1982 BRONCO/F100/350/COURIER

# 1982 BRONCO/ F100/350 COURIER

Ford

**DEMO**

This DEMO contains only a few pages of the entire manual/product.

Not all Bookmarks work on the Demo, but they do on the full version.

Features:
- Searchable text
- Printable pages
- Bookmarked for easy navigation
- High Resolution images
- Zoom to see exact details
- Money back Guarantee
- Available on USB and eBook download



Ford
Official Licensed Product
License #84356800

## Electrical & Vacuum Trouble-Shooting Manual

**1982 Bronco F-100/F-350 Courier Electrical & Vacuum Trouble-Shooting Manual (EVTM)**

**EAN: 978-1-60371-405-1**
**ISBN: 1-60371-404-7**

Forel Publishing Company, LLC
Woodbridge, VA 22192
Email: sales@ForelPublishing.com
https://www.ForelPublishing.com


License #84356800



## Note from the Publisher

This product was created from the original Ford Motor Company's publication. Every effort has been made to use the original scanned images, however, due to the condition of the material; some pages have been modified to remove imperfections.

## Disclaimer

Although every effort was made to ensure the accuracy of this book, no representations or warranties of any kind are made concerning the accuracy, completeness or suitability of the information, either expressed or implied. As a result, the information contained within this book should be used as general information only. The author and Forel Publishing Company, LLC shall have neither liability nor responsibility to any person or entity with respect to any loss or damage caused, or alleged to be caused, directly or indirectly by the information contained in this book. Further, the publisher and author are not engaged in rendering legal or other [illegible]l, mechanical, electrical, or other expert assistance is required, the [illegible]essional should be sought.

# BRONCO, F100-F350 CONTENTS



# INDEX

# COURIER CONTENTS



# INDEX





## 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.*

# 2 HOW TO USE THIS MANUAL

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 grounds in that circuit. The chart includes a description of where each item is located 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) and wire colors are listed.

### WIRE 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 dot, hash, or stripe marking. If **D** or **H** is given, the second color is dots or hash marks. If there is no letter after the second color, the wire has a stripe.

For example:

**BRO** is a brown wire with an orange stripe.

**R** is a red wire with yellow dots.

**GY** is a gray wire with a hash



**Components** which work together are shown together. For example, all electrical components used in any 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 places. 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.

COMPONENT SHOWN IN TWO PLACES OR PART OF A COMPONENT

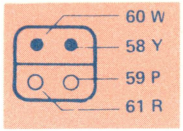
COMPONENT WITH CONNECTORS

POSITION NUMBER
7
20A
FUSE
CURRENT RATING

POSITION NUMBER
2
20A
CIRCUIT BREAKER
CURRENT RATING

SCREW TERMINAL ON COMPONENT

SOLID STATE
SEALED ELECTRONIC COMPONENT
ANY CIRCUITRY SHOWN INSIDE THE BOX IS A FUNCTIONAL




COMPONENT CONNECTOR END VIEW
SHOWS PINS OR SOCKETS ON A COMPONENT TO AID IN BENCH TESTING

WIRE COLORS ARE LABELED FOR MATING HARNESS CONNECTOR

PIN TERMINAL TYPES

SOCKET TYPES

C100
SOCKET
IN-LINE CONNECTOR
PIN

S100
SPLICE OR CRIMP TERMINAL

GROUND CONNECTION

20 GA BLUE
FUSE LINK

63
R
SOLID WIRE

981
R/W
STRIPED WIRE

42
R/W D
DOTTED WIRE

383
R/W H
HASHED WIRE

WITH TRAILER
WITHOUT TRAILER
C407
C405
ALTERNATE CIRCUIT PATH OR OPTIONAL WIRING BRACKETS
DASHED LINE MEANS C405 CONNECTS DIRECTLY TO C407 WITHOUT TRAILER

CANDELABRA CONNECTOR
ACCEPTS SINGLE-PIN CONNECTORS

JUNCTION BLOCK

RELAY
CONTACTS CLOSE WITH CURRENT THROUGH COIL
DASHED LINE SHOWS MECHANICAL CONNECTIONS

DIODES
CURRENT FLOWS IN DIRECTION OF ARROW ONLY

TRAILER ONLY
C101
BR
W
OPTIONAL WIRING RUBY
BR WIRE IS ON ALL VEHICLES BUT WIRE W IS NOT

C
TO LOAD
FROM POWER
C
"CUT" WIRES REFERENCED BETWEEN PAGES
ARROWS SHOW CURRENT FLOW FROM POWER TO GROUND

BACKUP LIGHTS
"REFERENCE" WIRES
COMPLETE WIRING SHOWN ON ANOTHER PAGE

20
REFERENCE NUMBER
REPEATED AT EACH POINT CIRCUITRY REPEATS OR OVERLAPS

SEE GROUNDS, PAGE 6 OR 7
A DASHED WIRE INDICATES THAT THE CIRCUITRY IS NOT SHOWN IN COMPLETE DETAIL, BUT IS COMPLETE ON ANOTHER PAGE.

## HOOTING STEPS

eps present an orderly method of ng:

the problem.

e complete system and see all for yourself in order to:

the accuracy and completeness customer's complaint.

more that might give a clue to the and location of the problem.

w 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 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

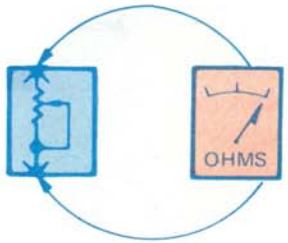



**Figure 1— Resistance Check**

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

### TEST LIGHT

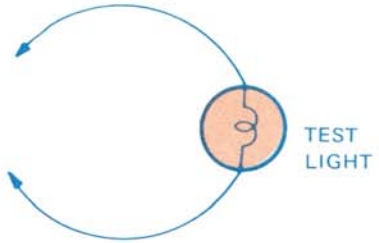



**Figure 2 —Test Light**

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

**Uses:** Voltage Check. Short Check

### SELF-POWERED TEST LIGHT

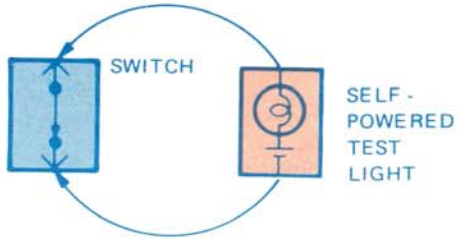



**Figure 3—Continuity Check**

The **Self-Powered Test Light** 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 light 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

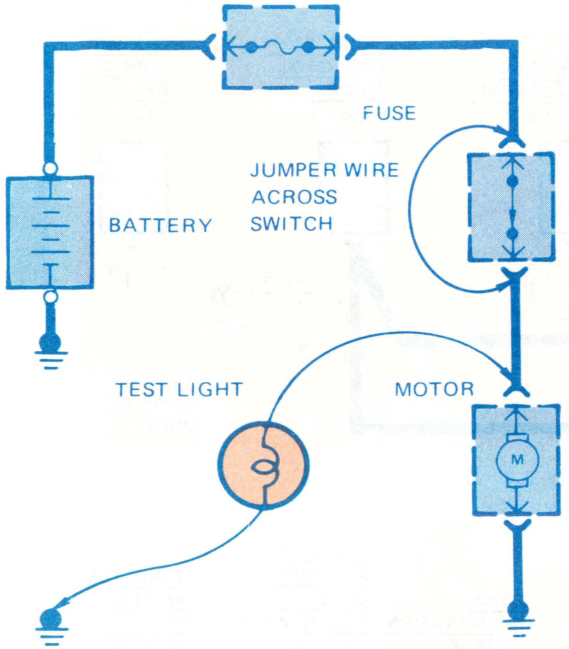



**Figure 4—Switch Circuit Check and Voltage Check**

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 Light** 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.

### TAGE CHECK

ect one lead of **Test Light** to a known -) battery g the other when the



### SHORT CHECK (short to ground)

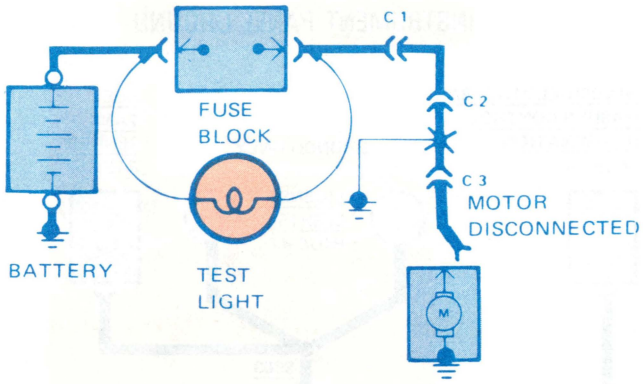



**Figure 5— Short Check**

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.
   - Lights: remove bulbs.
3) Turn **Ignition Switch** to RUN (if necessary) to power fuse.
4) Connect one **Test Light** 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 Light** lead from ground and reconnect it to the load side of the fuse.
   - If the **Test Light** is off, the short is in the disconnected equipment.
   - If the **Test Light** 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 Light** 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

