












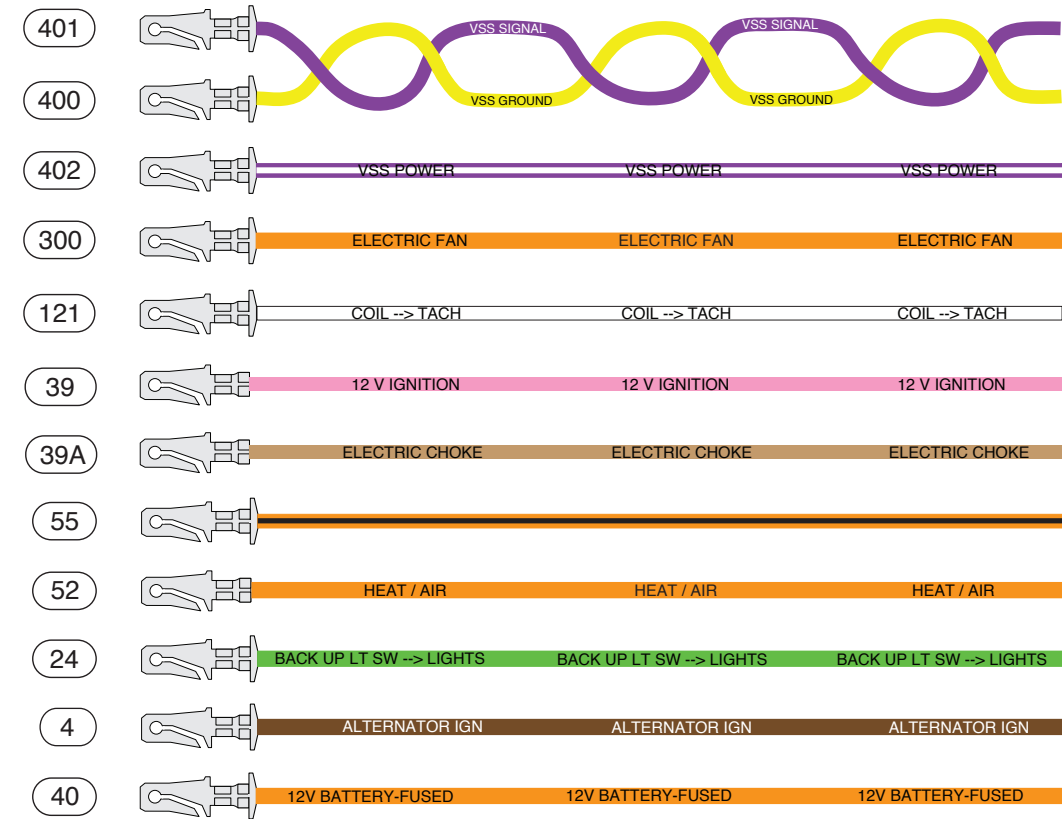


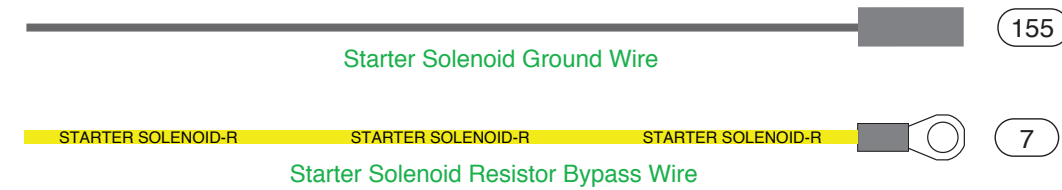
## Parts to be used, during Engine Harness Install

- C  (small ring terminal for larger gauge wire, 2 pcs.)
- D  (smaller 56 series double female terminal, 7 pcs.)
- E  (smaller 56 series single female terminal, 11 pcs.)
- F  (56 series single female connector, w/notch, 2 pcs.)
- G  (56 series single female connector, w/lock wedge, 10 pcs.)
- H  (56 series single female HEI tach connector, 1 pc.)
- J  (56 series single female HEI power connector, 1 pc.)
- K  (small rubber sleeve, 5 pcs.)
- L  (large rubber sleeve, 2 pcs.)
- M  (56 series single male connector, 4 pcs.)
- N  (56 series single male terminal, 6 pcs.)
- P  (small ring terminal for smaller gauge wire, 5 pcs.)
- Q  (56 series 2-way female connector, w/notches, 1 pc.)

