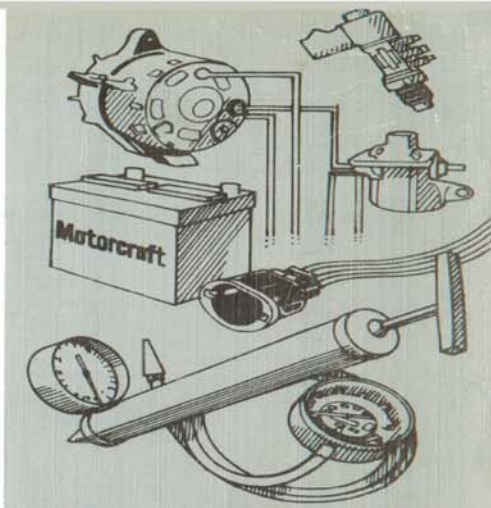
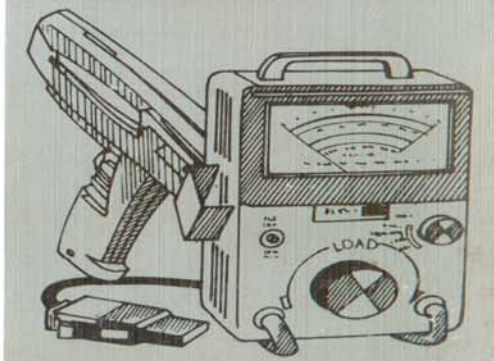
1987 MUSTANG



Electrical & Vacuum Trouble-Shooting Manual



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1987 MUSTANG

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IMPORTANT SAFETY NOTICE

Appropriate service methods and proper repair procedures are essential for the safe, reliable operation of all motor vehicles, as well as the personal safety of the individual doing the work. This Manual provides general directions for accomplishing service and repair work with tested, effective techniques. Following them will help assure reliability.

There are numerous variations in procedures, techniques, tools, and parts for servicing vehicles, as well as in the skill of the individual doing the work. This Manual cannot possibly anticipate all such variations and provide advice or cautions as to each. Accordingly, anyone who departs from the instructions provided in this Manual must first establish that he compromises neither his personal safety nor the vehicle integrity by his choice of methods, tools or parts.

The purpose of this manual is to show electrical and vacuum circuits of these vehicles in a clear and simple fashion to make troubleshooting easier. With each circuit is a description of *How the Circuit Works* and some *Troubleshooting Hints*. A *Component Location* chart lists components, connectors, and references to pictures in the manual.

Wiring Diagrams give a schematic picture of when and how the circuit is powered, what the current path is to circuit components, and how the circuit is grounded. Each circuit component is named (underlined titles). Wire and connector colors are listed (standard Ford color abbreviations are used):

COLOR ABBREVIATIONS

BL	**Blue**	**N**	**Natural**
BK	**Black**	**O**	**Orange**
BR	**Brown**	**PK**	**Pink**
DB	**Dark Blue**	**P**	**Purple**
DG	**Dark Green**	**R**	**Red**
GR	**Green**	**T**	**Tan**
GY	**Gray**	**W**	**White**
LB	**Light Blue**	**Y**	**Yellow**
LG	**Light Green**		

Where two colors are shown for a wire, the first color is the basic color of the wire. The second color is the stripe marking. It should be noted that the use of dots and hashes for circuit identification has been eliminated. Dots may still be encountered as an additional identification where the wire harness manufacturer has encountered multiple wires with the same identification colors (solid or stripe) in a connector, and requested a deviation.

Connector end views of switches and other components are shown to help with bench testing. The views show the harness wire colors that connect to the mating terminals. Connector colors and locations are shown in the *Component Location* chart. Two-color listings indicate separate colors for each connector half.

Components which work together are shown together. For example, all electrical components used in nay circuit are shown on one diagram. The circuit breaker or fuse is shown at the top of the page. All wires, connectors, splices, switches, and motors are shown in the flow of current to ground at the bottom of the page. Notes are included which describe how switches and other components work. If a component is used in several different circuits, it is shown in several different schematics. For example, the Light Switch is an electrical part of many circuits and is repeated on many pages. In some cases, however, a component may seem by its name to belong on a page where it has no electrical connection. For example, Radio Illumination is electrically part of Instrument Illumination. Since it has no electrical connection at all with the actual Radio circuit, it is not shown on the Radio page.

Troubleshooting Hints point the technician in a general direction, but are not intended as a step-by-step procedure. Ignition troubleshooting is an exception to this. It includes a step-by-step procedure of basic quick checks to locate some of the more common **Ignition System** problems. Read the Shop Manual for more detailed repair procedures.

The **Grounds** pages show detailed views of multiple component ground points. This is useful for checking interconnections among the ground circuits of different diagrams.

Notes, Cautions, and **Warnings** appear in boxes on text pages and contain important car and mechanic safety information.

Notes give added information to help complete a particular procedure. Cautions are included to prevent making an error that could damage the vehicle. Warnings highlight areas where carelessness can cause personal injury. The following list contains some general **Warnings** that should be followed when working on a vehicle.

- Always wear safety glasses for eye protection.
- Use safety stands whenever a procedure requires being under a vehicle.
- Be sure that the **Ignition Switch** is always in the OFF position, unless otherwise required by the procedure.
- Set the parking brake when working on any vehicle. An automatic transmission should be in PARK. A manual transmission should be in NEUTRAL.
- Operate the engine only in a well-ventilated area to avoid the danger of carbon monoxide.
- Keep away from moving parts when the engine is running, especially the fan and belts.
- To prevent serious burns, avoid contact with hot metal parts such as the radiator, exhaust manifold, tail pipe, catalytic converter, and muffler.
- Do not allow flame or sparks near the battery. Gases are always present in and around the battery cell. An explosion could occur.
- Do not smoke.
- To avoid injury, always remove rings, watches, loose hanging jewelry, and loose clothing.

TROUBLESHOOTING STEPS

These six steps present an orderly method of troubleshooting:

Step 1. Verify the problem.

- Operate the complete system and see all symptoms for yourself in order to:
  - —check the accuracy and completeness of the customer's complaint.
  - —learn more that might give a clue to the nature and location of the problem.

Step 2. Narrow the problem.

- Using the EVTM, narrow down the possible causes and locations of the problem in order to more quickly find the exact cause.
- Read the description of *How the Circuit Works* and study the wiring diagram. You should then know enough about the circuit operation to figure out where to check for this trouble.

Step 3. Test the cause.

- Use electrical test procedures to find the specific cause of the symptoms.
- *Troubleshooting Hints* will give some helpful ideas.
- The *Component Location* charts and the pictures will help you find components, grounds, and connectors.

Step 4. Verify the cause.

- Confirm the fact that you have found the correct cause through operating the parts of the circuit you think are good.

Step 5. Make the repair.

- Repair or replace the faulty component.

Step 6. Verify the repair.

- Operate the system as in Step 1 and check that your repair has removed all symptoms, and also has not caused any new symptoms.

Some engine circuits may need special test equipment and special procedures. See the *Shop Manual* and other service books for details. You will find the circuits in this manual to be helpful with these special tests.

TROUBLESHOOTING TOOLS

JUMPER WIRE

This is a test lead used to connect two points of a circuit. A **Jumper Wire** can complete a circuit by bypassing an open.

Uses: Bypassing Switches or Open Circuits

WARNING

Never use a jumper wire across high resistance loads (motors, etc.) connected between hot and ground. This direct battery short may cause injury or fire.

VOLTMETER

A DC **Voltmeter** measures circuit voltage. Connect negative (- or black) lead to ground, and positive (+ or red) lead to voltage measuring point.

OHMMETER

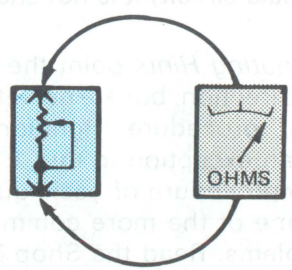


Figure 1—Resistance Check

An **Ohmmeter** shows the resistance between two connected points (Figure 1).

TEST LAMP

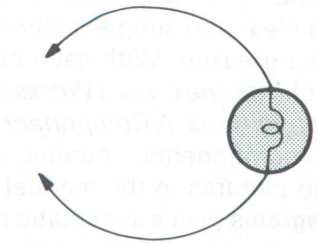


Figure 2—Test Lamp

A **Test Lamp** is a 12-volt bulb with two test leads (Figure 2).

Uses: Voltage Check. Short Check

SELF-POWERED TEST LAMP

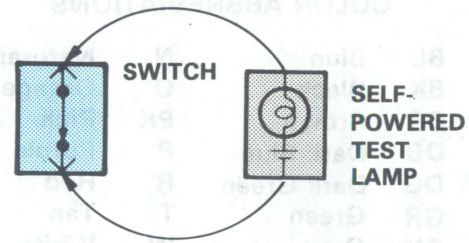


Figure 3—Continuity Check

The **Self-Powered Test Lamp** is a bulb, battery and set of test leads wired in series (Figure 3). When connected to two points of a continuous circuit, the bulb glows.

Uses: Continuity Check. Ground Check

CAUTION

When using a self-powered test ***lamp*** *or ohmmeter, be sure power is off in circuit during testing. Hot circuits can cause equipment damage and false readings.*

TROUBLESHOOTING CHECKS

SWITCH CIRCUIT CHECK

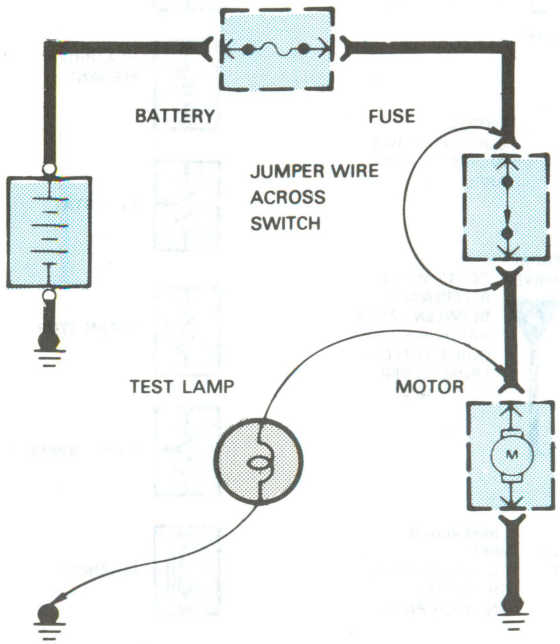


Figure 4—Switch Circuit Check and Voltage Check

In a bad circuit with a switch in series with the load, jumper the terminals of the switch to power the load. If jumping the terminals powers the circuit, the switch is bad (Figure 4).

CONTINUITY CHECK (Locating open circuits)

Connect one lead of **Self-Powered Test Lamp** or **Ohmmeter** to each end of circuit (Figure 3). Light will glow if circuit is closed. Switches and fuses can be checked in the same way.

VOLTAGE CHECK

Connect one lead of **Test Lamp** to a known good ground, or the negative (-) battery terminal. Test for voltage by touching the other lead to the test point. Bulb goes on when the test point has voltage (Figure 4).