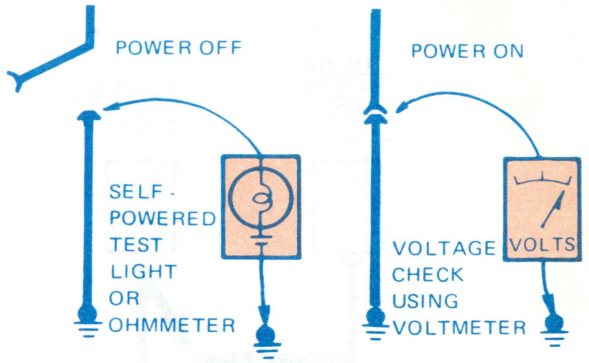



**Figure 6 — Grounds Checks**

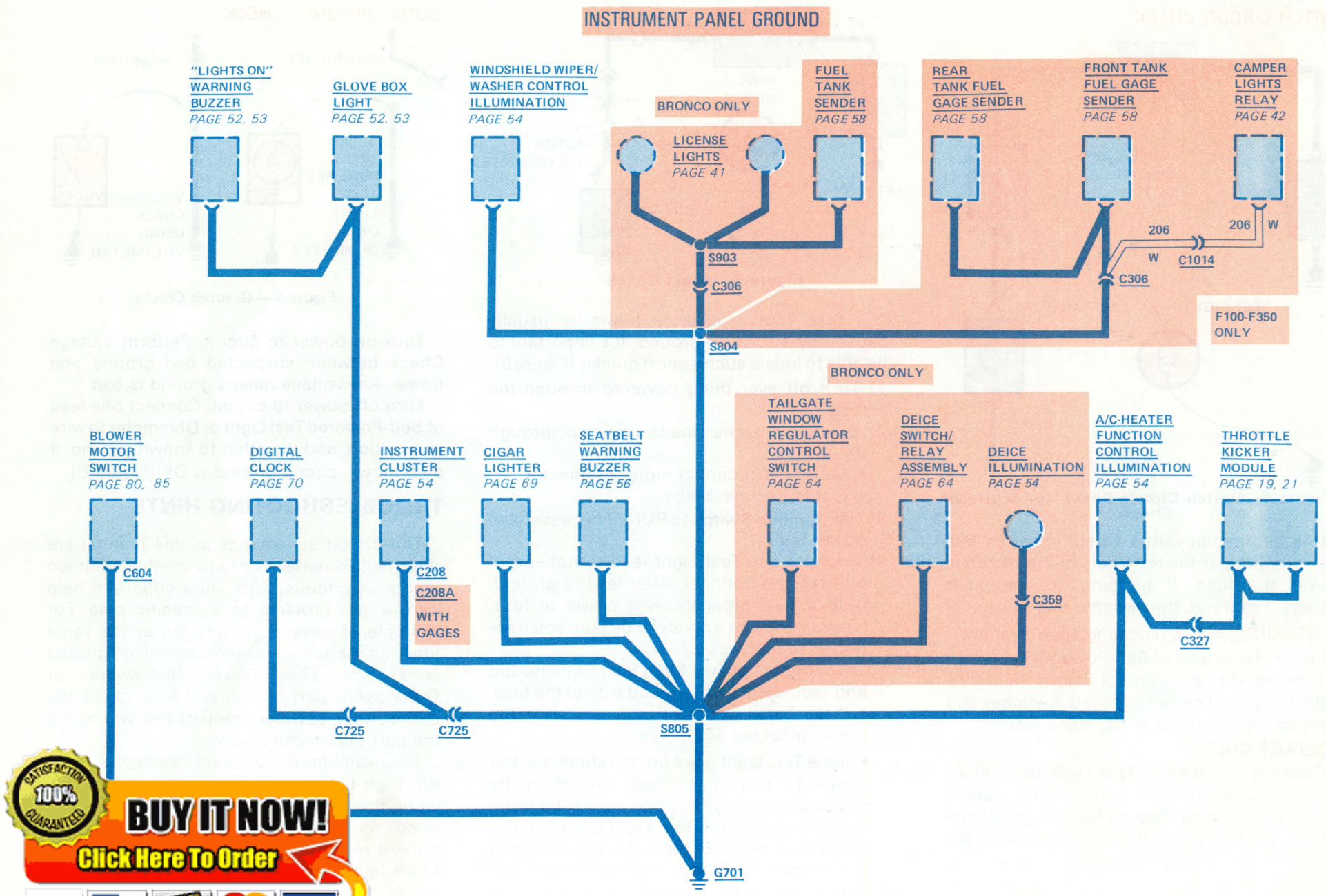
Turn on power to circuit. Perform Voltage Check between suspected bad ground and frame. Any voltage means ground is bad.

Turn off power to circuit. Connect one lead of **Self-Powered Test Light** 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.

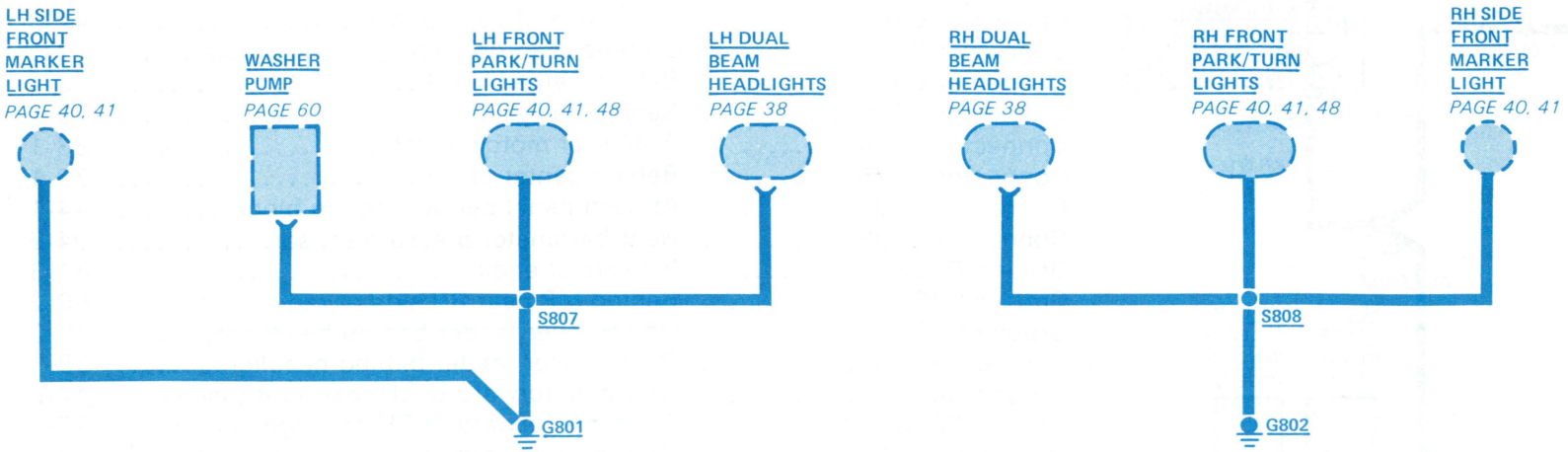
For example, if low beam headlights work but high beams and the indicator light don't work, then power and ground paths must be good. Since the dimmer switch is the component which switches this power to the high beam lights and indicator, it is most likely the cause of failure.



