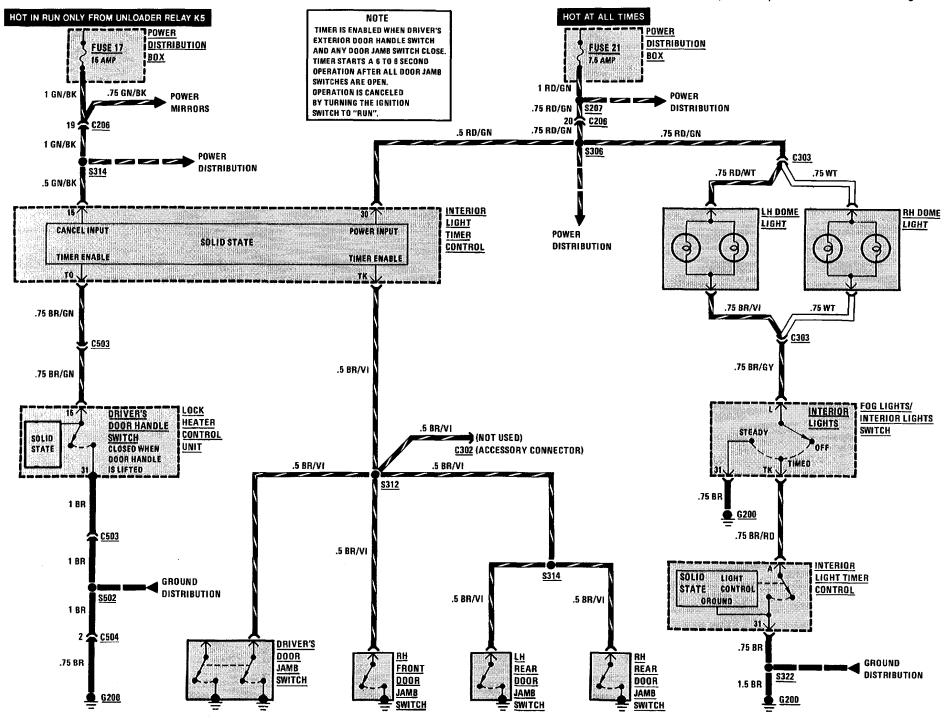
(For Component Locations See Page 201)

126 BRAKE LINING WARNING

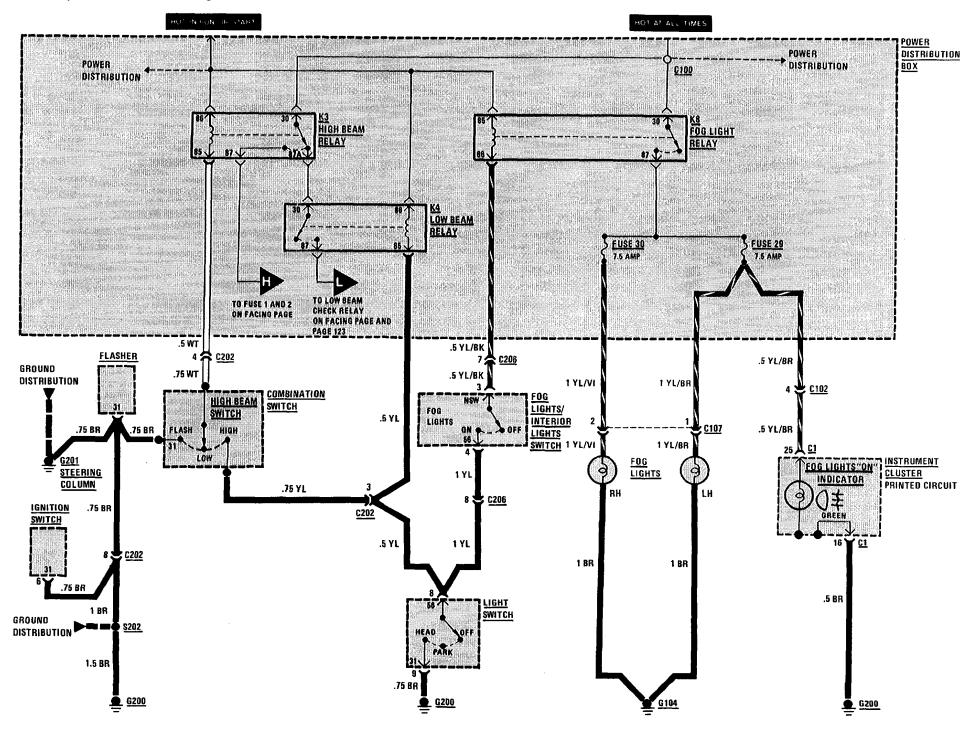
(For Component Locations See Page 203)