SHORT CHECK (short to ground)

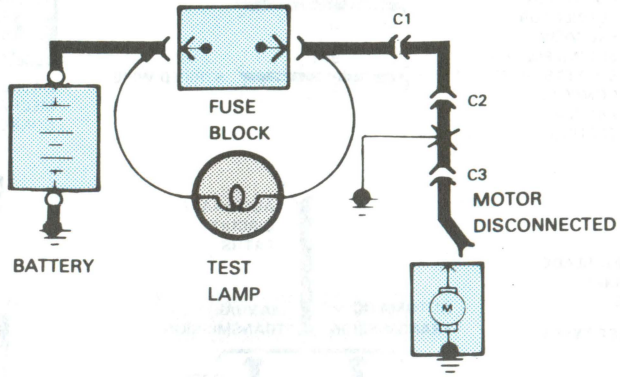


Figure 5—Short Check

A fuse that repeatedly blows is usually caused by a short to ground. It's important to be able to locate such a short quickly (Figure 5).

1) Turn off everything powered through the fuse.
2) Disconnect other loads powered through the fuse:
   - Motors: disconnect motor connector.
   - **Lamps:** remove bulbs.
3) Turn **Ignition Switch** to RUN (if necessary) to power fuse.
4) Connect one **Test Lamp** lead to hot end of blown fuse. Connect other lead to ground. Bulb should glow showing power to fuse. *(This step is just a check to be sure you have power to the circuit.)*
5) Disconnect the **Test Lamp** lead from ground and reconnect it to the load side of the fuse.
   - If the **Test Lamp** is off, the short is in the disconnected equipment.
   - If the **Test Lamp** goes on, the short is in the wiring. You must find the short by disconnecting the circuit connectors one at a time until the **Test Lamp** goes out. For example: with a ground at X, the bulb goes out when C1 or C2 is disconnected, but stays on after disconnecting C3. This means the ground is between C2 and C3.

"GOOD GROUND" CHECK

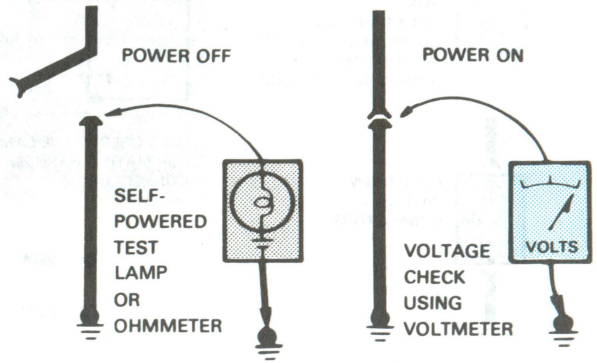


Figure 6—Grounds Checks

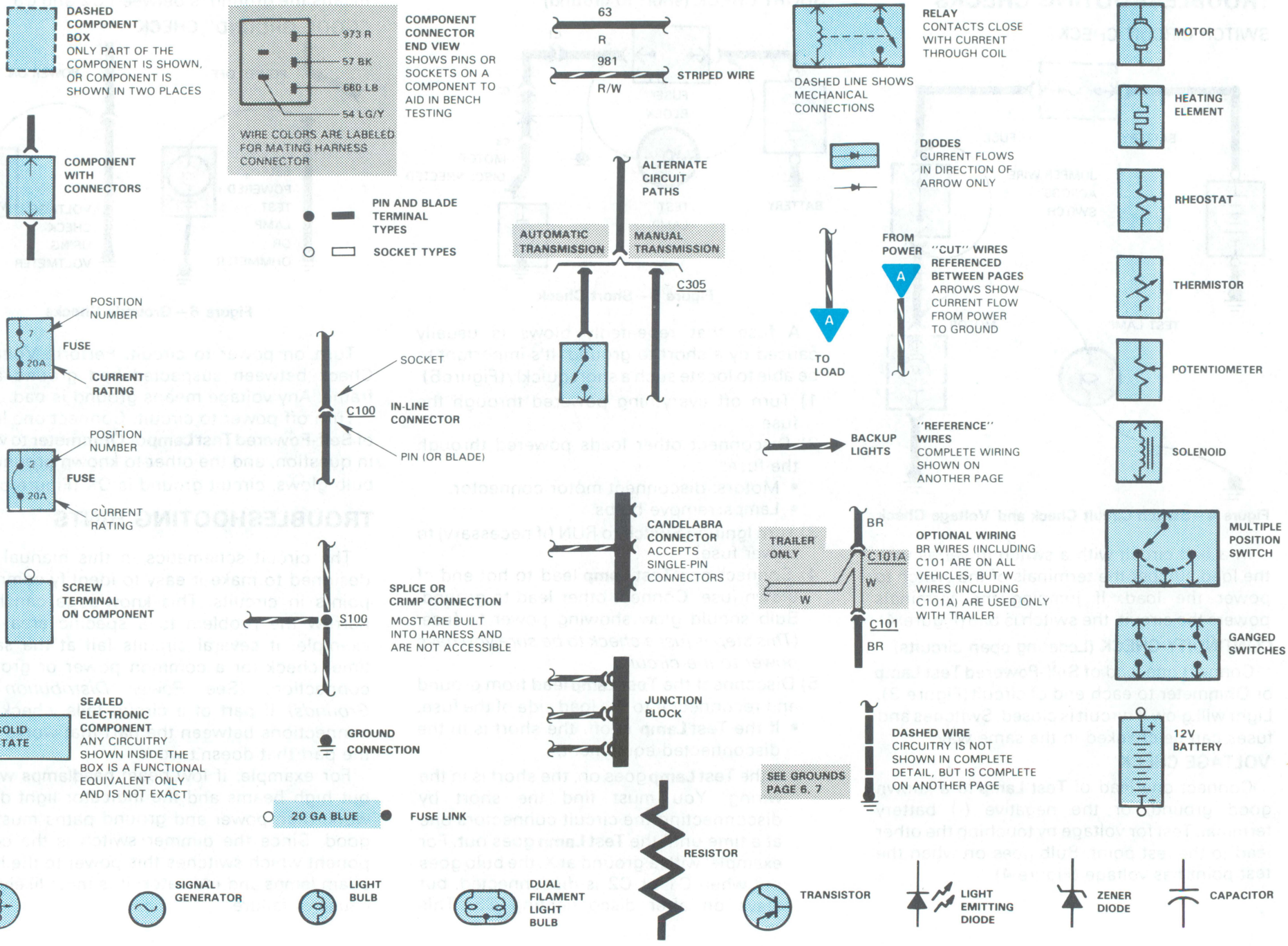
Turn on power to circuit. Perform Voltage Check between suspected bad ground and frame. Any voltage means ground is bad.

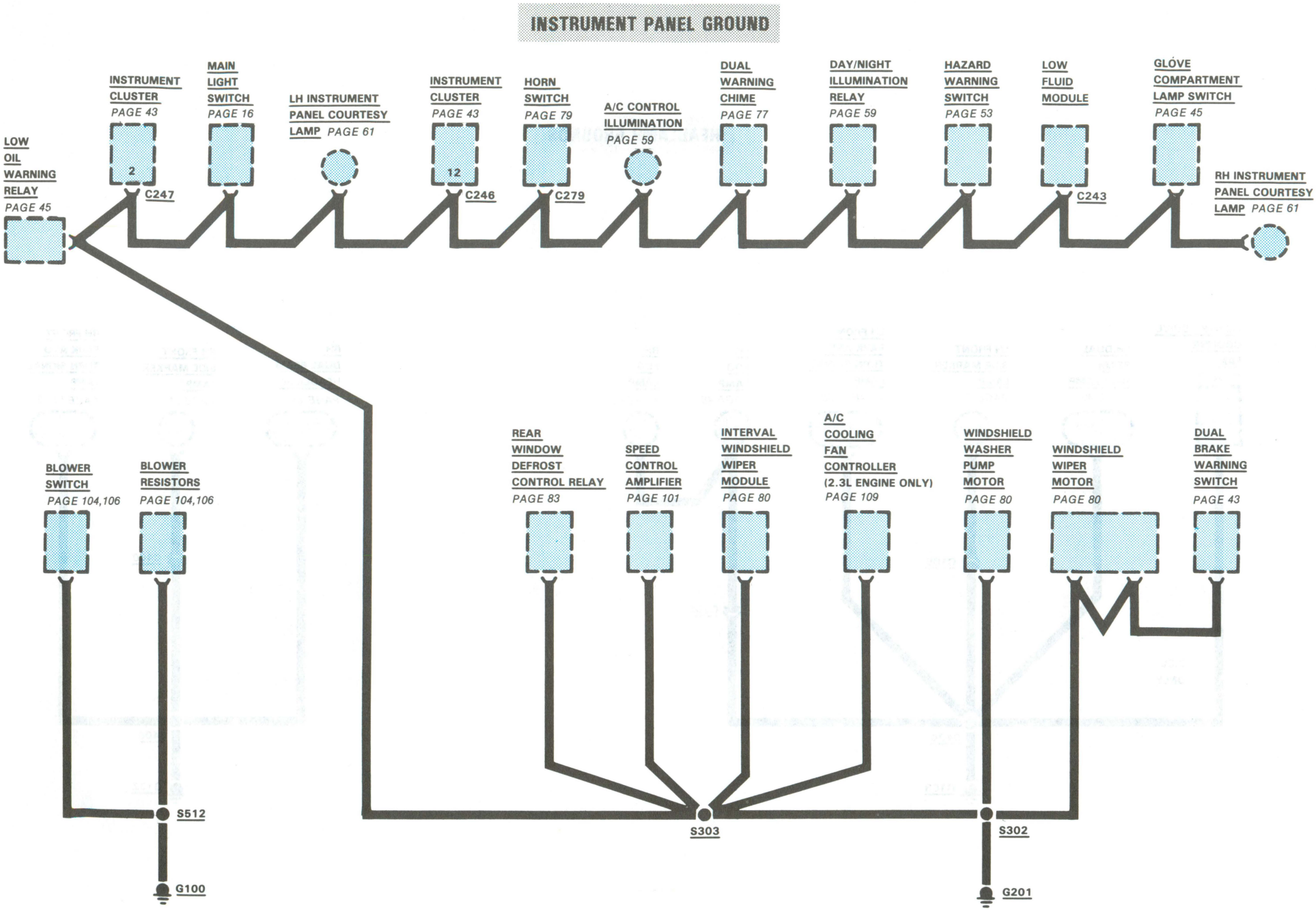
Turn off power to circuit. Connect one lead of **Self-Powered Test Lamp** or **Ohmmeter** to wire in question, and the other to known ground. If bulb glows, circuit ground is OK (Figure 6).

