

# **PAINLESS<sup>®</sup>**

## **PERFORMANCE PRODUCTS**

### **WIRE HARNESS INSTALLATION INSTRUCTIONS**

**For Installing:**

**#10206 Classic Plus Customizable GM Pickup  
Chassis Harness – 1967-72 – 28 Circuit**

**Manual #90510**

# **Painless Performance Products, LLC**

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If you have any questions concerning the installation of this product, feel free to call **Painless Performance Products'** tech line at 1-800-423-9696. Calls are answered from 8am to 5pm central time, Monday thru Thursday, 8am-4:30pm Friday, except holidays.

Here we have provided you with accurate instructions for the installation of this product. However, if you have comments/suggestions concerning these instructions, please call or email us (our contact information can be found at the top of this page or online at **[www.painlessperformance.com](http://www.painlessperformance.com)**). We sincerely appreciate your business.

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Installation Manual: **90510**

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## **NOTE :**

If your vehicle has an existing harness, you will want to retain it for the possible re-use of various Pigtails & Connector housings, particular to your application.

Included in this kit is a sheet of pre-printed labels, to assist in identifying of connections as the existing harness is removed from the vehicle.

If you do not have an existing harness, there is a package of terminals included with the harness that will enable you to make most of the connections needed. Replacement lighting pigtails & sockets can be readily obtained from your local parts distributor

Painless Performance has included 20 extra male and female bulkhead terminals in this harness kit. Use these extra terminals to run wires through the firewall using the male and female bulkhead connectors on the harness. See below for instructions on how to use these terminals. The terminals we have provided you are designed for wire gauges 18-14. Strip  $\frac{1}{4}$ " of the insulation from the wire and then crimp it to the terminal using the correct terminal crimping tool. These terminals are roll crimp style. You can purchase this type of terminal crimper from Painless, part # 70900. See below for a picture of the correct terminal crimping tool and how to use them. Take a look at how the terminals we inserted into the bulkhead connector here at the factory. Notice they are orientated a certain direction. Insert the blade (male) terminal into the engine compartment side bulkhead connector. Insert the female terminal into the passenger compartment side of the bulkhead connector.



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## 1.0 INTRODUCTION

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

The fuse block, with minor modifications, can be easily mounted in the factory location. The fuse block, gauges, turn signal lights, high beam light switch and dash lights are all pre-wired, allowing for easy hookup.

The proper fuses and flashers have been pre-installed in the fuse block. In addition, all wire, is color coded. This will help you to identify the different circuits during installation and later on, if any addition to the overall system is necessary. For fuse specifications and wire color designations see **Section 9.0**

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

### Engine/Headlight Group

Includes high beam, low beam, park, right turn, left turn, electric fan, horn, starter solenoid and battery feed, alternator and alternator exciter wire, distributor, water temperature, oil pressure and air conditioning.

### Dash Group

Includes wires to connect gauges, indicator lights and switches to their proper sources, also includes door locks and power windows.

### Rear Light Group

Includes taillights, left and right turn signals, brake light fuel sender and electric fuel pump.

**NOTE: The wire numbers referred to in these instructions are for reference to the diagrams in the back of this book only.**

## 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 Painless Wire Harness Kit
- 4.0 Tools needed
- 5.0 Pre-Installation and General Harness Routing Guidelines
- 6.0 General Harness Installation Instructions
- 7.0 GM-Specific Circuit Connection Details
- 8.0 Specific Circuit Connection Details
- 9.0 Wire Connection Index and Fuse Requirements

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

### 3.0 CONTENTS OF THE PAINLESS WIRE HARNESS KIT

Refer to the following list to take inventory. See that you have everything you're supposed to have in this kit. If anything is missing, contact the dealer where you obtained the kit, or Painless Performance at (800) 423-9696. The Painless Wire Harness Kit should contain the following items:

- The main wire harness, with the fuse block wired and fuses installed.
- The engine harness
- 4 headlamp connector cables
- 2 fender well grommets (for headlamps)
- 2 packages of nylon tie wraps
- Parts Box, containing the maxi-fuse (See **Figure 7-3**) GM alternator connectors, terminals, splices, etc.
- P/N 90510 Painless Wiring Manual (this booklet)

### 4.0 TOOLS NEEDED

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

- Crimping tool (**NOTE: Use a quality tool to avoid over-crimping.**)
- Wire Stripper
- Continuity Tester (test light or ohm meter)
- Small (10 amp or less) Battery Charger

### 5.0 PRE-INSTALLATION AND GENERAL HARNESS ROUTING GUIDELINES

The installation of your wire harness 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 integrated together. That is, you will route some wires and make some connections, route some more wire and make some more connections.

We cannot tell you how to physically route the harness in your truck, which depends a great deal upon the particular year of your truck and to what extent you want to secure and conceal the harness. We do offer some 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 will have to make in beginning in **Section 7.0**. To help you begin thinking through the installation of your wire harness, read the following sections:

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

ACCESSORY SECTION SWITCHES	HEADLIGHT SECTION A
ACCESSORY SECTION B+	HEADLIGHT SECTION B
HEATER SECTION	IGNITION SWITCH SECTION
BRAKE SWITCH SECTION	INSTRUMENT PANEL SECTION
COURTESY LIGHT SECTION	RADIO SECTION
CRUISE CONTROL SECTION	SPEAKER SECTION
DIMMER SWITCH SECTION (see <b>Section 3.2</b> )	TAIL SECTION
DOOR SECTION A	TURN SIGNAL SECTION
DOOR SECTION B	WINDSHIELD WASHER SECTION
EMERGENCY BRAKE SECTION	WIPER SECTION A
ENGINE SECTION	WIPER SECTION B

**Note:** *For complete information concerning the individual circuits and wires that make up harness SECTIONS, see Section 9.0.*

- 5.2 The Painless Wire Harness is designed for the fuse block to be mounted on the driver's side, under the dash, in the original location
- 5.3 A good exercise is to lay out the wire harness on the floor beside 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 provide places for tie wraps, clips and other support.
- 5.4 Route the harness away from sharp edges, exhaust pipes, hood, trunk and door hinges.
- 5.5 Plan where harness supports will be located. Allow enough slack at places where movement could occur (body to frame, frame to engine, etc.). Use a support every 12 inches unless the harness routes under the floor carpet.
- 5.6 At wire ends, don't depend on the terminals to support the harness. The weight of the harness could cause terminals to disconnect or copper wire strands to break.
- 5.7 The wires should be bundled into groups. Use nylon ties, poly split loom or tape.

## 6.0 HARNESS GENERAL INSTALLATION INSTRUCTIONS

### 6.1 Rough Installation

**CAUTION:** *DISCONNECT THE POWER FROM YOUR VEHICLE BY REMOVING BOTH BATTERY CABLES FROM THE BATTERY, AND RECONNECT THEM ONLY AFTER INSTALLATION IS COMPLETE.*

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

- 6.1.1 Position the fuse block in its mounting area. Modify bulkhead hole if necessary, using template provided.
- 6.1.2 Route dash group (ACCESSORY SECTION B+, ACCESSORY SECTION SWITCHES, INSTRUMENT PANEL SECTION, RADIO SECTION, etc.) upward to rear of dash and temporarily tie in place.
- 6.1.3 Position rear groups, consisting of DOOR SECTIONS A & B and SPEAKER SECTION, etc.
- 6.1.4 Plug in the ENGINE HARNESS and route the HEADLIGHT and ENGINE SECTION forward and the TAIL SECTION towards the rear.

### 6.2 Harness Attachment

**Note:** *Harness routing and shaping is and should be 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 the fuse block with original bolts or ones provided.
- 6.2.2 Mold harness groups to the contour of floor pan, firewall, fender panels and any other area where wires or harness groups are routed. Remember to route the harness away from sharp edges, exhaust pipes, hood and door hinges, etc.
- 6.2.3 Attach harness groups to your truck with clips or ties starting at the fuse block and working toward the front and along the floor pan or frame for the rear group. The dash wires should be routed out of the way of any under-dash obstacles, such as the cowl vent, air conditioning, radio, etc.

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

- 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 installed in other areas every 6" or so will hold the wires in place nicely. Remember to take your time!

### 6.3 Grounding the Truck

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

**Note: The Painless Wire Harness Kit includes no ground wire except the black wire from the dash and headlamp connectors. You must supply ground wire (14-16 gauge) for all circuits.**

- 6.3.1 Connect a ground strap or cable (even a 10-gauge wire is too small) from the negative battery terminal to the 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 or panels you should install a terminal block to ground all your gauges and accessories. Ground the terminal block and everything connected to it will be grounded.

### 6.4 Terminal Installation and Making Connections

**Note: In the following steps you will be making the circuit connections. Before you start, you should carefully read Sections 7.0 and 8.0, as appropriate, and continually refer to Section 9.0, DOUBLE-CHECKING your routing and length calculations before cutting any wires and making connections. Give special attention to turn signal and ignition switch connections. These can be somewhat confusing.**

- 6.4.1 Have all needed tools and connectors handy.
- 6.4.2 Select the correct size terminal for the wire and stud application.
- 6.4.3 Determine the correct wire length and cut the wire. Remember to allow enough slack in the harness and wires at places where movement could possibly occur, such as truck 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.

