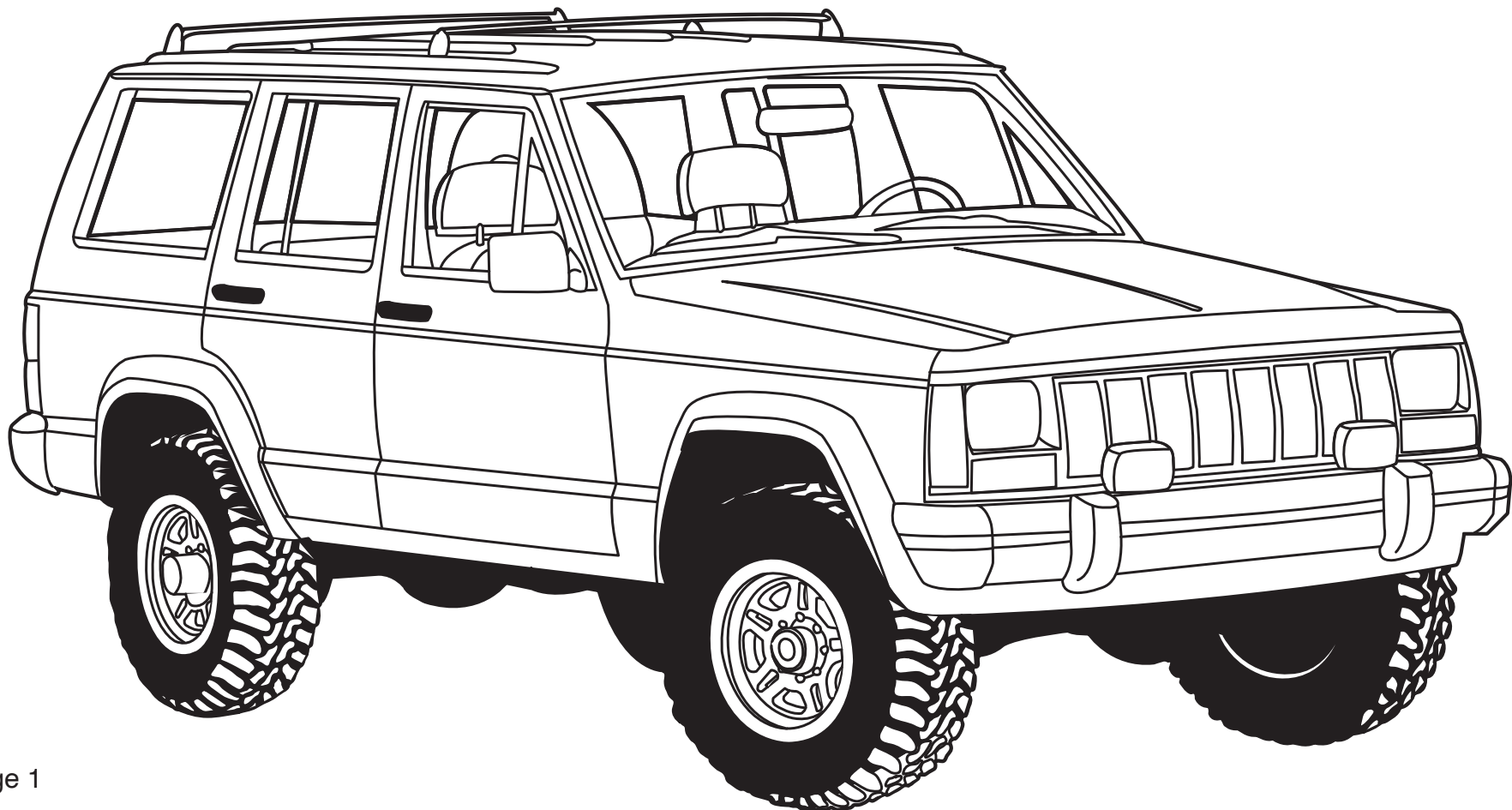




WARNING:
Validate the kit contents with the component list included on this page before proceeding. This kit is intended to be used in a modified vehicle. Please read this page thoroughly and be sure that you understand everything explained on it prior to opening any of the enclosed packages, or before 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 is designed for use in a **MODIFIED** vehicle only.
2. This kit **WILL NOT SUPPORT:**
 - Installation in a Right Hand Drive vehicle.
 - Installation in Wagoneer or Comanche vehicles, due to various body wiring and lighting differences.
 - The factory Jeep EEC computerized systems (carbureted or fuel injected), or diesel engines.
 - The use of an ammeter. All 1984 - 1990 XJs were equipped with a voltmeter in the factory gauge cluster. This kit **DOES SUPPORT** the use of factory and aftermarket voltmeters.
3. This kit **DOES SUPPORT:**
 - The factory Jeep Dura-Spark (**NOTE:** A separate Dura-Spark Harness, and ballast resistor will be required for these applications. See **Page 2**)
 - HEI, or other aftermarket ignition and fuel injection systems.
 - The use of a factory heater or A/C system, and/or aftermarket heater and A/C systems.
4. This kit only supports the use of a higher current, self-exciting 1-wire alternator or an internally regulated alternator. Optional adapters may be necessary for certain applications.
5. This kit **IS NOT** set up with a resistance wire for a standard, points type ignition system. It is wired with a full 12-volt primary ignition feed. See pages 29-31 for the various Ignition System Wiring configurations.



510872 - Classic Update Series Kit
1984-90 Jeep XJ

This kit contains the following components:

Bag	Part Number	Description	Quantity
G	510873	Dash Harness kit	1
H	510874	Instrument Cluster wiring kit	1
J	510875	Engine Wiring Kit	1
L	510876	Front Light wiring kit	1
M	510877	Rear Body Wiring kit	1
N	510935	LH Tail Lamp Extension	1
O	510936	RH Tail Lamp Extension	1
P	510937	Overhead light, Dome, Map Vanity	1
Q	510938	Fuel sender, PRNDL, Transfer case	1
R	510895	Heater and/or A/C Harness	1
Z	510476	Alternator and Main Power Conn. kit	1
V	510730	VSS Lead Wires	1
	500919	Practice Terminal Crimping set	1
	510878	Fuse, Relay, and Flasher kit	1
	510428	Headlight Switch	1
	520002	Digital Gauge System Dim Wire	1

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

510872 1984-90 Jeep XJ
Instructions
Classic Update Series



START HERE !

PLEASE READ THIS BEFORE STARTING INSTALLATION !

This wiring kit is designed for ease of installation. Please read the guidelines below BEFORE STARTING installation to guarantee a successful job. Use an appropriate crimping tool, which folds the wings of the open barrel terminals down into the wire, as shown on this page. If you use our crimping tools and correctly crimp the included terminals, soldering is not necessary. If you are unsure about a particular crimp, soldering is recommended. Our factory crimped terminations are installed by GM approved five ton presses, and soldering these terminations is not necessary.



In addition to many other Tech Tip videos, AAW offers a great terminal crimping video, entitled "Proper Crimping Video". It can be viewed by visiting our YouTube channel. Links and scannable QR Codes to our YouTube channel, and the crimping video are listed below:



Youtube Channel:
www.youtube.com/user/WiringHarness

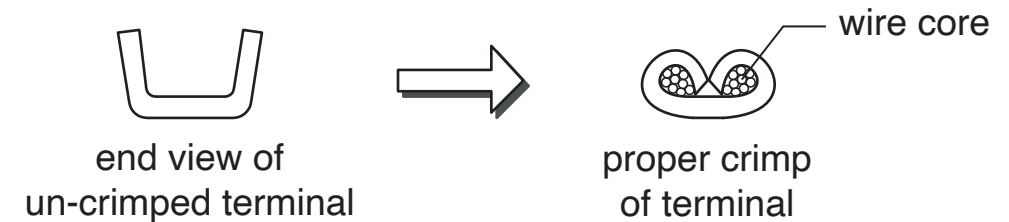


Crimp Video:
www.bit.ly/aawcrimp



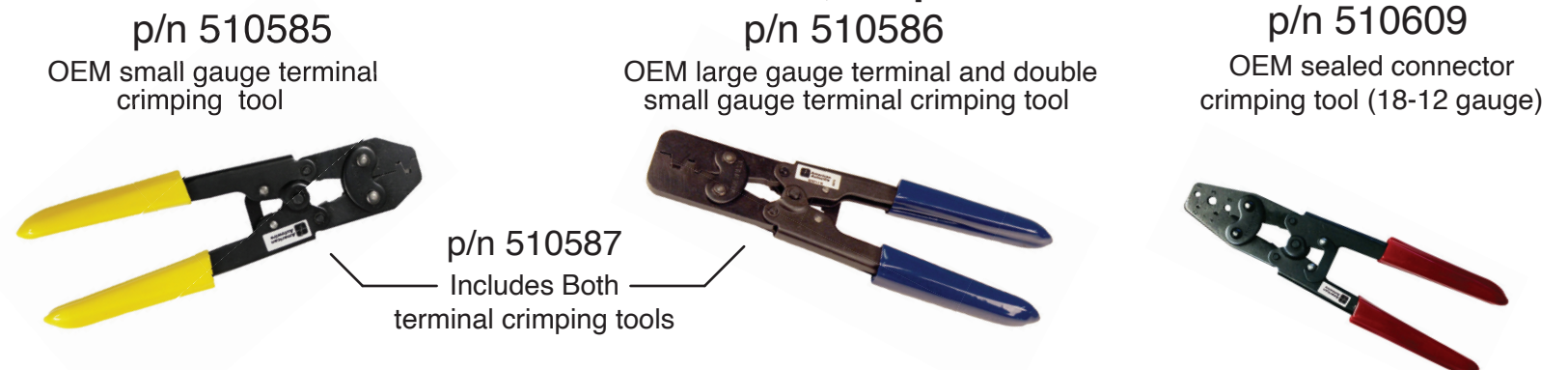
If you have any questions concerning this or any of our products, please feel free to call us at 1-856-933-0801.

The terminals that we supply in our kits, utilize what is known as an F crimp. The F crimp, in a cross section, will look like the illustration below, when done correctly.



We carry the following crimping hand tools, to help with your terminal crimping.

These hand tools are available, for purchase or rental.



We carry the following accessories for your 1984-1990 Jeep XJ:

Part Number:	Description:
500093	Universal Relay Kit (Waterproof)
500100	Self Tapping Door Jamb Switch
500295	CS130-D Alternator Adapter Kit
500479	Universal Relay Kit (Standard)
500801	Ballast Resistor
510824	Optional DuraSpark Wiring Kit (requires 500801, as well)
510925	Optional Rear Wiper Wiring Kit
01990109	Replacement Ignition Switch (w/o Tilt Column)
01990110	Replacement Ignition Switch (with Tilt Column)
10014885	Replacement Rear Defrost Relay/Timer



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Table of Contents:

Bag:	Page(s):	Section:
G	6 - 21, 25	Dash Harness (510873) – This is the main harness in the kit and will be installed first. All other harnesses will connect to this harness. The Dash Harness contains: Accessory Power Feed connection Park Brake Switch connection Rear Body Harness connection LH & RH Door Jamb Switches Horn Relay connection Fog Lamp Relay Connection Headlamp and I/P Dimmer Switch Headlight Switch connection LH and RH Indicator Light connections Main Power Feed, Alternator Exciter Feed LH and RH Courtesy Light connections Tachometer connection Ground connections Wiper Switch connection Wiper Motor connection Ignition Switch Connections Turn Signal Switch connection Stop Light Switch connection Various Dash Illumination Lights connections Heater Panel Light connection Heater Switch On/Off connection Cigar Lighter connections A/C Harness connection Fog Lamp Switch connections Rear Wiper or Defogger connection Dash Light Candelabra Instrument Cluster Harness connections Heater Blower Motor Resistor connection Radio wires Electric Speedometer Ground connection
H	22-24	Gauge Cluster Harness (510874) – This harness is assembled by the customer and connects to: <u>1984-90 w/Temp, Oil and Fuel Gauges (Ammeter with or w/o optional tach)</u> Printed Circuit Board (PCB) Aftermarket Gauges Dash Harness connections All gauges (Volts, Fuel, Speedo, Oil, Temp, Tach)
J	26-40, 46	Engine Harness (510875) –This harness connects to the Dash harness and the: Brake Warning Switch Back Up Lead Extension Wires Main Power Feed, Alternator Exciter Feed Electric Fan Starter Relay Ignition System Tach, Oil Press and Temp Heater Resistor and Blower Motor Electric Choke
L	41-45, 46	Front Light Harness (510876) – This harness connects to the Dash harness: LH & RH Headlight LH & RH Parking/Turn Lamp LH & RH Side Marker Washer Pump/Reservoir Wiper Motor Horns
M	47-49	Rear Body Harness (510877) – Interior and exterior connections. This harness connects to the Dash harness and the: Dome Light, Dome/Map Light Tail Light Extensions (Stop, Tail and Back Up) Fuel Tank Sender Extensions Third Brake Light
N	47-49	LH Tail Lamp Extension Harness (510935) – This harness plugs into the 510877 Rear Body Harness
O	47-49	RH Tail Lamp Extension Harness (510936) – This harness plugs into the 510877 Rear Body Harness
P	50	Overhead Light, Dome, Map, Vanity Harness (510937) – This harness plugs into the 510877 Rear Body Harness
Q	51-53	Fuel Sender, PRNDL & Transfer Case Illumination, and Parking Brake Switch (510938)



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Fuse Block and Vehicle Preparations:

STEP 1: DISCONNECT YOUR BATTERY

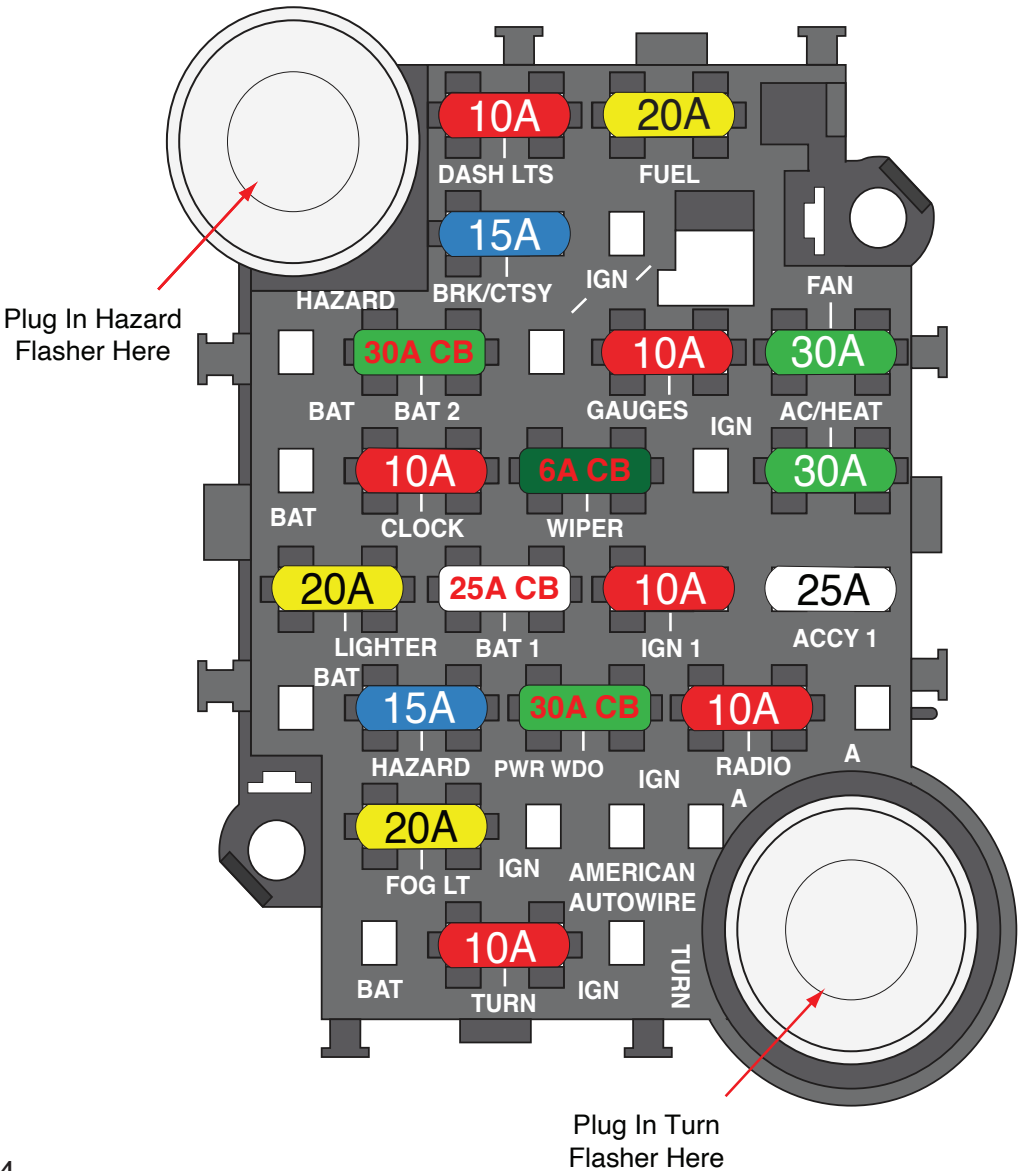
Disconnect the battery before installing the wiring kit. This is to prevent any accidental shorting caused by bare wire ends.

STEP 2: REMOVE THE INSTRUMENT PANEL ASSEMBLY & ORIGINAL HARNESS

Using a vehicle assembly or service manual for reference, remove the instrument panel assembly from the vehicle. Once removed, place the instrument panel assembly on a suitable work bench. Take note of the original harness routing before removing it from the instrument panel assembly, as the new American Autowire harness will closely follow this original routing.

STEP 3: LOAD THE FUSE BLOCK

Prior to installing the Dash harness, obtain the Fuse, Flasher, and Relay Kit 510878 and plug all of the fuses, circuit breakers and flashers into the Fuse Block (see below).



Fuse usage details. **NOTE:** Park, Tail and Head lights are protected by the H/L switch internal breaker

Fuse #	Fuse Block Printing	Fuse Rating	System Wiring Protected
1	DASH LTS	10A	Illumination Lights: Cluster, Clock, Ash Tray, PRNDL on Steering Column, Fog Light Switch, Rear Defogger Switch, Heater/AC Control Panel, Cigar Lighter, Dash Lamps Candelabra, & Floor Console - PRNDL & Transfer Case Lights. Rear Wiper Switch Illumination Light (optional system).
2	FUEL	20A	12V Ignition Feed for Electric Speedometer, Electric Fuel Pump (6-Way Accy Connector)
3	BRK/CTSY	15A	12V Battery Feed for Stop & Third Brake Light, Front Park Lights, Rear Running Lights, Clock Dimmer w/ Headlights ON, Glove Box Light, Under Dash Courtesy Lights, Rear Cargo Light, Dome Light, Map Lights, Vanity Mirror Lights, Hood Light, Fog Light Relay Coil
4	BAT 2	30A CB	12V Battery Feed for Rear Window Defrost, Power Seats, Additional Accessories (6-Way Accy Connector)
5	GAUGES	10A	12V Ignition Feed for Gauges, Telltale Modules (Brake Warning Light, 4x4 Light, Low Washer Fluid Light), Back-Up Lights, Aftermarket Gauges or Tachometer
6	FAN	30A	12V Accessory Feed for Electric Fan
7	CLOCK	10A	12V Battery Feed for Clock, Radio Memory, Power Mirrors, Additional Accessories (6-Way Accy Connector)
8	WIPER	6A CB	12V Ignition Feed for Front Wiper Motor, Front Windshield Washer Pump
9	AC/HEAT	30A	12V Accessory Feed for Heater System, A/C System
10	LIGHTER	20A	12V Battery Feed for Lighter
11	BAT 1	25A CB	12V Battery Feed for Headlamp Dimmer-Switch (Flash-to-Pass), Power Locks (optional kit), Additional Accessories (6-Way Accy Connector)
12	IGN 1	10A	12V Ignition Feed for Electric Choke
13	ACCY 1	25A	12V Accessory Feed for Rear Defrost Relay, Rear Wiper Motor (optional kit), Rear Washer Pump (optional kit), Additional Accessories (6-Way Accy Connector)
14	HAZARD	15A	12V Battery Feed for Hazard Lights
15	PWR WDO	30A CB	12V Ignition Feed for Power Windows, Ignition Accessories (6-Way Accy Connector)
16	RADIO	10A	12V Accessory Feed for Radio (On-Off), Clock (On-Off)
17	FOG LT	20A	12V Battery Feed for Fog Lights
18	TURN	10A	12V Ignition Feed for Turn Signals

510878 Fuse, Flasher & Relay Kit Contents:

- Turn Signal Flasher

- QTY: 2
- 10 Amp Fuse (Red)

- QTY: 6
- 15 Amp Fuse (Blue)

- QTY: 2
- 20 Amp Fuse (Yellow)

- QTY: 3
- 25 Amp Fuse (Clear)

- QTY: 1
- 30 Amp Fuse (Green)

- QTY: 2
- 6 Amp Circuit Breaker (Dark Green)

- QTY: 1
- 25 Amp Circuit Breaker (White)

- QTY: 1
- 30 Amp Circuit Breaker (Light Green)

- QTY: 2
- 3-Pin Horn Relay (See Page 5)

- QTY: 1
- 5-Pin ISO Relay (See Page 5)

- QTY: 2



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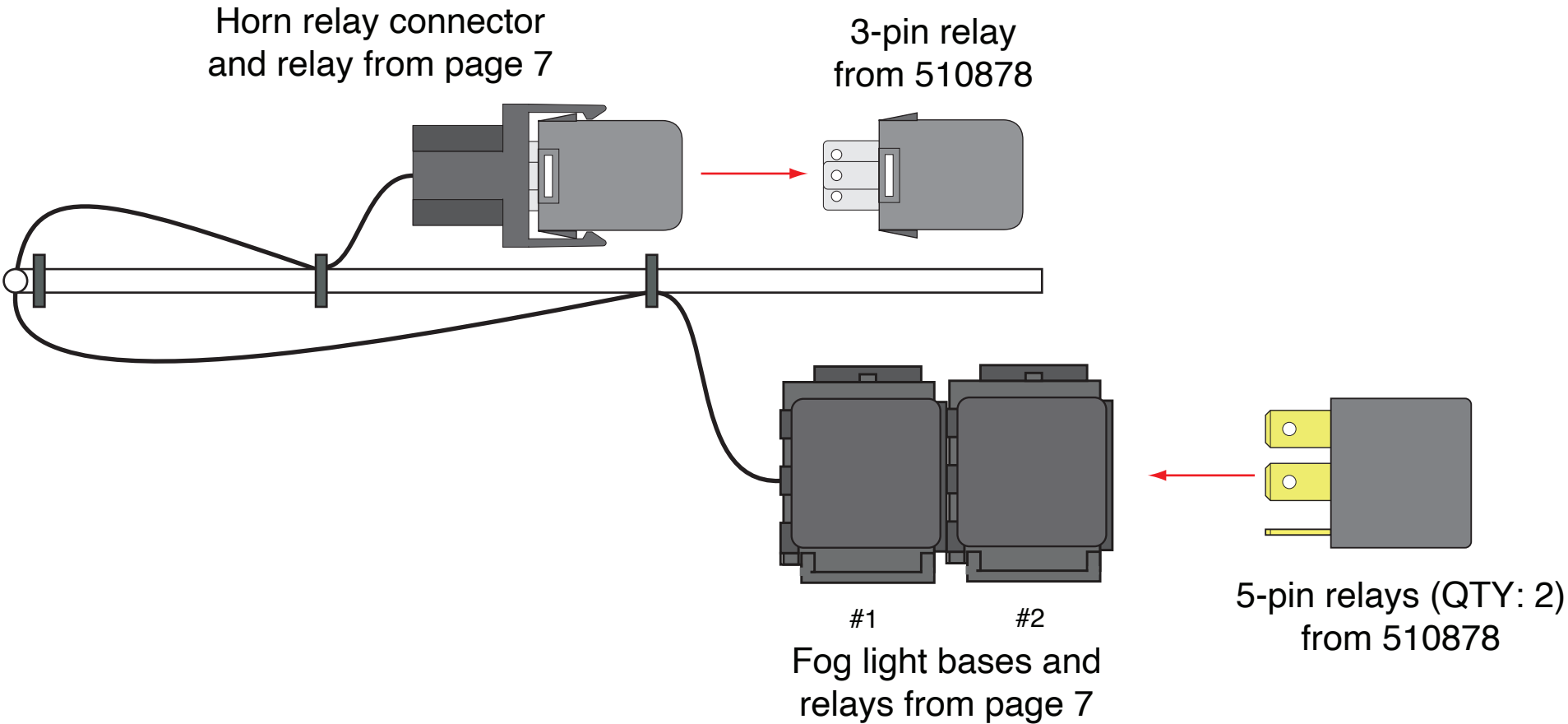
Fuse Block and Vehicle Preparations (cont'd):

STEP 4: INSTALL THE HORN AND FOG LIGHT RELAYS

Locate the Horn Relay and Fog Light Relay Connectors and insert the 3-Pin Horn Relay along with the 5-Pin Fog Light Relays as shown below.

INSTALLING THE HORN AND FOG LAMP RELAYS

FIGURE "A"



STEP 5: INSTALL THE NEW DASH HARNESS

Following the instructions on pages 6 to 24, install the new Dash Harness (Bag "G" - 510873) & Gauge Cluster Harness (Bag "H" - 510874) on to the instrument panel assembly.



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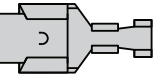
Classic Update Series

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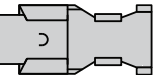
510873 Dash/Main harness instructions:

Legend:

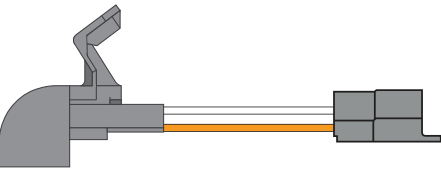
- A



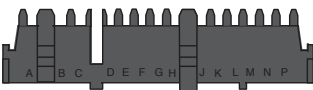
(56 series single female terminal, 9 pcs)
- B



(56 series double female terminal, 9 pcs)
- C



(LH & RH Courtesy Light Jumper Harness, 2 pcs)
- D



(Pack-Con 14-way male connector, 1 pc)
- E



(Pack-Con male terminal, 16 pcs)
- F



(Fog Light/Defrost Switch Lamp Pigtail, 2 pcs)
- G



(Connector, Pac-con Mx2, with Clipslot, 1 pcs)
- H



(Metri-Pack Terminal, Male, 150 Series, 8 pcs)
- J



(Connector 8-Way, Male, 150 Series, 1 pc, for Clock Harness)

- K



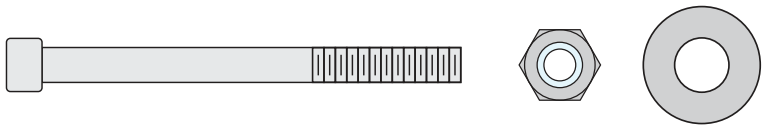
(DASH LIGHTS Jumper Harness, 1 pc)
- L



(small male bullet terminal, 2 pcs)
- M



(small rubber sleeve, 6 pcs)
- N



(1/4" bolt, nut and washer; 2 of each)
- P



(Routing Clip, 1" Wraparound, 10 pcs)
- Q



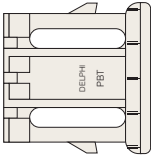
(Routing Clip, Tape-On, 8 pcs)
- R



(Zip-Tie, 8", 2 pcs)
- S



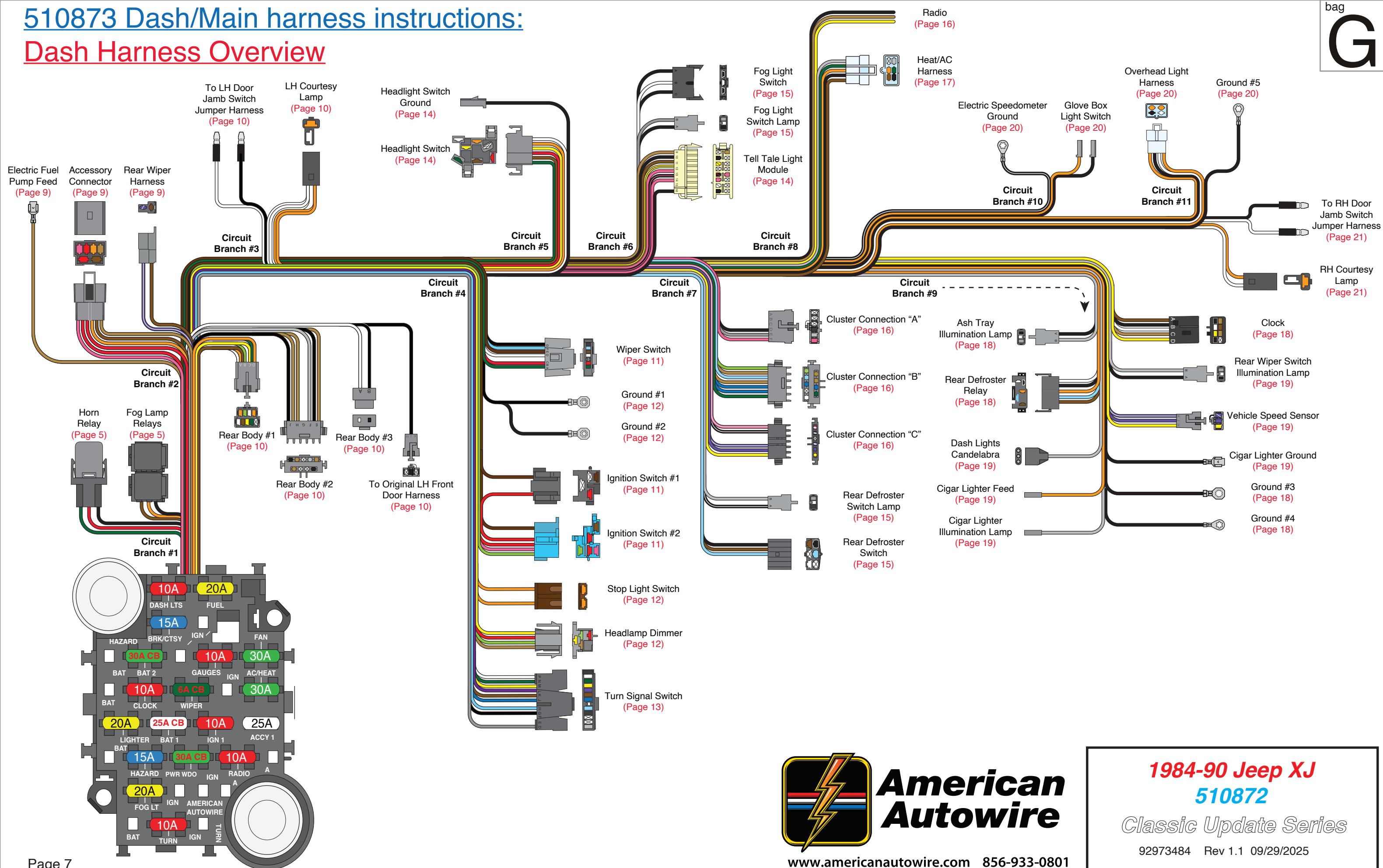
(large male bullet terminal, 4 pcs)
- T



(secondary lock for Connector "J", 2 pcs)

Dash Harness Overview

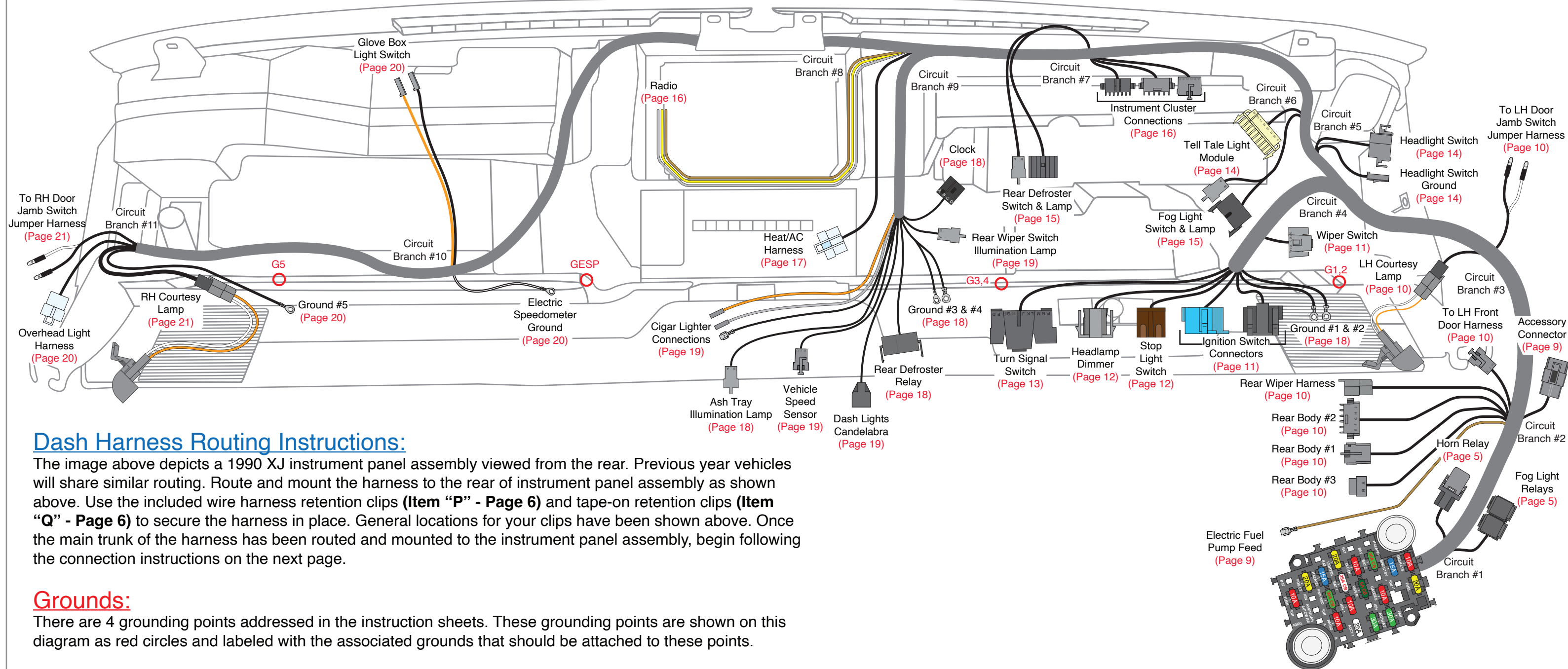
G



510873 Dash/Main harness instructions:

Dash Harness Routing Diagram

Instrument Panel Assembly
Removed from vehicle and viewed from the rear.



Dash Harness Routing Instructions:

The image above depicts a 1990 XJ instrument panel assembly viewed from the rear. Previous year vehicles will share similar routing. Route and mount the harness to the rear of instrument panel assembly as shown above. Use the included wire harness retention clips (**Item "P" - Page 6**) and tape-on retention clips (**Item "Q" - Page 6**) to secure the harness in place. General locations for your clips have been shown above. Once the main trunk of the harness has been routed and mounted to the instrument panel assembly, begin following the connection instructions on the next page.

Grounds:

There are 4 grounding points addressed in the instruction sheets. These grounding points are shown on this diagram as red circles and labeled with the associated grounds that should be attached to these points.

These are the ground points:

"G1,2" Ground #1 & #2 will attach to this point.

"G3,4" Ground #3 & #4 will attach to this point.

"GESP" The Electronic Speedometer Ground will attach to this point. No other grounds should attach here.

"G5" Ground #5 will attach to this point.



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510873 Dash/Main harness instructions:

Circuit Branch #2 Connections

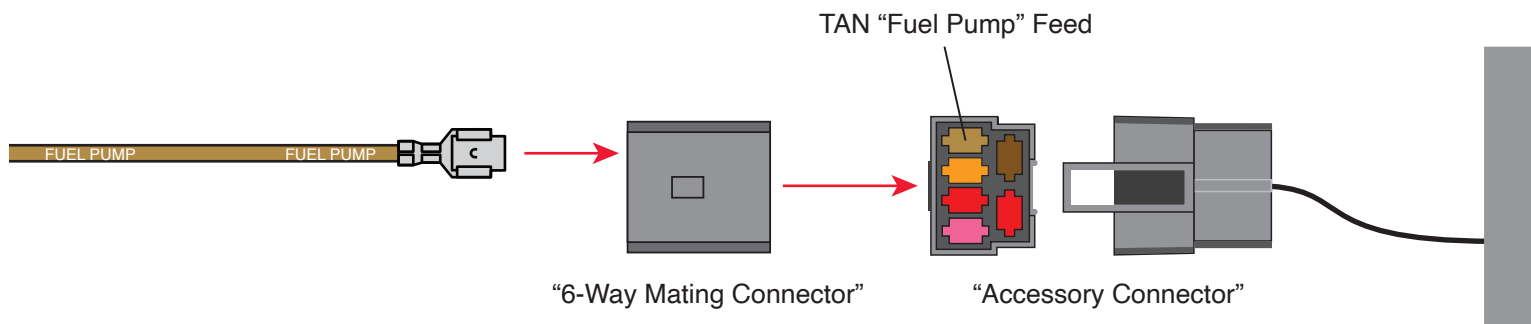
Fuel Pump Wire:



This wire is provided as a feed for a fuel pump relay. There are 2 locations the fuel pump relay can be used. The installer will need to determine which location is best for their application, and follow the instructions below. This step can be skipped if an electric fuel pump is not being utilized for the install.