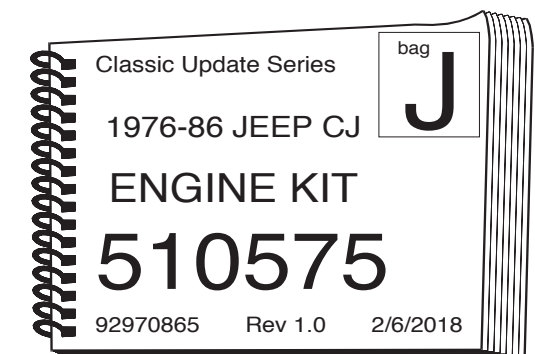
## Loose Wires for Bulkhead Connector



## Starter Solenoid Wires



## Wiring Assemblies

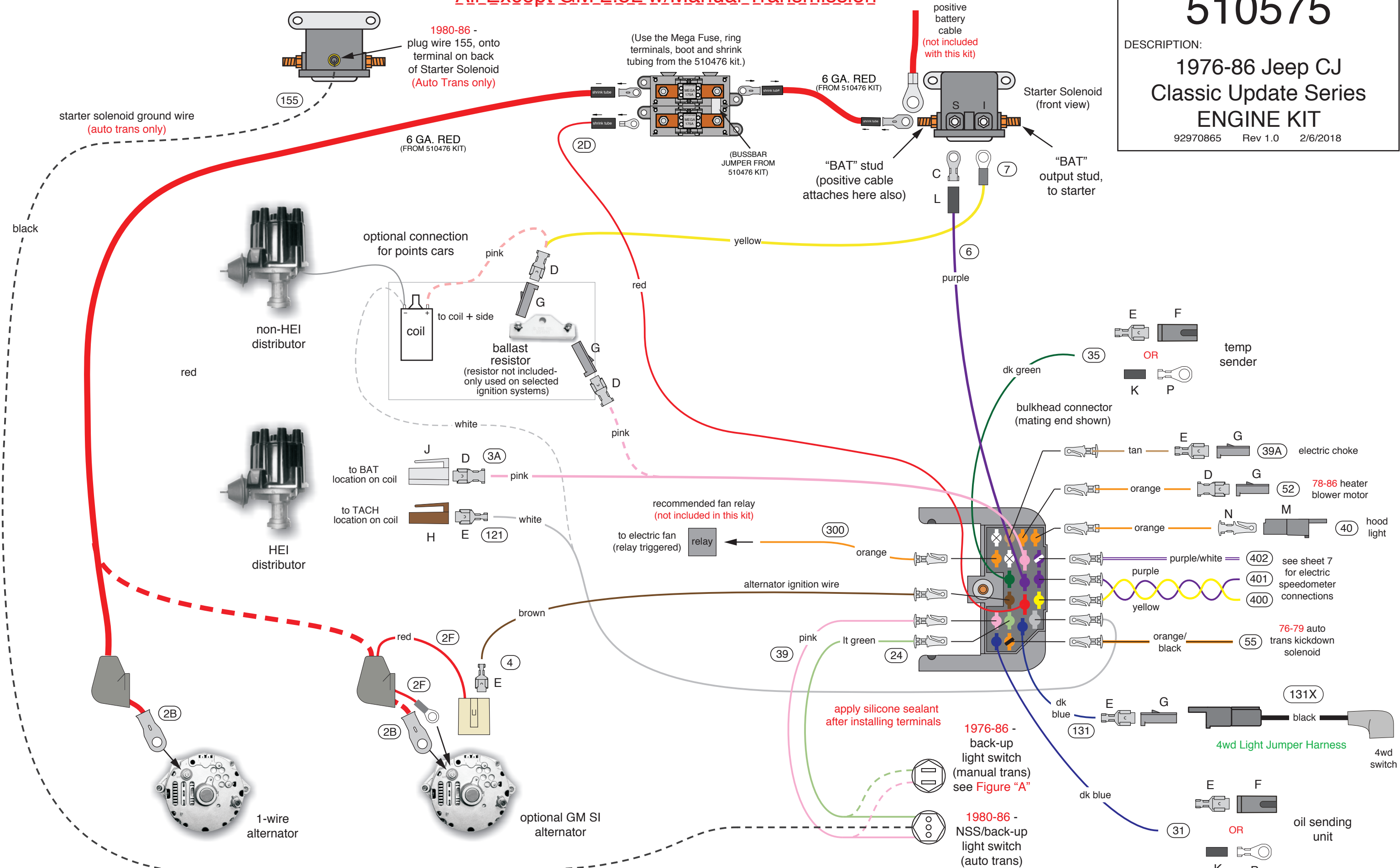


**All Except GM 2.5L w/Manual Transmission**

PART # **510575**

DESCRIPTION:  
