



Wire Harness Installation Instructions

For Installing:

Part #10112

12 Circuit GM Truck Wiring Harness (1963-66)

Manual #90519



Perfect Performance Products, LLC
Painless Performance Products Division
2501 Ludelle Street, Fort Worth, Texas 76105-1036
(800) 423-9696

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For Technical Questions

E-mail: tech@painlessperformance.com

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**P/N 90519 Painless Wiring Manual
July 2005**

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1.0 INTRODUCTION

You have purchased what we at Perfect Performance Products, LLC, believe to be the most up to date and easiest to install automotive wire harness on the market. It is designed for easy installation, even if you have no electrical experience.

All kits have a built in anti-theft feature. Remove the fuse labeled "coil" from the fuse block; this will prevent the vehicle from starting.

The fuse block and fuses have been updated. The proper fuses and flashers have been pre-installed in the fuse block. In addition, all wires have been color-coded and printed. This will help you to identify the different circuits during installation and later if additions to the overall system are necessary. For fuse specifications and color designations, see **Section 8.0**.

In addition, all of our kits have "accessory" terminals at the front of the fuse block for your convenience. These terminals may be constantly hot or "switched" hot but all are fused.

This Painless Performance wire harness is designed to be used with a 1963-66 GM Pickup Truck. All of the wire in this kit is 600 volt, 125° c, TXL. Standard automotive wire is 300 volt, 80° c, GPT with PVC insulation.

This complete automobile wiring system has been designed with three major groups incorporated into it:

ENGINE/HEADLIGHT GROUP	Includes high beam low beam, park, right turn, electric fan, horn, starter solenoid, battery feed, alternator, voltage regulator, distributor, water temperature, oil pressure, and air conditioning.
DASH GROUP	Includes wire to connect to indicator lights, and switches to their proper sources. Also in the cab area we have dome light, and a cab mounted fuel tank.
REAR LIGHT GROUP	Includes taillights, right and left turn signals, brake light, and frame mounted fuel tank.

2.0 ABOUT THESE INSTRUCTIONS

The contents of these instructions are divided into major **Sections**, as follows

- 1.0 Introduction
- 2.0 About These Instructions
- 3.0 Contents Of The Painless Performance Wire Harness Kit (Part #10112)
- 4.0 Tools Needed
- 5.0 Pre-Installation and General Harness Routing Guidelines
- 6.0 General Harness Installation Instructions
- 7.0 Specific Circuit Connection Details
- 8.0 Headlight and Hood Section
- 9.0 Tail Section Wiring
- 10.0 Engine Section "A"
- 11.0 Instrument and Cab Wiring
- 12.0 Wire Connection Index and Fuse Requirements

Sections are divided into subsections and **Paragraphs**. Throughout these instructions, the **Figure** numbers refer to illustrations and the **Table** numbers refer to information in table form. These are located in Section and Paragraphs corresponding to the number. Always pay special and careful attention to any **Notes**, especially those in Tables, and any text marked **CAUTION**.

3.0 CONTENTS OF THE PAINLESS PERFORMANCE WIRE HARNESS KIT (PART #10112)

Refer to **Figure 3-1** to take inventory. See that you have all the parts you are suppose to have in this kit. If anything is missing, contact the dealer where you obtained the kit or Perfect Performance Products, L.L.C. at (817) 244-6898. This wire harness kit should contain the following items:

- A** The main wire harness, with the fuse block wired in and fuses installed.
- B** Headlamp connector cables (x4)
- C** Maxi Fuse
- D** Firewall grommets (x3)
- E** Core support grommets (x2)
- F** 2 packages of nylon tie wraps
- G** Parts kit, contains terminals, splices, and extra fuses
- H** PP-662, high output alternator wire. **Note: Use if installing an alternator larger than 65 amps.**
- I** Painless Performance Manual, this booklet



Figure 3-1 The Painless Performance Wire Harness Kit (Part #10112)

4.0 TOOLS NEEDED

In addition to your regular tools, you will need, at least, the following tools:

- Crimper tool **Note: Use a quality tool to avoid over crimping**
- Wire stripper
- Test light or volt meter
- Electric drill
- Small (10 amp or less) battery charger

5.0 PRE-INSTALLATION AND GENERAL HARNESS ROUTING GUIDELINES

The installation mainly consists in two parts:

- The physical routing and securing of the wire harness, wires, and groups.
- The proper connection of the individual circuits.

These two major tasks are not separate steps, but are intergated together. That is, you will route wire and make some connections, route some more wires and make some more connections.

We can not tell you how to route your harness, but we can offer some guidelines. General guidelines and routing practices starting in Section 5.2, GENERAL installation instructions in Section 6.0, and precise instructions concerning the electrical connections you have to make, beginning in **Section 7.0**. Remember this harness was designed to be routed in the original manner.

To help you begin thinking through the installation of your new harness, read the following sections.

- 5.1** Familiarize yourself with your harness section by locating each of the sections in the following list. (Whenever a particular section is referred to in these instructions it is shown in " all caps": **ENGINE SECTION A**)

DIMMER SWICH SECTION	WIPER SWITCH
HEATER	DOME LIGHT
ALTERNATOR	WIPER MOTOR
TURN SIGNAL	RADIO

Note: For a complete list and information concerning the wires that make up the harness SECTIONS and individual circuits, see SECTION 8.0.

- 5.2** Decide where and how you want to route your harness, remembering that this harness has been designed for original routing, Making notes on how the original harness was routed:

Routing Location and Placement

Emergency Flashers	_____
Horn	_____
Dome Light	_____
Headlight Switch	_____
Wipers	_____

Air Conditioner _____

Electric Cooling Fan _____

Alternator _____

Voltage Regulator _____

Coil _____

Turn Signals _____

Radio Ign. Switched B+ _____

Gauges _____

Accessories _____

5.3 Note where the following harness group were removed from, so that you can install your new harness in the same locations.

Headlights _____

Engine _____

Dash _____

Tail Lights _____

Cab Wiring _____

Hood Wiring _____

5.4 A good exercise is to lay out the wire harness on the floor next to your truck and identify all the SECTIONS. You will want to route the harness through and around open areas. Inside edges provide extra protection from hazards and also provides places for tie wraps, clips, and other supports.

5.5 Route the harness away from sharp edges, exhaust pipes, and hood, trunk, and door hinges.

5.6 Plan where harness will be located. Always allow enough slack at places where movement could occur (body to frame, frame to engine, ect.). Use a support every 12 inches unless the harness routes under the floor carpet.

5.7 At the wire ends don't depend on the terminals to support the harness. The weight could cause terminals to disconnect or copper wire strand to break.

5.8 The wire should be bundled in groups. Use tie wraps, convoluted split loom, or electrical tape for harness coverings.

6.0 GENERAL HARNESS INSTALLATION INSTRUCTIONS

6.1 ROUGH INSTALLATION

CAUTION: *DISCONNECT THE POWER FROM YOUR VEHICLE BY REMOVING THE NEGATIVE BATTERY CABLE FROM THE BATTERY.*

Note: Make no wire connections or permanent mounting of any kind at this time!!!

- 6.1.1 Position the fuse block in its original mounting area. Making sure that you are clear of the vent handle. **See Figure 6.1.** See **Illustration 1**, template for proper drilling of mounting holes.
- 6.1.2 Install the large firewall grommet route engine and headlight group and the hood sections in the areas you noted in **Sections 5.3 and 5.4.**
- 6.1.3 Install the grommet with the smallest center hole in the firewall. As shown in **Figure 3.1.** Route the TAIL SECTION through here and down the firewall to the frame. **Note:** The firewall and frame have mounting brackets.
- 6.1.4 Install the next large grommet and route the ENGINE SECTION A wire through it.

Note: The original harness has clips for mounting. This will help in securing your harness.

- 6.1.5 Route the dash group (ignition, headlight, instrument panel, etc.) upward to the rear of dash and temporarily tie into place.
- 6.1.6 Route the cab wire section along your floor pan, under the door jamb toward the rear of the cab. Duct tape is good to hold them in position.

6.2 HARNESS ATTACHMENT

Note: Harness routing and shaping is a time consuming task. Taking your time will enhance the beauty of your installation. Please be patient and TAKE YOUR TIME.

- 6.2.1 Permanently mount your fuseblock. (The fuseblock itself does not have to be grounded)
- 6.2.2 Mold harness groups to contour of the floor pan, firewall, fender panels, and any other area where wire or harness groups are routed. Remember to always route harness away from sharp edges, exhaust pipes, hood and door hinges.

Note: Do not tighten tie wraps and mounting devices at this time. Make all harness attachments LOOSELY.

- 6.2.3 Attach harness groups to your truck with clips or ties starting at the fuse block and working your way to the rubber grommets for the front and rear groups. Those wires that stay in the cab route those along the floor pan. The dash wires should be routed out of the way of any under dash obstacles, such as air conditioning, radio, etc.
- 6.2.4 When used every 1-1/2" or so on the visible areas of the harness, the plastic wire ties make a very attractive assembly. A tie wrap in other areas every 6" or so will hold the wires nicely. Convolutioned loom also makes for an attractive assembly.