**Note: In the following step, make sure that the terminal is crimped with the proper die in the crimping tool. An improper crimp will NOT make a good connection.**

**6.4.5** Crimp the terminal onto the wire.

**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, excessive wire is cut off 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 harness permanently.

## **6.5 Testing the System**

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

**CAUTION: DO NOT CONNECT THE BATTERY CHARGER WITH THE BATTERY CONNECTED.**

**6.5.2** Connect the battery charger's NEGATIVE output to the chassis or engine block and its POSITIVE output to the positive battery terminal on the starter or positive battery cable.

**6.5.3** INDIVIDUALLY turn on each light, ignition, wiper circuit, etc, and check for proper operation.

**6.5.4** When all circuits check out THEN attach the battery cable to the battery for vehicle operation.

## **7.0 GM - SPECIFIC CIRCUIT CONNECTIONS**

**Note:** *Your alternator may not appear exactly as represented in the Figures. The circuits are wired the same way though. Wire numbers referred to are only for diagram reference. The wires are not marked, only color-coded.*

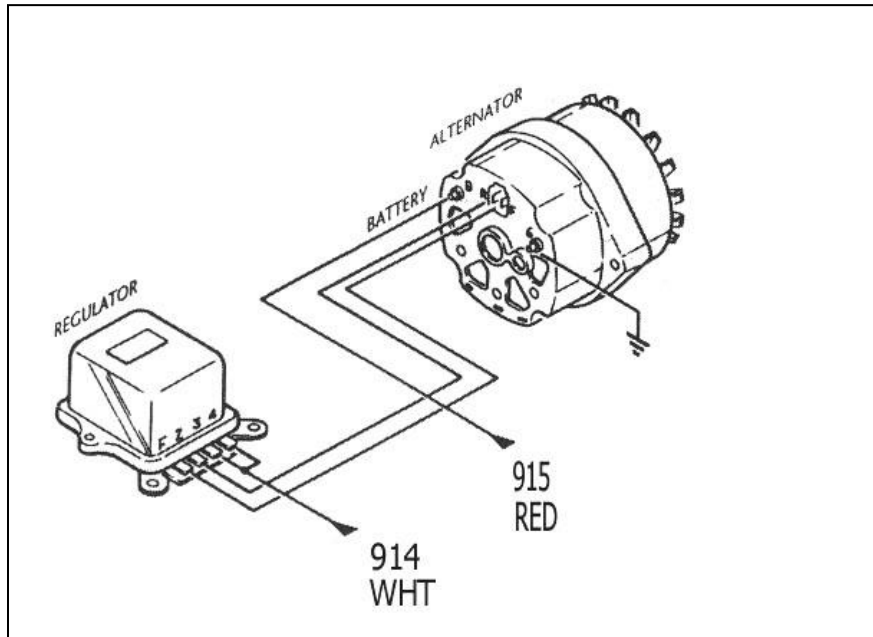
### **7.1 Early GM Alternator - External Regulator, See Figure 7.1**

**7.1.1** With a short 16-gauge jumper wire connect voltage regulator terminals 3 & 4 together. Connect ENGINE SECTION wire (wht) to voltage regulator terminal 3 or 4.

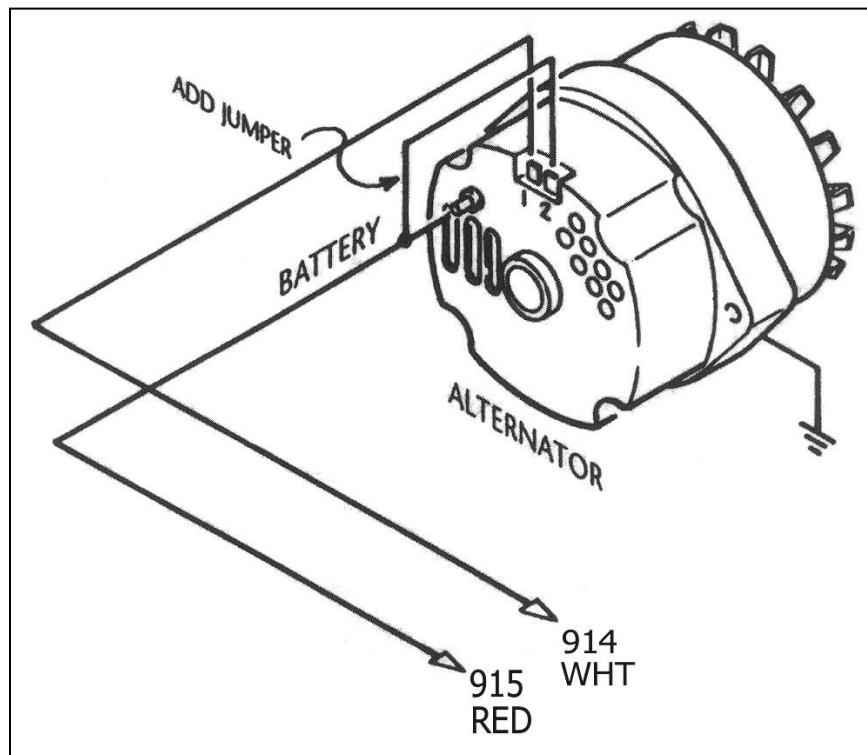
**7.1.2** Connect ENGINE SECTION wire (red) to the alternator output lug (Bat).

**7.1.3** Connect a 14-gauge wire voltage regulator terminal 2 to alternator terminal (R). Connect a 14-gauge wire from voltage regulator terminal (F) to alternator terminal (F).

**7.1.4** Connect a 16-gauge ground wire from the alternator ground lug (G) to chassis ground.



**Figure 7.1** Early GM Alternator – External Regulator



**Figure 7.2** Late GM Alternator – Internal Regulator

**7.2 Late GM Alternator (after 1972) - Internal Regulator. See Figure 7.2**

- 7.2.1** Connect ENGINE SECTION wire (wht) to alternator terminal 1. Connect ENGINE SECTION wire (red) to the alternator output lug (Bat).
- 7.2.2** Connect a short 14-gauge jumper wire from alternator terminal 2 to the alternator output lug (Bat).

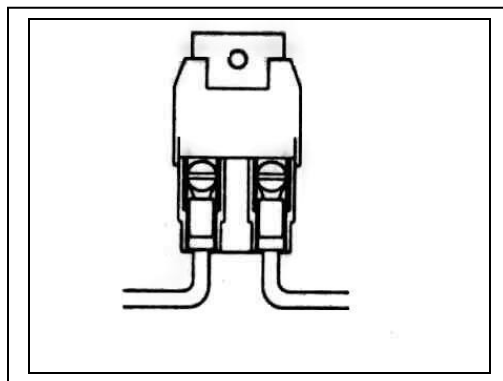
- 7.2.3** A connector and terminal spades for late GM alternators are included in the parts box.  
**NOTE:** Under some circumstances, the connection to the Alternator will not allow the Engine to shut off if this occurs, a diode will have to be installed inline on wire # 914. This will prevent alternator feedback into the ignition system & allow the Engine to shut down, The RADIO SHACK part number for this Diode is 276-1661 It is to be installed with the striped end towards the alternator.

### 7.3 GM One-Wire Alternator

- 7.3.1** Connect ENGINE SECTION wire (red) to the alternator output lug (Bat).  
**7.3.2** Insulate and stow ENGINE SECTION wire (wht). Do not install jumper wire. No wires are connected to alternator terminals 1 & 2.  
**7.3.3** When using a 1-wire alternator you must use a voltmeter or ammeter. A WARNING LIGHT CANNOT BE WIRED IN.

