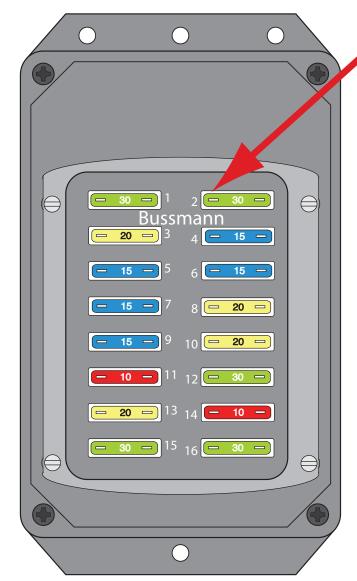
## Fuse Box



## NOTE:

If your fuse box looks like this, these **ARE** the correct instructions for your application. If the word "Bussmann" does not appear on the fuse box you have a different version of this kit and these **ARE NOT** the correct instructions.

# **KIT BOX CONTENTS:**

<u>Number</u>	<u>Description</u>
500042 500257 500332 510805 500919 510007 510011 510012 510476 92968422	Dimmer Switch Ignition Switch Adapter - GM Column Headlight Switch Ignition Switch Terminal Practice kit Builder 19 Series Fuse Panel Harness Alternator - Starter Connection kit Fuse - Flasher - Relay - Parts kit Alternator and Main Power Connection kit Instruction Sheet
92970056	Warning and Contents Sheet

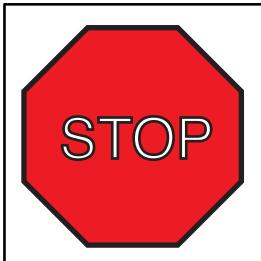


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Builder 19 Universal Wiring System

510006

92974024 Rev. 0.0 03/22/2024



## **WARNING:**

Validate the kit contents with the component list included on page 2 of this sheet before proceeding. This kit is intended to be used in a modified vehicle. Please read this sheet thoroughly and be sure that you understand everything explained on it prior to opening any of the enclosed packages, or before attempting to install any of the components. Once this kit has been opened or a component installed, the kit is not returnable.

- 1. This kit should typically be used in a **MODIFIED** application only.
- 2. This kit and all accessories that connect to this kit must be rated at 12 volts. The kit will not support 6 volt accessories.
- 3. This kit supports the use of aftermarket 12 volt heater and A/C systems.
- 4. This kit supports the use of a high current self-exciting 1-wire alternator or other style internally regulated alternators. An adapter may be necessary in some applications. The use of a stock, low amperage alternator is seriously discouraged as they cannot handle the higher current requirements of updated ignition systems, electric fans, aftermarket A/C systems, stereo systems, air ride suspensions, and other power hungry accessories and will ultimately create performance issues with the system.
- 5. This kit WILL NOT support the use of an ammeter. All AAW kits are engineered to supply the optimum charge to the battery. To achieve this performance, we route our 6ga. charge wire directly from the alternator output charge terminal to the starter battery termial. Due to the path of the charge being altered from the stock configuration, the gauge can no longer see a charge vs. a discharge, so it will not work properly. When ammeters were originally used, most generator or alternator current outputs were rated at a maximum of about 25-60 amps. Modified cars being built today typically utilize a 100 amp or higher output alternator. With these higher current units, ammeters, generally speaking, become a safety hazard. Ammeters are usually wired in parallel to the charging circuit, are typically unfused, and can short very easily causing a fire. A voltmeter is recommended as a good alternative.
- 6. This kit IS NOT set up with a resistance wire or ballast resistor for a standard points type ignition system. It is wired with a full 12 volt primary ignition feed that is hot in the run position. Primary ignition voltage in the starting position is handled via a full 12 volt bypass wire. Our system will support HEI, MSD, other electronic ignition systems, as well as most all computerized Fuel Injection systems. If you wish to run a points type system, there are extra parts (ballist resistor) that are not included in this kit will be required to complete that operation.



<u>510006</u>

# <u>510006</u> - Builder 19 Wiring Kit

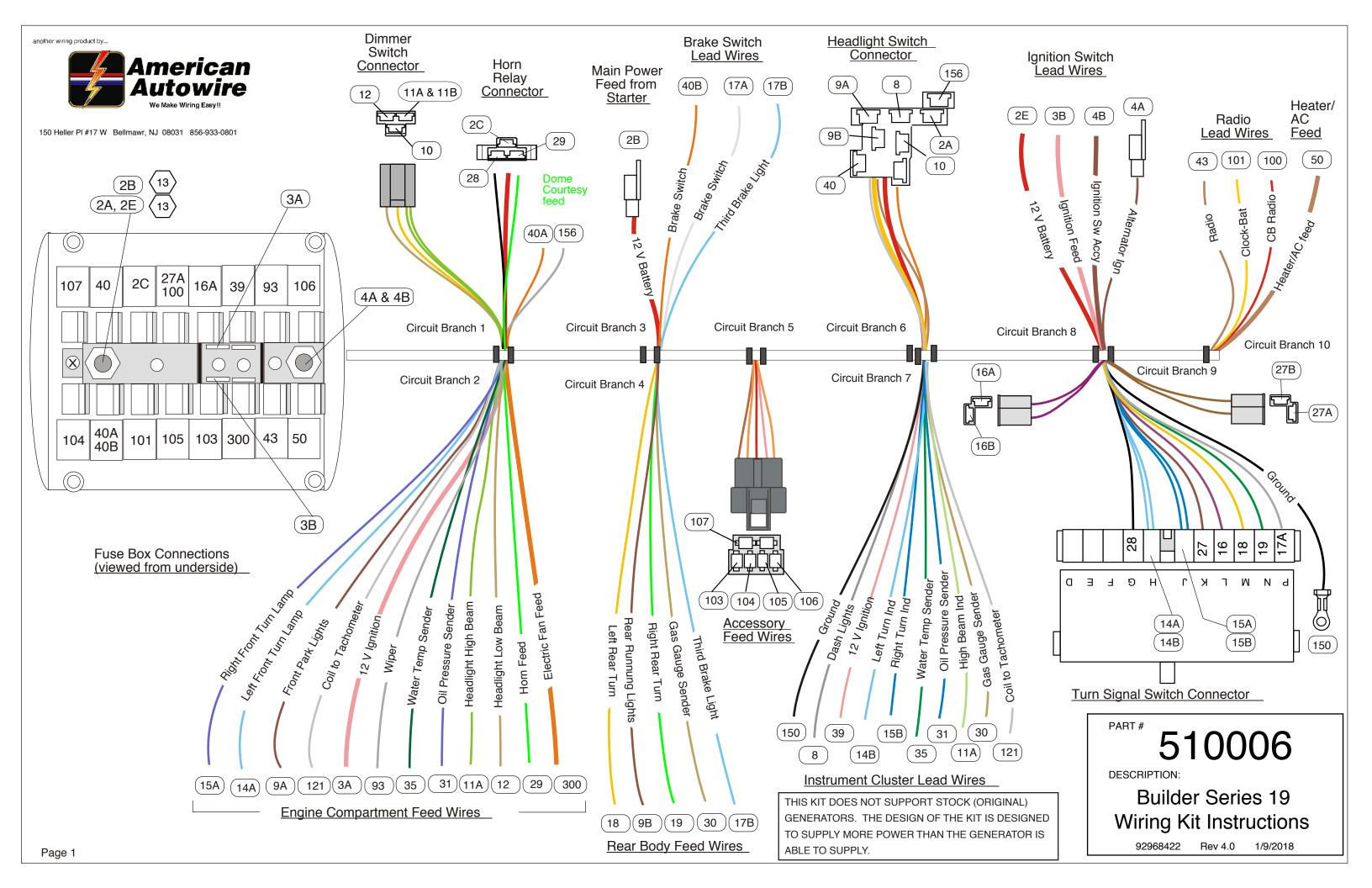
This kit contains the following components:

	Part		
<u>Bag</u>	<u>Number</u>	<u>Description</u>	Quantity
	500042	Dimmer Switch	1
	500257	Ignition Switch Adapter - GM Column	1
	500332	Headlight Switch	1
	510805	Ignition Switch	1
	500919	Terminal Practice kit	1
	510007	Builder 19 Series Fuse Panel Harness	1
	510011	Alternator - Starter Connection kit	1
	510012	Fuse - Flasher - Relay - Parts kit	1
Ζ	510476	Alternator and Main Power Connection kit	: 1
	92968422	Instruction Sheet	1
	92970056	Warning and Contents Sheet	1
		5	

Validate the kit contents with this component list. If there are any discrepencies with incorrect or missing parts, stop your installation and notify the supplier you purchased the kit from before proceeding.



<u>510006</u>



#### Installation instructions

#### Main Fuse Panel

The Main Fuse Panel harness is designed to be mounted under the dash at the firewall in an area close to the steering column.

The enclosed representation of the main dash harness shows each circuit branch and identifies each connection by its color and function. Follow the drawing for the individual circuit connections.

#### Circuit Branch 1 - Horn and Dimmer Switch connections

- Insure that the Horn relay is plugged into the connector. No further action is required
- Insure that the <u>Dimmer switch</u> is plugged into the connector.

  The orange <u>Dome Courtesy Feed</u> wire (40A) routes to the courtesy light power feed. Most courtesy lights are activated by the headlight switch or individual door jamb switches setting a ground connection.
- The white Courtesy Ground wire (156) routes to the courtesy light ground. This wire enables the headlight switch to turn on the courtesy lights.

#### Circuit Branch 2- Front end connections

- 1. Select the dark blue Right Front Turn wire (15A) and connect it to the right front directional lamp socket. If you are using a single front directional light with an 1157 or dual filament bulb, this wire would be connected to the high filament of the
- Select the light blue Left Front Turn wire (14A) and connect it to the left front directional lamp socket. If you are using a single front directional light with an 1157 or dual filament bulb, this wire would be connected to the high filament of
- 3. Select the brown Park Lights wire (9A) and connect it to both the front park / running light sockets. If you are using a single front directional light with an 1157 or dual filament bulb, this wire would be connected to the low filament of each of the front running lights. An in-line splice of this wire will be necessary to accommodate wiring of both of the front park / running lights.
- Select the white Coil to Tachometer wire (121). This can be connected directly to the tach terminal on a GM HEI distributor, to the Negative side of the coil, or a tach connection in an aftermarket ignition module such as an MSD module. See the installation instructions for the type of distributor you are using for specific connection requirements.
- Select the pink 12V Ignition wire (3A). This is the 12 volt power source for the distributor. This can be connected directly to the distributor, as in a GM HEI distributor, to a ballast resistor as in a points type distributor, or to the ignition power source for an aftermarket ignition module such as an MSD module. See the installation instructions for the type of distributor you are using for specific connection requirements.
- Select the white Wiper feed wire (93). Route and connect it to the wiper motor power connection.
- Select the dark blue Oil Pressure Sender wire (31). Route and connect it to the electric oil pressure sender.
- Select the dark green Water Temp Sender wire (35). Route and connect it to the water temperature sender.
- Select the light green Headlight High Beam wire (11A) and tan Headlight Low Beam wire (12). Route and connect these wires to the headlights. An in-line splice of this wire will be necessary to accommodate wiring of both of the headlights. Using the supplied terminals and connectors, connect these wires along with the headlight ground wires to the headlight connectors according to the orientation in the diagram on this page.
- 10. Select the dark green Horn feed wire (29). Route and connect it to the horn power terminal. If your horn has a separate ground terminal, you must supply this ground wire as it is not included in the kit.
- 11. Select the orange Electric Fan Feed wire (300). It is recommended that this wire be routed and connected to a fan relay. This wire is the relay trigger connection and should be connected to terminal (85 or 86) of the relay. Optional fan relay kits 500479, 500142, 500339, 500511, 500784, 500846, 510001, and 510002 are available from American Autowire to accommodate fan amperage requirements.