# GROUNDS (G801, G802, G804, G805, G1001, G1002, G1004)



## FRONT LIGHTS GROUNDS




## BRONCO REAR LIGHTS GROUNDS

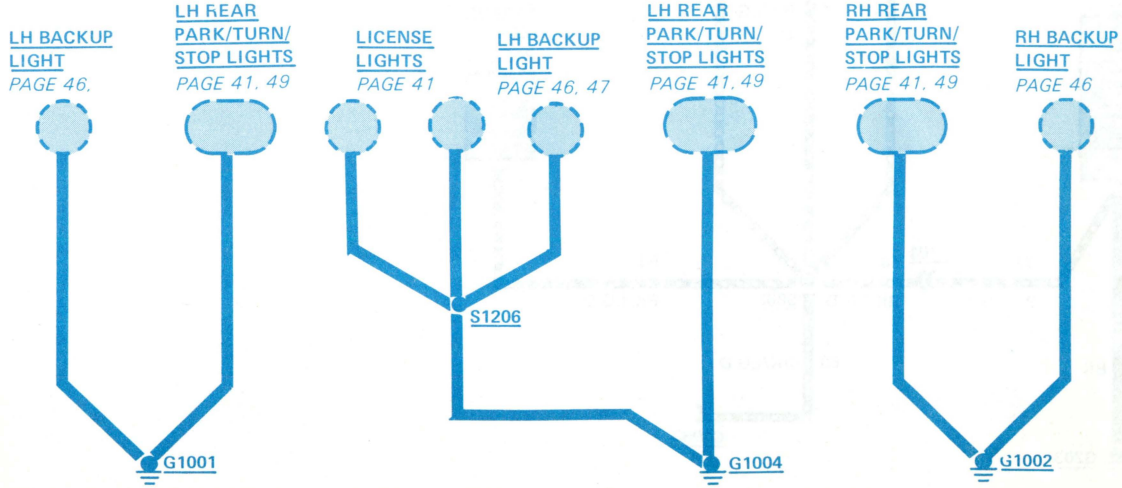


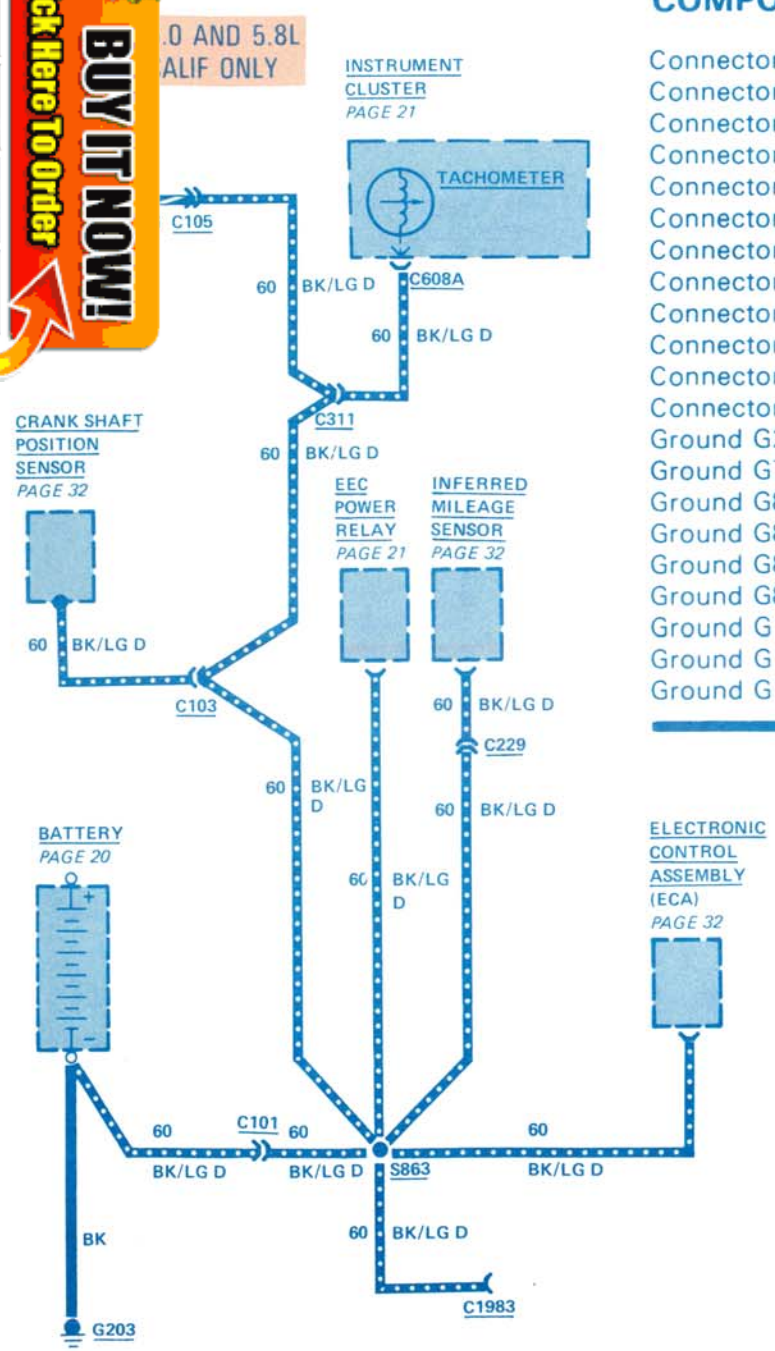

## F100-F350 REAR LIGHTS GROUNDS

WITHOUT REAR BUMPER

WITH REAR BUMPER

WITH OR WITHOUT REAR BUMPER






## COMPONENT LOCATION

| | | Page-Figure | Color | Terminals |
|---|---|---|---|---|
| Connector C101 | At battery ground pigtail | 104-2 | | 1 |
| Connector C103 | Behind distributor | 29-1 | W | 1 |
| Connector C105 | LH fender apron near ignition module | 9-4 | | 3 |
| Connector C229 | LH fender apron near ignition module | 9-4 | | 3 |
| Connector C306 | At LH side of dash panel | 44-3 | GY | 11 |
| Connector C311 | LH fender apron near ignition module | 9-2 | BR | 2 |
| Connector C327 | Behind center of I/P | 79-1 | GY | 3 |
| Connector C359 | Behind center of I/P | 79-1 | GR | 2 |
| Connector C604 | At blower motor switch | 83-1 | BK | 1 |
| Connector C725 | Behind center of I/P | 79-1 | GY | 4 |
| Connector C1014 | At dash panel below junction block | 44-1 | BK | 2 |
| Connector C1983 | Near barometer pressure sensor | 104-2 | BK | 4 |
| Ground G203 | RH side of engine | 51-3 | | |
| Ground G701 | Behind I/P near RH side of radio | 69-2 | | |
| Ground G801 | On LH inner fender behind headlights | 38-2 | | |
| Ground G802 | On RH inner fender behind headlights | 38-1 | | |
| Ground G804 | On frame forward of LH rear light assembly | 47-2 | | |
| Ground G805 | On frame forward of RH rear light assembly | 47-1 | | |
| Ground G1001 | On frame forward of LH rear light assembly | 47-2 | | |
| Ground G1002 | On frame forward of RH rear light assembly | 47-1 | | |
| Ground G1004 | On frame forward of LH rear light assembly | 45-1 | | |

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.

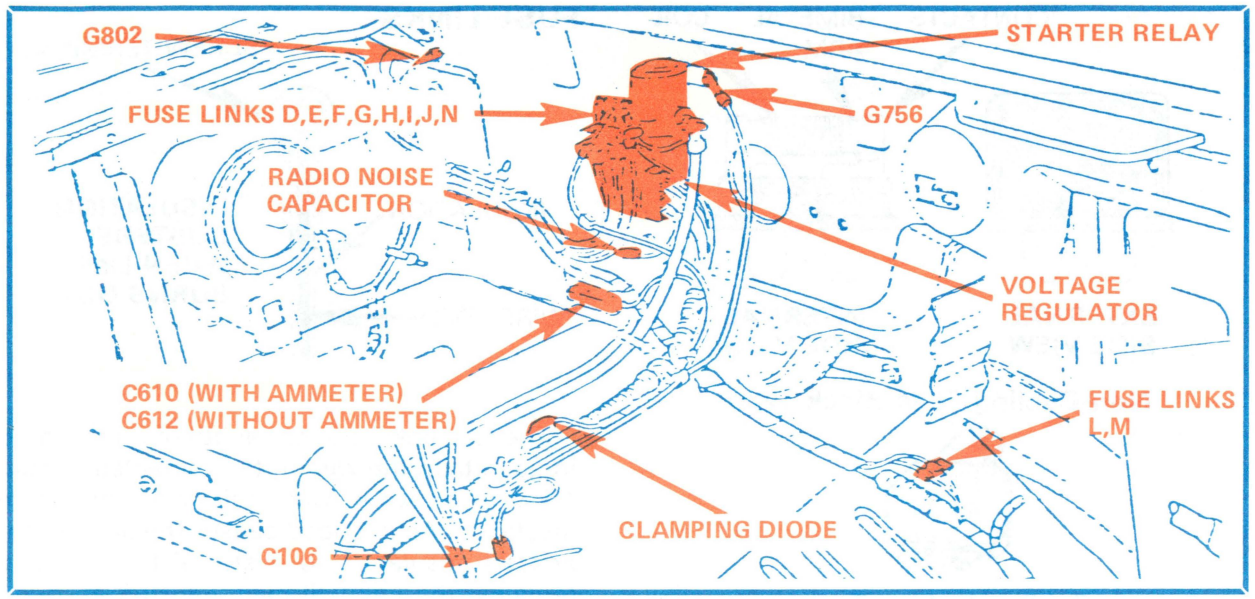



Figure 1 - RH Front Fender Apron

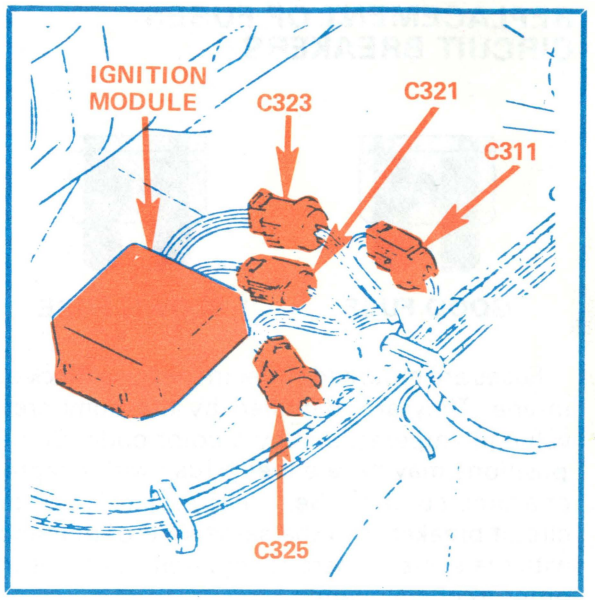



Figure 2 - At LH Inner Fender Well


MCU)



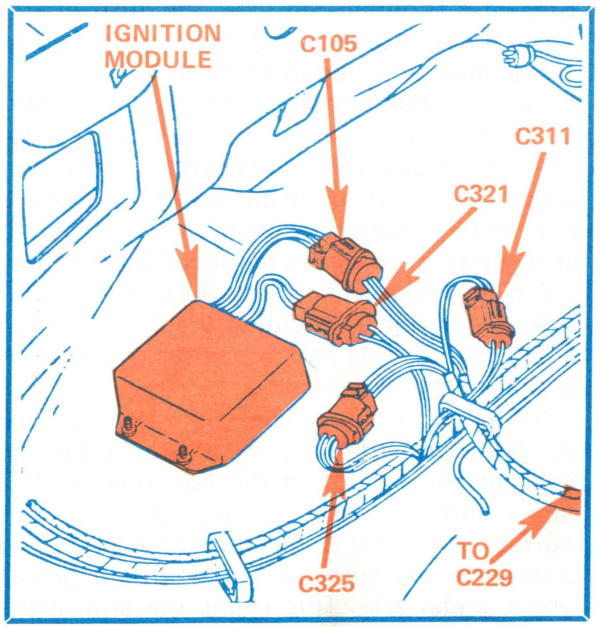



Figure 4 - LH Inner Fender Well (With EEC)