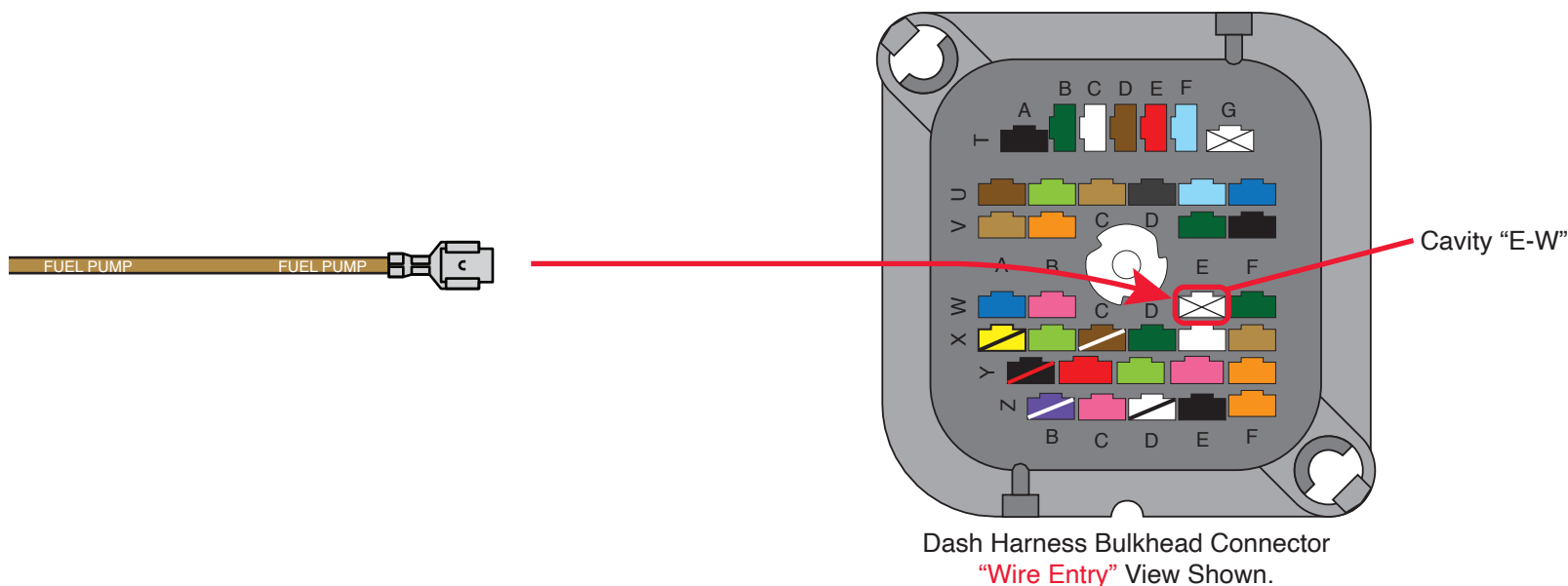
Passenger Compartment Fuel Pump Relay:

Plug this TAN wire into the mating connector that is attached to the 6-Way Accessory Connector on the Dash Harness. Disconnect the mating connector from the 6-Way Accessory Connector and insert the terminal end of this TAN wire into the cavity that matches the TAN wire on the Dash Harness side of the Accessory Connector. When connected, this circuit will provide power to the "Fuel Pump" wire in the 510877 Rear Body Harness when the ignition switch is in the "RUN" or "CRANK" position.



Engine Compartment Fuel Pump Relay:

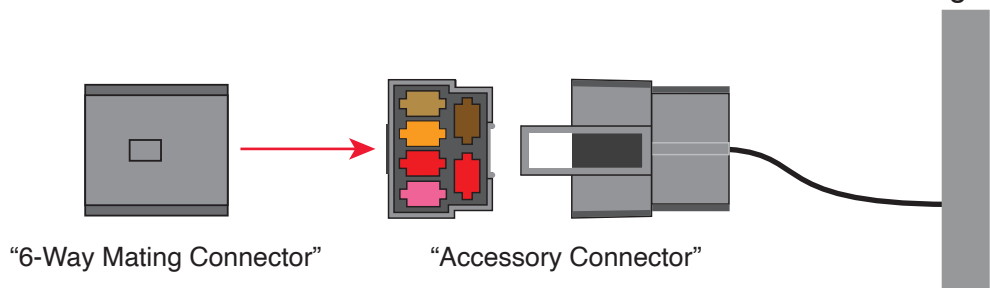
Separate the bulkhead connector from the back of the fuse panel, and insert the terminal end of this TAN wire into cavity "E-W." Later during the install, another TAN wire will be inserted into the Engine Harness Bulkhead connector that will connect to a relay under the hood. This will create continuity on the TAN wire from the engine bay to the rear body harness, through the dash harness.



Accessory Connector:

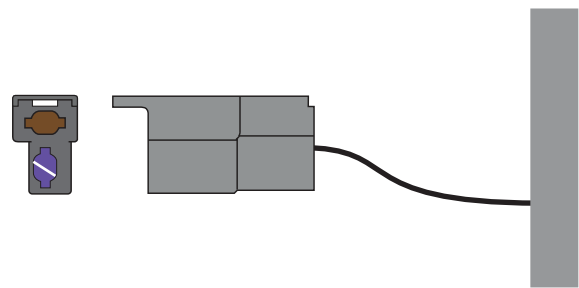
This 6-Way Connector is included in the Dash Harness to provide additional power circuits for accessories such as fuel pumps, power windows, power seats, etc. Listed below are the wire colors in the connector, the corresponding fuse protection, and the type of power (Battery, Accessory, or Ignition) supplied to the circuit. Use the provided 6-way mating connector, which is attached to the 6-Way Accessory Connector on the Dash Harness, and terminals (Items "A" and "B" - Page 6) to add the optional power wires.

Wire Color:	Wire Printing:	Fuse Block Printing:	Fuse Rating:	Description:
Red	(No Printing)	CLOCK	10A	12V Battery
Tan	FUEL PUMP	FUEL	20A	12V Ignition
Brown	IGNITION SW ACCY	ACCY 1	25A	12V Accessory
Red	POWER LOCKS	BAT 1	25A CB	12V Battery
Orange	POWER SEATS	BAT 2	30A CB	12V Battery
Pink	POWER WINDOWS	PWR WDO	30A CB	12V Ignition



Rear Wiper Harness Connector:

This connector is provided to connect the Dash Harness to the 510925 Optional Rear Wiper Harness Kit. The 510925 Kit will have it's own instructions for connecting to the Rear Wiper System.



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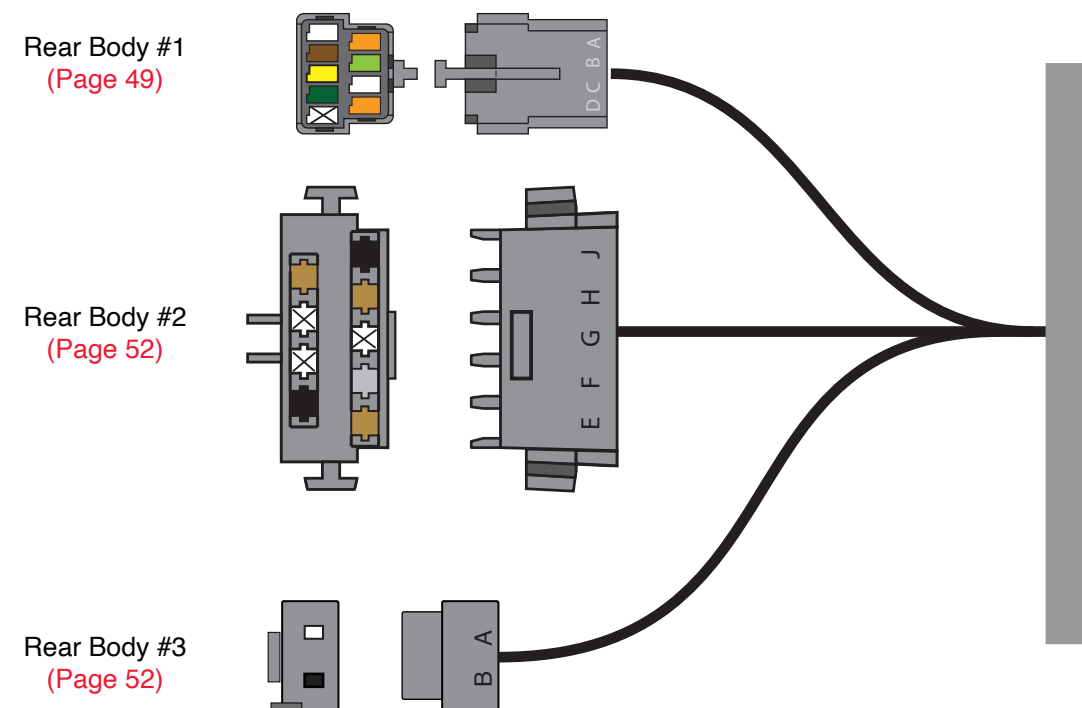
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510873 Dash/Main harness instructions:

Circuit Branch #2 Connections (cont'd)

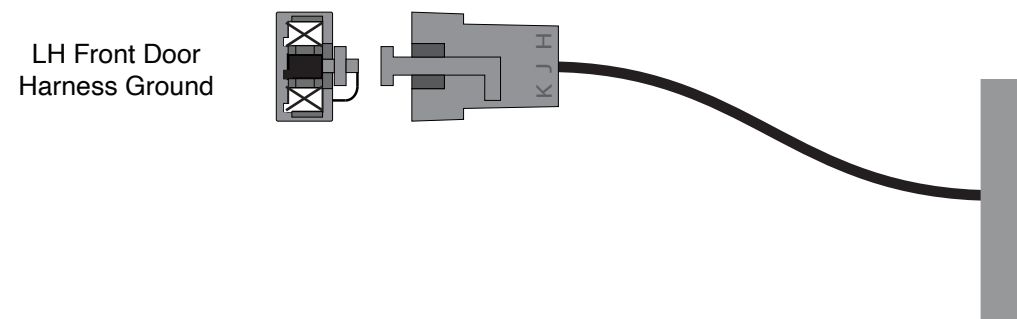
Rear Body Connections:

The 3 connections shown below are supplied for the 510877 Rear Body Harness to be plugged in during a later stage of the install (see pages 47-53).



LH Front Door Power Options Ground:

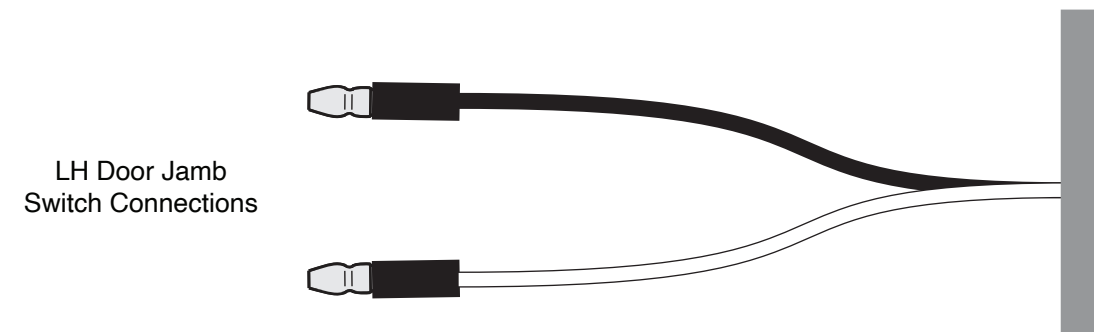
This single connection is included to provide a ground for power options in the LH Front Door (Power Windows, Power Locks, and Power Mirrors).



Circuit Branch #3 Connections:

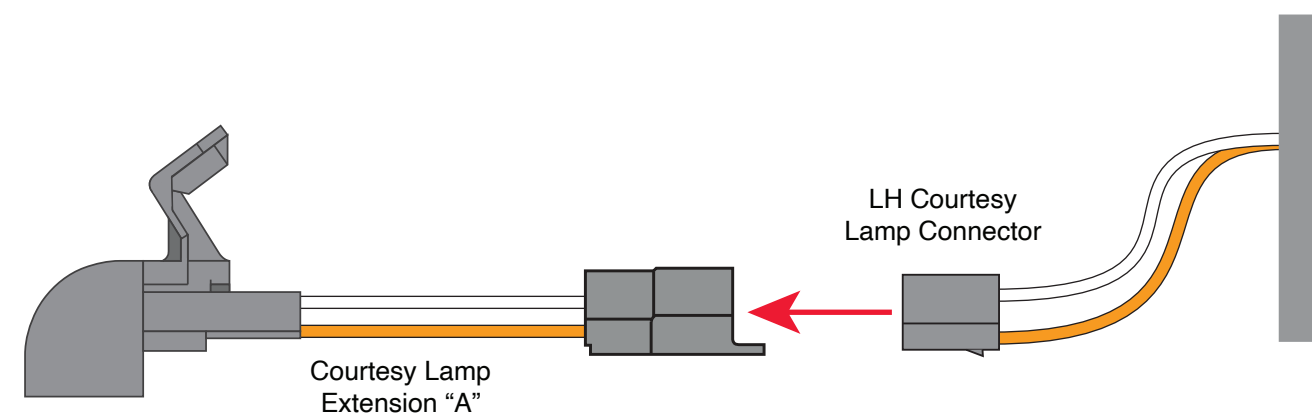
LH Door Jamb Switch Connections:

These 2 bullet terminal connections will attach to extensions provided in the 510877 Rear Body which will continue through the body to the LH Door Jamb Switch(es). See page 50 for further instructions.



LH Under Dash Courtesy Lamp Connection:

Locate one of the Courtesy Lamp extensions (Item "C" - Page 6) from the Dash Harness Loose Piece Kit, and plug it into the LH Courtesy Lamp Connector on the Dash Harness. Mount the courtesy lamp to the underside of the instrument panel assembly. This lamp will illuminate anytime the doors are opened, the lift gate is opened, or the headlight switch is rotated fully counter-clockwise to activate the courtesy lamps.



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510873 Dash/Main harness instructions:

Circuit Branch #4 Connections

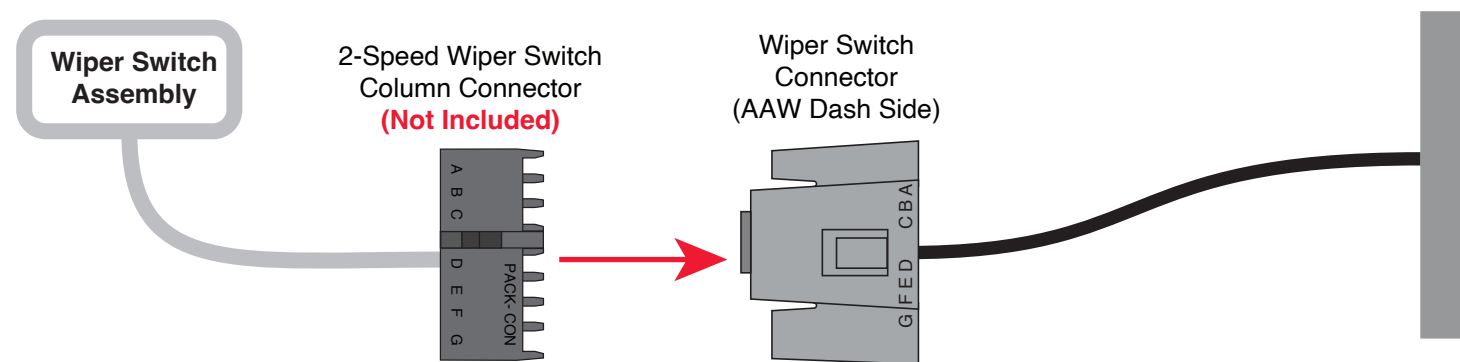
Installation Note: With exception to Grounds #1 & 2, these connections will be completed AFTER the instrument panel assembly has been re-installed, and the steering column is back in place.

Front Wiper Switch:

This Classic Update will support the use of either a standard 2-speed wiper, or an intermittent wiper system. In either case, the wiper switch is part of the turn signal switch assembly and the connector is located on the left side of the steering column. The wiper switch side of the pigtail has a mating connector that will plug into the new connector on the 510873 Dash Harness. Further connections to the wiper motor are addressed in the 510876 Front Light Harness instructions (**see page 42**).

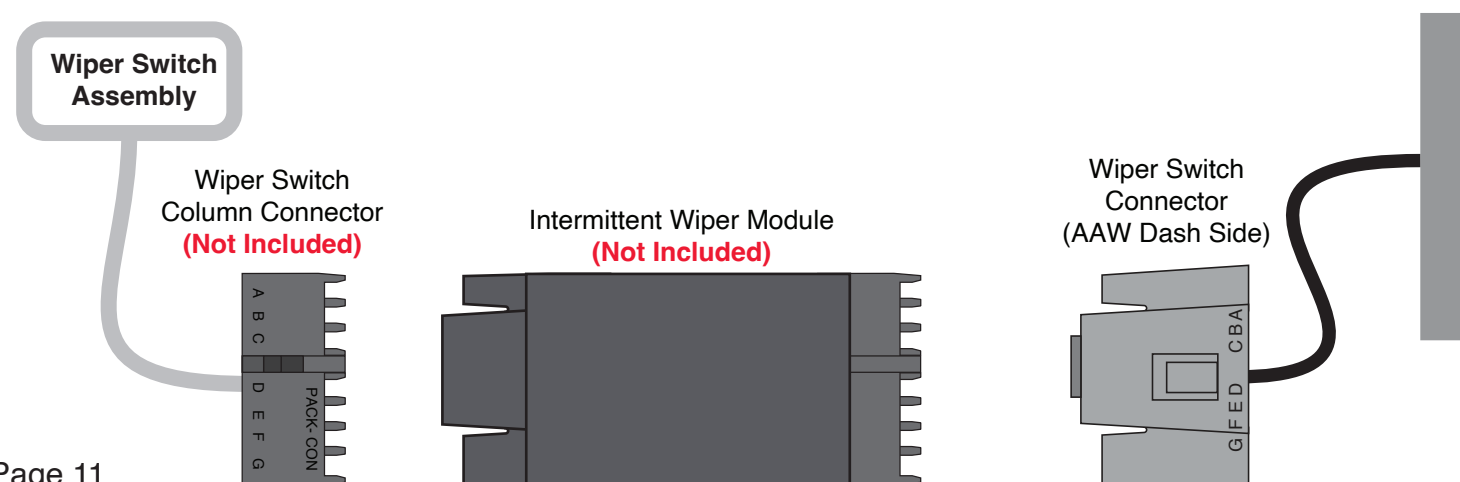
For a standard 2-Speed Wiper:

The mating connector will plug directly into the new 510873 Dash Harness Connection.



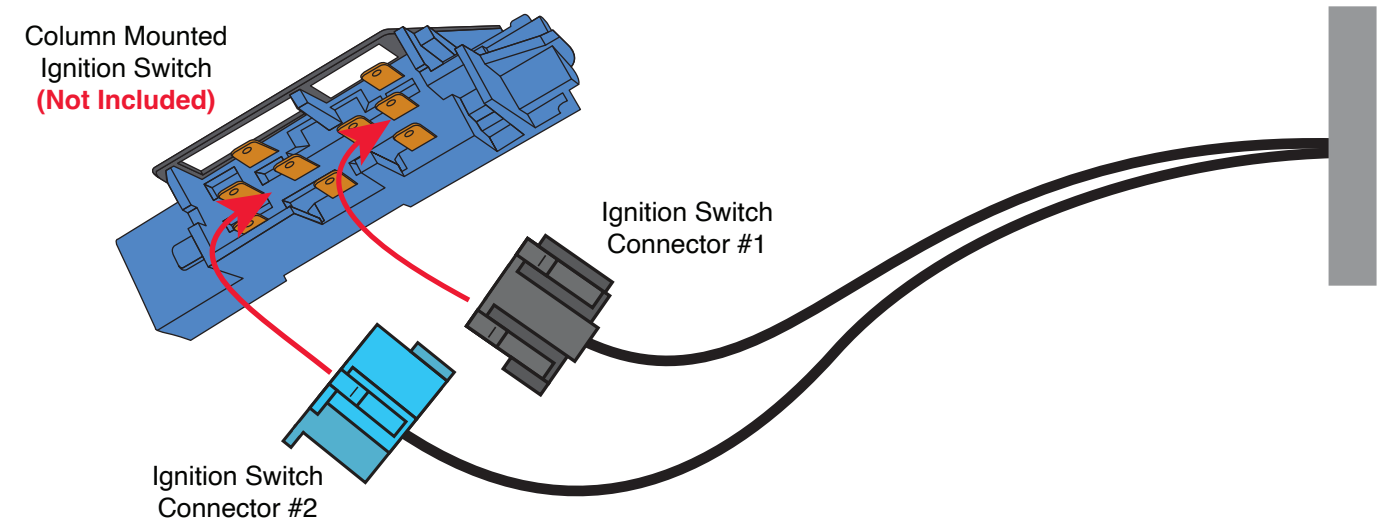
For an Intermittent Wiper Module System:

Plug the Wiper Switch pigtail on the column into the mating connector on the Intermittent Wiper Module. The 510873 Dash Harness side of the connection will plug into the other side of the module. This module is typically secured to the support structure under the instrument panel assembly using velcro strips.



Ignition Switch Connections:

The BLACK and BLUE ignition switch connectors will plug directly into the column mounted ignition switch.



AAW Wire

Color:

Pink
Light Green
Brown
Red
Tan

AAW Wire

Printing:

IGNITION FEED
No Printing
IGNITION SW ACCY
12V BATTERY
BRAKE LIGHT/SWITCH

Circuit

Function:

Switched Ignition Feed from Ignition Switch to Fuse Panel
Switched Feed from Ignition Switch to Starter Relay (Start Circuit)
Switched Accessory Feed from Ignition Switch to Fuse Panel
Battery Feed from Fuse Panel to Ignition Switch
Switched Ground Feed from Ignition Switch to Brake Warning Lamp (Lamp Check Circuit)



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510873 Dash/Main harness instructions: Circuit Branch #4 Connections (cont'd)

Headlamp Dimmer Switch:

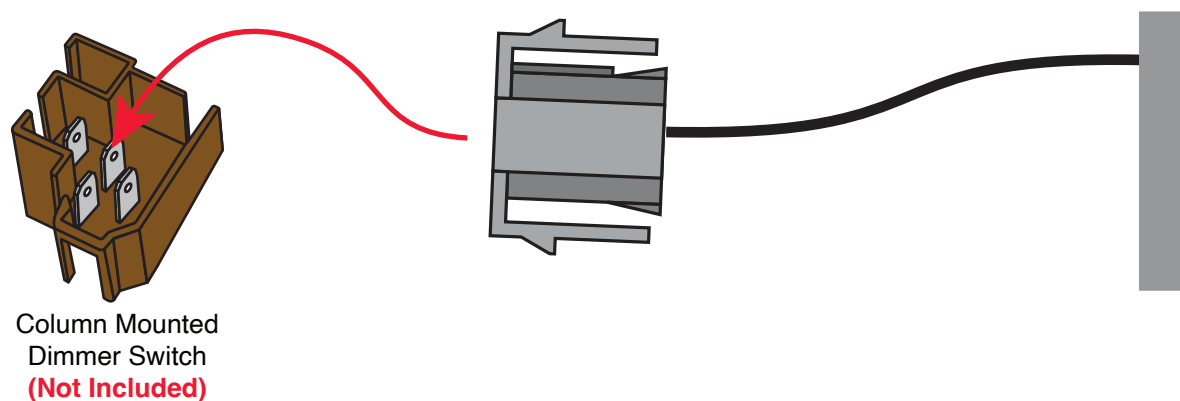
Plug the included 4 pin Headlamp Dimmer Switch connector into the column mounted dimmer switch.

1984-1988 Models:

These model years were equipped with 3-pin Headlamp Dimmer Switches (no "flash-to-pass"). The AAW 4-pin connection will connect perfectly to this 3-pin switch. If the installer wishes to upgrade a 1984-1988 to the 1989-1990 "flash-to-pass" they can install a 4-pin Headlamp Dimmer Switch.

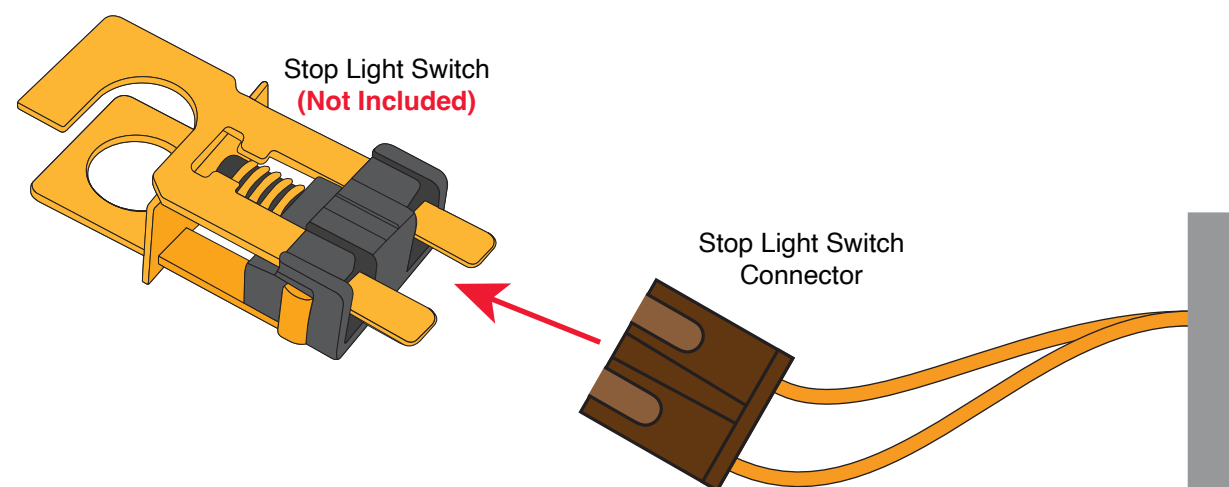
1989-1990 Models:

The AAW 4-Pin Headlamp Dimmer Switch connector will plug directly into this switch.



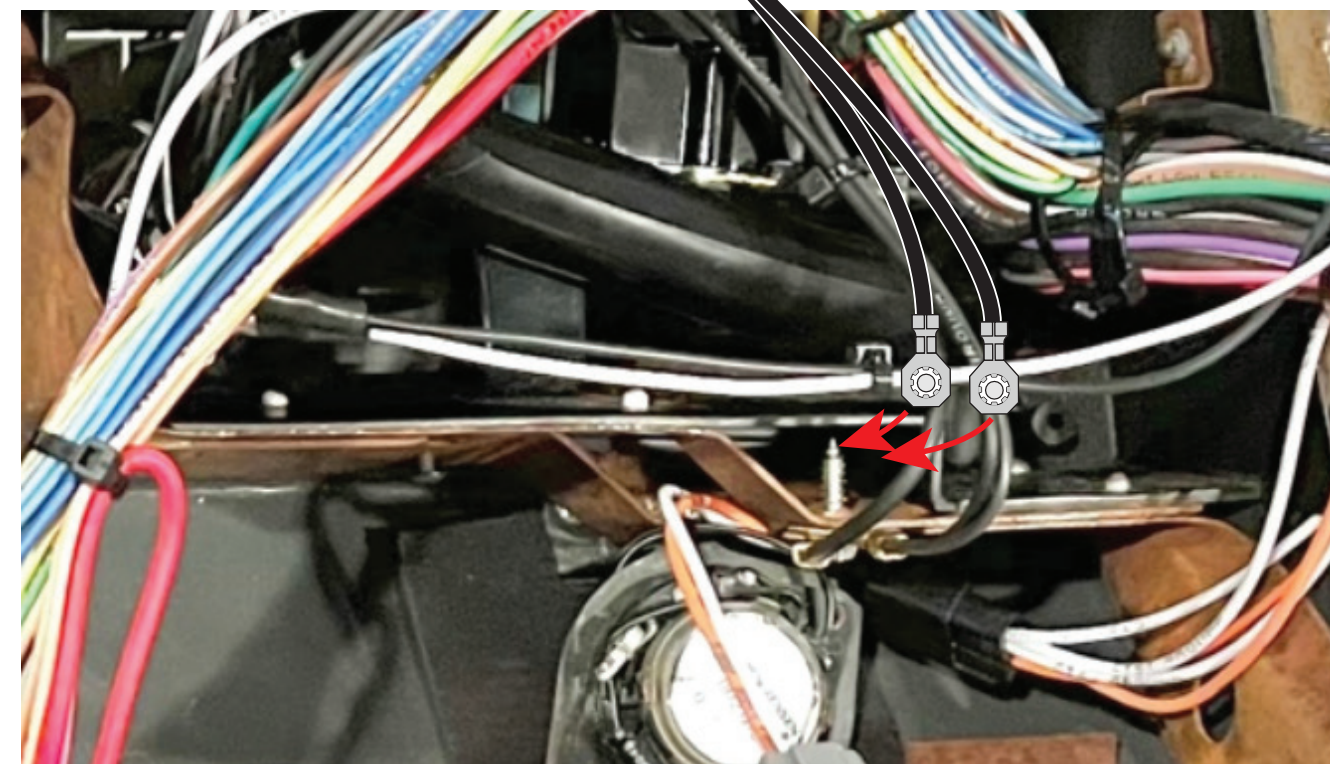
Stop Light Switch Connection:

The BROWN Stop Light Switch Connector on the 510873 Dash Harness will plug directly on to the factory stop light switch.



Grounds #1 & #2:

Looking at the backside of the instrument panel assembly, these 2 ground connections will attach to the right hand side of the steering column support bracket using one of the factory screws. Both grounds will be attached to ground point "G1,2" as noted on **page 8**. See photo below.



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Classic Update Series

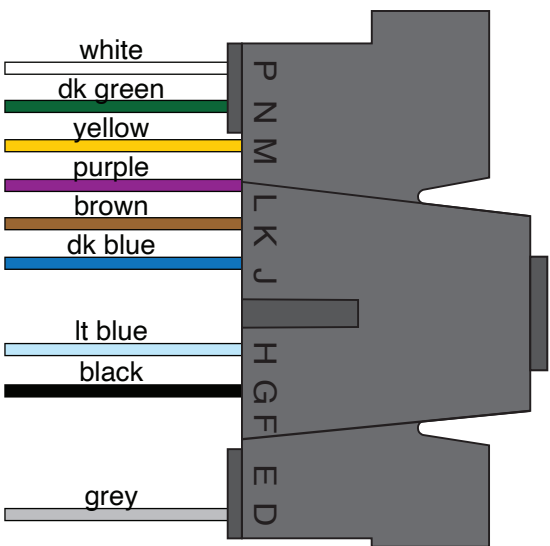
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Turn Signal Switch Connection:

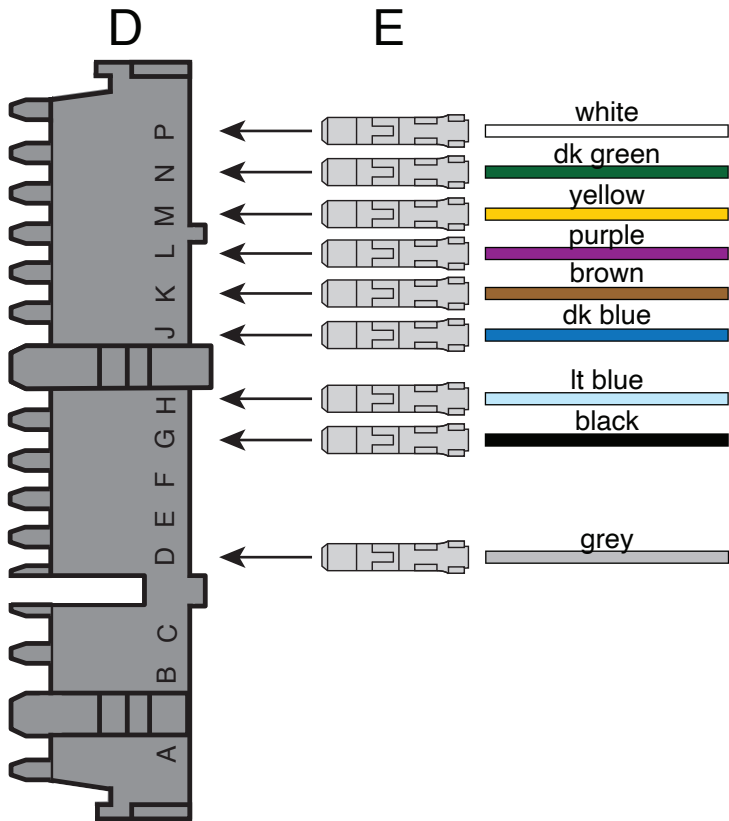
The turn signal switch connector on the new AAW Dash Harness will plug directly into an original or reproduction turn signal switch for a 1984-1990 XJ steering column, as well as turn signal switches on aftermarket steering columns equipped with a 4 1/4" connector. Connector "D" and Terminals "E" (See Page 6) have been included in the event the existing connector in the vehicle is missing or does not mate to the new connection on the AAW Dash Harness.

Turn Signal Switch Wiring (if needed)

AMERICAN AUTOWIRE DASH HARNESS
TURN SIGNAL SWITCH CONNECTOR



AFTERMARKET
TURN SIGNAL SWITCH WIRING



AAW Wire Color:	AAW Wire Printing:	Connector Cavity:	OEM Jeep Wire Color:	Aftermarket Wire Color:
White	Brake SW	P	White	White
Dark Green	Right Rear Turn	N	Dark Green	Dark Green
Yellow	Left Rear turn	M	Yellow	Yellow
Purple	Turn Switch Feed	L	Purple	Purple
Brown	Turn SW - Hazard	K	Brown	Brown
Dark Blue	Right Front Turn	J	Dark Blue	Dark Blue
Light Blue	Left Front Turn	H	Light Blue	Light Blue
Black	Horn Relay Ground	G	Black	Black
NONE	Ignition Key Warning	F	Pink	Green/Tan
NONE	Ignition Key Warning	E	Black	Tan
Gray	Dash Lights	D	Gray	None

NOTES:

Ignition Key Warning Buzzer Wires:

The "Ignition Key Warning" buzzer wires (BLACK and PINK for OEM wiring; GREEN w/ TAN stripe and TAN for AFTERMARKET wiring) are located in cavities F & E, respectively. The Classic Update does not support the usage of this buzzer, and these wires will remain unused.

Dash Lights Wire:

Most XJ's were equipped with floor shifters, however, the GRAY "Dash Lights" wire has been included to provide power to a "PRNDL Indicator Lamp" on vehicles equipped with column mounted shifters.



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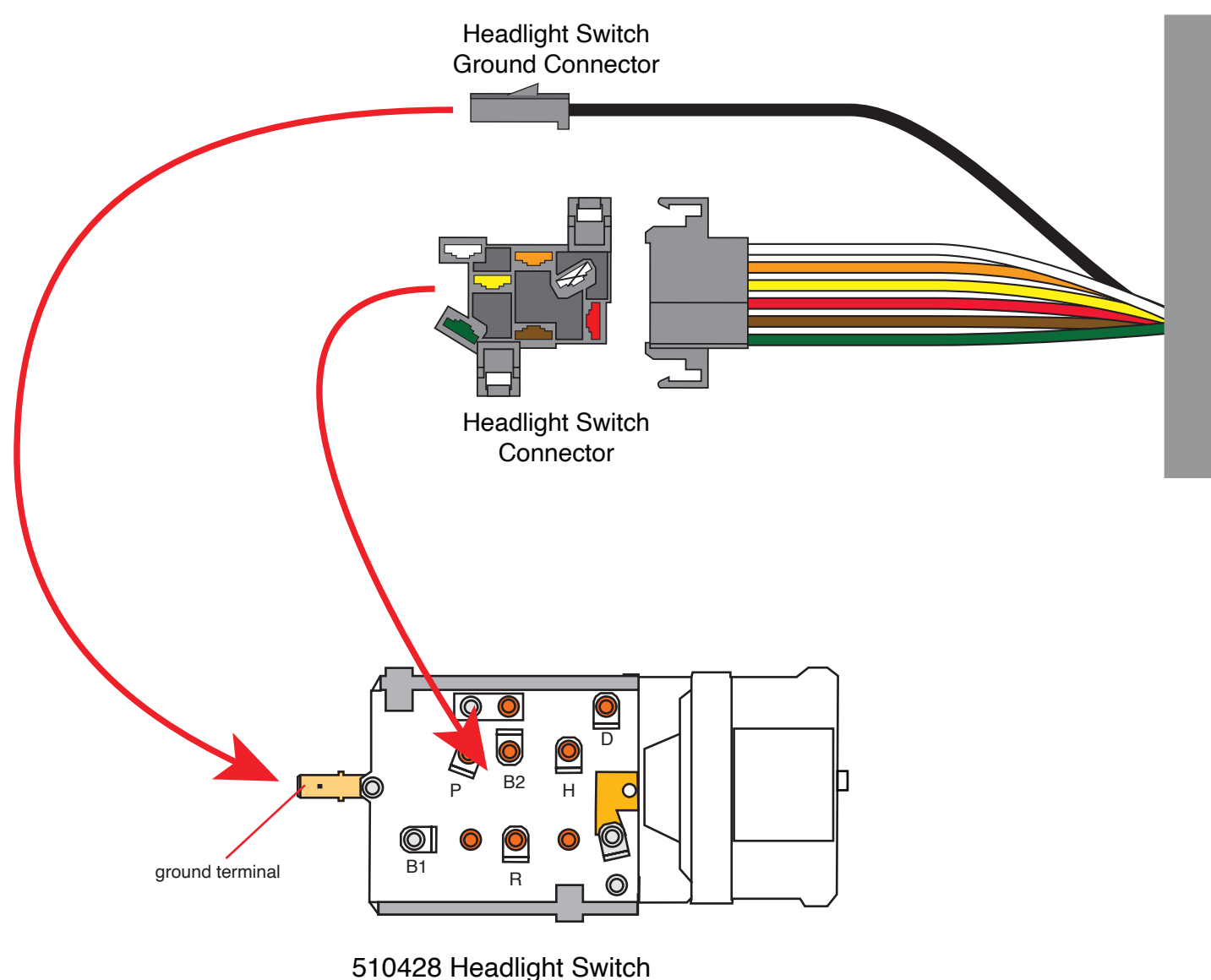
510873 Dash/Main harness instructions:

Circuit Branch #5 Connections

Headlight Switch:

Locate the 510428 Headlight Switch kit and plug the main headlight switch connector from the 510873 Dash Harness onto the base of the 510428 Headlight Switch. Also, attach the included Headlight Switch Ground connector to the ground terminal on the backside of the 510428 Headlight Switch. This ground is necessary for the operation of the courtesy light circuits in the vehicle.

After the harness and ground lead have been connected, install the headlight switch according to the included instructions in 510428 Headlight Switch package.



Circuit Branch #6 Connections

Telltale Module Connection:

The 510873 Dash Harness is equipped with a pre-terminated printed circuit board connector that will plug directly into the Telltale Module that is attached to the instrument cluster assembly. Plug the Telltale Module Connector into the Telltale Module. Looking at the rear of the instrument cluster, this connector will plug into the cavity on the RIGHT HAND side of the instrument cluster assembly. The locking tabs on this connector are different sizes and match the opening in the Telltale Module, and will only allow the connector to be inserted one way.