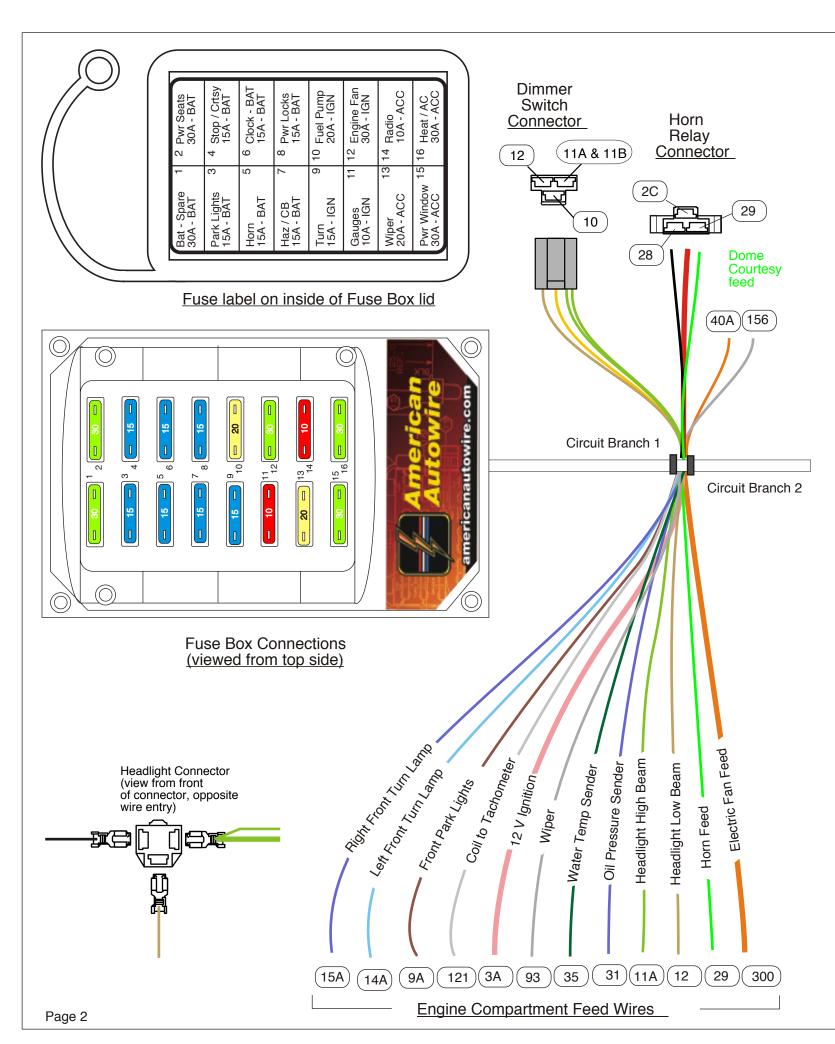
PART#

510006

**DESCRIPTION:** 

**Builder Series 19** Wiring Kit Instructions

92968422 Rev 4.0 1/9/2018



#### Circuit Branch 3 - Main Power and Brake Switch Connections

- 1. Select the orange Brake Switch wire (40B) and connect it to the input side of the brake switch.
- 2. Select the white Brake Switch wire (17A) and connect it to the output side of the brake switch.
- 3. Select the light blue <u>Third Brake Light</u> wire (17B). If you are using a third brake light, route this wire together with the white <u>Brake Switch</u> wire (17A) and connect them both to the output side of the brake switch. If you are not using a third brake light, the light blue <u>Third Brake Light</u> wire (17B) should be taped back against the harness and left unconnected or removed from the main harness.
- 4. The main power input wire from sub kit 510011 is plugged into this connector. Connection descriptions are described on page 6.

#### Circuit Branch 4 - Rear Body Connections

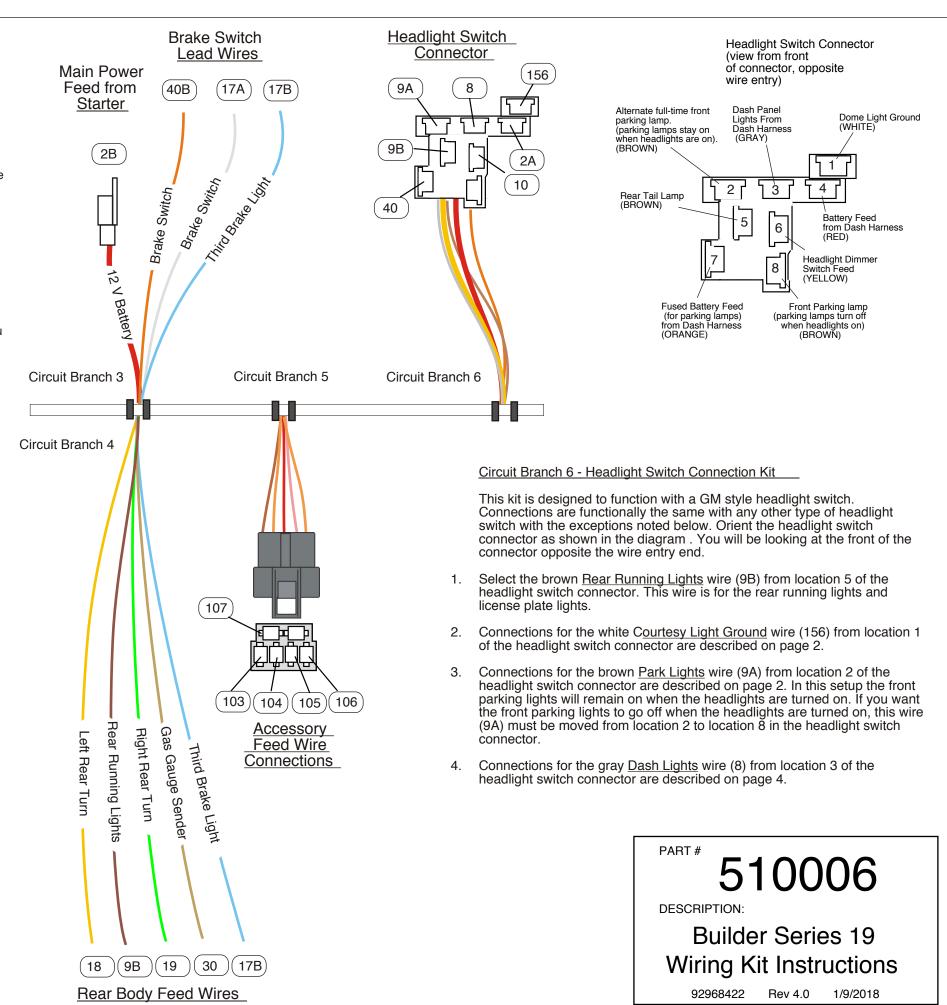
Route the rear body wires to the rear of the car and connect as follows:

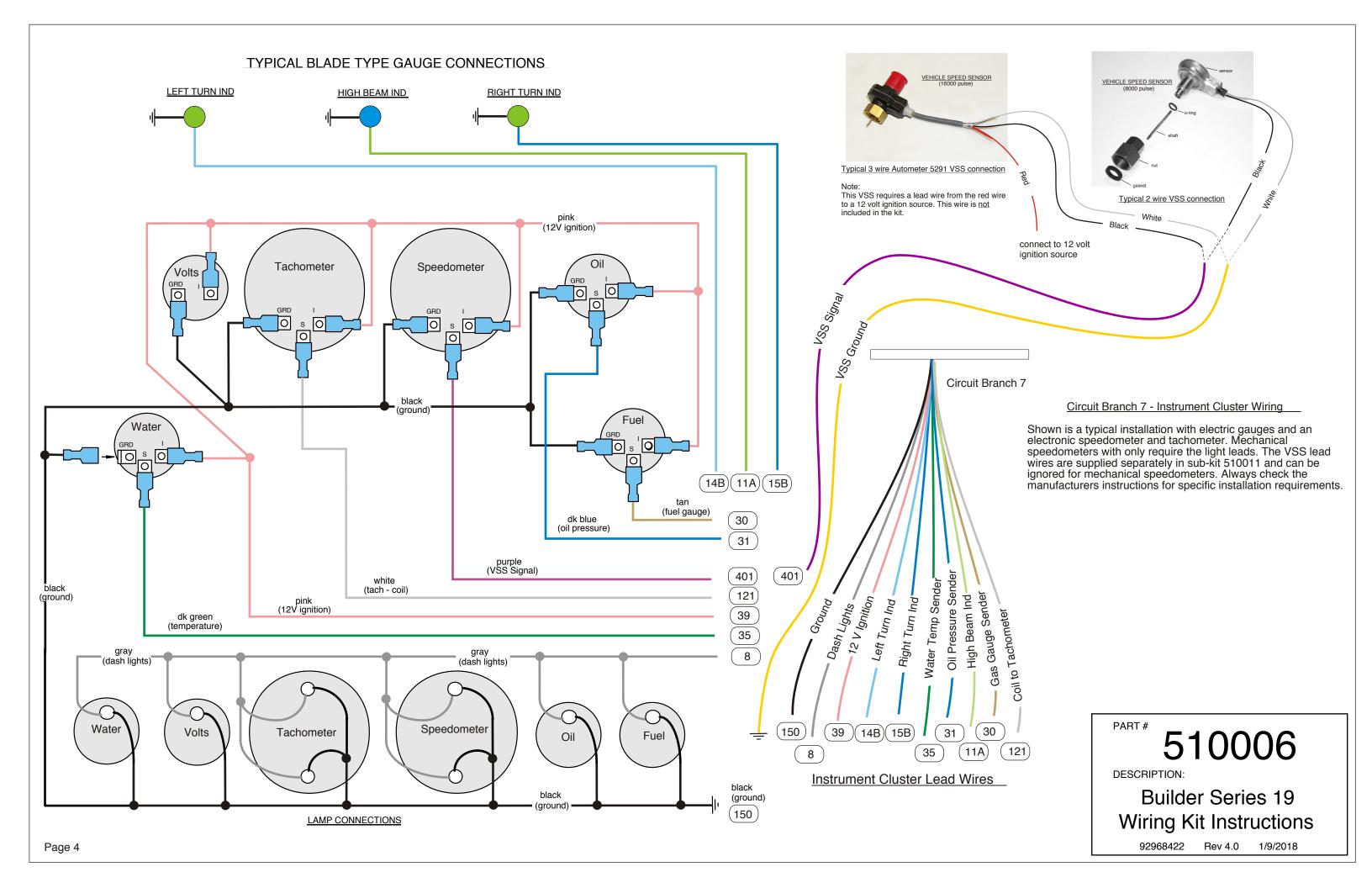
- Select the yellow <u>Left Rear Turn</u> wire (18) and connect it to the left rear directional lamp socket. If you
  are using a single tail light with an 1157 or dual filament bulb, this wire would be connected to the
  high filament of the bulb.
- Select the dark green <u>Right Rear Turn</u> wire (19) and connect it to the right rear directional lamp socket. If you are using a single tail light with an 1157 or dual filament bulb, this wire would be connected to the high filament of the bulb.
- Select the <u>Rear Running Lights</u> wire (9B) and connect it to the rear running lamp socket.
  If you are using a single tail light with an 1157 or dual filament bulb, this wire would be connected to the low filament of each of the rear running lights. An in-line splice of this wire will be necessary to accommodate wiring of both of the rear running lights.
- 4. Select the light blue <u>Third Brake Light</u> wire (17B). If you are using a third brake light, route this wire to the third brake light brake switch. If you are not using a third brake light, this wire should be taped back against the harness and left unconnected
- 5. Select the tan <u>Gas Gauge Sender</u> wire (30). Route this wire to your fuel tank and connect it to the terminal on the fuel tank sender unit.

#### <u>Circuit Branch 5 - Accessory Feed Wire Connections</u>

This kit provides 5 additional fused power circuits that can be connected through the included terminals and disconnect as follows:

wire #	<u>Type</u>	color	Printing	Function
103	Ignition	Tan	Fuel Pump	Fuel pump power.
104	Battery	Orange	Power Seats	Power seats power.
105	Battery	Red	Power Locks	Power door locks power.
106	Accessory	Pink	Power windows	Power windows power.
107	Battery	Orange	12 volt battery fused	Spare 12 volt battery fused power.