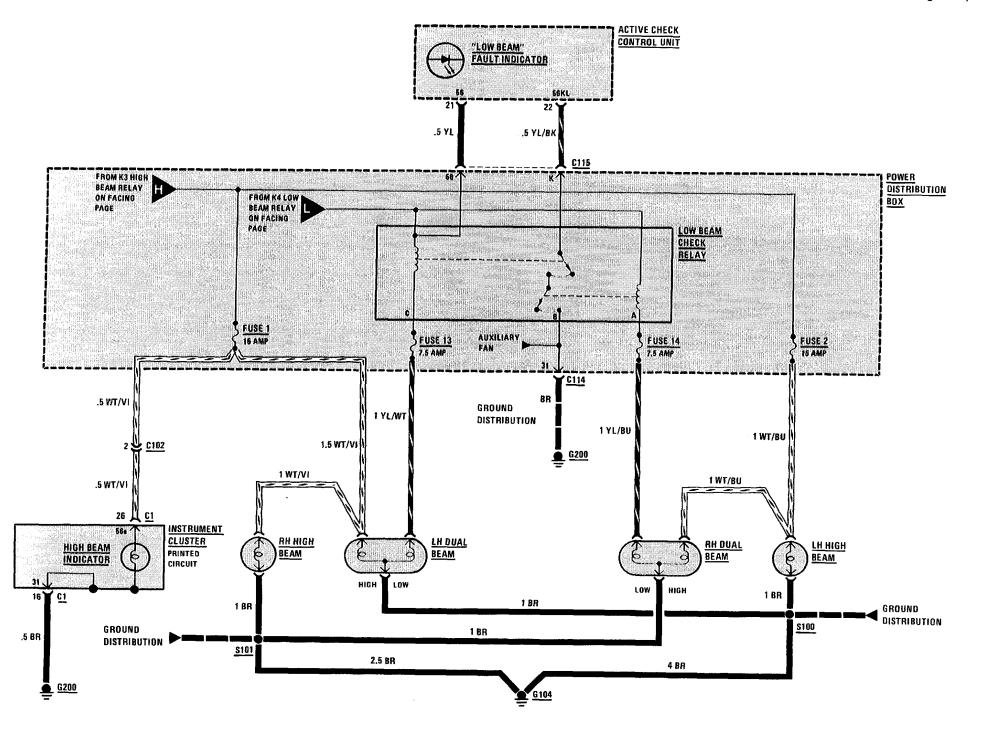
INTERIOR LIGHTS (DOME) 127



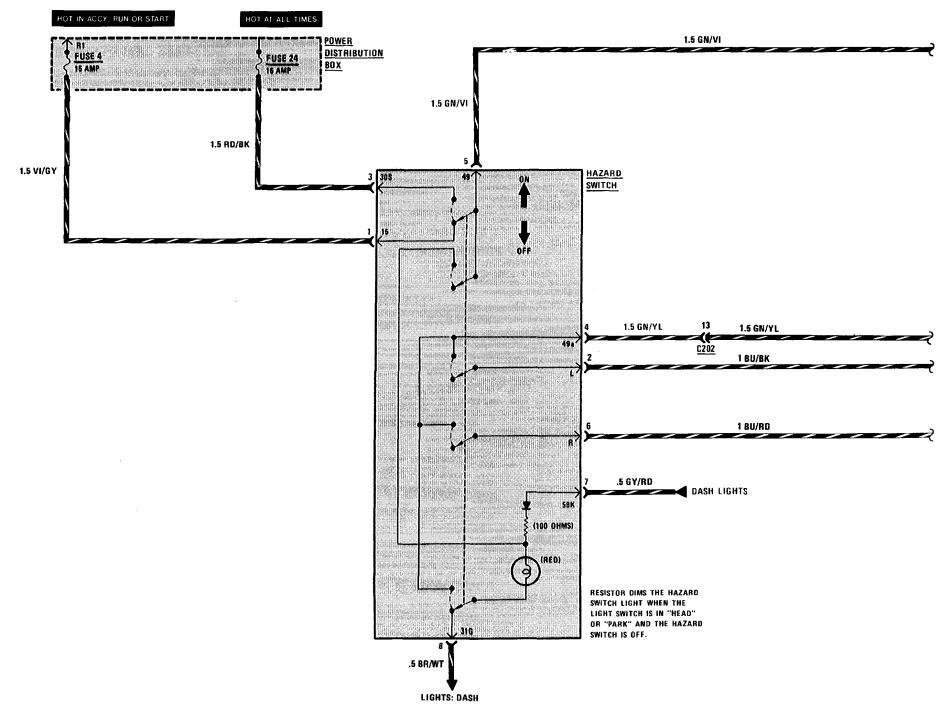
128 HEADLIGHTS (CONTROL)/FOG LIGHTS



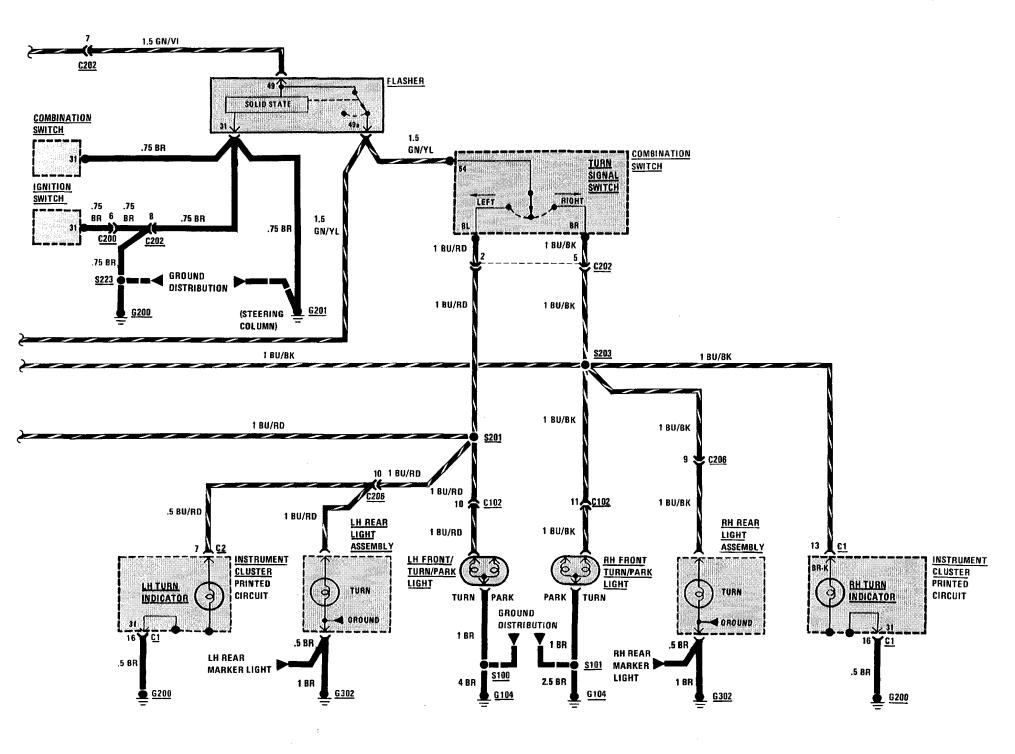
HEADLIGHTS (POWER) 129



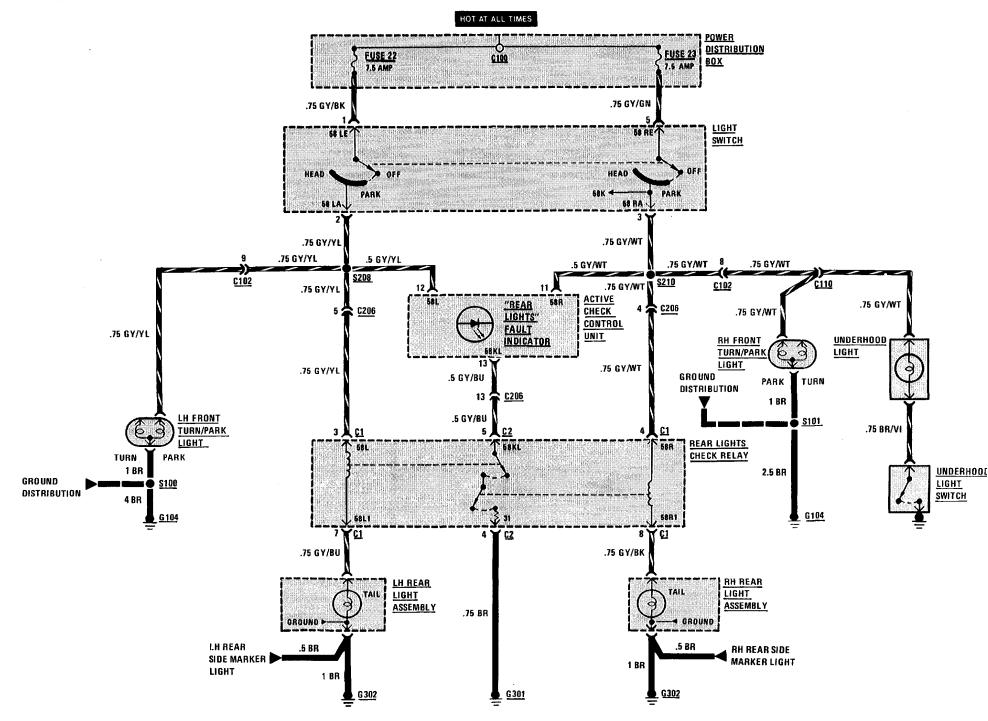
130 LIGHTS: TURN/HAZARD WARNING

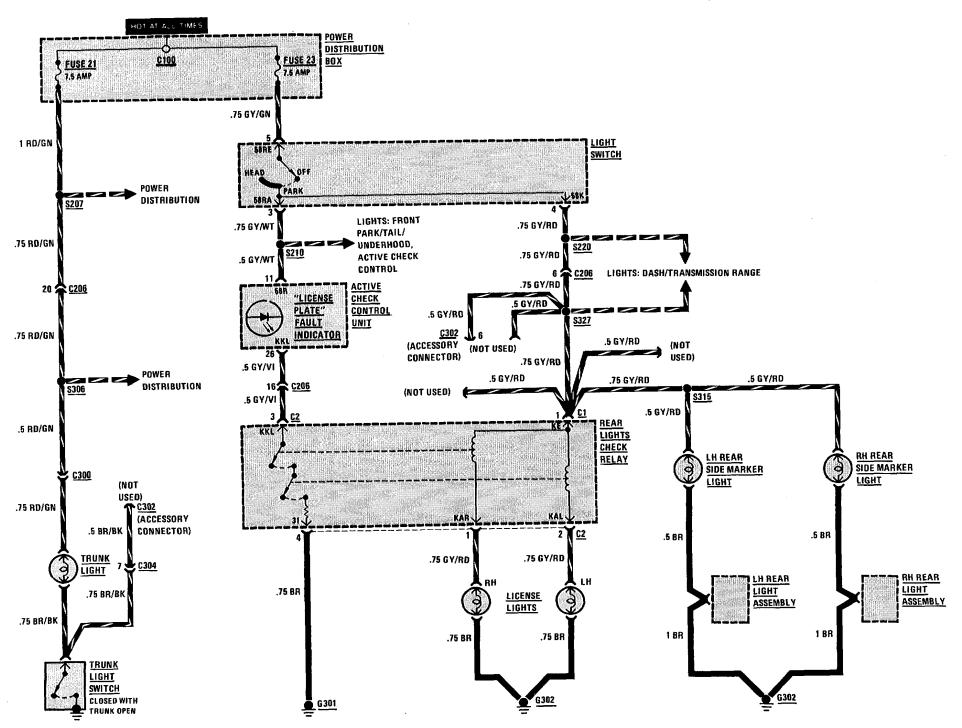


LIGHTS: TURN/HAZARD WARNING 131

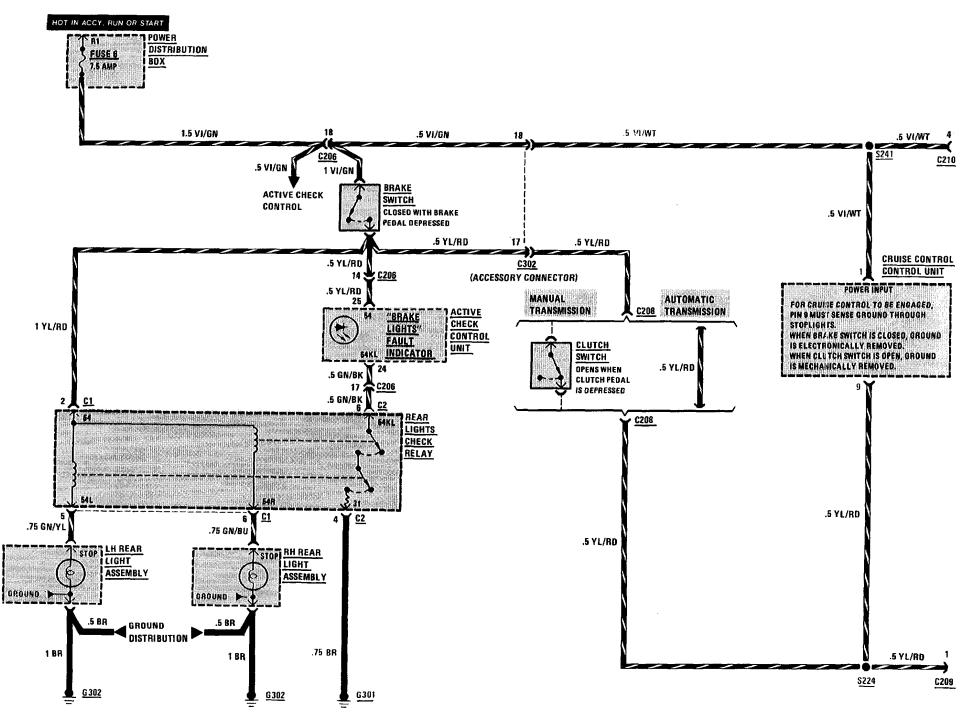


132 LIGHTS: FRONT PARK/TAIL/UNDERHOOD

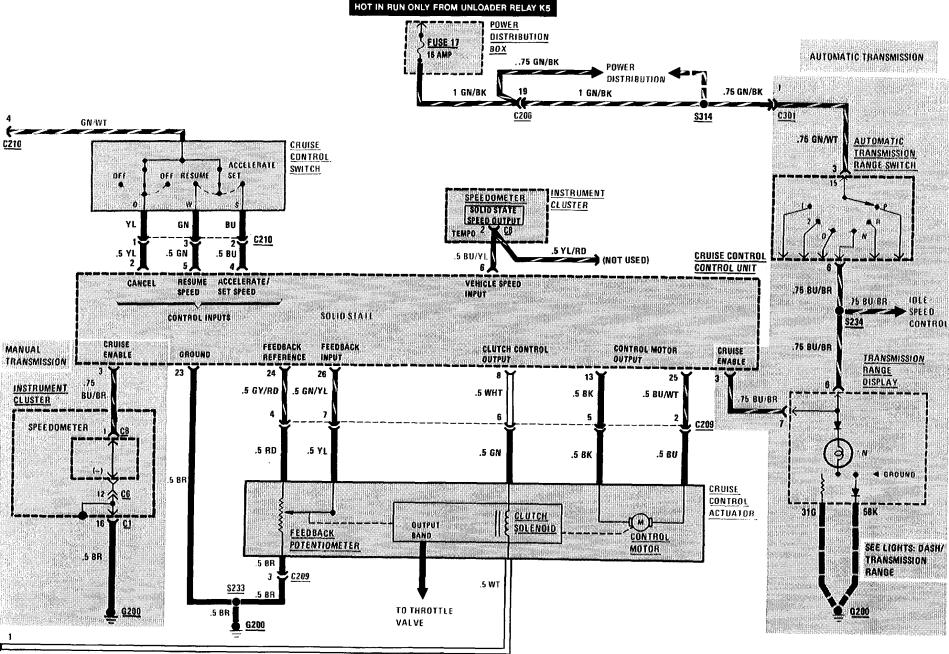




134 STOPLIGHTS/CRUISE CONTROL



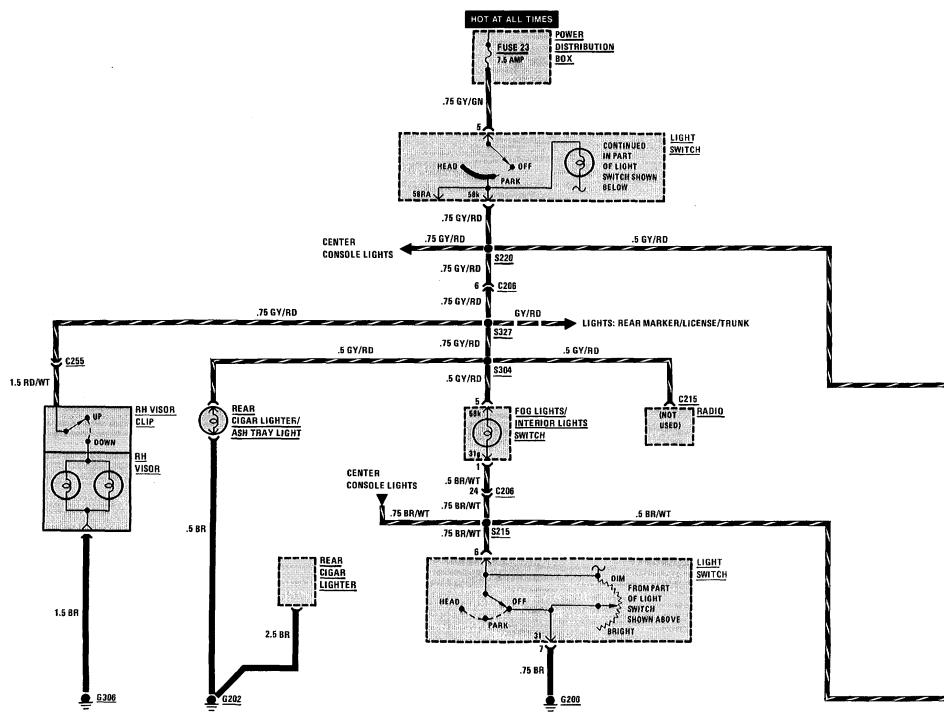
STOPLIGHTS/CRUISE CONTROL 135



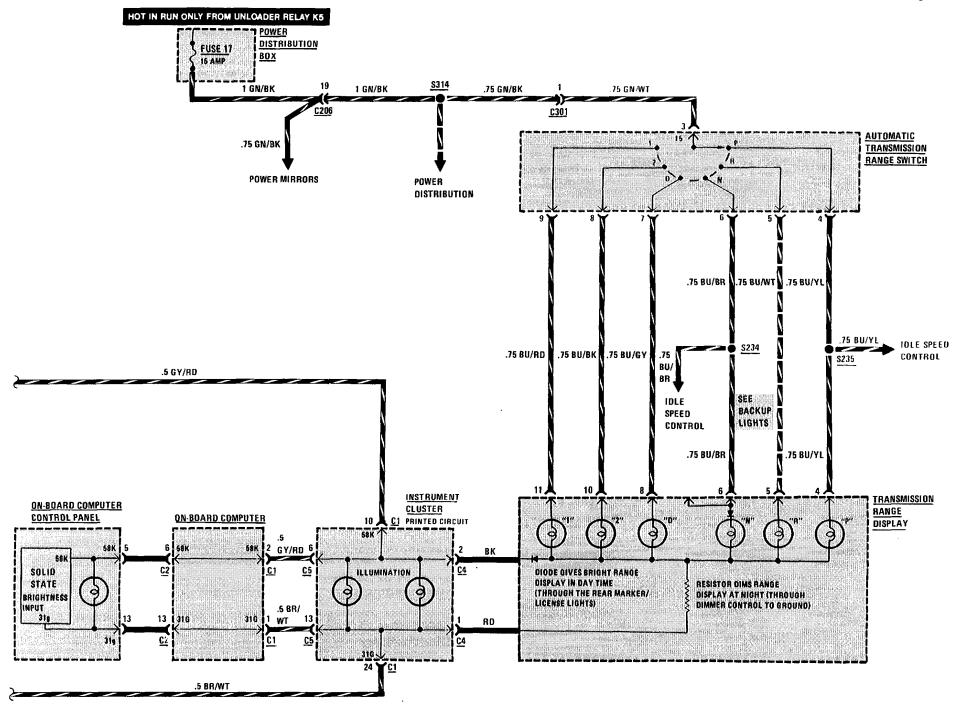
(For Component Locations See Page 215)

<u>C209</u>

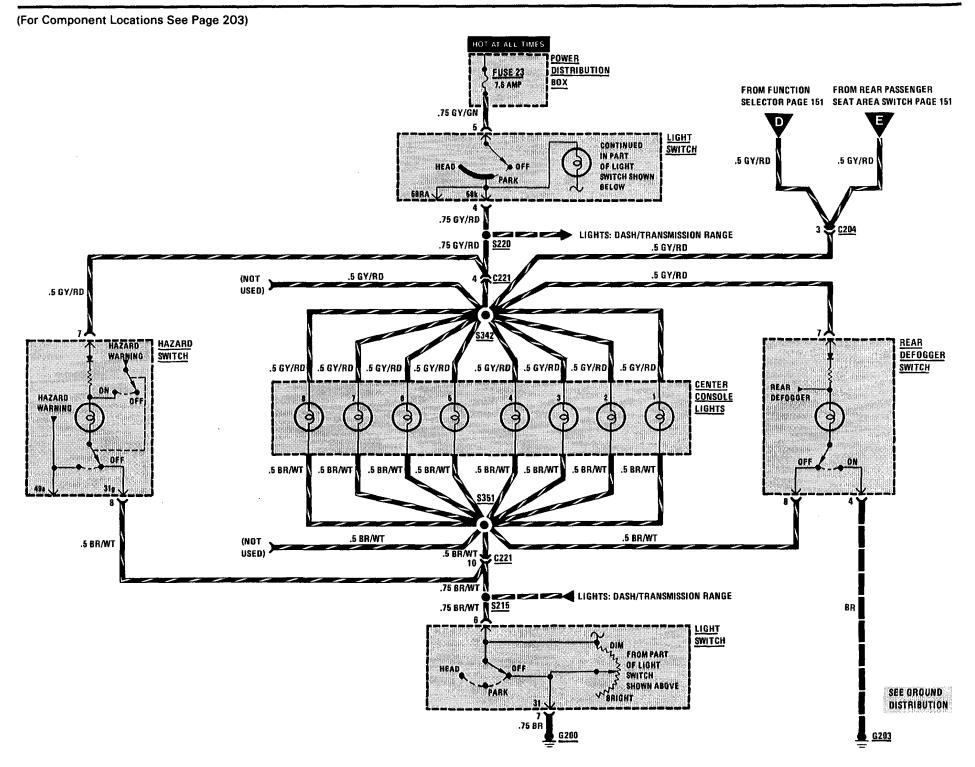
136 LIGHTS: RH VISOR/DASH/TRANSMISSION RANGE



