Wire Harness Installation Instructions

For Installing:

Part #50001 – Race Car Kit/8 Circuit
Part #50002 – Race Car Kit/12 Circuit
Part #50101 – Race Car Fuse Block/12 Circuit
Part #50201 – 8 Switch Dash Mounted Panel
Part #50202 – 8 Switch Roll Bar Mounted Panel

Manual #90502

Perfect Performance Products, LLC
Painless Performance Products Division
9505 Santa Paula Drive
Fort Worth, TX 76116
800-423-9696 phone • 817-244-4024 fax
Web Site: www.painlessperformance.com
E-Mail: painless@painlessperformance.com

We have attempted to provide you with as accurate instructions as possible, and are always concerned about corrections or improvements that can be made. If you have found any errors or omissions, or if you simply have comments or suggestions concerning these instructions, please write us at the address on the cover and let us know about them. Or, better yet, send us a fax at (817) 244-4024. We sincerely appreciate your business.

For Technical Questions

E-mail: tech@painlessperformance.com

Tech Line: 800-423-9696

Perfect Performance Products, LLC shall in no event be liable in contract or tort (including negligence) for special, indirect, incidental or consequential damages, such as, but not limited to, loss of property damage, or any other damages, costs or expenses which might be claimed as the result of the use or failure of the goods sold hereby, except only the cost of repair or replacement.

P/N 90502 Painless Wiring Manual

7th Edition March 2002

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

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 automotive racing wire harness or accessory on the market. It is designed for easy installation, even if you have no electrical experience.

The 50002 fuse block can be easily attached to any under-dash location. By using the optional Dimmer Switch Extension cable (not included) you can mount the fuse block under the dash on the passenger side. There is enough length to the wire at all engine, dash, and trunk locations to complete the installation without splicing. The fuse block, voltmeter, fuel gauge, oil pressure gauge, temperature gauge, turn signal lights, dimmer switch, and dash lights are all pre-wired, allowing for easy hookup. The proper fuses and flashers have been pre-installed in the fuse blocks. In addition, all wires are color-coded. This will help you identify the different circuits during installation and later on if additions to the overall system are necessary.

PPPI Wire Harness Kits are designed to be used in vehicles with a General Motors-keyed steering column, or other steering columns depending on the kit purchased. All wire is TXL (cross-linked polyethylene), 600 volt, 125 degrees c. Standard automotive wire is GPT, 300 volt, 80 degrees c. with PVC insulation.

The **50002 12-Circuit Racing Wire Harness Kit** 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, water pump, horn, starter solenoid and battery feed, alternator and alternator excitor wire, distributor, water temperature, and oil pressure.
REAR LIGHT GROUP	Includes tail lights, left and right turn signals, brake light, fuel sender, dome light and electric fuel pump.
ACCESSORY GROUP	Includes wires to connect tail and headlamps, ignition, fuel pumps, water pump, cooling fan, and an accessory.

The **50001 8-Circuit Racing Wire Harness Kit** consists of two major groups:

DASH GROUP	Provides for switching of lights, two fuel pumps, water pump, cooling fan, start and ignition, and an accessory.
ACCESSORY GROUP	Includes wires to connect tail and headlamps, ignition, fuel pumps, water pump, cooling fan, and an accessory.

2.0 ABOUT THESE INSTRUCTIONS

These instructions provide information for the installation of the 50001 8-circuit competition Wire Harness Kit, the 50002 12-circuit Racing Application Wire Harness Kit, the 50101 12-circuit Replacement Fuse Block, and the 50201/50202 8-circuit Switch Panel. The contents of these instructions are divided into major **Sections**, as follows:

1.0 Introduction
2.0 About These Instructions
3.0 Tools Needed
4.0 Pre-Installation and Harness Routing Guidelines
5.0 General Installation Instructions
6.0 50002 Racing Application Wire Harness Kit
7.0 50001 8-Circuit Racing Wire Harness Kit
8.0 50201/50202 8-Circuit Switch Box/Panel
9.0 50101 Replacement Fuse Block

Sections are further divided into **Paragraphs** and Steps. Throughout, the **Figure** numbers refer to illustrations and the **Table** numbers refer to information in table form. These are located in or near the sections or paragraphs to which they correspond. Always pay special and careful attention to any *Notes,* especially those in the Tables, and any text marked *CAUTION.*

3.0 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)
Electric drill
1-1/4" Hole saw
Small (10 amp or less) battery charger

4.0 PRE-INSTALLATION & HARNESS ROUTING GUIDELINES

The installation of your wire harness kit consists mainly in two parts:

- The physical routing, positioning, and securing of the wire harness, wire groups, and individual wires.
- The proper electrical 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 automobile. That depends a great deal upon the particular make of automobile and, secondarily, to what extent you want to secure and conceal the harness. We do offer some general guidelines and routing practices starting in **Paragraph 4.2**, GENERAL installation instructions in **Section 5.0**, and precise instructions concerning the electrical connections you will have to make in beginning in **Section 6.0**. To help you begin thinking through the installation of your wire harness, read the following sections:

4.1 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 "all caps": ENGINE SECTION A.

4.1.1 The eleven SECTIONS of the 50002 12-Circuit Racing Application Wire Harness Kit are listed immediately following. For complete information concerning the individual circuits and wires that make up these harness SECTIONS, see **Section 6.3**.

ACCESSORY SECTION SWITCHES
ACCESSORY SECTION B+
DIMMER SWITCH SECTION
ENGINE SECTION
ENGINE SECTION A
HEADLIGHT SECTION A
HEADLIGHT SECTION B
IGNITION SWITCH SECTION
INSTRUMENT PANEL SECTION
TAIL SECTION
TURN SIGNAL SECTION

4.1.2 The two SECTIONS of the 50001 8-Circuit Competition Wire Harness Kit are listed immediately following. For complete information concerning the individual circuits and wires that make up these harness SECTIONS, see **Section 7.3**.

ACCESSORY SECTION B+
INSTRUMENT PANEL SECTION

4.1.3 The 50101 12-Circuit Replacement Fuse Block and the 50201/50202 8-Circuit Switch Panel wire assignments are not separated into SECTIONS.

4.2 Decide where and how the Fuse Block or Switch Panel will be mounted. PPPI Wire Harness Kits are designed for the fuse block to be mounted on the driver's side, under the dash. If you want to install the fuse block on the passenger side, you must obtain the Dimmer Switch Extension Cable at the dealer where you obtained this wire harness kit.

4.3 Decide which of the following circuits you will be using in your system and where the harness groups or wires will be routed:

Emergency Flashers	_____
Horn	_____
Dome Lights	_____
Lights	_____
Wipers	_____
Electric Fuel Pump(s)	_____
Electric Cooling Fan	_____
Turn Signals	_____
Radio (Ign. switched B+)	_____
Gauges	_____
Accessories	_____

4.4 A good exercise is to lay out the wire harness on the floor beside your automobile and identify all the SECTIONS.

4.5 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.

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

4.7 Plan where harness supports will be located. Use a support every 12 inches unless the harness routes under the floor carpet.

4.8 Allow enough slack in the harness at places where movement could possibly occur (body to frame, frame to engine, etc.).

4.9 At wire ends, don't depend on the terminals to support the harness. The weight of the harness could cause terminals to disconnect.

4.10 The wires should be bundled into harness groups. Use nylon ties, poly split loom, or tape.

5.0 GENERAL INSTALLATION INSTRUCTIONS

5.1 GROUNDING THE AUTOMOBILE

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

Note: *PPPI Wire Harness Kits include no ground wire except the black wire from the Switch Panel, and the ground wire for the 50001 fuse block. You must supply ground wire (14-16 gauge) for all other circuits.*

5.1.1 Connect a Ground Strap or Cable (even a 10-gauge wire is too small) from the Negative Battery terminal to the automobile chassis (frame).

5.1.2 Connect a Ground Strap from the Engine to the chassis. DO NOT RELY UPON THE MOTOR MOUNTS TO MAKE THIS CONNECTION.

5.1.3 Connect a Ground Strap from the Engine to the Body.

5.1.4 If you have a fiberglass body you should install a terminal block to ground all your gauges, lights, and accessories. Ground the Terminal Block and everything connected to it will be grounded.

5.2 ROUGH INSTALLATION

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

Note: *Your kit comes equipped with a fusible link. This safety device is designed to go between wire #816 and the battery source for overall harness protection.*

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

5.2.1 Position the Fuse Block and/or Switch Panel in their intended locations. Refer to the **Introduction** and **Paragraph 4.2** if you want to mount the fuse block on the passenger side of your automobile.

5.2.2 Drill a 1-1/4" (1.25") hole near the fuse block for engine and headlight group wires to pass through (ENGINE SECTION, ENGINE SECTION A, and HEADLIGHT SECTION A).

5.2.3 Install the firewall grommet. Route engine and headlight group wires through the grommet and position the harness groups in the areas decided upon in **Paragraphs 4.3** and **4.4**.

5.2.4 Route dash group (ACCESSORY SECTION B+, ACCESSORY SECTION SWITCHES, HEADLIGHT SECTION B, and INSTRUMENT PANEL SECTION) upward to rear of dash and temporarily tie in place.