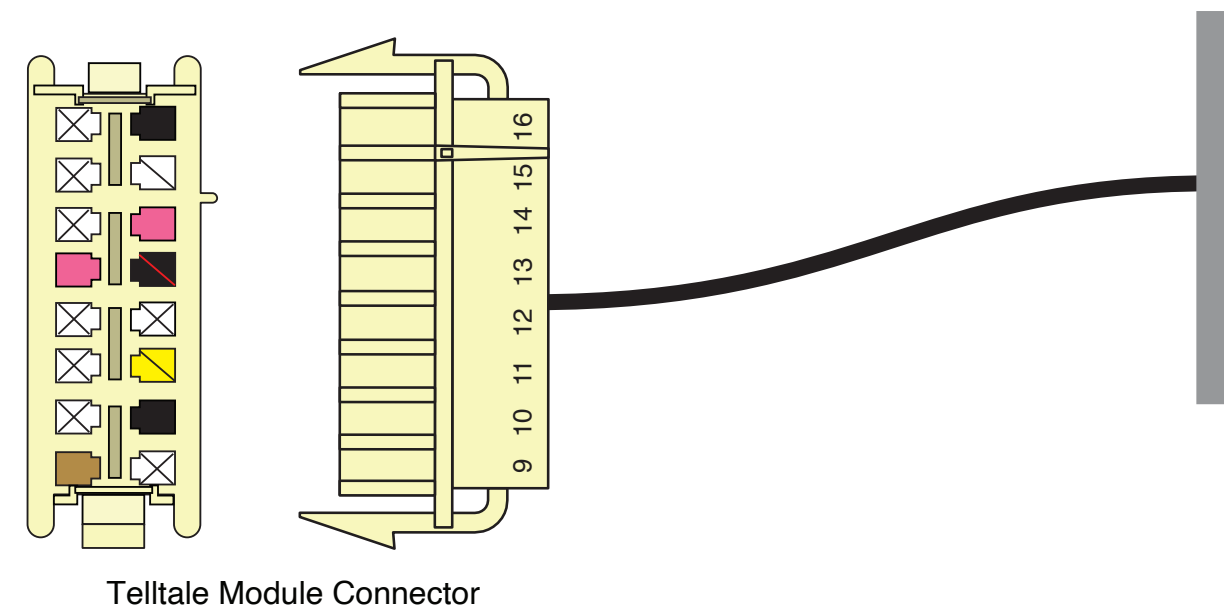
This Telltale Module connection supplies feeds to the module for the follow indications:

Wire Color:

TAN
BLACK w/ RED
YELLOW w/ BLACK
WHITE w/ BLACK
PINK
BLACK

Circuit Description:

Brake System Warning/Parking Brake
4WD Part Time Indicator
4WD Full Time Indicator
Low Washer Fluid
Ignition Feed to Module
Ground for Module



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510873 Dash/Main harness instructions:

Circuit Branch #6 & 7 Connections (LH & RH Switch Banks)

NOTE: The Fog Light, Rear Defroster, and Rear Wiper switches are not included in this kit. The installer must reuse the originals or source new switches for this install.

Fog Light Switch Connections:

For all years:

The Fog Light Switch is located in the LH Switch Bank. Plug the Fog Light Switch Connector into the Fog Light Switch. Locate one (1) of the Fog Light/Defrost Switch Illumination Pigtails (**Item "F" - Page 6**), plug it into the Fog Light Illumination Connector on the dash harness, and install the socket into the back of the switch bank.

Rear Defrost Switch Connections:

1984 - 1986 Model Years:

The Rear Defrost Switch was typically located in RH Switch Bank.

1987 - 1990 Model Years:

The Rear Defrost Switch was typically located in the LH Switch Bank.

The Rear Defrost Switch Connection on the Dash Harness is long enough to reach either switch location. Plug this connection into the Rear Defroster Switch. Locate one (1) of the Fog Light/Defrost Switch Illumination Pigtails (**Item "F" - Page 6**), plug it into the Rear Defroster Illumination Connector on the dash harness, and install the socket into the respective switch bank.

Rear Wiper Switch Connections:

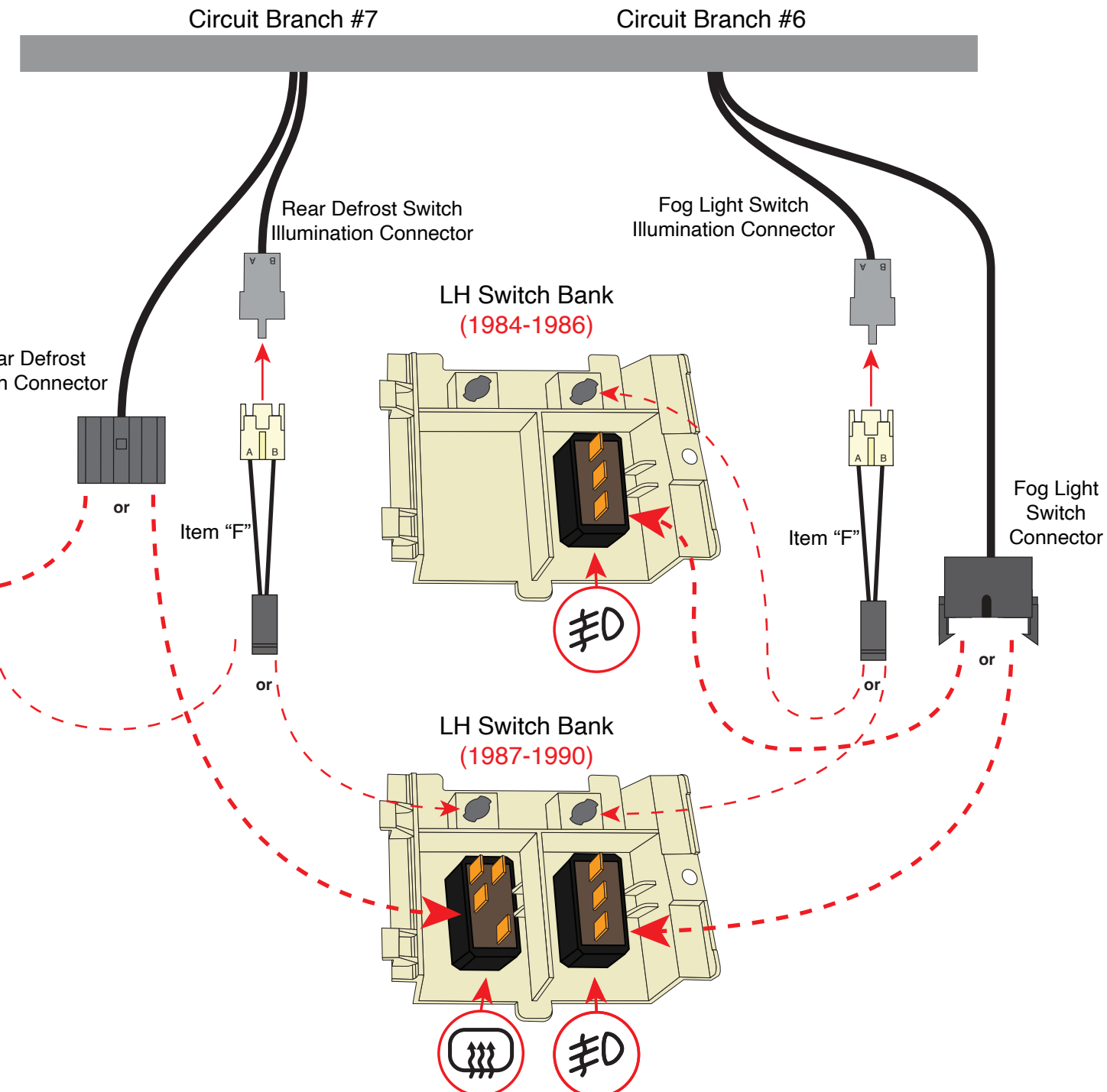
The 510873 Dash Harness does not address any connections to the Rear Wiper Switch. Connections to this switch will be covered in the 510925 Rear Wiper Add-On kit (sold separately) instructions.

Switch Symbol Legend:

- ⌘ - Fog Lights
- ⌘ - Rear Defrost
- ⌘ - Rear Wiper

Bulb Note:

The Fog Lamp/Defrost Switch Illumination Pigtail sockets (Item "F" - Page 6) will accept a #37 Bulb (**NOT INCLUDED**). These bulbs can be sourced at your favorite parts supplier.



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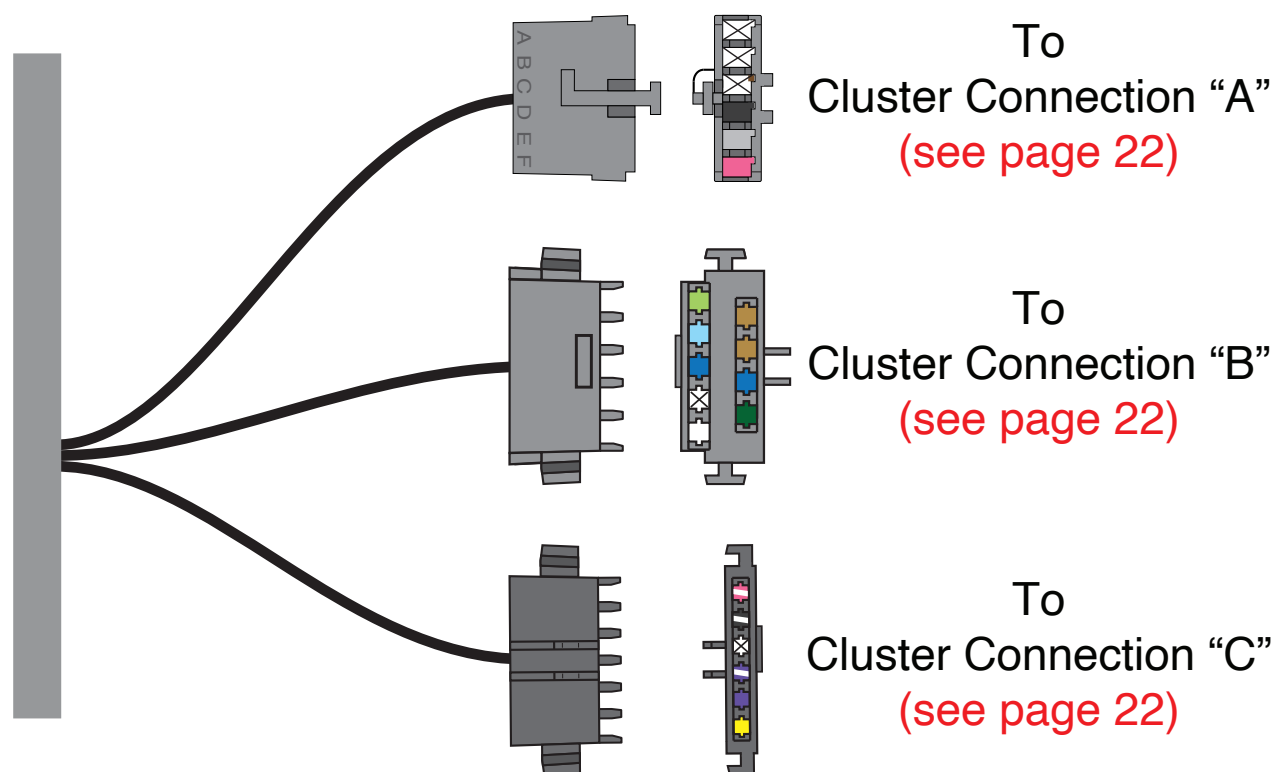
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510873 Dash/Main harness instructions:

Circuit Branch #7 Connections (cont'd)

Instrument Cluster Connections:

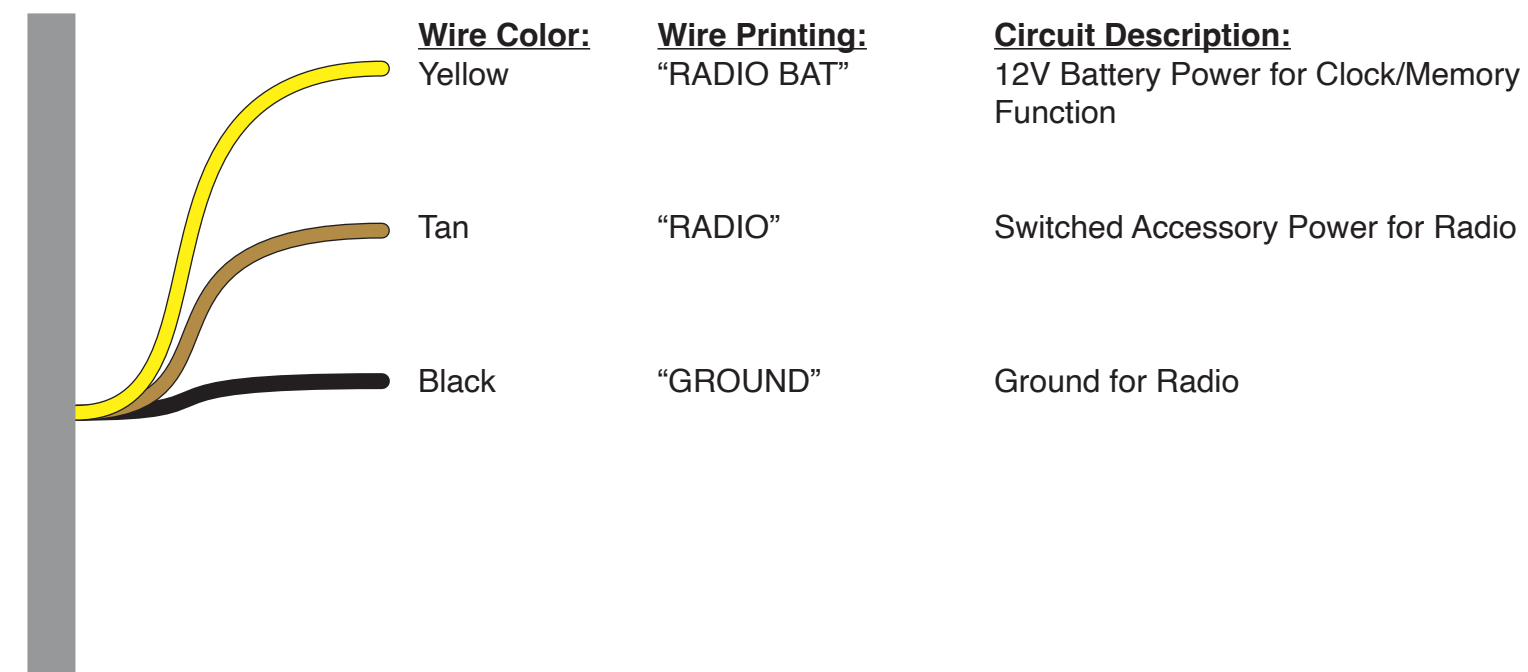
The 3 connections shown below are supplied for the 510874 Instrument Cluster Kit (Bag H) to be plugged in during a later stage of the install (see page 22).



Circuit Branch #8 Connections

Radio Connections:

The 3 wires shown below are provided for connection to the vehicle radio. The circuit descriptions are listed for reference when connecting to either a FACTORY or AFTERMARKET radio.



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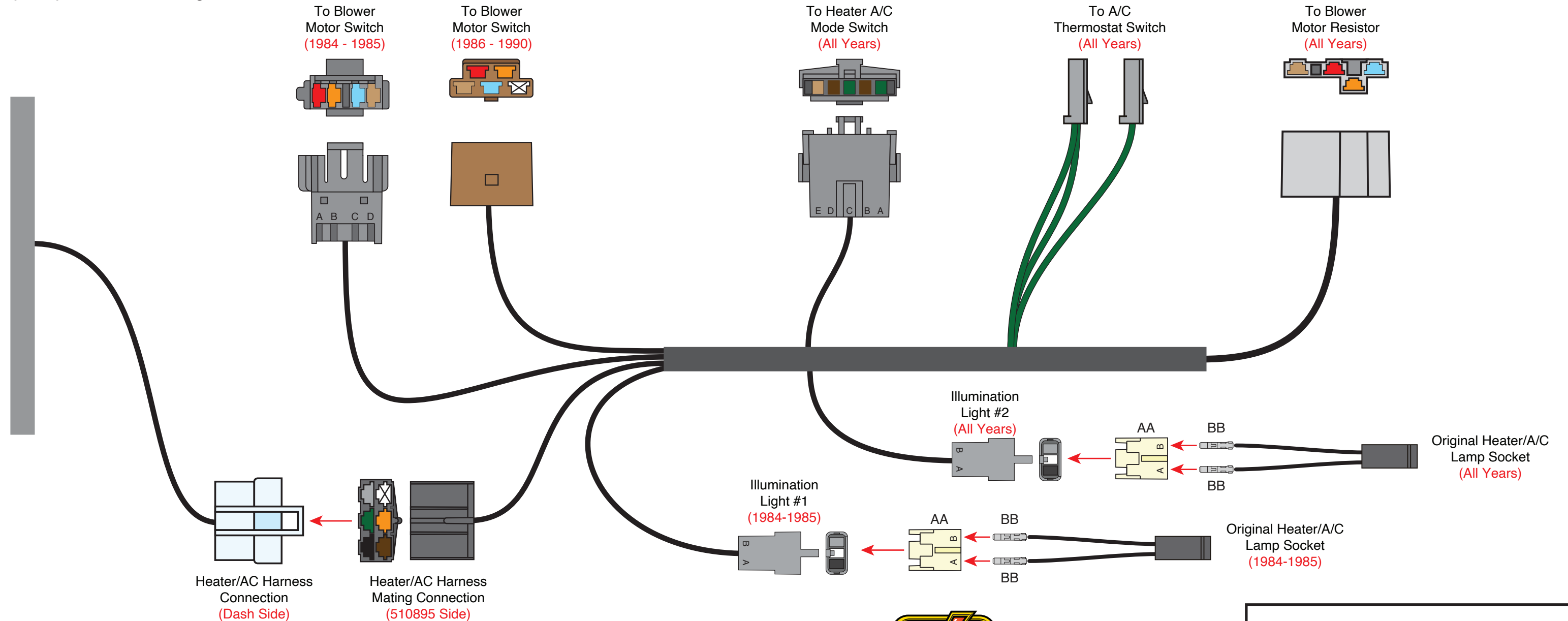
510873 Dash/Main harness instructions:

Circuit Branch #8 Connections (cont'd)

Heater/AC Connections:

Locate the 510895 Heater and/or A/C Harness (Bag R). Plug the BLACK 6-way connector from the 510895 Heater and/or A/C Harness into the WHITE mating connector on the 510873 Dash Harness.

Finalize the remaining connections to the Heater/A/C components as shown on this page.
The installer will need to salvage the original lamp socket pigtail(s) the original harness and connect them to the 510895 Heater and/or A/C Harness using the included connectors ("AA") and Terminals ("BB") as shown below right.



510895 Parts Legend:

- AA Connector, Pack-Con, 2-Way Male, 2 pcs
- BB Pack-Con male terminal, 4 pcs

bag
G

510873 Dash/Main harness instructions:
Circuit Branch #9 Connections

Rear Defroster Relay Connection:

Plug this connector directly on to the Rear Defroster Relay. The original relay is mounted to the underside of the instrument panel using an integral bracket and screw. If the original relay is missing or damaged, AAW has replacement relays available (PN: 10014885) for purchase separately. The AAW replacement relay will need to be secured to the instrument panel assembly using one of the included zip-ties (Item “R” - Page 6).

Ash Tray Illumination Light:

Reusing the ORIGINAL Ash Tray Illumination Light, cut the original connector off the leads and replace with included connector and terminals (Items “G” and “E - Page 6). Plug the new connection into the Ash Tray Illumination Lamp connector.

Grounds 3 & 4:

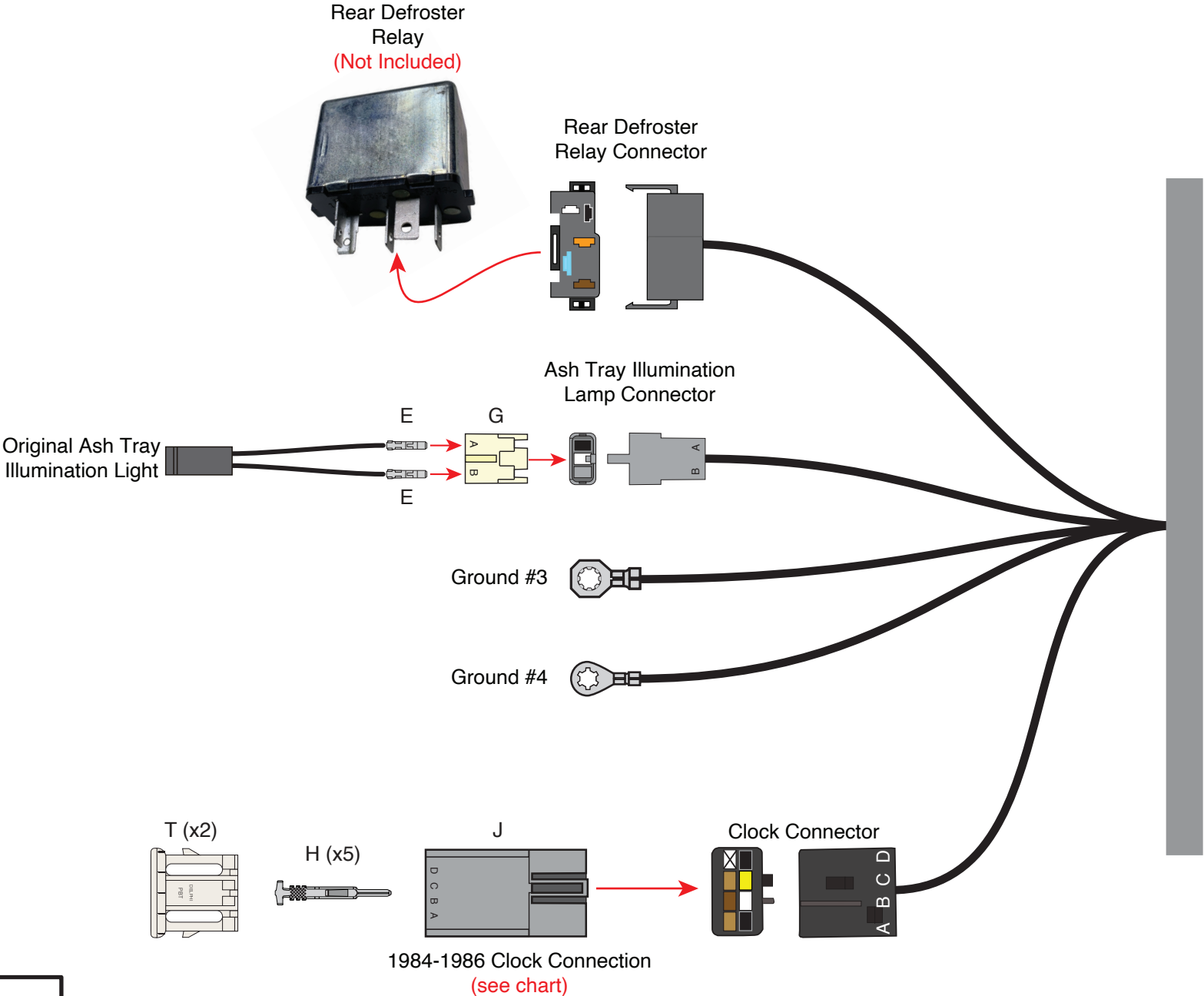
Looking at the rear of the instrument panel assembly, attach these ground leads to the left hand side of the steering column support bracket near the original Rear Defroster Relay mounting location. Both grounds will be attached to ground point “G3,4” as noted on page 8.

Clock Connection:

1984-1986 Years:
Cut the original BLUE 6-Way connector off the clock harness, replace it with the included 8-Way connector (Item “J” - Page 6), and terminals (Item “H” - Page 6). Terminate the wires into the new 8-way connector following the chart below. After all of the wires have been inserted into connector “J”, insert both Secondary Locks (Item “T” - Page 6) into the connector to lock the terminals in place.

AAW Wire Color:	AAW Wire Printing:	Connector Cavity:	OEM Jeep Wire Color:	Circuit Description:
Black	Ground	A	Black	Ground
Gray	Dash Lights	B	Orange	Illumination Light Feed
Yellow	Clock Bat	C	Red	12V Battery Feed
Black	Ground	D	None	Ground (Not Used)
None	None	E	None	(Not Used)
Tan	None	F	Blue	12V Accessory
Brown	Park Lights	G	Yellow	Park Light Feed
Tan	None	H	None	(Not Used)

1987-1990 Years:
The clock assembly for these vehicles already has the proper mating connector installed on the harness pigtail. The new AAW connector will plug directly into the existing clock connector.



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510873 Dash/Main harness instructions:

Circuit Branch #9 Connections (cont'd)

Rear Wiper Switch Illumination Lamp:

This connection is provided for connecting the illumination lamp assembly included in the 510925 Rear Wiper add-on kit. Further instructions are included in that kit.

Vehicle Speed Sensor Connection:

These wires are provided in the event the installer is equipping the vehicle with an AFTERMARKET electronic speedometer. The mating harness for this connection is in the 510730 VSS Lead Wires Kit (Bag V). Further instructions for this connection are included in that kit.

Dashlights Candelabra:

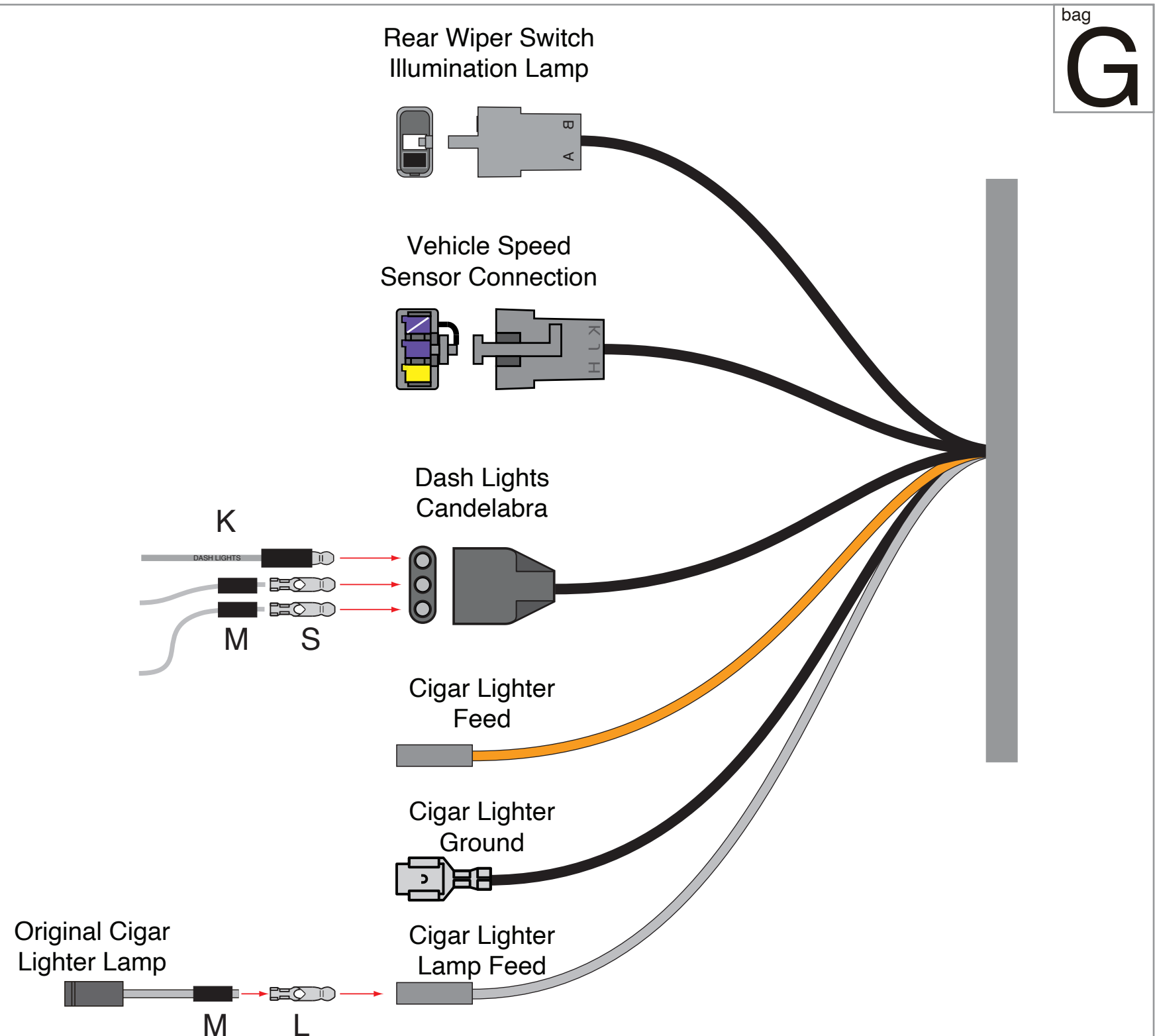
The dash lights candelabra has been provided so the installer can connect additional accessories that require a dash lamp feed. A Dash Lamp Jumper (**Item "K" - Page 6**) has been provided to create wire extensions to the accessories. Cut the jumper harness "K" as needed, then splice the other end of the jumper to the accessory. In the event that the wire leads from the accessories are long enough to reach the candelabra, large male bullet terminals (**Item "S" - Page 6**) and sleeves (**Item "M" - Page 6**) have been provided to connect the accessory to the candelabra. Slide sleeve "M" on the end of the wire, crimp terminal "S" onto the wire, then slide sleeve "M" up over the crimped area of terminal "S" so that it looks like jumper harness "K". Once complete, plug the male bullet terminals directly into the candelabra to complete your accessory lighting circuits.

Cigar Lighter Feed & Ground:

Plug the female bullet connector on the Cigar Lighter Feed wire on to the Cigar Lighter. Plug the Cigar Lighter Ground terminal onto the grounding tang on the Cigar Lighter.

Cigar Lighter Lamp Feed:

Re-using the original Cigar Lighter Illumination Light Pigtail, cut the one-way inline connector from the Cigar Lighter Illumination Light Pigtail and slide rubber sleeve (**Item "M" - Page 6**) on to the wire. Crimp small male bullet terminal (**Item "L" - Page 6**) on to the wire. Slide the sleeve "M" up over the crimped area of the terminal, and plug the new bullet terminal into the Cigar Lighter Feed connection.



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510873 Dash/Main harness instructions:

Circuit Branch #10 Connections

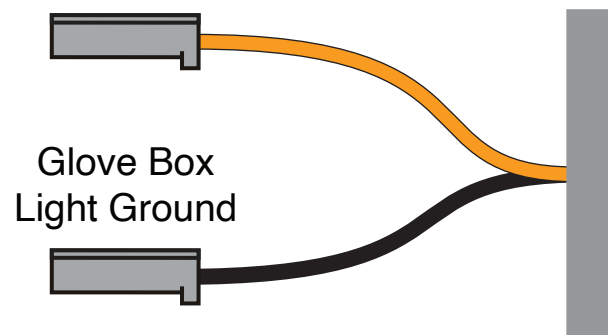
Glove Box Lamp and Switch Connections:

The Glove Box Lamp and Switch Assembly has 2 terminals on the back side. Plug the glove box light Feed and Ground wires onto the glove box light assembly as shown in the photo below.



Glove Box
Light Feed

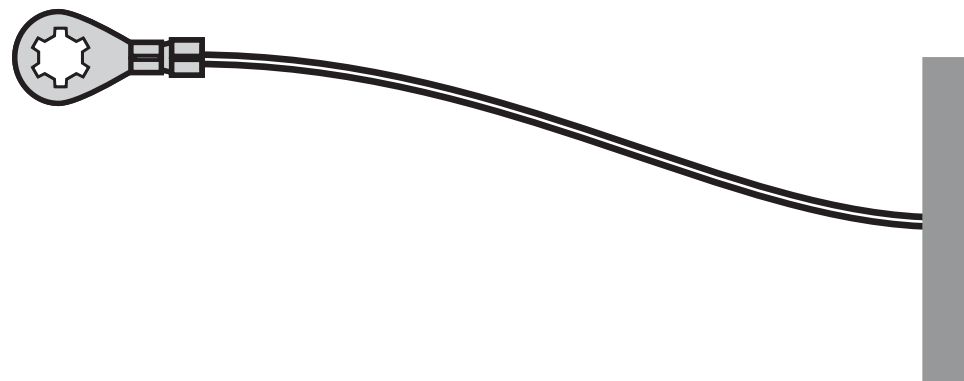
Glove Box
Light Ground



Electronic Speedometer Ground:

Connect this ground to a good grounding point on the instrument panel assembly. This ground should be attached separately from any other grounds in the harness to prevent interference to the electronic speedometer.

Electronic Speedometer
Ground



Circuit Branch #11 Connections

Overhead Light Harness Connection:

This connection has been provided for attaching the Overhead Light Harness to the Dash Harness. The mating connector and corresponding instructions will be addressed in the 510937 Overhead Light, Dome, Map Vanity kit (**Bag "P"**).

Overhead Light
Harness
Connection



Ground #5:

Attach this ground to a good grounding point on the instrument panel assembly. This ground should be separate from any other grounds on the harness.



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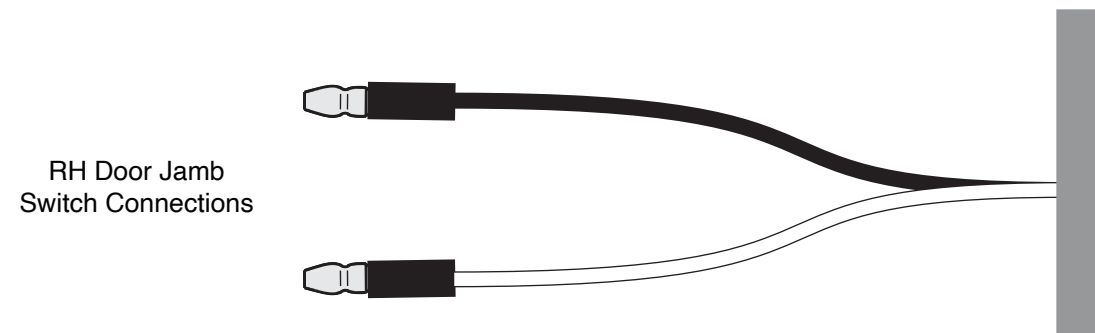
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510873 Dash/Main harness instructions:

Circuit Branch #11 Connections (cont'd)

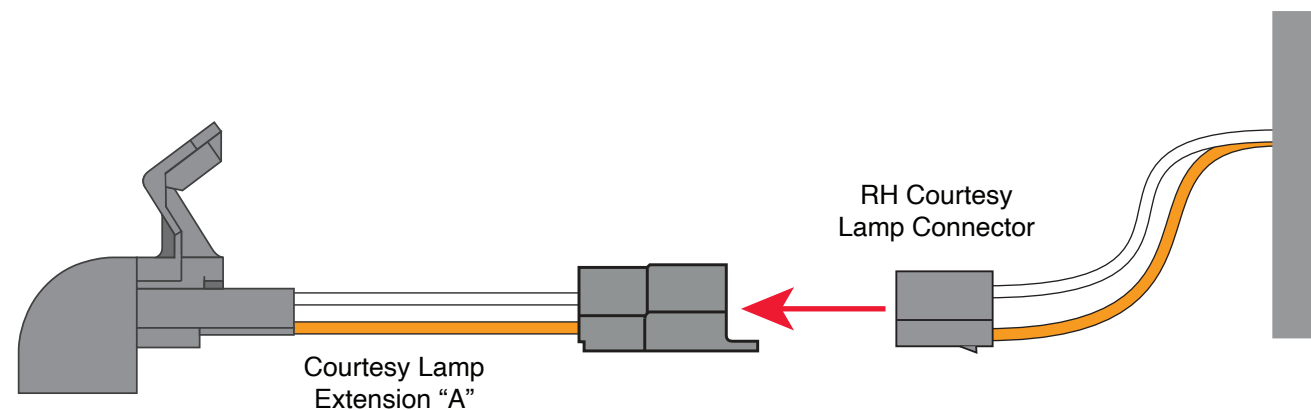
LH Door Jamb Switch Connections:

These 2 bullet terminal connections will attach to extensions provided in the 510877 Rear Body which will continue through the body to the RH Door Jamb Switch(es). See page 50 for further instructions.



RH Under Dash Courtesy Lamp Connection:

Locate one of the Courtesy Lamp extensions (Item "C" - Page 6) from the Dash Harness Loose Piece Kit, and plug it into the RH Courtesy Lamp Connector on the Dash Harness. Mount the courtesy lamp to the underside of the instrument panel assembly. This lamp will illuminate anytime the doors are opened, or the courtesy light switch is activated on the headlight switch.



The dash to instrument panel installation is now complete.

Proceed to the Gauge Cluster "Bag H" instructions on the next page.



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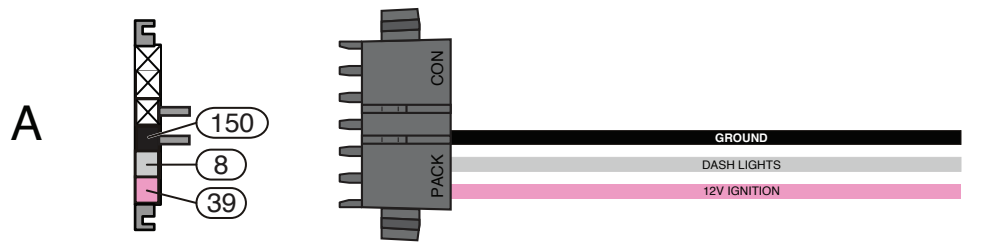
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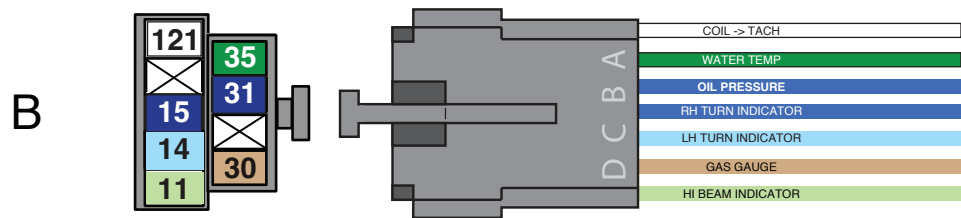
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510874 Gauge Cluster harness instructions:

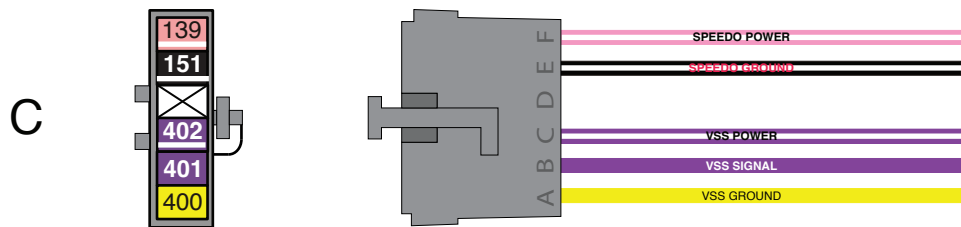
Below are the harness extensions, terminals, and connector bodies included in the Gauge Cluster Harness 510874 and Loose Piece bag. These will be used to complete the gauge cluster connections and are referenced by the letters and descriptions below from this point forward.