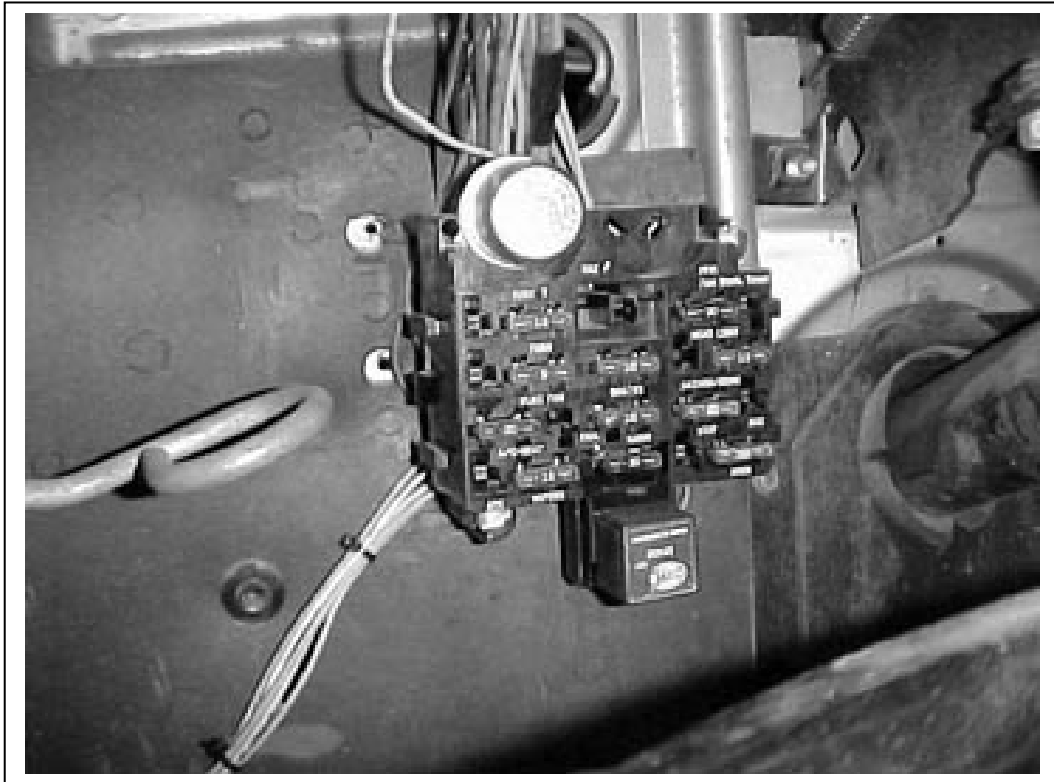


Figure 6.1 Fuse Block - mounted

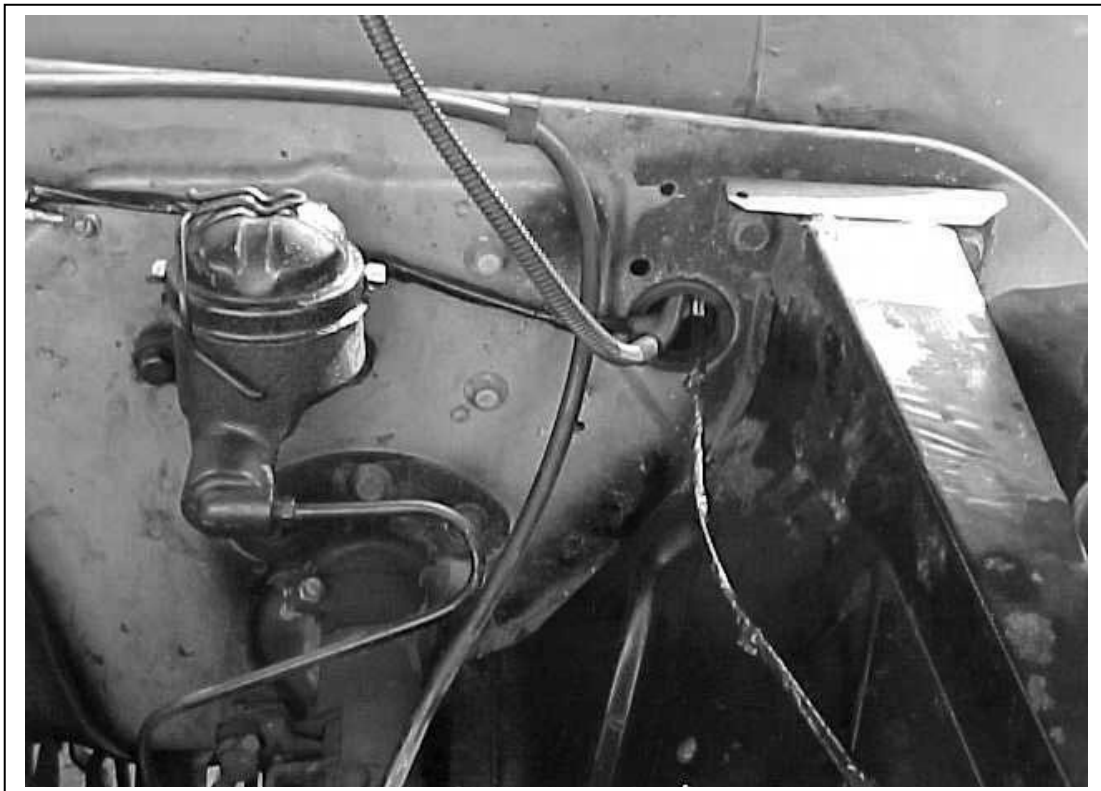


Figure 6.2 Routing of the Headlight, Hood and Engine Sections

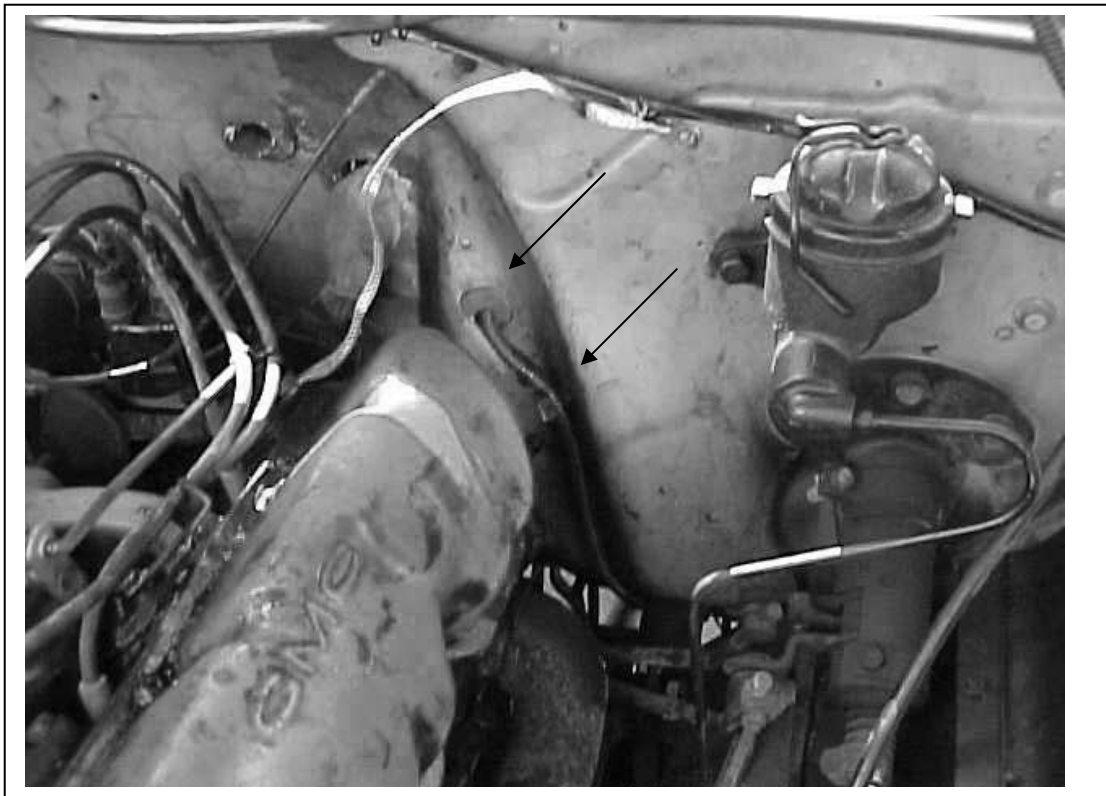


Figure 6.3 Routing of the Tail Section. Arrows showing harness and original mounting bracket on driver's side.

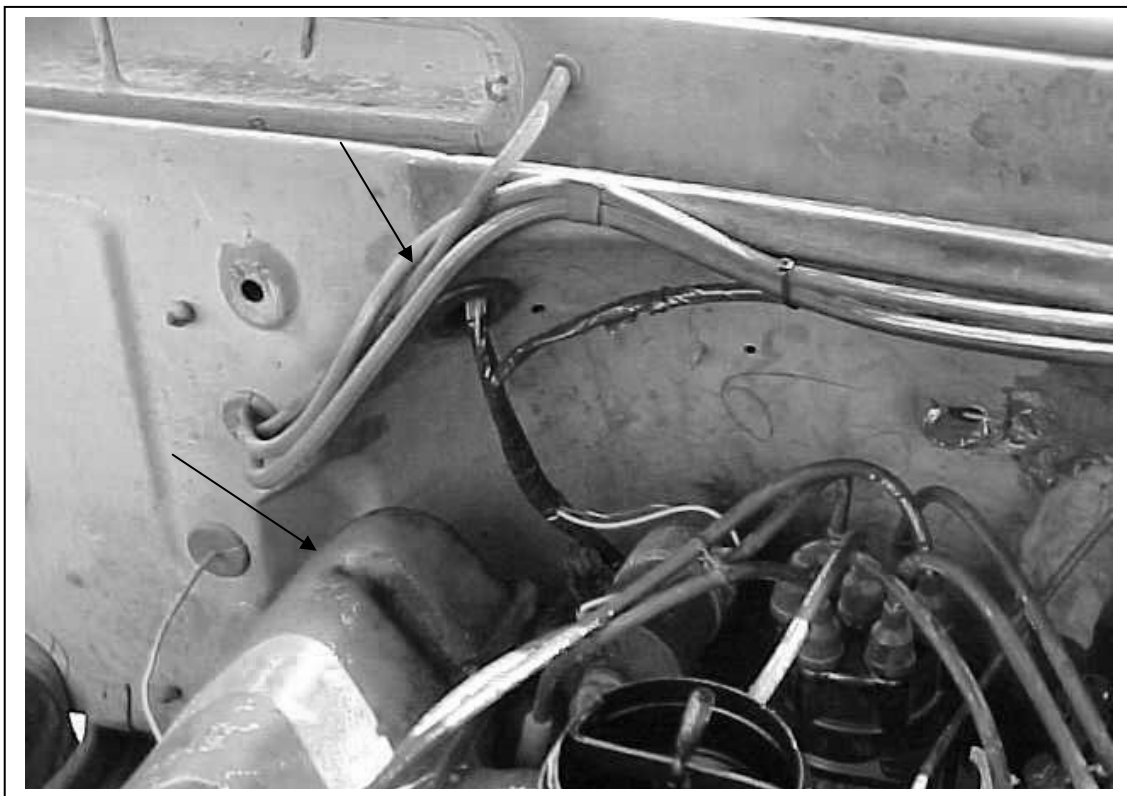


Figure 6.4 Routing of the Engine Section A wires. Arrows showing cylinder head and harness on passenger's side.



Figure 6.5 The cross-member at the rear of the truck has a hole and grommet to route your tail light wires through.



Figure 6.6 Mounting brackets are along the frame for your Tail Section mounting.



Figure 6.7 Routing of the Cab Section. Down from the fuse block and through the groove in the door jamb. Arrows are pointing at the Dimmer Switch and a mounting bracket.

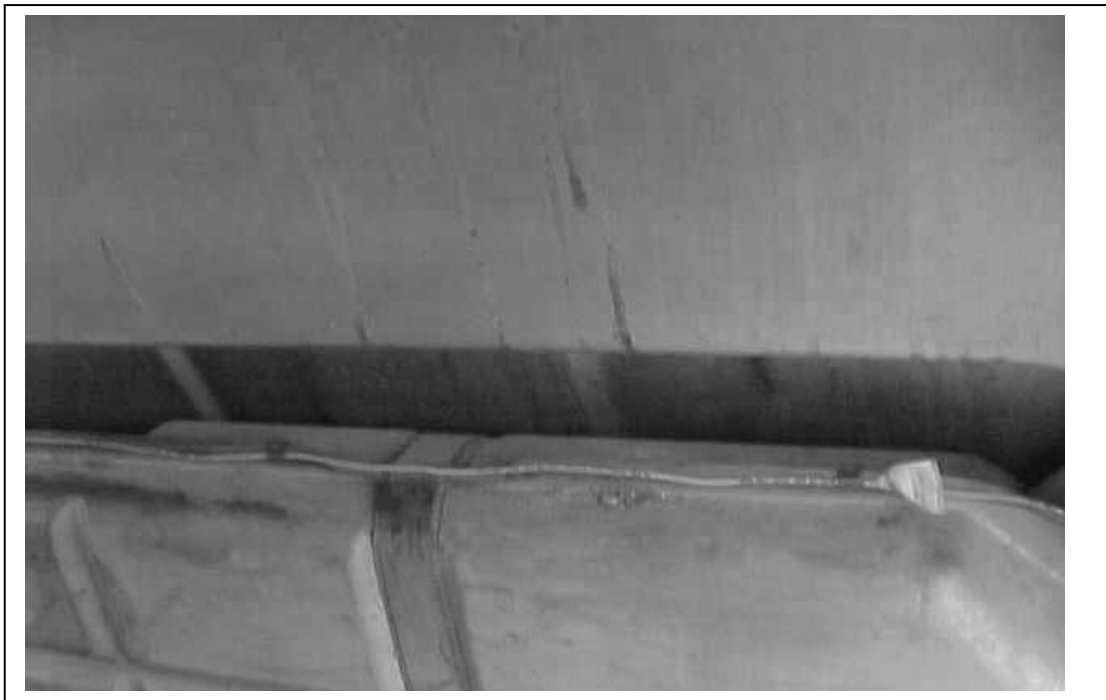


Figure 6.8 Cab mounted fuel tank, has mounting clips on the seam of the tank.

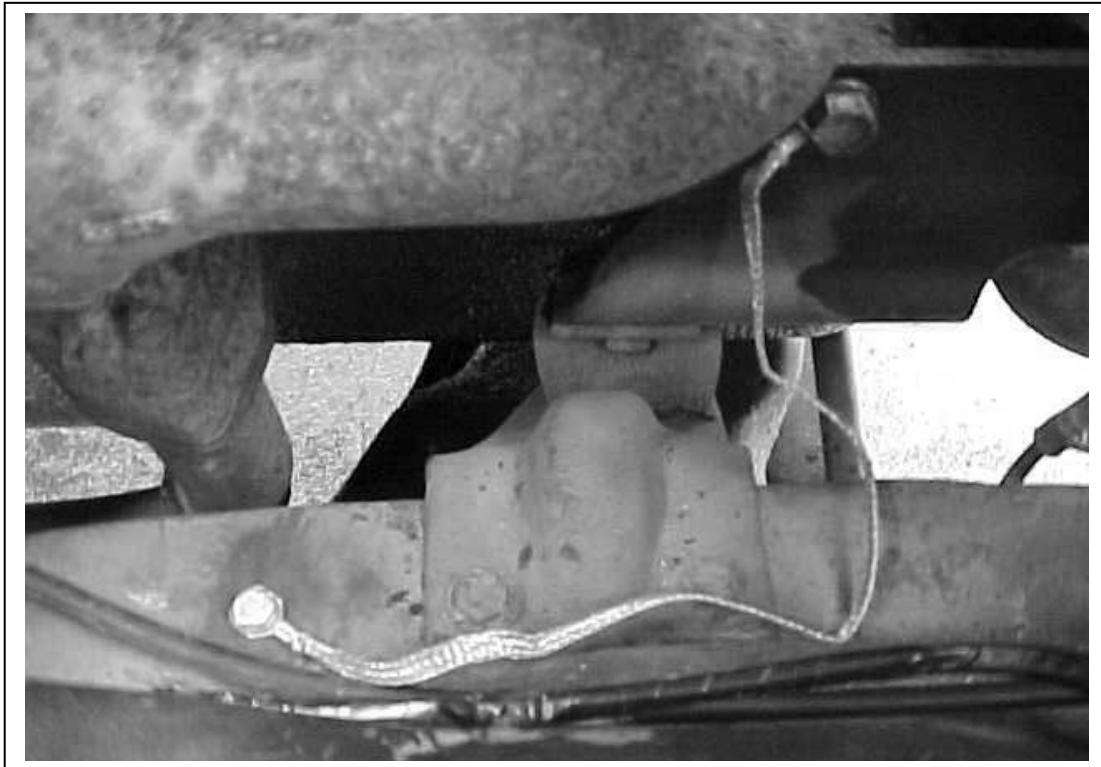


Figure 6.9 Grounding strap, engine to chassis.