### 7.4 GM Ignition (Start/Run) System. See Figure 7.4

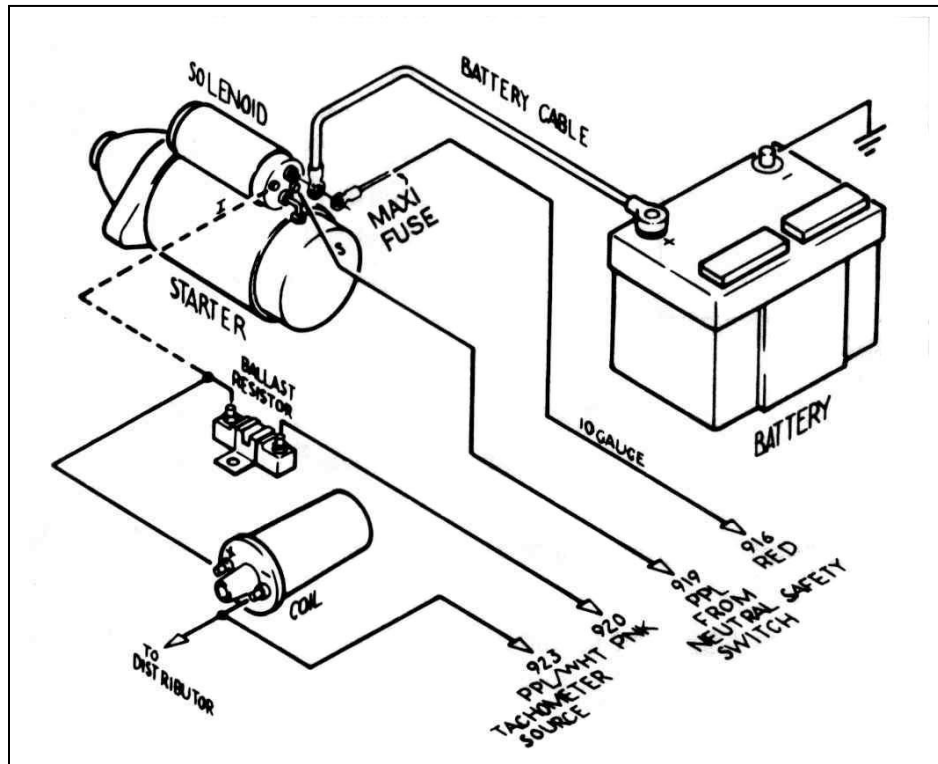
- 7.4.1** Install Maxi-Fuse (**Figure 7.3**) onto the end of ENGINE SECTION (single) 10- gauge wire #916 (red) AFTER having routed wire from the fuse panel to the starter solenoid. This link is two (2) gauges smaller than wire #916 and serves as a fuse to protect the entire harness. DO NOT OMIT IT!  
**7.4.2** Connect wire #916 – with maxi-fuse installed - to the starter solenoid battery terminal. This is the same lug that the large red cable from the battery is normally connected to.  
**7.4.3** Connect ENGINE SECTION wire #919 (pur) to the starter solenoid start (S) terminal.  
**7.4.4** If the Coil you are using is not internally resisted, a ballast resistor will be required. If a coil is not internally resisted and a ballast resistor is not used, the coil will overheat within a few minutes to the point that it will no longer work. A ballast resistor can be obtained at your local parts store using part number **RU11**.  
**7.4.5** If you are using the ballast resistor, mount it away from other wiring or hoses. The ballast resistor gets **very hot** during operation. Connect ENGINE SECTION wire #920 (pnk) to one end of the ballast resistor. Connect the other end of the ballast resistor to the ignition coil B+ terminal with 14-gauge wire (you may have enough pink wire left over to accomplish this). If you are not using a ballast resistor, connect wire #920 directly to the ignition coil B+ terminal.



**Important Note: For HEI systems route wire #920 (pnk) to the distributor and attach it to terminal labeled BAT. No ballast resistor is required. The tachometer wire #923 (pur/wht) attaches to the tach terminal.**

- 7.4.5** The ignition coil NEGATIVE (-) terminal is connected to the distributor. Also connect ENGINE SECTION wire #923 (pur/wht) to the ignition coil NEGATIVE (-) terminal. This is the tachometer source. If you are not using a tachometer, insulate and stow wire #923.

- 7.4.6** A 14-gauge wire connected from the starter solenoid (I) terminal to the ignition coil side of the ballast resistor is optional. This wire (the dashed line in **Figure 7.4**) serves as a ballast resistor BYPASS during engine starting. However, if the starter solenoid shorts out, which is not unusual, the engine will stop running and will not restart as long as this wire is connected. You may therefore choose to omit it. If you are not using a ballast resistor, leave the starter solenoid ignition (I) terminal unconnected and do not install the bypass wire.



**Figure 7.4** GM Ignition (Start/Run) System

## 7.5 Steering Column Pigtail - Turn Signal & Ignition Switch Connectors

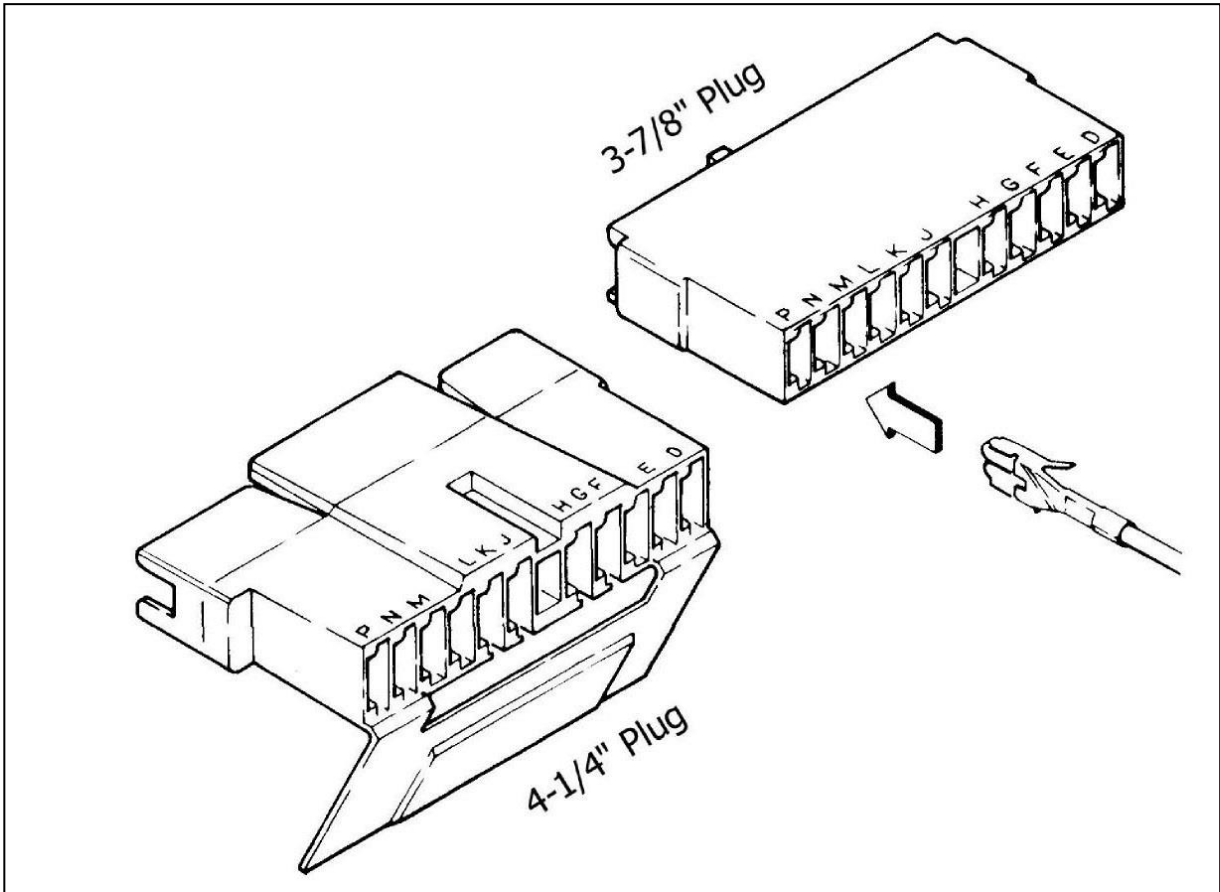
- 7.5.1** The original steering column, 8 port, half moon, female plastic housing for the turn signals is pre-installed on the harness. If you find that you have a 9 port connector on your column, your original plastic housing from the harness removed from the truck will need to be reused.

To remove the old terminals from your plastic housing, insert a paper clip or an extra small screwdriver into the small slots on each side of the terminals, this will release the tang holding the wire in place. The new connector on the Painless harness will need to be removed in the same manner as well. Pull the wire and it should release from the housing. See **Figure 7.5**

**Note:** *The terminals will only insert into the connector ONE WAY, as shown in Figure 7.5. Make certain you are inserting the wire into the CORRECT LOCATION as the terminals are difficult if not impossible to remove once inserted.*

- 7.5.2** The GM ignition switch connector is pre-wired. See **Table 7-1** for color codes, wire numbers, and wire designations for the ignition switch connectors.

- 7.5.3** IGNITION SWITCH SECTION wire #919 (pur) has been cut and spade lugs installed to be connected to the neutral safety switch at the base of the steering column. If the switch is mounted on the floor shifter, add some length of wire to reach it. **FOR SAFETY, PLEASE USE A NEUTRAL SAFETY SWITCH!**
- 7.5.4** The harness does not support seat belt buzzers or key alarms.
- 7.5.5** To supply power to a throttle body or tuned port fuel injection use ENGINE SECTION wire #920 (pnk) as the fused ignition power source.