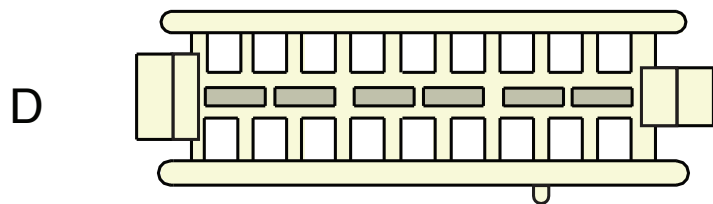
(Harness Extension, Gauge Cluster, Power/Ground, 1 piece)



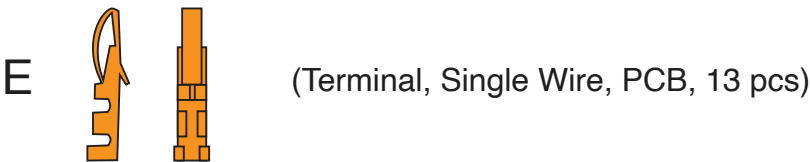
(Harness Extension, Gauge Cluster, Sending Units/Indicators, 1 piece)



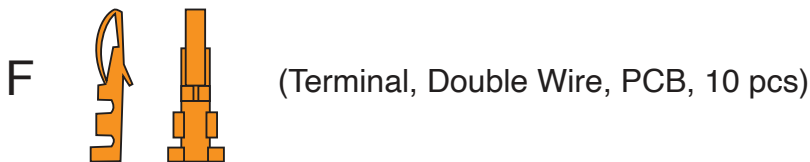
(Harness Extension, Electronic Speedometer, 1 piece)



(Connector, P/C Board, x18, 1 piece)



(Terminal, Single Wire, PCB, 13 pcs)

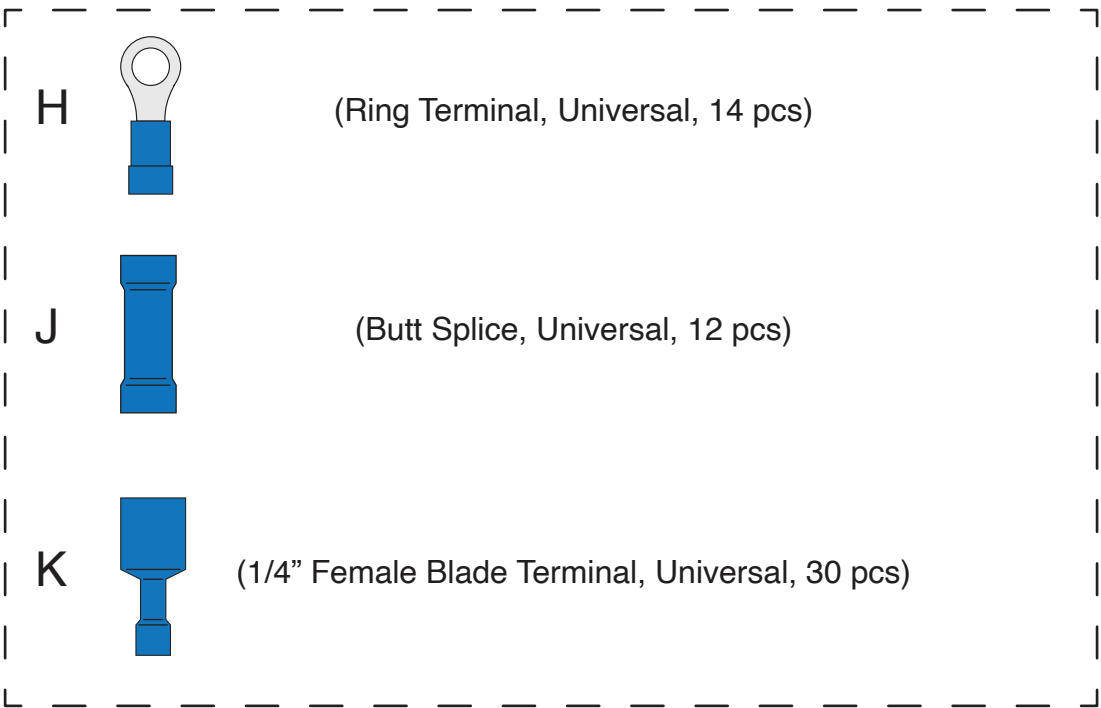


(Terminal, Double Wire, PCB, 10 pcs)



(Brake Warning Lamp Wire, Aftermarket Gauges ONLY, 1 pc)

These connectors will be located in the 92965220 aftermarket gauge connection kit and will only be used with aftermarket/universal gauges.



(Ring Terminal, Universal, 14 pcs)

(Butt Splice, Universal, 12 pcs)

(1/4" Female Blade Terminal, Universal, 30 pcs)



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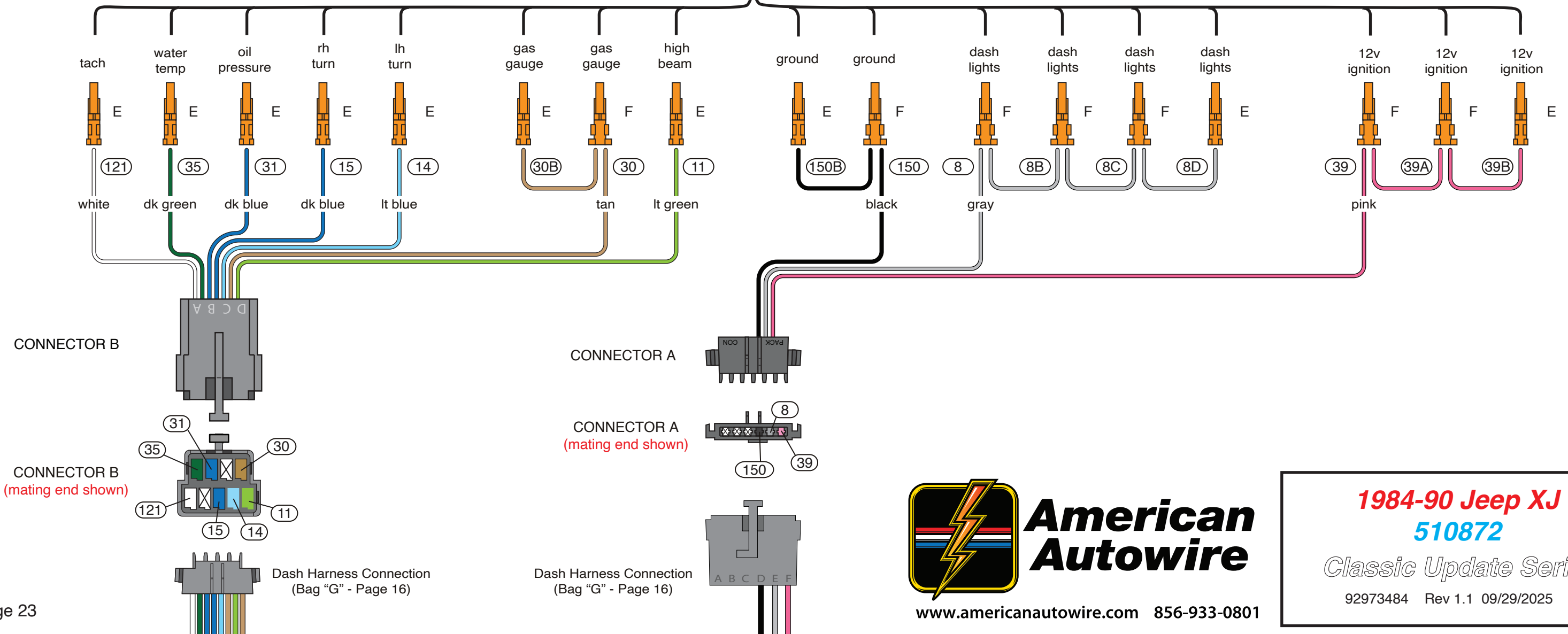
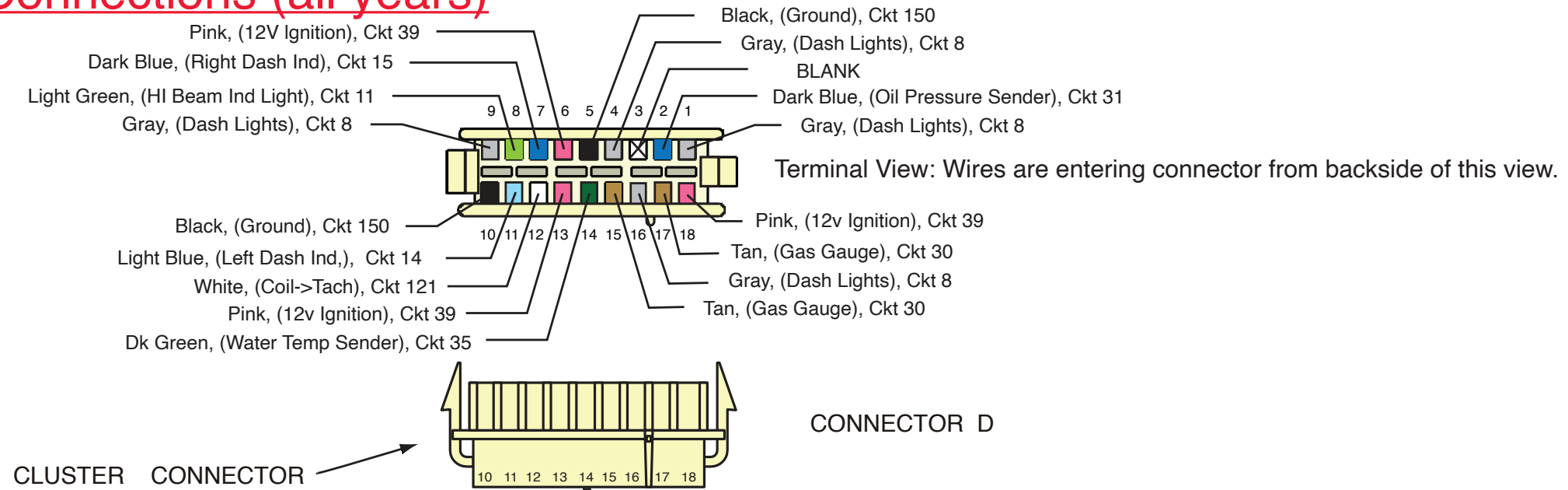
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510874 Gauge Cluster harness instructions:

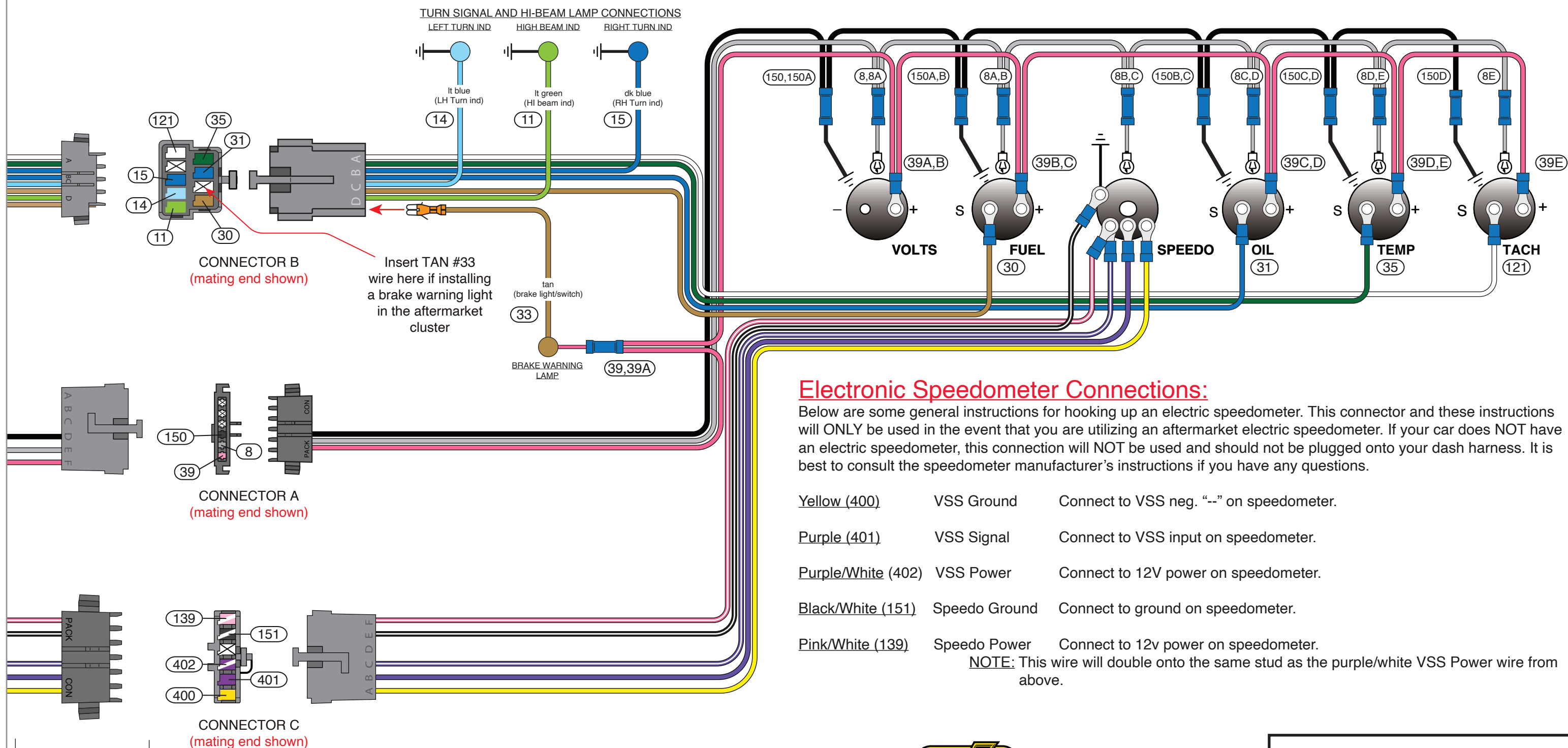
Factory Gauge Cluster Connections (all years)

bag
H



510874 Gauge Cluster harness instructions: Aftermarket Gauge Connections

Shown below is a typical **AFTERMARKET GAUGE** installation procedure. Follow the manufacturer's instructions for best results. Ring terminal and butt splice connections are shown. Blade terminal connectors are also included in the event they are required. Aftermarket gauge connections for blade terminals should be similar.



Electronic Speedometer Connections:

Below are some general instructions for hooking up an electric speedometer. This connector and these instructions will ONLY be used in the event that you are utilizing an aftermarket electric speedometer. If your car does NOT have an electric speedometer, this connection will NOT be used and should not be plugged onto your dash harness. It is best to consult the speedometer manufacturer's instructions if you have any questions.

Yellow (400)	VSS Ground	Connect to VSS neg. "--" on speedometer.
Purple (401)	VSS Signal	Connect to VSS input on speedometer.
Purple/White (402)	VSS Power	Connect to 12V power on speedometer.
Black/White (151)	Speedo Ground	Connect to ground on speedometer.
Pink/White (139)	Speedo Power	Connect to 12v power on speedometer.

NOTE: This wire will double onto the same stud as the purple/white VSS Power wire from above.



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510873 Dash/Main harness instructions:

Fuseblock and Bulkhead Installation

STEP 6: RE-INSTALL THE INSTRUMENT PANEL ASSEMBLY

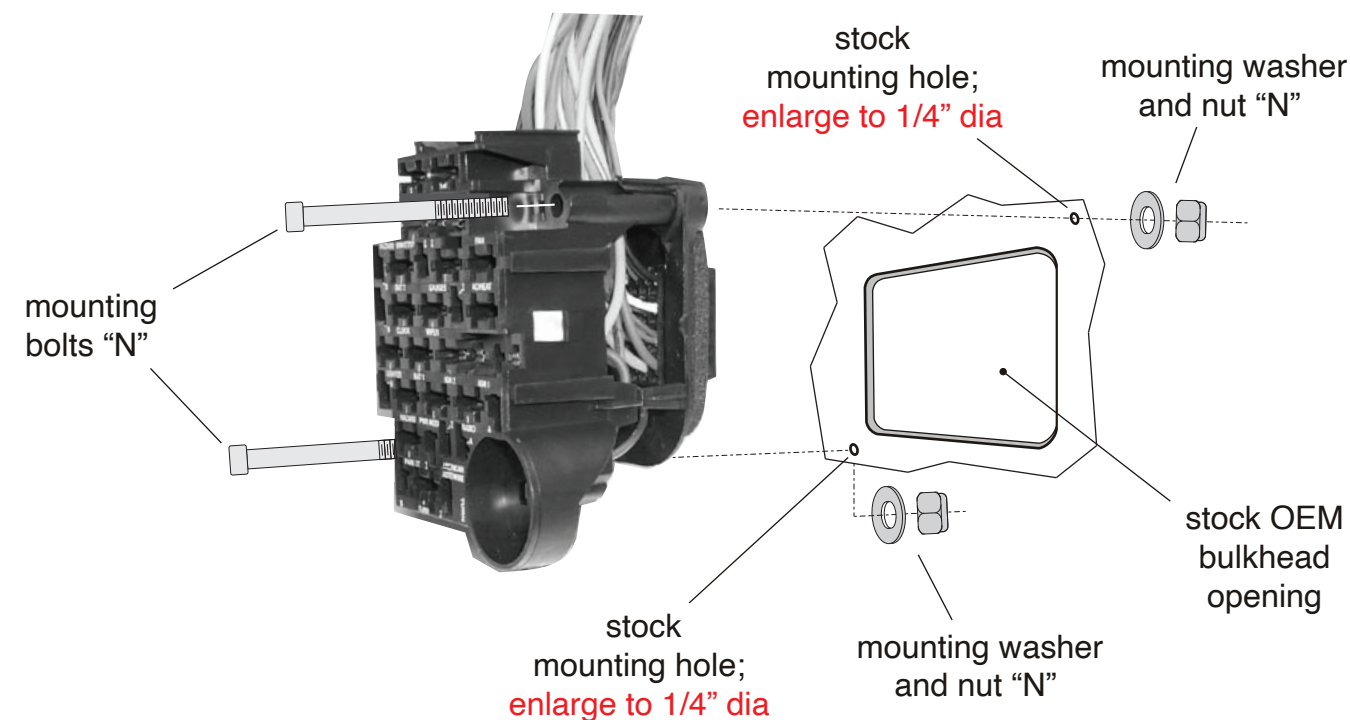
After installing the 510873 Dash Harness and 510874 Gauge Cluster Harness on to the instrument panel assembly, re-install the completed assembly back into the vehicle per the instructions from the assembly or service manual.

STEP 7: MOUNT THE FUSE BLOCK AND BULKHEAD ASSEMBLY

Locate the original factory fuse block bulkhead hole in the upper left corner of the firewall. The two fuse block mounting screw holes must be enlarged with a 1/4" drill bit to allow clearance for the new 1/4" fuse block mounting bolts (**Item "N" - See Page 6 - Legend**). Using a 1/4" drill bit, enlarge the existing stock mounting holes. Attach the fuse block and bulkhead assembly to the firewall using **Bolt, Nut, and Washer "N"** as shown in Figure "B", on this page.

INSTALLING THE FUSE BLOCK AND BULKHEAD ASSEMBLY

FIGURE "B"



STEP 8: INSTALL THE REST OF THE HARNESS COMPONENTS

Continue installing the remaining harness components (Engine, Front Light, etc.)



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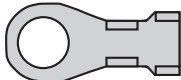
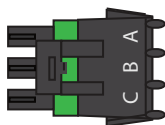
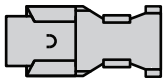
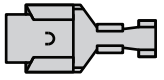
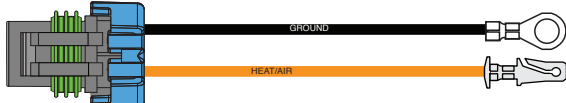
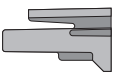
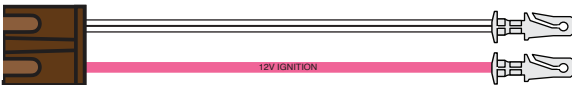
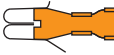
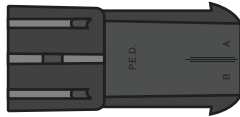
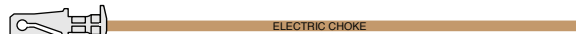
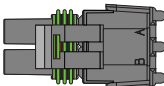
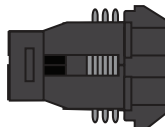
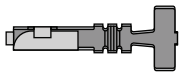
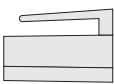
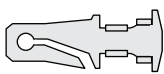
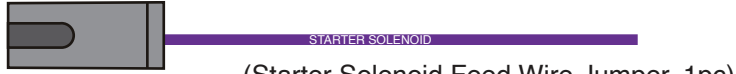
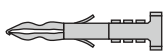
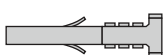
Classic Update Series

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J

510875 Engine harness instructions:

Legend:

A		(terminal, ring, 10-12 gauge, 2 pcs)	Q		(connector, W/P, 3-Way, female, 1 pc)	DD		(Resistor Bypass Wire, 1 pc)	NN		(A/C Low Pressure Cut Out Switch, 1 pc)
B		(terminal, 56 series, double female, 2 pcs)	R		(connector, W/P, 3-Way, male, 1 pc)	EE		(M/T Starter Relay Ground Jumper, 1 pc)	PP		(2.8L Ignition Coil Jumper Harness, 1 pc)
C		(terminal, 56 series, single female, 11 pcs)	S		(terminal, bullet, female, 6 pcs)	FF		(Blower Motor Jumper Harness, 1 pc)	QQ		(connector, pack-con, 1xF, 1 pcs)
D		(connector w/lock, 56Fx1, 6 pcs)	T		(connector, W/P, 2-way, male, 2 pcs)	GG		(Low Washer Fluid Jumper Harness, 1 pc)	RR		(terminal, pack-con, female, 3 pcs)
E		(sleeve, rubber large, 7 pcs)	U		(connector, M/P 280, 2-way, male, 1 pc)	HH		(Electric Choke Feed Wire, 1 pc)	SS		(connector, W/P, female x2, 4 pcs)
F		(connector, 56Mx1, 2 pcs)	V		(secondary lock for item "U", 1 pc)	JJ		(Hood Lamp & Transfer Case Ground Wire, 1 pc)	TT		(Fuel Pump Feed Wire, 1 pc)
G		(connector w/ notch, 56Fx1, 2 pcs)	W		(terminal, M/P, male, 3 pcs)	KK		(A/C Compressor and Low Pressure Wire, 1 pc)	UU		(terminal, M/P 630, female, 2 pcs)
H		(terminal, ring, 14-16 gauge, 6 pcs)	X		(connector, M/P, 150, 2-Way male, 1 pc)	LL		(Transfer Case Feed Wire #1, 1 pc)	VV		(routing clip, 1" wraparound, 12 pcs)
I		(terminal, M/P, 150 female, 3 pcs)	Y		(secondary lock for item "X", 1 pc)	MM		(Transfer Case Feed Wire #2, 1 pc)	WW		(connector, HEI BATT, 1 pc)
J		(terminal, 56 series single male, 4 pcs)	Z		(seal, M/P 285 or 150, 3 pcs)	AA		(Starter Solenoid Feed Wire Jumper, 1 pc)	XX		(connector, HEI TACH, 1 pc)
K		(seal, W/P, 1 way, M/P 285, 19 pcs)	BB		(A/T Neutral Safety Switch Ground Jumper, 1 pc)	CC		("SI" Alternator Jumper, 1 pc)			
L		(terminal, W/P, male, 12 pcs)									
M		(terminal, W/P, female, 12 pcs)									
N		(sleeve, rubber small, 6 pcs)									
P		(connector, W/P, Female x2, 4 pcs)									



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510875 Engine harness instructions:

Engine Harness Installation Procedures

NOTE: All jumper harnesses need to be installed to the bulk head connector(s) prior to attaching them to the fuse panel bulkhead assembly. Follow all of the instructions for this Engine Harness (section "J") and the Front Light Harness (section "L") before finalizing the Bulk Head Connection.

STEP 1: LAY OUT THE ENGINE HARNESS IN THE ENGINE BAY

All of the wires from the 20-way Bulkhead Connector in this harness will route along the Left Hand fender apron, across the front radiator support, and onto the Right Hand fender apron. A graphic depicting the basic engine harness routing is shown to the right of this page and a detailed layout is shown on page 28.

STEP 2: CUT, CRIMP, AND TERMINATE OPEN ENDED WIRES

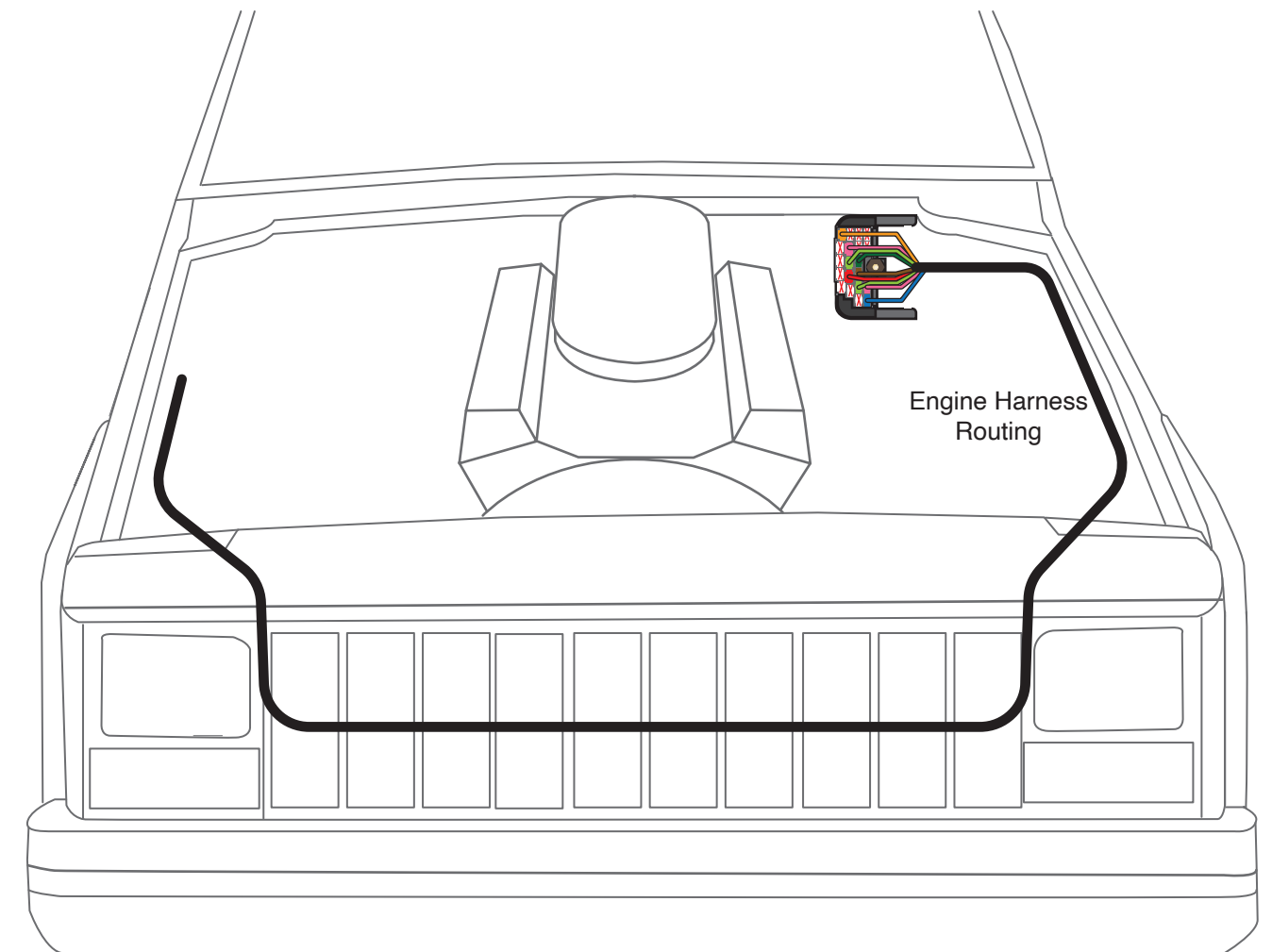
Route the open ended wires to their applicable components, cut to length, and terminate as shown on pages 29-36.

STEP 3: INSTALL REQUIRED JUMPER HARNESSES IN THE ENGINE BULK HEAD CONNECTOR

Install the included jumper harnesses into the bulk head connector as shown on pages 37-40. These connections will vary based upon each vehicles application and are detailed to show each possible installation requirement.

STEP 4: CONTINUE UNDER HOOD COMPONENT INSTALLATION

Continue the under hood portion of the install with the Front Light Harness (section "L") which begins on page 41.



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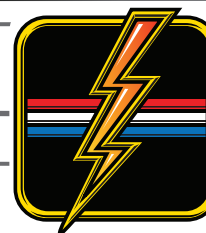
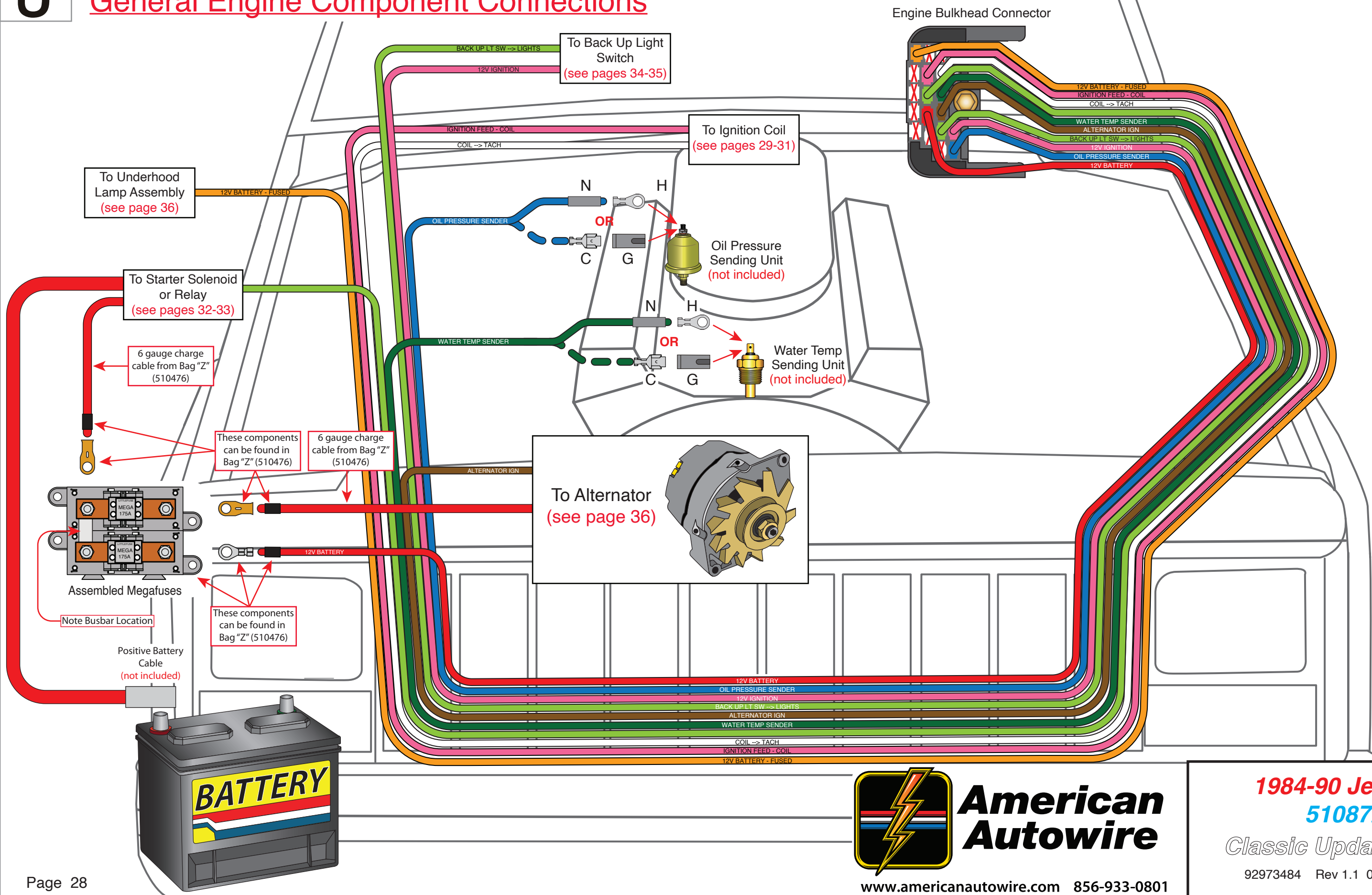
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510875 Engine harness instructions:

General Engine Component Connections



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510875 Engine harness instructions:

Ignition System Connections

GM 2.8L HEI:

Vehicles equipped with the GM 2.8L engine typically had an HEI ignition system and a 2 BBL carburetor. The components of this system are as follows:

HEI Distributor:

This HEI distributor is separate from the HEI coil and is connected to the coil with a jumper harness equipped with a 2-way BLACK connector with male terminals (not included). This connector plugs onto the HEI coil.

HEI Coil:

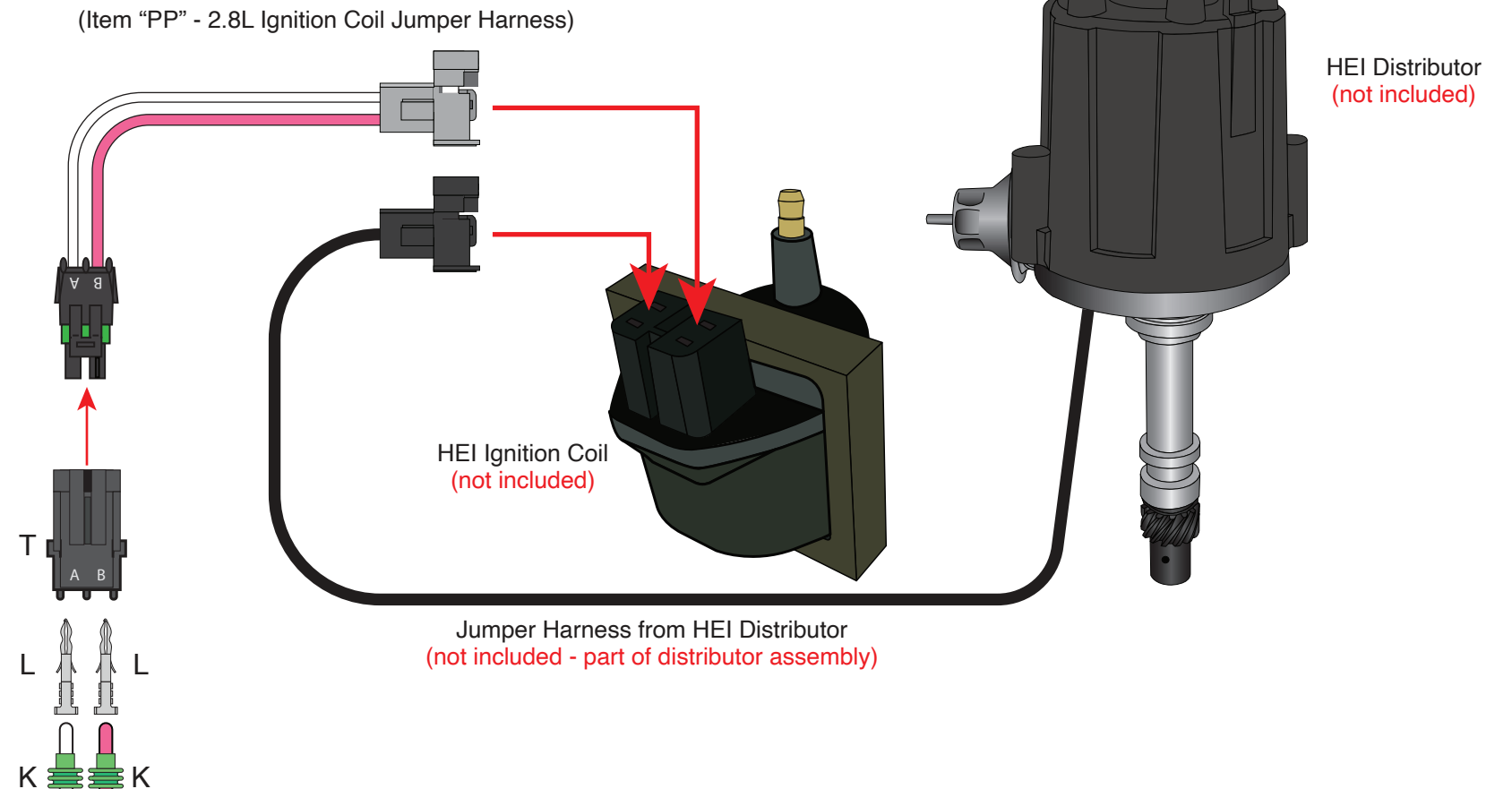
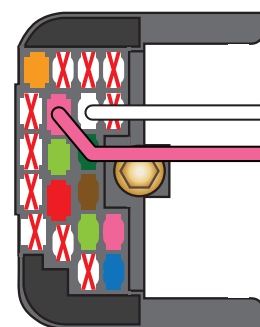
The HEI coil is separate from the HEI distributor, and requires two connections to operate. The first connection is the jumper harness mentioned above that comes from the HEI distributor. The second connection is the 2.8L Ignition Coil Jumper Harness (**Item "PP" - Page 26**).

Connection Instructions:

Locate the 2.8L Ignition Coil Jumper Harness (**Item "PP" - Page 26**) and plug it into the ignition coil as shown on this page.

Route the PINK "IGNITION FEED - COIL" and the WHITE "Coil --> Tach" wires (located in the engine bulkhead connector) to the loose end of the 2.8L Ignition Coil Jumper Harness and cut to length. Add a green W/P Seal (**Item "K" - Page 26**), and crimp a W/P Male Terminal (**Item "L" - Page 26**) on the end of each wire. Insert the newly terminated end of the PINK "IGNITION FEED - COIL" wire into Cavity "B" of the BLACK W/P Connector, 2xM (**Item "T" - Page 26**). Insert the newly terminated end of the WHITE "Coil --> Tach" wire into Cavity "A" of the BLACK W/P Connector, 2xM (**Item "T"**) and engage the locking tab. Plug connector "T" into the open connector on the end of the 2.8L Ignition Coil Jumper Harness (**Item "PP"**).