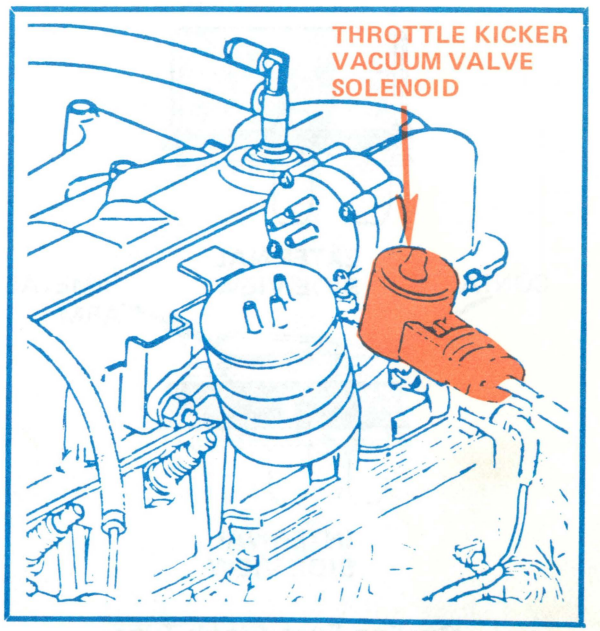



Figure 5 - LH Rear Of 4.9 L Engine

## EMENT OF FUSES/
## T BREAKERS

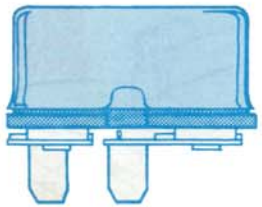
D FUSE



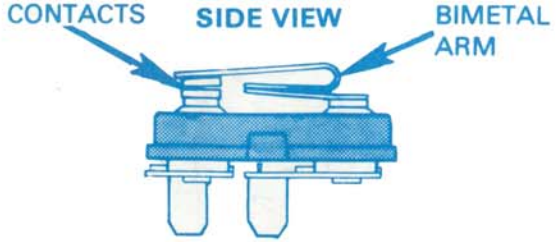
BLOWN FUSE

Fuses are mounted either in the **Fuse Block** 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

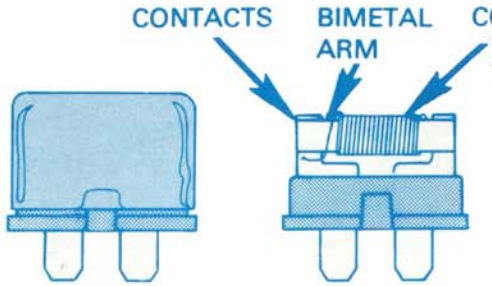


EXTERNAL
SIDE VIEW




INTERNAL
SIDE VIEW

**Cycling Fuse Block Type**




EXTERNAL
SIDE VIEW

INTERNAL
SIDE VIEW

**Non-Cycling Fuse Block Type**

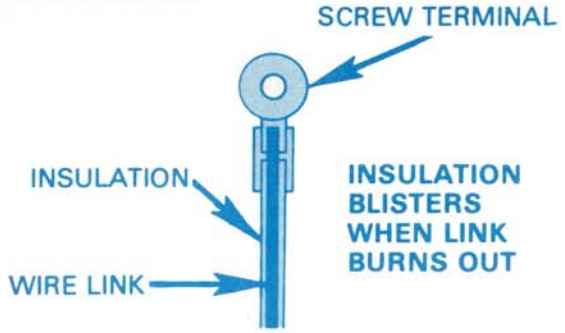
**Cycling In-Line Type**

Some circuits are protected by circuit breakers. (Abbreviated "c.b." in fuse chart.) They can be **Fuse Block** 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 |
| RED | 18 GA |
| 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.

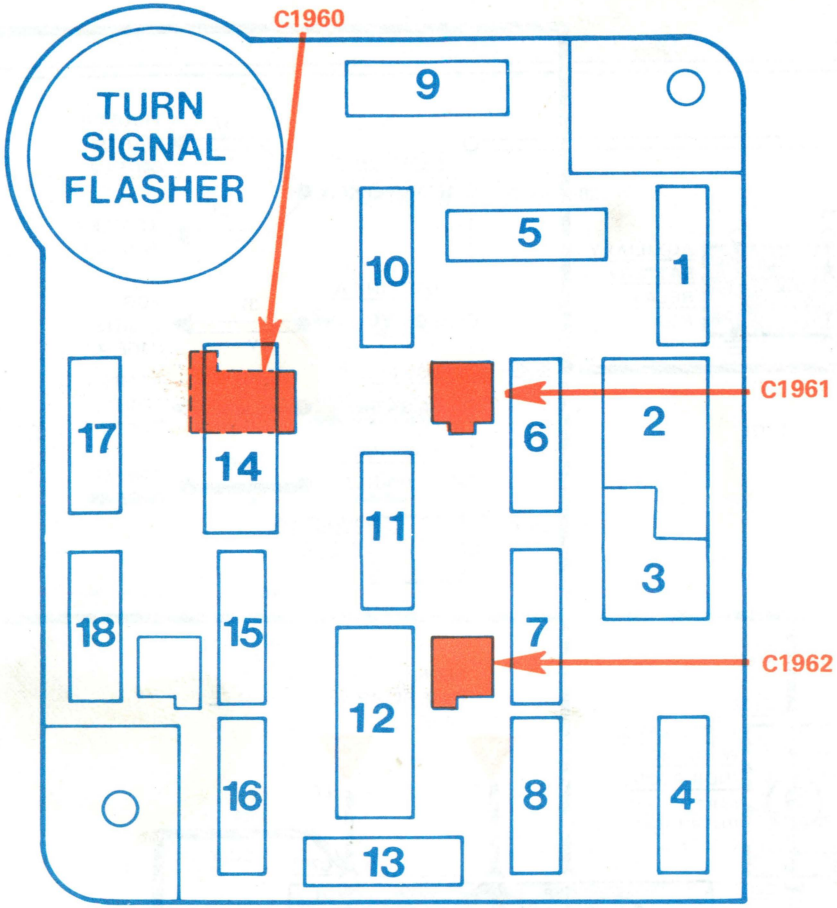



Figure 1 - Fuse Block

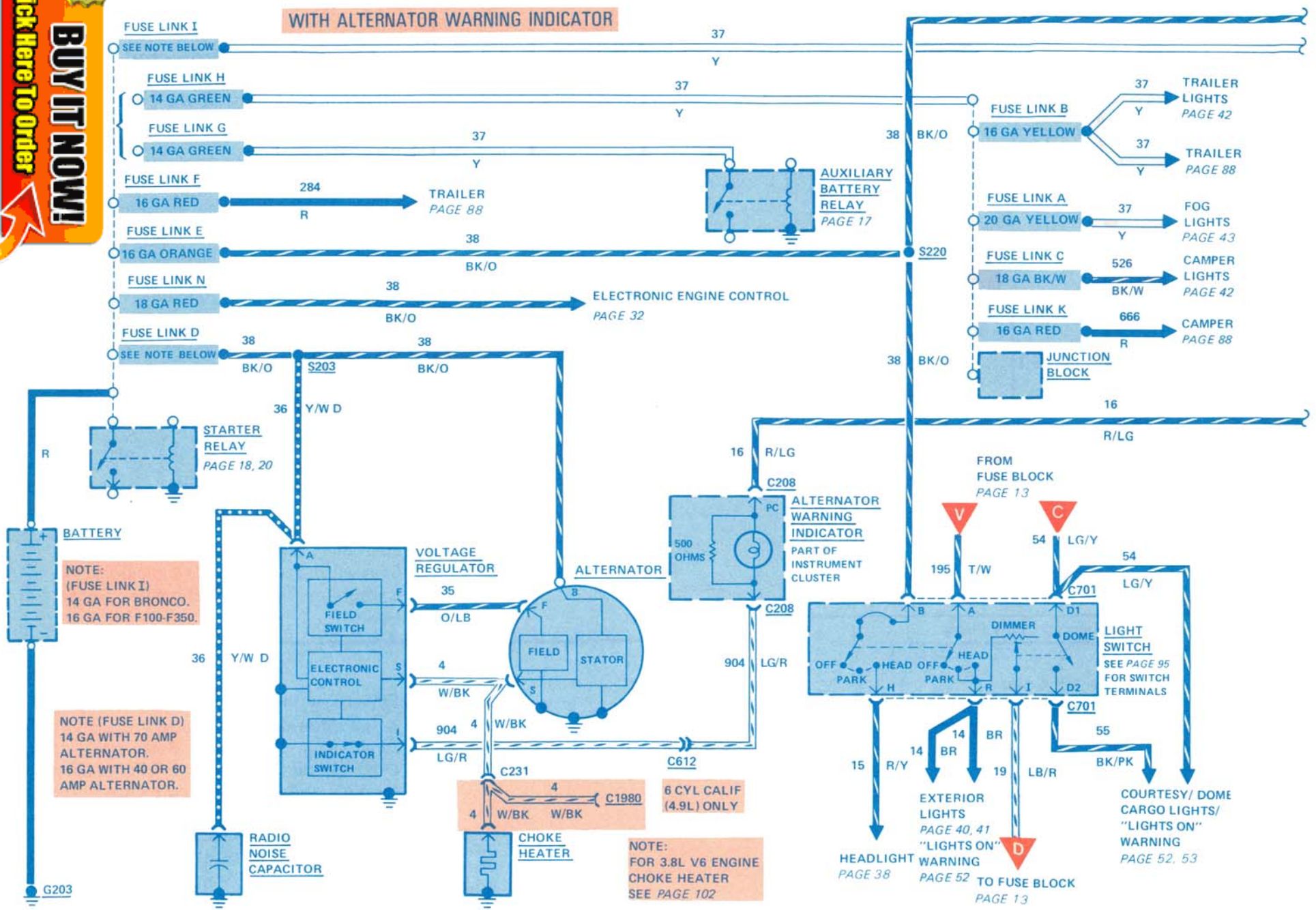
| Fuse Value Amps | Color Code |
|---|---|
| 4 | Pink |
| 5 | Tan |