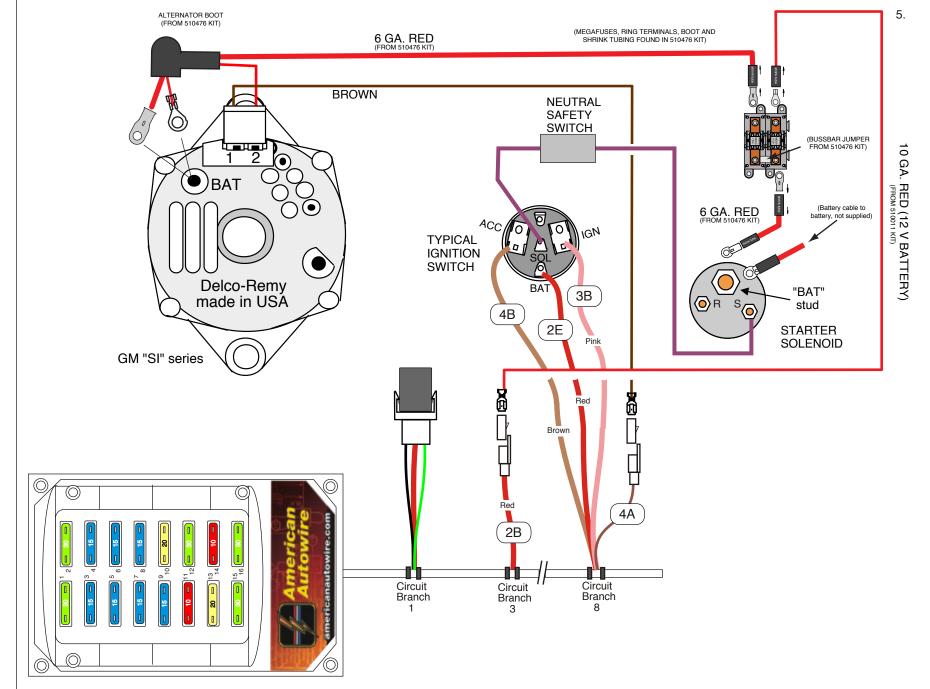




#### Circuit Branch 8 - Ignition Switch Connections

Connect these lead wires as follows:

- 1. Select the red 12 V Battery wire (2E) and connect it to the battery terminal on the ignition switch.
- 2. Select the pink Ignition Feed wire (3B) and connect it to the ignition terminal on the ignition switch.
- Select the heavy brown Ignition SW Accessory wire (4B) and connect it to the accessory terminal on



Alternator and Starter Wiring.

2.

4.

The 6 ga. red wires, ring terminals, heat shrink and their installation procedures can be found in the 510476 Alternator and Main Power Connection kit.

The following wires can be found in the 510011

- Select the 10ga red 12V Battery wire, apply ring terminal and heat shrink from the 510476 kit to one end and install as shown at the left. Route the other end from Megafuse to the red (2B) wire on the main harness. Cut to length, apply the appropriate female terminal and connector as shown at the left, and plug into the 2B wire on the main harness.
- Select the brown Alternator Ign alternator exciter wire. Route this wire to the dash harness. Cut to length, apply the appropriate terminal and connector, and plug into the dash harness brown Alternator Ign exciter connection wire (4A) 3. on the main dash harness. If you are using a one wire alternator, this exciter wire, and the 2 way alternator connector, will not be used . Subsequently, the only connection at the alternator will be the power connection to the
  - Select the purple Starter Solenoid wire. Route this wire from the neutral safety switch to the "S" terminal on the starter

Select the purple Neutral Safety Switch wire. Route this wire from the neutral safety switch to the "SOL" terminal on the ignition switch. If you are not using a neutral safety switch, these wires can be connected together to create a direct connection from the ignition switch "SOL" terminal to the starter solenoid "S" terminal.

510006

**DESCRIPTION:** 

**Builder Series 19** Wiring Kit Instructions

92968422 Rev 4.0 1/9/2018



#### Circuit Branch 8 - Ignition Switch Connections

These connections were covered on page 5 but will be included here for clarity:

- Select the red 12 V Battery wire (2E) and connect it to the battery terminal on the ignition switch.
- Select the pink <u>Ignition Feed</u> wire (3B) and connect it to the ignition terminal on the ignition switch.
- 3. Select the heavy brown Ignition SW Accessory wire (4B) and connect it to the accessory terminal on the ignition switch.

#### Circuit Branch 9 - Turn Signal Switch Connections

This kit is designed to function with a GM style turn signal switch. This connector mates to a 3 7/8 inch long plug used on GM columns from 1969-1974. It is also used on many aftermarket steering columns. From 1975 on the GM switch used a 4 1/4 inch connector. The connector is from the same family and uses the same terminals. By using the supplied mating connector it is easy to adapt any GM column to the kit as the color codes and cavity locations for the turn signal switch wires are the same. Orient the turn signal switch connector as shown in the diagram. Notice the letters on the face of the connector. These correspond to the connector cavities. The function of each wire within the cavities is as follows:

wire #	cavity	<u>color</u>	Printing	<u>Function</u>
28	G	Black	Horn Relay Ground	Horn button ground to the horn relay trigger
14A&B	Н	Light Blue	Left Front Turn	Feeds the left front turn lamp bulb high filament and the left turn dash indicator lamp.
15A&B	J	Dark Blue	Right Front Turn	Feeds the right front turn lamp bulb high filament and the right turn dash indicator lamp.
27	K	Brown	Turn Sw - Hazard	4 way hazard power feed wire from the Hazard flasher "L" terminal.
16	L	Purple	Turn Switch Feed	Turn signal power feed wire from the Turn Signal flasher "L" terminal.
18	М	Yellow	Left Rear Turn	Feeds the left rear turn and brake lamp bulb high filament.
19	N	Dark Green	Right Rear Turn	Feeds the right rear turn and brake lamp bulb high filament
17A	Р	White	Brake Switch	Power feed wire from the output side of the brake switch.