Engine Bulkhead Connector



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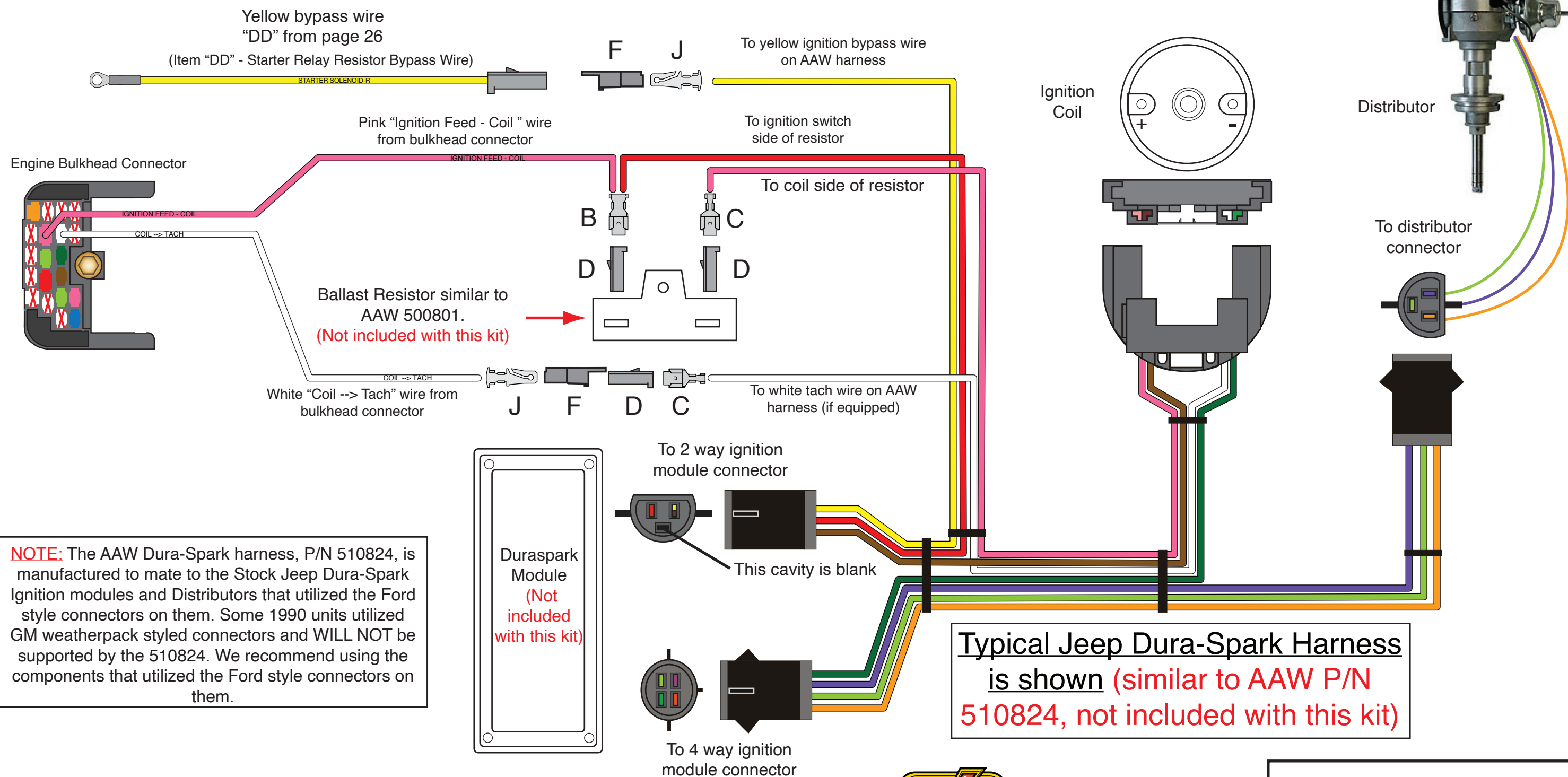
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510875 Engine harness instructions: Ignition System Connections (cont'd)



NOTE: The AAW Dura-Spark harness, P/N 510824, is manufactured to mate to the Stock Jeep Dura-Spark Ignition modules and Distributors that utilized the Ford style connectors on them. Some 1990 units utilized GM weatherpack styled connectors and WILL NOT be supported by the 510824. We recommend using the components that utilized the Ford style connectors on them.



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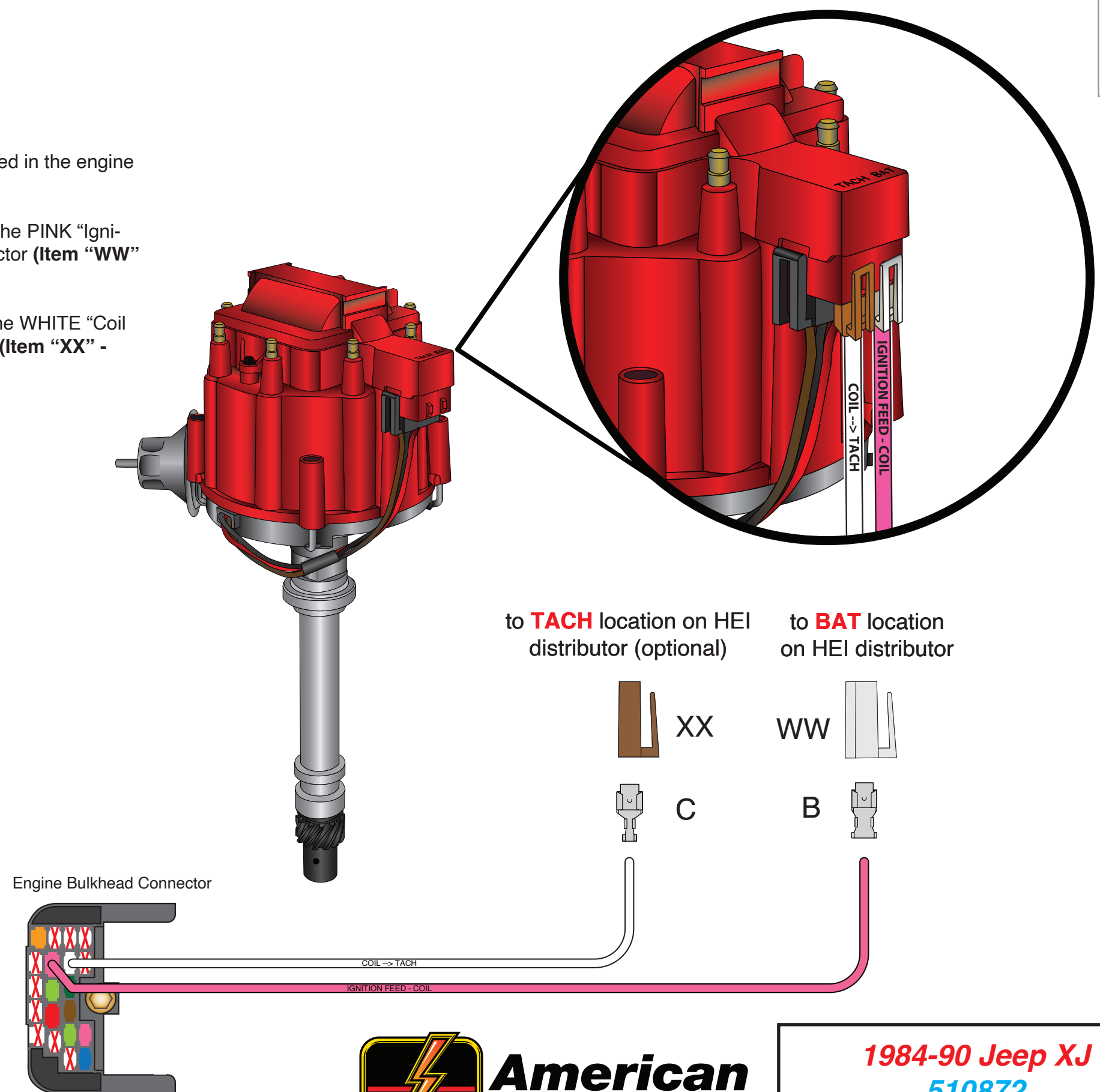
510875 Engine harness instructions: Ignition System Connections (cont'd)

Basic GM HEI:

Route the PINK "Ignition Feed - Coil" and the WHITE "Coil --> Tach" wires (located in the engine bulkhead connector) to the HEI distributor and cut to length.

Crimp a 56 Series Double Female Terminal (**Item "B" - Page 26**) on the end of the PINK "Ignition Feed - Coil" wire, insert the terminated end into the WHITE HEI BAT Connector (**Item "WW" - Page 26**), and plug into the "BAT" location on the distributor.

Crimp a 56 Series Single Female Terminal (**Item "C" - Page 26**) on the end of the WHITE "Coil --> Tach" wire and insert the terminated end into BROWN HEI TACH Connector (**Item "XX" - Page 26**), and plug into the "TACH" location on the distributor.



bag

J



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510875 Engine harness instructions:

Starter Solenoid/Relay Instructions

Ford/AMC Type Starter Solenoids:

Follow the instructions on this page to connect the engine harness to a Ford/AMC Type Starter Solenoid (shown below). There are 2 different solenoids utilized by the XJ.

Automatic Transmission Vehicles (Standard Motor Products # SS-582 or similar):

These vehicles utilized a 5 pin/stud solenoid (Battery In, Start, Ignition Bypass, Starter Motor Stud, Ground). If the original starter solenoid is missing or damaged, a replacement can be purchased at any local auto parts supplier.

Manual Transmission Vehicles (Standard Motor Products # SS-589 or similar):

These vehicles utilized a 4 pin/stud solenoid (Battery In, Start, Ignition Bypass, Starter Motor Stud). The notable difference between Automatic vs. Manual is the absence of the GROUND terminal on the backside of the solenoid since vehicles equipped with a manual transmission did not have a Neutral Safety Switch. If the original starter solenoid is missing or damaged, a replacement can be purchased at any local auto parts supplier.

Battery In Stud:

Attach the ring terminal end of the vehicles Positive Battery Cable (not included) to this stud. The 6 gauge megafuse feed cable will also attach to this 5/16" stud.

"S" (Start) Stud:

Route the LIGHT GREEN wire with no printing in the Engine Bulkhead connector to the "S" stud on the starter solenoid and cut to length. Slide a Small Rubber Sleeve (Item "N" - Page 26) onto the wire and crimp a 14-16 Gauge Ring Terminal (Item "H" - Page 26) on the end of the wire. Slide the Small Small Rubber Sleeve over the crimped portion of the ring terminal, and secure to the "S" stud.

"I" (Ignition Bypass) Stud (Only used with Dura-Spark):

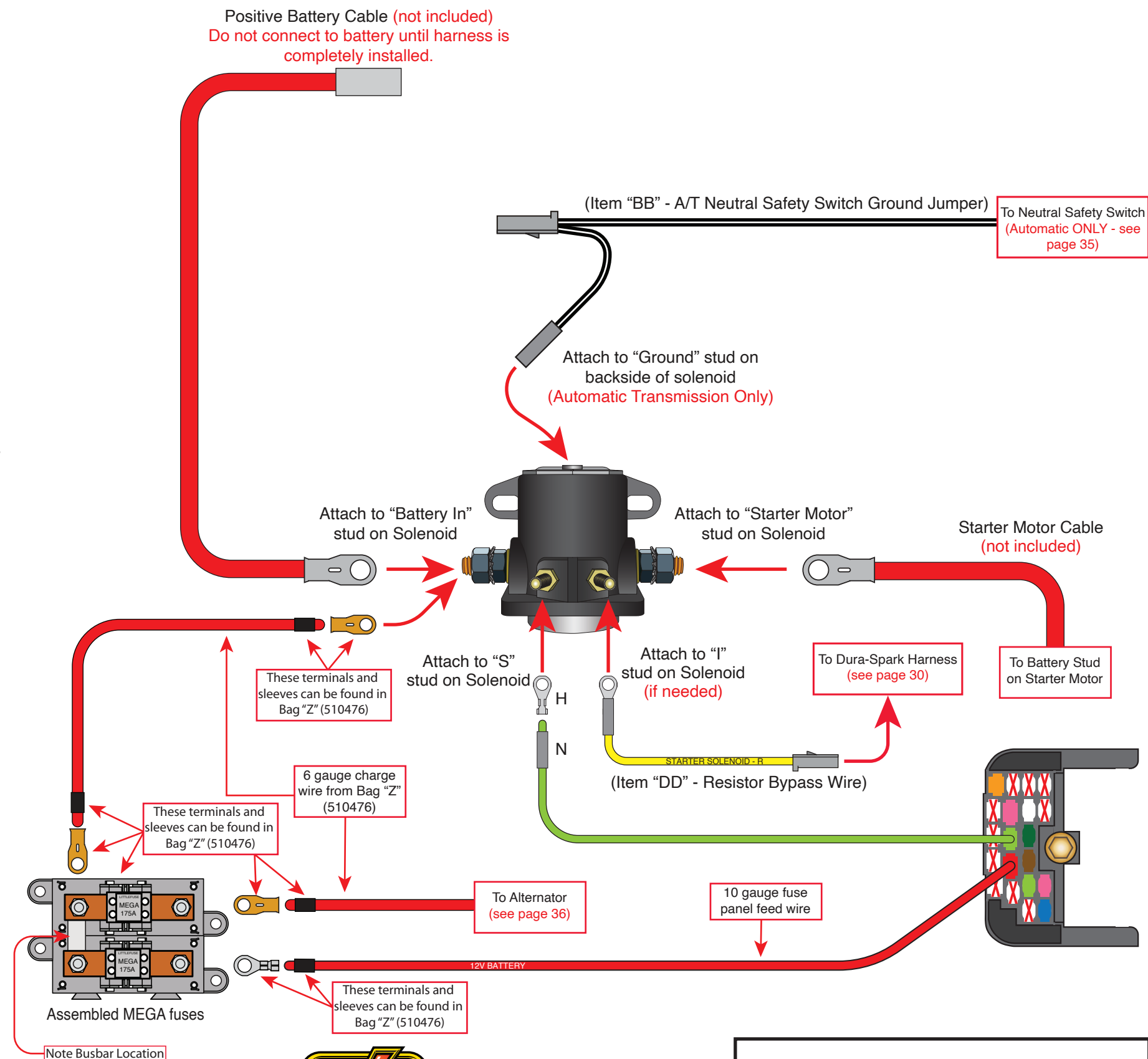
Locate the "Resistor Bypass Wire" (Item "DD" - Page 26) and secure the ring terminal end to the "I" stud on the solenoid. This wire will provide 12 volts when the solenoid is engaged (cranking) to the ignition coil. See page 30 for further Dura-Spark instructions.

Starter Motor Stud:

Attach the Starter Motor Cable (not included) to this stud. The other end of this cable will attach to the battery input on the starter motor.

Ground Stud (Automatic Vehicles ONLY):

Locate the "A/T Neutral Safety Switch Ground Jumper" (Item "BB" - Page 26) and plug the bullet terminal end onto the Ground stud on the backside of the solenoid. The secondary blade terminal connection will remain unused in this application. Route the loose end of the jumper to the Neutral Safety Switch. Further Neutral Safety Switch connection instructions can be found on page 35.



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510875 Engine harness instructions:

Starter Solenoid/Relay Instructions (cont'd)

MOPAR Type Starter Relay:

Follow the instructions on this page to connect the engine harness to a MOPAR Type 5-Pin Starter Relay (**Standard Motor Products # SR-123 or similar**):

Relay "BATT" Stud:

Attach the ring terminal end of the Positive Battery Cable's secondary (smaller) lead to this 5/16" stud.

"I" (Start) Terminal:

Route the LIGHT GREEN wire with no printing in the Engine Bulkhead connector to the "I" terminal on the starter relay and cut to length. Crimp a 56 series female terminal (**Item "C" - Page 26**) on to the wire, and insert into 56Fx1 Connector w/ Lock (**Item "D" - Page 26**). Plug the newly terminated end on to the "I" terminal on the relay.

"SOL" Output Terminal:

Locate the "Starter Solenoid Feed Wire Jumper" (**Item "AA" - Page 26**) and plug the preterminated end of the jumper on to the "SOL" terminal on the relay. Route the other end of this wire to the "solenoid stud" on the starter motor and cut to length. Slide a Large Rubber Sleeve (**Item "E" - Page 26**) on to the wire and crimp a 10-12 gauge ring terminal (**Item "A" - Page 26**) on the end of the wire. Slide the rubber sleeve over the crimped portion of the terminal and secure to the solenoid stud on the starter motor.

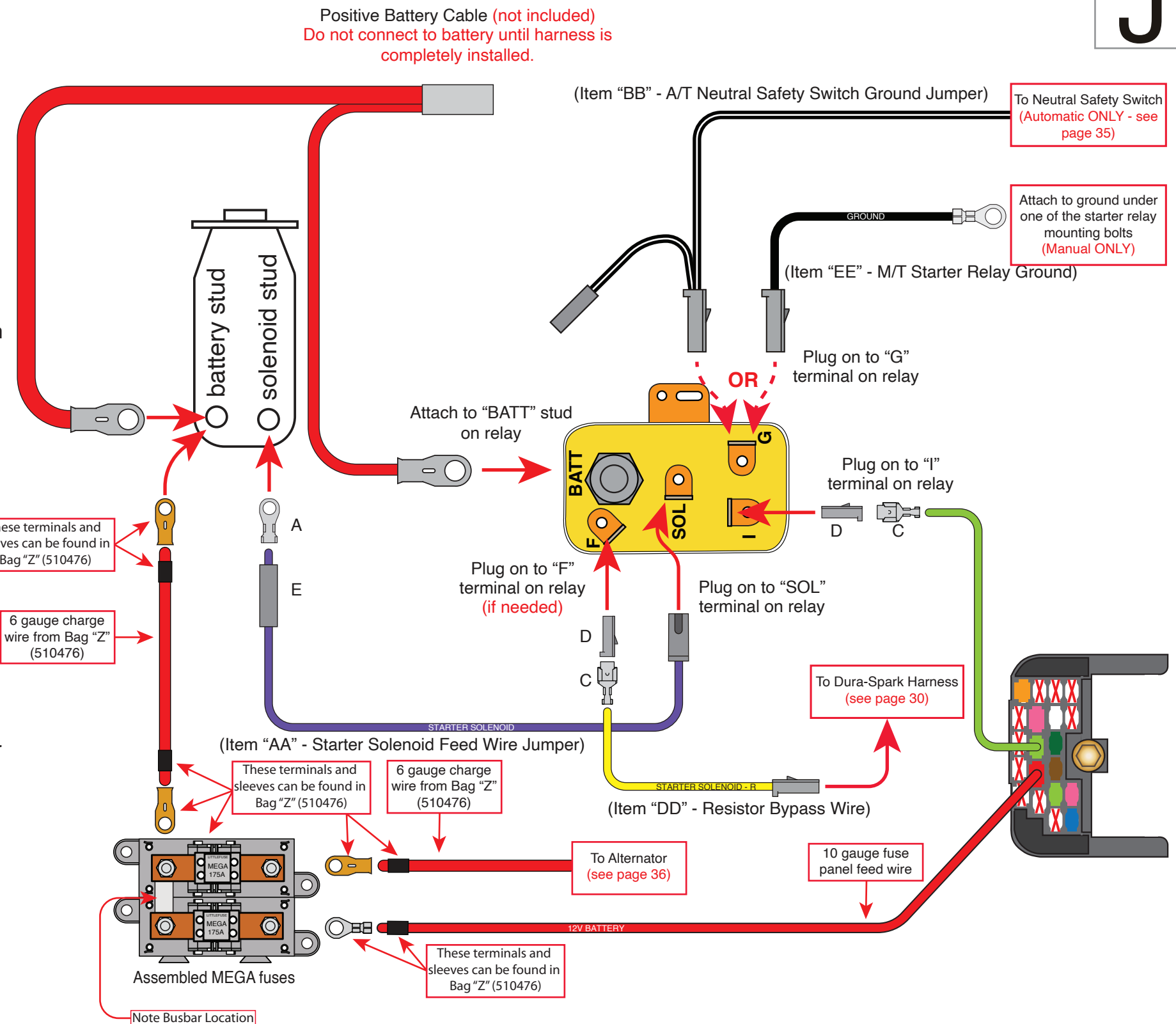
"G" Ground Seeking Terminal (Neutral Safety Signal):

Automatic Vehicles: Locate the "A/T Neutral Safety Switch Ground Jumper" (**Item "BB" - Page 26**) and plug the blade terminal end on to the "G" terminal on the relay. The secondary bullet terminal jumper will remain unused in this application. Route the loose end of the jumper to the Neutral Safety Switch. Further Neutral Safety Switch connection instructions can be found on page 35.

Manual Vehicles: Locate the "M/T Starter Relay Ground Jumper" (**Item "EE" - Page 26**) and plug the blade terminal end on to the "G" terminal on the relay. Secure the ring terminal end to ground under the relay mounting bolt.

"F" (Ignition Bypass) Terminal (Only used with Dura-Spark):

Locate the "Starter Relay Resistor Bypass Wire" (**Item "DD" - Page 26**) and cut off the ring terminal end. Crimp a 56 series female terminal (**Item "C" - Page 26**) on to the cut end of the wire, and insert into 56Fx1 Connector w/ Lock (**Item "D" - Page 26**). Plug the newly terminated end on to the "F" terminal on the relay. Route the other end of this wire to the Dura-Spark harness. This wire will provide 12 volts when the solenoid is engaged (cranking) to the ignition coil. See page 30 for further Dura-Spark instructions.



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J 510875 Engine harness instructions: Neutral Safety/Backup Light Switch Connections

Manual Transmissions:

There were 6 different transmissions used on the 1984-1990 XJs. The applications are listed below. Follow the instructions on this page, along with the corresponding illustrations to complete the connections for the back-up lamp switch.

NOTE: The back up switch mechanism is a simple on/off connection. The indexing of wires for these manual transmission switches is not critical to the operation of the circuit.

Transmission Applications:

- T4:** 4-speed, 1984, used with 2.5L I-4 only
T5: 5-speed, 1984, used with 2.5L I-4 only
AX4: 4-speed, 1984 - 1987, used with 2.5L I-4 only
AX5: 5-speed, 1984 - 1990, used with 2.1L I-4 TD, 2.5L I-4, and 2.8L V-6
BA-10/5: 5-speed, 1987 - mid 1989, used with 4.0L I-6
AX15: 5-speed, used with 2.5L I-4 TD, and 4.0L I-6

T-4/T-5 or BA-10/5 Transmissions (threaded studs):

Using the original pigtail that plugs onto this switch, route the PINK “12V Ignition” and LIGHT GREEN “BACK UP LT SW --> LIGHTS” wires from the Engine Bulkhead Connector to the BLACK and PURPLE wires on the back-up light switch pigtail, cut to length, and install a green W/P Seal (Item “K” - Page 26) to the end of each the wires. Crimp a W/P Female Terminal (Item “M” - Page 26) on the ends of the PINK and LIGHT GREEN wires, and insert the newly terminated ends into W/P Connector, 2xF (Item “P” - Page 26). Crimp a W/P Male Terminal (Item “L” - Page 26) on the ends of the BLACK and PURPLE wires, and insert the newly terminated ends into W/P Connector, 2xM (Item “T” - Page 26). Plug connector “P” and “T” together. **NOTE:** If the original pigtail is missing or damaged, replacement pigtails can be purchased from any Jeep parts supplier.

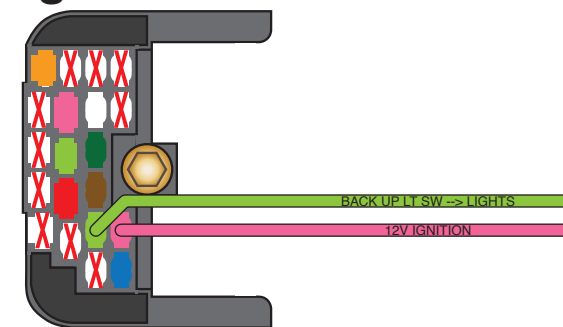
T4/T5 Transmissions (direct connect connector):

Route the PINK “12V IGNITION” and LIGHT GREEN “BACK UP LT SW --> LIGHTS” wires from the Engine Bulkhead Connector to the back up light switch, cut to length, and install a green W/P Seal (Item “K” - Page 26) to the end of each the wires. Crimp a W/P Male Terminal (Item “L” - Page 26) on the ends of the PINK and LIGHT GREEN wires, and insert the newly terminated ends into W/P Connector, 2xF (Item “P” - Page 26). Plug the new connector into the back up switch.

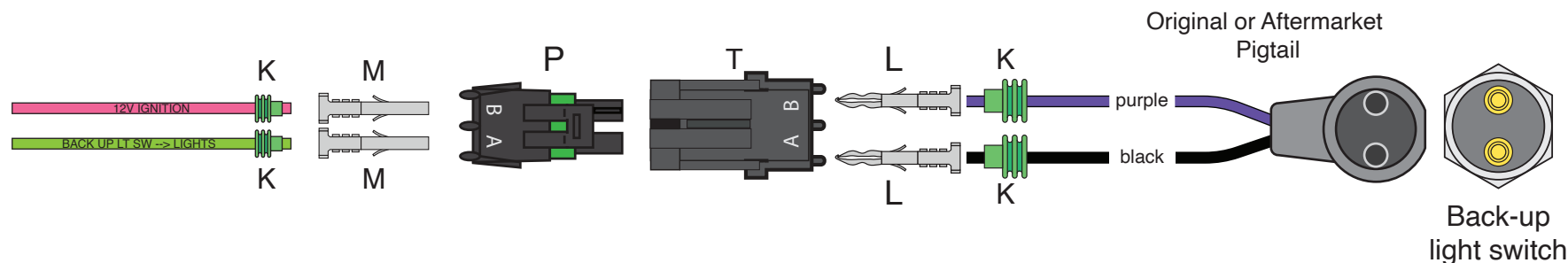
AX4, AX5, or AX15 (integral wires):

Route the PINK “12V IGNITION” and LIGHT GREEN “BACK UP LT SW --> LIGHTS” wires from the Engine Bulkhead Connector to the integral pigtail on the back up light switch, cut to length, and install a green W/P Seal (Item “K” - Page 26) to the end of each the wires. Crimp a W/P Female Terminal (Item “M” - Page 26) on the ends of the PINK and LIGHT GREEN wires, and insert the newly terminated ends into W/P Connector, 2xF (Item “P” - Page 26). Plug the new connector into the connector on the back up switch pigtail.

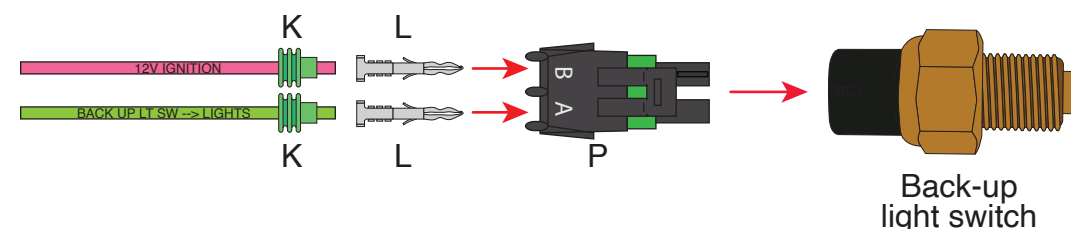
Engine Bulkhead Connector



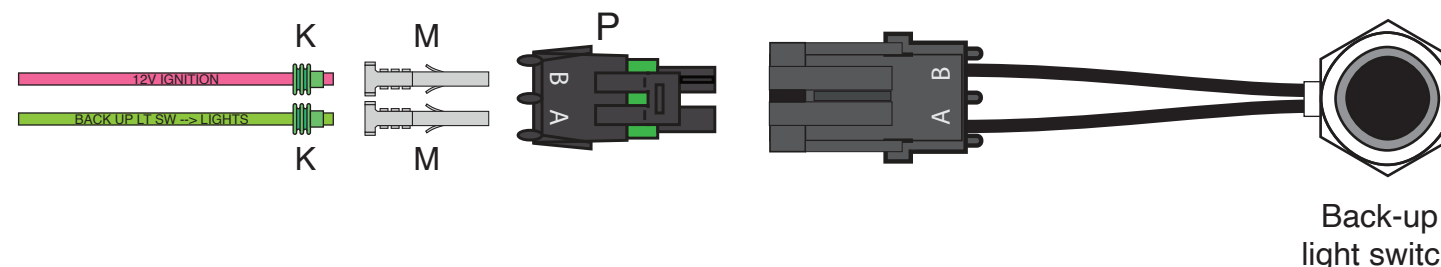
T4/T5 or BA-10/5 Transmissions



T4/T5 (direct connect connector) Transmissions



AX4, AX5, or AX15 Transmissions



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510875 Engine harness instructions:
Neutral Safety/Backup Light Switch Connections (cont'd)

Automatic Transmissions:

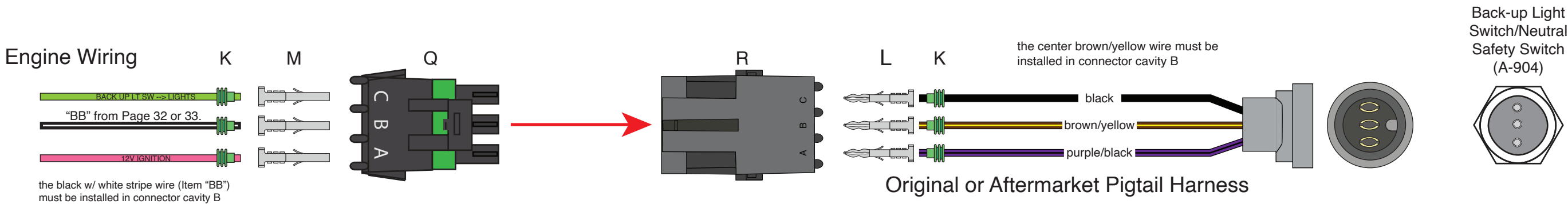
A904 Transmission:

The Neutral Safety/Backup light switch on the A904 transmission utilizes a 3 pin output with a mating 3 wire pigtail that connects to the switch. This kit does not include this pigtail. If the original is missing or damaged, a replacement can be purchased from any Jeep parts supplier.

Prepare the Neutral Safety/Back Up light switch pigtail by sliding a green W/P Seal (Item “K” - Page 26) on to each wire, and then crimping a W/P Male Terminal (Item “L” - Page 26) on to the end of each wire. Follow the chart on this page to plug these newly terminated ends into W/P connector 3xF (Item “R” - Page 26), and plug the molded end of the pigtail on to the neutral safety/back up light switch.

Route the PINK “12V Ignition” and LIGHT GREEN “BACK UP LT SW --> LIGHTS” wires from the Engine Bulkhead Connector, along with the bare end of the BLACK w/ WHITE stripe “A/T Neutral Safety Switch Ground Jumper” wire previously installed on pages 32 or 33, to connector “R” on the neutral safety/back up switch pigtail and cut to length. Slide a green W/P Seal (Item “K” - Page 26) on to each wire, and then crimp a W/P Female Terminal (Item “M” - Page 26) on to the end of each wire. Follow the chart on this page to plug these newly terminated ends into W/P connector 3xM (Item “Q” - Page 26).

AAW Wire Color:	AAW Wire Printing:	Circuit Description:	Connector Cavity:	Jeep Wire Color:	Jeep Wire Color (optional):
Pink	12V Ignition	Ignition Feed	A	Purple/Black	Black/White
Black/White	No Printing	NSS Ground	B	Brown/Yellow	Brown/Yellow
Light Green	Back Up Lt Sw --> Lights	Back-up Light Feed	C	Black	Black





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510875 Engine harness instructions:

Alternator Connections

This Classic Update kit will support the use of a GM “SI” series alternator, or any internally regulated “self-exciting” 1-wire alternator. The GM “SI” series alternator was used on Jeep XJ’s from 1984 to 1986. In 1987, Jeep switched over to the GM “CS” series alternator. If the vehicle is equipped with a “CS” alternator, a “SI” to “CS” adapter (part number 500295, sold separately) will be required to complete the alternator connection.

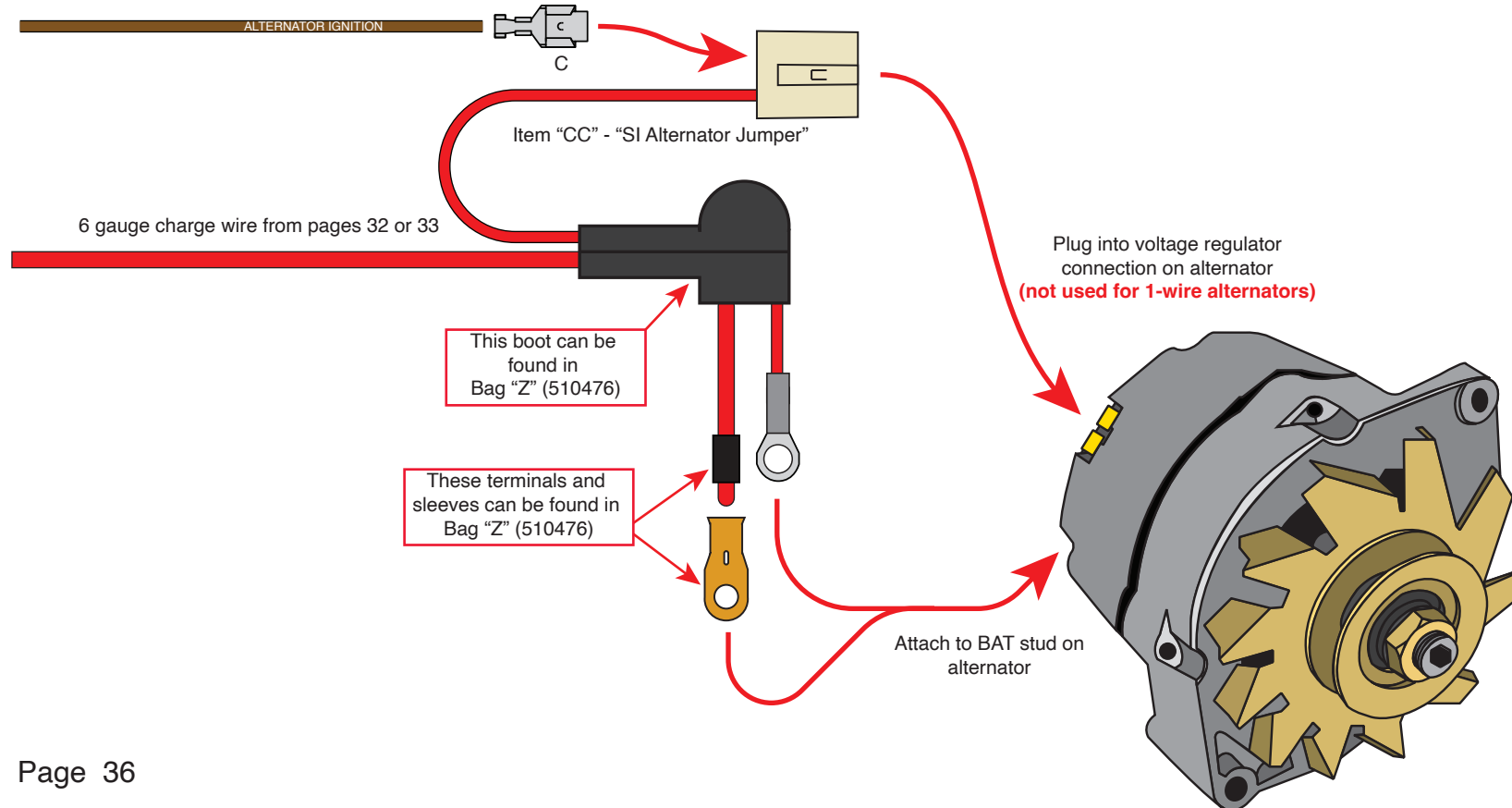
GM “SI” Series Alternator:

Route the BROWN “Alternator IGN” wire in the Engine Bulkhead connector to the alternator, cut to length and crimp 56 Series Single Female Terminal (**Item “C” - Page 26**) on to the end of the wire. Locate the “SI Alternator Jumper” (**Item “CC” - Page 26**), and insert the newly terminated end of the BROWN “Alternator IGN” wire into the open cavity of the white connector on jumper “CC.” Plug the completed connector assembly into the alternator. Secure the ring terminal end of the RED voltage sense wire in the “SI Alternator Jumper” to the BAT stud on the alternator along with the 6 gauge charge wire from the MEGA Fuse assembly.

“Self Exciting” 1-Wire Alternator:

1-wire alternators do not require an exciter circuit, therefore, the BROWN “Alternator IGN” wire, the “SI Alternator Jumper” and it’s small red ring terminal extension will remain unused. The BROWN “Alternator IGN” wire can be isolated and capped off in the harness. It is not recommended to remove this wire from the bulkhead in case a future alternator application requires the use of this circuit.

Secure the 6 gauge charge wire from the MEGA Fuse assembly to the BAT stud on the alternator to complete the 1-wire alternator connection.

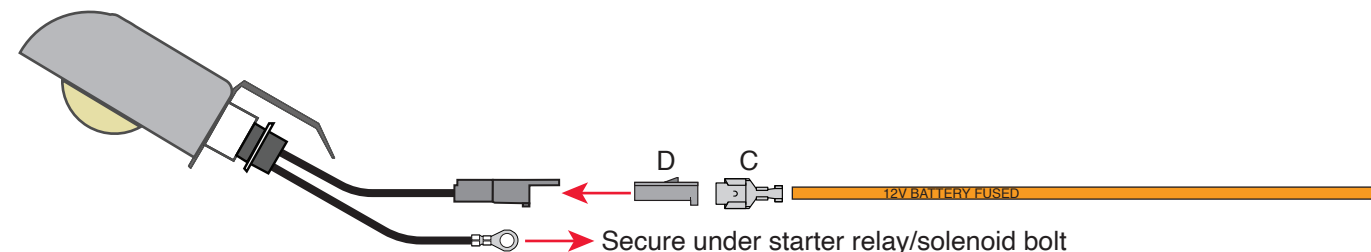


Hood Lamp Connections

The XJ vehicles were equipped with either a stationary or retractable hood lamp assembly (not included in this kit). Each hood lamp had a 1-wire or 2-wire engine harness connection depending on the date the vehicle was built.

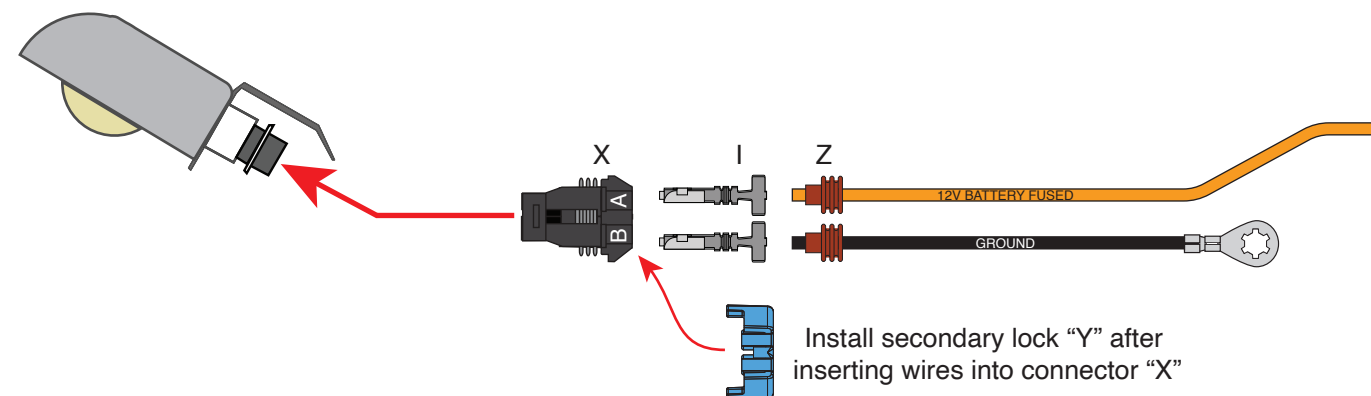
1-Wire Hood Lamp Connector:

Route the ORANGE “12V Battery Fused” wire in the Engine Bulkhead connector to the single connector, cut to length, and crimp 56 Series Single Female Terminal (**Item “C” - Page 26**) on the end of the wire. Insert the newly crimped terminal end into Connector w/Lock, 56Fx1 (**Item “D” - Page 26**), and plug this connector into the single connector on the hood lamp assembly. There is a secondary lead that also comes out of the hood lamp, and should have a ring terminal on it. Attach this lead to a ground point, typically under one of the bolts securing the hood lamp to the hood.