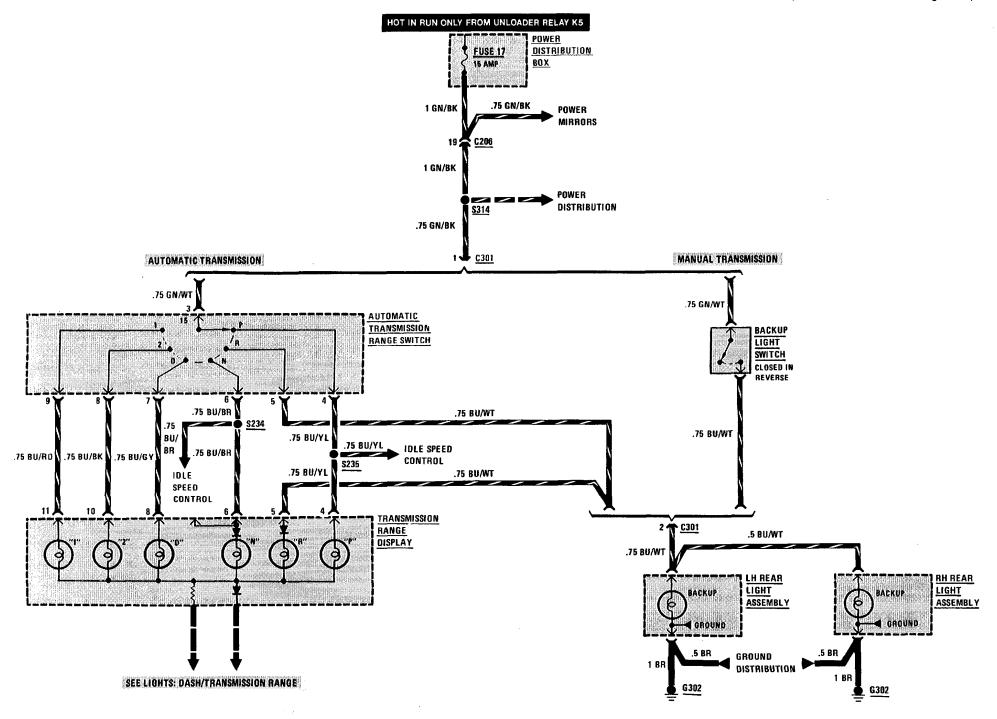




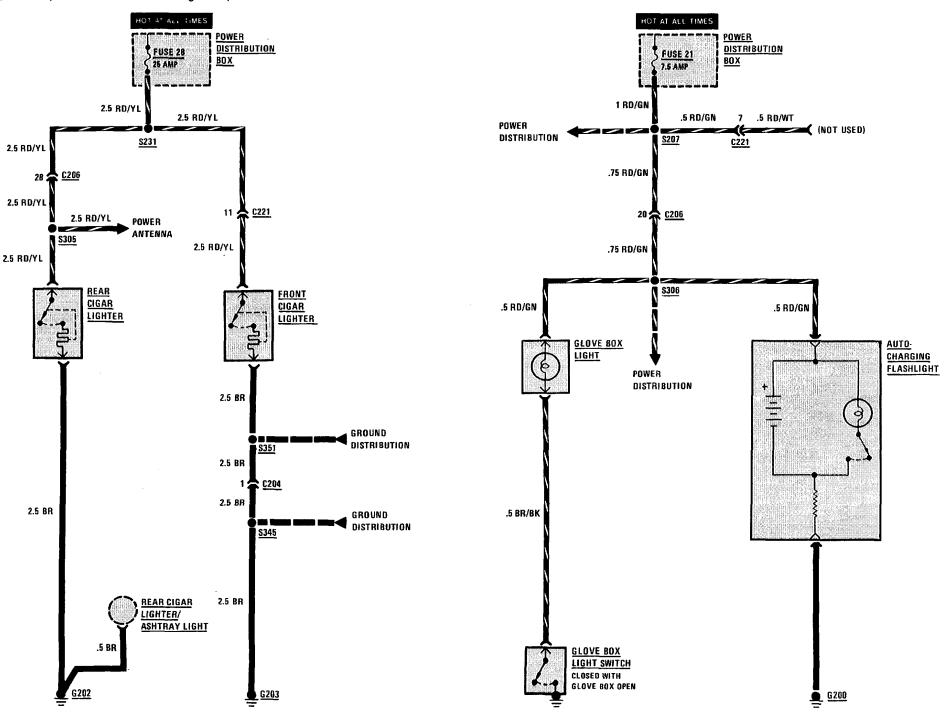
138 CENTER CONSOLE LIGHTS

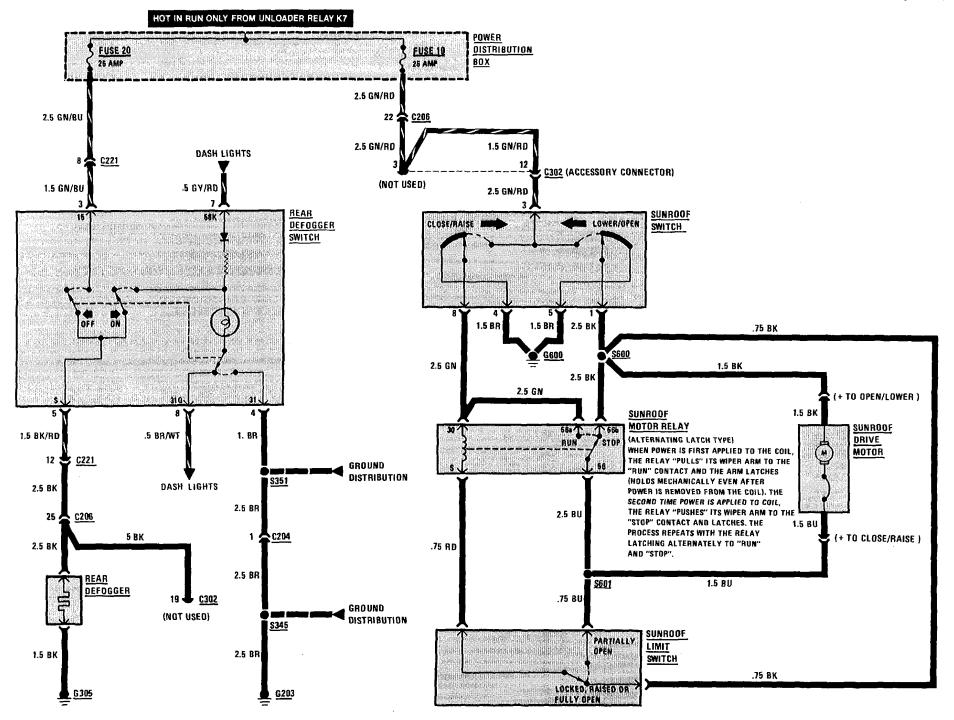


BACKUP LIGHTS 139

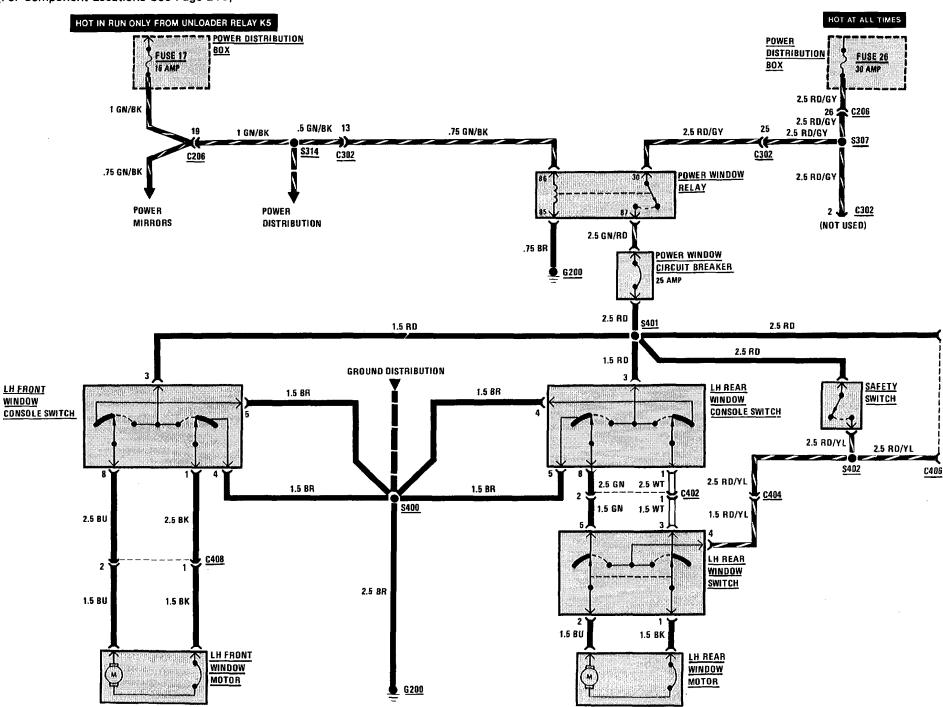


140 CIGAR LIGHTER/GLOVEBOX LIGHT/AUTO-CHARGING FLASHLIGHT

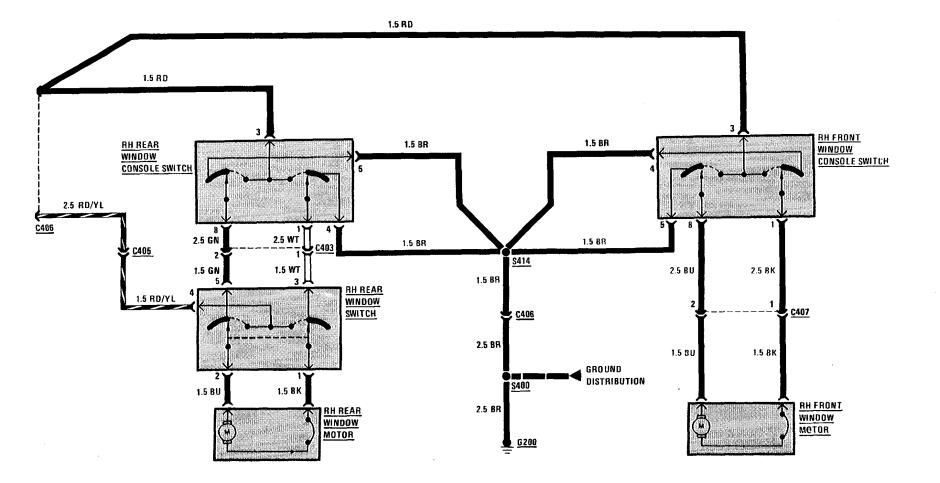




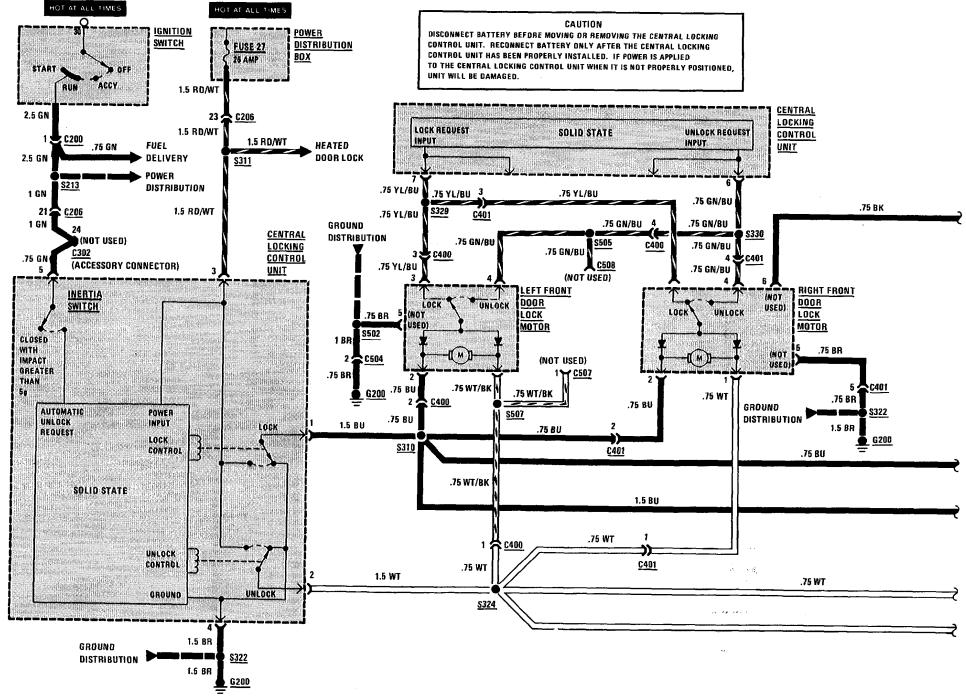
142 POWER WINDOWS



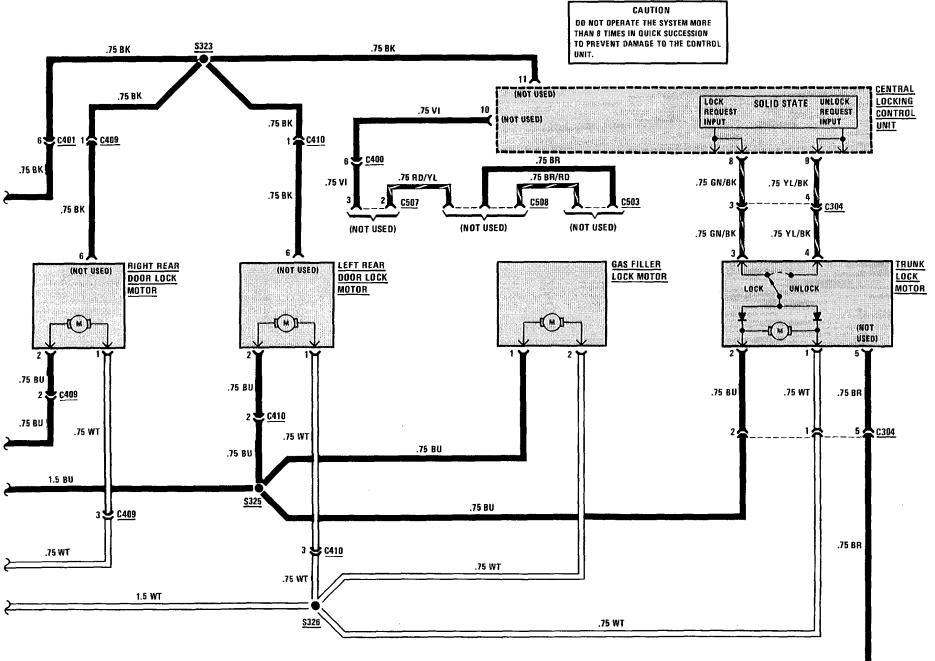
POWER WINDOWS 143



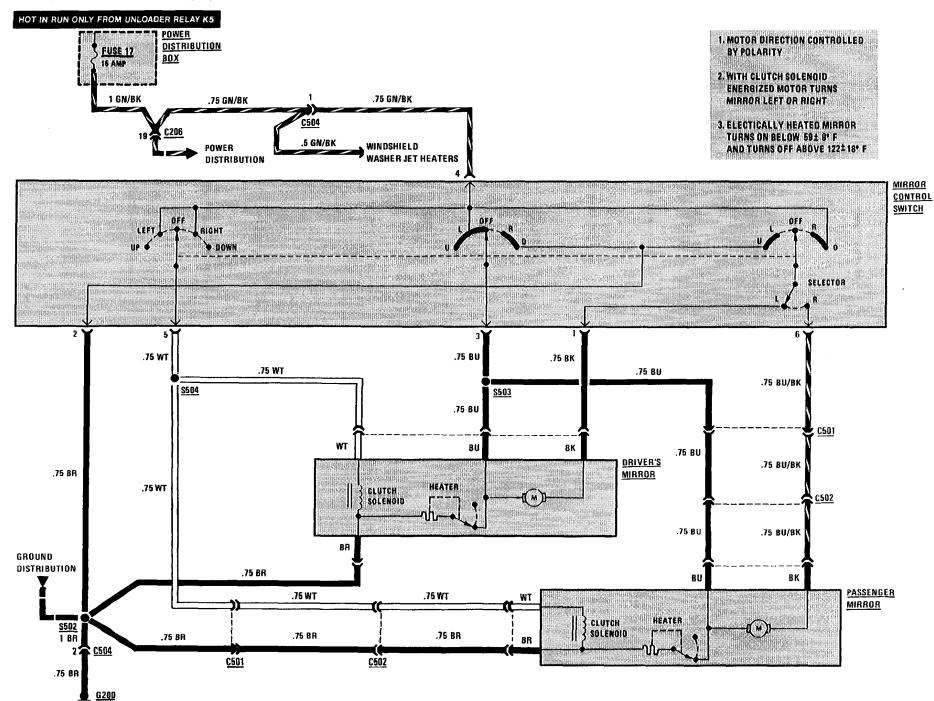
144 CENTRAL LOCKING (SELECT)

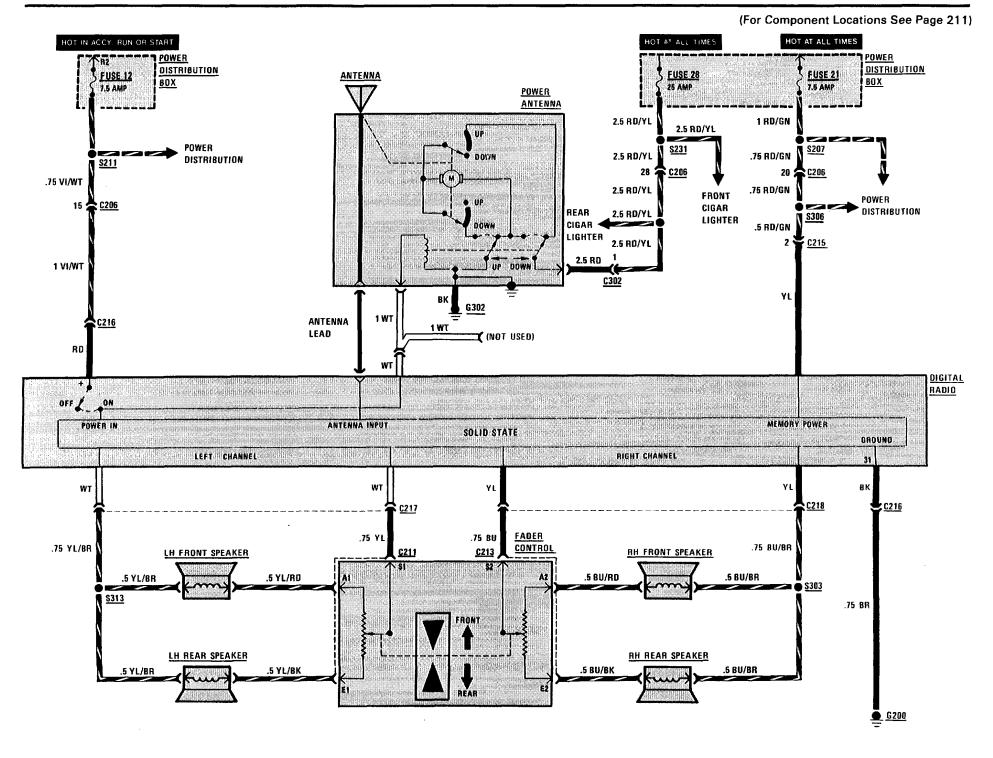


(For Component Locations See Page 203)