TROUBLESHOOTING HINTS

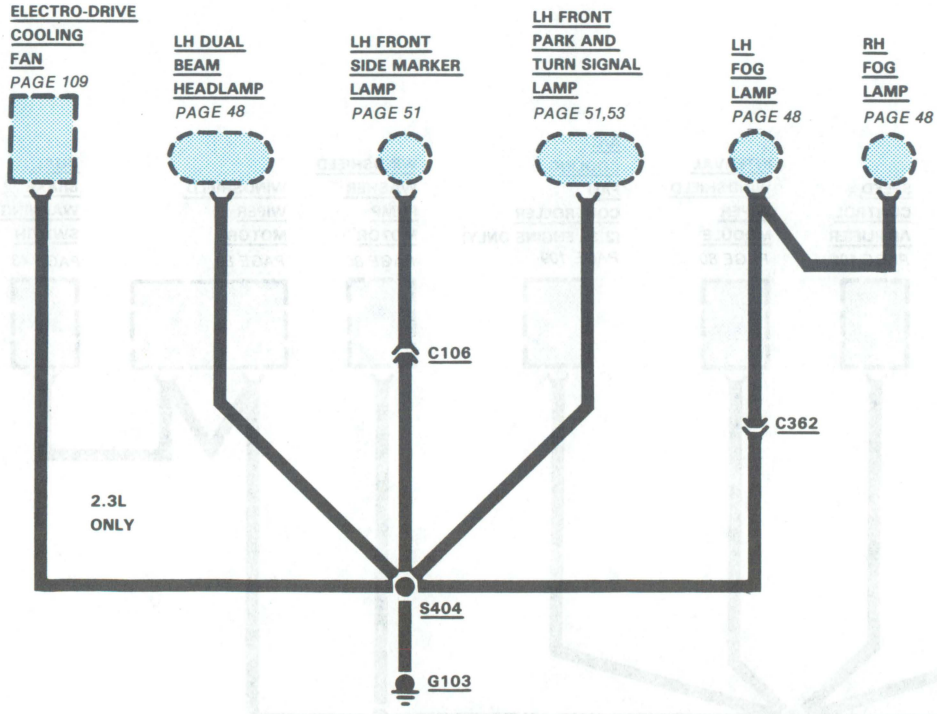
The circuit schematics in this manual are designed to make it easy to identify common points in circuits. This knowledge can help narrow the problem to a specific area. For example, if several circuits fail at the same time, check for a common power or ground connection. (See *Power Distribution* or *Grounds).* If part of a circuit fails, check the connections between the part that works and the part that doesn't work.

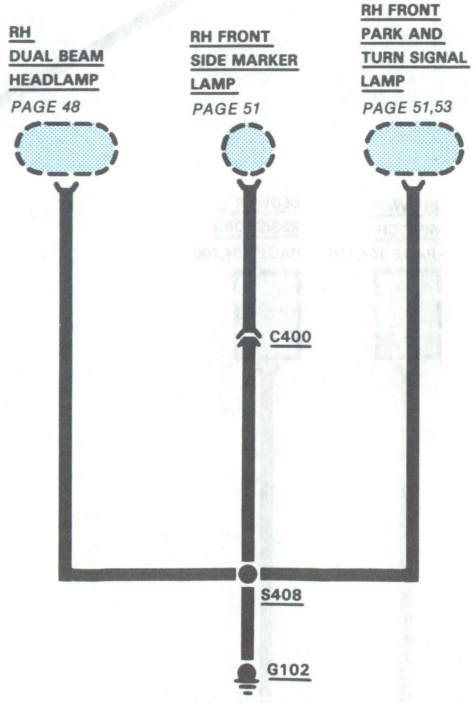
For example, if low beam **headlamps** work, but high beams and the indicator light don't work, then power and ground paths must be good. Since the dimmer switch is the component which switches this power to the high beam **lamps** and indicator, it is most likely the cause of failure.

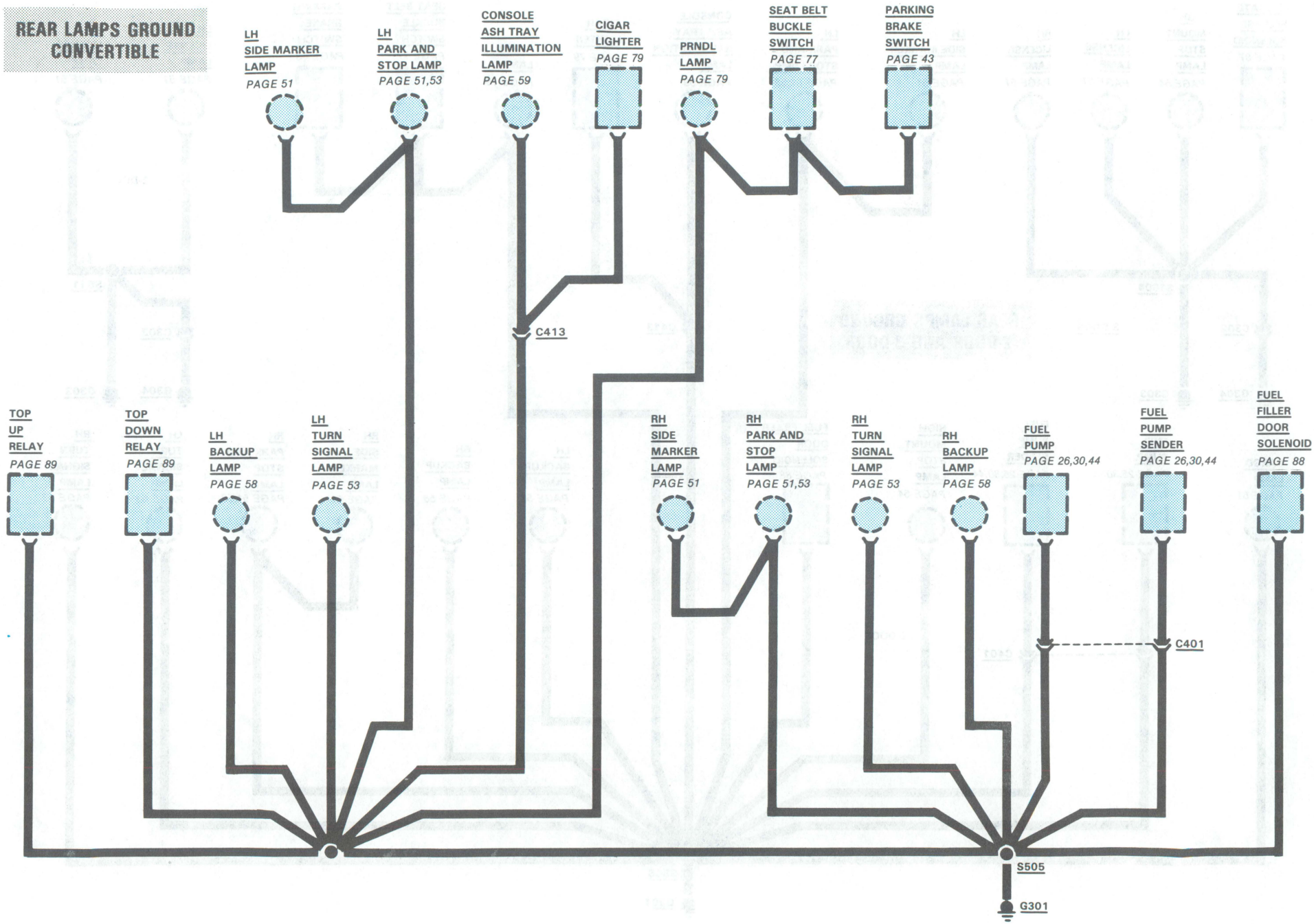

DASHED COMPONENT BOX
ONLY PART OF THE COMPONENT IS SHOWN, OR COMPONENT IS SHOWN IN TWO PLACES
COMPONENT WITH CONNECTORS
POSITION NUMBER
FUSE
CURRENT RATING
7
20A
POSITION NUMBER
FUSE
CURRENT RATING
2
20A
SCREW TERMINAL ON COMPONENT
SOLID STATE
SEALED ELECTRONIC COMPONENT
ANY CIRCUITRY SHOWN INSIDE THE BOX IS A FUNCTIONAL EQUIVALENT ONLY AND IS NOT EXACT
973 R
57 BK
680 LB
54 LG/Y
WIRE COLORS ARE LABELED FOR MATING HARNESS CONNECTOR
COMPONENT CONNECTOR END VIEW
SHOWS PINS OR SOCKETS ON A COMPONENT TO AID IN BENCH TESTING
PIN AND BLADE TERMINAL TYPES
SOCKET TYPES
SOCKET
C100
IN-LINE CONNECTOR
PIN (OR BLADE)
S100
SPLICE OR CRIMP CONNECTION
MOST ARE BUILT INTO HARNESS AND ARE NOT ACCESSIBLE
GROUND CONNECTION
20 GA BLUE
FUSE LINK
63
R
981
R/W
STRIPED WIRE
ALTERNATE CIRCUIT PATHS
AUTOMATIC TRANSMISSION
MANUAL TRANSMISSION
C305
CANDELABRA CONNECTOR
ACCEPTS SINGLE-PIN CONNECTORS
JUNCTION BLOCK
RESISTOR
RELAY
CONTACTS CLOSE WITH CURRENT THROUGH COIL
DASHED LINE SHOWS MECHANICAL CONNECTIONS
DIODES
CURRENT FLOWS IN DIRECTION OF ARROW ONLY
A
TO LOAD
FROM POWER
A
"CUT" WIRES REFERENCED BETWEEN PAGES
ARROWS SHOW CURRENT FLOW FROM POWER TO GROUND
BACKUP LIGHTS
"REFERENCE" WIRES
COMPLETE WIRING SHOWN ON ANOTHER PAGE
TRAILER ONLY
BR
C101A
W
W
C101
BR
OPTIONAL WIRING
BR WIRES (INCLUDING C101 ARE ON ALL VEHICLES, BUT W WIRES (INCLUDING C101A) ARE USED ONLY WITH TRAILER
SEE GROUNDS PAGE 6, 7
DASHED WIRE
CIRCUITRY IS NOT SHOWN IN COMPLETE DETAIL, BUT IS COMPLETE ON ANOTHER PAGE
MOTOR
HEATING ELEMENT
RHEOSTAT
THERMISTOR
POTENTIOMETER
SOLENOID
MULTIPLE POSITION SWITCH
GANGED SWITCHES
12V BATTERY
SIGNAL GENERATOR
LIGHT BULB
DUAL FILAMENT LIGHT BULB
TRANSISTOR
LIGHT EMITTING DIODE
ZENER DIODE
CAPACITOR