5.2.5 Position rear group (TAIL SECTION), on floor pan area decided upon in **Paragraphs 4.3** and **4.4**.

5.3 HARNESS ATTACHMENT

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

5.3.1 Permanently mount fuse block.

5.3.2 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, trunk and door hinges, etc.

5.3.3 Attach harness groups to your automobile with clips or ties starting at the fuse block and working toward the rubber grommet for the front groups and along the floor pan for the rear group. The dash wires should be routed out of the way of any under-dash obstacles, such as the cowl vent, radio, etc.

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

5.3.4 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.

5.4 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 6.0*** *through* ***10.0*** *as applicable, and continually refer to the wire connection indexes, 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.*

5.4.1 Have all needed tools and connectors handy.

5.4.2 Select the correct size terminal for the wire and stud application.

5.4.3 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 automobile body to frame, frame to engine, etc. Double check your calculations.

5.4.4 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. DO NOT OVER-CRIMP!*

5.4.5 Crimp the terminal onto the wire.

5.4.6 Connecting the harness throughout the groups is a repeating process. Make sure that each wire is FIRST properly routed and THEN attach. DON'T ATTACH FIRST THEN ROUTE AFTERWARD.

5.4.7 When all wires are attached, tighten the mounts and ties to secure harness permanently.

5.5 TESTING THE SYSTEM

5.5.1 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. 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.

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. YOU WILL SIMPLY DEFEAT THE PURPOSE OF USING THE CHARGER.

5.5.2 Individually turn on each light, ignition, wiper circuit, etc, and check for proper operation.
5.5.3 When all circuits check out THEN attach the battery cable to the battery for vehicle operation.

6.0 50002 12-CIRCUIT RACING APPLICATION WIRE HARNESS KIT

6.1 CONTENTS OF THE 50002 WIRE HARNESS KIT

Take inventory to see that you have everything you're supposed to have in this kit. If anything is missing, go to the dealer where you obtained the kit or contact Perfect Performance Products, Inc. at (817) 244-6898. The 50002 Wire Harness Kit should contain the following items:

- The Main Wire Harness, with the Fuse Block wired in and fuses installed.
- Dimmer Switch Cable. This cable comprises the DIMMER SWITCH SECTION. It connects into the harness at the white 3-pin connector. The optional Dimmer Switch Extension Cable (not included) is inserted here if you are mounting the Fuse Block on the passenger side of your automobile.
- Steering Column "Pigtail" cables. These cables constitute the TURN SIGNAL SECTION and the IGNITION SWITCH SECTION. **Both sections are unlabeled**. These cables connect into the main harness at the white 6-pin and 9-pin connectors. See **Figure 6.5** for GM-keyed column connector pin assignments.
- Firewall grommet
- 1 Package of nylon tie wraps
- 2 GM turn signal connectors (See **Figure 6.5**).
- 2 GM Ignition Switch Connectors (See **Figure 6.5**).
- Parts box, containing the Fusible Link (See **Figure 6.3**), a GM alternator connector, terminals, splices, etc.
- Race Car Wire Harness Installation Instructions PIN 90502 (This booklet)

6.2 50002 SPECIFIC CIRCUIT CONNECTIONS

If you have not already done so, read **Sections 4.0** and **5.0** of these instructions and think through the installation of the harness kit before securing or cutting any wires.

6.2.1 Early GM Alternator (before 1969)- External Regulator. See Figure 6.1.

*Note: Your Alternator may not appear exactly as represented in the **Figures**, but the circuits are wired the same.*

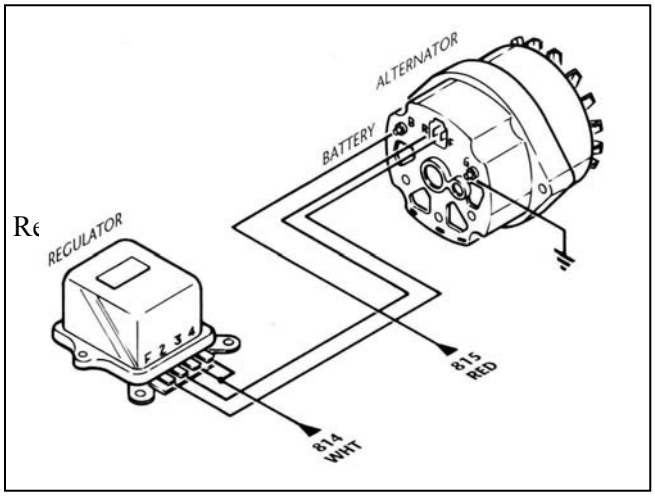


Figure 6.1 Early GM Alternator - External Regulator

A. With a short 16-gauge jumper wire, connect Voltage Regulator terminals 3 & 4 together. Connect ENGINE SECTION wire #814 (wht) to Voltage Regulator terminal 3 or 4.
B. Connect ENGINE SECTION wire #815 (red) to the Alternator Output lug (Bat).
C. Connect a 14-gauge wire from Voltage terminal 2 to Alternator terminal R. Connect a 14-gauge wire from Voltage Regulator terminal F to Alternator terminal F.
D. Connect a 16-gauge ground wire from the Alternator Ground lug (G) to chassis ground.

6.2.2 Late GM Alternator (after 1972) Internal Regulator. See Figure 6.2.

A. Connect ENGINE SECTION wire #814 (wht) to Alternator terminal 1. Connect ENGINE SECTION wire #815 (red) to the Alternator Output lug (Bat).
B. Connect a short 14-gauge jumper wire from Alternator terminal 2 to the Alternator Output lug (Bat).
C. A connector and terminal spades for late GM Alternators are included in the parts box.

6.2.3 GM One-Wire Alternator.

A. Connect ENGINE SECTION wire #815 (red) to the Alternator Output lug (Bat).
B. Insulate and stow ENGINE SECTION wire #814 (wht). Do not install jumper wire. No wires are connected to Alternator terminals 1 & 2.
C. When using a 1-wire alternator you must use a voltmeter or ammeter. A warning light cannot be wired in.

6.2.4 GM Ignition (Start/Run) System. See Figure 6.4.

*Note:If you are going to install an ammeter, see **Section 6.2.6 first.***

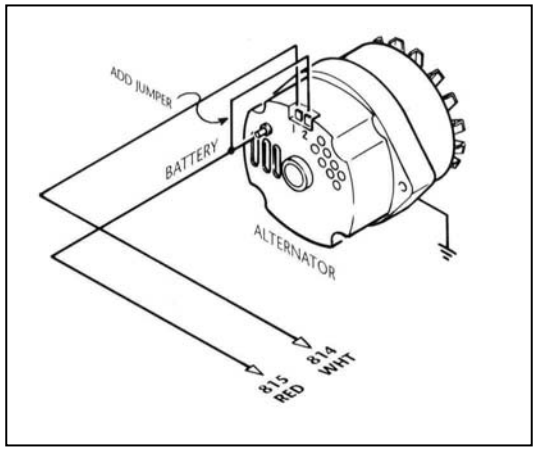


Figure 6.2 Late GM Alternator Internal Regulator

A. With crimping tool, attach Fusible Link (**Figure 6.3**) onto end of ENGINE SECTION (single) 10 ga. wire #816 (red) AFTER having routed wire from the Fuse Panel to the Starter Solenoid. This link is 2 gauges smaller than wire #816 and serves as a fuse to protect the entire harness. DO NOT OMIT IT!
B. Connect wire #816-with fusible link installed - to the Starter Solenoid Battery terminal. This is the same lug that the large red cable from the battery is normally connected to.
C. Connect ENGINE SECTION A wire #819 (ppl) to the Starter Solenoid Start (S) terminal.
D. 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 A wire #820 (pnk) to one end of the Ballast Resistor. Connect the other end of the ballast resistor to the Ignition Coil POSITIVE (+) 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 #820 directly to the Ignition Coil POSITIVE (+) terminal.

Note:*Older model vehicles ('55 -'59) used Ballast Resistors. From about '59 to about '74 Resistor Wire was used, and from about '74 on HEI electronic ignition has been employed.*

E. The Ignition Coil NEGATIVE (-) terminal is connected to the Distributor. Also connect ENGINE SECTION A wire #823 (ppl/wht) to the Ignition Coil NEGATIVE (-) terminal. This is the tachometer source. If you are not using a tachometer, insulate and stow wire #823.

F. A 14-gauge wire connected from the Starter Solenoid Ignition (I) terminal to the ignition coil side of the Ballast Resistor is optional. This wire (the dashed line in **Figure 6.4**) 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.

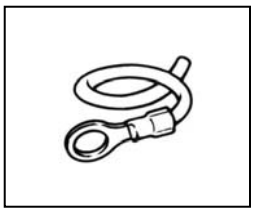


Figure 6.3 Fusible Link

G. When using an HEI Distributor connect wire #820 (pnk) to the BAT B+ terminal of the Distributor using one of the blue "push-on" splices provided. If a Tach is used wire #823 (ppl/wht) is connected to the TACH terminal, using one of the blue "push-on" splices.

6.2.5 Turn Signal & Ignition Switch Connectors. See Table 6.1 and Figure 6.5.

A. There are differing Turn Signal plugs on most tilt columns. The difference is in the length of the male plug that is mounted ON THE COLUMN. One is *4-1/4"* (4.25") long and the other is *3-7/8"(3.875").* This is a mere *3/8"* (0.375") difference, so measure the plug carefully. This kit has included female connectors to mate with either size column-mounted plug. See **Figure 6.5** to determine which connector is correct for your vehicle.