| Fuse Position | Amps | Circuits Protected |
|---|---|---|
| 1 | 20 | Stop/Hazard Lights; Speed Control |
| 2 | -- | (Not used) |
| 3 | -- | (Not used) |
| 4 | 15 | Exterior Lights; Instrument Illumination |
| 5 | 15 | Turn Lights; Backup Lights |
| 6 | 15 | Speed Control; 4-Wheel Drive Indicator; Auxiliary Battery Control; Digital Clock; Auxiliary Heater; Feedback Carburetor Control |
| 7 | -- | (Not used) |
| 8 | 15 | Courtesy, Dome, Cargo Lights; Warning Buzzer |
| 9 | 30 | Heater; A/C-Heater |
| 10 | -- | (Not used) |
| 11 | 15 | Radio |
| 12 | 25 | Tailgate Power Window; Power Mirrors |
| | 30 c.b. | Power Door Locks |
| 13 | -- | (Not used) |
| 14 | 25 | Tailgate Power Window |
| | 20 c.b. | Power Windows |
| 15 | 10 | Auxiliary Fuel Tank Selector |
| 16 | 20 | Horn; Cigar Lighter |
| 17 | 5 | Instrument Illumination |
| 18 | 15 | Seatbelt Buzzer; Warning Indicators; Carburetor Circuits; Tachometer; Choke Heater |

**Power Distribution**

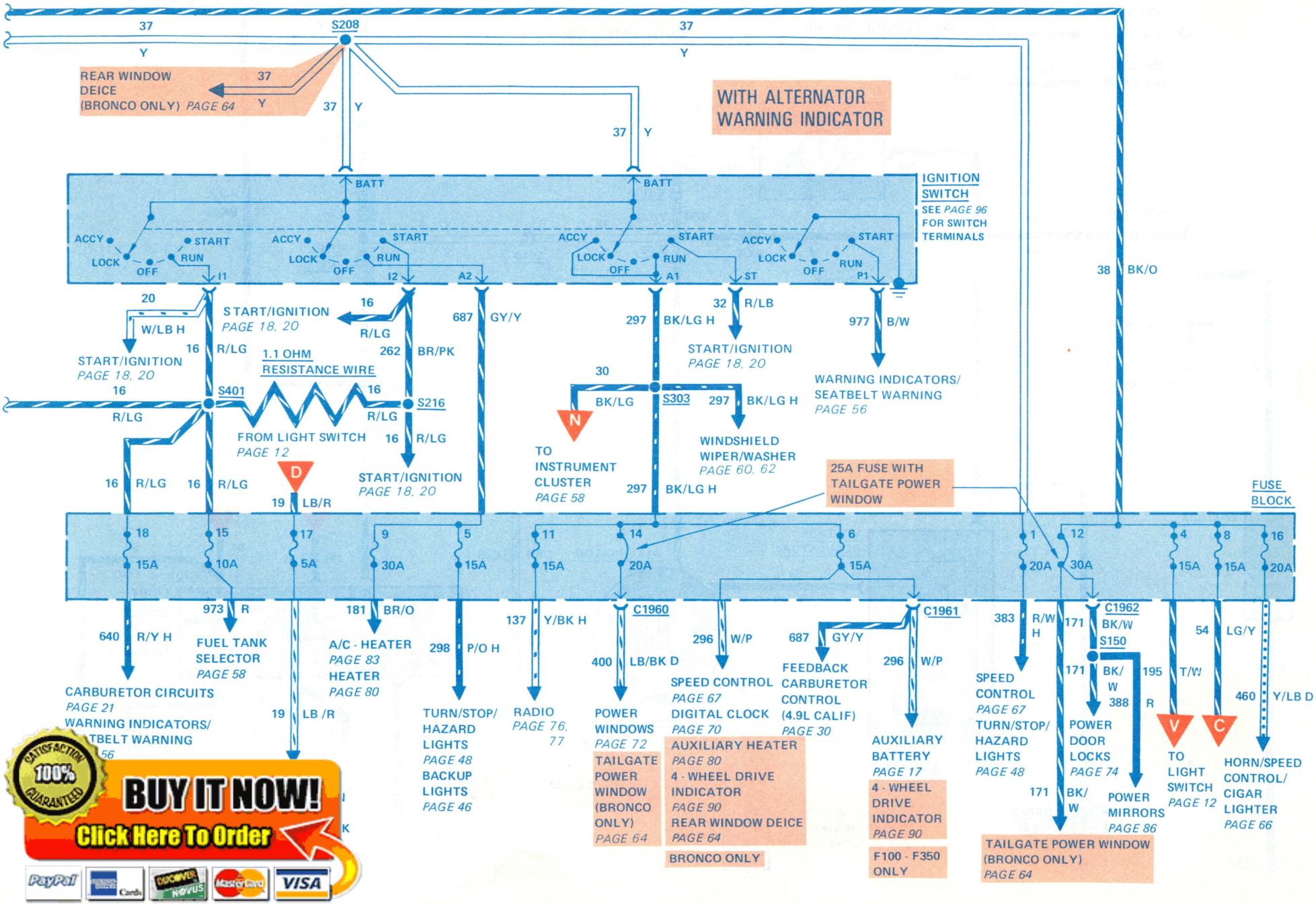
The **Alternator** and **Battery** are connected together at the **Starter Relay** hot terminal. Other circuits originate at the **Starter Relay** hot terminal and are protected by fuse links. Low power circuits are also protected by fuses.

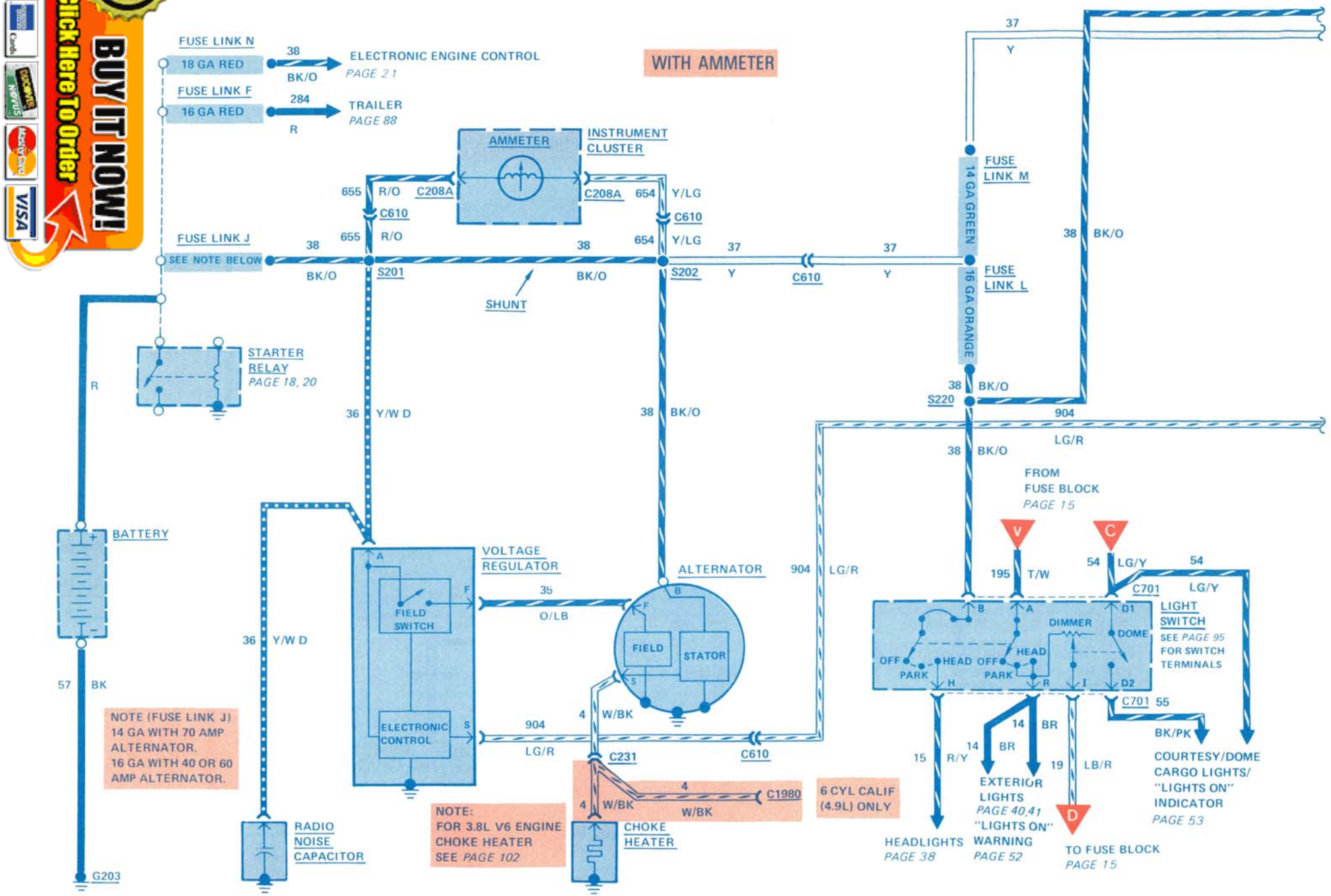
The **Ignition Switch** and **Light Switch** are powered at all times as are **Fuses 1, 4, 8, 10,** and **16.** The other fuses are powered through the **Ignition Switch** or the **Light Switch.**