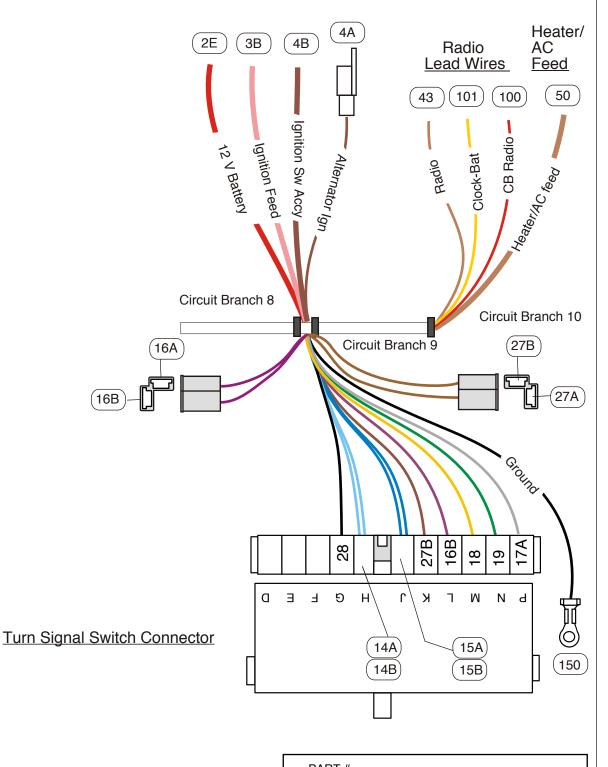
#### Circuit Branch 9 - Turn Signal and Hazard Flasher Connections

- 1. The purple Turn Switch Feed wire (16A) is a 12 volt fused ignition wire from the fuse box to the Turn Signal Flasher "X" terminal.
- The purple Turn Switch Feed wire (16B) is a 12 volt fused ignition wire from the Turn Signal Flasher "L" terminal to the Turn Signal Switch connector cavity "L".
- 3. The brown Turn Sw Hazard wire (27A) is a 12 volt fused battery wire from the fuse box to the Hazard Flasher "X" terminal.
- The brown Turn Swi Hazard wire (27B) is a 12 volt fused battery wire from the Hazard Flasher "L" terminal to the Turn Signal Switch connector cavity "K"

#### Circuit Branch 10 - Radio and Heater Connections

- 1. The tan Radio wire (43) is a 12 volt fused ignition wire that can be used for the main radio power.
- The red CB Radio wire (100) is a 12 volt fused battery wire that can be connected to a CB radio or any other radio function requiring an ignition or accessory power source.
- 3. The yellow Clock Bat wire (101) is a 12 volt fused battery wire that can be connected to a clock radio or clock that requires a 12 volt battery power source.
- 4. The brown Heater/ AC feed wire (50) is connected to the heater or A/C harness ignition power terminal.

## **Ignition Switch** Lead Wires

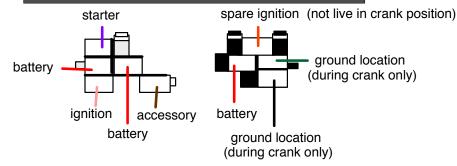


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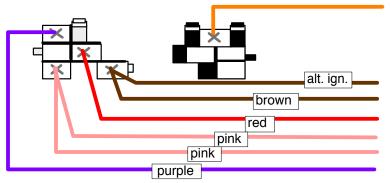
**Builder Series 19** Wiring Kit Instructions

92968422 Rev 4.0 1/9/2018

## GENERAL PURPOSE FUNCTIONS



connection to the: Highway 22 wiring system Power Plus 13, 16, and 20 wiring systems



connection to the: Highway 15 wiring system Comp- 9 wiring system

NOTE:

- 1. All connector cavities in the black and white connectors use a 56 series .25 female terminal with the exception of the "spare ignition cavity" which requires the wider 59 series .31 female terminal included in the bag.
- 2. After installing the proper wires into the ignition switch connectors, the white connector should be plugged into the ignition switch first, then the black connector. The black connector must be plugged into switch, as this will lock the white connector to switch.

optional power (wire not supplied) (not live in crank position)

(Hwy. 22 only) to alternator to panel accessory bus to panel battery bus

to distributor coil (not used on PP13 and 20)

to panel ignition bus (PP13 and 20)

to starter solenoid



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500257

(wire not supplied) (not live in crank position)

from starter solenoid

to panel accessory bus to panel battery bus to distributor coil to panel ignition bus

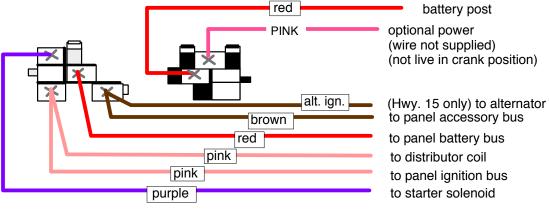
**DESCRIPTION:** 

PART#

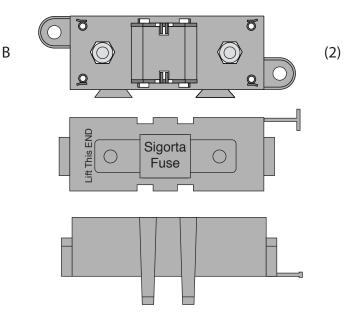
**IGNITION SWITCH CONNECTION KIT GM COLUMN MOUNT** 

92964516 instruction sheet

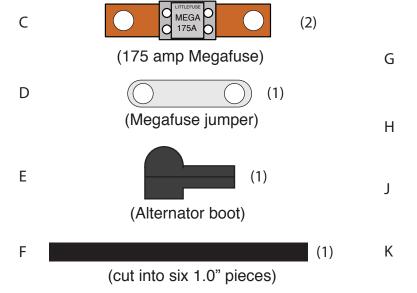
Rev 10.0 10/25/2011



(144.0" 6 Gauge charge wire)



(Megafuse body, cover and two M8 x 1.25 nuts / lock washers)



- 1. One this page, you will find the wire, fuse bodies, fuses, boot, ring terminals, and shrink tubing (items A through K) that are necessary to connect your alternator and main power feed for your new AAW wiring kit. Please be sure that all of the necessary components are present before starting this portion of your installation. If anything is missing, stop what you are doing and contact AAW at the number listed below right away.
- 2. On page 2, you will find directions for building the 2 Megafuse assemblies (items B,C and D) into one unit.
- 3. On page 3, you will find an overall concept of how to connect the Megafuse assemblies to your starter solenoid, alternator and main power feed of your new wiring system.
- 4. On page 4, you will find tips on building your charging circuit wires and assembling them and the main panel power feed wire to the Megafuse assembles.