**Figure 7.5** GM Turn Signal Connector

- 7.5.6** If the steering column has been changed to a later model with different turn signal plugs and possibly a different ignition kit, use Painless part #30805 (Steering Column Pigtail Kit) to assist in the installation. This kit contains the turn signal, ignition switch connectors and color-coded pigtails to splice into the main harness. (See **Figure 7.5**)

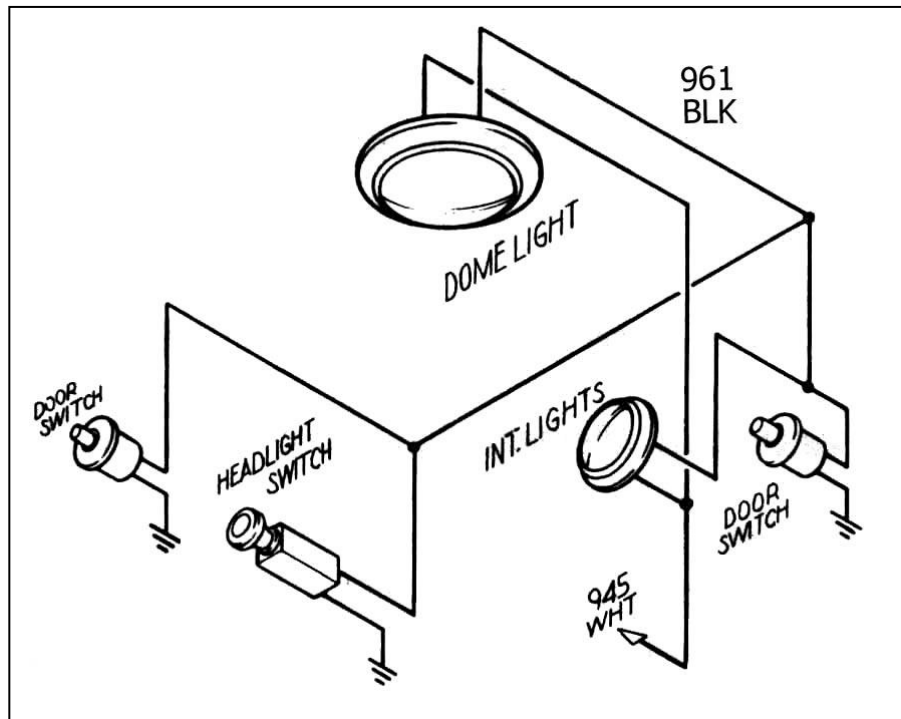
<b>TURN SIGNAL SECTION</b>				
GM Color	Designation	Painless Wire #	Painless Color	Turn Signal Connector
Blk	Horn	953	Blk	G
Lt.Blu	LF Turn Signal	926	Lt.Blu	H
Dk.Blu	RF Turn Signal	925	Blu	J
Brn	Hazard Flasher	951	Brn	K
Pur	Turn Flasher	952	Pur	L
Ylw	LR Turn Signal	949	Ylw	M
Grn	RR Turn Signal	948	Grn	N
Wht	Stop Lamp Switch	918	Wht	P
<b>IGNITION SWITCH SECTION</b>				
Pur/Wht	Ignition Start	919	Pur	
Pnk	Ignition Coil	931	Pnk	
Brn	Accy. Fuse Panel	932	Brn	
Orn	Accessories	933	Orn	
Red	Battery B+	934	Red	
Red	Battery Fuse Panel	.....	.....	

**Table 7-1** GM Ignition and Turn Signal Wiring

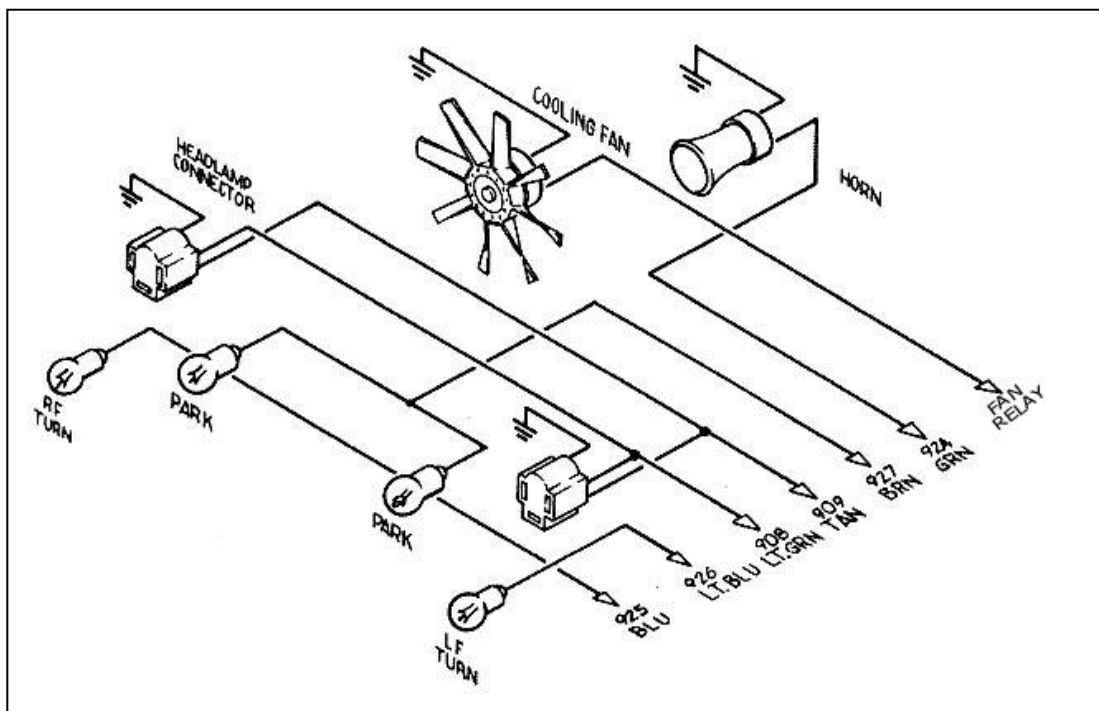
## 8.0 SPECIFIC CIRCUIT CONNECTIONS

### 8.1 Interior Lighting. See Figure 8.1

- 8.1.1** Interior lights are switched through the optional door switches and/or the dash-mounted headlight switch, which is usually rotated counter-clockwise to turn on. These switches apply ground to the circuit. YOU WILL NEED TO SUPPLY THE GROUND WIRES that go to the door switches. We have connected the wire that goes from the light to the headlight switch for you. 12V is continually present at the light bulbs. See **Figure 8.5**.
- 8.1.2** If you are using door switches, you will need to add the wires connecting them. Connect one end of the wire to the door switch and the other end to (wht) at the pigtail under the fuse block. See **Figure 8.5**.



**Figure 8.1 Interior Lighting (Door Jamb Switch – Painless Part #80170)**



**Figure 8.2 HEADLIGHT SECTION A Wiring**

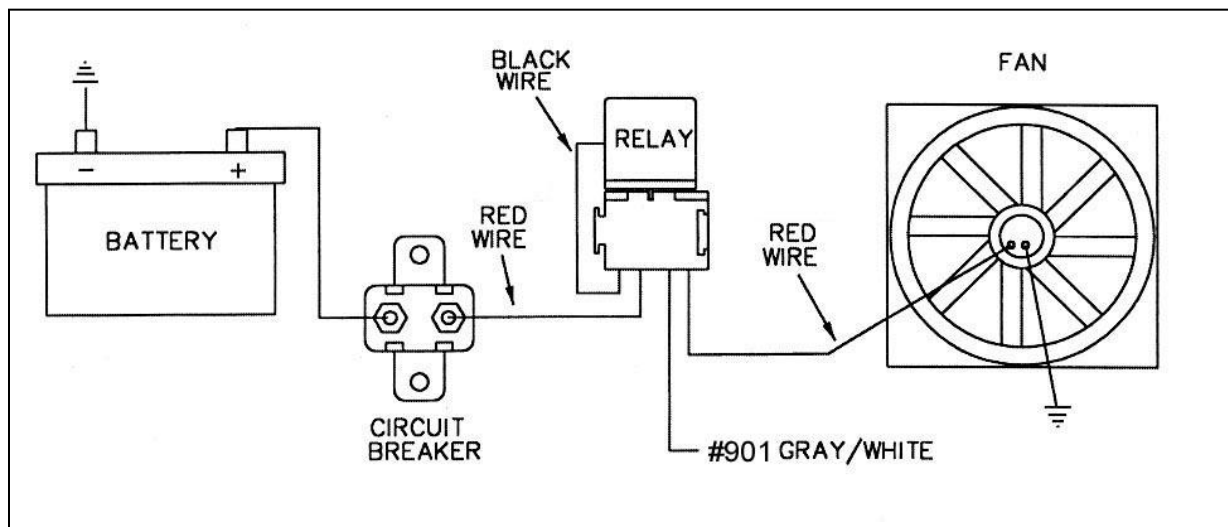


## 8.2 HEADLIGHT SECTION A. See Figure 8.2

- 8.2.1** Connect HEADLIGHT SECTION A wire #924 (grn) to the Horn's hot terminal. TURN SIGNAL SECTION wire #953 (blk) was connected in the turn signal connector section of these instructions. The horn relay is pre-wired into the fuse panel.
- 8.2.2** Connect HEADLIGHT SECTION A wire #908 (lt.grn) to the green wire of BOTH headlamp connectors. If you have a quad headlamp setup you will need to connect the two high beam headlamps to this wire as shown by the dotted lines in **Figure 8.5**. Connect wire #909 (tan) to the tan wires of both headlamp connectors. Connect the black wires of the headlamp connectors to chassis ground. You should have enough wire to accomplish this. You have been supplied with two small grommets should you need to pass these wires through a fender well. Don't forget to thread them onto the wires BEFORE you connect the wires.
- 8.2.3** Connect HEADLIGHT SECTION A wire #927 (brn) to ALL front park lights. Connect HEADLIGHT SECTION A wire #925 (blu) to the RIGHT FRONT turn signal. Connect wire #926 (lt.blu) to the LEFT FRONT turn signal.