6.3 GROUNDING THE AUTOMOBILE

A perfectly and beautifully wired automobile will nevertheless have bugs and problems if everything is not properly grounded. Do not go to the careful effort of installing a quality harness only to neglect proper grounding.

- 6.3.1** Connect a Ground strap or Cable (even a 10-gauge is too small) from the Negative Battery terminal to the truck chassis (frame).
- 6.3.2** Connect a Ground Strap from the Engine to the Chassis. **DO NOT RELY UPON THE MOTOR MOUNTS TO MAKE THIS CONNECTION.**
- 6.3.3** Connect a Ground Strap from the Engine to the Body.
- 6.3.4** If you have a fiberglass body you should install a terminal block to ground all your gauges and accessories. Ground the Terminal Block and everything will be grounded.

Note: Grounding straps may be purchased from most auto supply stores.

6.4 TERMINAL INSTALLATION AND MAKING CONNECTIONS

Note: In the following steps you will be making circuit connections. Before you start, you should carefully read Sections 1 through 8, as appropriate, and continually refer to Section 5, DOUBLE-CHECKING your routing and length calculations before cutting any wires and making connections. Giving special attention to all switches.

- 6.4.1 Have all needed tools and connectors handy.
- 6.4.2 Select the correct size for the wire and stud application.
- 6.4.3 Determine the correct wire length and cut the wire. Remember to always allow enough slack in the harness and wires at places where movement could possibly occur, such as automobile body to frame, frame to engine, etc. **Double-check your calculations.**
- 6.4.4 Strip insulation away from wire. Strip only enough necessary for the type of terminal lug you are using. As shown in **Figure 6.10**.
- 6.4.5 Crimp the terminal onto the wire.

Note: *Make sure the terminal is crimped with the proper crimping tool. An improper crimp will NOT make a good connection.*

CAUTION: *DO NOT OVER CRIMP*

- 6.4.6 Connecting the harness throughout the groups is a redundant process. Make sure that each wire is first properly routed and then attach. **DO NOT ATTACH FIRST THEN ROUTE AFTERWARD.**
- 6.4.7 When all wires are attached, tighten the mounts and ties to secure the harness permanently.

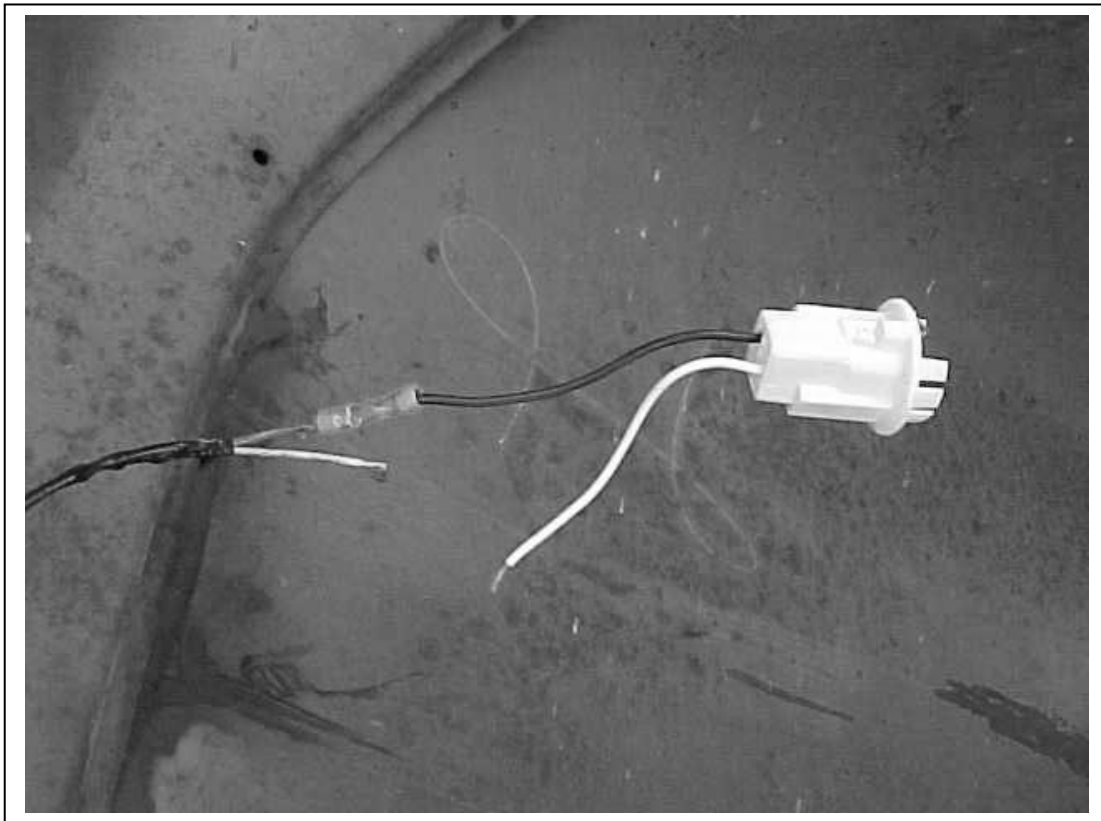


Figure 6.10 Strip and crimp your wires. **CAUTION: DO NOT OVER CRIMP.**

6.5 TESTING THE SYSTEM

- 6.5.1 Use a small battery charger (10 amp or less) to power up the vehicle for circuit testing. If there is a problem anywhere, the batter charger's low amperage and internal circuit breaker will provide circuit protection.

CAUTION: ***IF YOU HAVE NOT YET DISCONNECTED THE BATTERY FROM THE AUTOMOBILE, DO SO NOW! DO NOT CONNECT THE BATTERY CHARGER WITH THE BATTERY CONNECTED.***

- 6.5.2 Connect the battery charger's **NEGATIVE** output to the automobile chassis or engine block and its **POSITIVE** output to the automobile's positive battery terminal.
- 6.5.3 **INDIVIDUALLY** turn on each light, ignition, wiper circuit, etc. and check for proper operation.
- 6.5.4 When all circuits are checked out **THEN** attach the battery cable to the battery for vehicle operation.

7.0 SPECIFIC CIRCUIT CONNECTIONS

Note: Your Alternator may not appear exactly as represented in the Figures. The circuits are wired the same way, though.

7.1 EARLY GM ALTERNATOR (BEFORE 1969) – EXTERNAL REGULATOR. (SEE FIGURE 7-1)

- 7.1.1 Connect ENGINE SECTION wire #915 (RED) to Alternator Output Lug (BATT).
- 7.1.2 In your kit there is a pigtail labeled **ALT/VOLTAGE REG.** Take this and plug it into the alternator. The other end will plug into the regulator. Take the Blu wire #966, plug it into the F-terminal. The Wht #967 wire will plug into the 2-terminal.
- 7.1.3 Take ENGINE SECTION wire #968 Red and attach it to the 3-terminal on the voltage regulator.
- 7.1.4 Take the ENGINE SECTION wire #914 Brn and attach it to the 4-terminal on the voltage regulator.
- 7.1.5 Take the Blk wire #971 (labeled **ALT GROUND**) and run it from the Alternator Ground Lug (G) to chassis ground.

7.2 LATE GM ALTERNATOR (AFTER 1972) – INTERNAL REGULATOR. (SEE FIGURE 7.2)

- 7.2.1 Connect ENGINE SECTION wire #914 Brown to Alternator terminal #1.
- 7.2.2 Connect ENGINE SECTION Wire #968 Red to Alternator terminal #2.
- 7.2.3 Connect wire #915 to the Alternator Output Lug (BAT).
- 7.2.4 A connector and terminals for the late GM Alternators are included in the Painless parts kit.

7.3 GM ONE-WIRE ALTERNATOR (SEE FIGURE 7.3)

- 7.3.1 Connect ENGINE SECTION wire #915 Red to the Alternator Output Lug (BAT).
- 7.3.2 Insulate and stow ENGINE SECTION wires #914 Brn and #968 Red. Alternator terminals 1 & 2 are not used.
- 7.3.3 When using a 1-wire alternator you must use a voltmeter or ammeter. A WARNING LIGHT CANNOT BE USED.

Note: If you are going to install an Ammeter, see Section 7.5

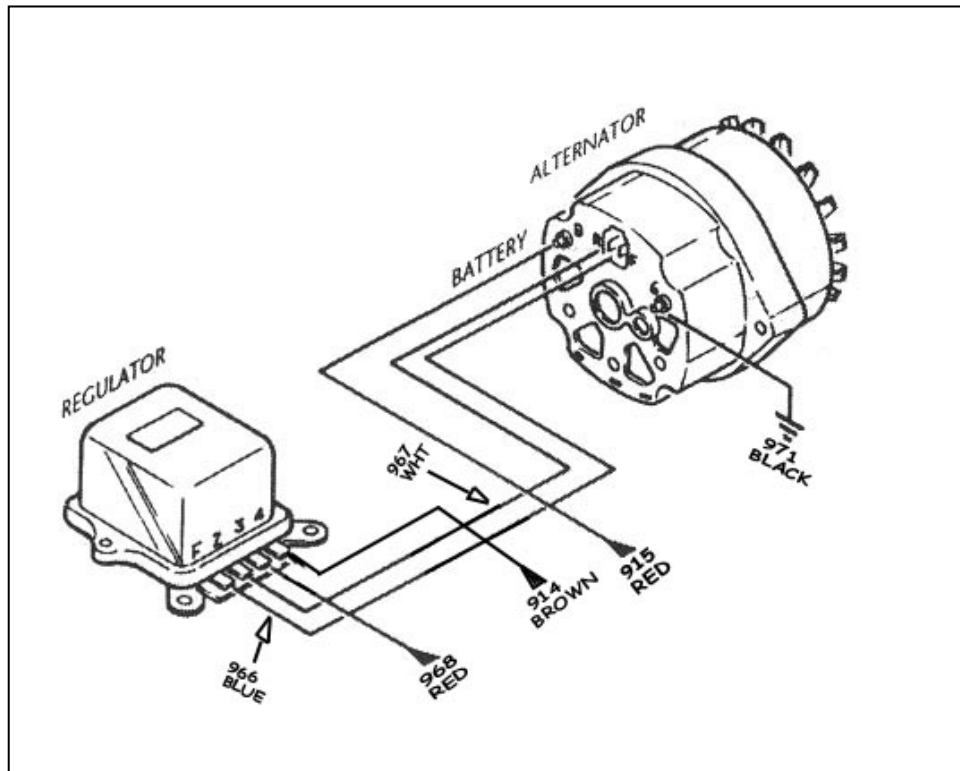


Figure 7.1 Early GM Alternator – External Regulator

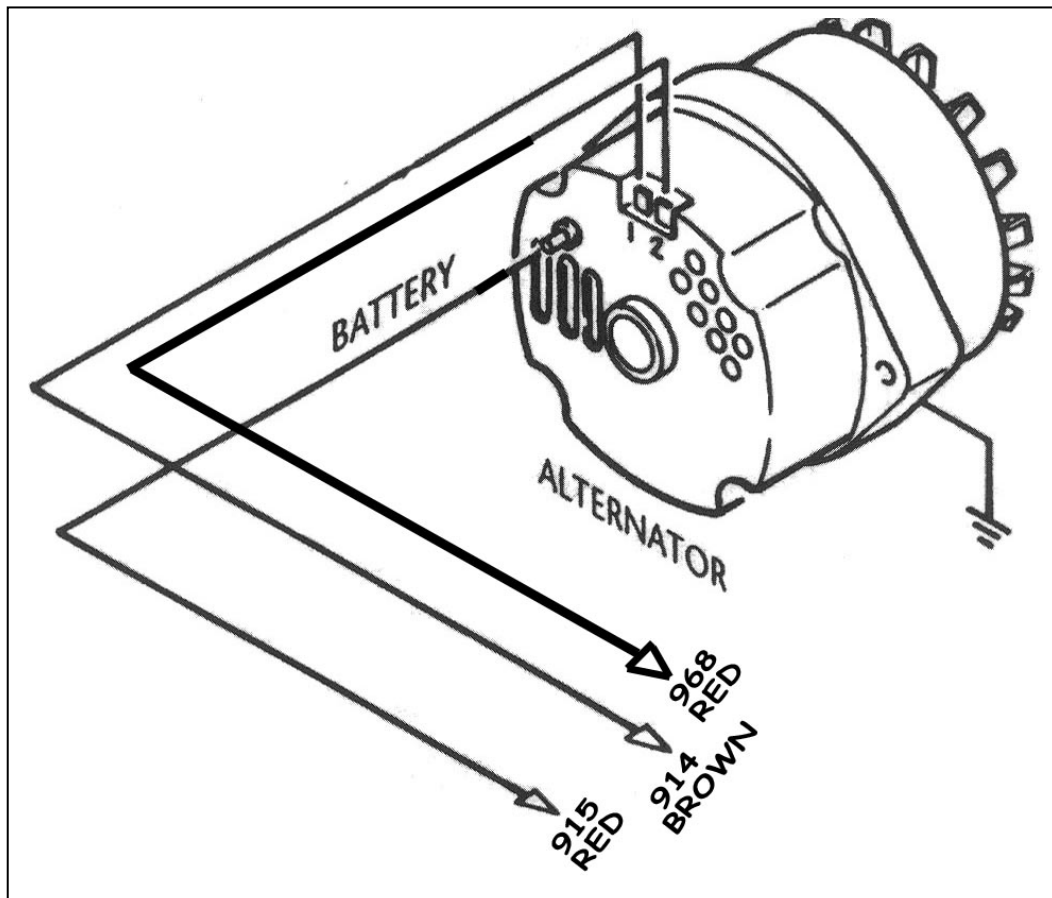


Figure 7.2 Late GM Alternator – Internal Regulator

7.4 HIGH OUTPUT ALTERNATORS (SEE FIGURE 7.4)

7.4.1 If using an alternator larger than 65 amps, you will need to use the high output wire #960 Red (Coiled 10ga wire found in separate bag kit). It will route from the alternator (B+) post to the Maxi-Fuse.