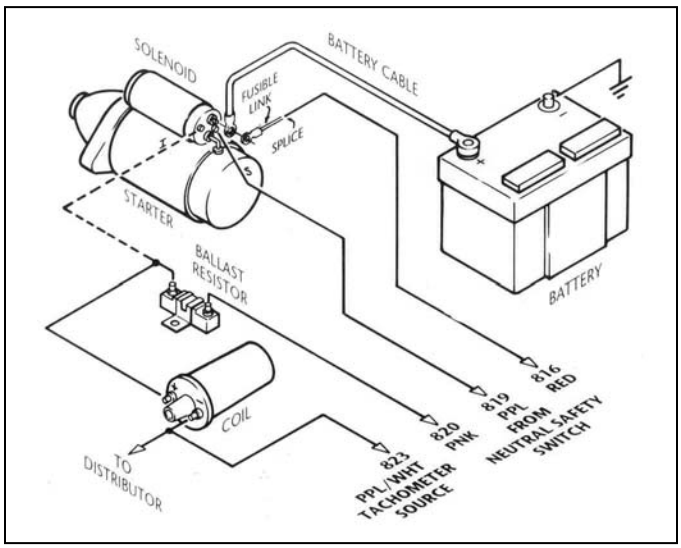


Figure 6.4 GM Ignition (Start/Run) System

The TURN SIGNAL SECTION wires have already been terminated for you. Choose the proper connector and install the contacts according to **Table 6.1** and **Figure 6.5**.

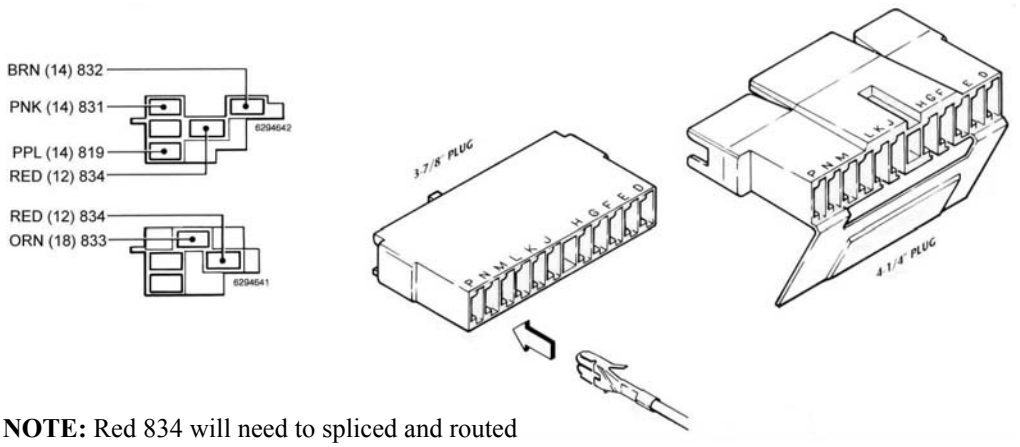
Note: The contacts will only insert into the connectors ONE WAY, as shown in ***Figure 6.5****. Make certain you are inserting the wires into the CORRECT LOCATIONS as the contacts are difficult if not impossible to remove once inserted.*

B. Connect the wires of the IGNITION SWITCH SECTION to the two (2) GM-style Ignition Connectors according to **Figure 6.5** and **Table 6.1**. The contacts are in the Parts Box.

C. IGNITION SWITCH SECTION wire #819 (ppl) 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 wire to reach it. FOR SAFETY, PLEASE USE A NEUTRAL SAFETY SWITCH!

D. The harness does not support seat belt buzzers or key alarms.

E. To supply power to a throttle body or tuned port fuel injection use ENGINE SECTION A wire #820 (pnk) as the fused ignition power source.



NOTE: Red 834 will need to spliced and routed to both ignition switch connectors when using a column mounted GM ignition switch.

Figure 6.5 Turn Signal and Ignition Switch Connectors

Designation	Wire No.	Color	Turn Signal Connector
Turn Signal Section			
Horn	853	Blk	G
LF Turn Signal	826	Lt.Blu	H
RF Turn Signal	825	Blu	J
Hazard Flasher	851	Brn	K
Turn Flasher	852	Ppl	L
LR Turn Signal	849	Ylw	M
RR Turn Signal	848	Grn	N
Stop Lamp Switch	818	Wht	P
Ignition Switch Section			
Ign. Start	819	Ppl	
Ign. Coil	831	Pnk	
Acc. Fuse Block	832	Brn	
Ign. Switch B+	833	Orn	
Battery B+	834	Red	
Battery Fuse Block	----	----	
Switch Panel Ground	861	Blk	
50201/50202 Instrument Panel Section			
Ign. Start	819	Ppl	
Ign. Coil	831	Pnk	
Acc. Fuse Block*	832	Brn	
Ign. Switched B+	833	Orn	
Battery B+	834	Red	
Ground	861	Blk	
Headlights	807	Blu/Ylw	
Taillights	829	Brn	
Elec.Water Pump	862	Blu	
Elec.Fuel Pump #1	847	Ylw/Wht	
Elec.Fuel Pump #2	863	Grn	
Elec.Cooling Fan	801	Gry/Wht	

* Used with the 50002 system only.

Table 6.1 GM Ignition, Turn Signal Wiring, and Switch Panel Wiring

6.2.6 Connecting an Ammeter and the Fusible Link. See Figure 6.6.

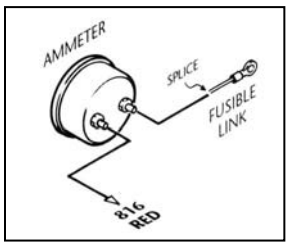


Figure 6.6 Ammeter & Fusible Link

A. The Ammeter must be inserted IN SERIES onto the ENGINE SECTION (single) 10-gauge wire #816 (red) that routes from the Fuse Panel to the Starter Solenoid on GM (**Section 6.2.4**) and from the Fuse Panel to the Starter Relay on Ford and Mopar.
B. The overall physical length of this circuit should be as short as possible (allow some slack, however). You may have to cut wire #816 and you may have to add some additional length of 10-gauge wire. USE ONLY 10-gauge wire.
C. Route wire #816 (from the Fuse Panel) and connect to the Ammeter NEGATIVE terminal. To complete the installation, follow ONE of the next three paragraphs, as appropriate.
D. If you are using a GM starter, route the remainder of wire #816 from the Ammeter POSITIVE terminal to the Starter Solenoid Battery (B+) terminal. This is the terminal the battery cable is connected to. Splice the Fusible Link or Maxifuse (**Figure 6.3**) onto the end of wire #816 and connect to the Starter Solenoid Battery (B+) terminal. E. If you are using a Ford starter with a starter relay, route the remainder of wire #816 from the Ammeter POSITIVE terminal to the Starter Relay Battery (B+) terminal. This is the terminal the battery cable is connected to. Splice the Fusible Link or Maxifuse (**Figure 6.3**) onto the end of wire #816 and connect to the Starter Relay Battery (B+) terminal.
F. If you are using a Mopar starter with a starter relay, route the remainder of wire #816 from the Ammeter POSITIVE terminal to the Starter Relay Battery (B+) terminal, and from this terminal to the Starter Solenoid Battery (B+) terminal. This is the terminal the battery cable is connected to. Splice the Fusible Link or Maxifuse (**Figure 6.3**) onto the end of wire #816 and connect to the Starter Solenoid Battery (B+) terminal.

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

CAUTION: BE SURE YOUR AMMETER'S CURRENT (AMPS) RATING EXCEEDS THE CURRENT OUTPUT OF YOUR ALTERNATOR. PERFECT PERFORMANCE PRODUCTS, INC. DOES NOT RECOMMEND USING ANY AMMETER RATED AT LESS THAN 65 AMPS. DO NOT USE AN AMMETER WITH ANY HIGH-OUTPUT ALTERNATOR (MORE THAN 65 AMPS).

6.2.7 Interior Lighting. See Figure 6.7.

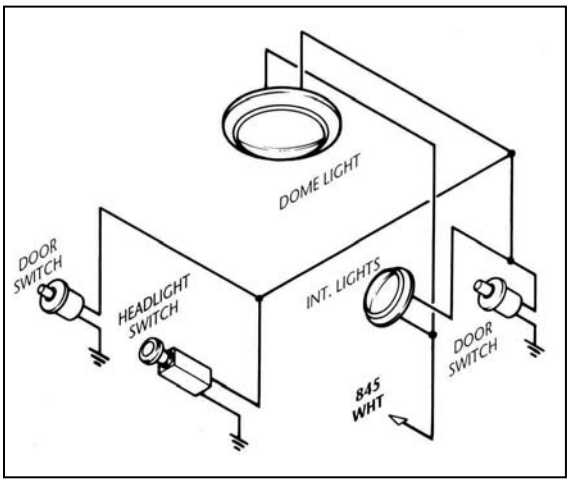


Figure 6.7 Interior Lighting

A. Interior Lights are switched through the door switches and the dash-mounted headlight switch, which is usually rotated counter-clockwise to turn on. These switches apply ground to the circuit. 12V (B+) is continually present at the light bulbs.
B. You should leave your existing interior light wiring intact. The 50002 harness supplies only the 12V (B+) to the circuit via TAIL SECTION wire #845 (wht).
C. Locate the existing 12V feed wire and connect it to TAIL SECTION wire #845.