2-Wire Hood Lamp Connector:

Route the ORANGE “12V Battery Fused” wire in the Engine Bulkhead connector to the 2-wire connector and cut to length. Locate the “Hood Lamp & Transfer Case Ground Wire” (**Item “JJ” - Page 26**) and secure one of the ring terminals under the starter relay/solenoid attaching bolt. Route the other end of the “Hood Lamp & Transfer Case Ground Wire” to the 2-wire connector on the hood lamp and cut to length and set the loose end aside for later use. Slide brown seals (**Item “Z” - Page 26**), crimp M/P 150 Female Terminals (**Item “I” - Page 26**) on the end of each of the wires, and insert them into the M/P 150 2xF Connector (**Item “X” - Page 26**) as follows: Insert the ORANGE “12V Battery Fused” wire into Cavity “A.” Insert the Black “Hood Lamp Ground” wire into Cavity “B.” Plug the connector into the hood lamp assembly.



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510875 Engine harness instructions:

Jumper Harness Installation

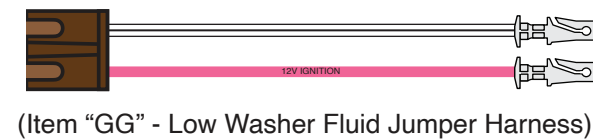
Low Washer Fluid Switch Jumper Harness:

Locate the Low Washer Fluid Jumper Harness (item "GG" - Page 26) and insert the wires into the Engine Bulkhead Connector as shown at the center of this page. Route the connector end of this jumper harness to the Low Washer Fluid Switch located on the Washer Fluid Reservoir.

NOTE: There are 2 different locations for the Washer Fluid Reservoir. This jumper harness has enough length to accommodate either of those locations as listed below:

1984-1986 w/ 2.8L Engine: The washer reservoir is located behind the LH Headlight Assembly.

All other models: The washer fluid reservoir is located in the rear of the engine bay near the brake master cylinder. Excess wire length when connecting to this location can be coiled and tucked in a safe location.



(Item "GG" - Low Washer Fluid Jumper Harness)

Rear Washer Pump Jumper Harness:

(optional 510925 kit only)

If installing the optional 510925 Rear Wiper Kit (sold separately), there will be a Rear Washer Pump Jumper Harness included in that package. Locate this jumper harness and insert the wires into the Engine Bulkhead Connector as shown at the center of this page.

NOTE: There are 2 different locations for the Washer Fluid Reservoir. This jumper harness has enough length to accommodate either of those locations as listed below:

1984-1986 w/ 2.8L Engine: The washer reservoir is located behind the LH Headlight Assembly.

All other models: The washer fluid reservoir is located in the rear of the engine bay near the brake master cylinder. Excess wire length when connecting to this location can be coiled and tucked in a safe location.



(Rear Washer Pump Jumper Harness from 510925, **not included in this kit**)

A/C Compressor Connections:

A/C Low Pressure Cut Out Switch:

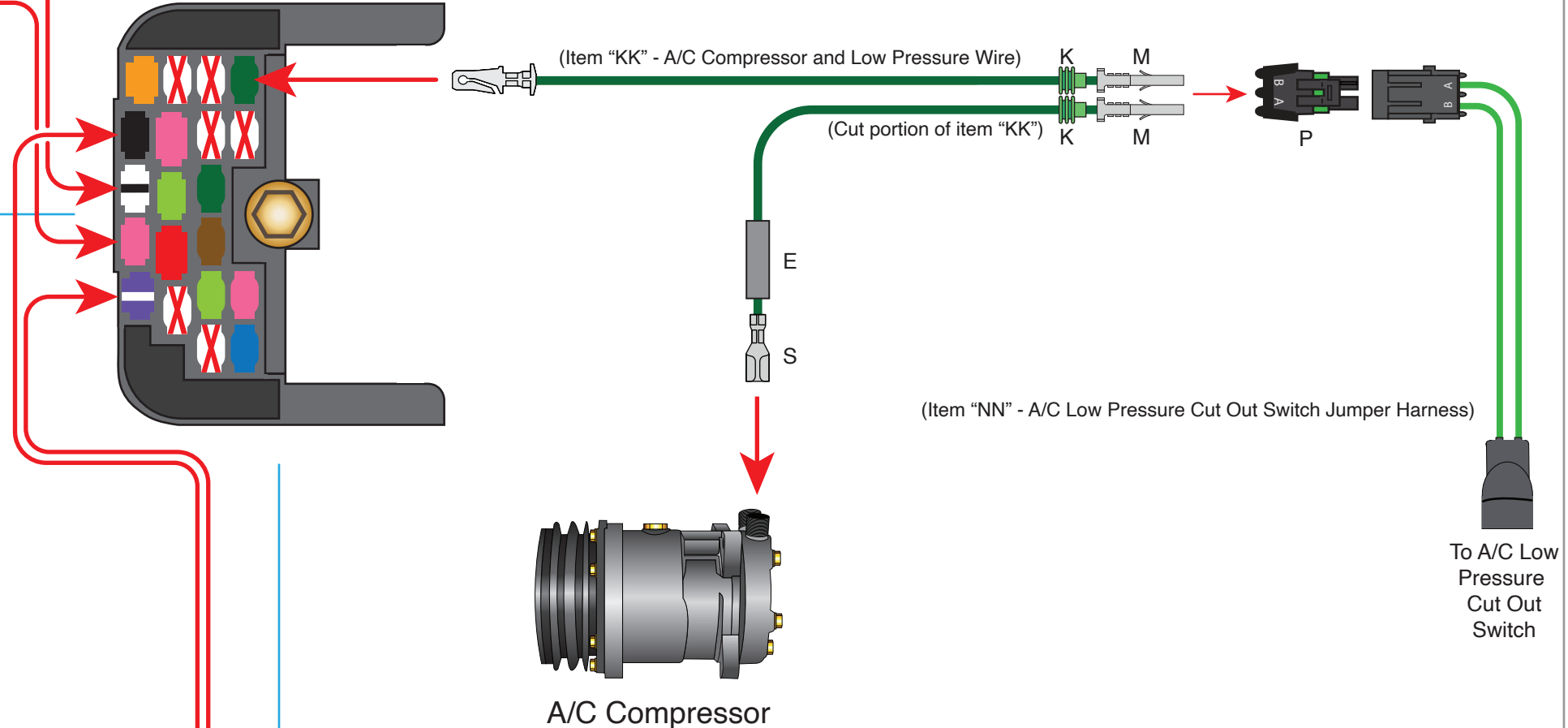
Locate the A/C Low Pressure Cut Out Switch Jumper Harness (Item "NN" - Page 26) and plug it onto the A/C Low Pressure Switch.

A/C Feed Wire:

Locate the dark green A/C Compressor and Low Pressure Wire (Item "KK" - Page 26) and plug the terminal end into the Bulkhead Connector as shown at the center of this page. Route the other end of this wire to the A/C Low Pressure Cut Out Switch Jumper Harness and cut to length. Slide seal "K" onto the wire and crimp female terminal "M" onto the wire. Insert this wire into one of the cavities in the 2-way female connector "P". Cavity indexing does not matter on this connection.

Take the unused portion of the dark green A/C Compressor and Low Pressure Wire "KK" that was cut and install seal "K" and female terminal "M" onto one end of the wire. Insert this end of the wire into the other open cavity on connector "P".

Plug the finished connector "P" assembly into the mating connector on the A/C Low Pressure Switch Jumper Harness "NN". Route the other end of the cut portion of the dark green wire "KK" to the A/C Compressor and cut to length. Slide rubber sleeve "E" and crimp female bullet terminal "S" on this end of the wire. Plug this bullet terminal end into the existing connection from the A/C Compressor.



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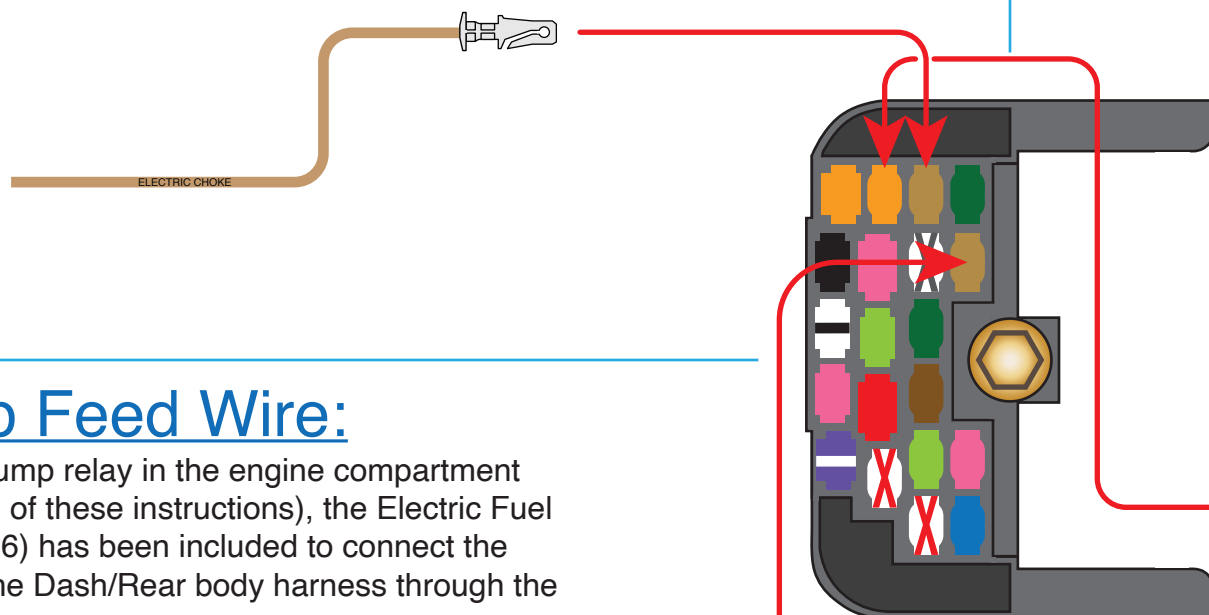
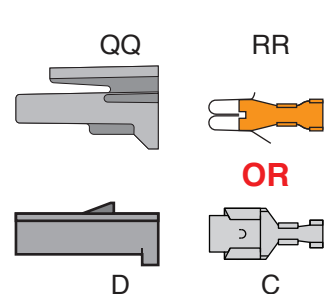
510875 Engine harness instructions: Jumper Harness Installation (cont'd)

Electric Choke Connection:

The Electric Choke Feed Wire (Item "HH" - Page 26) has been included in this kit for use with engines equipped with an electric choke. Locate the Electric Choke Feed Wire and plug the terminal end into the Engine Harness Bulkhead Connector as shown at the center of this page. Route the other end of the Electric Choke Feed Wire to the Electric Choke, cut to length, and crimp/terminate as listed below:

2.8L Engine: Crimp Pack-Con Female terminal (Item "RR" - Page 26) on the end of the wire, insert into Pack-Con 1xF Connector (Item "QQ" - Page 26) and connect to the electric choke.

All Other Carbureted Engines: Crimp 56 Series single female terminal (Item "C" - Page 26), insert into 56Fx1 Connector w/ Lock (Item "D" - Page 26) and connect to the electric choke.

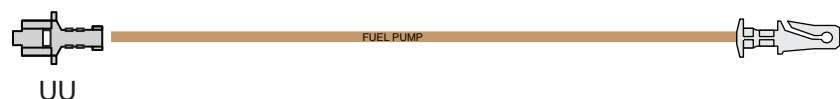


Electric Fuel Pump Feed Wire:

If electing to mount an electric fuel pump relay in the engine compartment (as previously determined on Page 9 of these instructions), the Electric Fuel Pump Feed Wire (Item "TT" - Page 26) has been included to connect the 12V power output from the relay to the Dash/Rear body harness through the bulkhead connection.

Plug the terminal end of the Electric Fuel Pump Feed Wire into the Engine Bulkhead Connector as shown at the center of this page. Route the other end of the wire to the 12V output (Terminal 87) on the Fuel Pump Relay and cut to length. A Female M/P 630 Terminal (Item "UU" - Page 26) has been included for use with one of AAW's universal relay kits (sold separately).

Refer to the separate relay kit instructions to complete the remaining relay connections.



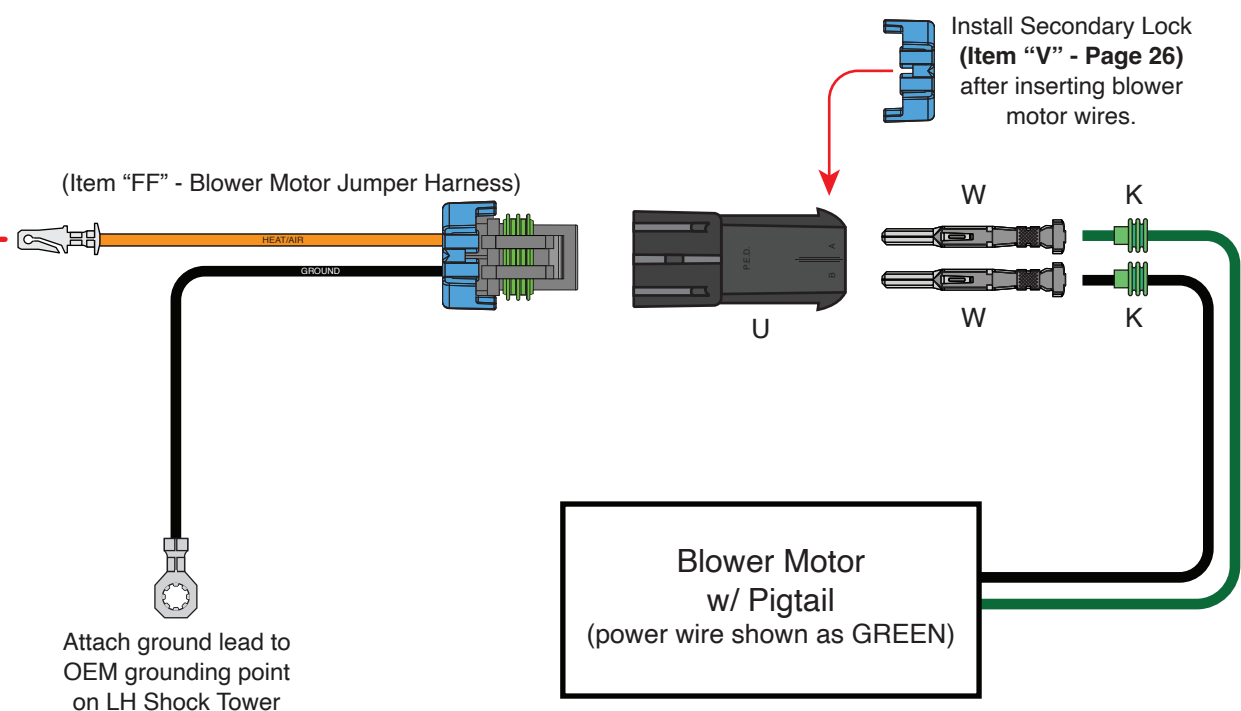
Blower Motor Jumper Harness:

The blower motor has a 2-wire pigtail which will connect the blower motor to the main harness. Follow the instructions below to prepare the blower motor pigtail prior to installing the Blower Motor Jumper Harness (Item "FF" - Page 26).

1984-1987 Vehicles: Add seals "K" and male terminals "W" to the blower motor pigtail wires. The power wire for the blower motor will be either ORANGE or GREEN. Insert this wire into Cavity "A" on connector "U". The ground wire will be black, and should be inserted into Cavity "B" on connector "U". See the illustration on the right side of this page.

1988 - 1990 Vehicles: No changes are required. The existing blower motor pigtail should plug directly into the Blower Motor Jumper Harness provided in this kit.

After completing the Blower Motor Pigtail Preparation step, locate the Blower Motor Jumper harness (Item "FF" - Page 26), plug it into the 2-way connector on the Blower Motor Pigtail, and route the harness back to the bulkhead (forward along the RH fender apron, across the radiator support, and rearward along the LH fender apron. Plug the terminal end of the ORANGE wire into the engine bulkhead connector as shown at the center of this page. The ring terminal end of the BLACK wire will attach to the LH shock tower (OEM location).



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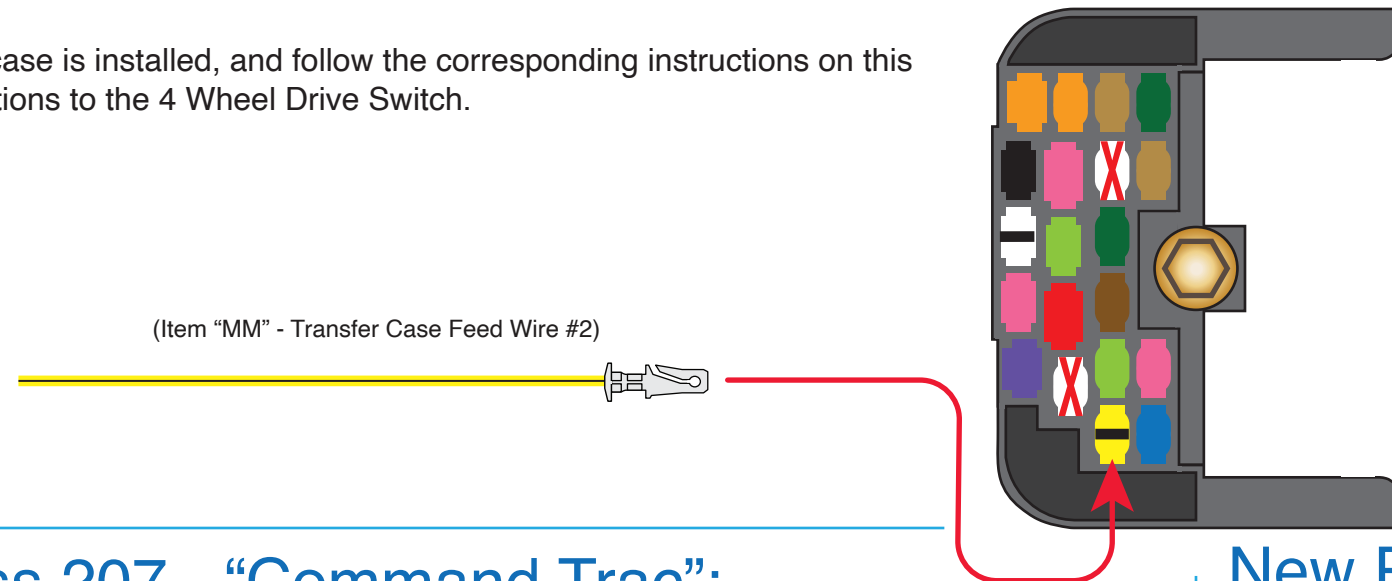
510875 Engine harness instructions:

Jumper Harness Installation (cont'd)

4 Wheel Drive Telltale Wires (1984 - 1986):

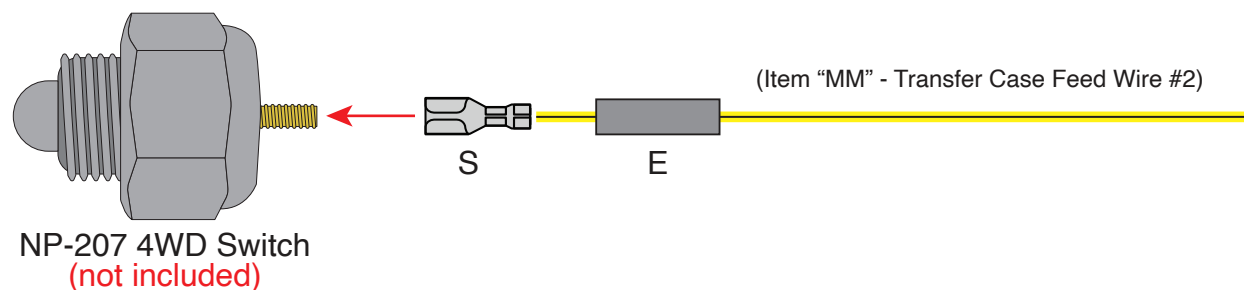
The 1984-1986 Telltale Module (Part of the instrument cluster assembly - See page 14) has only 1 lamp to indicate the 4 Wheel Drive has been activated. This single display lamp was used for both the Command-Trac and Select-Trac systems and requires the use of the YELLOW/BLACK "Transfer Case Feed Wire #2" (Item "MM" - Page 26). Locate this Feed Wire and plug the terminal end into the Engine Bulkhead Connector as shown at the center of this page.

Identify which transfer case is installed, and follow the corresponding instructions on this page to finalize connections to the 4 Wheel Drive Switch.



New Process 207 - "Command Trac":

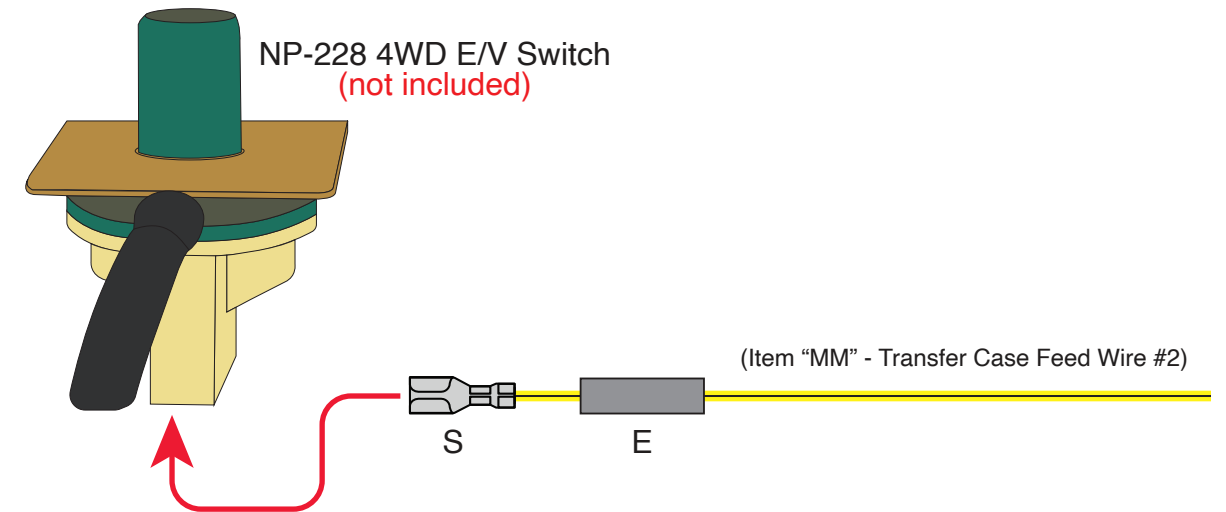
Route the Transfer Case Feed Wire #2 to the 4 Wheel Drive switch, located on the transfer case, and cut to length. Slide a Large Rubber Sleeve (Item "E" - Page 26) on to the end of the wire and crimp a Female Bullet Terminal (Item "S" - Page 26) onto the end of the wire. Slide the Large Rubber Sleeve "E" up over the crimped area of the terminal "S", and attach the new bullet terminal connection to the threaded stud on the 4 wheel drive switch.



New Process 228 "Command Trac":

The 4 Wheel Drive light switch for the NP228 "Command Trac" is an electro/vacuum (E/V) switch which is mounted on the firewall near the passenger side of the vehicle. There is a vacuum switch mounted on the transfer case which sends a vacuum signal to the E/V switch to activate the 4 Wheel Drive lamp.

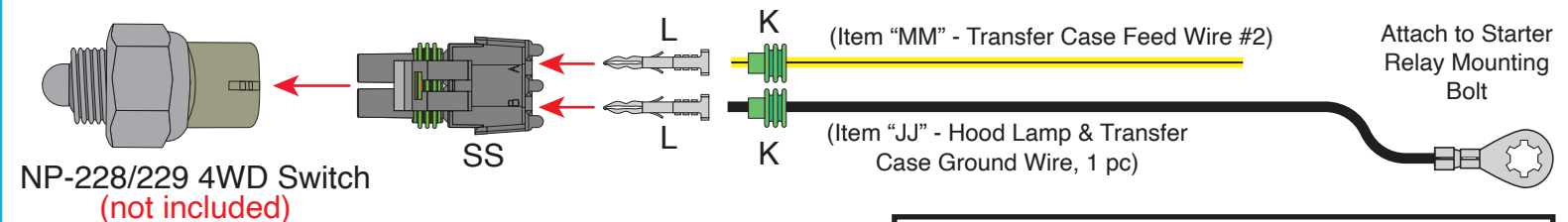
Route the Transfer Case Feed Wire #2 to the E/V switch, located on the firewall, and cut to length. Slide a Large Rubber Sleeve (Item "E" - Page 26) on to the end of the wire and crimp a Female Bullet Terminal (Item "S" - Page 26) onto the end of the wire. Slide the Large Rubber Sleeve "E" up over the crimped area of the terminal "S", and attach the new bullet terminal connection to the threaded stud on bottom of the E/V switch.



New Process 228/229 "Select Trac":

The 4 Wheel Drive light switch for the NP228/229 "Select Trac" is a 2 pin switch with a GRAY connector, and is attached to the transfer case. Route the Transfer Case Feed Wire #2 to the switch and cut to length. Add a green W/P Seal (Item "K" - Page 26) and crimp a W/P Male Terminal (Item "L" - Page 26) on the end of the wire. Insert the newly terminated end into Cavity "A" of W/P Connector, 2xF (Item "SS" - Page 26).

Locate the Hood Lamp & Transfer Case Ground Wire (Item "JJ" - Page 26) and attach one of the ring terminal ends to the Starter Relay attaching bolt. Route the other end of the wire to the 4 Wheel Drive light switch, cut to length and save the loose ring terminal end for use in another section of the harness. Add a green W/P Seal (Item "K"), and crimp a W/P Male Terminal (Item "L") on the end of the wire. Insert the new W/P terminal end into Cavity "B" of W/P Connector, 2xF (Item "SS") and engage the locking tab.



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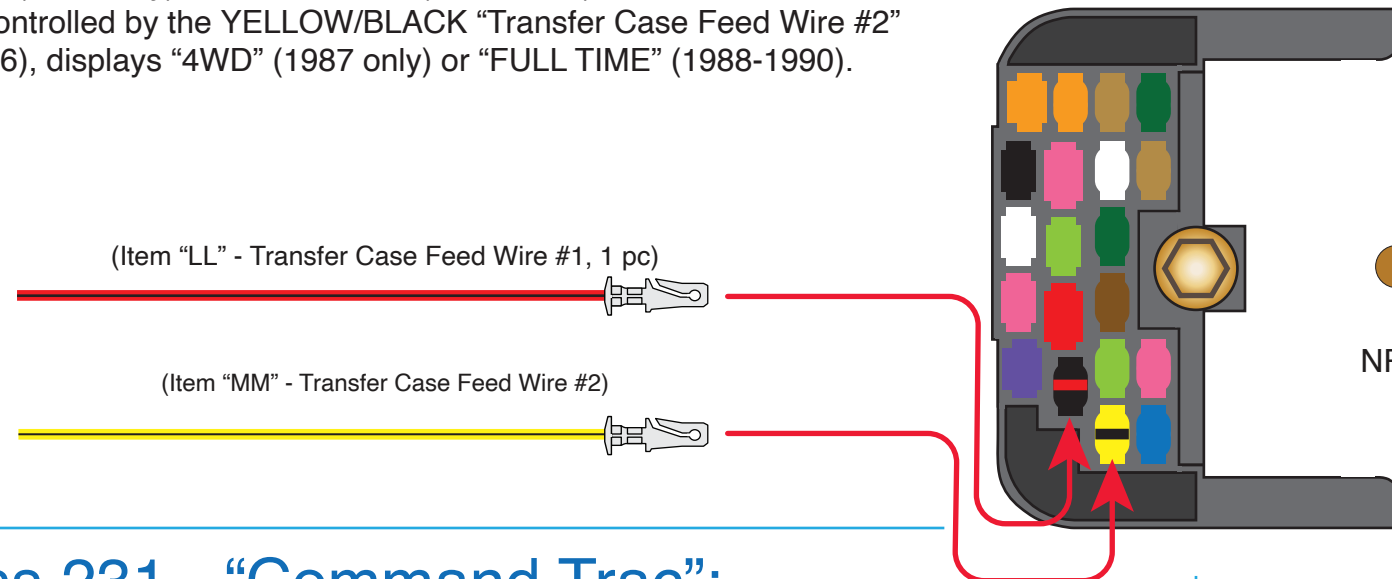
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510875 Engine harness instructions: Jumper Harness Installation (cont'd)

4 Wheel Drive Telltale Wires (1987 - 1990):

The 1987-1990 Telltale Module (part of the instrument cluster assembly - See page 14) is equipped with 2 display lamps to indicate the transfer case status. Not all vehicles will use both of the lamps. Identify which transfer case the vehicle is equipped with and connect according to the instructions on this page. The 4WD Telltale Wires, their functions, and their locations in the bulkhead connector are shown below:

- The first lamp, controlled by the BLACK/RED "Transfer Case Feed Wire #1" (Item "LL" - Page 26), displays "4WD Lock" (1987 only) or "PART TIME" (1988-1990).
- The second lamp, controlled by the YELLOW/BLACK "Transfer Case Feed Wire #2" (Item "MM" - Page 26), displays "4WD" (1987 only) or "FULL TIME" (1988-1990).



New Process 242 "Select Trac":

The 4 Wheel Drive light switch for the NP242 "Select Trac" is a self grounding 2-pin switch that operates both the "Part Time" and "Full Time" using an internal ON-OFF-ON function.

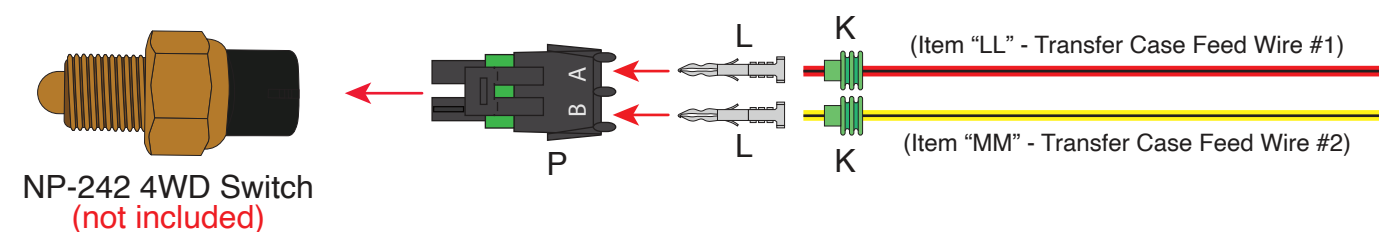
Route the RED/BLACK Transfer Case Feed Wire #1 along with the YELLOW/BLACK Transfer Case Feed Wire #2 to the 4 Wheel Drive light switch and cut to length. Add a green W/P Seal (Item "K" - Page 26) and crimp a W/P Male Terminal (Item "L" - Page 26) on the end of each wire.

Insert the newly terminated wire ends into BLACK W/P Connector, 2xF (Item "P" - Page 26) as follows:

Insert the RED/BLACK Transfer Case Feed Wire into Cavity "A" of connector "P"

Insert the YELLOW/BLACK Transfer Case Feed Wire #2 into Cavity "B" of connector "P"

Note: The operation of these circuits requires a path to ground through the transfer case via the transmission and engine. If these lamps do not operate, verify the transmission and engine are grounded properly prior to performing any other diagnostic checks.

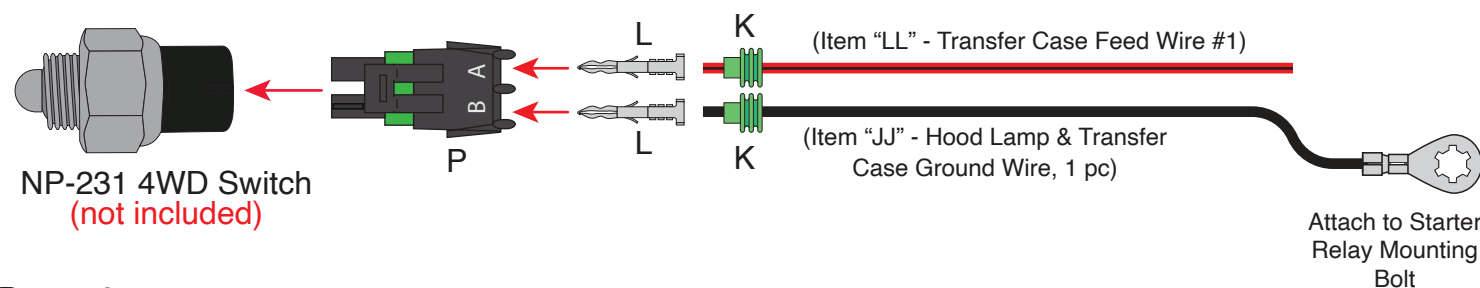


New Process 231 - "Command Trac":

The 4 Wheel Drive light switch for the NP231 "Command Trac" is a 2 pin switch with a BLACK connector, and is attached to the transfer case. This transfer case only utilized the "4WD LOCK" lamp (1987) or the "PART TIME" lamp (1988-1990).

Route the BLACK/RED Transfer Case Feed Wire #1 to the switch and cut to length. Add a green W/P Seal (Item "K" - Page 26) and crimp a W/P Male Terminal (Item "L" - Page 26) on the end of the wire. Insert the newly terminated end into Cavity "A" of the BLACK W/P Connector, 2xF (Item "P" - Page 26).

Locate the Hood Lamp & Transfer Case Ground Wire (Item "JJ" - Page 26) and attach one of the ring terminal ends to the Starter Relay attaching bolt. Route the other end of the wire to the 4 Wheel Drive light switch, cut to length and save the loose ring terminal end for use in another section of the harness. Add a green W/P Seal (Item "K"), and crimp a W/P Male Terminal (Item "L") on the end of the wire. Insert the newly terminated end into Cavity "B" of the BLACK W/P Connector, 2xF (Item "P") and engage the locking tab.



The engine harness connections are now complete.

Proceed to the Front Light Harness
"Bag L" instructions on the next page.