**Note: Don't confuse Park Lights with Turn Signals.**

- 8.2.4** Connect HEADLIGHT SECTION A wire #901 (gry/wht) to the Electric Fan Relay. This wire is an activation wire for the relay, **NOT A POWER FEED**. See **Figure 8.3**, an illustration of a typical fan relay installation. The gry/wht wire #906 of ACCESSORY SECTION B+ and gry/wht wire #901 of ACCESSORY SECTION SWITCHES connect to the electric fan switch in the dash.



**Figure 8.3** Typical Fan Relay Installation (**Painless part #30101 Fan Relay Kit**)

**Note: The wire going to the fan in Figure 8.3 will be coming from the fan relay output terminal. The gry/wht wire #901 from the ACCESSORY SECTION SWITCHES is an activation wire for the fan relay.**

- 8.2.5** Connect the DIMMER SWITCH SECTION cable to the floor mounted dimmer switch. If you have a column mounted dimmer switch, the plug is the same as the floor mount version. See **Figure 8.5**.

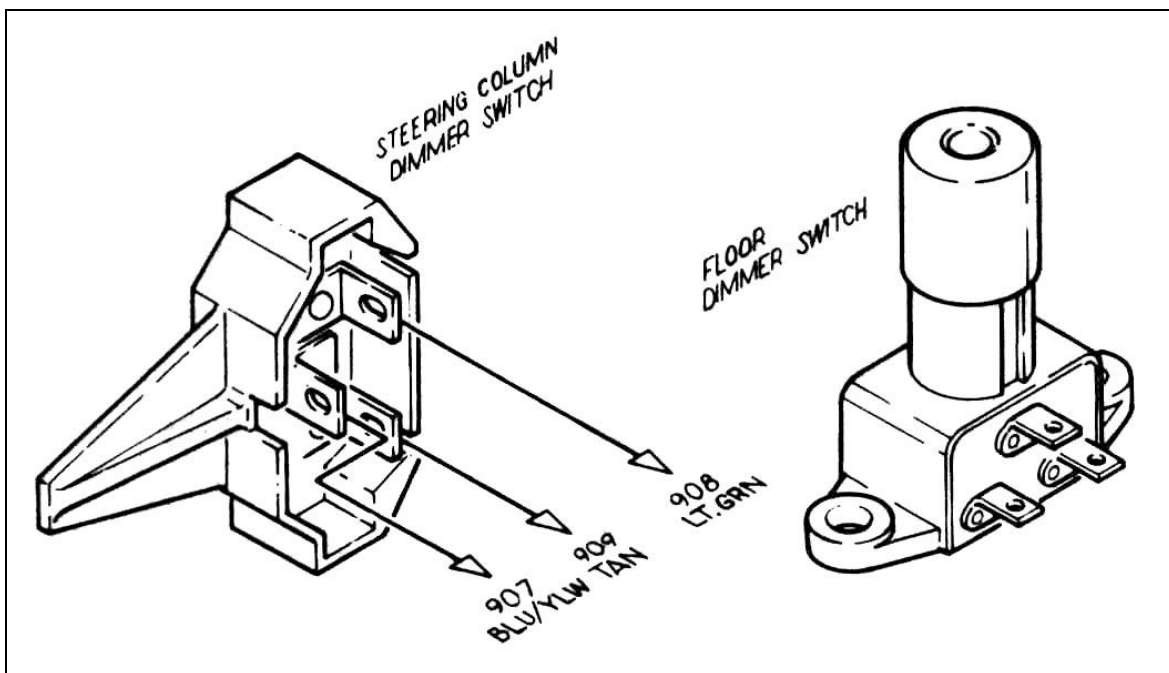
### 8.3 HEADLIGHT SECTION B Wiring. See Figure 8.4

- 8.3.1** Connect the 6 wires of HEADLIGHT SECTION B, the dome and interior light return circuit and the headlamp switch ground as shown. Wire #959 (orn) should be connected as shown in **Figure 8.5**. This wire provides power for the taillights and dash lights and is coming from the horn fuse at the fuse panel. The purpose of this wire is in the event of a short in the dash or taillights the headlights will remain working since they have their own separate fuse. If you do not have a GM headlight switch, you should trace out the wires of your existing harness and connect the new harness according to **Table 9-2**.

**Note:** *On late style GM headlight switches, the park lights terminal to which wire #927 (brn) is connected (shown in Figure 8.5) has been omitted. In this case, wire #927 must be connected as indicated by the dashed line in Figure 8.5.*

### 8.4 Instrument Panel Wiring

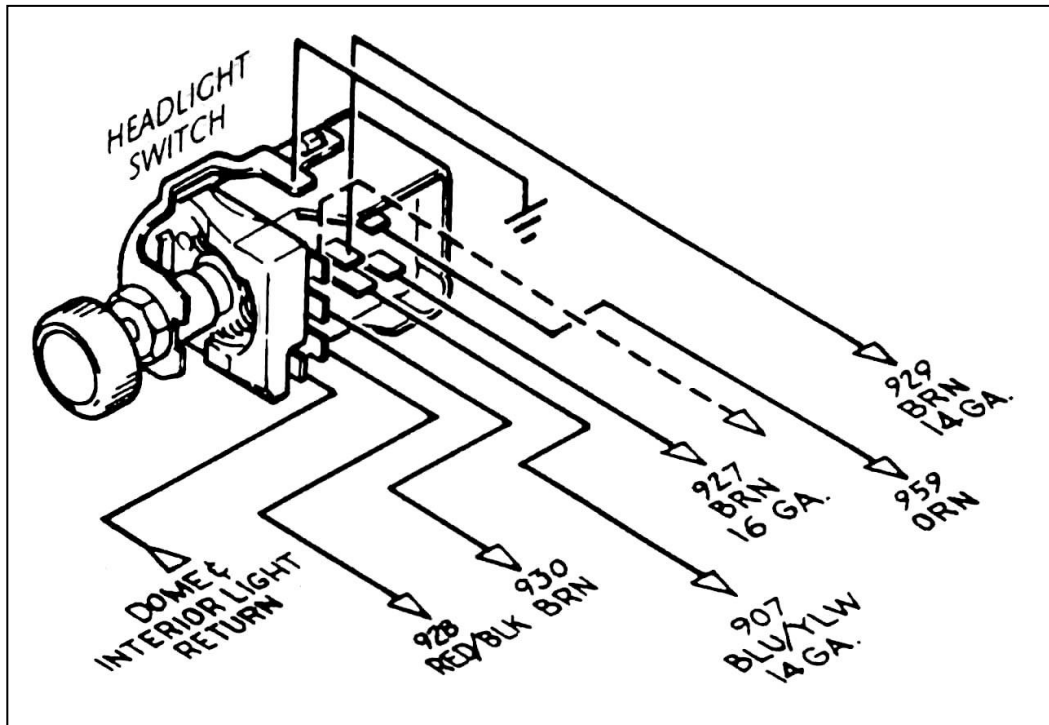
- 8.4.1** The wires of the INSTRUMENT PANEL SECTION as indicated in **Table 9-2** are pre-terminated into the printed circuit connector per GM specifications. Your truck may wire differently due to optional dashes. Insulate and stow any wires you do not use.
- 8.4.2** The dash printed circuit connector in this kit has been pre-wired to the chart for dash units with gauges. If your dash has only a fuel gauge and indicator warning lights the connector will need some wires changed for proper operation. All wires are in the instrument panel section. Any wires not used should be taped and stored.
- 8.4.3** To remove the terminals from the plastic connector, insert a paper clip along the flat side of the terminal to depress the holding clip and pull on the wire at the same time.