**1976-86 Jeep CJ Classic Update Series ENGINE KIT**

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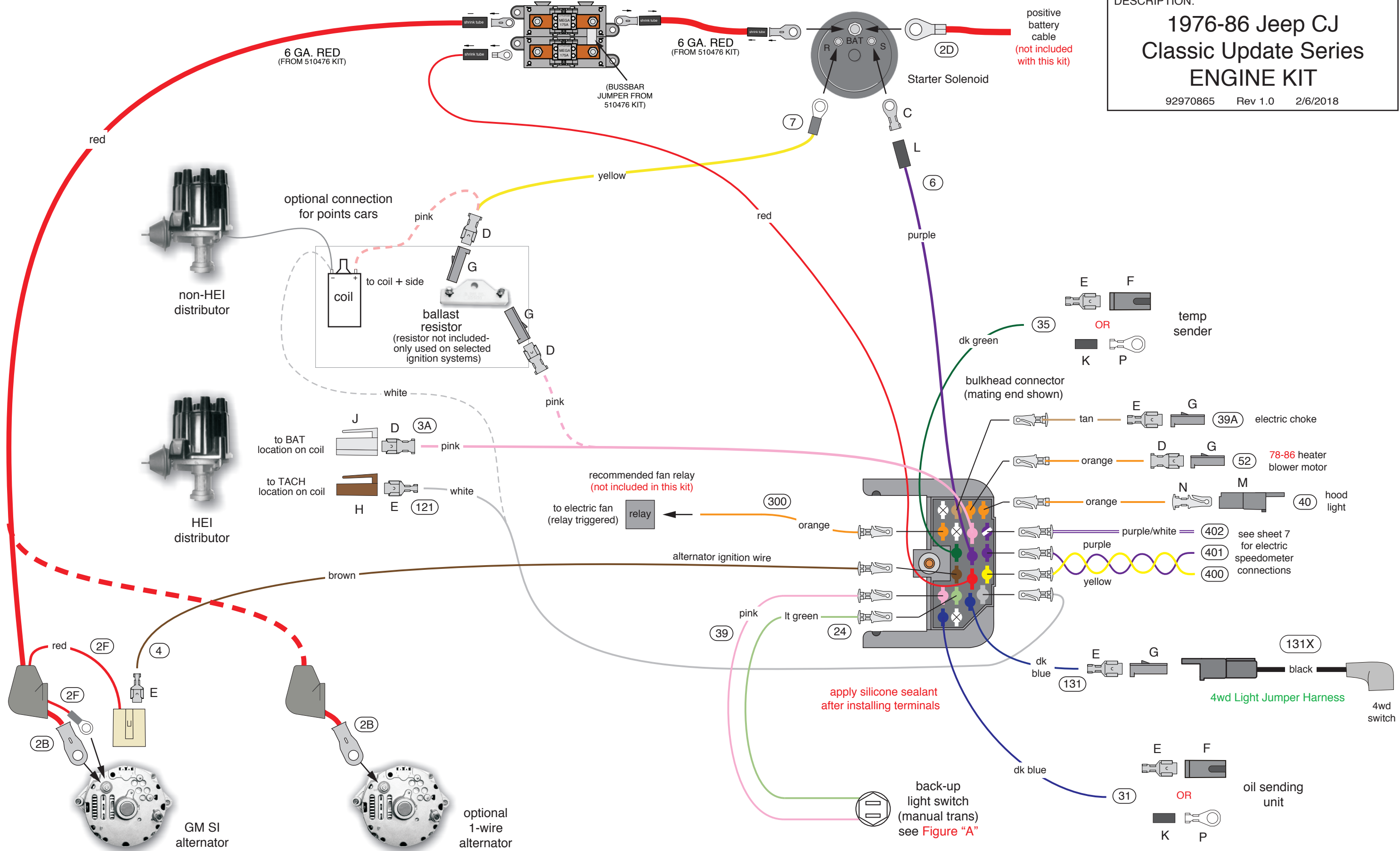
# GM 2.5L w/Manual Transmission

(Use the Mega Fuse, ring terminals, boot and shrink tubing from the 510476 kit.)