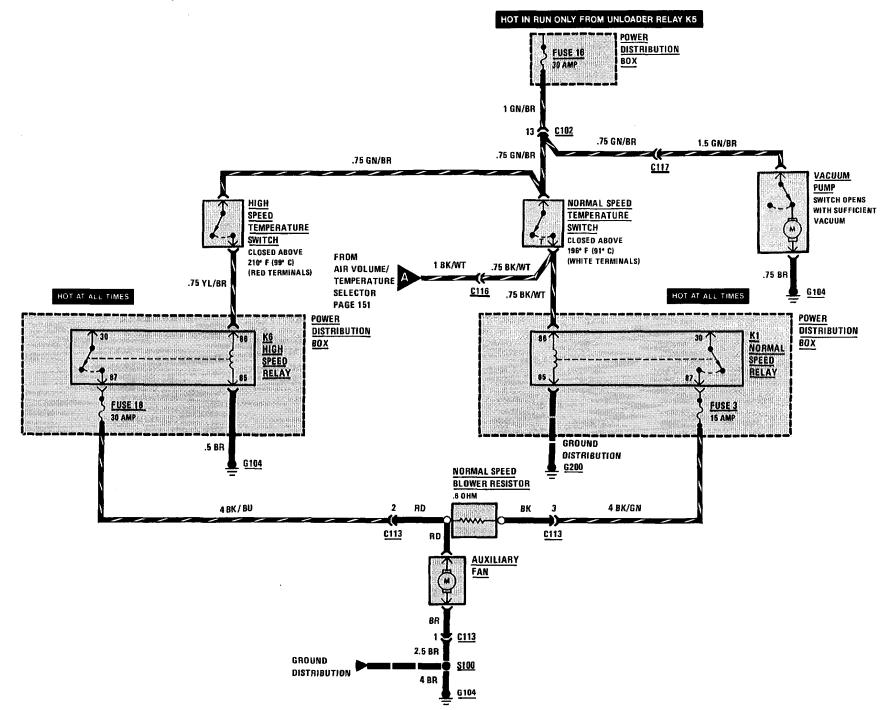


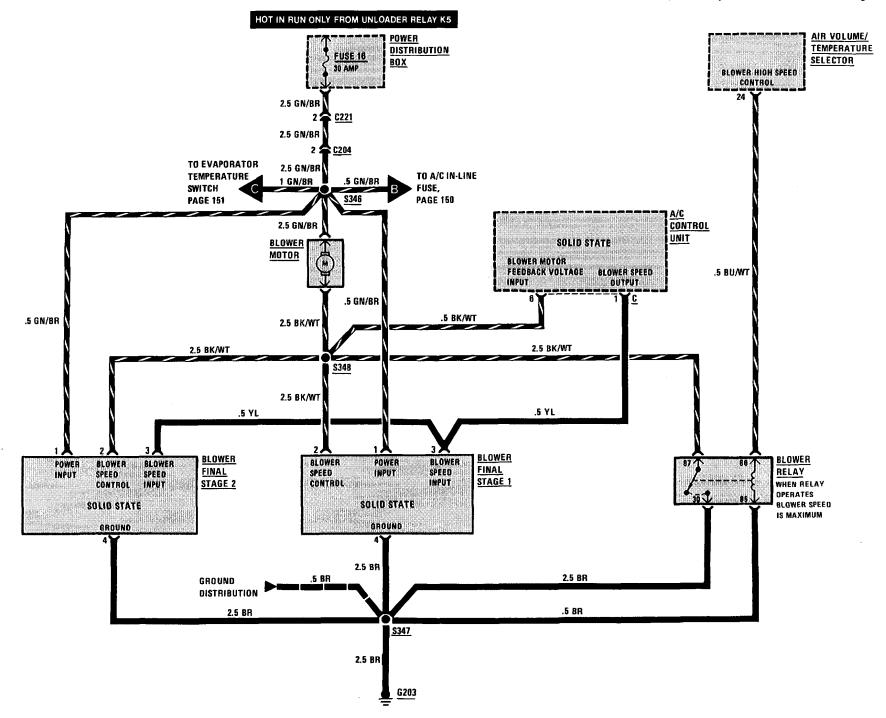
146 POWER MIRRORS



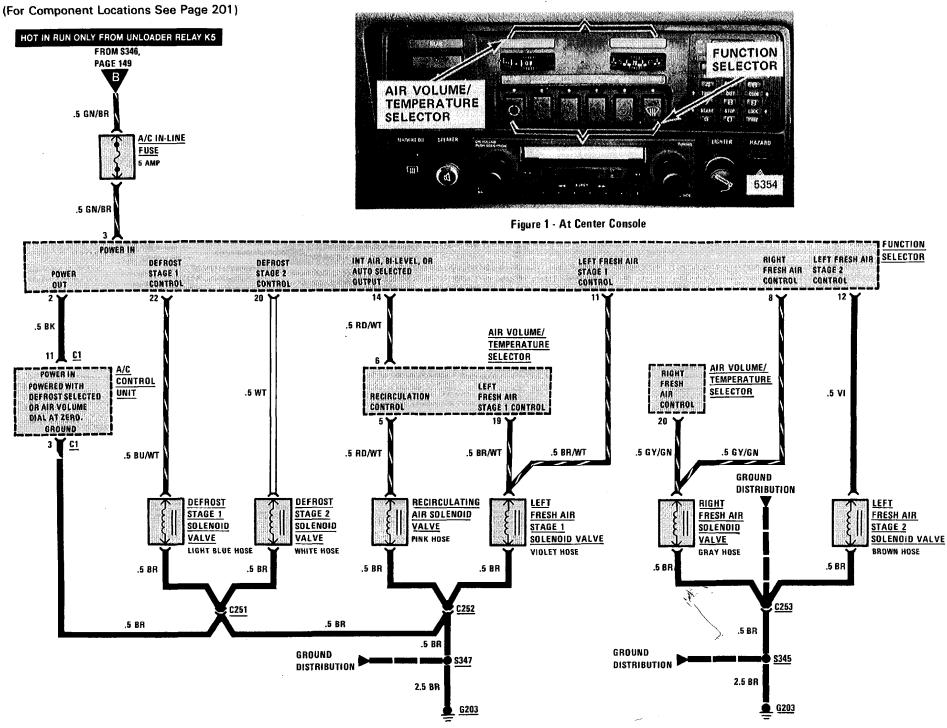


148 AUXILIARY FAN/VACUUM PUMP



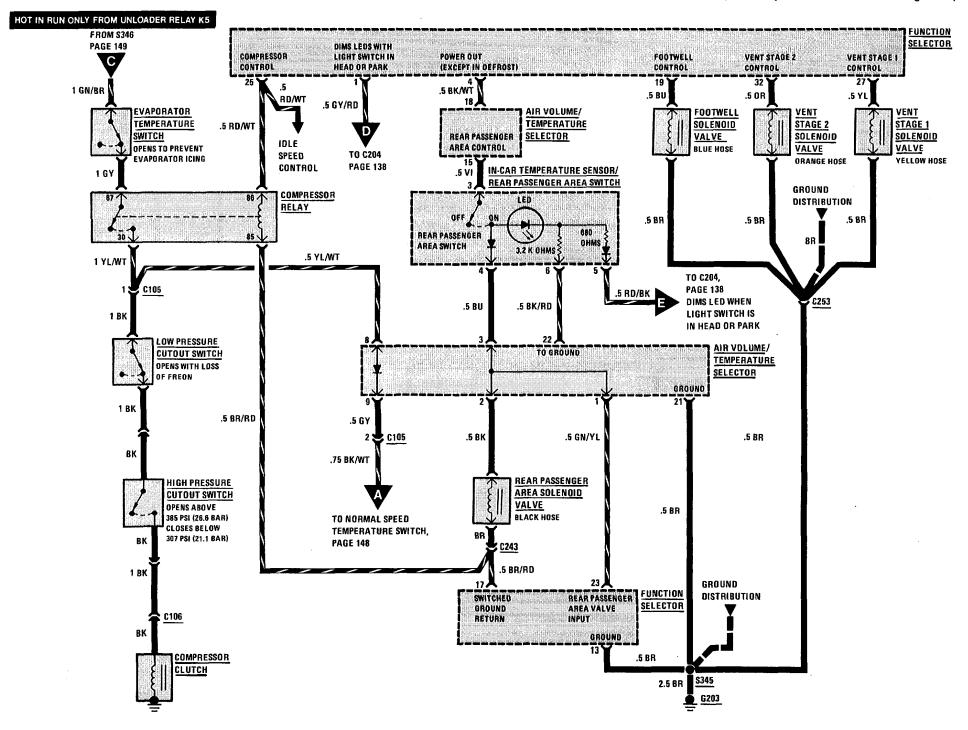


150 AUTOMATIC HEATER-AIR CONDITIONER (AIR CONTROL)

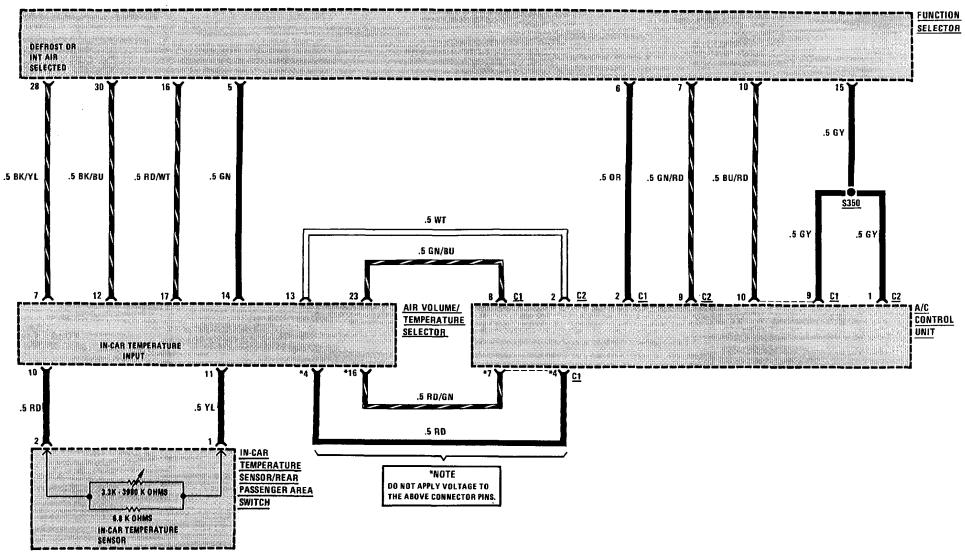


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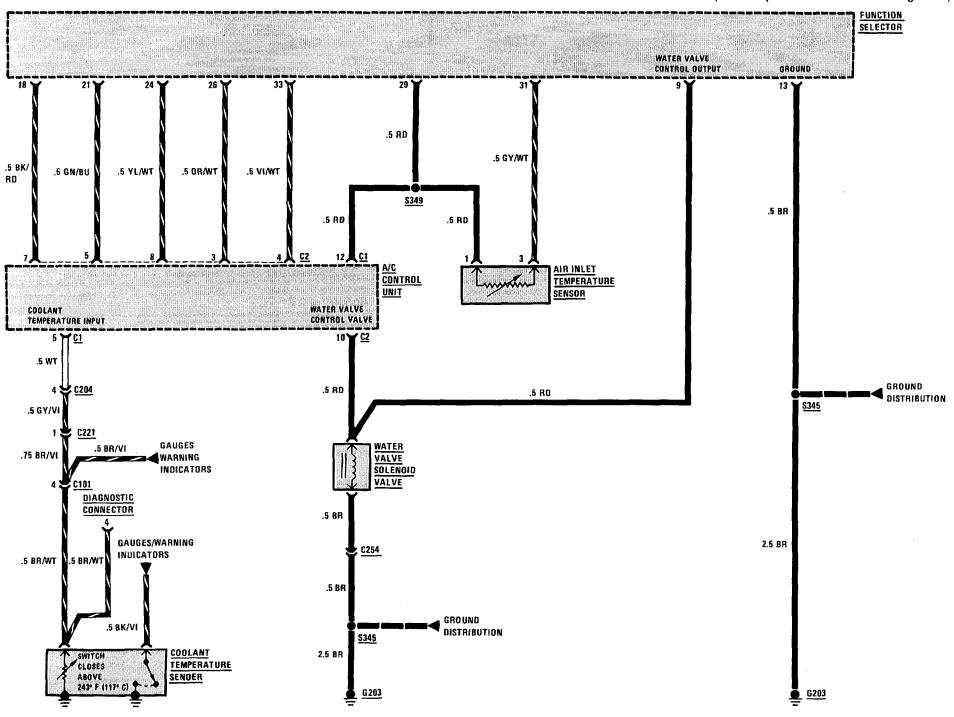