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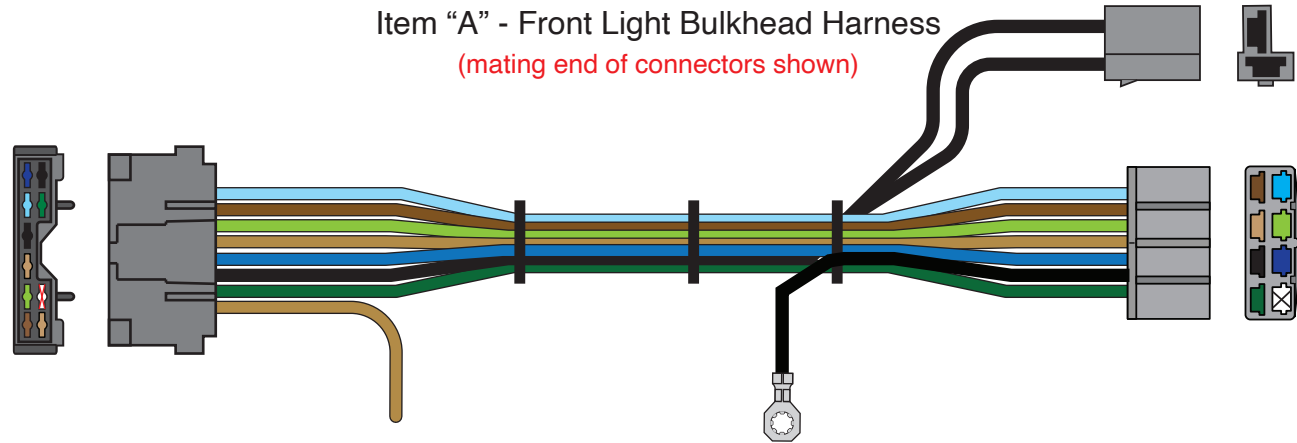
510876 Front Light harness instructions:

Legend:

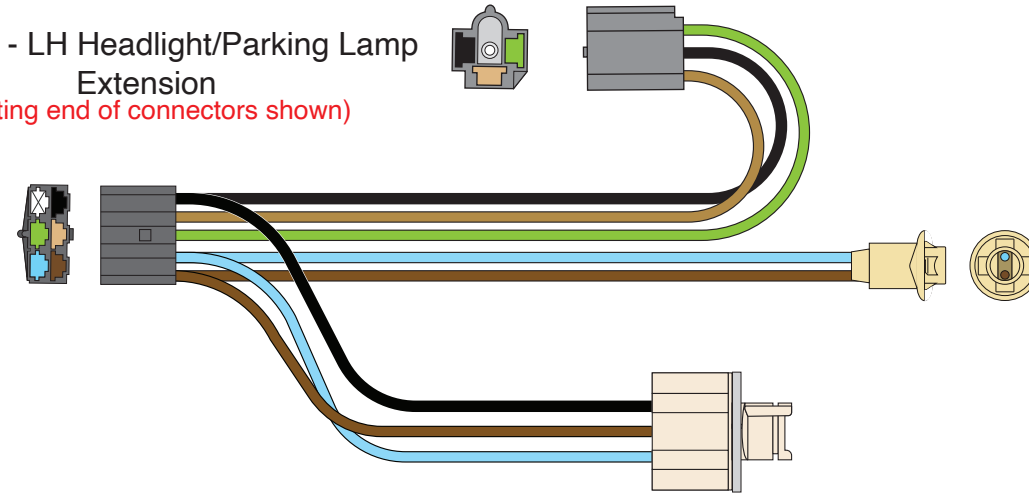
Listed on this page and the following page, are the supplied harness extensions, terminals, connector bodies and assorted components included in the Front Light Harness and Loose Piece bags. These will be used to complete your front light connections and are referred by the letters and descriptions below from this point forward.

bag
L

Item "A" - Front Light Bulkhead Harness
(mating end of connectors shown)



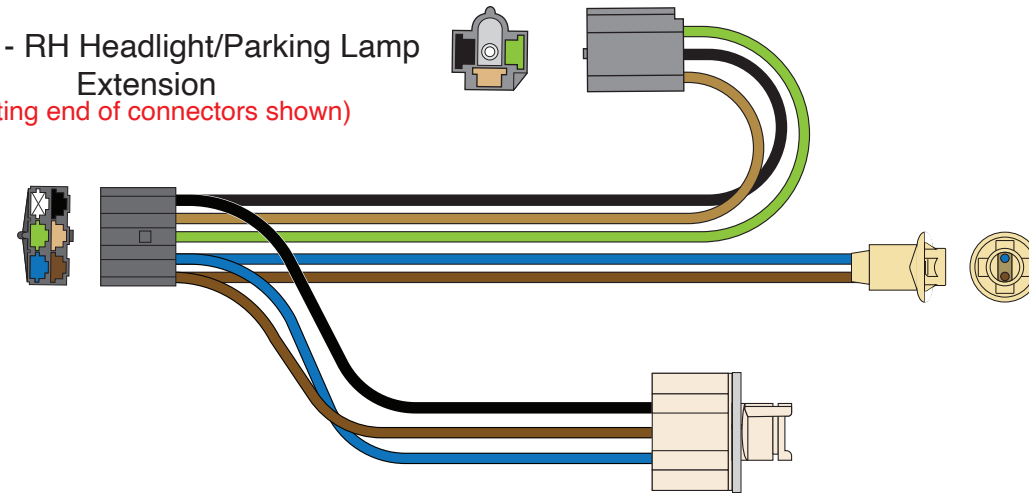
Item "D" - LH Headlight/Parking Lamp
Extension
(mating end of connectors shown)



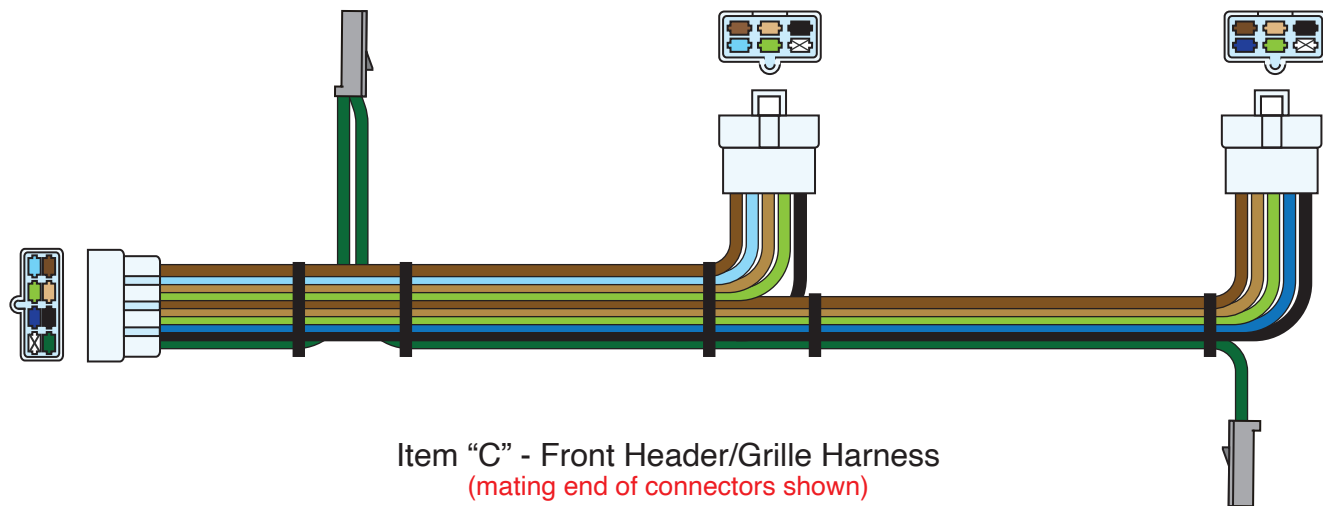
Item "B" - Electric Fan Extension



Item "E" - RH Headlight/Parking Lamp
Extension
(mating end of connectors shown)



Item "C" - Front Header/Grille Harness
(mating end of connectors shown)



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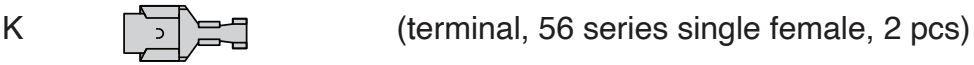
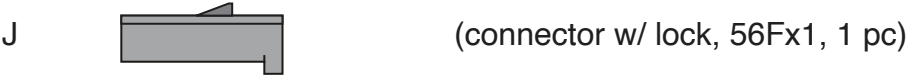
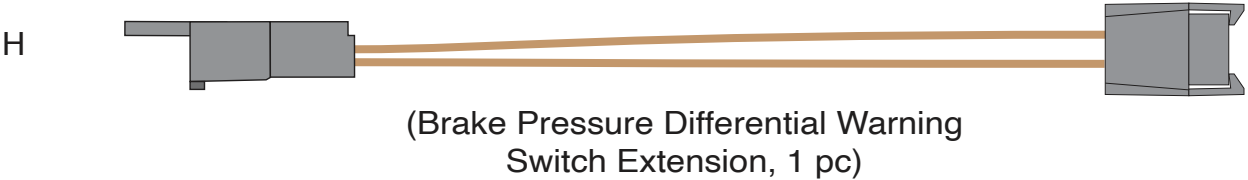
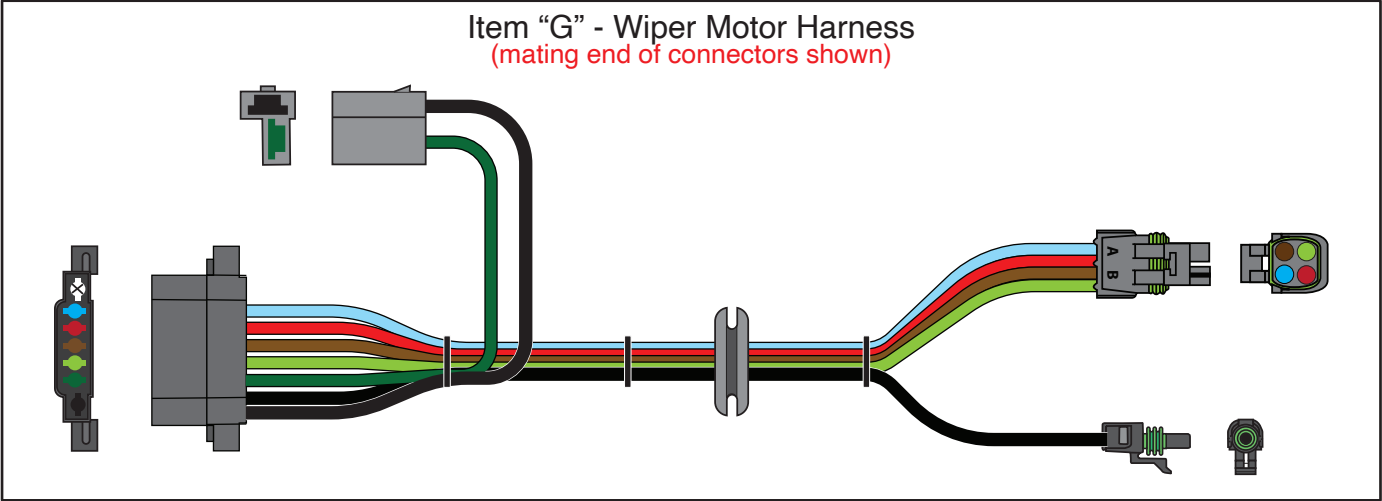
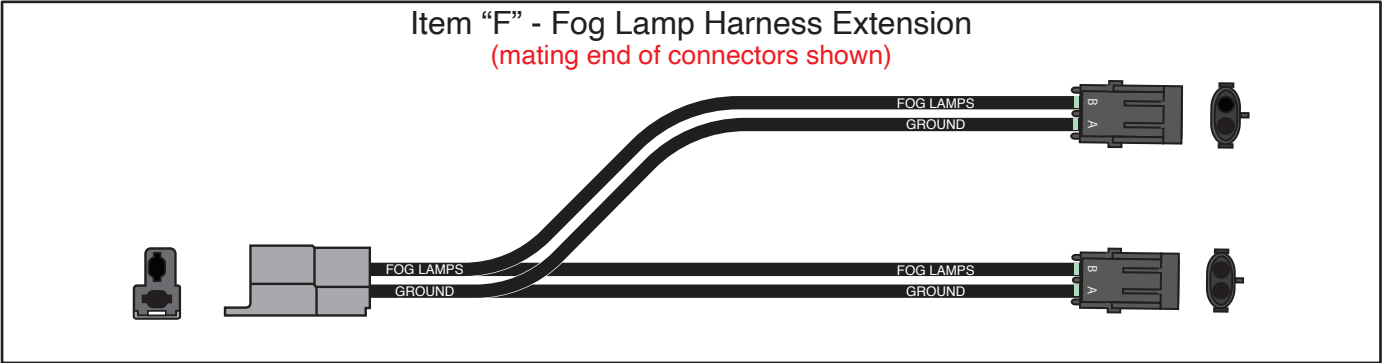
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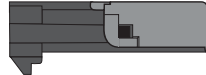
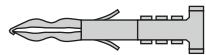
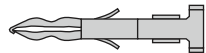
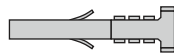
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510876 Front Light harness instructions:
Legend (cont'd):



- M  (connector, W/P, 1xM, 1pc)
- N  (terminal, W/P, male, 14-16 gauge, 7 pcs)
- P  (terminal, W/P, male, 22-24 gauge, 7 pcs)
- Q  (seal, gray, 11 pcs)
- R  (connector, W/P, 2xF, 2 pcs)
- S  (terminal, W/P, female, 14-16 gauge, 6 pcs)
- T  (terminal, M/P 630, female, 2 pcs)

510876 Front Light harness instructions:

Front Light Harness Installation

General Front Light Harness Installation:

Locate Front Light Harness extensions "A", "C", "D", and "E" listed on Page 41, route/plug them together, and connect the ends to their respective components as shown on this page.

Brake Warning Switch Connection:

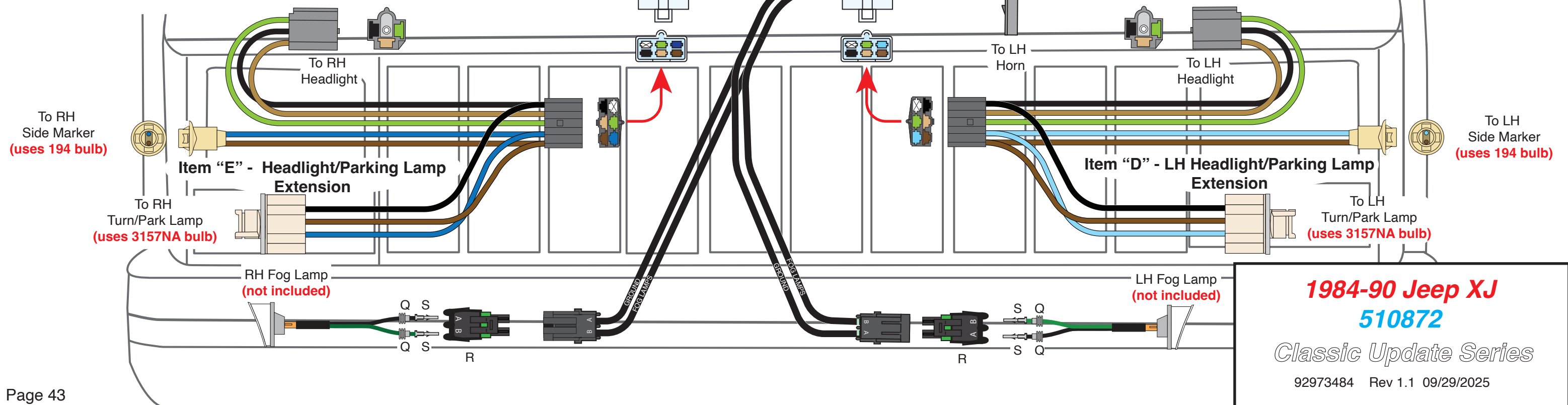
Locate the Brake Pressure Differential Switch Jumper Harness (Item "H" - Page 42) and plug the 2 pin connector end on to the brake pressure differential switch on the brake proportioning valve. Route the TAN "Brake Light/Switch" wire in the Front Light Harness bulkhead connector to the single terminal end of jumper "H" and cut to length. Crimp a 56 series single female terminal (Item "K" - Page 42), insert the newly terminated end into connector w/ lock, 56Fx1 (Item "J" - Page 42) and plug into the single connector end of jumper "H".

Fog Lamp Connections (if equipped):

Locate the Fog Lamp Harness Extension (Item "F" - Page 42) and plug the 2 terminal connection with 4 wires into the mating connection on Item "A" - Front Light Bulkhead Harness. Route the other ends of this harness to the LH and RH fog lamps as shown.

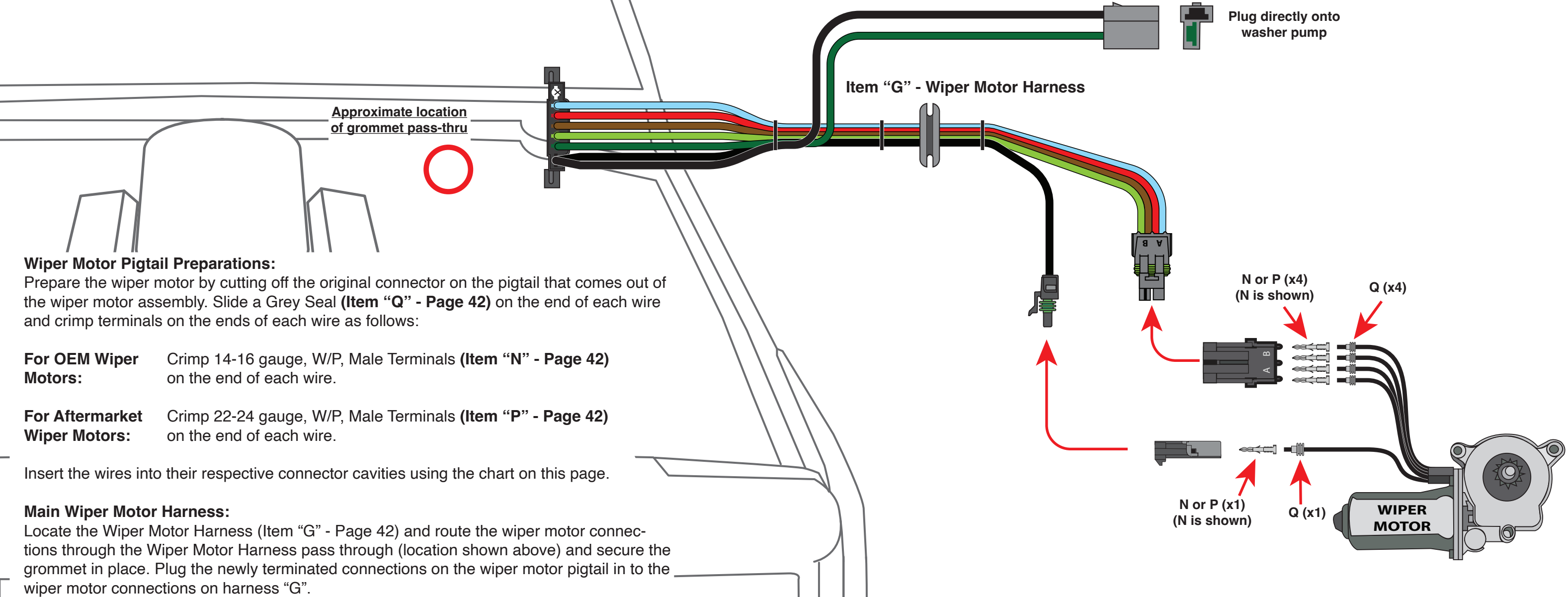
Slide a Grey seal (Item "Q" - Page 42) and crimp a 14-16 gauge W/P Female Terminal (Item "S" - Page 42) on the end of each fog lamp lead. Insert the ground wire for the fog lamp into cavity "A" of W/P 2xF Connector (Item "R" - Page 42). Insert the power wire for the fog lamp into cavity "B" of connector "R" and plug into the corresponding connection on harness "F". Repeat this process for the other fog lamp.

NOTE: Some aftermarket fog lamp assemblies will already have these connections installed. No modification is required in these instances.





510876 Front Light harness instructions:
Wiper Motor Harness Connections



Wiper Motor Pigtail Preparations:

Prepare the wiper motor by cutting off the original connector on the pigtail that comes out of the wiper motor assembly. Slide a Grey Seal (Item “Q” - Page 42) on the end of each wire and crimp terminals on the ends of each wire as follows:

- For OEM Wiper Motors:**

Crimp 14-16 gauge, W/P, Male Terminals (Item “N” - Page 42) on the end of each wire.
- For Aftermarket Wiper Motors:**

Crimp 22-24 gauge, W/P, Male Terminals (Item “P” - Page 42) on the end of each wire.

Insert the wires into their respective connector cavities using the chart on this page.

Main Wiper Motor Harness:

Locate the Wiper Motor Harness (Item “G” - Page 42) and route the wiper motor connections through the Wiper Motor Harness pass through (location shown above) and secure the grommet in place. Plug the newly terminated connections on the wiper motor pigtail in to the wiper motor connections on harness “G”.

Route the washer pump extension to the washer pump and plug directly on to the pump.

Wiper Motor Function:	AAW Wire Color:	AAW Wire Printing:	Connector Cavity:	Jeep Wire Color (OEM):	Jeep Wire Color (aftermarket):
Low Speed	Brown	N/A	A (4-Way)	White	Brown
Park	Light Blue	N/A	B (4-Way)	Gray	Light Blue
High Speed	Red	N/A	C (4-Way)	Red	Red
12V Ignition	Light Green	N/A	D (4-Way)	Light Blue	Light Green
Ground	Black	Ground	1-Way	Black	Black



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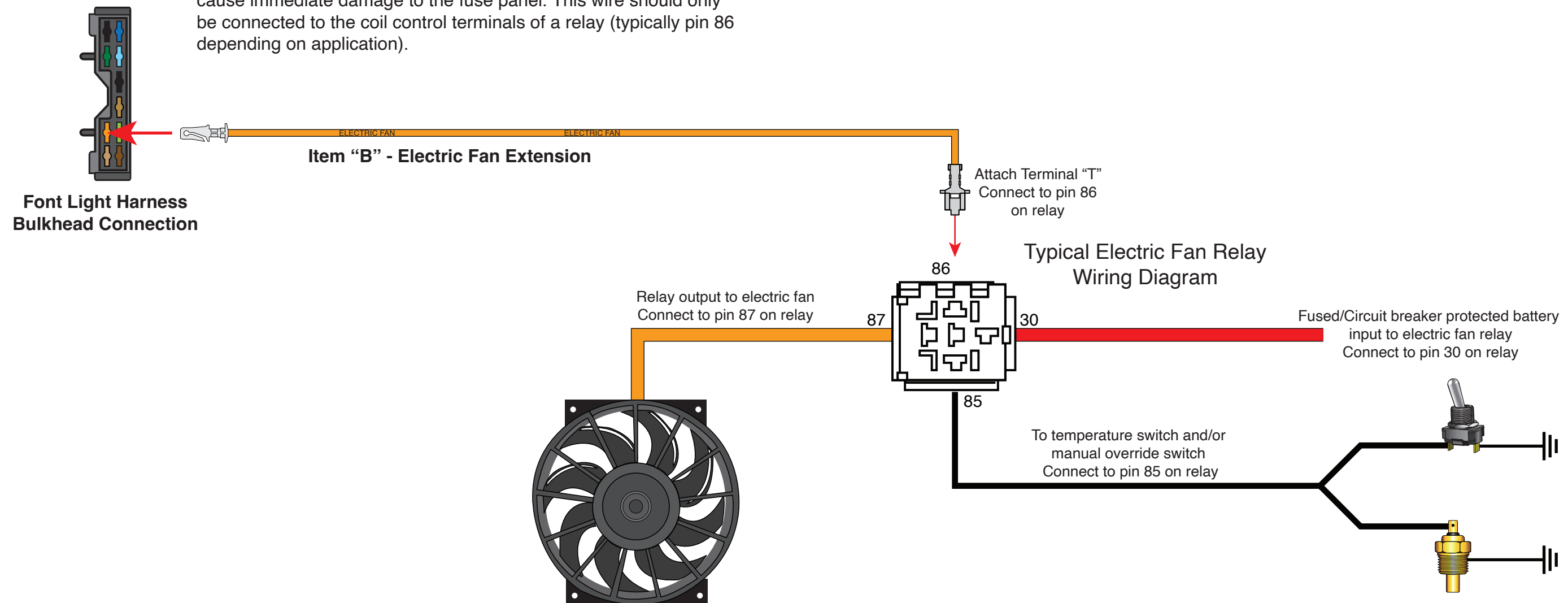
510876 Front Light harness instructions:

Electric Fan Connection

The "Electric Fan Extension" (Item "B" - Page 42) has been provided in the event the vehicle is equipped with an electric cooling fan. This extension provides the required ignition switch controlled "Accessory" feed to the fan relay(s). Plug the preterminated end of the extension into the Front Light Harness bulkhead connection and connect to the fan relay as shown below. A female M/P 630 terminal (Item "T" - Page 42) has been included for completing the connection to the fan relay. If the original fan relay is missing, or damaged, American Autowire has replacement relay kits available for separate purchase. See the listing on this page for more details.

WARNING:

DO NOT connect this wire directly to an electric fan. Doing so will cause immediate damage to the fuse panel. This wire should only be connected to the coil control terminals of a relay (typically pin 86 depending on application).



We carry the following relay accessories for your 1984-1990 Jeep XJ:

Part Number:	Description:
500093	40 Amp Universal Relay Kit (Waterproof)
500479	40 Amp Universal Relay Kit (Standard)
500784	Single Electric Fan Dual Control Relay Kit
510001	Dual Electric Fan Relay Kit w/ 210-195 On/Off Temperature Switch
510002	70 Amp Fan Relay Kit



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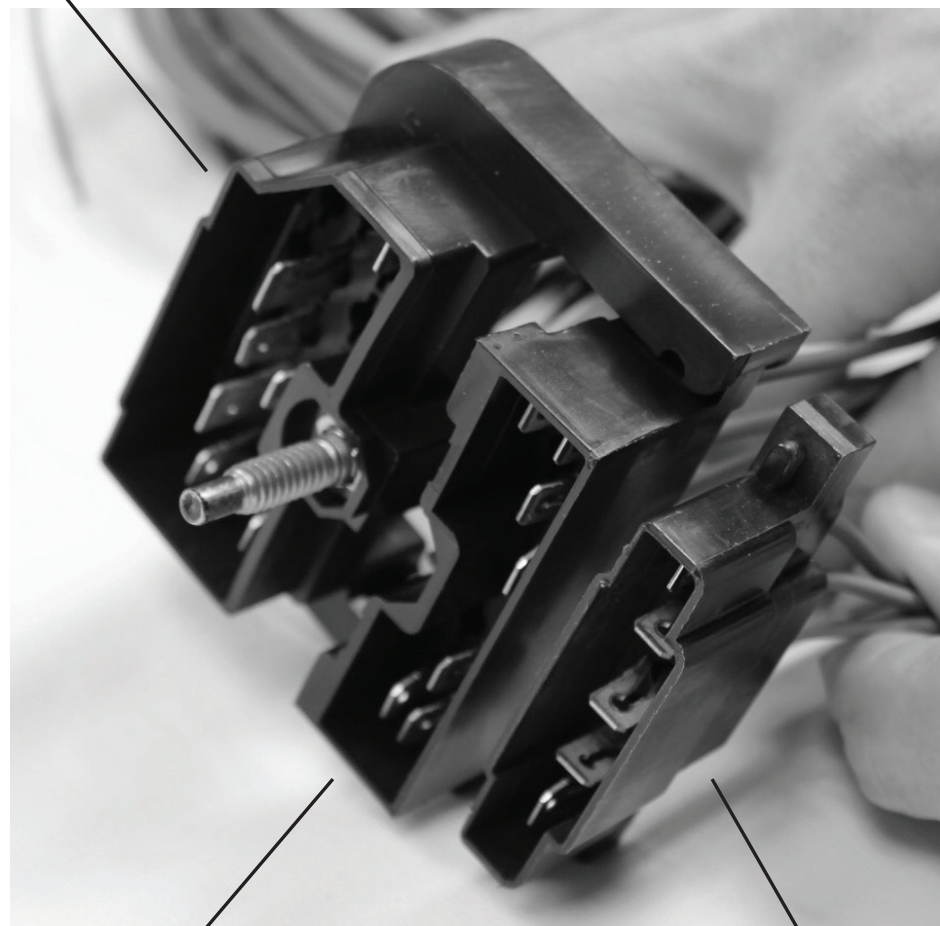
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510875 & 510876 Engine & Front Light harness instructions:

Bulkhead Connection Finishing Details

Making the firewall electrical connection corrosion and weather resistant

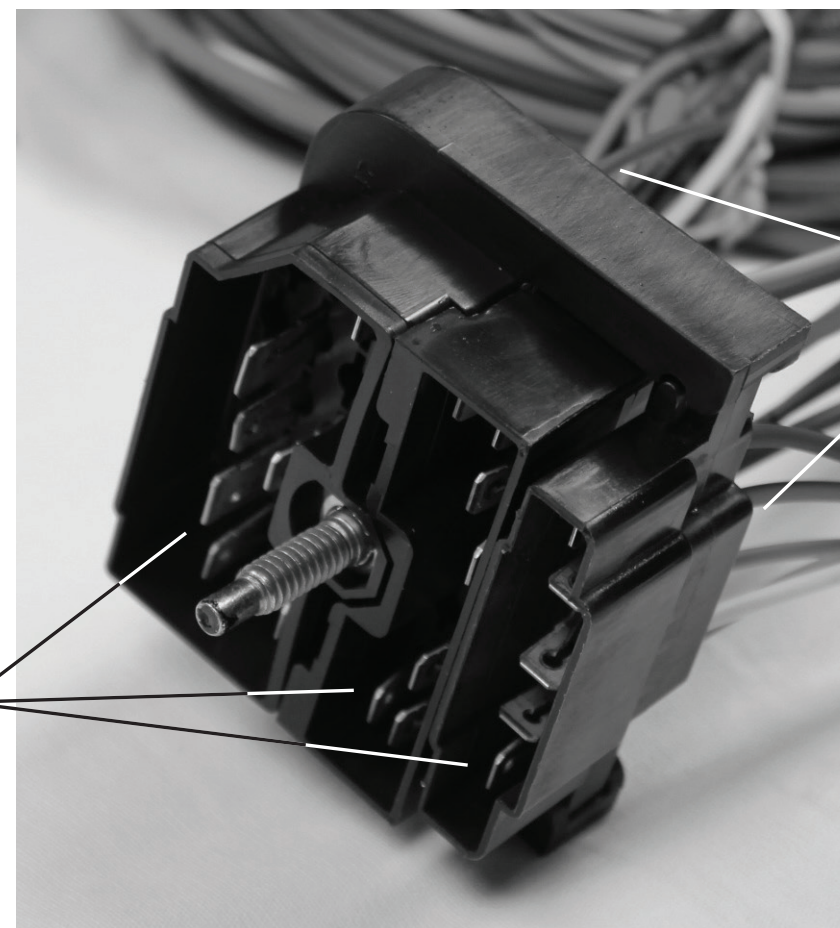
engine harness
20-way connector



front light
10-way connector

front light
7-way connector

assembly, ready to bolt
onto firewall bulkhead



apply dielectric
grease to the
terminals, after
all wires are installed

apply silicone sealant,
to back side of connectors,
after installing terminals

NOTE: We recommend the following once you have completed the installation of your under hood engine and forward lamp connections:

1. Apply dielectric grease to the terminals as shown above. This will help with continuity and also prevent corrosion to any of the terminals.
2. Slide the engine, front light, and wiper harness connectors together and attach to the firewall bulkhead connection.
NOTE: Be sure fully seat the connectors prior to moving to the next step.
3. Secure the connection by tightening the bulkhead bolt (**DO NOT OVER TIGHTEN** or bulkhead will be damaged).
4. Apply silicone sealer to the front (wire entry side) of the connector as shown above. This will help seal the connector as well as prevent water and moisture from passing through the connector to the inside of the vehicle via the bulkhead assembly.



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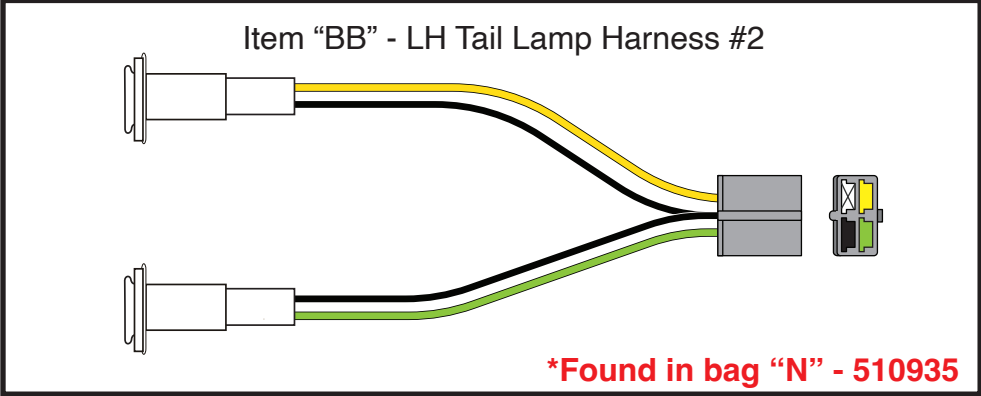
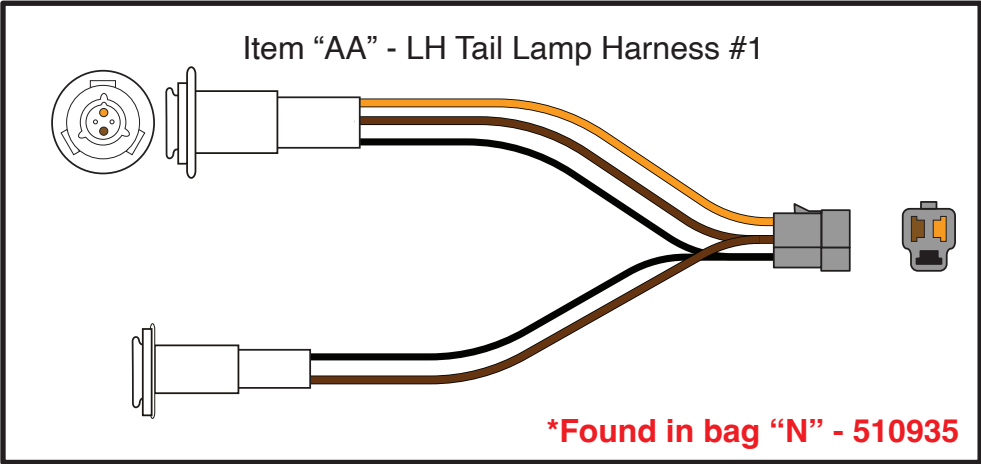
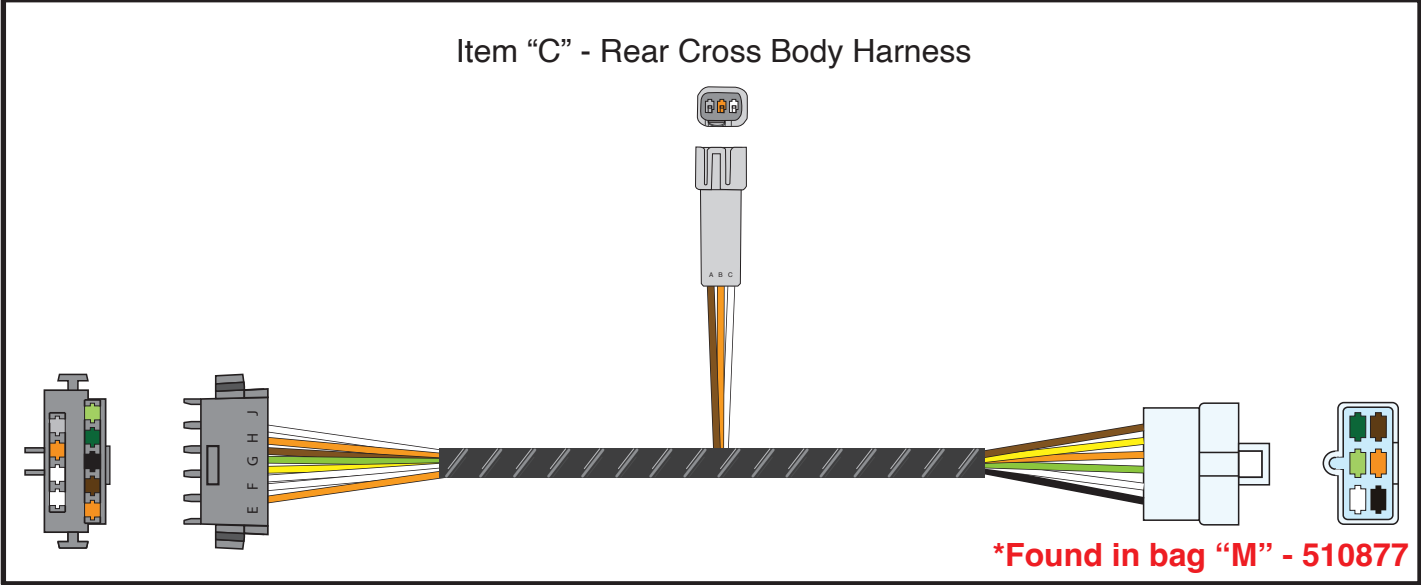
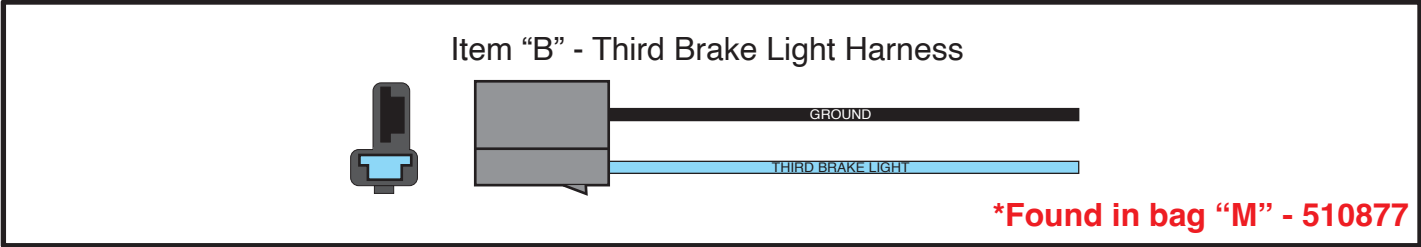
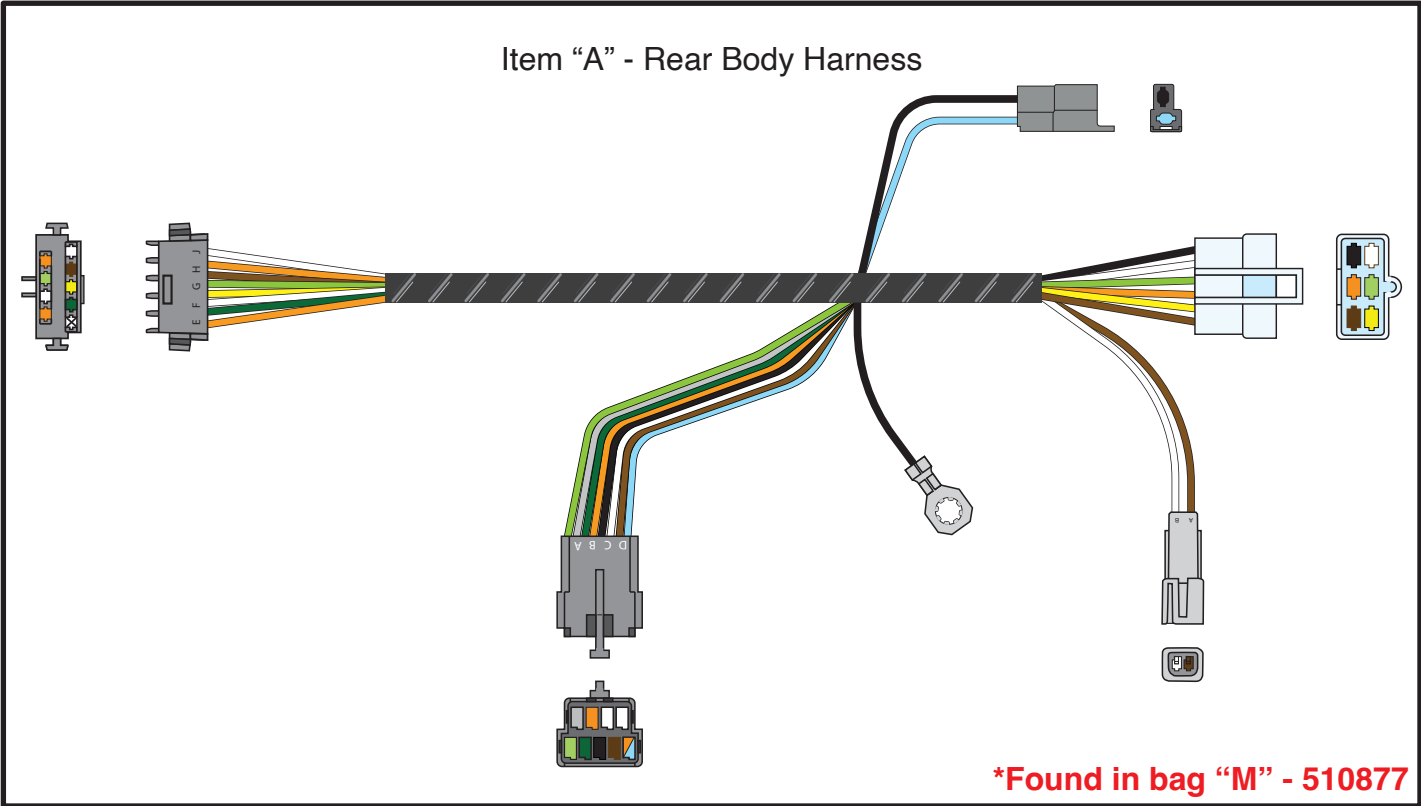
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510877, 510935, 510936 Rear Body harness instructions:

Legend



- Item "D" - (Secondary Lock for Item "J", 2 pcs)
- Item "E" - (Terminal, M/P 150, Female, 10 pcs)
- Item "F" - (Connector, M/P 150, 2xM, 1 pcs)
- Item "G" - (Secondary Lock for Item "F", 1 pcs)

bags
M, N, O

- Item "H" - (Terminal, M/P 150, Male, 3 pcs)
- Item "J" - (Connector, M/P 150, 2xF, 2 pcs)
- Item "K" - (Connector, M/P 150, 3xF, 1 pc)
- Item "L" - (Secondary Lock for Item "K", 1 pc)
- Item "S" - (Grommet, Rubber, 2 pcs)
- Item "T" - (Terminal, M/P 480, Female, 6 pcs)
- Item "U" - (Bullet Terminal, Male, 10 pcs)
- Item "V" - (Sleeve, Rubber, Small 10 pcs)
- Item "W" - (Bullet Terminal, Female, 2 pcs)
- Item "X" - (Sleeve, Rubber, Large 10 pcs)
- Item "YY" - (Terminal, Pack-Con, Male, 6 pcs)
- Item "ZZ" - (Connector, Pack-Con 4xM, 1 pcs)