# CHARGE/POWER DISTRIBUTION (WITH ALTERNATOR WARNING INDICATOR)

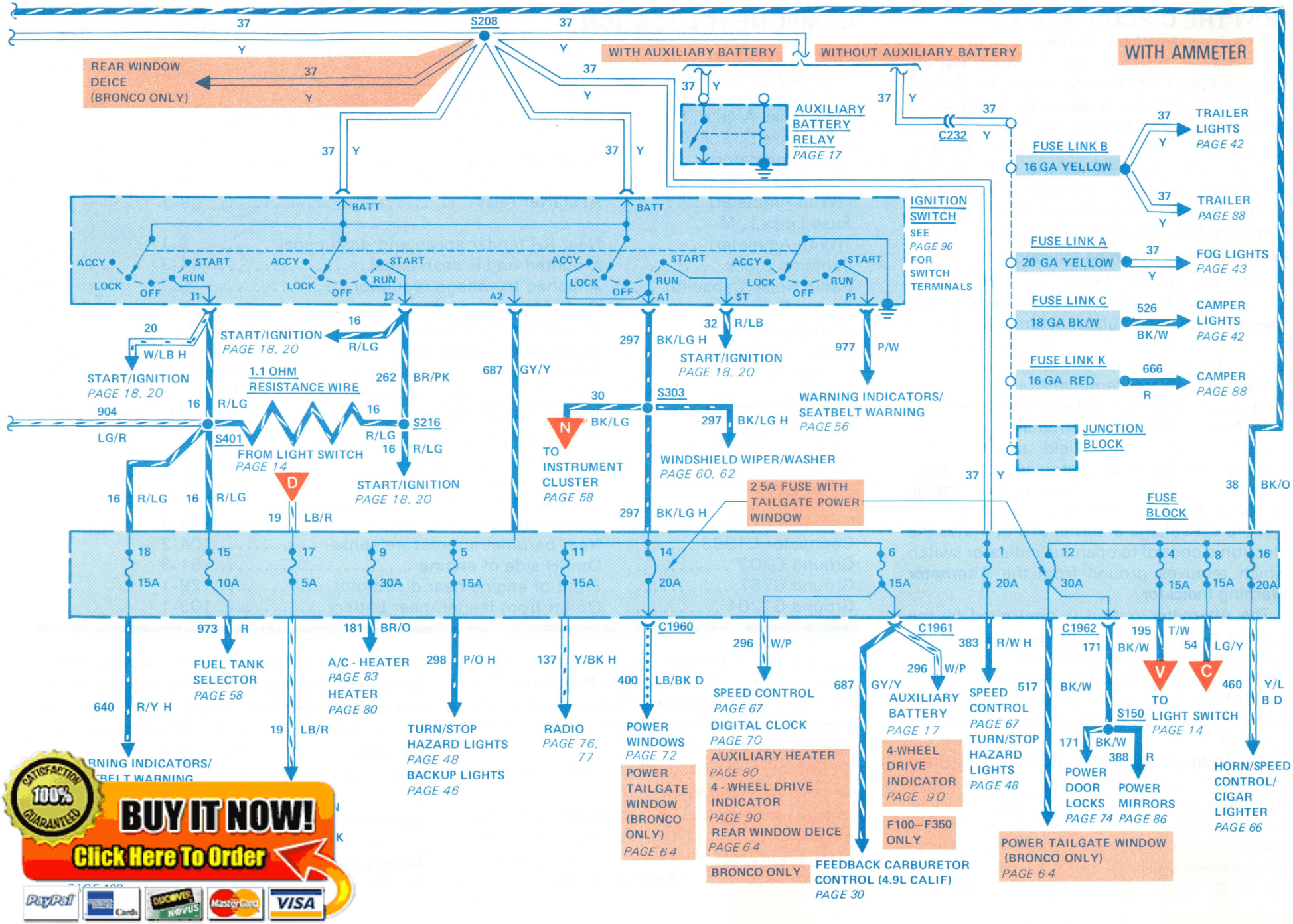






# CHARGE/POWER DISTRIBUTION (WITH AMMETER)





## CIRCUIT WORKS

**Auxiliary Battery** is used, it is in parallel with the main **Battery** **Links G** or **M**. When the **Ignition** OFF, the **Auxiliary Battery Relay** is d, and **Camper** and **Trailer** circuits only from the **Auxiliary Battery**. ts discharging the main **Battery** e **Camper** or **Trailer** is being used. tery, **Alternator** and **Voltage** ake up the **Charging System**.

**ator Warning Indicator**

With the **Ignition Switch** in RUN, **Battery** current flows through the **Alternator Warning Indicator** into the regulator at terminal I and to ground through the solid-state indicator switch. The electronic control measures a low voltage at regulator terminal A and closes the field switch. This applies battery voltage to the field through **Alternator** terminal F.

With current in the field and the rotor turning, the **Alternator** stator produces a DC voltage at terminal B (to **Battery**) and terminal S. (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**.

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**.

**With Ammeter**

With the **Ignition Switch** in RUN, **Battery** current flows through the solid-state electronic control of the **Voltage Regulator**. The electronic control operates the solid-state field switch which applies **Battery** voltage to the **Alternator** field through terminal F.

With current in the field and the rotor turning, the **Alternator** stator produces a DC voltage at terminal B (to **Battery**). If the **Alternator** output voltage is greater than the **Battery** terminal voltage, current will flow from the **Alternator** *to* the **Battery**, as well as *to* the vehicle electrical load. Current flowing to the battery will show as a charging current on the **Ammeter** (deflection toward 'charge'). If the battery is charged, the ammeter deflection will be small unless power windows or door locks are activated. Operation of these intermittent devices will give a charge indication on the **Ammeter**.

If the **Alternator** voltage is less than the **Battery** terminal voltage, current will flow *from* the **Battery** to supplement the alternator output

## COMPONENT LOCATION

| | | Page-Figure | Color | Terminals |
|---|---|---|---|---|
| Auxiliary Battery | LH front fender well, behind headlights | 103-1 | | |
| Auxiliary Battery Relay | On LH side of dash panel | 31-1 | | |
| Choke Heater | Attached to carburetor | 29-1 | | |
| Fuse Links A, B, C, K | Near junction block or auxiliary battery relay | | | |
| Fuse Links D, E, F, G, H, I (With Indicator) | At starter relay | 9-1 | | |
| Fuse Links J, N, F (With Ammeter) | At starter relay | 9-1 | | |
| Fuse Links L, M (With Ammeter) | Near RH fender apron and dash panel | 9-1 | | |
| Junction Block | Mounted on LH dash panel | 44-3 | | |
| Radio Noise Capacitor | Attached to voltage regulator | 9-1 | | |
| Starter Relay | On RH fender apron | 9-1 | | |
| Voltage Regulator | Mounted on RH fender apron | 9-1 | | |
| Connector C208 | Attached to instrument cluster | 79-1 | GY | 14 |
| Connector C208A | Attached to instrument cluster | 79-1 | GY | 18 |
| Connector C232 | LH dash panel, near junction block | 91-1 | BL | 1 |
| Connector C610 | Below voltage regulator | 9-1 | BR | 4 |
| Connector C612 | Below voltage regulator | 9-1 | BR | 1 |
| Connector C701 | Attached to light switch | 79-1 | | 8 |
| Connector C1960 | On fuse block | 105-3 | W | 1 |
| Connector C1961 | On fuse block | 105-3 | GR | 1 |
| Connector C1962 | On fuse block | 105-3 | BL | 1 |
| Connector C1983 | Near barometric pressure sensor | 104-2 | | 1 |
| Ground G203 | On RH side of engine | 51-3 | | |
| Ground G757 | Front of engine near distributor | 29-1 | | |
| Ground G1201 | On LH front fender, near battery | 103-1 | | |

in supplying the vehicle electrical load. This current flow will register as a 'discharge' on the **Ammeter**. The **Choke Heater** operates only when the **Alternator** is generating current (through terminal S). Above 60°F, the heater causes a thermostatic spring to pull the choke plates open within 1 to 1.5 minutes. Below 60°F, the heater does not operate and normal choke action occurs.