(6Ga. starter ring terminal)



(6Ga. megafuse terminal)



(6Ga. alternator terminal)



(10Ga. megafuse terminal)



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PART#

510476



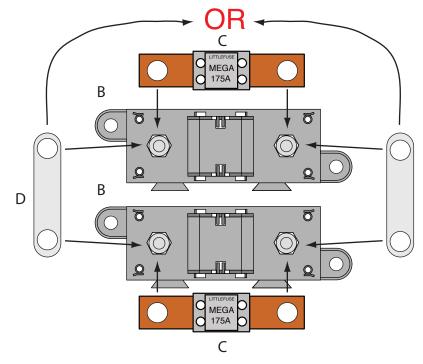
**DESCRIPTION:** 

Alternator and Main Power Connection Kit **Various Applications** 

92972153 instruction sheet rev 0.1 6/24/2019

Page 1

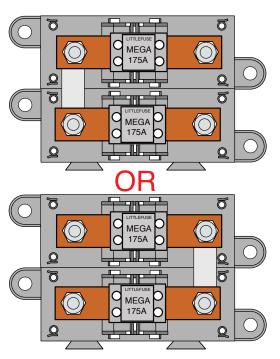
Α



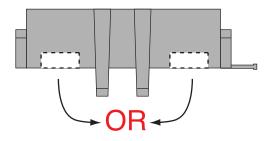
# Assembling the (2) Megafuse assemblies

NOTE: Find a suitable place, as close to the battery power source as possible, under the hood of the your vehicle to mount the completed Megafuse assemblies. Keep in mind that you have 12 feet of 6Ga. charging wire, and that the main power feed coming from your panel or bulkhead connection must also be able to reach the assembly.

- 1. Take the two Megafuse bodies and covers (items B) and snap them together. Remove the 4 nuts and lock washers from the studs on the fuse body assemblies.
- 2. Install the Megafuse jumper (item D above) over two of the studs on the Megafuse bodies. It is very important that the jumper MUST BE assembled on the side that is going to connect to your main power connection (starter solenoid or battery feed).
- 3. Notch top cover to clear jumper D as shown at right.
- 4. Snap one 175amp fuse (items C) onto the studs of each of the two Megafuse bodies (items B), over the jumper, then loosely re-attach the 4 nuts and lock washers back onto the assembled Megafuses. The fuse assemblies are ready to install into your vehicle. Page 2



## **Assembled Megafuses**



**Notched Cover** 

PART#

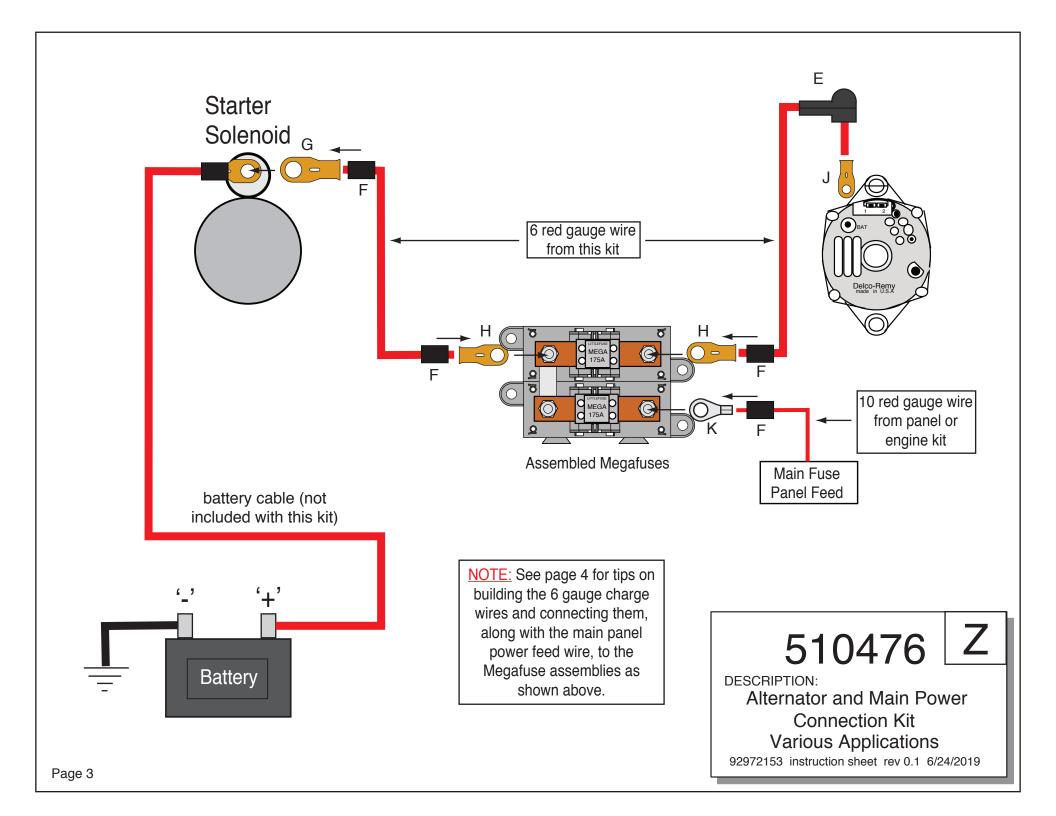
510476

Z

DESCRIPTION:

Alternator and Main Power
Connection Kit
Various Applications

92972153 instruction sheet rev 0.1 6/24/2019



# Building the 6Ga. charge wires and connecting them and the main panel power feed wire to the Megafuse assemblies:

NOTE: Make sure that your battery is disconnected! You will need to install the preassembled Megafuses from page 2 in your vehicle to start this part of the installation.