Note: This will be used along with the alternator wires in the main harness.

7.5 CONNECTING AN AMMETER AND MAXI FUSE (SEE FIGURE 7.5 AND 7.6)

7.5.1 Most, but not all ammeters must be inserted IN SERIES onto the ENGINE SECTION wire #916 (10 GA. Red) that routes from the fuse block to the Starter Solenoid.

7.5.2 The overall physical length of this circuit should be as short as possible (allow some slack, however). You may have to cut wire #916 and you may have to add some additional length to it. USE ONLY 10GA. WIRE.

7.5.3 Route wire #916 (from the fuse panel) and connect to the Ammeter NEGATIVE Terminal.

7.5.4 Route the remainder of the wire #916 from the Ammeter POSITIVE terminal to the Maxi-Fuse then the Starter Solenoid Battery (B+) terminal.

CAUTION: *BOTH AMMETER TERMINALS MUST BE ISOLATED FROM GROUND. IF EITHER AMMETER TERMINAL COME IN CONTACT WITH GROUND A HARNESS FIRE IS INEVITABLE. USE EXTREME CARE AND DILIGENCE IN CONNECTING AN AMMETER.*

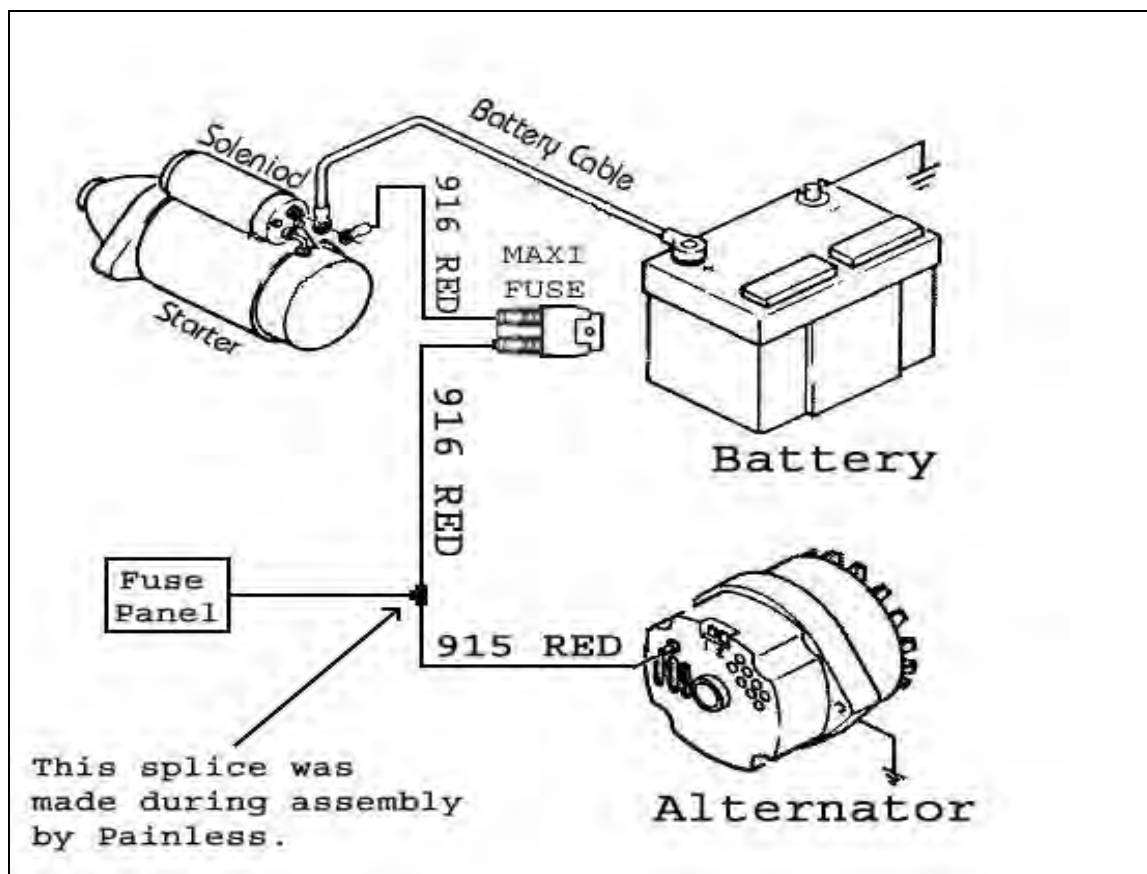


Figure 7.3 GM One-wire Alternator

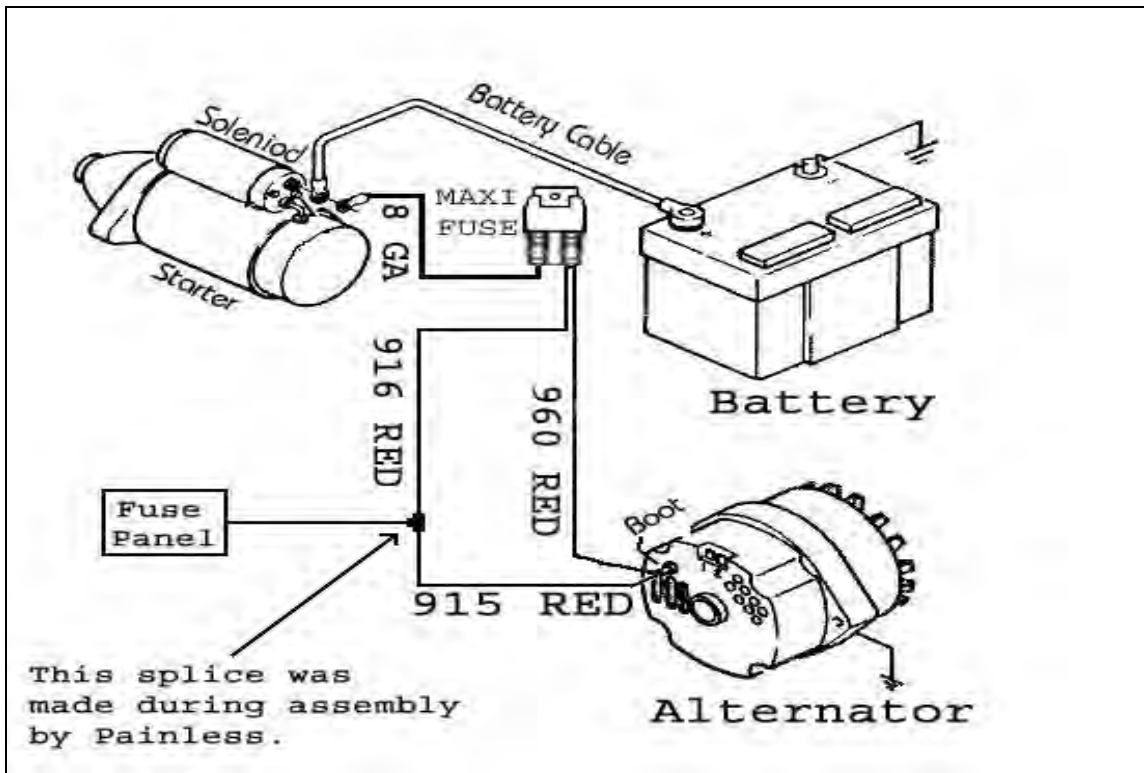


Figure 7.4 High Output Alternators (over 65 amps)

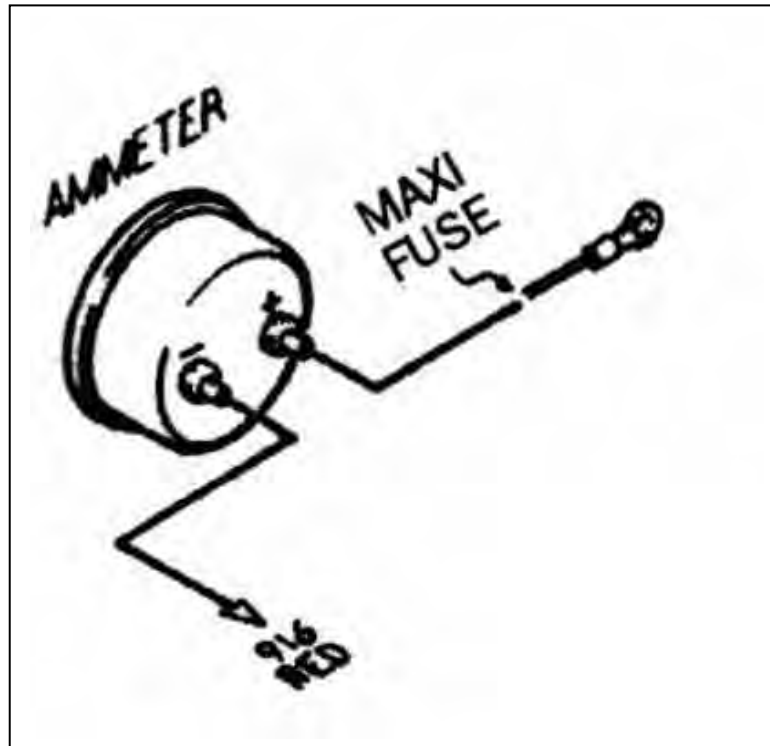


Figure 7.5 Ammeter and Maxi-Fuse

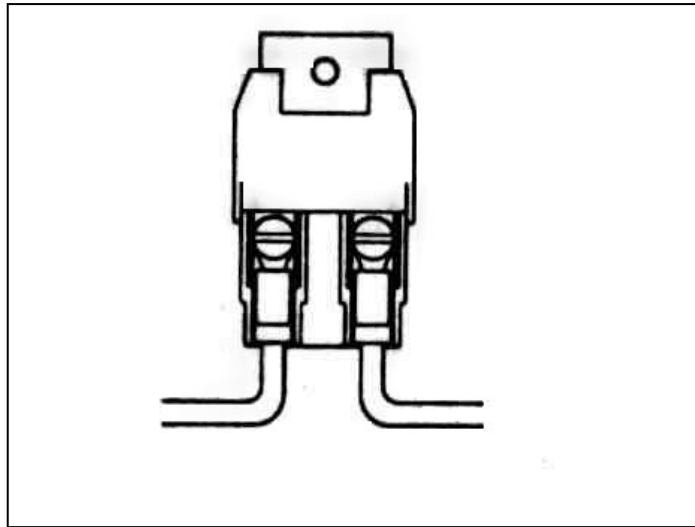


Figure 7.6 Maxi-Fuse

7.6 IGNITION (START/RUN) SYSTEM

- 7.6.1** With a crimping tool, attach Maxi Fuse (**Figure 7.6**) onto ENGINE SECTION (single) 10GA. Wire #916 Red AFTER having routed this wire from the Fuse Panel to the Starter Solenoid. This serves as a fuse to protect the entire harness. DO NOT OMIT IT! (Alternators over 65 amps see Section 7.4).
- 7.6.2** Connect wire #916-Maxi Fuse installed to the Starter Solenoid Battery terminal. This is the same lug that the large cable from the battery is connect to.
- 7.6.3** Connect ENGINE SECTION A wire #919 Pur to Starter Solenoid Start (S) terminal.
- 7.6.4** Connect ENGINE SECTION A wire #920 Pnk to the Ignition Coil B+ Terminal.