INSTRUMENT PANEL GROUND
LOW OIL WARNING RELAY PAGE 45
INSTRUMENT CLUSTER PAGE 43
2
C247
MAIN LIGHT SWITCH PAGE 16
LH INSTRUMENT PANEL COURTESY LAMP PAGE 61
INSTRUMENT CLUSTER PAGE 43
12
C246
HORN SWITCH PAGE 79
C279
A/C CONTROL ILLUMINATION PAGE 59
DUAL WARNING CHIME PAGE 77
DAY/NIGHT ILLUMINATION RELAY PAGE 59
HAZARD WARNING SWITCH PAGE 53
LOW FLUID MODULE
C243
GLOVE COMPARTMENT LAMP SWITCH PAGE 45
RH INSTRUMENT PANEL COURTESY LAMP PAGE 61
BLOWER SWITCH PAGE 104,106
BLOWER RESISTORS PAGE 104,106
REAR WINDOW DEFROST CONTROL RELAY PAGE 83
SPEED CONTROL AMPLIFIER PAGE 101
INTERVAL WINDSHIELD WIPER MODULE PAGE 80
A/C COOLING FAN CONTROLLER (2.3L ENGINE ONLY) PAGE 109
WINDSHIELD WASHER PUMP MOTOR PAGE 80
WINDSHIELD WIPER MOTOR PAGE 80
DUAL BRAKE WARNING SWITCH PAGE 43
S512
G100
S303
S302
G201

HEADLAMP GROUNDS






REAR LAMPS GROUND
CONVERTIBLE
LH SIDE MARKER LAMP
PAGE 51
LH PARK AND STOP LAMP
PAGE 51,53
CONSOLE ASH TRAY ILLUMINATION LAMP
PAGE 59
CIGAR LIGHTER
PAGE 79
PRNDL LAMP
PAGE 79
SEAT BELT BUCKLE SWITCH
PAGE 77
PARKING BRAKE SWITCH
PAGE 43
C413
TOP UP RELAY
PAGE 89
TOP DOWN RELAY
PAGE 89
LH BACKUP LAMP
PAGE 58
LH TURN SIGNAL LAMP
PAGE 53
RH SIDE MARKER LAMP
PAGE 51
RH PARK AND STOP LAMP
PAGE 51,53
RH TURN SIGNAL LAMP
PAGE 53
RH BACKUP LAMP
PAGE 58
FUEL PUMP
PAGE 26,30,44
FUEL PUMP SENDER
PAGE 26,30,44
FUEL FILLER DOOR SOLENOID
PAGE 88
C401
S505
G301

The ground circuits shown here are complete, and connect several components together to screw terminal ground points. On other pages only parts of these circuits may be shown. Partial ground circuits are shown dashed on those pages.

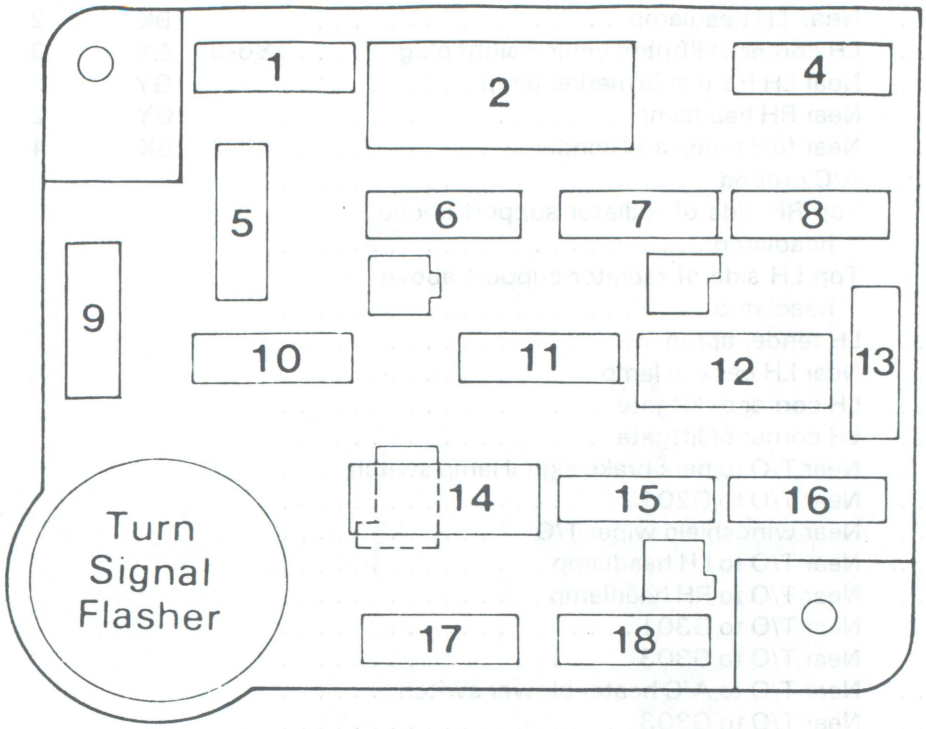
All simple or component ground circuits are shown on the individual circuit pages, and are complete on those pages.

All wires are **57 BK** unless otherwise noted.

COMPONENT LOCATION

		Page-Figure	Color	Terminals
Connector C106	Near LH headlamp		BK	2
Connector C302	LH corner of liftgate behind sight plug	86-3	GY	3
Connector C362	Near LH front side marker lamp		GY	2
Connector C400	Near RH headlamp		GY	2
Connector C401	Near fuel pump and sender	42-7	BK	4
Ground G100	A/C ground			
Ground G102	Top RH side of radiator support above headlamp			
Ground G103	Top LH side of radiator support above headlamp			
Ground G201	LH fender apron			
Ground G301	Near LH backup lamp			
Ground G303	LH corner of liftgate			
Ground G304	LH corner of liftgate			
Ground G500	Near T/O to park brake signal lamp switch			
Splice S302	Near T/O to G201			
Splice S303	Near windshield wiper T/O			
Splice S404	Near T/O to LH headlamp			
Splice S408	Near T/O to RH headlamp			
Splice S505	Near T/O to G301			
Splice S511	Near T/O to G303			
Splice S512	Near T/O to A/C heater blower switch			
Splice S1004	Near T/O to G303			

10 FUSE PANEL/CIRCUIT PROTECTION



Fuse Position	Amps	Circuits Protected
1	15	Stop/Hazard Lamps; Speed Control
2	8.25 c.b.	Interval Wiper
4	10	Exterior Lamps; Instrument Illumination
5	15	Turn Lamps; Backup Lamps
6	20	Speed Control, Day/Night Illumination Relay; A/C; Decklid Release
7	—	(Not Used)
8	15	Courtesy Lamps; Dimmer Switch; Power Mirrors; Radio; Fuel Filler Door Release
9	30	Heater Blower; A/C Blower
10	20	Headlamps; Low Oil Level Warning
11	15	Radio; Premium Sound; Graphic Equalizer
12	—	(Not Used)
13	5	Instrument Illumination
14	20 c.b.	Power Windows
15	15	Fog Lamps
16	20	Horn; Cigar Lighter
17	—	(Not Used)
18	15	Seatbelt Buzzer; Warning Indicators; Low Coolant Switch; Low Fluid Monitor; Instrument Cluster

Fuse Value Amps	Color Code
4	Pink
5	Tan
10	Red
15	Light Blue
20	Yellow
25	Natural
30	Light Green

Power Distribution

The **Alternator** and **Battery** are connected together at the **Starter Relay** hot terminal. Other circuits originate at the **Starter Relay** hot terminal and are protected by fuse links. Low power circuits are also protected by fuses.

The **Ignition Switch** and **Main Light Switch** are powered at all times, as are **Fuses 1, 4, 8, 10** and **16.** The other fuses are powered through the **Ignition Switch** or the **Main Light Switch.**

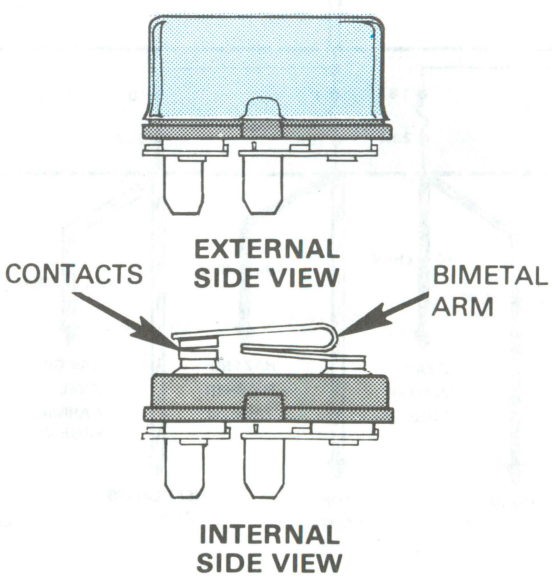
Position **3** is not used, and is covered by **Circuit Breaker 2.**

REPLACEMENT OF FUSES/ CIRCUIT BREAKERS

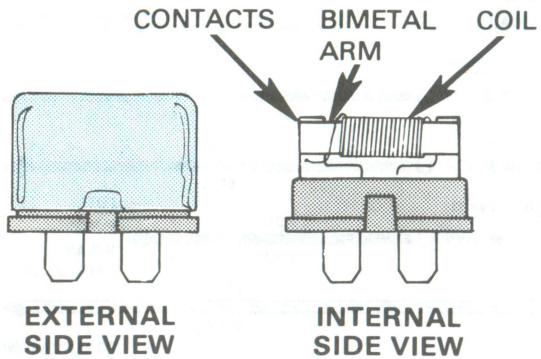
GOOD FUSE BLOWN FUSE

Fuses are mounted either in the **Fuse Panel** or in-line. They are identified by the numbered value in amperes, and by a color code. Some positions may have either a fuse with adapter or a circuit breaker. Be sure to replace a fuse or circuit breaker with the same kind of unit and with the same ampere rating. Remove fuses in order to check them.

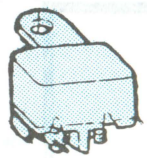
CIRCUIT BREAKER OPERATION



Cycling Fuse Panel Type



Non-Cycling Fuse Panel Type



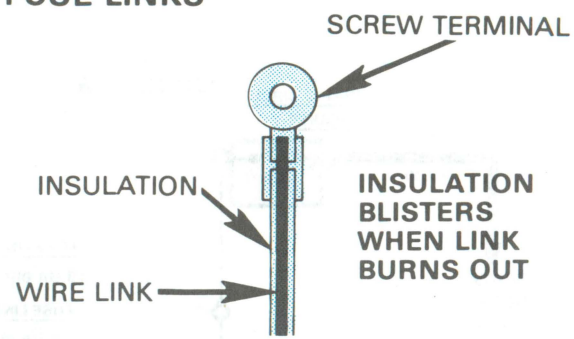
Cycling In-Line Type

Some circuits are protected by circuit breakers. (Abbreviated "c.b." in fuse chart.) They can be **Fuse Panel** mounted or in-line. Like fuses, they are rated in amperes.

Each circuit breaker conducts current through an arm made of two types of metal fastened together (bimetal arm). If the arm starts to carry too much current, it heats up. As one metal expands faster than the other the arm bends, opening the contacts. Current flow is broken. In the cycling type, the arm cools and straightens out. This closes the circuit again. This cycle repeats as long as the overcurrent exists, with power applied.

In the non-cycling type, there is also a coil wrapped around the bimetal arm. When an overcurrent exists and the contacts open, a small current passes through the coil. This current through the coil is not large enough to operate a load, but it does heat up both the coil and bimetal arm. This keeps the arm in the open position until power is removed.