NOTE

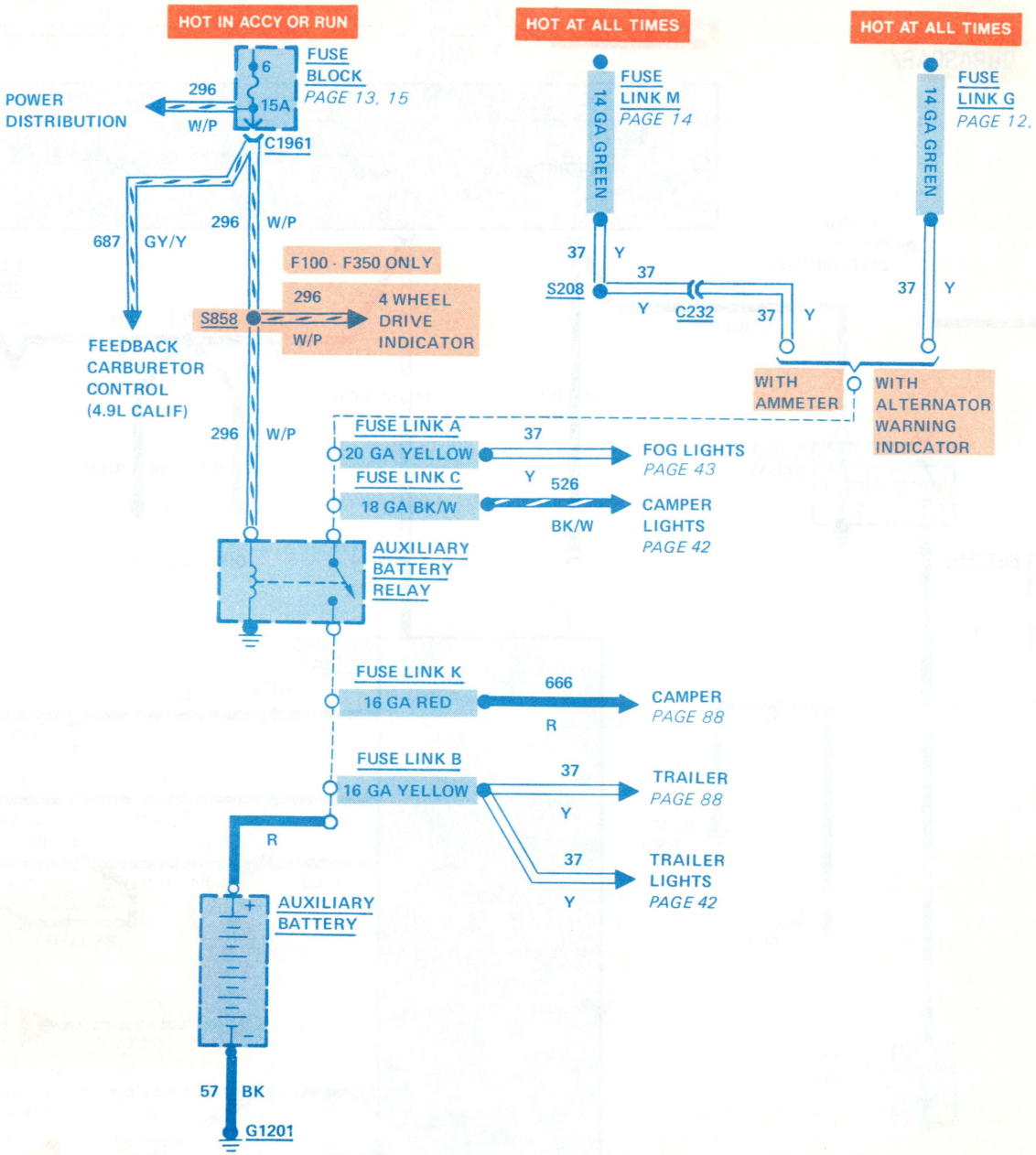
The Voltage Regulator with BLACK printing on the cover is used with Alternator Warning Indicator;
BLUE printing with Ammeter;
RED printing with either.