**Figure 8.4** Dimmer Switches (Push Button Style – Painless Part #80150)

Color	Port #	No.	Connect to
<b>DASH WITH GAUGES</b>			
Red	1		Ammeter +
Tan	2	975	Brake Input
Red/Wht	3	935	Gauges B+ (Brake, Temp, Fuel)
Pnk	4	939	Fuel Sender
Lt.Grn	5	921	Temp Light Ground (Sender)
Grn/Blk	6		Temp Gauge Sender
Blk	7		Ground
Gry	8	930	Dash Lights B+
Blu	9	938	Right Turn
Lt.Blu	10	937	Left Turn
Grn	11	936	High Beam
Red/Blk	12		Ammeter
<b>DASH PANEL WITH LIGHTS</b>			
Blu/Blk	1	922	Oil Pressure
Tan	2	975	Brake Warning Switch
	3		Open
Pnk	4	939	Fuel Sender
Grn	5	921	Temp Light Switch
Blk	6		Ground
Red/Wht	7	935	Dash B+
Brn	8		Generator Light
Lt.Grn	9	936	High Beam
Lt.Blu	10	937	Left Turn
Blu	11	938	Right Turn
Gry	12	930	Dash Lights

**Table 8-1** Dash Panel Wiring



**Figure 8.5** HEADLIGHT SECTION B Wiring (GM Style Switch – Painless Part #80152)

## 8.5 Brake Light Switch

- 8.5.1 Connect BRAKE SECTION wires #917 (orn) and #918 (wht) to the brake light switch whether it is attached close to the master cylinder or at the steering column.
- 8.5.2 The (orn) third brake light wire is pre-connected on the switch end and is located in the SPEAKER SECTION. Connect it to the third brake light if applicable.

## 8.6 Wiper Switch Section A & B

- 8.6.1 Connect the 3 wires of WIPER SWITCH SECTION A to the wiper switch. A connector has been pre-installed.
- 8.6.2 The 6 wires of WIPER SECTION B will have 3 different connectors pre-installed. These connectors fit the wiper motor and washer pump. Connect as shown in **Figure 8.6**.

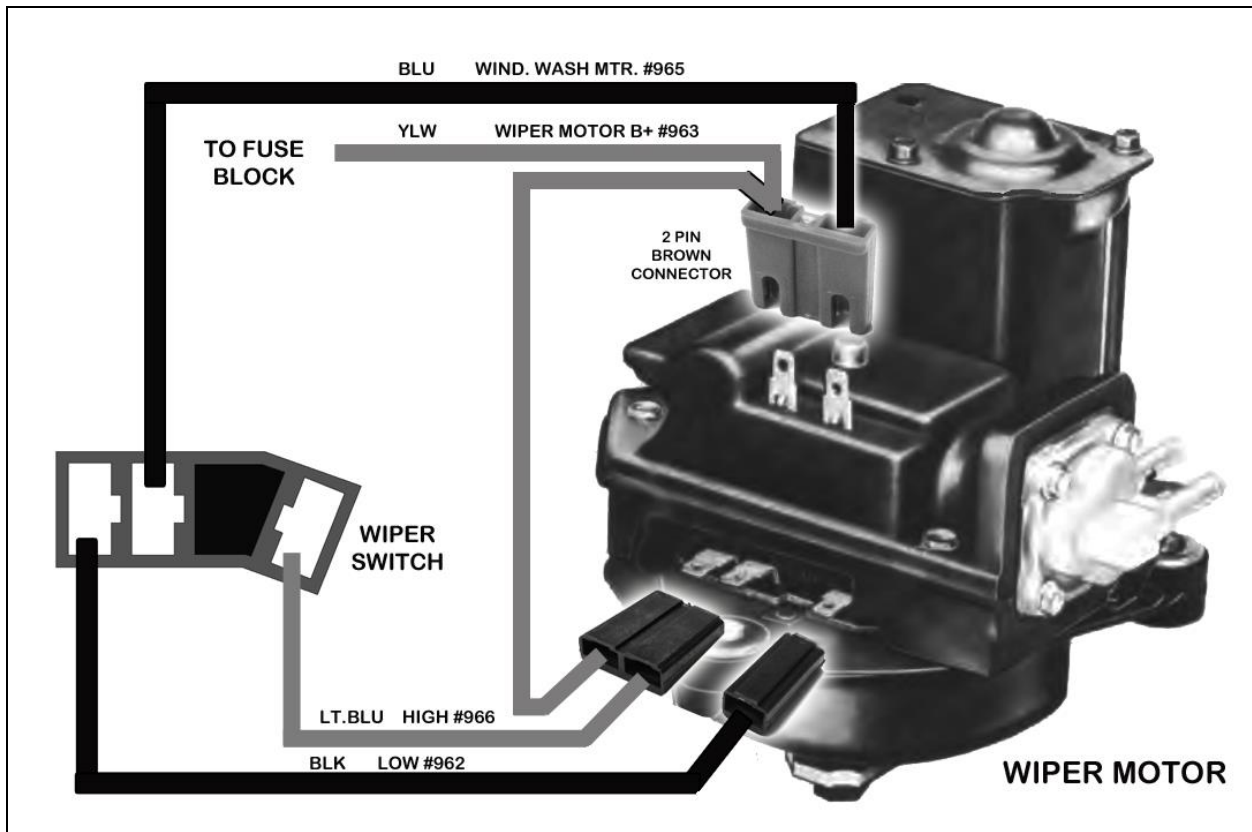


Figure 8.6 Wiper Switch Section A & B-Wiper Motor Wiring

## 9.0 WIRE CONNECTION INDEX AND FUSE REQUIREMENTS

### 9.1 Wire Connection Index

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, as identified by a number in parenthesis such as the one at the end of this sentence. **(1)**

**Table 9-2** is divided into sections that correspond to the sections of your wire harness. (ACCESSORY SECTION B+, DIMMER SWITCH SECTION, etc.). The index is divided vertically into five columns: COLOR, GA., NO., CONNECT TO and ORIGIN.

The column labeled ORIGIN is for your reference ONLY. The item in this column tells you where each wire originates (ORIGIN) and from which section of the harness.

The column labeled NO. contains a 900-series number that is used to identify various wires in the wiring diagrams that are a part of these instructions. **These numbers are physically marked on the wires themselves.**

Many (but not all) of the wire 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 asterisk (\*) in the ORIGIN column.

### 9.2 Fuse Requirements

Cigarette Lighter.....	20
Headlight Switch.....	30
Emergency Flashers.....	15
Turn Signals.....	15
Gauges.....	10
AC/Heat.....	30
Radio (Constant).....	10
Horn.....	20
Door Locks.....	20
Wipers.....	15
Brake Switch.....	20
Dome/Trunk.....	10
Electric Fan.....	5
Power Windows.....	20
Electric Fuel Pump.....	15
Coil.....	30
Radio Ignition (Switched).....	10
Backup/Cruise Control.....	10

**Table 9-1** Fuse Requirements

Color	Ga.	No.	Connect to	Origin
			<b>ACCY. SECTION SWITCHES</b>	
Gry/Wht	18	901	Cooling Fan Switch	Fan Relay
Blk/Wht	14	902	A/C Heat Switch	A/C Compressor
			<b>ACCY. SECTION B+</b>	
Tan (1)	14	903	Cigarette Lighter B+	Fuse Panel
Gry/Wht	18	906	Cooling Fan Switch B+	Fuse Panel
			<b>HEATER SECTION</b>	
Ylw/Wht	14	967	Blower Switch	Blower Resistor
Blk/Wht	14	904	A/C Heat Switch	Fuse Panel
Ylw	14	969	Blower Switch	Blower Resistor
Lt.Blu	14	970	Blower Switch	Blower Resistor
Orn/Blk	16	971	Fan Motor	Blower Resistor
			<b>BRAKE SWITCH SECTION</b>	
Orn	14	917	Brake Switch B+	Fuse Panel
Wht	14	918	Brake Switch	Turn Signal Switch
			<b>COURTESY LIGHT SECTION</b>	
Orn	18	980	Courtesy Light B+	Fuse Panel
Wht	18	976	Courtesy Light Ground	Headlight Switch
			<b>CRUISE CONTROL SECTION</b>	
Pnk	18	957	Cruise Control Switch	Fuse Panel
Lt.Grn	18	958	Backup Switch	Fuse Panel
Lt.Grn	18	956	Backup Switch	Backup Lights
			<b>DIMMER SWITCH SECTION</b>	
Blu/Ylw	14	907	Dimmer Switch	Headlight Switch
Lt.Grn	14	908	Dimmer Switch	High Beam
Tan	14	909	Dimmer Switch	Low Beam
			<b>DOOR SECTION A</b>	
Ylw/Blk	14	910	Right Door Lock B+	Fuse Panel
Ylw	14	911	Right Power Window B+	Fuse Panel
			<b>DOOR SECTION B</b>	
Ylw/Blk	14	912	Left Door Lock B+	Fuse Panel
Ylw (1)	14	913	Left Power Window B+	Fuse Panel
			<b>EMERGENCY BRAKE SECTION</b>	
Tan	18	981	Emergency Brake	Instrument Panel
			<b>ENGINE SECTION</b>	
Red (2)	10	916	Battery @ Starter Solenoid B+	Fuse Panel
Pur	12	919	Starter Solenoid (S Terminal)	Ignition Switch Start
Pnk	14	920	Coil B+	Fuse Panel
Grn/Blk	18	921	Temperature Sending Unit	Temperature Gauge
Grn	18	983	Temperature Sending Unit	Temperature Light
Lt.Blu/Blk	18	922	Oil Pressure Sending Unit	Oil Pressure Gauge
Pur/Wht	18	923	Tachometer Source	Tachometer
Red	16	954	Electric Choke	Fuse Panel
Wht	14	914	Alternator Exciter	Fuse Panel
Red	10	915	Alternator B+	Fuse Panel
Blk/Wht	14	902	A/C Compressor	A/C Thermostat Switch