7.7 STEERING COLUMN, TURN SIGNAL AND IGNITION SWITCH CONNECTORS

Note: *This kit is set-up for original switches. The original vehicle did not have hazard lights.*

- 7.7.1** In **Figure 7.7** the original connector is shown. YOU MUST KEEP YOURS, if you plan on using the original type switch. We have included the the late model connectors for updated columns.
- 7.7.2** The TURN SIGNAL SECTION wires have bee pre-terminated for you. If you use the late model connector you will have to cut off the terminal, and re-terminate with the proper ones.
- 7.7.2** See **Table 7.1** and **Figure 7.7** for original style hook-up.
- 7.7.3** See **Table 7.2** and **Figure 7.8** for late model styles.
- 7.7.4** IGNITION SWITCH SECTION, these wires will have to be pre-terminated with original push-on terminals. Refer to **Table 7.1** for installation.
- 7.7.5** For later model wiring you will need to cut off the existing terminals and terminate with the proper terminals. Refer to **Table 7.2** and **Figure 7.8** for installation.

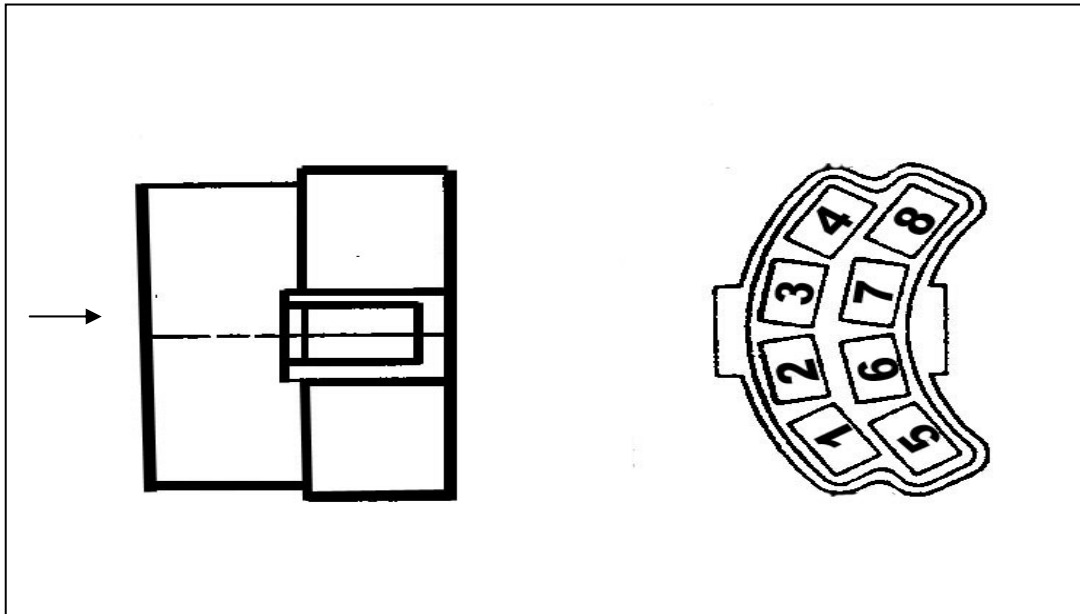


Figure 7.7 Original Connector. Viewed from wire insertion side. (See arrow)

TURN SIGNAL SECTION			
Wire Color	Designation	Painless Wire #	Position
Blk	Horn	953	1
LtBlu	Left Front (LF) Turn Signal	926	3
DkBlu	Right Front (RF) Turn Signal	925	2
Ylw	Turn Flasher	952	5
Pnk	Left Rear (LR) Turn Signal	949	7
Pur	Right Rear (RR) Turn Signal	948	4
Wht	Stop Lamp Switch	918	6
Brn	Hazard Flasher	951	See Note

Note: *Hazard Lights are not stock, this wire has been installed so that you may install them. (See Figure 7.5)*

IGNITION SWITCH SECTION		
Pur	Start	919
Org	Ignition Switched Accessories/ Coil	933
Red	Battery (B+)	934
Brn	Accessory (Radio)	932
Wht	Ignition Switch Ground	969

Note: *Most ignition switches do not have a ground terminal but if yours does, then you will be required to install the Wht #969 wire.*

Table 7.1 Original Turn Signal and Ignition Wiring

TURN SIGNAL SECTION				
GM Wire Color	Painless Wire Color	Designation	Connector	Wire #
Blk	Blk	Horn	G	953
LtBlu	LtBlu	LF Turn Signal	H	926
DkBlu	DkBlu	RF Turn Signal	J	925
Brn	Brn	Hazard Flasher	K	951
Pur	Ylw	Turn Flasher	L	952
Ylw	Pnk	LR Turn Signal	M	949
Grn	Pur	RR Turn Signal	N	948
Wht	Wht	Stop Lamp Switch	P	918
IGNITION SWITCH SECTION				
Pur/Wht	Pur	Ignition Start		919
Pnk	Org	Ignition Switched Accessories/Coil		933
Brn	Brn	Accessory (Radio)		932
Red	Red	Battery B+		934

Table 7.2 Late Model Ignition and Turn Signal Wiring

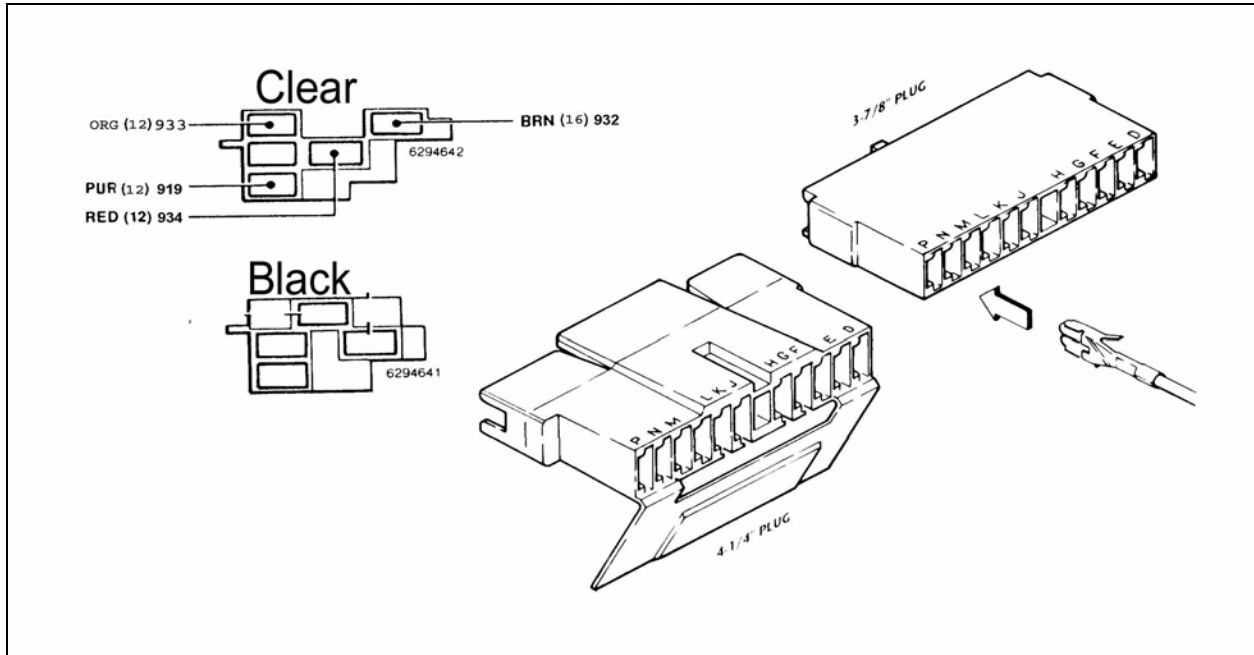


Figure 7.8 Late Model Turn Signal and Ignition Connectors
(The Black Ignition Connector is not used.)

7.8 HEADLIGHT SECTION

7.8.1 Connect Grn wire #924 to the horn and install grommet for headlight wiring.

Note: *The grommet may have to be trimmed a little.*

7.8.2 Route the Headlight wires through it.

7.8.3 If you have a 2-headlight system you must terminate a blue male bullet terminal to the LtGrn and Tan wires, and plug them into the harness.

7.8.4 If you have a 4-headlight system you will use all 4 pigtails. Terminate the Lt.Grnr wire into a yellow male bullet terminal.

Note: *You will use one headlight plug with three wires and 1 headlight plug with two wires. Doubling the two LtGrnr wires into one yellow terminal.*

7.8.5 Ground the Headlights on the grill. Once again, if you have a 4-headlight system uses the larger non-insulated ring terminal.

Note: *In the 4-headlight system there are only two tan wires.*

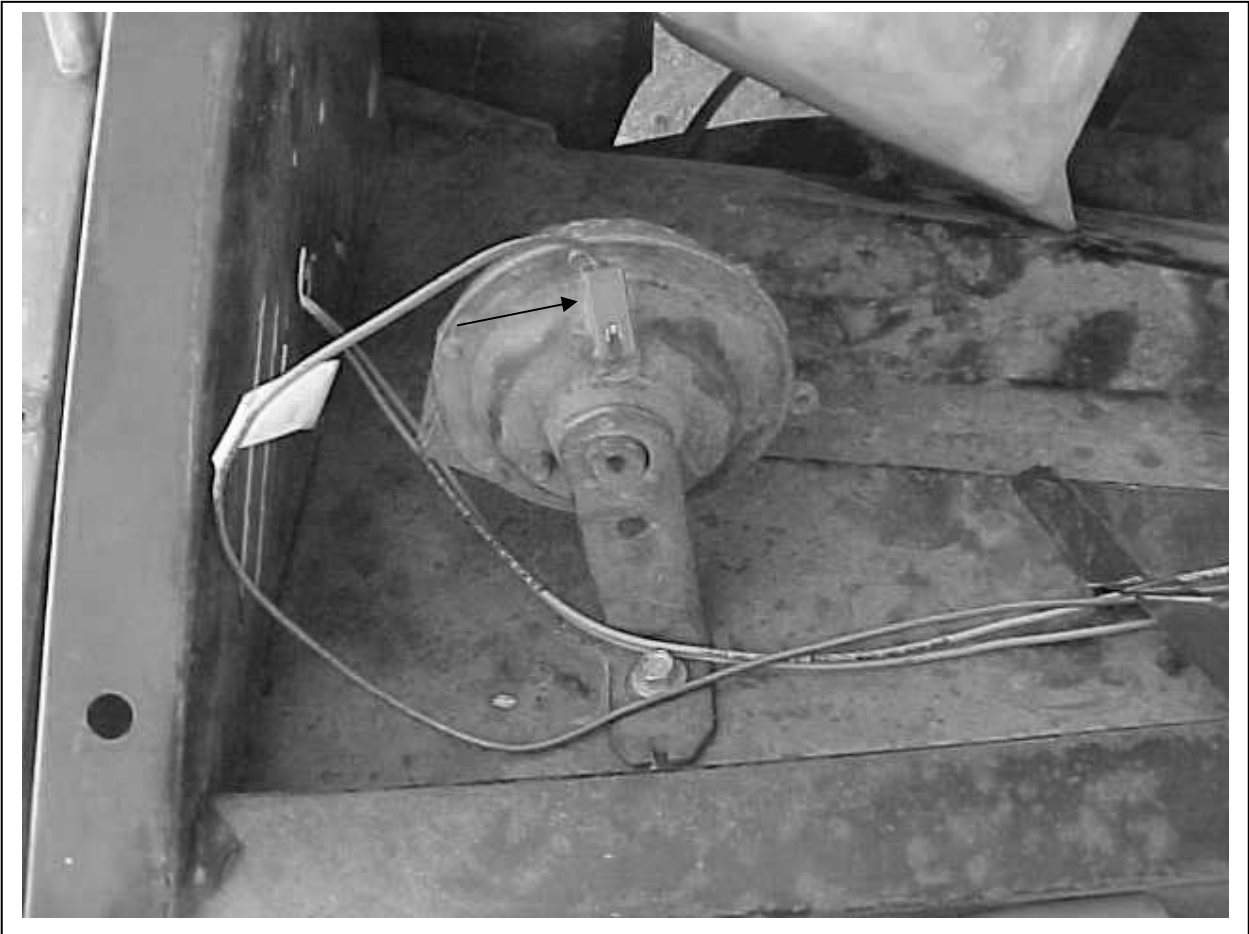


Figure 7.9 Headlight Section Wiring
(Arrow pointing to the horn connection and the routing of the headlight wires.)

7.9 HOOD SECTION

7.9.1 After routing through the firewall, route it through the hood and down the hood support. As shown in **Figure 7.10** and **Figure 7.11**.

7.9.2 Splice your wire pigtail to the harness and install. See **Figure 7.12**.



Figure 7.10 Hood Section Wiring
(Routed through the bottom of the hood and grommet installed.)