FUSE LINKS

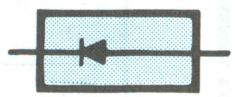


The fuse link is a short length of wire smaller in gage than the wire in the protected circuit. The wire is covered with a thick non-flammable insulation. An overload causes the link to heat and the insulation to blister. If the overload remains, the link will melt, causing an open circuit. The links are color coded for wire size as follows:

COLOR CODE	
BLUE	20 GA
BROWN OR RED	18 GA
BLACK OR ORANGE	16 GA
GREEN	14 GA

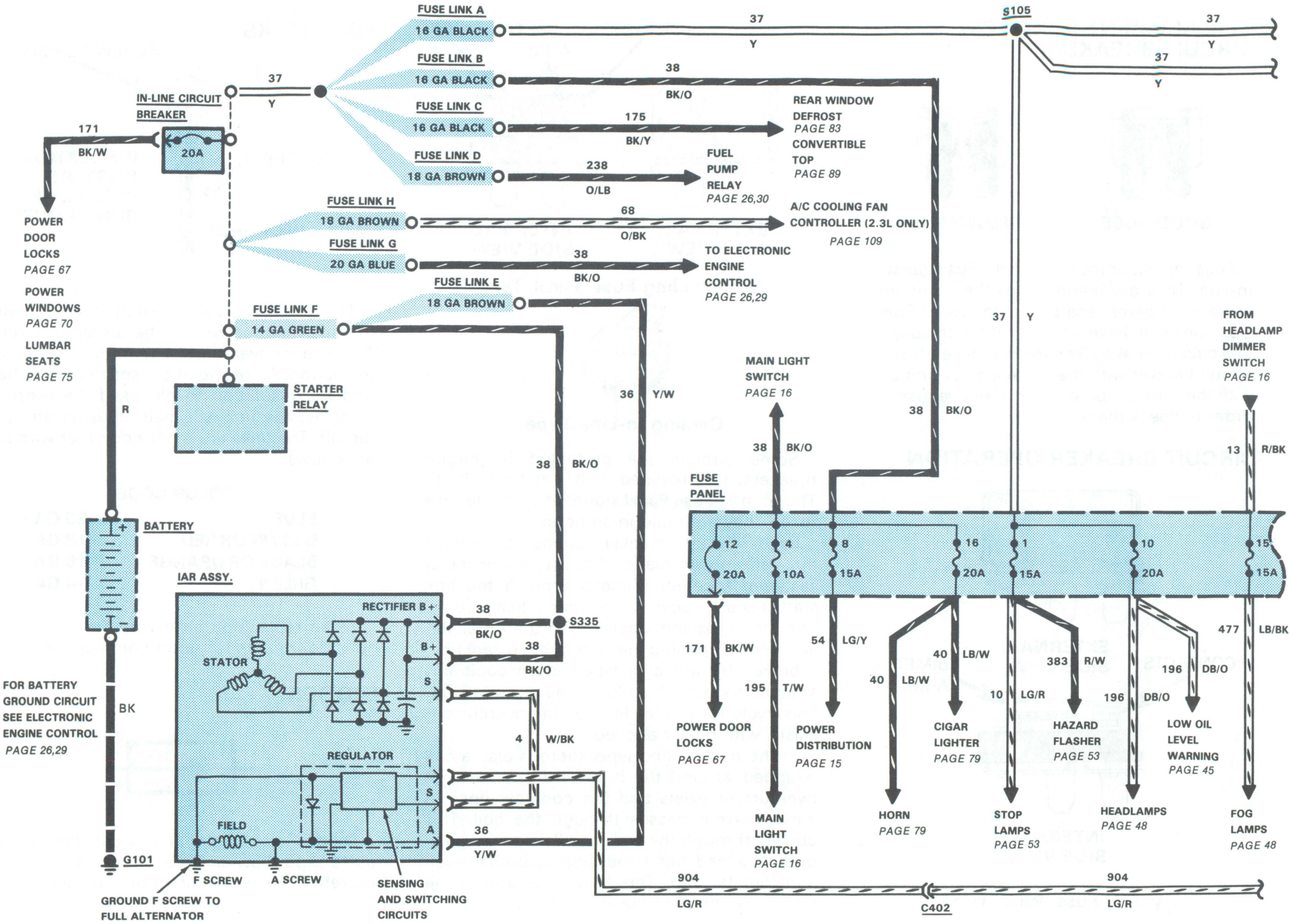
When replacing, make tight crimp joints or hot solder joints for good connections.

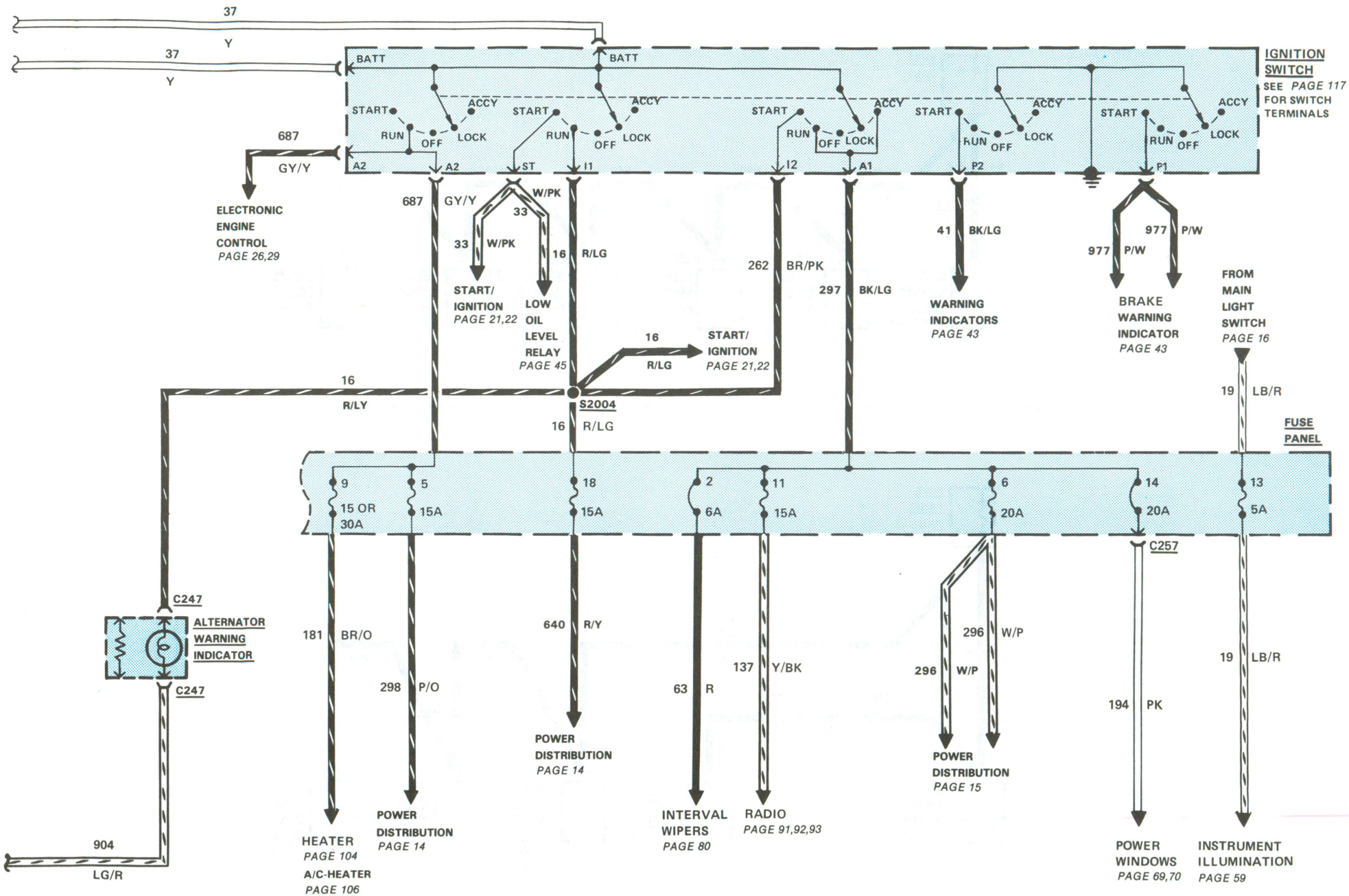
DIODES



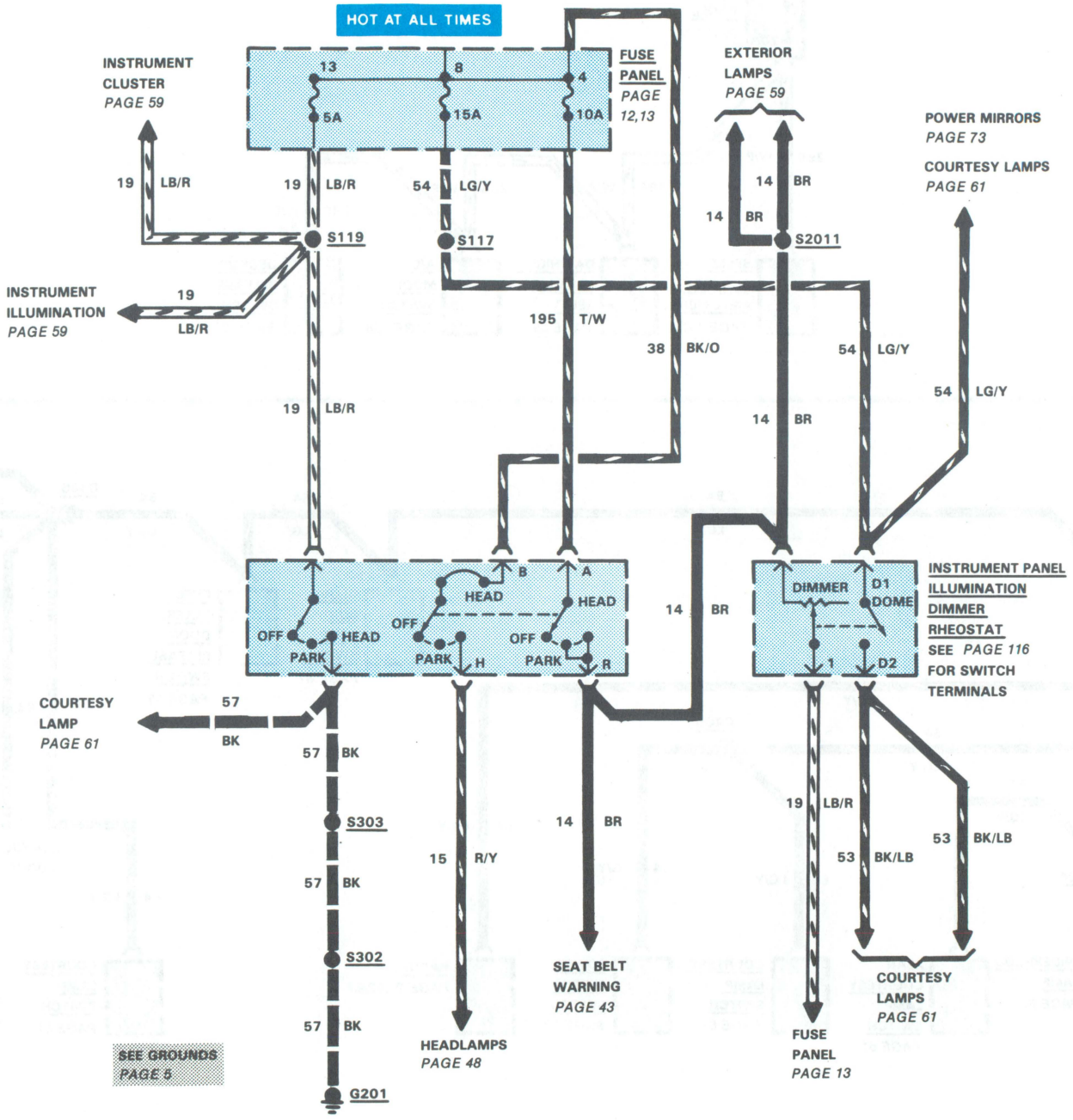
Diodes are electrical devices that permit current to flow in one direction only. The current flows in the direction indicated by the arrow.