**Table 9-2** Wire Connection Index, 1 of 3

<b>Color</b>	<b>Ga.</b>	<b>No.</b>	<b>Connect to</b>	<b>Origin</b>
<b>HEADLIGHT SECTION A</b>				
Grn	14	924	Horn B+	Horn Relay
Blu	18	925	Right Front Turn Signal	Turn Signal Switch
Lt.Blu	18	926	Left Front Turn Signal	Turn Signal Switch
Brn	16	927	Park Lights	Headlight Switch
Lt.Grn	14	908	High Beam	Dimmer Switch
Tan	14	909	Low Beam	Dimmer Switch
Gry/Wht	18	901	Fan Relay	Fan Switch
Tan	18	975	Brake Pressure Warning Switch	Instrument Panel
Brn/Wht	18	988	Front Side Markers	Headlight Switch
<b>HEADLIGHT SECTION B</b>				
Red/Blk	12	928	Headlight Switch B+	Fuse Panel
Blu/Ylw	12	907	Headlight Switch	Dimmer Switch
Brn	14	929	Headlight Switch	Tail Lights
Brn	16	927	Headlight Switch	Park Lights
Gry	18	930	Headlight Switch	Instrument Panel Lighting
Wht	18	976	Headlight Switch	Dome Light Ground
Orn	14	959	Headlight Switch B+	Fuse Panel
Brn/Wht	18	988	Headlight Switch	Front Side Markers
<b>IGNITION SWITCH SECTION</b>				
Pnk	14	931	Ignition Switch (Coil Ignition)	Fuse Panel
Brn	12	932	Ignition Switch ACCY	Fuse Panel
Orn	12	933	Ignition Switch IGN	Fuse Panel
Red	12	934	Ignition Switch B+	Fuse Panel
Pur (4)	12	919	Ignition Switch Start	Starter Solenoid
Grn	18	983	Ignition Switch	Instrument Panel
Tan	18	975	Ignition Switch	Brake Warning Light
<b>INSTRUMENT PANEL SECTION</b>				
Red/Wht	18	935	Gauges B+	Fuse Panel
Lt.Grn	18	936	High Beam Indicator	Dimmer Switch
Lt.Blu	18	937	Left Turn Indicator	Left Front Turn Signal
Blu	18	938	Right Turn Indicator	Right Front Turn Signal
Gry	18	930	Instrument Panel Lighting	Headlight Switch
Pnk	18	939	Fuel Gauge	Fuel Sending Unit
Grn/Blk	18	921	Temperature Gauge	Temperature Sending Unit
Blu/Blk	18	922	Oil Pressure Light	Oil Pressure Sending Unit
Pur/Wht (6)	18	923	Tachometer	Tachometer Source
Orn/Blk (6)	18	955	4 Wheel Drive Switch	Fuse Panel
Tan	18	975	Brake Warning Indicator	Brake Warning Switch
Blk	18		Ground	
Brn	18	987	Generator Light	Fuse Panel
Red/Blk	18	986	Ammeter	Ignition Switch
Red	16	989	Ammeter	Fuse Block
Grn	18	983	Temperature Light	Temperature Sending Unit
Lt.Blu/Blk	18	922	Oil Gauge	Oil Pressure Sending Unit

**Table 9-2** Wire Connection Index, 2 of 3

Color	Ga.	No.	Connect to	Origin
<b>RADIO SECTION</b>				
Red	18	940	Radio B+ Unswitched (Constant)	Fuse Panel
Red/Blk	18	941	Radio B+ Switched	Fuse Panel
Pur/Blk	18	985	Power Antenna Switch	Speaker Section
<b>SPEAKER SECTION</b>				
Orn	18	979	Third Brake Light	Brake Switch
Grn/Blk	18	984	Auxiliary Cargo Light	Fuse Block
Pur/Blk	18	985	Power Antenna Signal	Radio Section
<b>TAIL SECTION</b>				
Ylw/Wht	14	947	Electric Fuel Pump B+	Fuse Panel
Grn	16	948	Right Rear Turn Signal	Turn Signal Switch
Ylw	14	949	Left Rear Turn Signal	Turn Signal Switch
Pnk	18	939	Fuel Sending Unit	Fuel Gauge
Brn	16	929	Tail Lights	Headlight Section
Lt.Grn	18	956	Backup Lights	Backup Switch
<b>WIPER SECTION A</b>				
Blu	16	965	Wiper Switch	Windshield Washer Motor
Blk	16	962	Wiper Switch	Wiper Motor
Lt.Blu	16	966	Wiper Switch	Wiper Motor
<b>WIPER SECTION B</b>				
Ylw	16	963	Washer Pump	Fuse Panel
Blu	16	965	Washer Pump	Wiper Switch
Blk	16	962	Wiper Motor	Wiper Switch
Lt.Blu	16	966	Wiper Motor	Wiper Switch
Ylw	16		Wiper Motor	Fuse Panel-Washer Pump

**Table 9-2** Wire Connection Index, 3 of 3

**NOTES:**

- (1) **2-color wires: 2nd color (stripe) may not be intense color. Observe 2-color wires closely.**
- (2) **This consists of only one large (10-gauge) wire.**
- (3) **From fuse panel to brake switch.**
- (4) **This wire is cut and spade lugs have been installed so that your existing neutral safety switch circuit can be wired into your harness. The neutral safety switch is located at the base of GM steering columns. Do not attempt to defeat your truck's neutral safety switch, please install one.**
- (5) **These are not striped wires, but two (2) wires bonded together. The white (wht) wire is speaker POSITIVE (+) and the black (blk) wire is speaker NEGATIVE (-).**
- (6) **These wires are loose for use with accessories.**