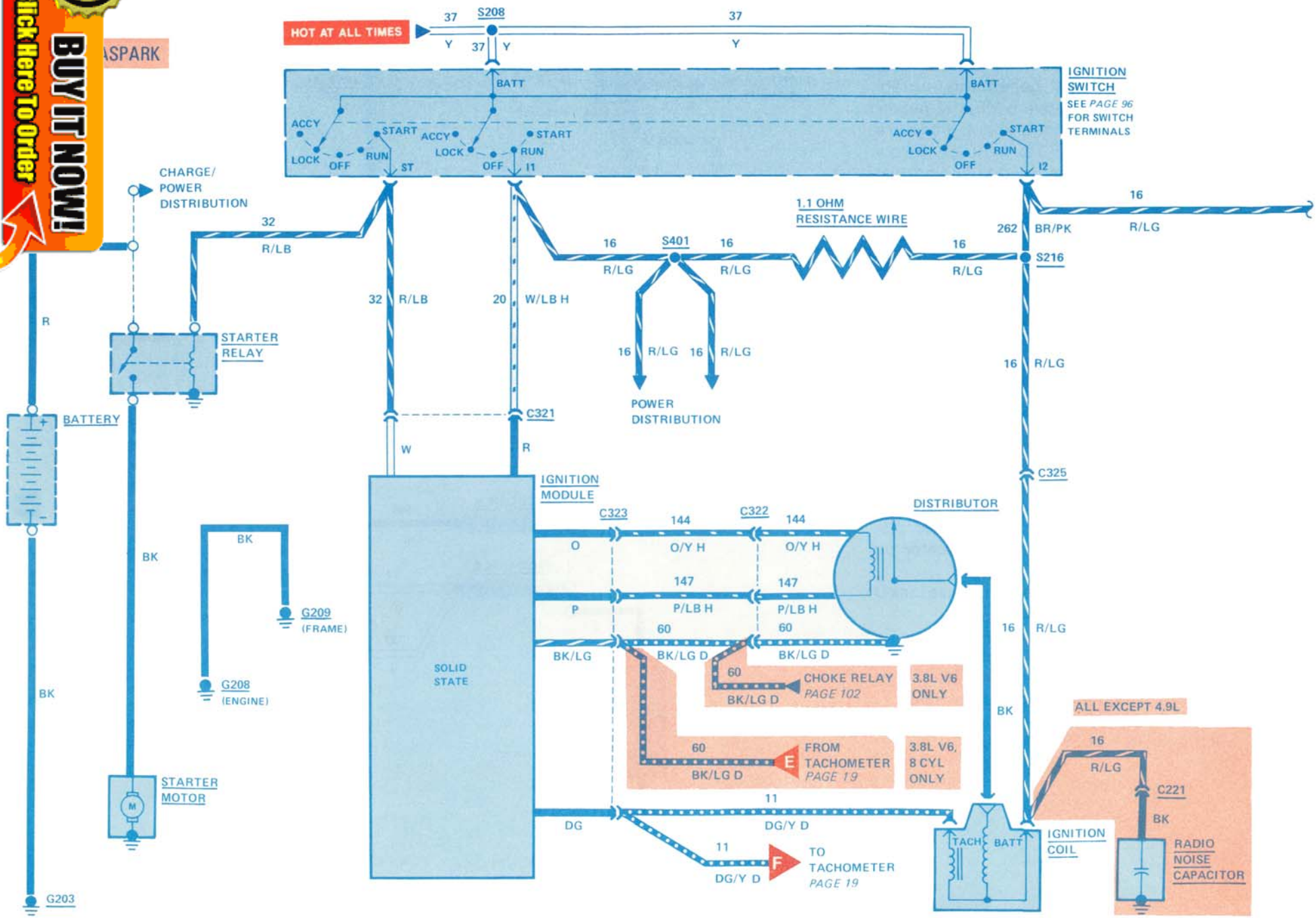
## TROUBLESHOOTING HINTS

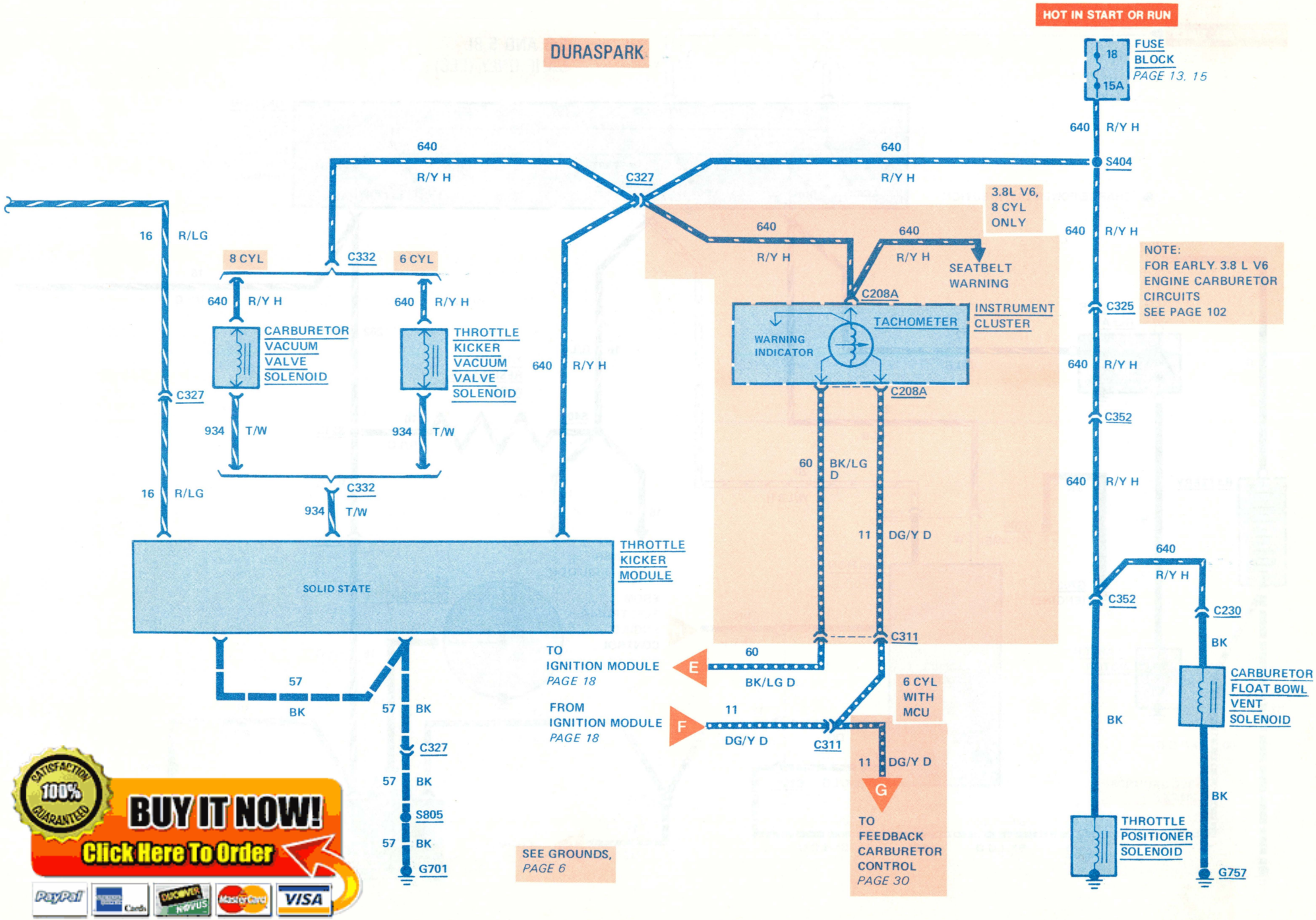
### IMPROPER CHARGING

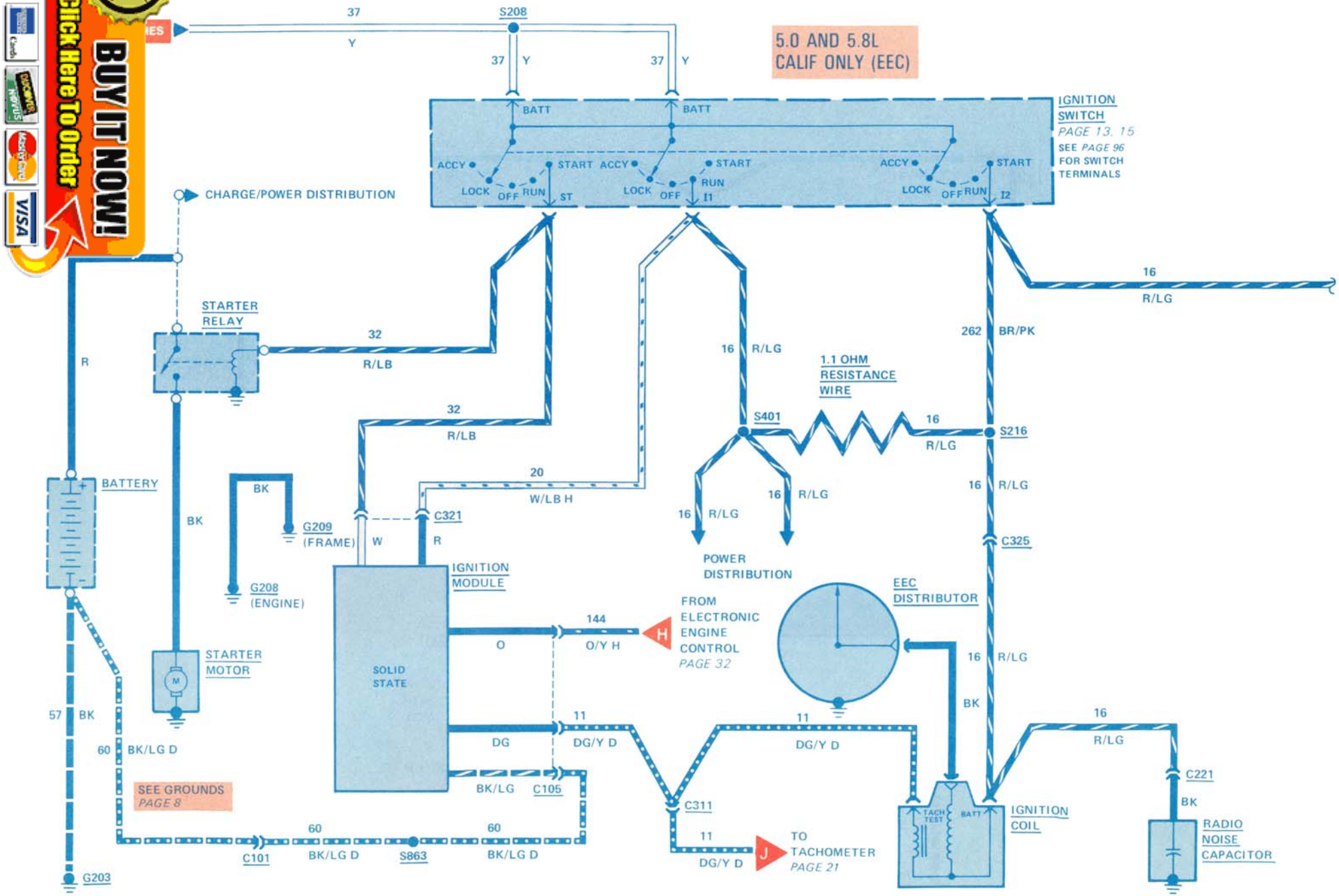
The most common charge system complaints are dead **Battery** and **Ammeter** discharging (or **Alternator Warning Indicator** on at normal speed).

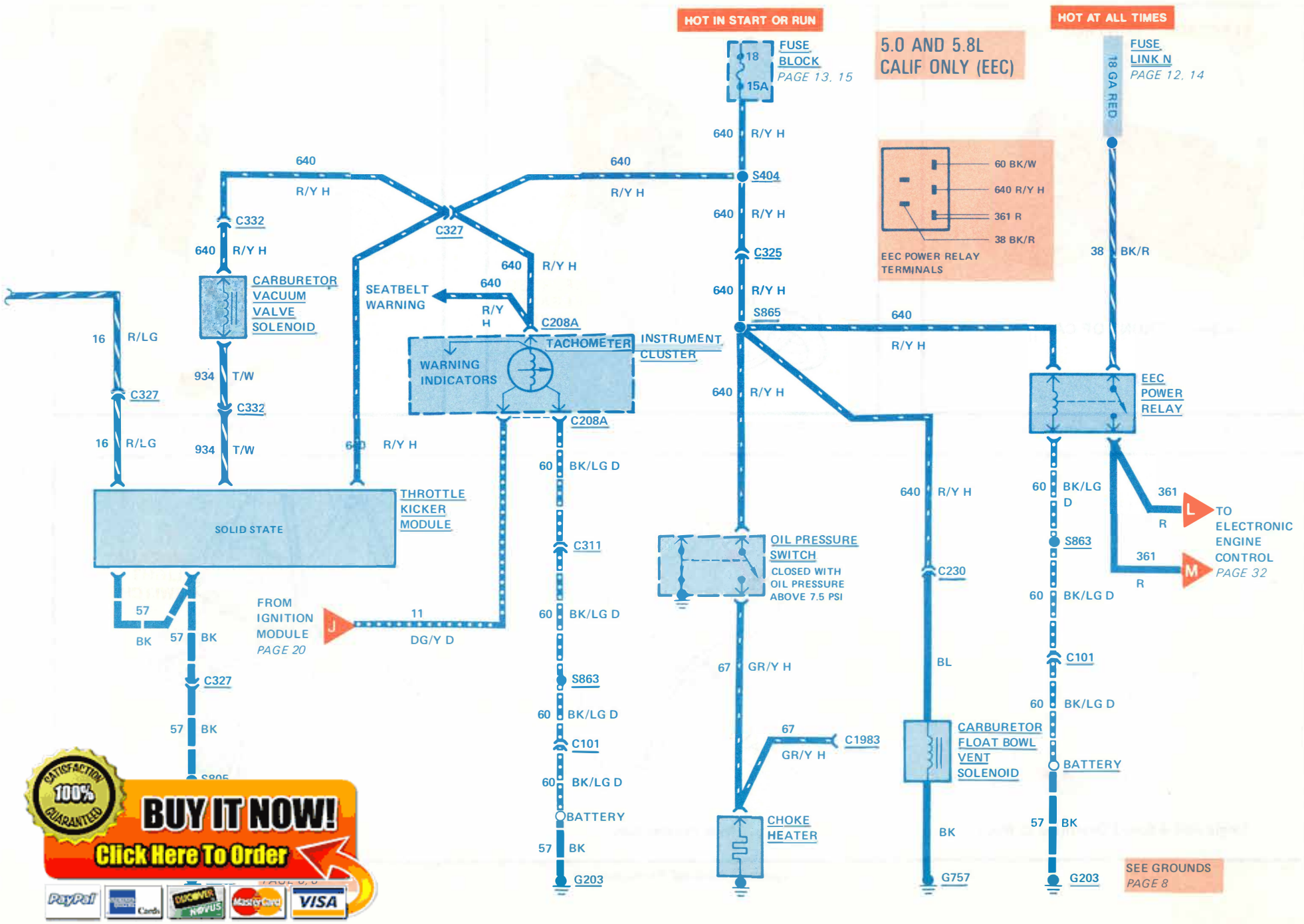
- Check **Fuse Link J** (Ammeter) or **Fuse Link D** (Indicator) at **Starter Relay.**
- Check **Alternator** belt tension.
- Check **Battery** terminals and cable clamps.
- Check for clean and tight connections on **Alternator, Regulator,** and **Starter Relay.**
- Read "Charging System Diagnosis" in Section 31-01 of Shop Manual.











National Institute for AUTOMOTIVE SERVICE EXCELLENCE

## WE SUPPORT VOLUNTARY MECHANIC CERTIFICATION

Ford

Ford Parts and Service Division
Training and Publications Department



0332-521-82