AUTOMATIC HEATER-AIR CONDITIONER (AIR/COMPRESSOR CONTROL) 151

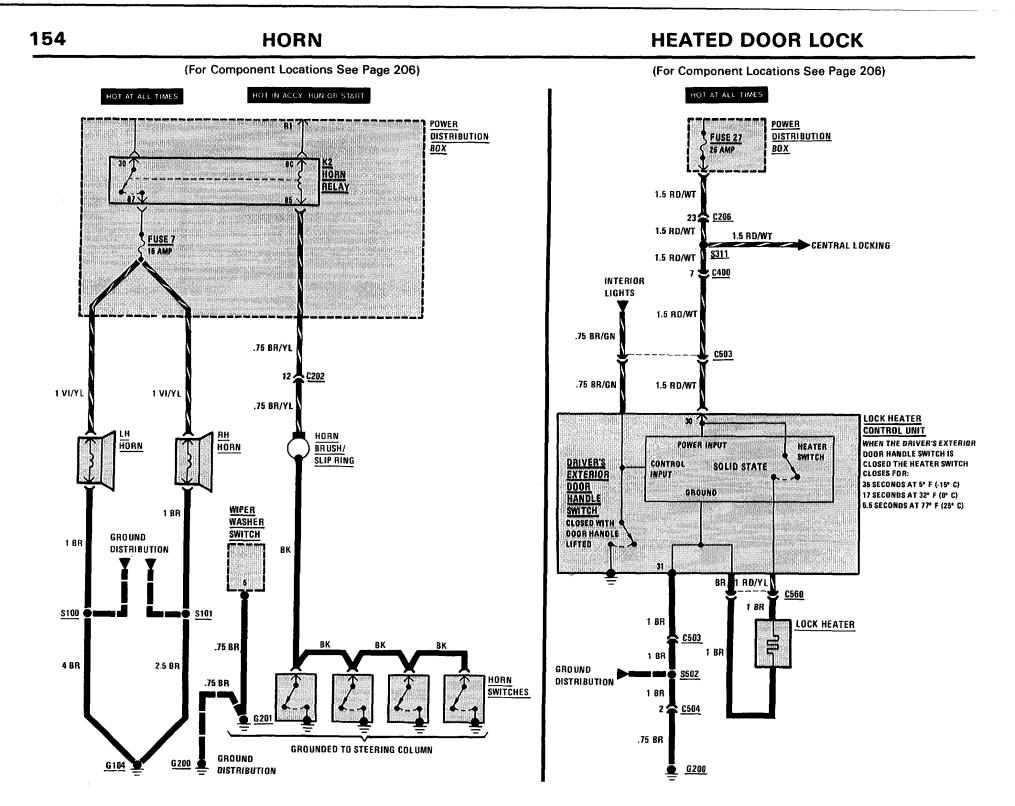


152 AUTOMATIC HEATER-AIR CONDITIONER (TEMPERATURE CONTROL)



AUTOMATIC HEATER-AIR CONDITIONER (TEMPERATURE CONTROL) 153





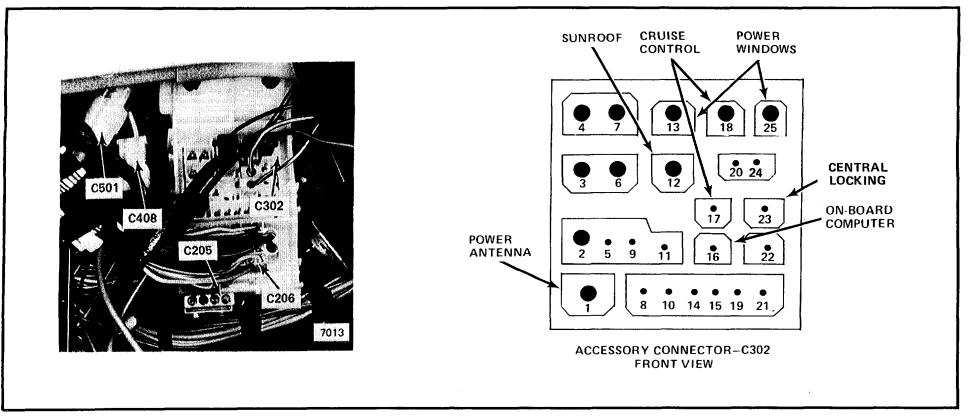
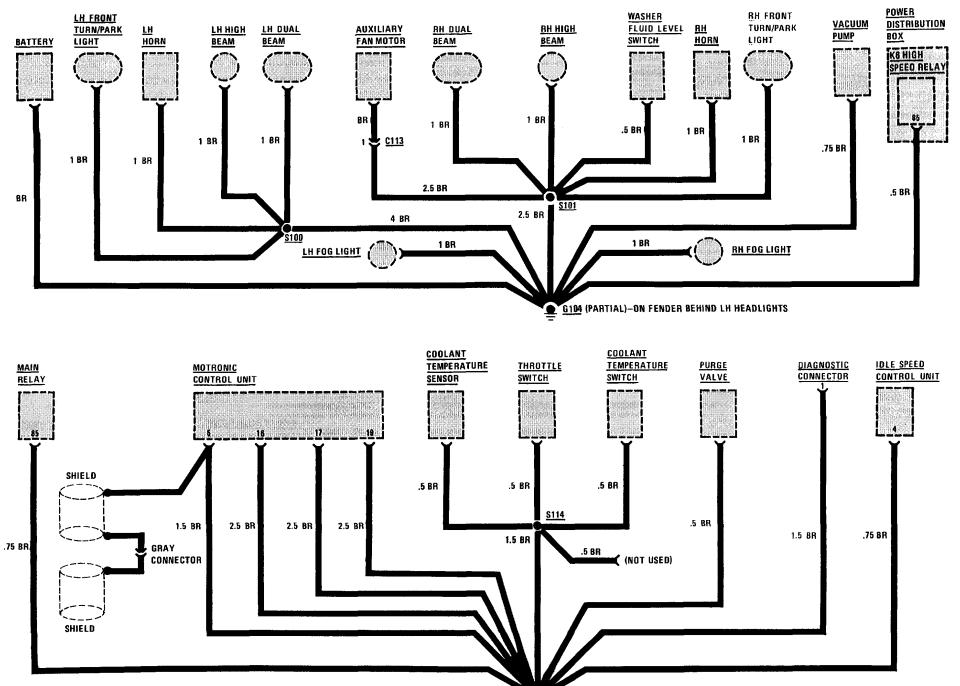
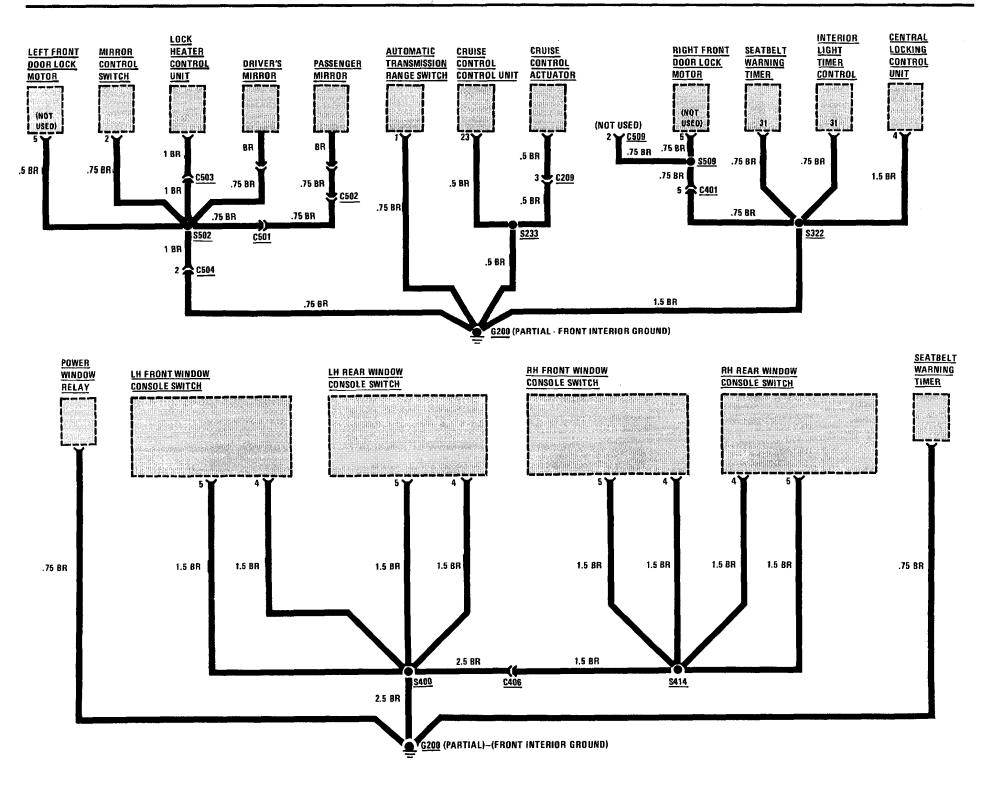
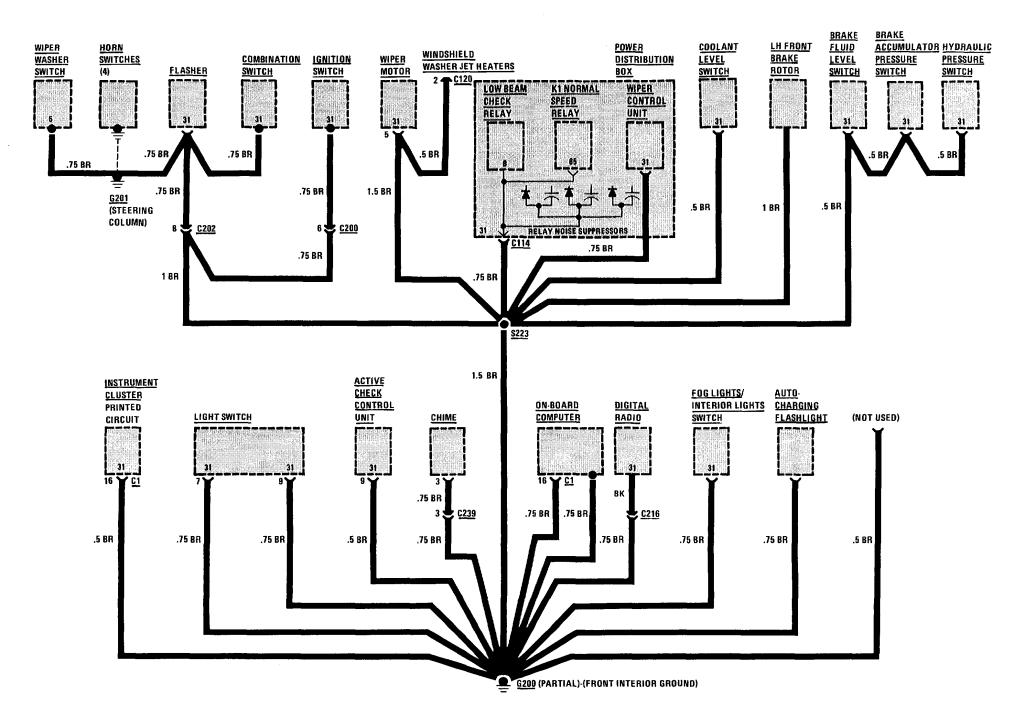