6.2.8 HEADLIGHT SECTION A. See Figure 6.8.

A. Connect HEADLIGHT SECTION A wire #824 (grn) to the Horn's hot terminal. TURN SIGNAL SECTION wire #853 (blk) was connected in the Turn Signal Connector section of these instructions. The Horn Relay is pre-wired into the Fuse Panel.

B. Connect HEADLIGHT SECTION A #808 (lt.grn) and #809 (tan) to BOTH head-lamps. These are the hi- and low-beam wires. Connect the black wires of the headlamp connectors to Chassis Ground. You should have enough wire to accomplish this. Should you need to pass these wires through a fender well, use grommets. Don't forget to thread the grommets onto the wires BEFORE you connect them.

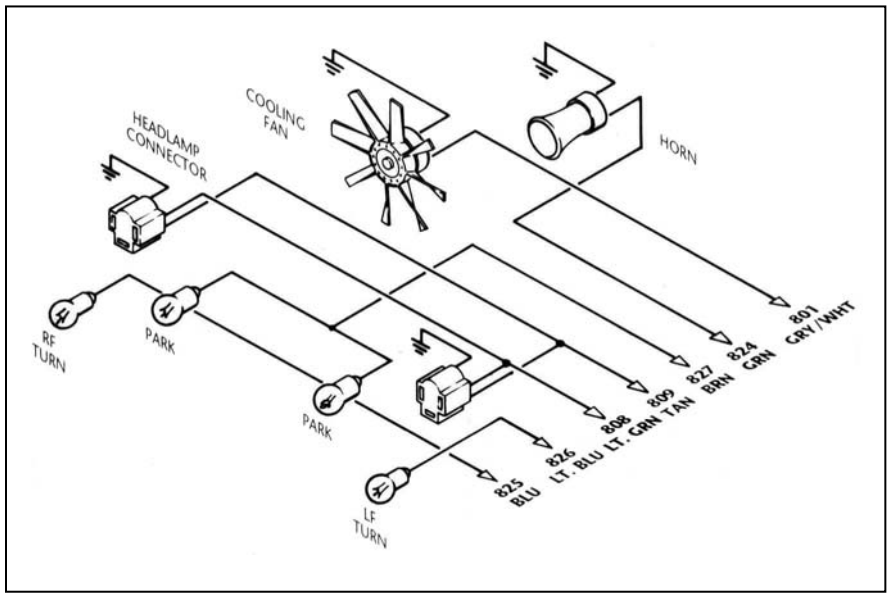


Figure 6.8 HEADLIGHT SECTION A Wiring

C. Connect HEADLIGHT SECTION A wire #827 (brn) to ALL front Park Lights. Connect HEADLIGHT SECTION A wire #825 (blu) to the RIGHT FRONT Turn Signal. Connect wire #826 (lt.blu) to the LEFT FRONT Turn Signal.

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

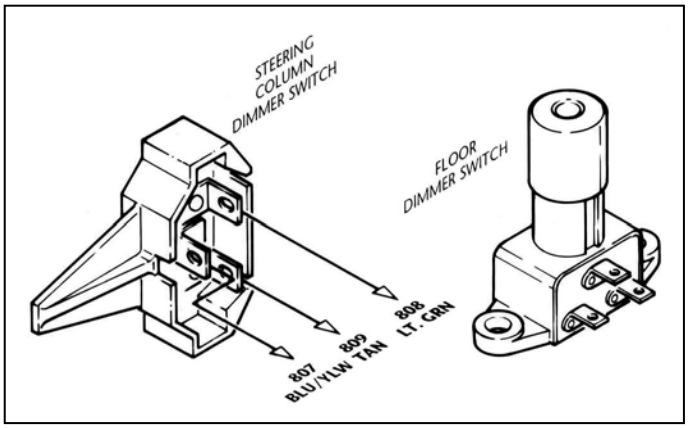


Figure 6.9 Dimmer Switches

D. Connect HEADLIGHT SECTION A wire #801 (gry/wht) to the Electric Fan hot terminal. The gry/wht wire #806 of ACCESSORY SECTION B+ and gry/wht wire #801 of ACCESSORY SECTION SWITCHES (neither shown) connect to the Electric Fan Switch in the dash.
E. Connect DIMMER SWITCH SECTION wires #807, #808, and #809 to your floor-mounted Dimmer Switch. If you have a column-mounted Dimmer Switch, you may need to run additional wire up the column. See **Figure 6.9**.

6.2.9 HEADLIGHT SECTION B Wiring. See Figure 6.10.

Connect the 5 wires of HEADLIGHT SECTION B and the Dome Light Ground as shown. If you don't have a GM headlamp switch, you should trace out the wires and connect the new harness according to **Table 6.1**.

6.2.10 Instrument Panel Wiring

A. Connect the wires of the INSTRUMENT PANEL SECTION as indicated in **Table 6.3**. Insulate and stow any wires you do not use.
B. Connect a jumper from wire #835 (red/wht) to all Gauges' B+ terminals. Connect a jumper from wire #830 (brn) to all Gauges' Instrument Lighting terminals. Connect a jumper to all gauges' Ground terminals and connect to Chassis Ground.

6.2.11 Brake Light Switch

A. Connect ENGINE SECTION A wires #817 (orn) and #818 (wht) to the Brake Light Switch whether it is attached close to the master cylinder or on the steering column.
B. The Third Brake Light wire is pre-connected on the Switch end. Connect TAIL SECTION wire #850 (orn) to the Third Brake Light if applicable.

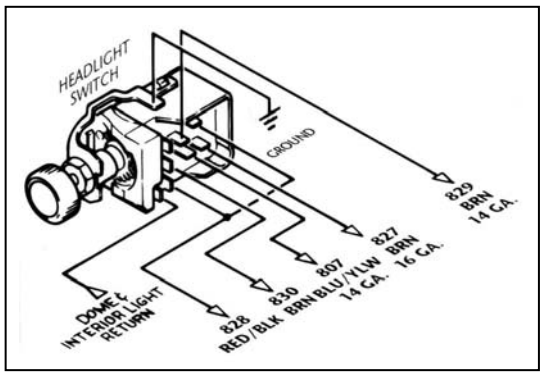


Figure 6.10 HEADLIGHT SECTION B Wiring

6.3 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 any **Notes** in this section, as identified by a small, raised number such as the one at the end of this sentence.

Table 6.3 is divided into sections that correspond to the SECTIONS of the 50002 wire harness, (ACCESSORY SECTION B+, DIMMER SWITCH SECTION, etc.). The Index is divided vertically into six columns: COLOR, GA., NO., CONNECT TO, COMES FROM, and FROM SECTION.

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

The column labelled NO. contains an 800-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 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 block 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 COMES FROM column.

6.4 FUSE REQUIREMENTS

Headlight/Dome	25
Emergency Flashers/Stop	15
Turn Signals/Wiper	15
Gauges/Radio	10
Horn/Accy. B+	20
Electric Cooling Fan	20
Electric Fuel Pump(s)	20
Coil	30
Electric Water Pump	10
Ignition Accessory (Center)	15
Ignition Accessory (Lower Right)	20