12 CHARGE/POWER DISTRIBUTION




37
Y
37
Y
BATT
BATT
IGNITION SWITCH
SEE PAGE 117 FOR SWITCH TERMINALS
START
RUN
OFF
ACCY
LOCK
687
GY/Y
A2
A2
ST
I1
I2
A1
P2
P1
ELECTRONIC ENGINE CONTROL
PAGE 26,29
687
GY/Y
W/PK
33
33
W/PK
16
R/LG
START/ IGNITION
PAGE 21,22
LOW OIL LEVEL RELAY
PAGE 45
16
R/LG
START/ IGNITION
PAGE 21,22
262
BR/PK
297
BK/LG
41
BK/LG
WARNING INDICATORS
PAGE 43
977
P/W
977
P/W
BRAKE WARNING INDICATOR
PAGE 43
FROM MAIN LIGHT SWITCH
PAGE 16
19
LB/R
FUSE PANEL
16
R/LY
S2004
16
R/LG
9
15 OR 30A
5
15A
18
15A
2
6A
11
15A
6
20A
14
20A
13
5A
C257
C247
ALTERNATOR WARNING INDICATOR
C247
181
BR/O
298
P/O
640
R/Y
63
R
137
Y/BK
296
W/P
296
W/P
194
PK
19
LB/R
904
LG/R
HEATER
PAGE 104
A/C-HEATER
PAGE 106
POWER DISTRIBUTION
PAGE 14
POWER DISTRIBUTION
PAGE 14
INTERVAL WIPERS
PAGE 80
RADIO
PAGE 91,92,93
POWER DISTRIBUTION
PAGE 15
POWER WINDOWS
PAGE 69,70
INSTRUMENT ILLUMINATION
PAGE 59

16 CHARGE/POWER DISTRIBUTION (MAIN LIGHT SWITCH)



HOW THE CIRCUIT WORKS

The **Battery, Alternator** and **Voltage Regulator** make up the **Charging System.**

With Alternator Warning Indicator

With the **Ignition Switch** in RUN, **Battery** current flows into the **Voltage Regulator** at terminal I and to ground through the solid-state regulator circuits. If the electronic control measures a low voltage at regulator terminal A it closes the field switch. This applies **Battery** voltage to the field.

With current in the field and the rotor turning, the **Alternator** stator produces an AC voltage. This is converted to DC by the rectifier assembly and is fed to terminal B (to **Battery**) and terminal S (stator). (Voltage at S is one-half voltage at B).

A pre-set voltage at terminal S operates the electronic control to open the indicator switch which removes ground from the **Alternator Warning Indicator** (through the heated windshield control modules, on models so equipped).

The **Alternator** output is controlled by the current in the field. The average voltage on the field depends on the percentage of time the field switch is closed. The electronic control closes the field switch when the voltage at A is low, and opens the switch when the voltage at A is high.

The **Voltage Regulator** holds the system voltage at about 14 volts. The average **Alternator** output is then any required value between zero and full current depending on conditions sensed by the **Voltage Regulator.**

TROUBLESHOOTING HINTS

IMPROPER CHARGING

The most common charge system complaints are dead **Battery** and **Alternator Warning Indicator** on at normal speed.

- Check **Fuse Link G** at **Starter Relay.**
- Check **Alternator** belt tension.
- Check **Battery** terminals and cable clamps.
- Check for clean and tight connection on **Alternator, Regulator,** and **Starter Relay** and alternator output control relay.
- Refer to Shop Manual Section 31-01, Charging System Diagnosis.

COMPONENT LOCATION

		Page-Figure	Color	Terminals
Fuse Link A	At starter relay	18-3		
Fuse Link B	At starter relay	18-3		
Fuse Link C	At starter relay	18-3		
Fuse Link D	At starter relay	18-3		
Fuse Link E	LH fender apron	18-3		
Fuse Link F	At starter relay	18-3		
Fuse Link G	At starter relay	18-3		
Fuse Link H	At starter relay	18-3		
Connector C149	Near battery	18-3	BK	1
Connector C201	LH fender apron	18-3	BK	8
Connector C209	LH fender apron	18-3	BK	8
Connector C247	At instrument cluster	114-1	GY	14
Connector C355	LH fender apron	18-3	BK	2
Connector C402	Near starter motor relay	18-3	BK	4
Connector C403	Near cooling fan controller	18-3	GY	8
Connector C430	Near wiper motor	18-3	BR	1
Ground G101	At battery			
Ground G201	LH fender apron			
Splice S105	Near T/O to headlamp dimmer switch			
Splice S335	Near IAR Assembly			
Splice S2004	Near EGR valve position sensor			

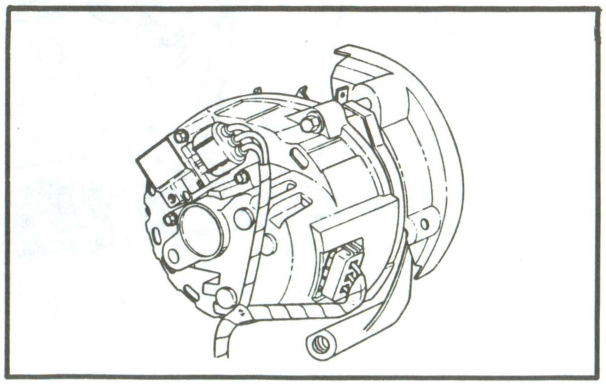


Figure 1- Integral Alternator/Regulator (5.0L)

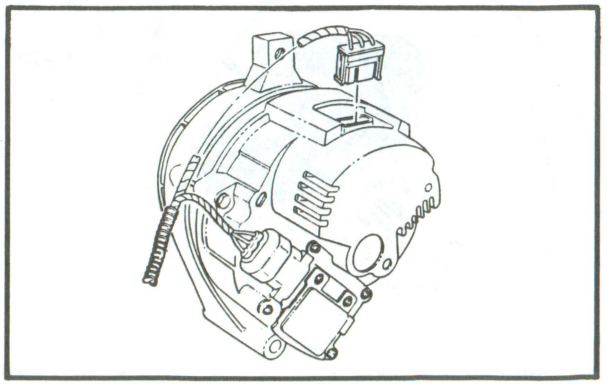


Figure 2- Alternator (2.3L)

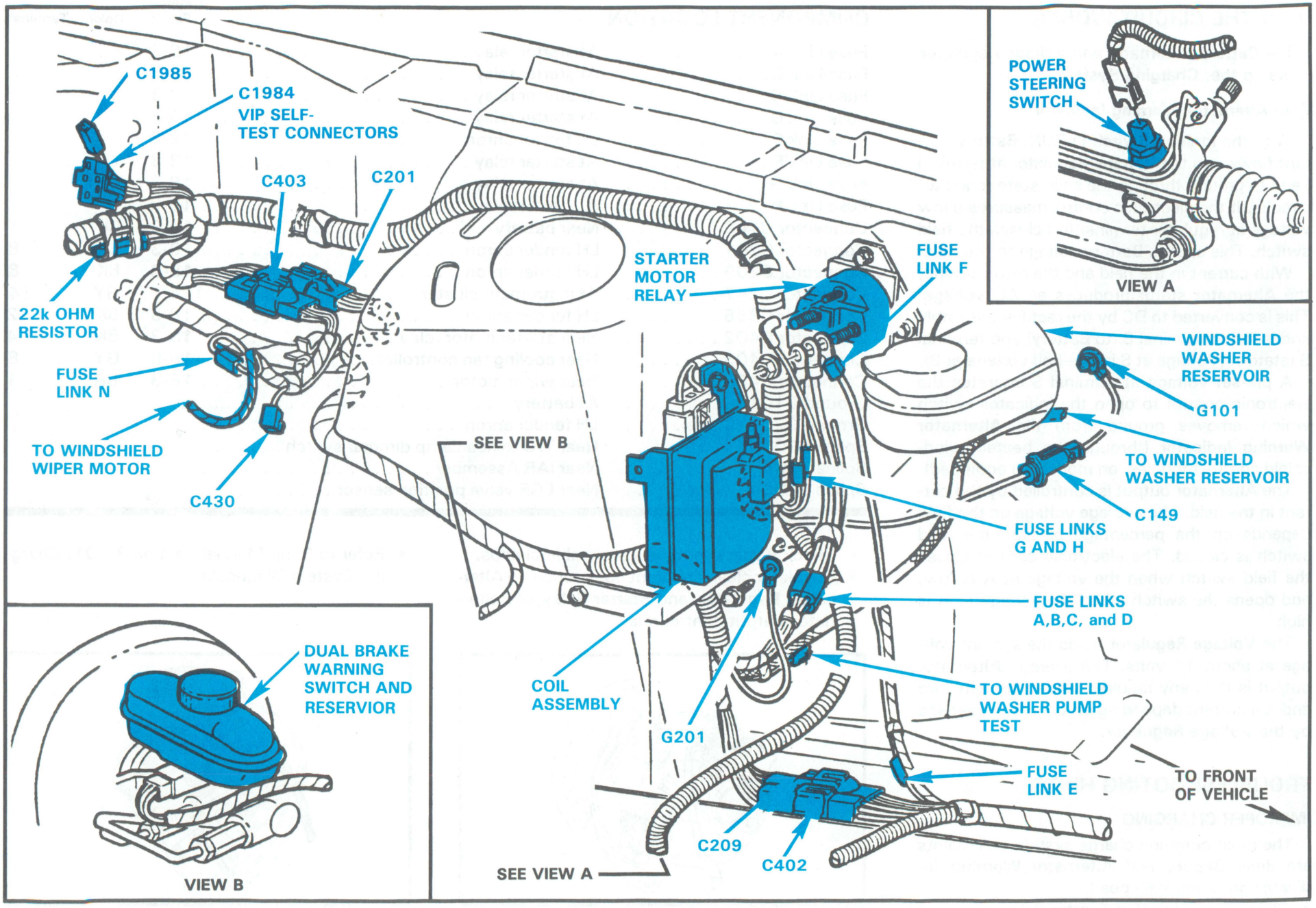


Figure 3- LH Fender Apron (2.3L)