- 1. Pre-cut item F shrink tubing into (6) 1.00" 1.25" pieces.
- 2. Take the 12-foot piece of 6Ga. red wire from this kit and route it from your starter (or other battery feed) over to the area where you have mounted your Megafuse and cut it to length. Strip the insulation on each end back 1/2". Install 2 pieces of shrink tubing F onto the wire. At the starter end, crimp and solder (1) of terminal G onto the wire. At the Megafuse end, crimp and solder (1) of terminal H onto the wire. Slide the shrink tubing over the terminals and heat it up to shrink it down.
- 3. Take the remaining portion of the 12-foot piece of 6Ga. red wire from this kit and route it from your alternator over to the area where you have mounted your Megafuse and cut it to length. Strip the insulation on each end back 1/2". Install 1 piece of shrink tubing F onto the wire. At the alternator end, slip on boot E as shown on page 3, then crimp and solder (1) of terminal J onto the wire. At the Megafuse end, crimp and solder (1) of terminal H onto the wire. Slide the shrink tubing over terminal H and heat it up to shrink it down.
- 4. Take the 10Ga. red main power feed wire from your engine or panel sub-kit and route it over to the area where you have mounted your Megafuse and cut it to length. Strip the insulation back 3/8". Install 1 piece of shrink tubing F onto the wire, then crimp and solder (1) of terminal K onto the wire.
- 5. Remove the 4 loosely tightened nuts and lock washers from the assembled Megafuses, then using the drawing on page 3 as a guide, install your pre-assembled wires from steps 2-4 above. Re-install the 4 nuts and lock washers onto the assembled Megafuses and tighten them down. This part of your installation is now complete.

510476 | Z

**DESCRIPTION:** 

Alternator and Main Power Connection Kit **Various Applications** 

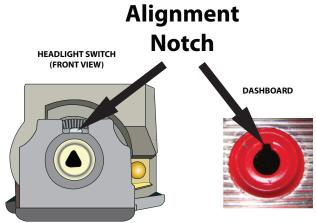
92972153 instruction sheet rev 0.1 6/24/2019

Most switches supplied with Classic Update and Universal Kits ship with the shaft pre-installed. In many instances, the switch can be installed without removing the shaft, but in some cases the switch shaft may need to be trimmed to fit your specific dash. In this situation, reference Trim to Fit instructions on the back of this page for details.

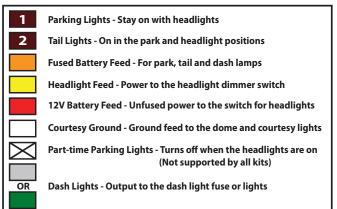
# DASHBOARD DASHBOARD DASHBOARD

## To install your new headlight switch:

1. Install the switch from behind the dash, and align the switch body with the mounting hole. The switch body has an alignment tab that must line up with the notch in the dashboard mounting hole.



- **2.** Install the switch mounting nut and tighten.
- **3.** Gently press shaft into switch until it stops, then press firmly until it "clicks." Pull shaft back out to confirm it is seated correctly. The shaft should be locked into place inside switch.
- **4.** If the shaft does not lock, reinsert applying moderate pressure and slowly move shaft side to side for lock to engage. Make sure switch body is still supported to prevent flexing. Press shaft firmly until it clicks into place.
- **5.** Ensure the shaft is fully seated and in the off position.





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PART#

500332

DESCRIPTION:

Headlight Switch

92964649 Rev 3.0 1/10/2020

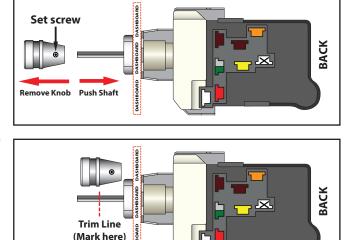
#### To Trim Shaft to Fit or Remove Shaft:

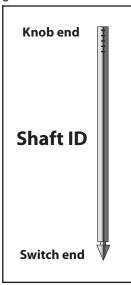
The headlight shaft knob should extend from the face of the mounting nut, and must allow enough clearance for the switch to turn off. If the shaft is longer than necessary for your specific dash it can be trimmed to fit. Always trim the knob end of the shaft only and follow the guidelines below for best results.

1. With the headlight switch installed, loosen the set screw and remove the knob. Make sure the switch is in the "off" position by pushing the shaft toward the back of the switch.

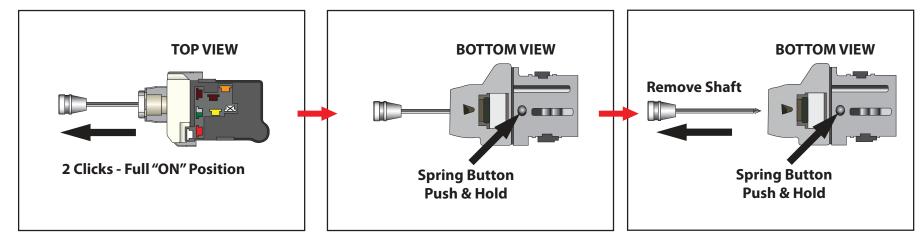
Switch in OFF position (shaft pushed all the way in)

**2.** Set knob alongside shaft and mark the desired location for cutting on the shaft.

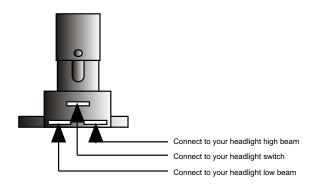




**3.** Remove the shaft and trim at mark. The shaft can be released from the switch by pulling it outward (toward the rear of the vehicle). Once fully in the "On" position, press and hold the release button on the base of the switch body. Once button is pressed, continue to pull the shaft outward. New switches may be tight, and it might be necessary to move the shaft side to side slightly while pulling to release.



Page 2



Connect the Dimmer Switch wires as shown above.

- 1. The top center terminal of the Dimmer Switch is connected to the Headlight switch.
- 2. The terminal on the right side is connected to your headlight high beam terminal.
- 3. The terminal on the left side is connected to your headlight low beam terminal.

another wiring product by...



150 Heller PI #17 W Bellmawr, NJ 08031 856-933-0801

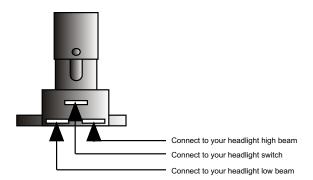
PART#

500042

**DESCRIPTION:** 

**DIMMER SWITCH** 

92964573 instruction sheet Rev 3.0 6/29/99



Connect the Dimmer Switch wires as shown above.

- 1. The top center terminal of the Dimmer Switch is connected to the Headlight switch.
- 2. The terminal on the right side is connected to your headlight high beam terminal.
- 3. The terminal on the left side is connected to your headlight low beam terminal.

another wiring product by...



150 Heller PI #17 W Bellmawr, NJ 08031 856-933-080

PART#

500042

**DESCRIPTION:** 

**DIMMER SWITCH** 

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Rev 3.0 6/29/99