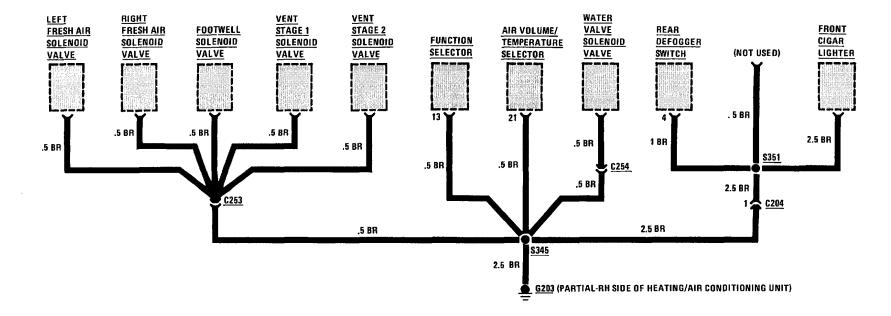
Figure 1 - Under Left Side Of Dash

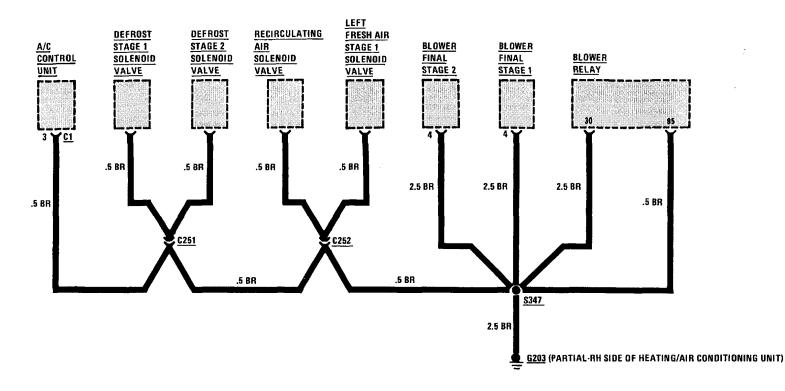


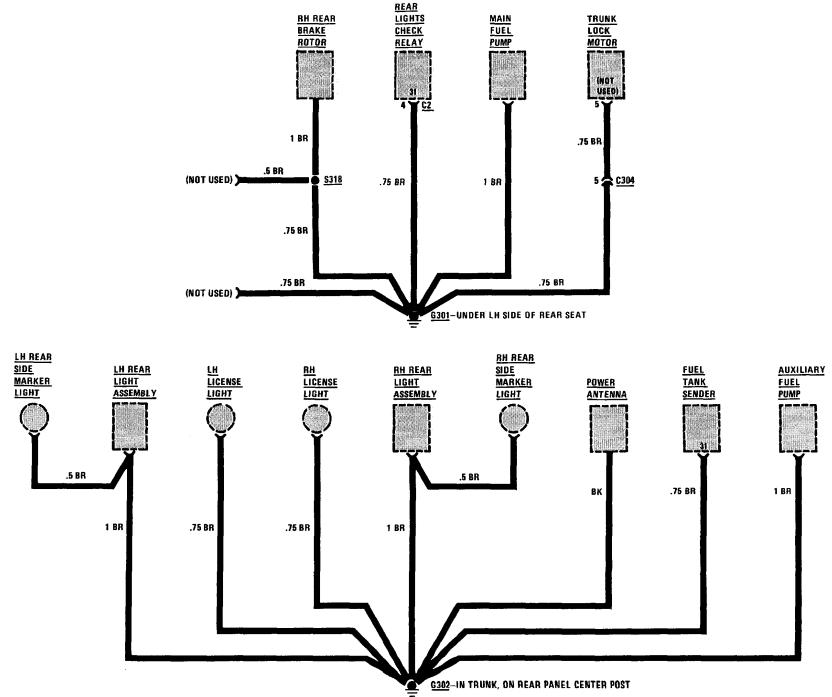
<u>G103</u>-ABOVE STARTER ON ENGINE BLOCK



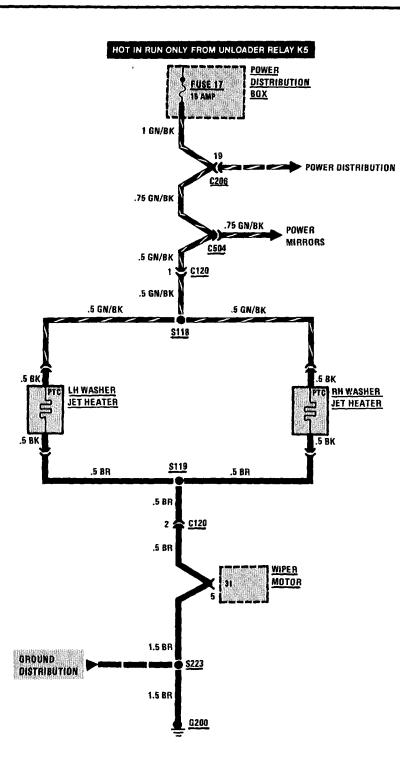








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ACTIVE CHECK CONTROL

Brake Switch	Above brake pedal	
Coolant Level Switch	Top left side of coolant reservoir	209-1
Oil Level Sensor	Bottom of engine oil pan	
Power Distribution Box	Top front of left front wheel well	102-1
Rear Lights Check Relay	Under left side of rear seat	207-2
Seatbelt Warning Timer	On right side of body electrical connector	210-1
Washer Fluid Level Switch	Ahead of right front wheel well, in reservoir	
C101 (17 pin)	On rear of power distribution box	203-2
C102 (13 pin)	In power distribution box	
C205 (4 pin)	Under LH dash, on body electrical bracket	207-1
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
G104 (Main Body Ground)	On power distribution box bracket	201-1
G200 (Front Interior Ground)	On dash frame, left of steering column	203-1
G301 (Rear Interior Ground)	Under left side of rear seat	207-2

AUTOMATIC HEATER-AIR CONDITIONER

	Left side of evaporator housingBelow dash, right of console	
	Under center of fresh air intake cowl	
•	In right blower fan housing	
-	In left blower fan housing	
	Under center of fresh air intake cowl	
	Under center of fresh air intake cowi	
-	Under center of fresh air intake cowi	
Coolant Temperature Sender/		201-2
	Front of engine, on thermostat housing	211 2
	Left side of evaporator housing	211-2
_	Left side of evaporator housing	
	Top middle of engine	101-1
	On support stand for blower motor	101-1
Footwell Solenoid Valve		
	On receiver-dryer, below washer reservoir	200.2
In-Car Temp. Sen./Rear Pass.	On receiver-dryer, below washer reservoir	209-2
	Center of dash, in console	205.2
LH Fresh Air Stage 1 Sol. Valve		205-2
-	Left side of evaporator housing	
*	On receiver-dryer, below washer reservoir	200.2
	•	
Rear Pass. Area Solenoid Valve	Top front of left front wheel well	102-1
*	Left side of evaporator housing	
RH Fresh Air Solenoid Valve	Dening center console	

G104 - 25 -: C117 BMW-alpinw 7000

Figure 1 - Top Of Left Front Wheel Well

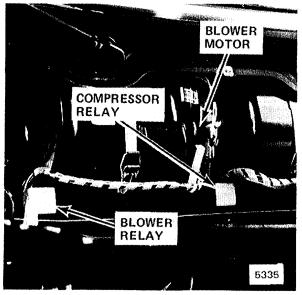


Figure 2 - Under Center Of Front Air Intake Cowl

(continued)

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Vent Stage 1 Solenoid Valve	Behind center console	
Vent Stage 2 Solenoid Valve	Behind center console	
Water Valve Solenoid Valve	Right side of evaporator housing	
C101 (17 pin)	On rear of power distribution box	203-2
C105 (2 pin)	Left of glove box hinge	202-1
C106 (1 pin)	On hose, above receiver-dryer	209-2
C204 (6 pin)	Behind center console	214-6
C221 (12 pin)	Below dash, right of console	214-6
C243 (1 pin)	Behind center console	
C251 (1 pin)	Behind center console	
C252 (1 pin)	Behind center console	
C253 (1 pin)	Behind center console	
C254 (1 pin)	Behind center console	
G2O3	On RH side of heater/air conditioning unit	

AUXILIARY FAN/VACUUM PUMP

Lower right side of radiator (red terminals)	202-2
Ahead of radiator, on auxiliary fan shield	
Lower right side of radiator (white terminals)	202-2
Top front of left front wheel well	102-1
Right of left front shock tower	
In power distribution box	
On auxiliary fan shield	
Near lower right side of radiator	155-1
Behind left hand side of battery	201-1
On power distribution box bracket	201-1
On dash frame, left of steering column	203-1
	Ahead of radiator, on auxiliary fan shield Lower right side of radiator (white terminals) Top front of left front wheel well Right of left front shock tower In power distribution box On auxiliary fan shield Near lower right side of radiator Behind left hand side of battery On power distribution box bracket

BACKUP LIGHTS

Auto. Trans. Range Switch	On left side of shift lever	
Backup Light Switch	On left side of manual transmission	
Power Distribution Box	Top front of left front wheel well	102-1
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
C301 (2 pin)	In center console, ahead of shift lever	
G302 (Trunk Ground)	In trunk, on rear panel center support	208-1

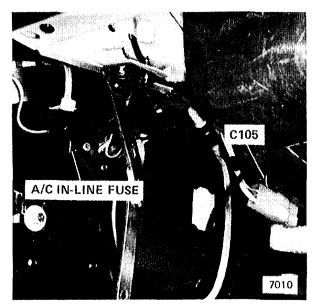


Figure 1 - Behind Dash, Left Of Glove Box

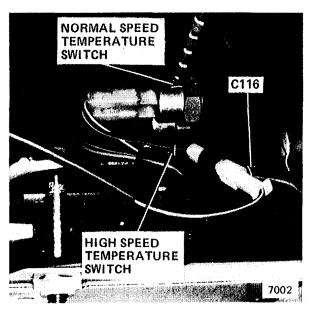


Figure 2 - Lower Right Side Of Radiator

BRAKE LINING WARNING

Power Distribution Box	Top front of left front wheel well	102-1
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
G200 (Front Interior Ground)	On dash frame, left of steering column	203-1
G301 (Rear Interior Ground)	Under left side of rear seat	207-2

CENTER CONSOLE LIGHTS

Power Distribution Box	Top front of left front wheel well	102-1
C204 (6 pin)	Behind center console	214-6
C221 (12 pin)	Below dash, right of console	214-6
G200 (Front Interior Ground)	On dash frame, left of steering column	203-1
G2O3	On RH side of heater/air conditioning unit	

CENTRAL LOCKING

Central Locking Control Unit Un	der dash, above left front speaker grill	213-6
Door Lock Motors In	each door	
Gas Filler Lock Motor In	trunk, behind left rear wheel well	214-5
Ignition Switch Up	per part of steering column	
Power Distribution Box To	p front of left front wheel well	102-1
Trunk Lock Motor In	trunk lid, near trunk lock	
C200 (10 pin) Un	der dash, on left side of steering column	203-1
C206 (29 pin) Un	der LH dash, on body electrical bracket	207-1
C302 (Accessory Connector) Un	der LH dash, on body electrical bracket	155-1
C304 (7 pin) Ah	ead of left trunk hinge	210-2
C400 (7 pin) Un	der LH dash, near body electrical bracket	215-1
C401 (7 pin) Un	der right side of dash, right of glove box	214-2
C409 (3 pin) In	right center pillar	
C410 (3 pin) In	left center pillar	
C503 (8 pin) In	driver's door	
C504 (2 pin) Un	der dash, above trunk release lever	213-6
C507 (3 pin) In	driver's door	
C508 (4 pin) Un	der left hand dash	
G200 (Front Interior Ground) On	dash frame, left of steering column	203-1
G301 (Rear Interior Ground) Un	der left side of rear seat	207-2