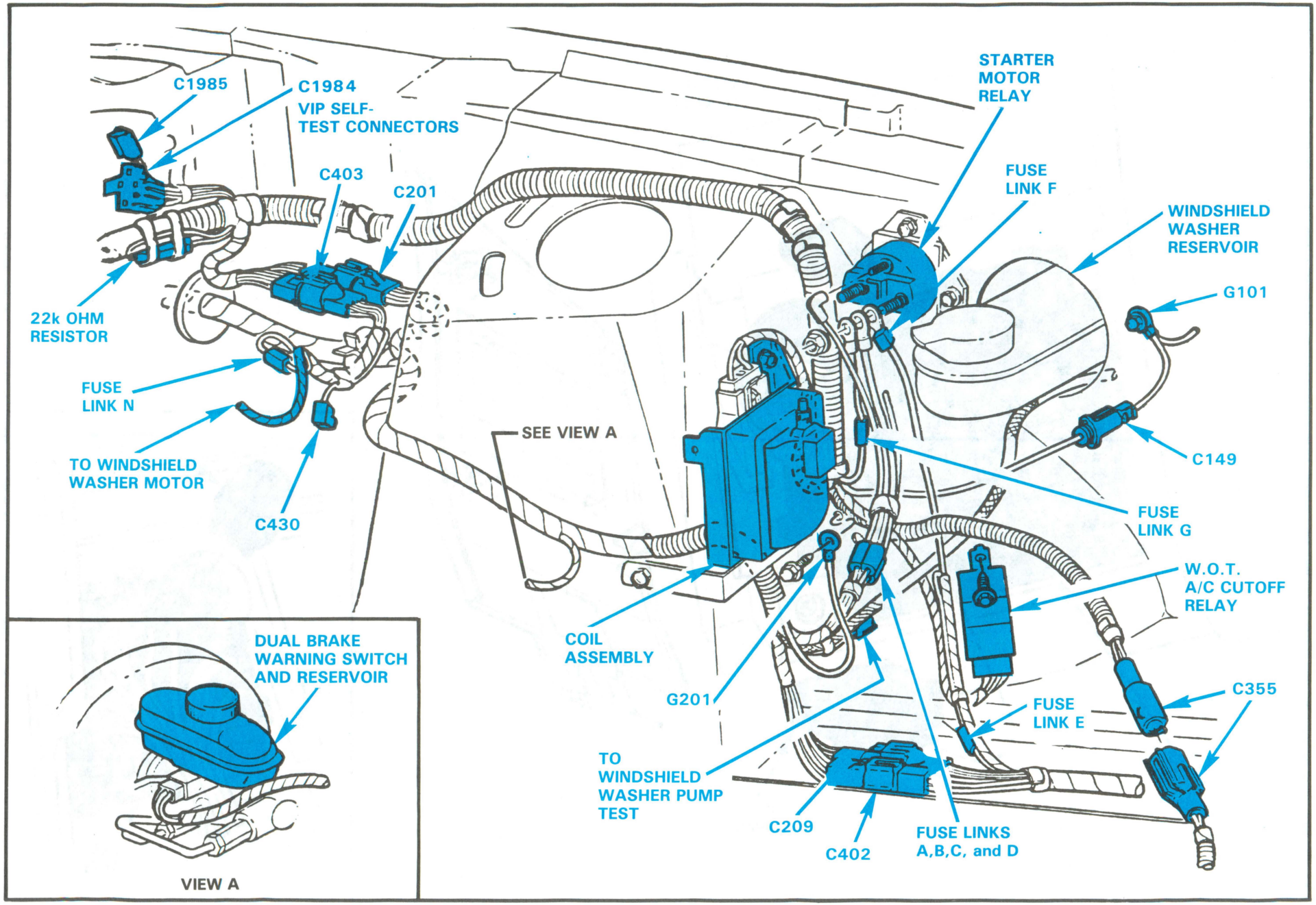


Figure 4- LH Fender Apron (5.0L)

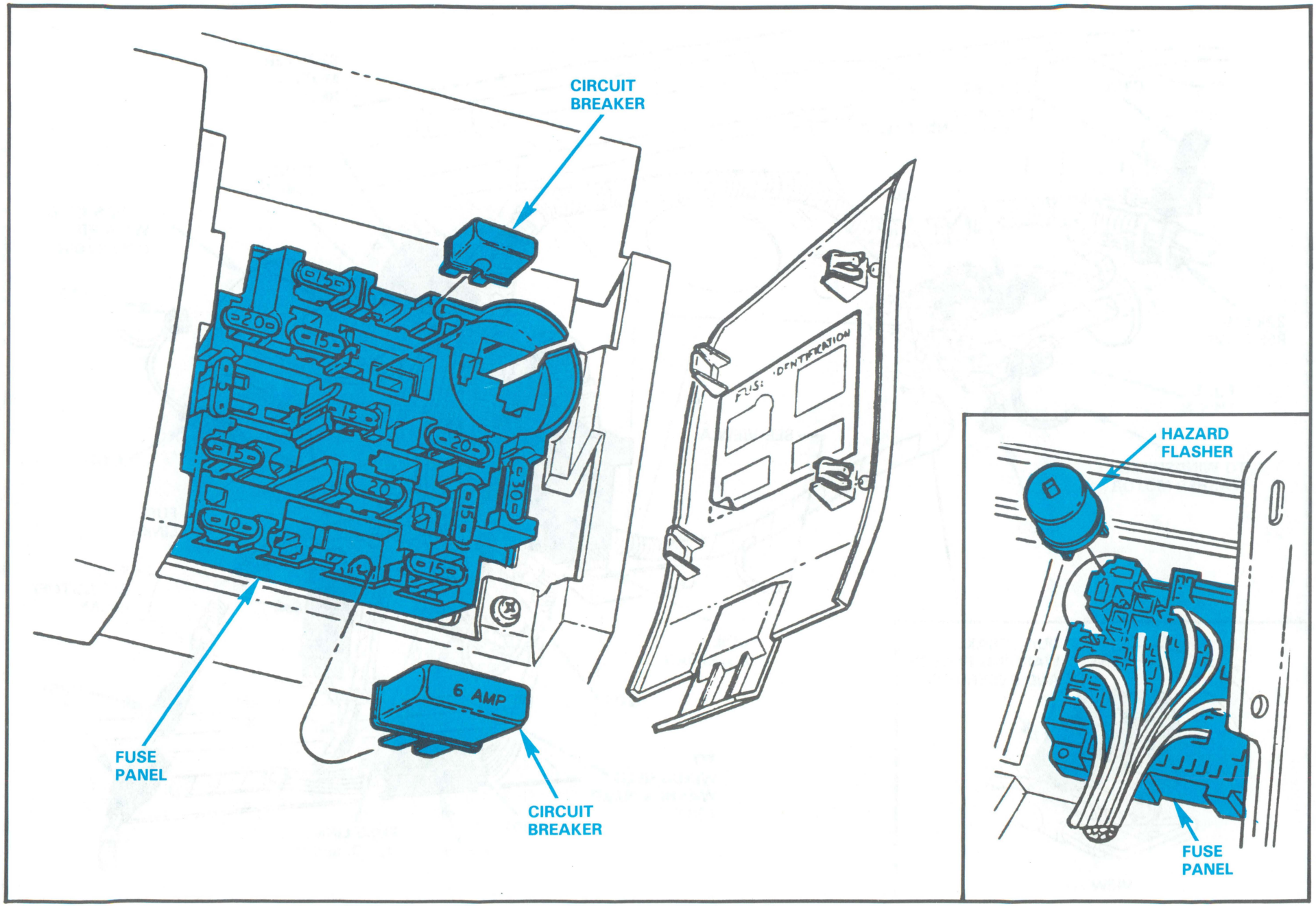
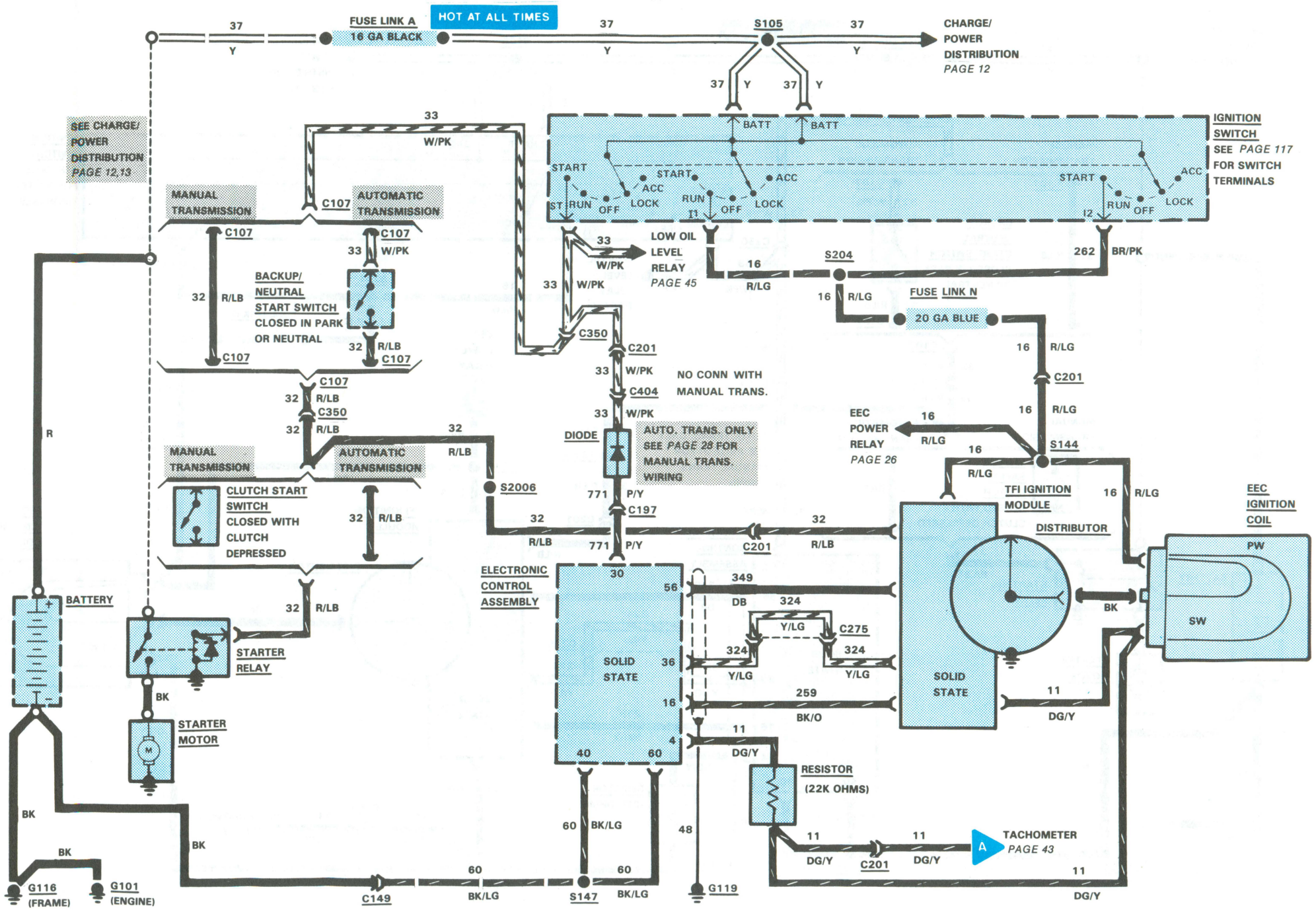
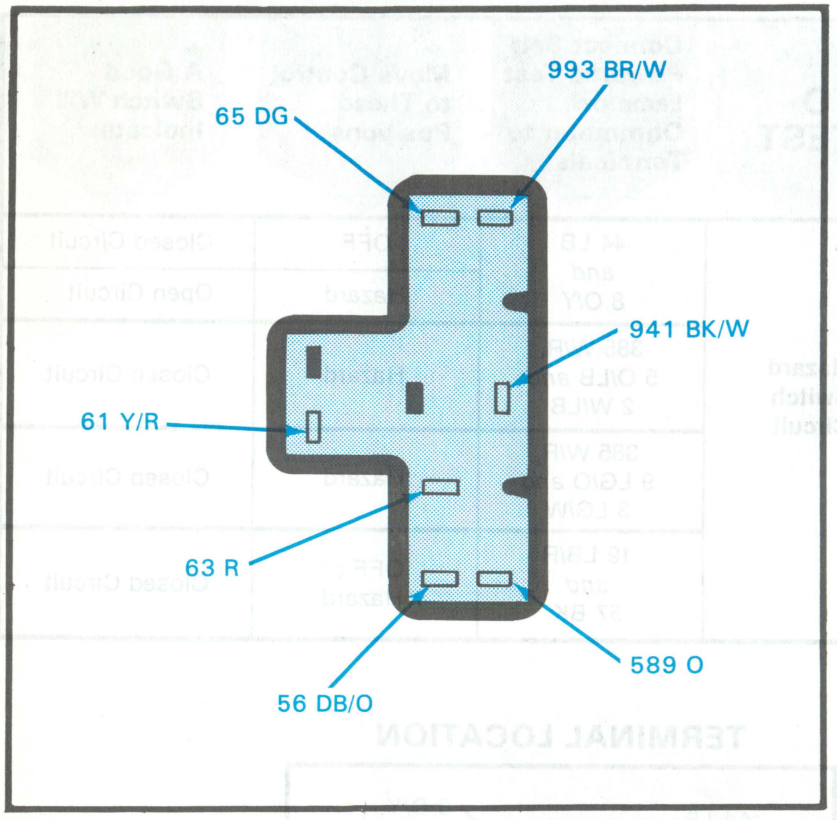