Table 6.2 Fuse Requirements

Color	Ga.	No.	Connect To:	Comes From:	From Section:
ACCESSORY SECTION SWITCHES					
Gry/Wht[1]	14	801	Cooling Fan Switch[7]	Cooling Fan	Headlight Section A
Blue[2, 3]	14	862	Water Pump Switch[7]	Water Pump	Engine Section
Ylw/Wht	14	847	Fuel Pump #1 Switch[7]	Fuel Pump #1	Tail Section
Green	14	863	Fuel Pump #2 Switch[7]	Fuel Pump #2	Tail Section
ACCESSORY SECTION B+ (This section is not used when using a 50201 or 50202 switch panel)					
Blue	16	805	Wiper Switch B+	Fuse Block*	
Gry/Wht	14	806	Fan Switch B+	Fuse Block*	
Blue[2]	14	864	Water Pump Switch B+	Fuse Block*	
Ylw/Wht	14	861	Fuel Pump #1 Switch B+[6]	Fuse Block*	
Ppl/Wht	14	865	Optional Accessory B+	Fuse Block*	
Tan	14	866	Optional Accessory B+	Fuse Block*	
ENGINE SECTION					
White	14	814	Alternator Excitor	Fuse Block*	
Red	12	815	Alternator B+	Fuse Block*	
Blue[3]	14	862	Water Pump B+	Water Pump Switch	Accy. Section Switches
Red	10	816	Battery at Str.Solenoid B+	Fuse Block*	
ENGINE SECTION A					
Orange[4]	16	817	Brake Switch B+	Fuse Block*	
White	16	818	Brake Switch	Turn Signal Switch	Turn Signal Section
Purple	12	819	Starter Solenoid	Ignition Switch Start	Ign. Switch Section
Pink	14	820	Coil B+	Fuse Block*	
Lt.Grn	18	821	Temp. Sending Unit	Temp. Gauge	Instrument Panel Section
Lt.Blu/Blk	18	822	Oil Pressure Sending Unit	Oil Pressure Gauge	Instrument Panel Section
Ppl/Wht	18	823	Tachometer Source	Tachometer	Instrument Panel Section
HEADLIGHT SECTION A					
Green	14	824	Horn B+	Horn Relay*	(Fuse Block)
Blue	18	825	Right Front Turn Signal	Turn Signal Switch	Turn Signal Section
Lt.Blue	18	826	Left Front Turn Signal	Turn Signal Switch	Turn Signal Section
Brown	18	827	Parking Lights	Headlight Switch	Headlight Section B
Lt.Grn	14	808	High Beam	Dimmer Switch	Dimmer Switch Section
Tan	14	809	Low Beam	Dimmer Switch	Dimmer Switch Section
Gry/Wht	14	801	Cooling Fan	Fan Switch	Accy. Section Switches
HEADLIGHT SECTION B					
Red/Blk	12	828	Headlight Switch B+	Fuse Block*	
Blu/Ylw	14	807	Headlight Switch[7]	Dimmer Switch	Dimmer Switch Section
Brown	14	829	Headlight Switch[7]	Tail Lights	Tail Section
Brown	18	827	Headlight Switch	Parking Lights	Headlight Section A
Brown	18	830	Headlight Switch	Instr.Panel Lighting	Instrument Panel Section
DIMMER SWITCH SECTION					
Blu/Ylw	14	807	Dimmer Switch	Headlight Switch	Headlight Section B
Lt.Grn	14	808	Dimmer Switch	High Beam	Headlight Section A
Tan	14	809	Dimmer Switch	Low Beam	Headlight Section A

Table 6.3 50002 Wire Connection Index, 1 of 2

Color	Ga.	No.	Connect To:	Comes From:	From Section:
IGNITION SWITCH SECTION					
Pink	14	831	Ignition Switch Coil B+[7]	Fuse Block*	
Brown[8]	18	832	Ignition Switch Accy. B+[7]	Accy. Power Relay*	(Fuse Block)
Orange	18	833	Ignition Switch Accy. B+[7]	Fuse Block*	
Red	12	834	Ignition Switch B+	Fuse Block*	
Purple[5]	12	819	Ignition Switch Start[7]	Starter Solenoid	Engine Section A
Black	14	860	Ground	Fuse Block	
INSTRUMENT PANEL SECTION					
Red/Wht	18	835	Radio & Gauges B+	Fuse Block*	
Green	18	836	High Beam Indicator	Dimmer Switch*	Dimmer Switch Section
Lt.Blue	18	837	Left Turn Indicator	Left Front Turn Signal*	Turn Signal Section
Blue	18	838	Right Turn Indicator	Right Front Turn Signal*	Turn Signal Section
Brown	18	830	Instr.Panel Lighting	Headlight Switch	Headlight Section B
Pink	18	839	Fuel Gauge	Fuel Sending Unit	Tail Section
Lt.Grn	18	821	Temperature Gauge	Temp.Sending Unit	Engine Section A
Lt.Blu/Blk	18	822	Oil Pressure Gauge	Oil Pres.Sending Unit	Engine Section A
Ppl/Wht	18	823	Tachometer	Tachometer Source	Engine Section A
TAIL SECTION					
White	14	845	Dome Lights B+	Fuse Block*	
Green	18	848	Right Rear Turn Signal	Turn Signal Switch	Turn Signal Section
Ylw/Wht	14	847	Fuel Pump #1 B+	Fuel Pump #1 Switch	Accy. Section Switches
Green[3]	14	863	Fuel Pump #2 B+	Fuel Pump #2 Switch	Accy. Section Switches
Yellow	18	849	Left Rear Turn Signal	Turn Signal Switch	Turn Signal Section
Pink	18	839	Fuel Sending Unit	Fuel Gauge	Instr. Panel Section
Brown	14	829	Tail Lights	Headlight Switch	Headlight Section B
Orange	18	850	Third Brake Light	Turn Signal Switch*	Turn Signal Section
TURN SIGNAL SECTION					
Brown	14	851	Emergency Flasher Switch B+	Emergency Flasher*	Fuse Block
Purple	14	852	Turn Signal Switch Flasher B+	Turn Flasher*	Fuse Block
Black	18	853	Horn Switch Ground	Horn Relay*	Fuse Block
Green	18	848	Turn Signal Switch	Right Rear Turn Signal	Tail Section
Yellow	18	849	Turn Signal Switch	Left Rear Turn Signal	Tail Section
Blue	18	825	Turn Signal Switch	Right Front Turn Signal	Headlight Section A
White	16	818	Turn Signal Switch	Brake Switch	Engine Section A
Lt.Blu	18	826	Turn Signal Switch	Left Front Turn Signal	Headlight Section A

NOTES:

1. 2-color wires: 2nd color (stripe) may not be intense color. Observe two-color wires closely.
2. Wire has identification tag.
3. May be Orn/Blk in some kits.
4. From fuse block to turn signal switch. Brake switch B+ is taken from the turn signal switch.
5. 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 General Motors and Ford steering columns and in Mopar transmissions. Do not attempt to defeat your automobile=s neutral safety switch. If your automobile does not have a neutral safety switch, please install one.
6. Jumper this wire to Fuel Pump #2 Switch B+ to supply power. Not necessary if you are using a 50201/50202 Switch Panel.
7. These wires are connected to the 50201/50202 Switch Panel, if used.
8. This wire must be connected for the accessories in the fuse block to power up.