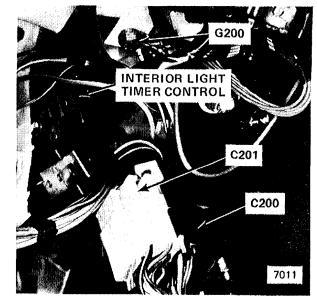


Figure 1 - Behind Dash, Left Of Steering Column

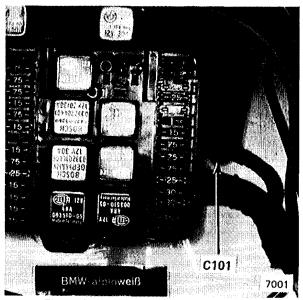


Figure 2 - Top Of Left Front Wheel Well

CHARGING SYSTEM

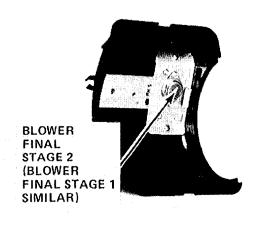
	Top middle of engine	101-1
Ignition Switch	Upper part of steering column	
Power Distribution Box	Top front of left front wheel well	102-1
Starter	Lower rear left side of engine	
C101 (17 pin)	On rear of power distribution box	203-2
C200 (10 pin)	Under dash, on left side of steering column	203-1
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
C302 (Accessory Connector)	Under LH dash, on body electrical bracket	155-1
G104 (Main Body Ground)	On power distribution box bracket	201-1

CIGAR LIGHTER/GLOVE BOX LIGHT/ AUTO-CHARGING FLASHLIGHT

Glove Box Light Switch	Under right side of dash, above glove box	
Power Distribution Box	Top front of left front wheel well	102-1
C2O4 (6 pin)	Behind center console	214-6
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
C221(12 pin)	Below dash, right of console	214-6
G200 (Front Interior Ground)	On dash frame, left of steering column	203-1
G2O2	Center console	
G2O3	On RH side of heater/air conditioning unit	

FUEL CONTROL

Air Flow Meter	Top right side of engine	206-2
Main Relay	Behind right front shock tower	204-2
Motronic Control Unit	Behind right front speaker	211-1
Oxygen Sensor	Rear of engine, in exhaust manifold	204-2
G103 (Engine Ground)	Top rear of engine	206-2



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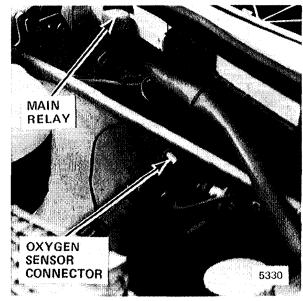


Figure 2 - Behind Right Front Shock Tower

FUEL DELIVERY/EVAPORATOR CONTROL

Fuel Pump RelayIgnition Switch	Top left side of fuel tank, under trunk On right side of power distribution box Upper part of steering column Under car, ahead of left rear axle	
	Behind right front shock tower	204-2
	Behind right front speaker	
	Behind left front speaker	
	Top front of left front wheel well	
Purge Valve	Right of power distribution box	205-1
Purge Valve Relay	On right side of power distribution box	102-1
C101 (17 pin)	On rear of power distribution box	203-2
C103 (6 pin)	Behind right front speaker	211-1
C200 (10 pin)	Under dash, on left side of steering column	203-1
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
C212 (1 pin)	Under left side of dash, near steering column	215-1
C235 (1 pin)	Under left side of dash, near steering column	213-6
C236 (2 pin)	Under left side of dash, near steering column	
G103 (Engine Ground)	Top rear of engine	206-2
G104 (Main Body Ground)	On power distribution box bracket	201-1
G301 (Rear Interior Ground)	Under left side of rear seat	207-2
G302 (Trunk Ground)	In trunk, on rear panel center support	208-1

PURGE VALVE CRUISE CONTROL ACTUATOR

Figure 1 - Behind RH Side Of Battery

HEADLIGHTS (CONTROL/POWER)/FOG LIGHTS (CONTROL/POWER)

Combination Switch	Upper left side of steering column	206-1
Flasher	Upper left side of steering column	206-1
Fog Lights/Interior Lights Switch	On dash, to right of steering column	
Ignition Switch	Upper part of steering column	
Power Distribution Box	Top front of left front wheel well	102-1
C102 (13 pin)	In power distribution box	
C107 (2 pin)	Taped to harness, left of battery	213-3
C202 (13 pin)	Under dash, on left side of steering column	210-1
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
G104 (Main Body Ground)	On power distribution box bracket	201-1
G200 (Front Interior Ground)	On dash frame, left of steering column	203-1
G201 (Column Ground)	Upper left side of steering column	206-1

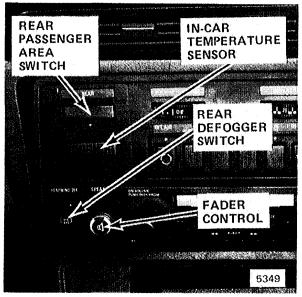


Figure 2 - Center Of Dash

HORN/HEATED DOOR LOCK

Horn Brush/Slip Ring	Under hub of steering wheel	
Horn Switches	Under hub of steering wheel	
Lock Heater	In left front door	207-1
Lock Heater Control Unit	In left front door	207-1
Power Distribution Box	Top front of left front wheel well	102-1
C202 (13 pin)	Under dash, on left side of steering column	210-1
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
C400 (7 pin)	Under LH dash, near body electrical bracket	215-1
C503 (8 pin)	In driver's door	
C504 (2 pin)	Under dash, above trunk release lever	213-6
C560 (2 pin)	In driver's door	
G104 (Main Body Ground)	On power distribution box bracket	201-1
G200 (Front Interior Ground)	On dash frame, left of steering column	203-1
	Upper left side of steering column	

IDLE SPEED CONTROL

	On left inlet of blower motor housing	212-2
Auto. Trans. Range Switch		
	Front of engine, top of thermostat housing	
Coolant Temperature Switch	Front of engine, top of thermostat housing	211-2
Diagnostic Connector	Top middle of engine	101-1
	On transmission bell housing	
Idle Control Valve	Top center of engine	213-2
Idle Speed Control Unit	Under right side of dash, above glove box	
Motronic Control Unit	Behind right front speaker	211-1
Power Distribution Box	Top front of left front wheel well	102-1
Throttle Switch	Top LH side of engine, below throttle body	213-2
C101 (17 pin)	On rear of power distribution box	203-2
C103 (6 pin)	Behind right front speaker	211-1
C104 (2 pin)	Behind right front speaker	211-1
	Behind center console	
	Under LH dash, on body electrical bracket	
	Below dash, right of console	
	In center console, ahead of shift lever	2.70
	Top rear of engine	206-2

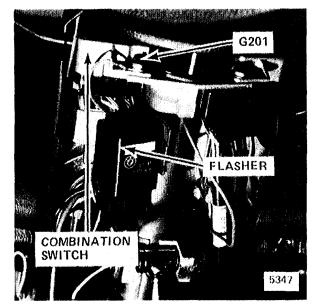


Figure 1 - Upper Underside Of Steering Column

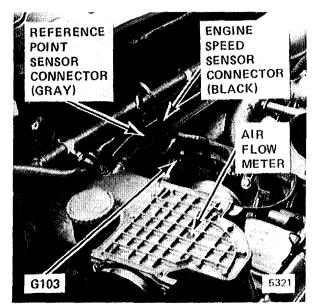


Figure 2 - Top Rear Of Engine

IGNITION

	Top middle of engine On right fender, behind headlights Upper part of steering column	101-1
	Behind right front speaker	211-1
Reference Point Sensor	On transmission bell housing	206-2
TDC Sensor	Above crankshaft vibration damper	
	On rear of power distribution box	203-2
C109 (1 pin)	Taped to harness, near ignition coil	
C200 (10 pin)	Under dash, on left side of steering column	203-1
G103 (Engine Ground)	Top rear of engine	206-2

IGNITION KEY WARNING/SEATBELT WARNING

	In upper part of steering column	
Power Distribution Box	Top front of left front wheel well	102-1
Seatbelt Switch		
	On right side of body electrical connector	
Warning Buzzer	Upper left side of steering column	212-1
	Under dash, on left side of steering column	203-1
C2O3 (2 pin)	Upper left side of steering column	
C205 (4 pin)	Under LH dash, on body electrical bracket	155-1
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
G200 (Front Interior Ground)	On dash frame, left of steering column	203-1

INTERIOR LIGHTS

Fog Lights/Interior Lights Switch	On dash, to right of steering column	
Interior Light Timer Control	On right side of body electrical connector	203-1
Lock Heater Control Unit	In left front door	207-1
Power Distribution Box	Top front of left front wheel well	102-1
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
C302 (Accessory Connector)	Under LH dash, on body electrical bracket	155-1
C303 (2 pin)	In headliner, above LH dome light	214-3
C503 (8 pin)	In driver's door	
C504 (2 pin)	Under dash, above trunk release lever	213-6
G200 (Front Interior Ground)	On dash frame, left of steering column	203-1

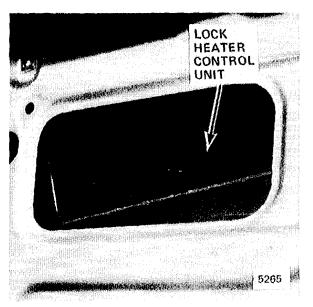


Figure 1 - Inside Driver's Door



Figure 2 - Under Left Side Of Rear Seat

LIGHTS: FRONT PARK/TAIL/UNDERHOOD

Power Distribution Box	Top front of left front wheel well	102-1
Rear Lights Check Relay	Under left side of rear seat	207-2
Underhood Light Switch	Under RH rear corner of hood, near latchplate	
C102 (13 pin)	In power distribution box	
C110 (1 pin)	Behind right headlights	213-1
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
G104 (Main Body Ground)	On power distribution box bracket	201-1
G301 (Rear Interior Ground)	Under left side of rear seat	207-2
G302 (Trunk Ground)	In trunk, on rear panel center support	208-1

LIGHTS: REAR MARKER/LICENSE/TRUNK

Auto. Trans. Range Switch	On left side of shift lever	
Fog Lights/Interior Lights Switch	On dash, to right of steering column	
On-Board Computer	Behind left front speaker	208-2
Power Distribution Box	Top front of left front wheel well	102-1
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
C255 (1 pin)	Under right side of dash, right of glove box	214-2
C301 (2 pin)	In center console, ahead of shift lever	
G200 (Front Interior Ground)	On dash frame, left of steering column	203-1
G202	Center console	
G306	Top of right A pillar	

LIGHTS: RH VISOR/DASH/TRANSMISSION RANGE

Power Distribution Box	Top front of left front wheel well	102-1
Rear Lights Check Relay	Under left side of rear seat	207-2
Trunk Light Switch	In trunk lid, near trunk lock	
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
C300 (1 pin)	Ahead of left trunk hinge	210-2
C302 (Accessory Connector)	Under LH dash, on body electrical bracket	155-1
C304 (7 pin)	Ahead of left trunk hinge	210-2
G301 (Rear Interior Ground)	Under left side of rear seat	207-2
G302 (Trunk Ground)	In trunk, on rear panel center support	208-1

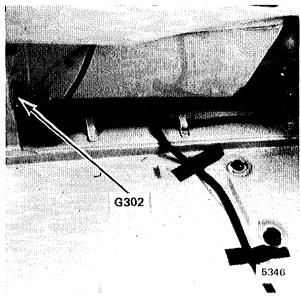


Figure 1 - Left Rear Left Side Of Trunk

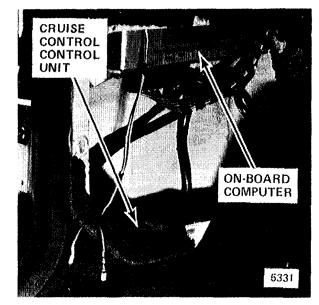


Figure 2 - Behind Left Front Speaker

LIGHTS: TURN/HAZARD WARNING

Combination Switch Flasher Ignition Switch	Upper left side of steering column Upper left side of steering column Upper part of steering column	206-1 206-1
	Top front of left front wheel well	102-1
C200 (10 pin)	Under dash, on left side of steering column	203-1
C2O2 (13 pin)	Under dash, on left side of steering column	210-1
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
G104 (Main Body Ground)	On power distribution box bracket	201-1
G200 (Front Interior Ground)	On dash frame, left of steering column	203-1
G201 (Column Ground)	Upper left side of steering column	206-1
G302 (Trunk Ground)	In trunk, on rear panel center support	208-1

ON-BOARD COMPUTER

Alarm Horn Ahead of RH side of coolant reservoir 213	3-4
Chime	
Filter Capacitor Ahead of coolant reservoir 213	3-4
Ignition Switch Upper part of steering column	
Main Relay Behind right front shock tower 204	4-2
On-Board Computer Behind left front speaker 208	8-2
Outside Temperature Sensor Under front bumper, left side	
Power Distribution Box Top front of left front wheel well	2-1
C103 (6 pin) Behind right front speaker 211	1-1
C200 (10 pin) Under dash, on left side of steering column 203	3-1
C206 (29 pin) Under LH dash, on body electrical bracket 207	7-1
C212 (1 pin) Under left side of dash, near steering column 215	5-1
C235 (1 pin) Under left side of dash, near steering column 213	3-6
C236 (2 pin) Under left side of dash, near steering column	
C237 (3 pin) Behind brake fluid reservoir 209	9-1
C239 (4 pin) Behind instrument cluster	
C240 (1 pin) Behind instrument cluster	
C242 (2 pin) Above left front speaker grill	
C302 (Accessory Connector) Under LH dash, on body electrical bracket 155	<u>5</u> -1
G103 (Engine Ground) Top rear of engine	<u>3-2</u>
G104 (Main Body Ground) On power distribution box bracket	
G200 (Front Interior Ground) On dash frame, left of steering column 203	3-1