Figure 5- Circuit Breaker and Hazard Warning Flasher


FUSE LINK A
16 GA BLACK
HOT AT ALL TIMES
37 Y
S105
CHARGE/ POWER DISTRIBUTION
PAGE 12
SEE CHARGE/ POWER DISTRIBUTION PAGE 12,13
IGNITION SWITCH
SEE PAGE 117 FOR SWITCH TERMINALS
BATT
START
ACC
RUN
OFF
LOCK
ST
I1
I2
33 W/PK
MANUAL TRANSMISSION
AUTOMATIC TRANSMISSION
C107
32 R/LB
BACKUP/ NEUTRAL START SWITCH
CLOSED IN PARK OR NEUTRAL
LOW OIL LEVEL RELAY
PAGE 45
S204
262 BR/PK
16 R/LG
FUSE LINK N
20 GA BLUE
C350
C201
C404
NO CONN WITH MANUAL TRANS.
DIODE
AUTO. TRANS. ONLY
SEE PAGE 28 FOR MANUAL TRANS. WIRING
EEC POWER RELAY
PAGE 26
S144
CLUTCH START SWITCH
CLOSED WITH CLUTCH DEPRESSED
S2006
771 P/Y
C197
TFI IGNITION MODULE
DISTRIBUTOR
EEC IGNITION COIL
PW
SW
BK
ELECTRONIC CONTROL ASSEMBLY
SOLID STATE
30
56
36
16
4
40
60
349 DB
324 Y/LG
C275
259 BK/O
11 DG/Y
RESISTOR
(22K OHMS)
TACHOMETER
PAGE 43
A
BATTERY
STARTER RELAY
STARTER MOTOR
60 BK/LG
48
G116 (FRAME)
G101 (ENGINE)
C149
S147
G119

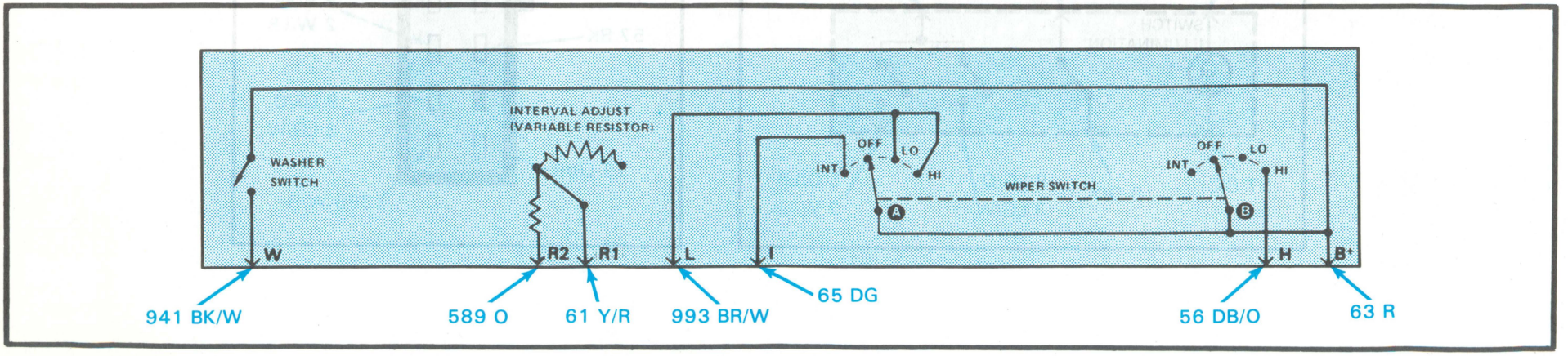
TERMINAL LOCATIONS



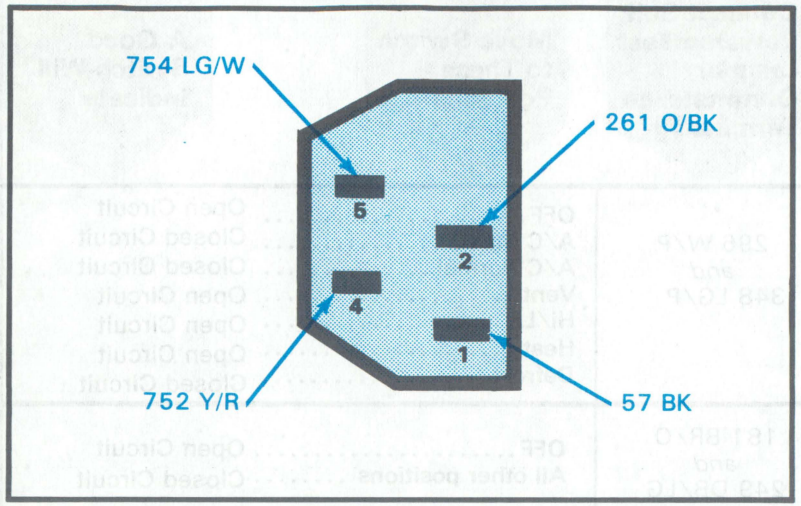
INTERVAL WIPER/WASHER SWITCH COMPONENT TESTING PROCEDURE

TO TEST	Connect Self Powered Test Lamp or Ohmmeter to Terminals	Move Switch to These Positions	A Good Switch Will Indicate
Washer Switch Circuit	941 BK/W (W) *and* 63 R (B+)	Pull **Washer Knob**	Closed Circuit
		Release **Washer Lever**	Open Circuit
Wiper Switch Circuit	63 R (B+) *and* 65 DG (I)	**Wiper Switch** to INT position	Closed Circuit
		All other positions	Open Circuit
	63 R (B+) *and* 993 BR/W (L)	**Wiper Switch** to **Lo** position	Closed Circuit
		Wiper Switch to **Hi** position	Closed Circuit
		All other positions	Open Circuit
	63 R (B+) *and* 56 DB/O (H)	**Wiper Switch** to **Hi** position	Closed Circuit
		All other positions	Open Circuit
Interval Adjust	61 Y/R (R1) *and* 589 O (R2)	Rotate Control Clockwise	Ohmmeter will indicate smoothly increasing resistance from 420/880 Ohms minimum to 7000/13,000 Ohms maximum.

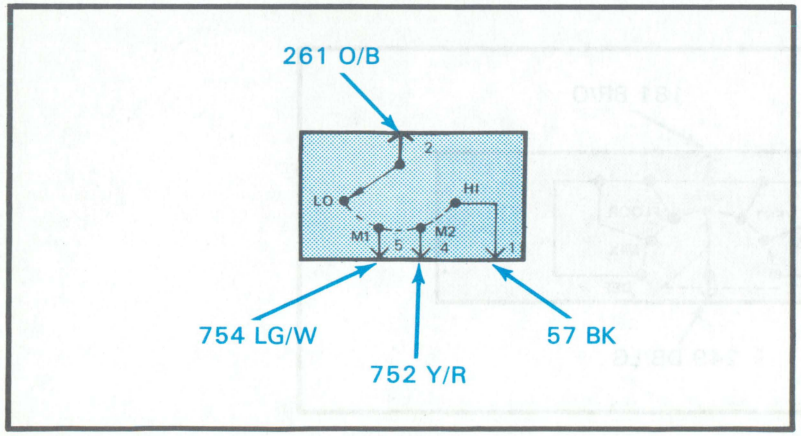
SCHEMATIC



TERMINAL LOCATION



SCHEMATIC



COMPONENT TESTING PROCEDURE

TO TEST	Connect Self Powered Test Lamp or Ohmmeter to Terminals	Move Control to These Positions	A Good Switch Will Indicate
Medium-Low Speed	261 O/BK (2) *and* 754 LG/W (5)	Lo Medium-1 Medium-2 Hi	Open Circuit Closed Circuit Open Circuit Open Circuit
Medium-High Speed	261 O/BK (2) *and* 752 Y/R (4)	Lo Medium-1 Medium-2 Hi	Open Circuit Open Circuit Closed Circuit Open Circuit
High Speed	261 O/BK (2) *and* 57 BK (1)	Lo Medium-1 Medium-2 Hi	Open Circuit Open Circuit Open Circuit Closed Circuit

NOTE

Blower Switch is designed to make contacts with two terminals at one time, except when in LO.