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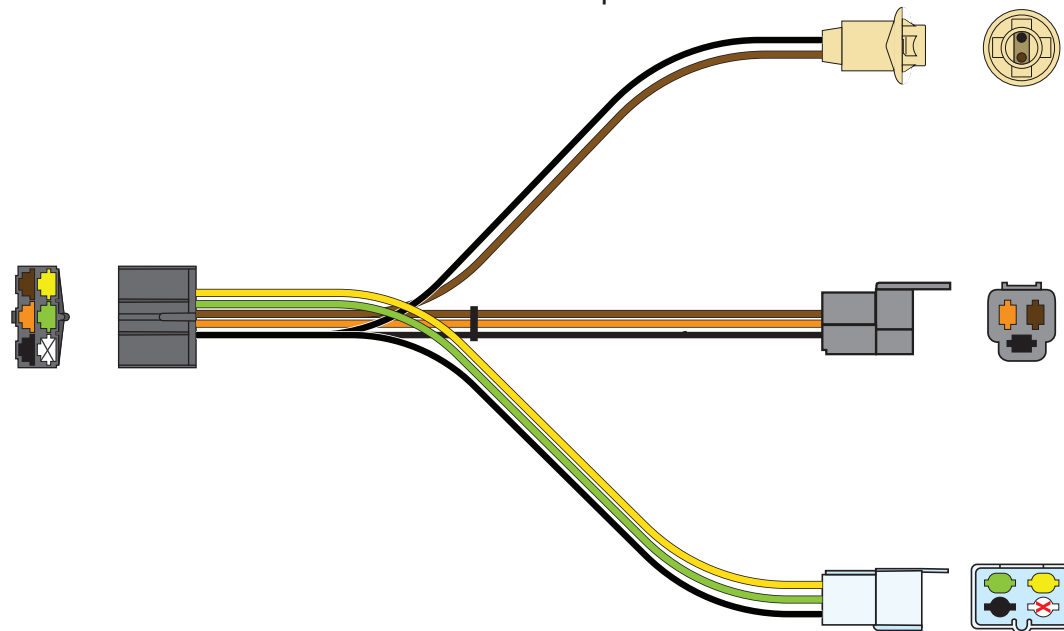
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M, N, O

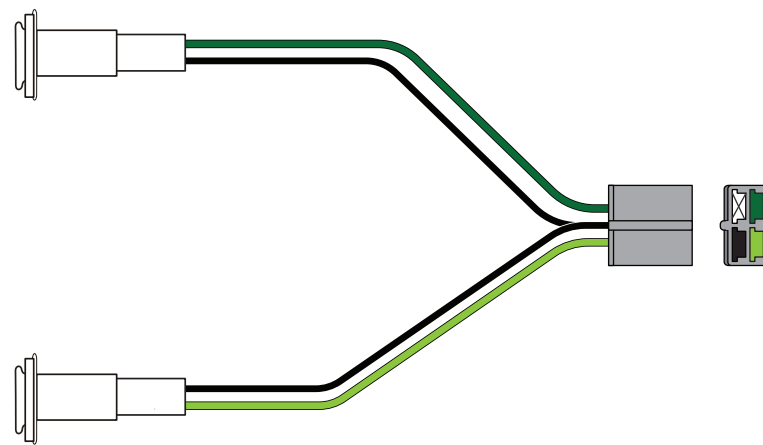
510877, 510935, 510936 Rear Body harness instructions:Legend (cont'd)

Item "CC" - LH Tail Lamp Harness #3



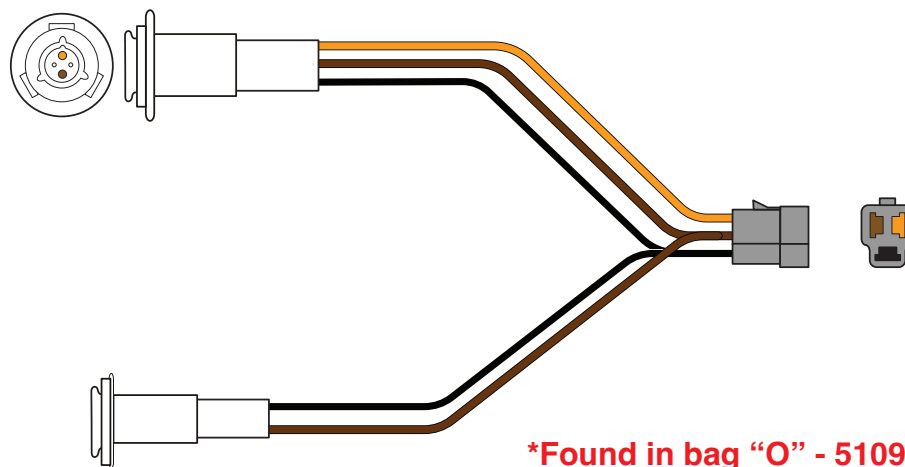
*Found in bag "N" - 510935

Item "EE" - RH Tail Lamp Harness #2



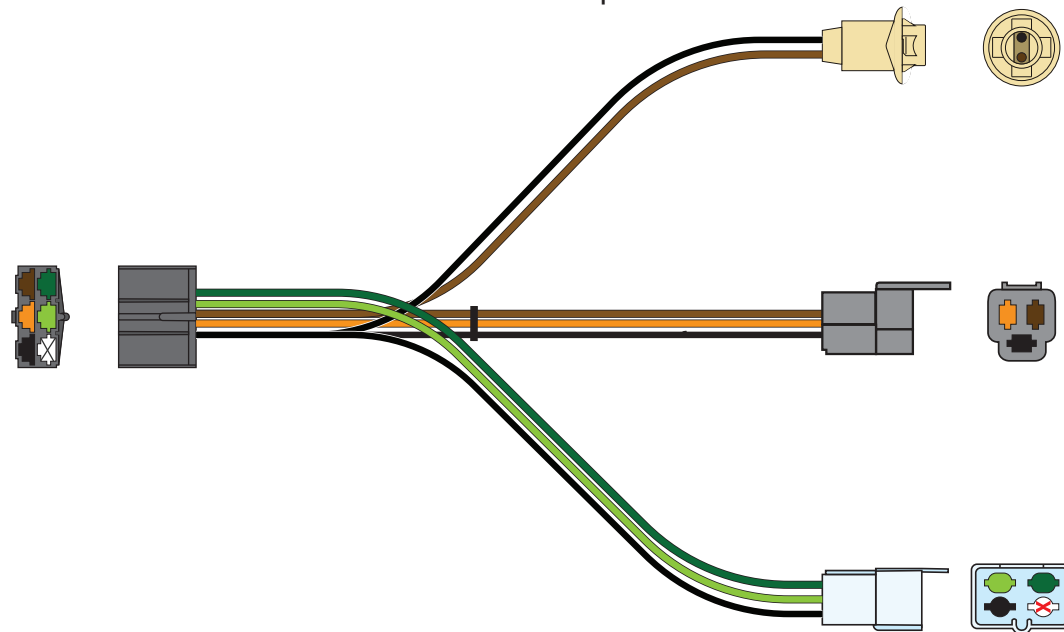
*Found in bag "O" - 510936

Item "DD" - RH Tail Lamp Harness #1

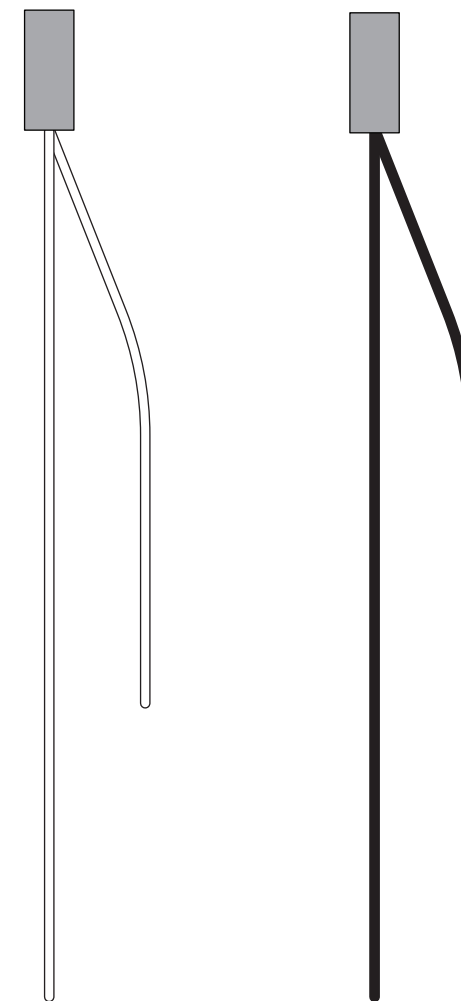


*Found in bag "O" - 510936

Item "FF" - RH Tail Lamp Harness #3



*Found in bag "O" - 510936

Courtesy Lamp Door Jamb Switch Pigtails
Qty (2) of Each

*Found in bag "M" - 510877

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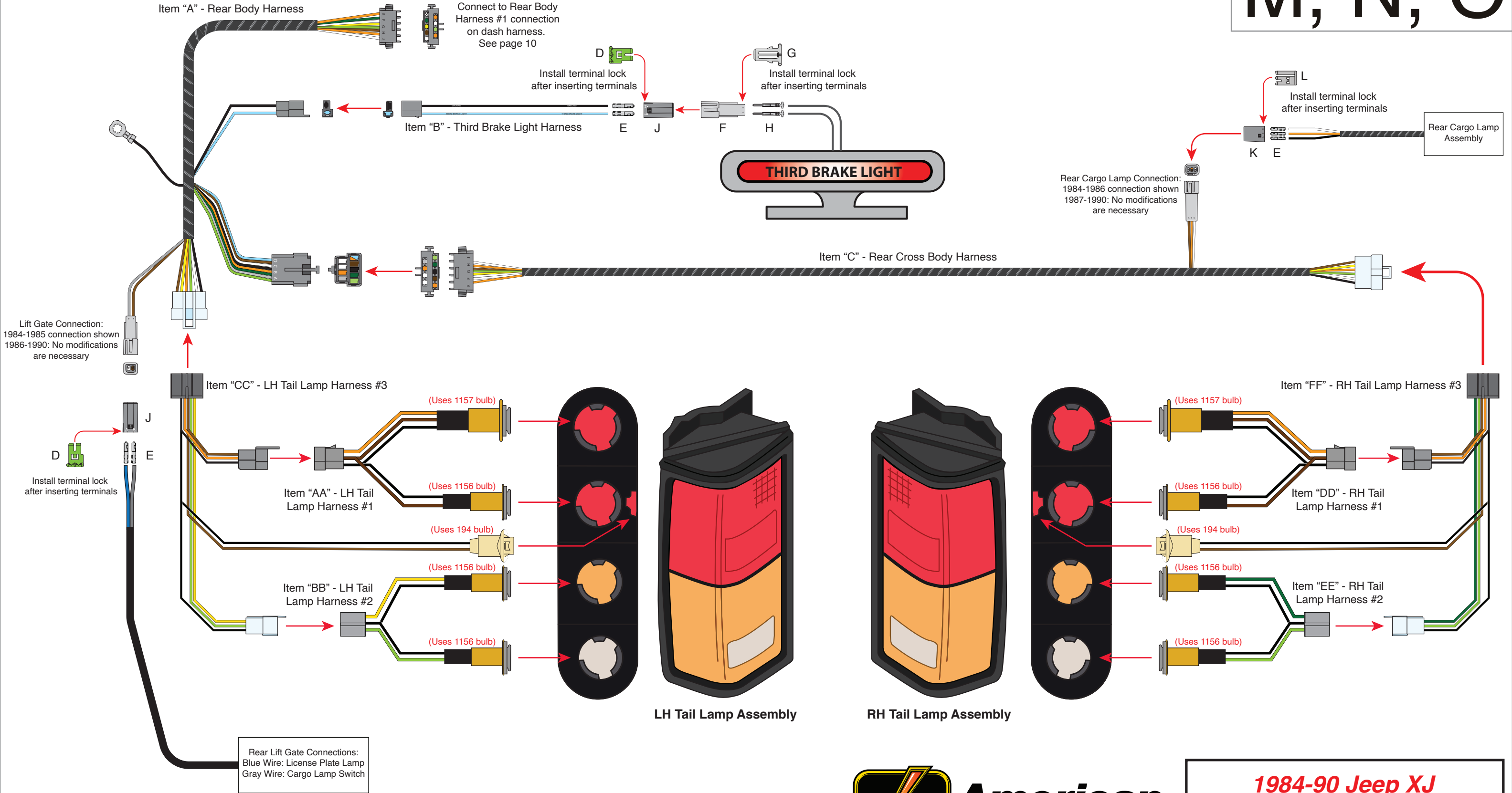
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510877, 510935, 510936 Rear Body harness instructions:

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510877, 510935, 510936 Rear Body harness instructions: Courtesy Lamp Door Jamb Switch Connections

Over the course of production, the XJ utilized 3 different styles of door jamb switches. Door jamb switches are NOT included with this kit. Replacement door jamb switches can be sourced from your local parts house or favorite Jeep parts supplier. Each of these switch styles and their connections are listed below:

1984-1989: Self Grounding - Bullet Receptacle or Blade Terminal:

These switches ground themselves through the threads on the switch, which make contact with the body of the vehicle when installed. These switches use only the WHITE courtesy light pigtail extensions. Route the shorter lead on each pigtail extension to the front door jamb switches, pass them through a Rubber Grommet (Item “S” - Page 47), cut to length, and crimp either a Male Bullet Terminal (Item “U” - Page 47) or a Female M/P 480 Terminal (Item “T” - Page 47) on the end of the wire depending on the application of the switch. Attach newly terminated lead to the door jamb switch. Repeat this process for the rear door jamb switches, with exception to the grommet installation portion, using the longer leads on the courtesy light pigtails.

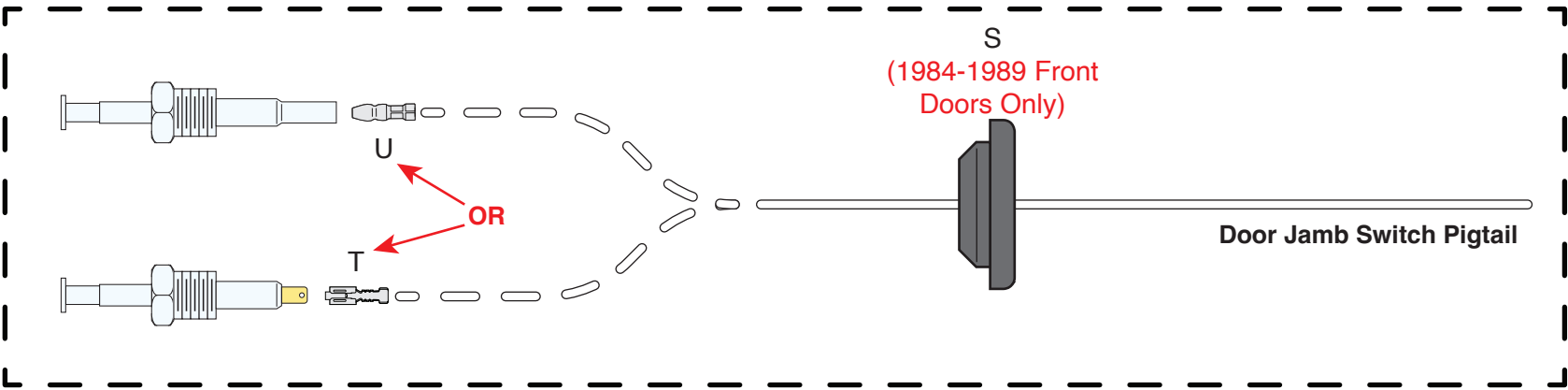
NOTE: No grommets are used for the rear door jamb switch connections.

1990: Two or Three Wire Switch:

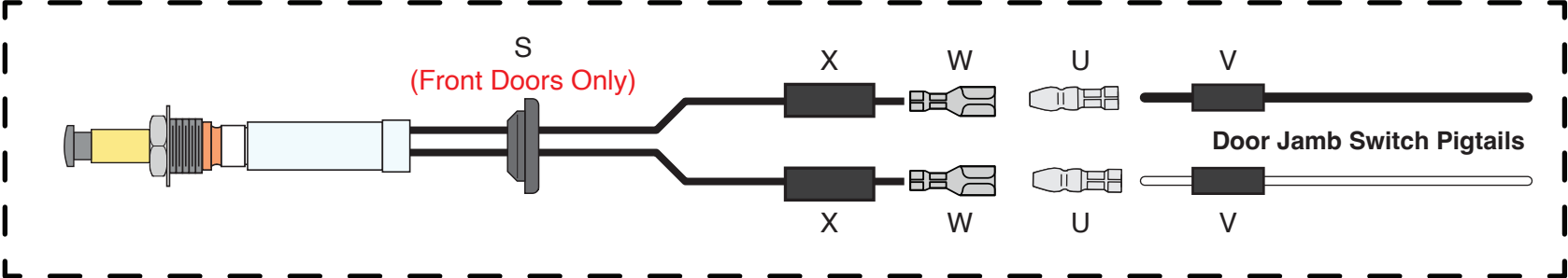
This style switch requires a dedicated ground, which will be provided by the BLACK pigtail extension. Remove the terminals and connectors from the existing pigtail on the door jamb switch. For the FRONT door jamb switches ONLY, pass the door jamb switch leads through Rubber Grommet (Item “S” - Page 47). Slide a Large Rubber Sleeve (Item “X” - Page 47) on each door jamb switch wire, and crimp a Female Bullet Terminal (Item “W” - Page 47) on the end of each lead to complete the door jamb switch pigtail modifications. Route the shorter leads from the WHITE and BLACK extensions to the front door jamb switch pigtails and cut to length. Slide a Small Rubber Sleeve (Item “V” - Page 47) on each lead, and crimp a Male Bullet Terminal (Item “U” - Page 47) on the ends. Plug these newly terminated ends into the Female Bullet Terminals on the door jamb switch pigtail, and slide the rubber sleeves over the crimped portions of the terminals to protect them. Repeat this process for the rear door jamb switches, with exception to the grommet installation portion, using the longer leads on the courtesy light pigtails.

NOTE: No grommets are used for the rear door jamb switch connections.

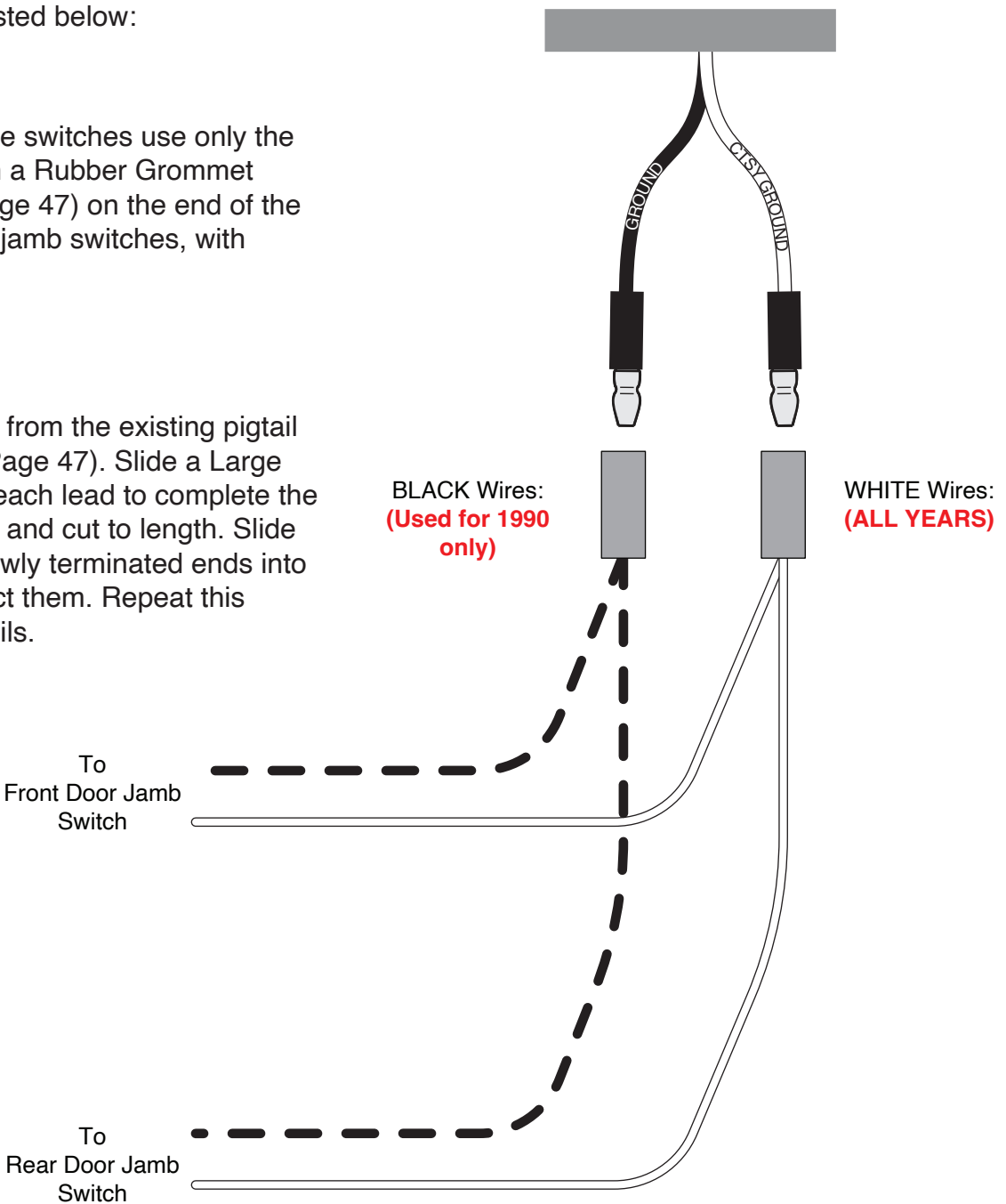
1984-1989 Door Jamb Switch Wiring



1990 Door Jamb Switch Wiring



Door Jamb Switch Connections
from Dash Harness
(LH Connections Shown, RH Connections are identical)



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510937 Overhead Light harness instructions:

Dome/Map/Vanity Lamp Connections

Plug the main Overhead Light Harness into the Dash Harness mating connection (see page 20) and route the other end of the harness up the Right Hand A-pillar of the vehicle.

Vanity Lamps:

1984-1989 Vehicles: These models were equipped with only one vanity lamp which was mounted on the passenger side of the vehicle. The factory bullet terminals on the feed and ground wires from the vanity lamp assembly will plug directly into the provided mating bullet receptacles (see diagram).

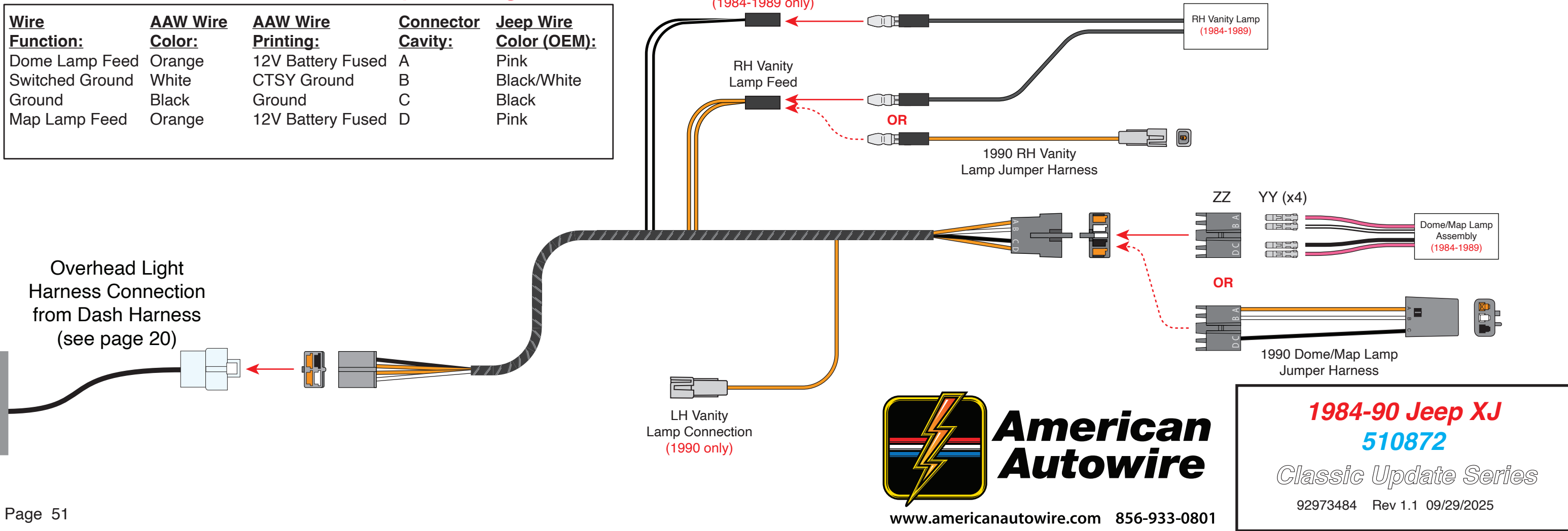
1990 Vehicles: These vehicles were equipped with vanity lamps on both the driver & passenger sides of the vehicle. The lamps are self grounding and require only a power feed for operation. Locate the 1990 RH Vanity Lamp Jumper Harness and plug the bullet end into the RH Vanity Lamp Feed bullet receptacle on the main Overhead Lamp Harness. The other end of this jumper harness will connect directly to the RH 1990 vanity lamp assembly. The LH extension is already built into the main harness and will plug into the LH vanity lamp assembly.

Map/Dome Lamp Assembly:

1984-1989 Vehicles: The Dome/Map lamp assembly on these vehicles was not equipped with an in-line disconnect. Cut the OEM Dome/Lamp harness approximately 6 inches from the lamp assembly and crimp a Pack-Con male terminal (Item “YY” - Page 47) on the end of each wire. Following the chart below, insert the newly terminated ends into Pack-Con 4xF connector (Item “ZZ” - Page 47).

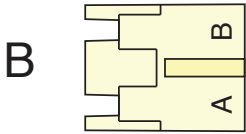
1990 Vehicles: The Dome/Map lamp assembly on these vehicles was equipped with a 3-way in-line connector. Locate the 1990 Dome/Map Lamp Jumper Harness and plug the 4-cavity end into the mating end on the main Overhead Lamp Harness. The 3-way end will plug directly onto the OEM Dome/Map assembly.

1984-1989 Dome/Map Wiring



510938 Fuel Sender, PRNDL, Transfer Case harness instructions:

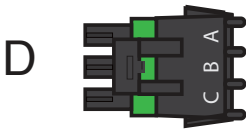
Legend:



(Connector, Pack-Con, Mx2, 1 pc)



(Terminal, Pack-Con, Male, 3 pcs)



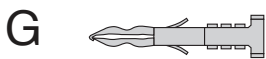
(Connector, W/P Fx3, 1 pc)



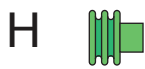
(Terminal, W/P, Female, 4 pcs)



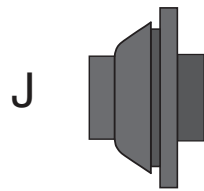
(Connector, W/P, Mx2, 1 pc)



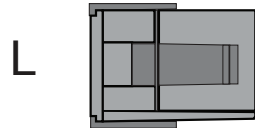
(Terminal, W/P, Male, 3 pcs)



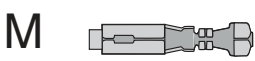
(Seal, M/P, Green, 4 pcs)



(Grommet, Rubber, 1.25 Hole, 1 pc)



(Connector, M/P, Fx2, 1 pc)



(Terminal, M/P 280, Female, 3 pcs)



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510938 Fuel Sender, PRNDL, Transfer Case harness instructions:

PRNDL & Transfer Lamps, Rear Tailgate Connection

Rear Body Harness #2: Plug Rear Body Harness #2 into the Rear Body Harness Connection #2 on the main dash harness (from page 10), and install the harness following the original routing to the console and the rear of the vehicle.

Parking Brake Switch: Connect this lead directly to the parking brake switch in the center console.

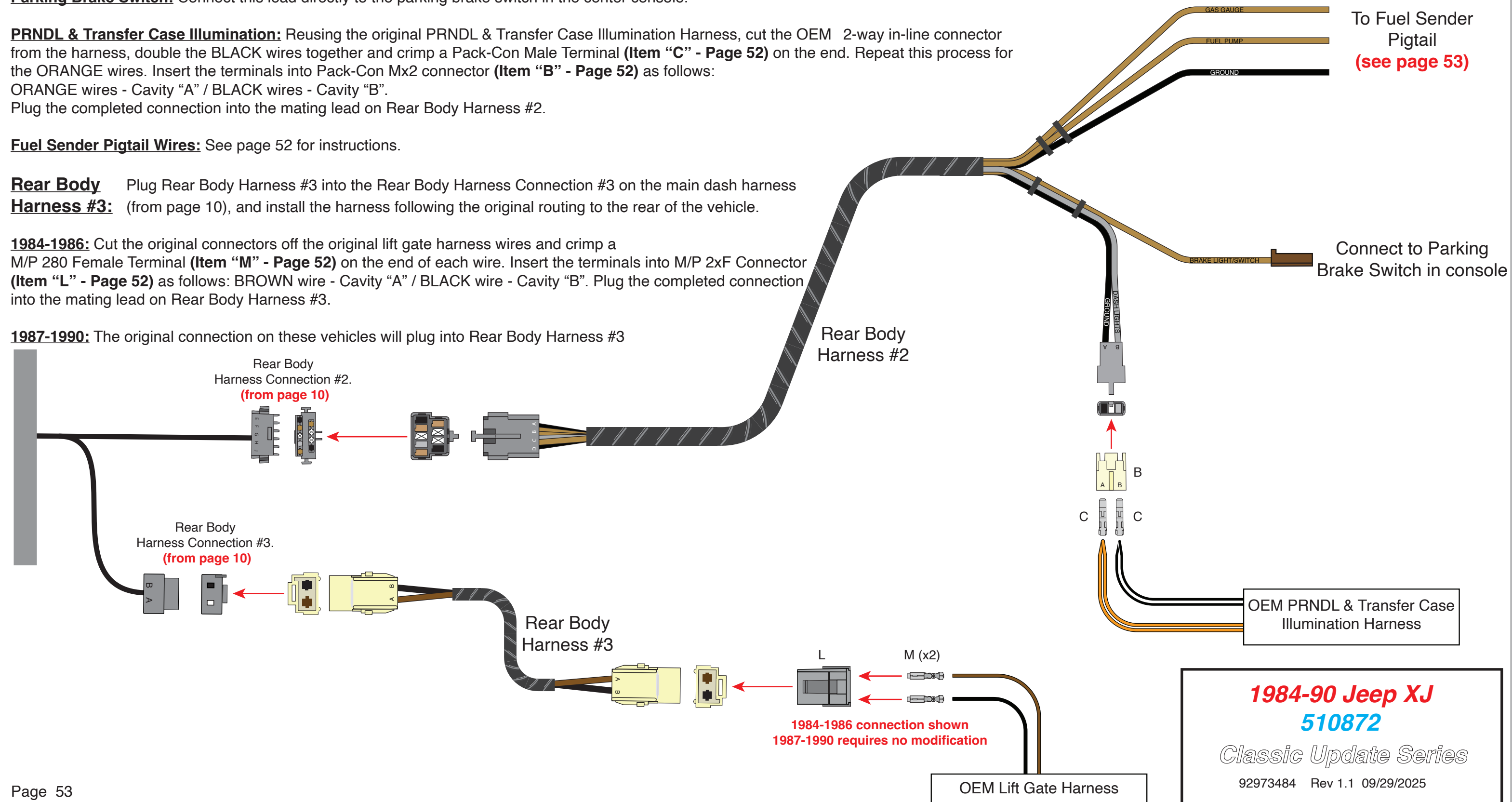
PRNDL & Transfer Case Illumination: Reusing the original PRNDL & Transfer Case Illumination Harness, cut the OEM 2-way in-line connector from the harness, double the BLACK wires together and crimp a Pack-Con Male Terminal (Item "C" - Page 52) on the end. Repeat this process for the ORANGE wires. Insert the terminals into Pack-Con Mx2 connector (Item "B" - Page 52) as follows:
ORANGE wires - Cavity "A" / BLACK wires - Cavity "B".
Plug the completed connection into the mating lead on Rear Body Harness #2.

Fuel Sender Pigtail Wires: See page 52 for instructions.

Rear Body Harness #3: Plug Rear Body Harness #3 into the Rear Body Harness Connection #3 on the main dash harness (from page 10), and install the harness following the original routing to the rear of the vehicle.

1984-1986: Cut the original connectors off the original lift gate harness wires and crimp a M/P 280 Female Terminal (Item "M" - Page 52) on the end of each wire. Insert the terminals into M/P 2xF Connector (Item "L" - Page 52) as follows: BROWN wire - Cavity "A" / BLACK wire - Cavity "B". Plug the completed connection into the mating lead on Rear Body Harness #3.

1987-1990: The original connection on these vehicles will plug into Rear Body Harness #3





510938 Fuel Sender, PRNDL, Transfer Case harness instructions:

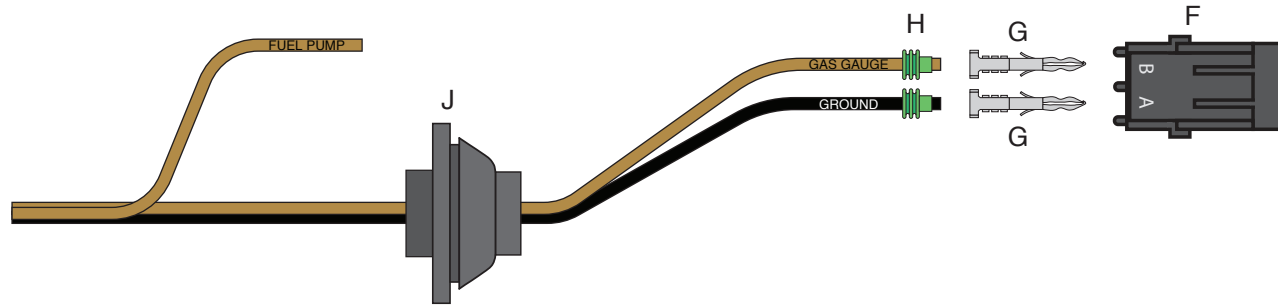
Fuel Sender Connections

Route the TAN "Gas Gauge", TAN "Fuel Pump" and BLACK "Ground" wires through the vehicle to the fuel tank pass through and follow the instructions on this page as they pertain to the different sending units available.

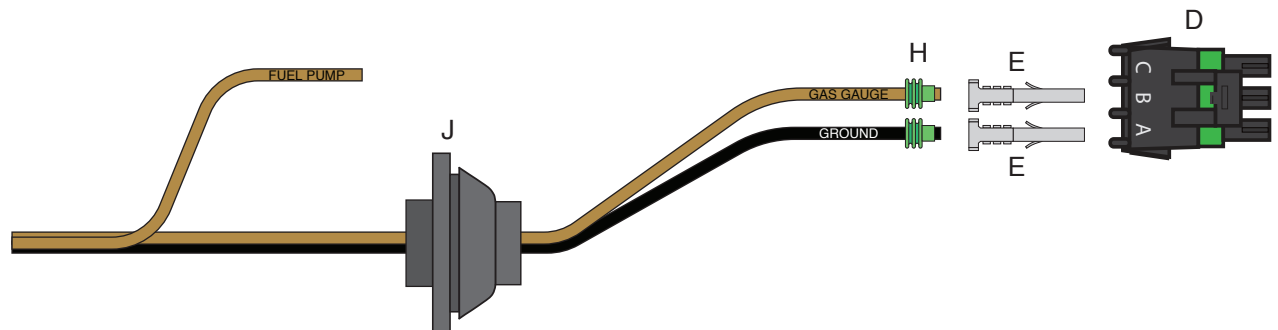
Two Wire Sending Units:

Two wire sending units will only use the TAN "Gas Gauge" and BLACK "Ground" wires. Tape back the TAN "Fuel Pump" wire, and route the remaining wires through the Rubber Grommet (**Item "J" - Page 51**), cut to length, and slide a Green Seal (**Item "H" - Page 51**) on the end of each wire. Crimp and terminate as follows:

OEM Sending Unit: Crimp a W/P Male terminal (**Item "G" - Page 51**) on the end of the TAN "Gas Gauge" and BLACK "Ground" wires. Insert BLACK "Ground" wire into Cavity "A" of the W/P Mx2 connector (**Item "F" - Page 51**). Insert the TAN "Gas Gauge" wire into Cavity "B" of connector "F". Seat the grommet into the floor pan, and plug the completed connector assembly onto the fuel sending unit pigtail.



Aftermarket Sending Unit: Crimp a W/P Female terminal (**Item "E" - Page 51**) on the end of the TAN "Gas Gauge" and BLACK "Ground" wires. Insert BLACK "Ground" wire into Cavity "A" of the W/P Fx2 connector (**Item "D" - Page 51**). Insert the TAN "Gas Gauge" wire into Cavity "B" of connector "D". Cavity "C" will remain unused. Seat the grommet into the floor pan, and plug the completed connector assembly onto the fuel sending unit pigtail.



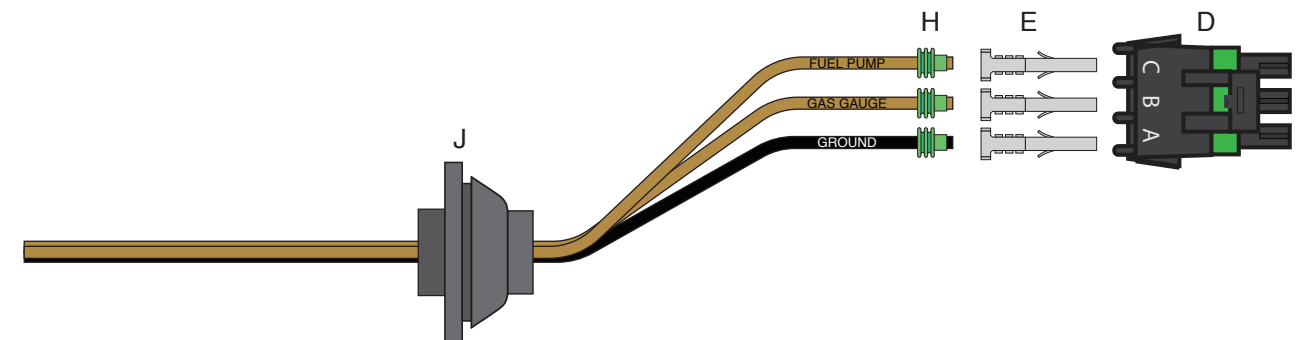
Three Wire Sending Units:

Three wire sending units will utilize the TAN "Fuel Pump" wire, in addition to the TAN "Gas Gauge" and BLACK "Ground" wires. In order to make it easier to route all three of these wires through the Rubber Grommet (**Item "J" - Page 51**), enlarge the the internal hole in the grommet to 5/16". Cut the fuel sending unit leads to length, slide a Green Seal (**Item "H" - Page 51**) on the end of each wire. Crimp a W/P Female Terminal (**Item "E" - Page 51**) on the end of each wire and terminate into W/P Fx3 connector (**Item "D" - Page 51**) as follows:

Cavity "A" - BLACK "Ground"

Cavity "B" - TAN "Gas Gauge"

Cavity "C" - TAN "Fuel Pump"



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