Table 6.3 50002 Wire Connection Index, 2 of 2

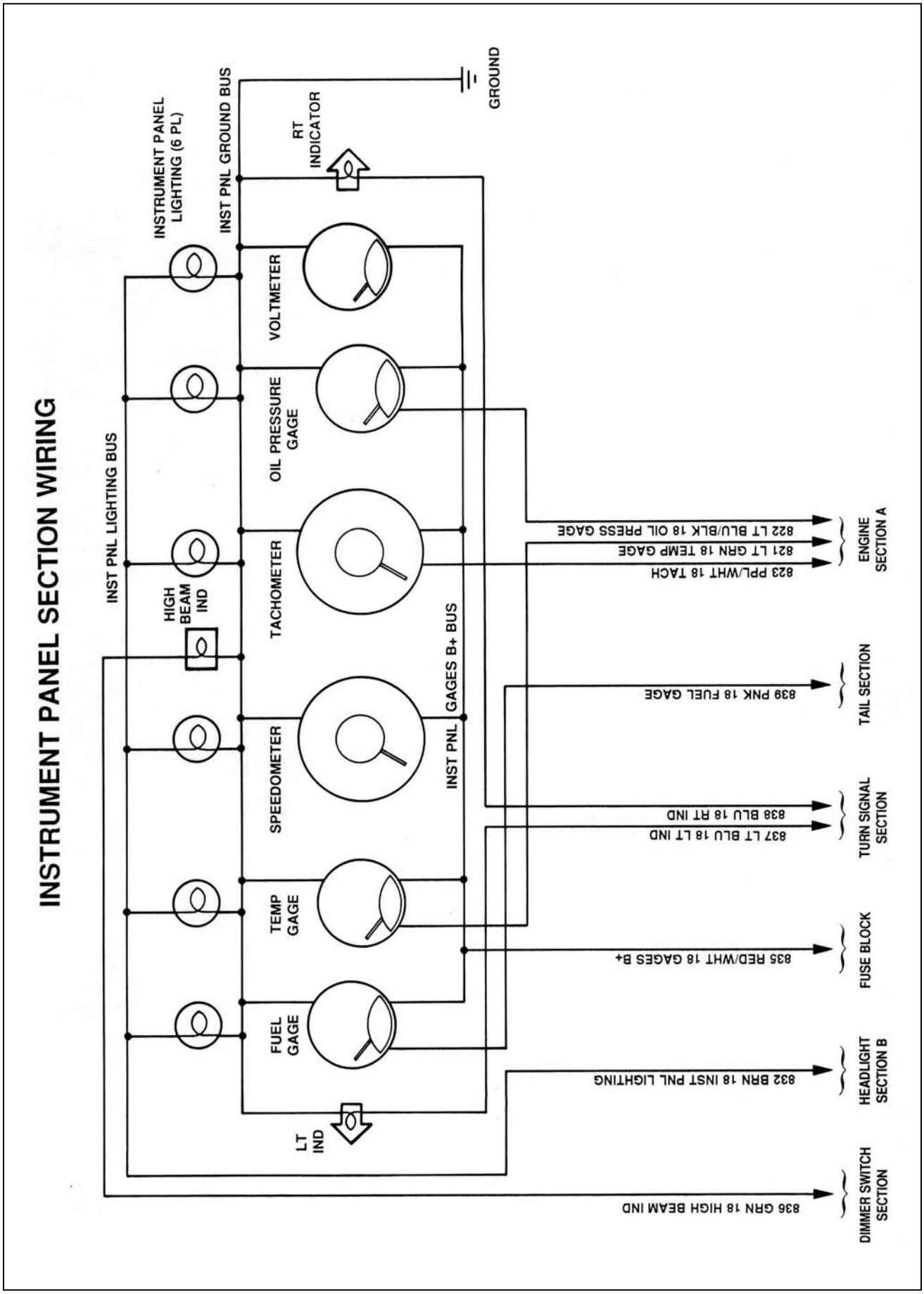


Figure 6.11 50002 Instrument Panel Connections

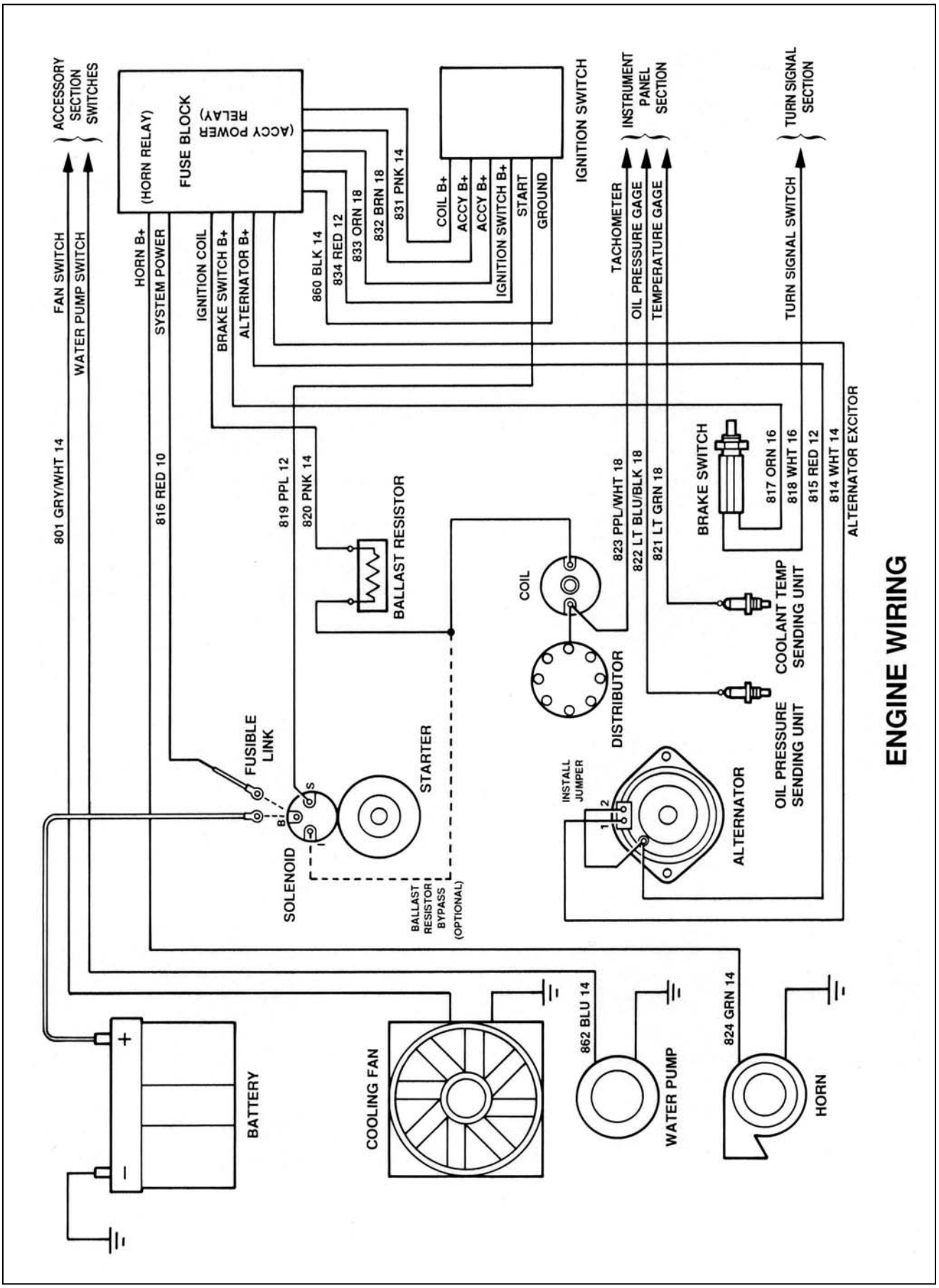


Figure 6.12 50002 Engine Section Connections

7.0 50001 8-CIRCUIT COMPETITION WIRE HARNESS KIT

The 50001 8-circuit relay-activated wiring system is designed to give maximum output with the utmost reliability. The relays enable the switches to activate the circuit with low current (amperage) requirements for extended life of the switches and the system.

7.1 CONTENTS OF THE 50001 WIRE HARNESS KIT

Take inventory to see that you have everything you're supposed to have in this kit. If anything is missing, go to the dealer where you obtained the kit or contact Perfect Performance Products, Inc. at (817) 244-6898. The 50001 Competition Wire Harness Kit should contain the following items:

- The main harness, with the fuse block wired in and fuses and relays installed.
- Spare fuses
- 1 fusible link (See **Figure 6.3**)
- 1 firewall grommet
- Parts box, containing terminals, splices, etc.
- 1 package nylon tie wraps
- Race Car Wire Harness Installation Instructions part number 90502 (this booklet)

7.2 INSTALLATION AND CONNECTIONS (Refer to Table 7.1)

Because PPPI incorporates uniform wire color coding and wire numbering, the detailed individual circuit connections provided in **Section 6.0** also apply to the installation of the 50001 8-Circuit system. See **Table 7.1**.

If you have not already done so, read **Sections 4.0** and **5.0** of these instructions and think through the installation of the harness kit before securing or cutting any wires.

7.2.1 General

A. Mount the 50001 Fuse/Relay Block in the desired interior location and route the INSTRUMENT PANEL SECTION (tagged wires) toward the 50201 or 50202 Switch Panel, if used, or toward the dash. Again, see **Section 6.0** for individual circuit details. Cut individual wires to length and terminate them to the proper locations according to **Table 7.1**.

B. Route the ACCESSORY SECTION B+ to the Water Pump, Fuel Pumps, Ignition, etc., according to **Table 7.1**. Route 10-gauge wire #816 (red) to the Battery POSITIVE (+) terminal or the Starter Solenoid BATTERY terminal to provide power to the system. Install the Fusible Link or Maxifuse (**Figure 6.3**) between the battery source and the end of the 10-gauge Red wire for system protection. Refer to **Section 6.0** as needed.

C. If you are not using a second fuel pump, INSTRUMENT PANEL SECTION wire #868 (grn) can be used to switch any other accessory, which would receive power through ACCESSORY SECTION B+ wire #863 (grn).

7.2.2 If you are NOT using a 50201/50202 Switch Panel

A. In the INSTRUMENT PANEL SECTION, connect wire #828 (blu/ylw) and #829 (brn) to the appropriate terminals of your Headlamp Switch. Wire #828 supplies power to headlamps by energizing the Headlight Relay, whereas wire #829 supplies power directly to tail lamps. If you are using a GM Headlamp Switch, see **Figure 6.10**.

B. Connect Wires #833 (orn), #831 (pnk), and #819 (pur) to the appropriate terminals of your Ignition Switch. If you are using a GM-keyed Ignition Switch, see **Figure 6.5**. Wire #833 supplies power to the accessory of your choice, switched through the Ignition Switch. Wire #819 is the Starter Solenoid START, and wire #831 is the Ignition Coil (RUN) wire.

C. Wire #867 (red) is constant 12 VDC (B+). It is used to supply power to the switches of the 50201/50202 Switch Panel. If you are not using a Switch Panel, connect wire #867 to the B+ side of the switches you are using to activate the relays in the system.

7.2.3 If you ARE using a 50201/50202 Switch Panel

A. The 50201/50202 Switch Panel can be thought of as taking the place of several switches normally mounted in the dash, including the Ignition Switch. All INSTRUMENT PANEL SECTION wires EXCEPT 18-gauge wire #867 (red) and l4 gauge wire #829 (brn) energize their respective relays which in turn connect power to the various accessories (water pump, fuel pump(s), starter solenoid, etc.)

B. Connect 18-gauge wire #867 (red) to Switch Panel 12-gauge wire #770.

C. Switch Panel 18-gauge wire #732 (brn) is not used with the 50001 Wire Harness Kit.

7.3 WIRE CONNECTION INDEX AND FUSE REQUIREMENTS

FUSE REQUIREMENTS

Switches	10
Ignition	30
Accessory	15
Electric Fuel Pump #1	20
Electric Fuel Pump #2	20
Electric Cooling Fan	15
Electric Water Pump	15
Lights	20

WIRE CONNECTION INDEX

Color	Ga.	No.	Connect To	Color	Ga.	No.	Connect To
ACCESSORY SECTION B+				**INSTRUMENT PANEL SECTION**			
Red	10	816	Battery Source	Red	18	867	Switches Power Source
Black	12	860	Ground	Brown	14	829	Headlamp Sw. (Tail)
Purple	10	870	Starter Solenoid START	Orange	18	833	Ign. Sw. Accy.
Gry/Wht[1]	14	801	Cooling Fan	Ylw/Wht	18	861	Fuel Pump #1 Switch
Ylw/Wht	14	847	Fuel Pump #1	Green	18	868	Fuel Pump #2 Switch
Green	14	863	Fuel Pump #2	Blue[2]	18	864	Water Pump Switch
Brown	14	829	Tail Lights	Pink	18	831	Ign. Sw. RUN
Blu/Ylw	14	807	Headlights	Gry/Wht	18	806	Cooling Fan Switch
Blue[2]	14	862	Water Pump	Purple	18	819	Ign. Sw. START
Pink	14	820	Ignition Coil	Blu/Ylw	14	828	Headlamp Sw. (Headl)
Orange	14	869	Accessory				

NOTES:

1. 2-color wires: 2nd color may not be intense. Observe 2-color wires closely.