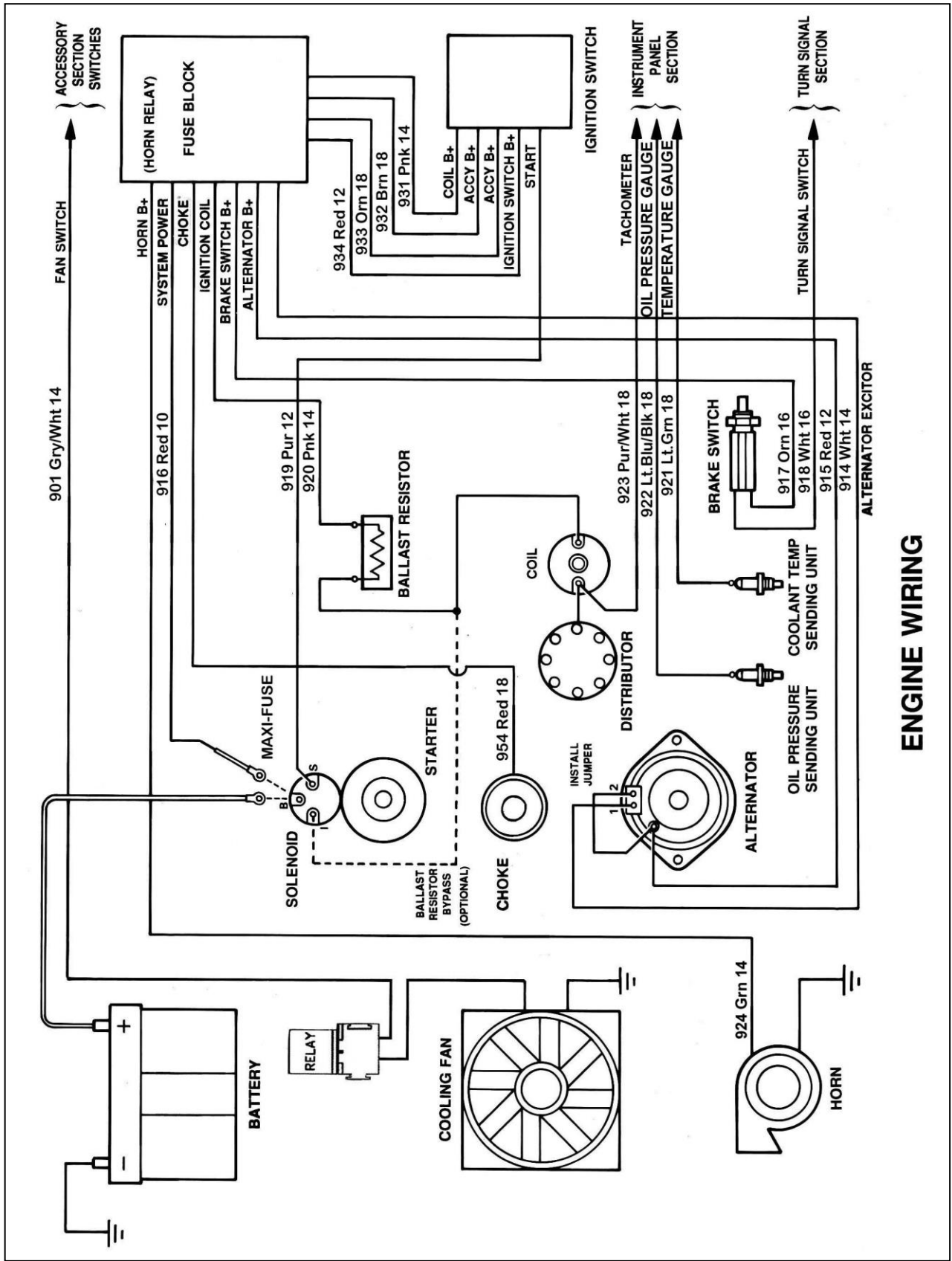
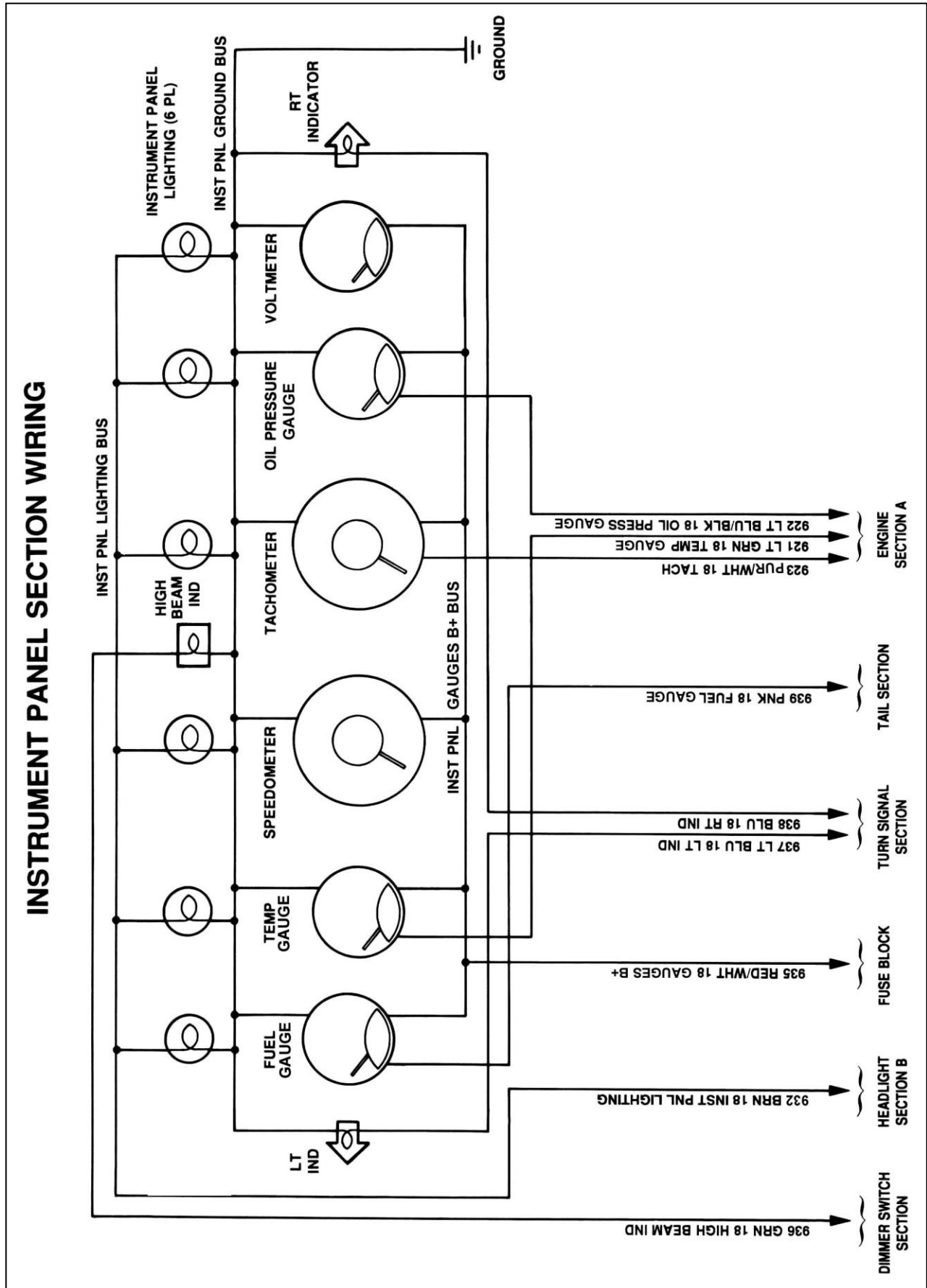


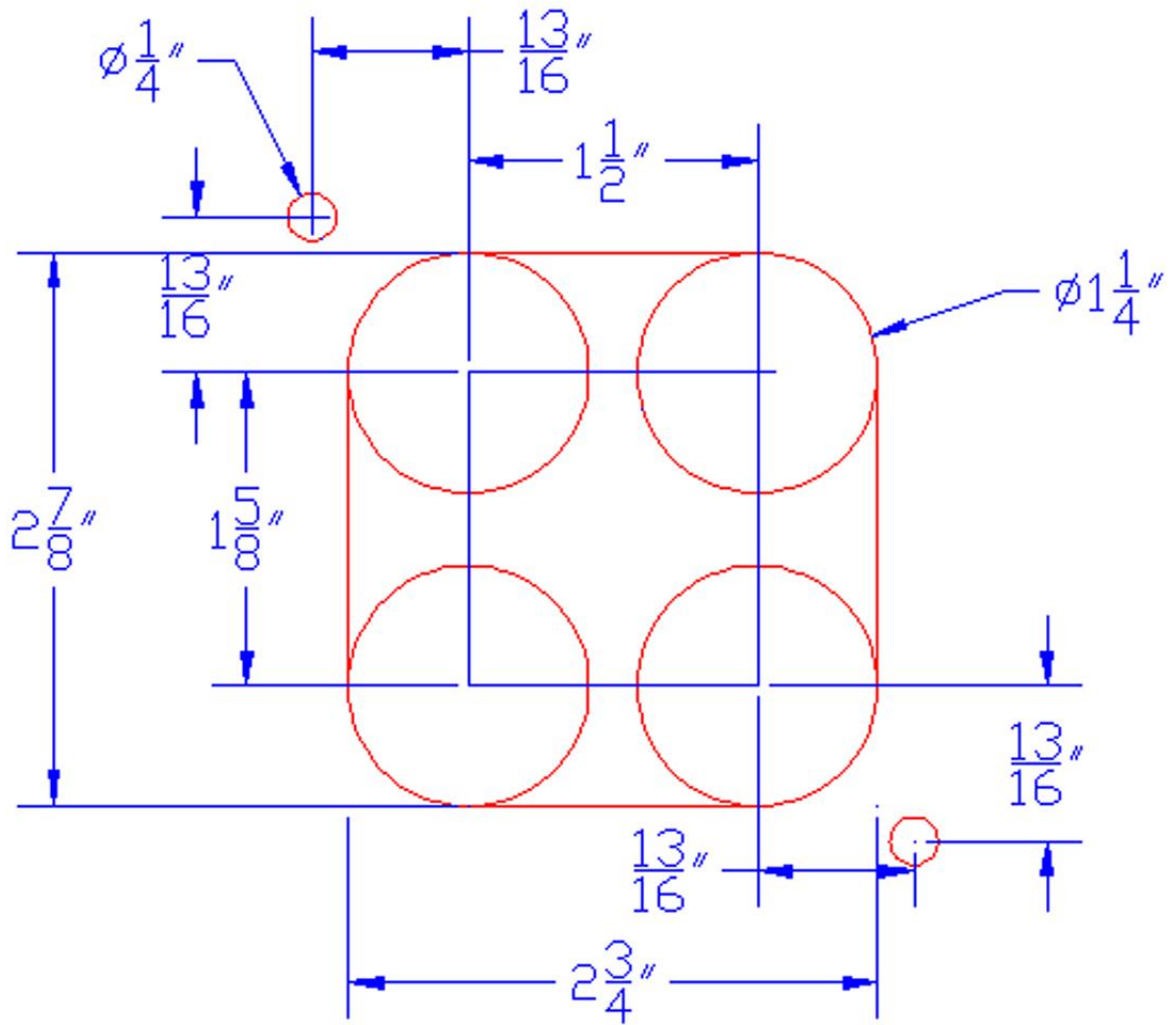
Diagram 1 Engine Wiring



**Diagram 2** Instrument Panel Section Wiring

## Bulkhead Template

The dimension photo on the next page shows how you can cut the bulkhead hole clean and precise using a 1 1/4" hole saw to cut 4 holes, using a jigsaw or cut off wheel to connect the outsides of the 1 1/4" holes, and using a 1/4" drill bit for the fuse block mounting holes. Mark the centers of all 6 holes (the 1 1/4" holes as well as the 1/4") holes before any cutting is done.



NOTE: This drawing MAY NOT be to scale, please double check your measurements with those on the drawing before any cutting or drilling.



## **Painless Performance Products, LLC** **Limited Warranty and Return Policy**

Chassis harnesses, fuel injection harnesses, and Trail Rocker units 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.