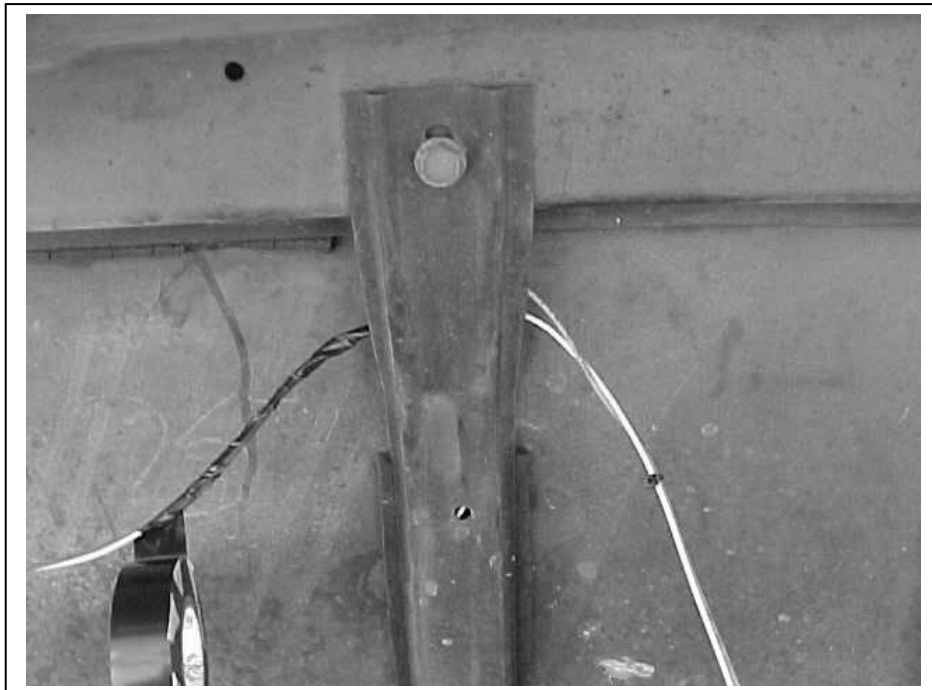


Figure 7.11 Turn Signal and Park Light (shown coming out of the hood support.)



Figure 7.12 Turn Signal has been spliced to the harness and ready to install.

7.10 TAIL SECTION

7.10.1 Measure and cut your Tail Light wires to length desired, then strip and splice these wires to your tail lights. See **Table 7.3**.

7.10.2 Cut the license plate light wire and splice to the light. Once spliced install the light in the bumper. See **Figure 7.15**.

TAIL LIGHT WIRING			
GM Color	Painless Color	Designation	Wire #
Grn	Pur	RH Turn	948
Ylw	Pnk	LH Turn	949
Brn	Brn	License	950

Table 7.3 Tail Light Hook-Up



Figure 7.13 Tail Lights and License Light (after being removed)



Figure 7.14 Tail Lights removed, wire ready to measure, cut, splice and re-install

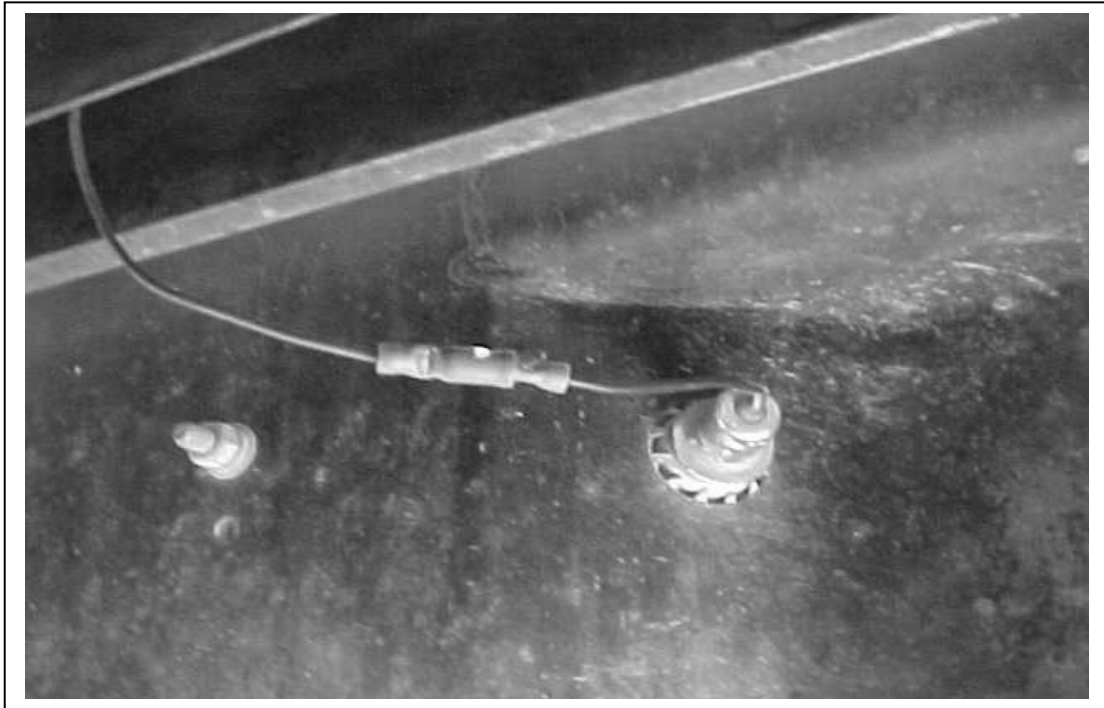


Figure 7.15 License Light has been spliced and installed back in the bumper

7.11 ENGINE SECTION A - TEMPERATURE SENDING UNIT

- 7.11.1** These trucks were equipped with gauges, hot and cold lights or just a single light. This kit is set-up for the hot and cold lights, but can be easily modified for gauges. Start routing the Grn wire #921 and LtGrn wire #962 to the temperature-sending unit. Measure and cut to length.
- 7.11.2** Take the LtGrn wire #962 and strip the wire back about a ¼ in. Crimp the silver non-insulated terminal to the wire. Then install the connector. This will plug on the terminal (G) on the sending unit. See **Figure 7.16**.
- 7.11.3** Take the Grn wire #921, strip the wire ¼ in. and terminate with a .250 push-on terminal. Then install on the (R) terminal on the sending unit.
- 7.11.4** If your sending unit only has one terminal, then you will only use the Grn wire #921. Once again you will need to strip the wire back a ¼ in., but this time you will need to terminate the wire with one of the ring terminals supplied in the parts kit. Once terminated install this wire to the sending unit.
- 7.11.5** Take the Lt.Gr. wire #962 and trim it back, stow the rest in the harness. You will not need this wire.

7.12 ENGINE SECTION A – ELECTRIC COOLING FANS

Note: *The Gry/Wht Wire#901 IS NOT A POWER FEED WIRE TO THE FAN OR FANS.*

- 7.12.1** If you are running electric cooling fans then you will run Gry/Wt wire #901 to the fan relay not directly to the fan. This wire is an activation wire for the relay only. Painless Performance has a relay kit Part #30101 that can be used for your fan relay. See **Figure 7.17**.

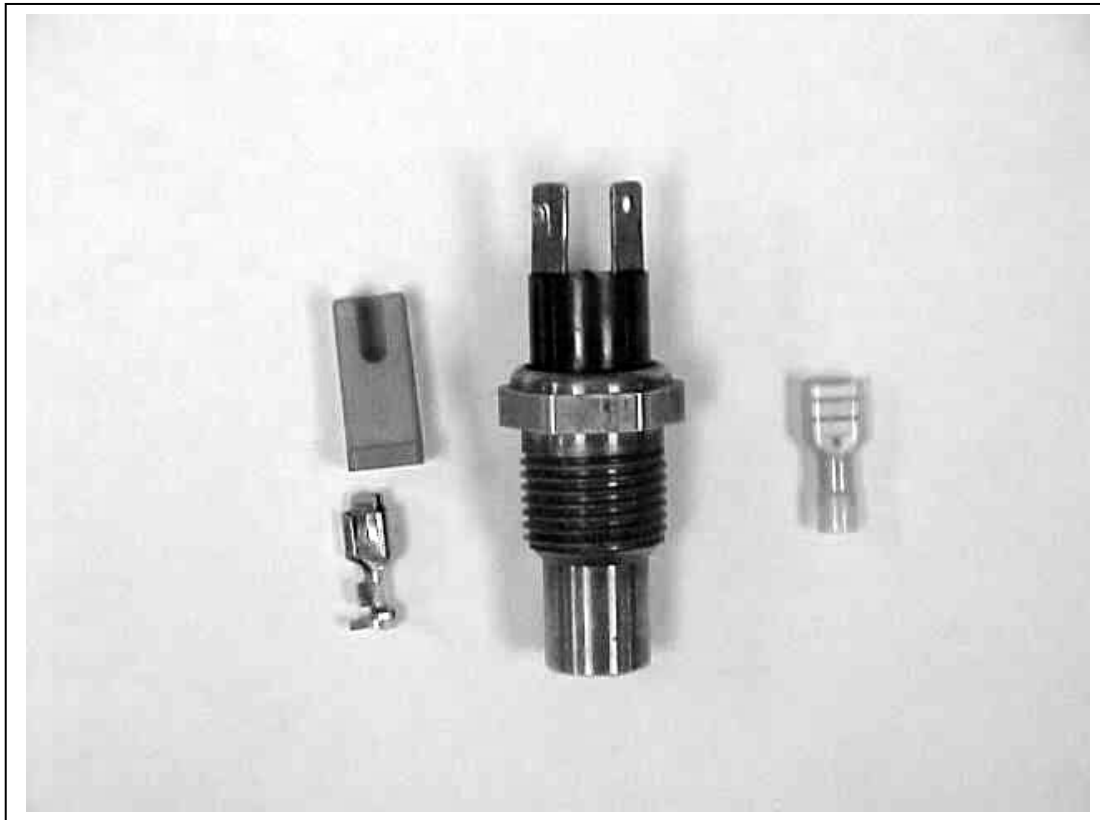


Figure 7.16 Hot and Cold Sending Unit
 (On the left is the terminal and connector for LtGrn wire #962, on the right side is the .250 terminal for the Grn wire #921.)

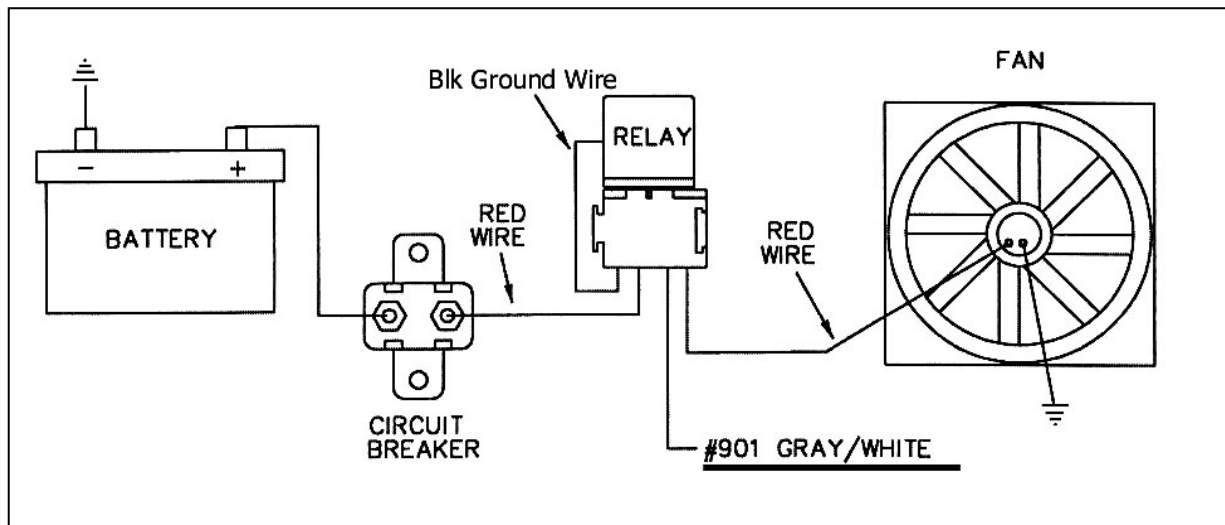


Figure 7.17 Typical Fan Relay Installation (**Painless Part #30101 Fan Relay Kit**)

7.13 ENGINE SECTION A – OIL SENDING UNIT

7.13.1 Find the Blu wire# 922 and route it to the Oil Pressure Sending Unit. Once you have this, cut and strip your wire.