2. May be Orn/Blk in some kits.

Table 7.1 50001 Wire Connection Index and Fuse Requirements

7.4 RELAY PLACEMENT See Figure 7.1.

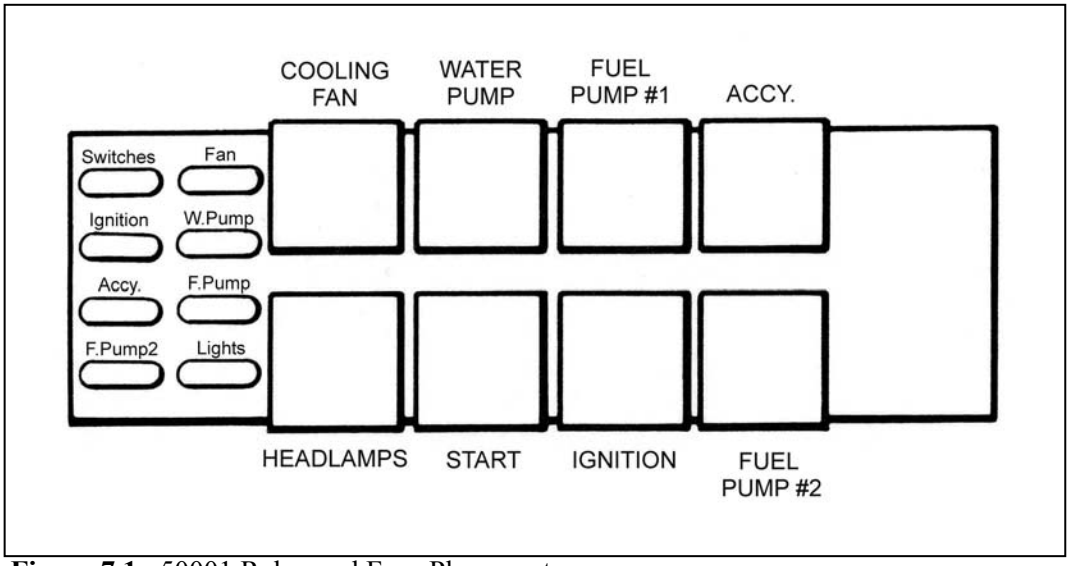


Figure 7.1 50001 Relay and Fuse Placement

8.0 50201/50202 8-CIRCUIT SWITCH PANEL

8.1 CONTENTS OF THE SWITCH PANEL KIT

Take inventory to see that you have everything you're supposed to have in this kit. If anything is missing, go to the dealer where you obtained the kit or contact Perfect Performance Products, Inc. at (817) 244-6898. The 50201/50202 Switch Panel Kit should contain the following items:

- The 50201 Switch Panel (to be mounted in-dash) or the 50202 Switch Box (for exterior mounting).
- 4 mounting screws
- 2 (3-pin) connector housings: 1 male (plug) and 1 female (jack)
- 2 (9-pin) connector housings: 1 male (plug) and 1 female (jack)
- 12 mating female electrical contacts for the connectors. The male contacts are pre-installed.
- 1 grommet (50202 ONLY)
- 3 cap plugs (50202 ONLY) to fill unused holes.
- Race Car Wire Harness Installation Instructions P/N 90502 (This booklet)

8.2 INSTALLATION AND CONNECTIONS (Refer to Table 8.1)

If you have not already done so, read **Sections 4.0** and **5.0** of these instructions and think through the installation of the harness kit before securing or cutting any wires.

8.2.1 50201 Switch Panel. See Figure 8.1.

A. Mount the Switch Panel in the desired location by drilling holes in the dash to suit your needs. Four (4) mounting screws are provided.
B. Insert the terminated wires into the two (2) Connector Jacks provided according to **Table 8.1**. Be sure you have threaded the wires through any holes and grommets before installing the connectors. The electrical contacts are almost impossible to remove without damage once they have been inserted into the connector body.
C. Using the proper crimping tool, install the receptacle contacts onto the wires of the main harness according to **Table 8.1** and insert the contacts into the two (2) Connector Plugs provided.
D. Connect the Switch Panel to the main harness and perform an operational check. Refer to **Section 5.5**.

8.2.2 50202 Switch Box. See Figure 8.1.

A. Mount the Switch Box in the desired location. Bolts or heavy screws are recommended.

Note: *The box is pre-punched to allow the Switch Box wires to exit from any chosen side. The rubber grommet is provided to protect the wires as they exit from the box. Cap plugs are included to plug the remaining unused holes for a finished look.*

B. Attach the Switch Panel to the box with the four (4) screws provided, routing the wires out the desired hole.

C. Insert the terminated wires into the two (2) Connector Jacks provided according to **Table 8.1**. Be sure you have threaded the wires through any holes and grommets before installing the connectors.

Note: *The electrical contacts are almost impossible to remove without damage once they have been inserted into the connector body.*

D. Using the proper crimping tool, install the receptacle contacts onto the wires of the main harness according to **Table 8.1** and insert the contacts into the two (2) Connector Plugs provided.

E. Connect the Switch Panel to the main harness and perform an operational check. Refer to **Section 5.5**.

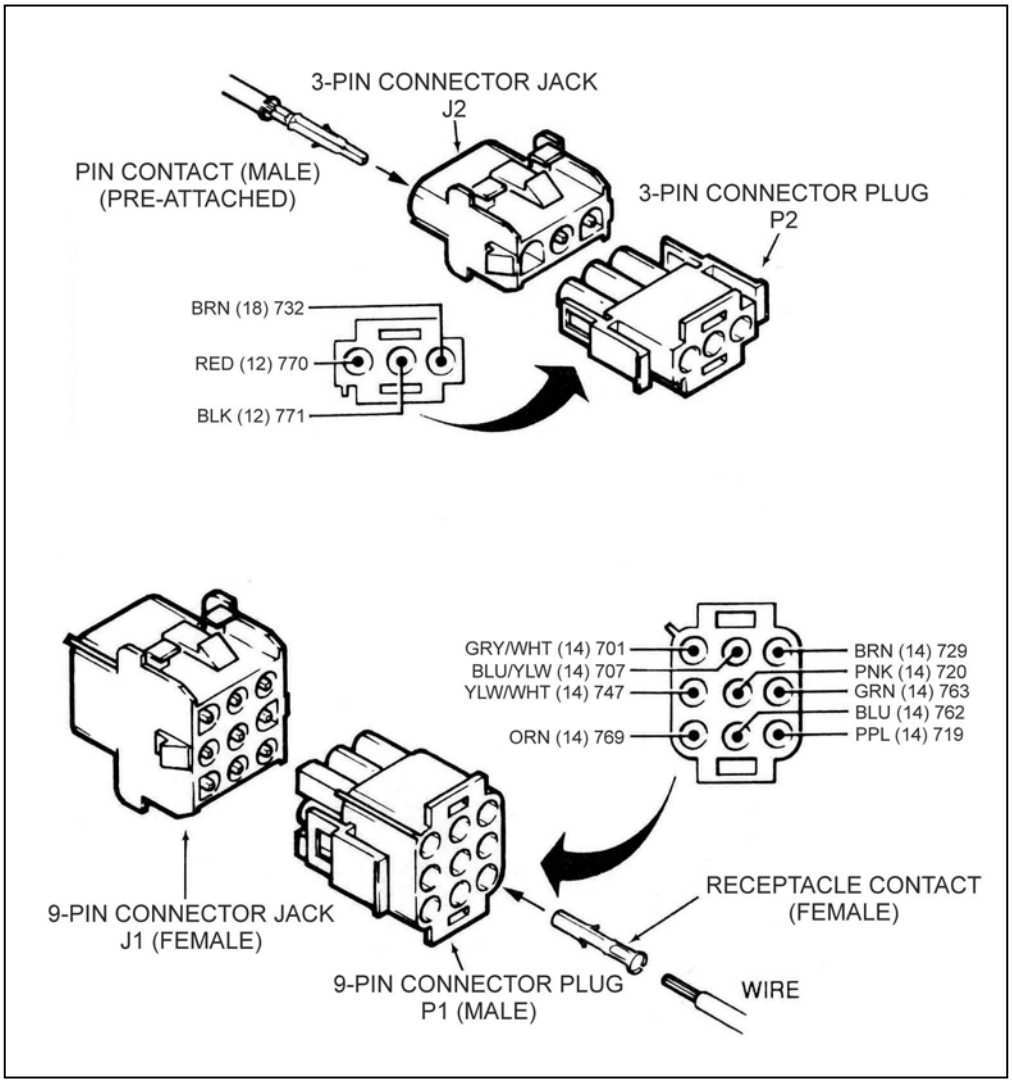


Figure 8.1 50201/50202 Switch Panel Connectors

8.2.3 If you are using the 50001 8-Circuit Competition Wire Harness

A. 18 ga. wire #732 (brn) is not used, and should be capped and stowed.
B. All of the 14 gauge wires of the Switch Panel connect to and match color-for-color (but not number-for-number) to the wires of the 50001 INSTRUMENT PANEL SECTION.