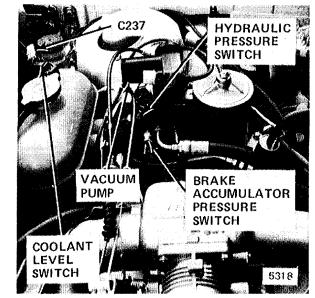


Figure 1 - Left Rear Of Engine Compartment

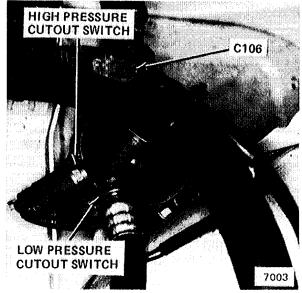


Figure 2 - Behind Right Headlights

POWER DISTRIBUTION

Diagnostic Connector	Top middle of engine	101-1
Ignition Switch	Upper part of steering column.	101 1
Power Distribution Box	Top front of left front wheel well	102-1
Starter	Lower rear left side of engine	102 1
C200 (10 pin)	Under dash, on left side of steering column	203-1
C206 (29 pin)	Under LH dash, on body electrical bracket	2001
C221 (12 pin)	Below dash, right of console	214-6
C302 (Accessory Connector)	Under LH dash, on body electrical bracket	155-1
G104 (Main Body Ground)	On power distribution box bracket	2011
G200 (Front Interior Ground)	On dash frame, left of steering column	201-1
		203-1

POWER MIRRORS

Power Distribution BoxTop front of left front wheel well10C206 (29 pin)Under LH dash, on body electrical bracket20C501 (5 pin)Under dash, left of steering column15C502 (5 pin)Under right side of dash, right of glove box21C504 (2 pin)Under dash, above trunk release lever21G200 (Front Interior Ground)On dash frame, left of steering column20	07-1 55-1 14-2
200 (Hont Interior Ground) Un dash frame, left of steering column)3-1

POWER WINDOWS

Power Window Circuit Breaker Power Window Relay Window Motors		210-1 215-1
C206 (29 pin) C302 (Accessory Connector)	Under LH dash, on body electrical bracket Under LH dash, on body electrical bracket	207-1 155-1
C402 (2 pin) C403 (2 pin)	In left center pillar	100 1
C404 (1 pin) C405 (1 pin)	In left center pillar	
C406 (3 pin)	Behind center console	
C408 (2 pin)	Under right side of dash, right of glove box To left of body electrical bracket On dash frame, left of steering column	155-1

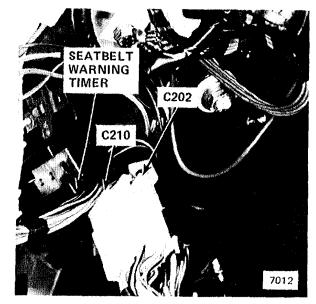


Figure 1 - Behind Dash, Left Of Steering Column

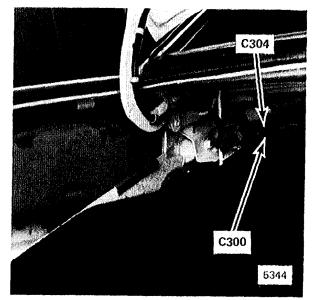


Figure 2 - Left Trunk Hinge

RADIO/POWER ANTENNA

Power Distribution Box C206 (29 pin) C215 (2 pin) C216 (2 pin) C217 (2 pin)	Behind radio	102-1 207-1
C218 (2 pin) C302 (Accessory Connector)		155-1 203-1

REAR DEFOGGER/SUNROOF

Power Distribution Box	Top front of left front wheel well	102 1
Sunroof Drive Motor	Above headliner, above rear view mirror	102-1
Sunroof Limit Switch	Above headliner, above rear view mirror	
Sunroof Motor Relay	Above headliner, above rear view mirror	
C2O4 (6 pin)	Behind center console	214 6
C206 (29 pin)	Under LH dash, on body electrical bracket	207 1
CZZF (TZ pin)	Below dash, right of console	2116
C302 (Accessory Connector)	Under LH dash, on body electrical bracket	155 1
G203	On RH side of heater/air conditioning unit	100-1
G305	In RH C pillar	
G600	Above headliner, above rear view mirror	



Figure 1 - Behind Right Front Speaker

SERVICE INTERVAL INDICATOR

Coolant Temperature Sender/

Front of engine, on thermostat housing	211-2
Top middle of engine	101-1
Behind right front speaker	211 1
Top front of left front wheel well	102-1
On rear of power distribution box	203-2
Behind right front speaker	211.1
On dash frame, left of steering column	203-1
	Front of engine, on thermostat housing Top middle of engine Behind right front speaker Top front of left front wheel well On rear of power distribution box Behind right front speaker On dash frame, left of steering column

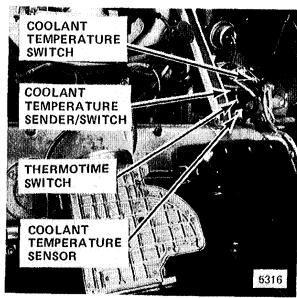


Figure 2 - Top Front Of Engine

SPEEDOMETER/GAUGES/WARNING INDICATORS

	Right of left front shock tower To left of engine, on brake fluid reservoir	209-1
Switch	Front of engine, on thermostat housing	211-2
Diagnostic Connector	Top middle of engine	101-1
Fuel Tank Sender	Top left side of fuel tank, under trunk	214-4
Hydraulic Pressure Switch	Right of left front shock tower	209-1
Ignition Switch	Upper part of steering column	
Motronic Control Unit	Behind right front speaker	211-1
Oil Pressure Switch	Left rear end of cylinder head	
Parking Brake Switch	In shift console, at base of parking brake	
Power Distribution Box	Top front of left front wheel well	102-1
Speedometer Sender	In rear of differential	
C101 (17 pin)	On rear of power distribution box	203-2
C103 (6 pin)	Behind right front speaker	211-1
C200 (10 pin)	Under dash, on left side of steering column	203-1
C2O2 (13 pin)	Under dash, on left side of steering column	210-1
G200 (Front Interior Ground)	On dash frame, left of steering column	203-1
G302 (Trunk Ground)	In trunk, on rear panel center support	208-1

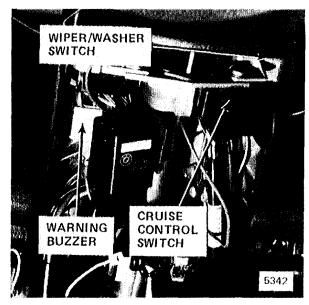


Figure 1 - Upper Underside Of Steering Column

START

Auto. Trans. Range Switch	On left side of shift lever	
Cold Start Valve	Between intake ports 3 and 4	
Diagnostic Connector	Top middle of engine	101-1
Ignition Switch	Upper part of steering column	
Power Distribution Box	Top front of left front wheel well	102-1
Start Relay	Under LH dash, on body electrical bracket	
Starter	Lower rear left side of engine	
Thermo Time Switch	Front of engine, top of thermostat housing	211-2
C101 (17 pin)	On rear of power distribution box	203-2
C200 (10 pin)	Under dash, on left side of steering column	203-1
G104 (Main Body Ground)	On power distribution box bracket	201-1
G200 (Front Interior Ground)	On dash frame, left of steering column	203-1

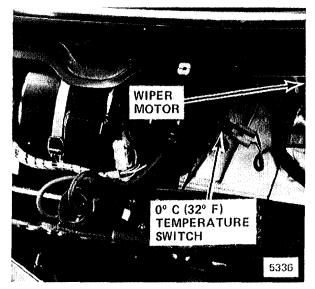


Figure 2 - Under Center Of Fresh Air Intake Cowl

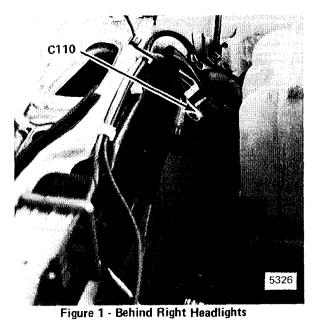




Figure 3 - Left Of Battery



Figure 5 - Under Center Of Fresh Air Intake Cowl

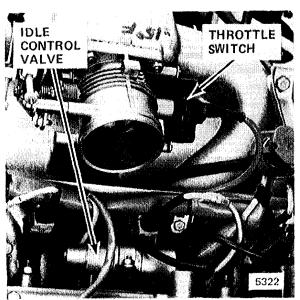


Figure 2 - Top Center Of Engine

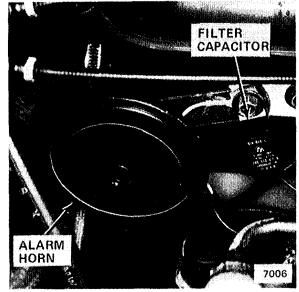


Figure 4 - Ahead Of Coolant Reservoir

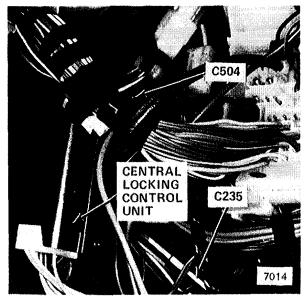


Figure 6 - Behind Dash, Above Left Front Speaker

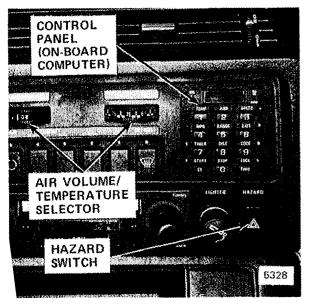


Figure 1- Center Of Dash

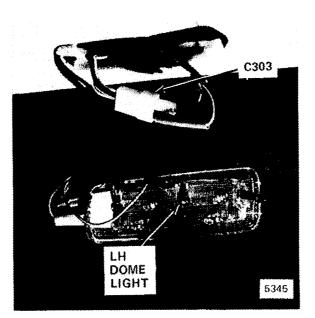


Figure 3 - Header, Above Left B Pillar



Figure 5 - Behind Left Rear Wheel Well

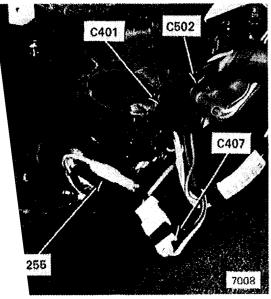


Figure 2 - Behind Dash, Right Of Glove Box

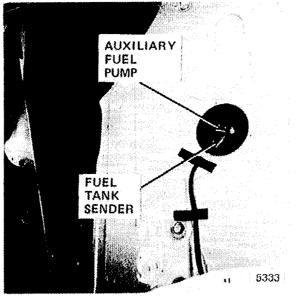
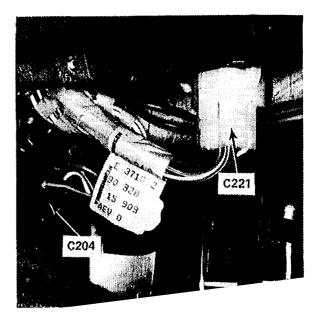


Figure 4 - Bottom Left Side Of Trunk



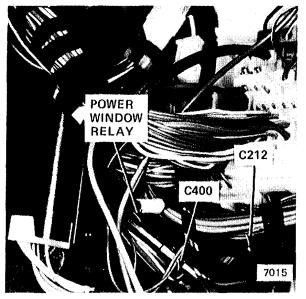


Figure 1 - Behind Dash Above Left Front Speaker



Figure 2 - Behind Left Side Of Console

STOPLIGHTS/CRUISE CONTROL

Auto. Trans. Range Switch Brake Switch Clutch Switch	Above brake pedal	
	Right of power distribution box	205-1
	Behind left front speaker	
Power Distribution Box	Top front of left front wheel well	102-1
Rear Lights Check Relay	Under left side of rear seat	207-2
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
C208 (2 pin)	Above accelerator pedal	
C209 (7 pin)	Under dash, above left front speaker	
C210 (4 pin)	Under dash, on left side of steering column	210-1
C301 (2 pin)	In center console, ahead of shift lever	
C302 (Accessory Connector)	Under LH dash, on body electrical bracket	155-1
G200 (Front Interior Ground)	On dash frame, left of steering column	203-1
G301 (Rear Interior Ground)	Under left side of rear seat	207-2
G302 (Trunk Ground)	In trunk, on rear panel center support	208-1

WINDSHIELD WASHER

Power Distribution Box	Top front of left front wheel well	102-1
Washer Jet Heaters	On washer jet nozzles	
Wiper Motor	Under left side fresh air intake cowl	212-2
C120 (2 pin)	Near wiper motor	
C206 (29 pin)	Under LH dash, on body electrical bracket	207-1
C504 (2 pin)	Under dash, above trunk release lever	213-6
G200 (Front Interior Ground)	On dash frame, left of steering column	203-1

WIPER/WASHER

Power Distribution Box	Top front of left front wheel well	102-1
Washer Pump	Ahead of right front wheel well, in reservoir	
Wiper Motor	Under left side fresh air intake cowl	212-2
C102 (13 pin)	In power distribution box	
C201 (6 pin)	Under dash, on left side of steering column	203-1
G200 (Front Interior Ground)	On dash frame, left of steering column	203-1
G201 (Column Ground)	Upper left side of steering column	206-1