7.13.2 After stripping your wire back ¼ inch, you now can terminate your wire with the proper terminal and install.

7.14 INSTRUMENT AND CAB WIRING

Note: *There are several different variations of instrument panels. This section may not cover all types of instrument panels.*

- 7.14.1 Hot And Cold Light-** Take the light sockets labeled **(HOT)** and **(COLD)** and install the bulbs (provided with this kit) into them. Insert these into their proper slots in the instrument panel. Some instrument panels only have a HOT light and no COLD light.
- 7.14.2 Hot Light only -** Take the light socket labeled **(HOT)**, install the bulb and insert it into the proper slot in the instrument panel.
- 7.14.3 Temperture Gauge -** Take the light socket labeled **(HOT)** and cut off the socket. Strip the wire and terminate it with the proper terminals. These terminals have been supplied in the parts kit. Install the PINK power wire for this gauge. Then install the GREEN sending unit wire. **Remember to GROUND your gauge.**
- 7.14.4 High Beam Indicator –** Take the light socket labeled **(HIGH BEAM IND.)** and install the bulb and insert it into the proper slot in the instrument panel.
- 7.14.5 Oil Pressure Light -** Take the light socket labeled **(OIL)**, install the bulb and insert it into the proper slot in the instrument panel.
Oil Pressure Gauge – Take the light socket labeled **(OIL)** and cut off the socket. Strip the wires and terminate them with the proper terminals. These terminals have been supplied in the parts kit. Install the PINK power wire for this gauge. Then install the BLUE Sending Unit wire. **Once again remember to GROUND your gauge.**
- 7.14.6 Generator Light -** Take the light socket labeled **(GEN LIGHT)** and install the bulb. Then insert it into the proper slot in the dash. If you are using an Ammeter or Voltmeter you will cut the light socket off and crimp the two wires together. NOTE: If using a Voltmeter, crimp these two wires together into a terminal that will connect to the positive side of your voltmeter. Ground the other post of the voltmeter. **(Ammeter: see Section 7.5)**
- 7.14.7 Fuel Gauge –** The **(FUEL GAUGE)** wires are preterminated. Install the wires, remember the PINK wire is the power wire and the TAN wire is from the Sending Unit. **Remember to GROUND your gauge.**
- 7.14.8 Turn Signal Indicator -** The light socket labeled **(TURN)** will be used here. Install the bulb and insert it into the proper slot in the instrument panel. **Note: This is for a single Indicator Light.**
- 7.14.9 Dual Turn Signal Indicator Lights –** The light socket labeled **(TURN)** will be used here. First, cut the Light Blue wire off this socket. **(Leave enough wire length on the socket to crimp another wire to it).** Take the extra turn signal light pigtail included in the kit and splice this Light Blue wire to the harness side of the Light Blue wire you just cut. Splice the loose Black wire on the extra turn signal light pigtail to the socket side of the Light Blue wire you cut. Install the extra turn signal light socket into the Left Turn Indicator slot. The light socket labeled **(TURN)** will be installed in the Right Turn Indicator slot. Refer to **Figure 7.18C.**
- 7.14.10 Headlight Switch Connections-** The harness is preterminated and the correct plug is preinstalled for a '64-'66 Chevrolet Pickup Headlight Switch. See **Figure 7.18A** for connector pinout. If you are using a 1963 headlight switch you will need to cut off the headlight switch connector and crimp a female spade connector onto each wire. These spade connectors are included in the parts kit. Refer to **Figure 7.18B** for the correct pinout of this headlight switch

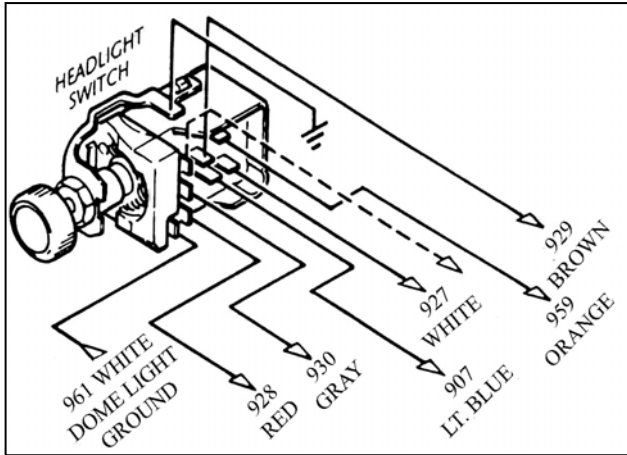


Figure 7.18A '64-'66 Headlight Switch

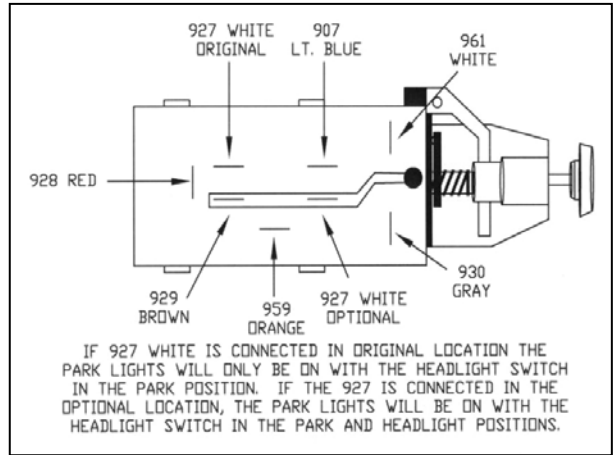


Figure 7.18B '63 Headlight Switch

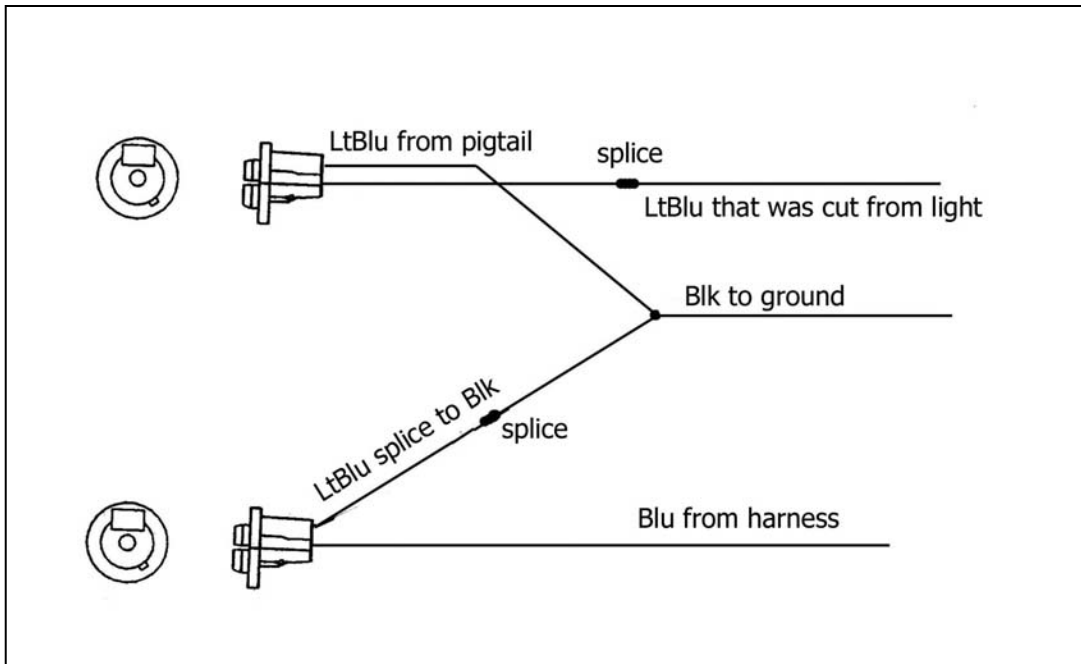


Figure 7.18C Turn Signal Diagram

7.15 WINDSHIELD WIPERS

7.15.1 Find the pigtail labeled **Wipers**, taking the end with the clear connector and installing it onto the wiper switch in the dash.

7.15.2 Routing it to the wiper motor. See **Figure 7.19** for installation.

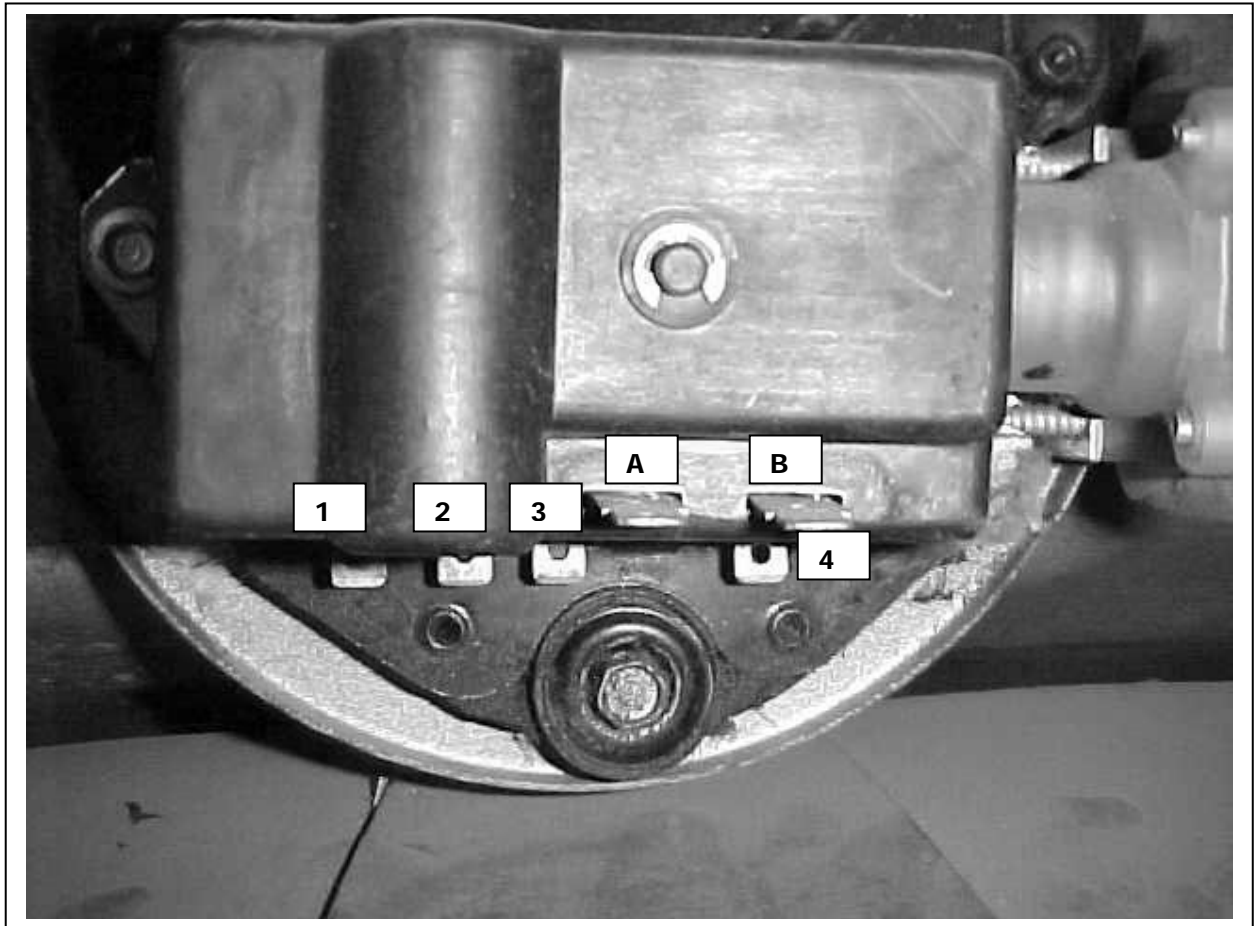


Figure 7.19 Wiper Motor

WIPER DIAGRAM		
Wire Color	Connector	Designation
Blk/Ylw ¹	Blue push-on	Terminal A
Blu	Blue push-on	Terminal B
Blk/Ylw ¹	Red 1-pin	Terminal 1
Pnk ²	Black 2-pin	Terminal 2
Wht	Black 2-pin	Terminal 3
Blk	Red 1-pin	Terminal 4

Notes:

1 Blk/Ylw is a Jumper Wire.

2 Black 2-pin connector with the pink and white connectors are from the main harness.

Table 7.4 Wiper Diagram
(Letters and numbers are for reference only, not printed on motor.)

8.0 WIRE CONNECTION INDEX AND FUSE REQUIREMENTS

In each section, connect the wire, as identified by its wire color, to the appropriate item in the CONNECT TO column. Pay close attention to the **NOTES** in this section. Identified by small, raised number such as the one at the end of this sentence.¹

Table 8.2 is divided into sections that correspond to the sections of your wire harness, (HOOD SECTION, CAB SECTION, TAIL SECTION, etc). The Index is divided vertically into six columns: COLOR, GA. NUMBER, CONNECT TO, ORGIN, and SECTION OF ORGIN.

The columns labelled ORGIN and SECTION OF ORGIN are for your reference ONLY. The items in these columns tell you where each originates (ORGIN) and from which section (SECTION OF ORGIN) of the harness.

The column NO contains a 900-series number that is used to identify various wires in the wiring diagrams that are a part of these instructions.

Many (but not all) of the numbers occur TWICE in this index. That is because you will be connecting BOTH ENDS of many of the particular wire segments. However, some wire segments are pre-connected at one end. For instance all wires originating from the fuse panel and certain other wires such as those originating from the horn relay, the dimmer switch, and the instrument panel section. These pre-connected wires are identified by an asterick (*) in the ORGIN column.