8.2.4 Connecting the 50002 12-Circuit Pro-Street Harness and The 50201/50202 8-Switch Race Car Control Centers

Before connecting the 50002 harness and the 50201/50202 switch panel together, both the 50002 fuse panel and the 50201/50202 control panel should be mounted in their permanent locations. See Instruction Manual #90502, **Sections 4.0** and **5.0** for general mounting and harness routing instructions.

Note: The dimmer switch harness and the turn signal harness may need to be routed at this time. The "ignition switch section" jumper harness white 6-pin connector must be plugged into the main harness and the jumper harness routed to the switch panel before that harness can be terminated to the 60101/60102. Failure to do this could result in wires being cut too short.

The wires in the two sections below must be removed from the designated section of the 50002 harness, routed to the 50201/50202 panel, re-terminated, and installed in the white 9-pin connector as per the diagram.

ACCESSORY SECTION SWITCHES

50002				**50201/50202**			
Color	**Ga.**	**No.**	**Connect To**	**Color**	**Ga.**	**No.**	**Connect To**
Grn	14	863	Fuel Pump #2	Grn	14	763	Fuel Pump #2
Blu	14	862	Elec. Water Pump	Blu	14	762	Elec. Water Pump
Ylw/Wht	14	847	Fuel Pump #1	Ylw/Wht	14	747	Fuel Pump #1
Gry/Wht	14	801	Cooling Fan	Gry/Wht	14	701	Cooling Fan
HEADLIGHT SECTION B+							
Blu/Ylw	14	807	Headlights	Blu/Ylw	14	707	Headlights
Brn	14	829	Tail Lights	Brn	14	729	Tail Lights
IGNITION SWITCH SECTION							
Pnk	14	831	Ign. Switch RUN	Pnk	14	731	Ign. Switch RUN
Brn	18	832	Fuse Block Relay	Brown	18	732	Fuse Block Relay
Orn	14	833	Ign. Switch Accy.	Orn	14	769	Ign. Switch Accy.
Red	12	834	Switch Panel B+	Red	10	770	Switch Panel B+
Pur	12	819	Ign. Switch START	Pur	14	719	Ign. Switch START
Blk	14	860	Ground	Blk	12	771	Ground

Note: 1. Circuit numbers are for ID purposes only.
2. There is a 14-gauge and an 18-gauge brown wire.

Table 8.1 50002 and 50201/50202 Wire Connection Index

As noted in the diagram, there is one 9-pin connector and one 3-pin connector. The easiest way to assure proper connection is to carefully study the connector diagram. The pin locations for each wire in the connectors is listed there.

Note: The pins and the white connectors can be installed improperly. They are difficult to change once installed. The female white connectors are used with the male terminals on the 50201/50202 side, and the male white connectors are used with the female terminals on the 50002.

Terminals are already installed on the 50201/50202, and all you have to do is cut the wires coming from the 50002 harness to match up. Install the female white connectors on the male terminals of the 50201/50202 harness as per the pin locations in the diagram. Match up the wire colors and ID numbers in the 50201/50202 connector with the colors and wire ID numbers on the 50002 harness, double-checking the locations of the 14 and 18-gauge brown wires. Terminate the female terminals on the 50002 harness and install them in the proper pin locations of the male 9-pin and 3-pin connectors, and install them in the corresponding connector. Make sure the connectors are properly seated.

8.3 50201/50202 Wire Connection Index

Color	Ga.	No.	Connected To	Color	Ga.	No.	Connected To
Red	12	770	Panel Input (B+)	Ylw/Wht	14	747	Fuel Pump #1
Blk	12	771	Ground	Brn	14	729	Tail/Park Lights
Blu/Ylw	14	707	Headlamps/Dimmer Sw.	Grn	14	763	Fuel Pump #2
Blu	14	762	Water Pump	Gry/Wht	14	701	Cooling Fan
Pnk	14	731	Ignition Coil	Orn	14	769	Accessory
Pur	14	719	St.Solenoid START	Brn	18	732	Fuse Block Relay (Used w/50002 only)

Table 8.2 50201/50202 Wire Connection Index

9.0 50101 REPLACEMENT FUSE BLOCK

The 50101 is a replacement Fuse Block for individuals wanting to update their current fuse block to increase current capabilities and provide the fused circuits needed for racing applications. This is the ideal unit for the vehicle owner who races but wants to stay street legal.

9.1 CONTENTS OF THE 50101 REPLACEMENT FUSE BLOCK KIT

Take an inventory to see that you have everything you're supposed to have in this kit. If anything is missing, go to the dealer where you obtained the kit or contact Perfect Performance Products, Inc. at (817) 244-6898. The 50101 Replacement Fuse Block Kit should contain the following items:

- The 50101 12-Circuit Fuse Block, with fuses installed.
- 2 Flashers
- 1 Fusible Link (See **Figure 6.3**)
- Assorted terminals
- Race Car Wire Harness Installation Instructions P/N 90502 (This booklet)

9.2 INSTALLATION AND CONNECTIONS

A. Find a suitable location (possibly where previous fuse block was located) and attach Fuse Block Mounting Bracket using the holes provided.

B. Connect the Windshield Wiper Switch hot wire to the WIPER B+ terminal (Blu).

Note: *The wire color coding noted in each step is the color of the wires at the 50101 Fuse Block. The color coding of your vehicle's wiring may not be the same. "B+" means "Battery Power."*

C. Connect the Cooling Fan Switch **hot** wire to the EL FAN B+ terminal (Gry/Wht).

Note: *Your vehicle may not have an Cooling Fan Switch. It may instead have a Cooling Fan Thermostat (usually located on the lower end of the radiator) or be directly wired so that the cooling fan runs whenever the ignition is on.*

D. Connect the Alternator Ignition (Exciter) wire to the ALT IGN B+ terminal (Wht). This wire provides power to the alternator when the ignition is on. See **Figure 6.1** for externally-regulated alternators and **Figure 6.2** for internally- regulated "one-wire" alternators.
E. Connect the Alternator Battery Post wire to the ALT BAT POST terminal (Red).
F. Connect the System **hot** wire to the POSITIVE Battery Post or Starter Solenoid **hot** terminal (Red).

Note:*Be sure to install the Fusible Link (**Figure 6.3**) between the end of the Red wire and the Battery or Solenoid for overall protection.*

G. Connect the Brake Light Switch **hot** wire to the STOP B+ terminal (Orn).
H. Connect the Ignition Ballast Resistor OR Coil wire to the coil/DIST terminal (Pnk).

Note:*This is NOT a choice between two wires. Your vehicle either has an /ignition Ballast Resistor, or it does not.*

I. Connect the Water Pump Switch (or, if unswitched, the Water Pump) **hot** wire to the WATER PUMP terminal (Orn/BIk).
J. Connect the Horn **hot** wire to the TO HORN terminal (Grn).
K. Connect the Headlight Switch **hot** wire to the LIGHT B+ terminal (Red/BIk).
L. Connect the Ignition Switch RUN wire to the IGN SW coil terminal (Pnk).

Note: *The wire normally routed from the ignition switch "RUN" terminal to the coil or the ignition ballast resistor has been cut in half to go through the fuse in the Fuse Block. This has been done for two reasons. First, it provides a fused ignition circuit for electronic fuel injection systems. Second, it provides a theft deterrent when the coil fuse is removed, disabling the ignition circuit.*

M. Connect the Ignition Switch ACCESSORY wire to the IGN SW B+ terminal (Brn). This wire powers up the accessory side of the fuse block independent of the ignition switch.
N. Connect the Ignition Switch **hot** wire to the BAT FEED terminal (Red).
O. Connect the Dash Panel Instrument and Warning Light **hot** wire to the Gauges B+ terminal (Red/Wht). You may also connect your Radio **hot** wire to this terminal.
P. Connect the Dome/Interior Light and/or Trunk Light + 12V Feed wire to the DOME B+ terminal (Wht).
Q. Connect the Fuel Pump Switch (or, if unswitched, the Fuel Pump) **hot** wire to the FUEL PUMP terminal (Ylw/Wht).
R. Connect the Hazard Flasher Switch **hot** wire (from the steering column) to the HAZARD B+ terminal (Brn). The Hazard Flasher is built into the circuit at the 50101 Fuse Block.
S. Connect the Turn Signal Switch Flasher **hot** wire to the TURN SW B+ terminal (Pur). The Turn Signal Flasher is built into the circuit at the 50101 Fuse Block.
T. Connect the Horn Switch wire (in steering column or from external button) to the HORN SW terminal (BIk). This wire, when grounded, activates the Horn Relay in the 50101 Fuse Block.
U. The IGN SW ACCY and IGN ACCY 1 terminals are provided for **switched power** needs such as Trans Brake, Line Lock, N.O.S., or other fused ignition requirements.