8.1 FUSE REQUIREMENTS

Headlight Switch	30
Emergency Flashers	15
Turn Signals	15
Gauges	10
AC/Heat Relay	5
Radio (Constant)	10
Horn	20
Wipers	15
Brake Switch	20
Dome/Trunk	10
Electric Fan Relay	5
Coil	30
Radio Ignition (Switched)	10

Table 8.1 Fuse Requirements

8.2 WIRE CONNECTION INDEX

Color	Ga.	No.	Connect to	Wire Starting Point	Section of Starting Point
			ACCESSORY SECTION SWITCHES		
Gry/Wht	18	901	Cooling Fan Switch	Fan Relay	Engine Section A
Wht	18	971	Wiper Switch	Wiper Motor	Radio Section
			ACCESSORY SECTION B+		
Brn	14	904	AC/Heat Switch B+	Fuse Panel	Fuse Panel
Pnk	18	905	Wiper Motor B+	Fuse Panel	Fuse Panel
Gry/Wht	18	906	Cooling Fan Switch B+	Fuse Panel	Fuse Panel
			DIMMER SWITCH SECTION		
LtBlu	14	907	Dimmer Switch	Headlight Switch	Headlight Section B
LtGrn	14	908	Dimmer Switch	High Beam	Headlight Section A
Tan	14	909	Dimmer Switch	Low Beam	Headlight Section A
			ENGINE SECTION		
Brn	18	914	Alternator Exciter	Charging Light	Dash Section
Red	10	915	Alternator B+	Fuse Panel	Fuse Panel
Red	14	968	Voltage Regulator	Fuse Panel	Fuse Panel
Red	10	960	Alternator B+	Starter Solenoid ("B" Terminal)	Engine Section A
			ENGINE SECTION (SINGLE WIRE)		
Red	10	916	Battery Positive or Starter Solenoid (Large Terminal)	Fuse Panel	Fuse Panel
			ENGINE SECTION A		
Orn	14	917	Brake Switch B+	Fuse Panel	Fuse Panel
Wht	16	918	Brake Switch	Turn Signal Switch	Turn Signal Switch
Pur	12	919	Starter Solenoid ("S" Terminal)	Ignition Switch Start	Ignition Switch Section
Pnk	14	920	Coil B+	Fuse Panel	Fuse Panel
Grn	18	921	Temperature Sending Unit (Hot)	Temperature Gauge (Hot)	Instrument Panel Section
Blu	18	922	Oil Pressure Sending Unit	Oil Pressure Light	Instrument Panel Section
LtGrn	18	962	Temperature Sending Unit (Cold)	Temperature Gauge (Cold)	Instrument Panel Section
Red	18	954	Electric Choke	Fuse Panel	Fuse Panel
Gry/Wht	18	901	Fan Relay	Fan Switch	Accessory Section Switches
Red	10	960	MAXI-FUSE	Alternator B+	Engine Section

Table 8.2 Wire Connection Index (1 of 3)

Color	Ga.	No.	Connect to	Wire Starting Point	Section of Starting Point
			HEADLIGHT SECTION A		
Grn	14	924	Horn B+	Horn Relay	Fuse Panel
LtGrn	14	908	High Beam	Dimmer Switch	Dimmer Switch Section
Tan	14	909	Low Beam	Dimmer Switch	Dimmer Switch Section
			HOOD SECTION		
Blu	18	925	RF Turn Signal	Turn Signal Switch	Turn Signal Section
LtBlu	18	926	LF Turn Signal	Turn Signal Switch	Turn Signal Section
Wht	18	927	Front Park Lights	Headlight Switch	Headlight Section B
			HEADLIGHT SECTION B		
Red	12	928	Headlight Switch B+	Fuse Panel	Fuse Panel
LtBlu	14	907	Headlight Switch	Dimmer Switch	Dimmer Switch Section
Brn	14	929	Headlight Switch	Tail Lights	Tail Section
Wht	18	927	Headlight Switch	Park Lights	Headlight Section A
Gry	18	930	Headlight Switch	Instrument Panel Lighting	Instrument Panel Section
Orn	14	959	Headlight Switch B+	Fuse Panel	Fuse Panel
Wht	18	961	Headlight Switch	Dome Switch	Cab Section
			IGNITION SWITCH SECTION		
Org	12	933	Ignition Switched Acc/ Coil	Fuse Panel	Fuse Panel
Brn	16	932	Accessory (Radio)	Fuse Panel	Fuse Panel
Wht	12	969	Ignition Switch Ground	Temperature Light	Dash Section
Red	12	934	Ignition Switch B+	Fuse Panel	Fuse Panel
Pur	12	919	Starter Signal	Starter Solenoid	Engine Section A
			INSTRUMENT PANEL SECTION		
Brn	18	914	Charging Light	Voltage Regulator	Voltage Regulator
Brn	18	970	Charging Light	Fuse Panel	Fuse Panel
LtGrn	18	936	High Beam Indicator	Dimmer Switch	Dimmer Switch Section
LtBlu	18	937	Turn Indicator	LF Turn Signal	Turn Signal Section
Blu	18	938	Turn Indicator	RF Turn Signal	Turn Signal Section
Gry	18	930	Instrument Panel Lighting	Headlight Switch	Headlight Section B
Tan	18	939	Fuel Gauge	Fuel Sending Unit	Tail & Cab Sections
Grn	18	921	Temp. Gauge (Hot)	Temp. Sending Unit	Engine Section A
Blu	18	922	Oil Light	Oil Pres. Sending Unit	Engine Section A
LtGrn	18	962	Temp. Gauge (Cold)	Temp. Sending Unit	Engine Section A
Orn/Blk	18	955	4 Wheel Drive Switch	Fuse Panel	Fuse Panel

Table 8.2 Wire Connection Index (2 of 3)

Color	Ga.	No.	Connect to	Wire Starting Point	Section of Starting Point
			RADIO SECTION		
Red	18	940	Radio B+ Unswitched (Constant)	Fuse Panel	Fuse Panel
Red/Blk	18	941	Radio B+ Switched	Fuse Panel	Fuse Panel
			TAIL SECTION		
Pur	16	948	RR Turn Signal	Turn Signal Switch	Turn Signal Section
Pnk	16	949	LR Turn Signal	Turn Signal Switch	Turn Signal Section
Tan	16	939	Fuel Sending Unit (Frame)	Fuel Gauge	Instrument Panel Section
Brn	16	929	Tail Lights	Headlight Switch	Headlight Section B
			CAB SECTION		
Wht	18	961	Dome Light (Ground)	Headlight Switch	Headlight Switch B
Orn	18	945	Dome Light (Power B+)	Fuse Panel	Fuse Panel
Tan	18	939	Fuel Sending Unit (Cab)	Fuel Gauge	Dash Section
			TURN SIGNAL SECTION		
Brn	14	951	Emergency Flasher Switch B+	Emergency Flasher Relay	Fuse Panel
Ylw	14	952	Turn Signal Switch Flasher B+	Turn Flasher Relay	Fuse Panel
Blk	18	953	Horn Switch	Horn Relay	Fuse Panel
Pur	14	948	Turn Signal Switch	RR Turn Signal	Tail Section
Pnk	14	949	Turn Signal Switch	LR Turn Signal	Tail Section
Blu	18	925	Turn Signal Switch	RF Turn Signal	Hood Section
Wht	16	918	Turn Signal Switch	Brake Switch	Engine Section A
LtBlu	18	926	Turn Signal Switch	LF Turn Signal	Hood Section

Table 8.2 Wire Connection Index (3 of 3)

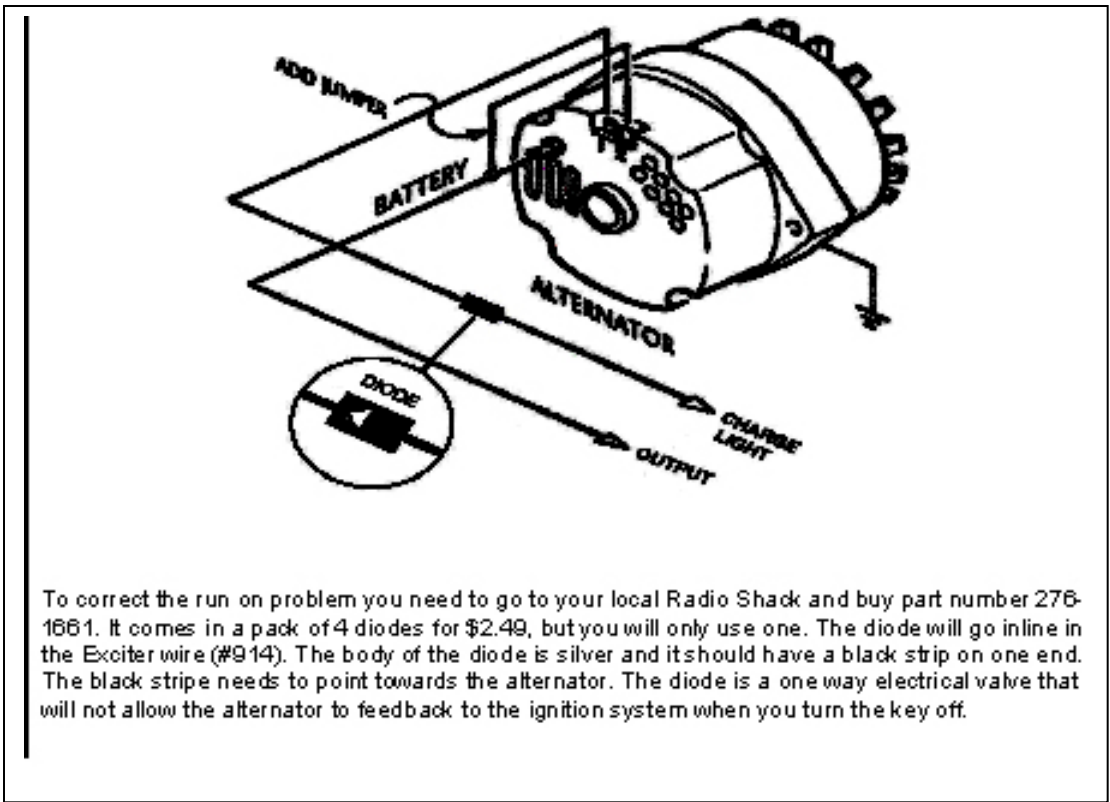


Figure 7.20 Engine Run-on

This condition occurs when installing GM alternators. Use the drawing above for a simple cure.

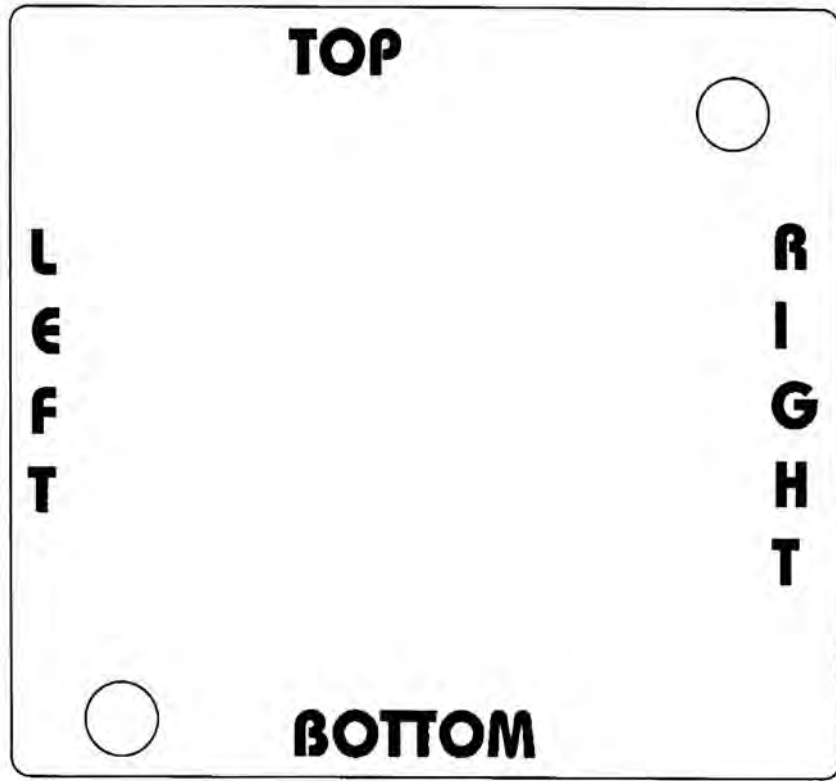


Illustration 1 Template for mounting fuse block

Painless Performance Limited Warranty and Return Policy

Chassis harnesses and fuel injection harnesses are covered under a lifetime warranty.

All other products manufactured and/or sold by Painless Performance are warranted to the original purchaser to be free from defects in material and workmanship under normal use. Painless Performance will repair or replace defective products without charge during the first 12 months from the purchase date. No products will be considered for warranty without a copy of the purchase receipt showing the sellers name, address and date of purchase. You must return the product to the dealer you purchased it from to initiate warranty procedures.