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DESCRIPTION:  
**1976-86 Jeep CJ Classic Update Series ENGINE KIT**

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Be sure that the Engine Harness 20-way Bulkhead Connector is in position near the Dash Harness Firewall Connector before routing and cutting of any wires. See the Front Light Kit Instructions for connecting the Bulkhead Connectors together.

<u>Wire Color</u>	<u>Printing</u>	<u>Description</u>
<b>1. Hood Light</b>		
Orange	12V BATTERY-FUSED	If you have a Hood Light, obtain the loose orange "12V BATTERY-FUSED" wire (circuit 40), see sheet 1, and plug it into the Bulkhead connector, as shown on sheets 2 or 3. Route the loose end of the wire to the Hood Light, cut to length, crimp on terminal "N", insert into connector "M", and connect to your Hood Light.
<b>2. Heater Blower Motor</b>		
Orange	HEAT/AIR	If you have a <b>1976-77 vehicle</b> , the Heater Blower Motor is inside the vehicle (see the Dash Harness Instructions for connections). For the <b>1978-86 vehicles</b> , obtain the loose orange "HEAT/AIR" wire (circuit 52) and plug it into the Bulkhead connector (see sheet 2 or 3 for location). Route the loose end of the wire to the Heater Blower Motor, cut to length, install terminal "D" and insert into connector "G". Attach the connector directly to the Heater Blower Motor.
<b>3. 4WD Switch</b>		
Black	no printing	Obtain the "4WD Light Jumper Harness" (circuit 131X) and attach the molded connector to the 4WD Switch which is attached to the Transfer Case.
Dark Blue	no printing	Obtain the dark blue wire (circuit 131) which is already plugged into the Bulkhead connector and route this wire to the "4WD Light Jumper Harness". Cut to length, crimp on terminal "E", and insert into connector "G". Connect this wire to the "4WD Light Jumper Harness".
<b>4. Back-up Lights – Manual Transmission (see Figure "A" on sheet 6)</b>		
Pink	12V Ignition	The Back-up Light Switch is located on the transmission. Obtain the loose pink "12V IGNITION" wire (circuit 39) and the loose light green "BACK UP LT SW --> LIGHTS" wire (circuit 24) and plug into the Bulkhead connector (see sheets 2 or 3). Now route these wires to the Back-up Light Switch ( <b>See photos #1 and #2, on sheet 6</b> ) and cut to length.
Light Green	Back UP LT SW --> LIGHTS	
<b>Manual Transmission Figure "A" Option I</b>		Slide a sleeve "K" over the pink and light green wires, crimp on a ring terminal "P" to each wire, and slide the sleeve "K" onto the ring terminal "P". Attach the two ring terminals to the Backup Light Switch, polarity does not matter.
<b>Manual Transmission Figure "A" Option II</b>		Crimp on terminal "E" to the pink and light green wires and insert into connector "Q", polarity does not matter. Now connect to the Backup Light Switch.
<b>Manual Transmission Figure "A" Option III</b>		Obtain a 2-wire Aftermarket Jumper Harness ( <b>not included in this kit</b> ) available for this Backup Light Switch and crimp on a terminal "N" to each wire of the Jumper Harness and insert into connector "M". Crimp on terminals "E" to the pink and light green wires from the Engine Kit and insert into connector "G". Now you can connect both connectors "G" to the Jumper harness.
<b>5. Backup Lights/Neutral Safety Switch – Automatic Transmission (see Figure "B" on sheet 6)</b>		
Pink	12V Ignition	For the <b>1976-79 vehicles</b> with an Automatic Transmission, the Back-up Light/Neutral Safety Switch is located on the Steering Column (see the Dash Harness instructions (510574) for this connection).
Light Green	Back UP LT SW --> LIGHTS	
Black	no printing	
For the <b>1980-86 vehicles</b> , the 3-pin Backup Light/Neutral Safety Switch is located on the transmission. Obtain the loose black no printing "Starter Solenoid Ground Wire" (circuit 155). This wire will provide ground for the Starter Solenoid during crank. The center pin of the Backup Light/Neutral Safety Switch goes to ground in Park or Neutral. Attach the female bullet end of the black (circuit 155) wire to the back of the Starter Solenoid (see sheet 2). Route the loose end of the black wire to the 3-pin Backup Light/Neutral Safety Switch on the Automatic Transmission.		
<b>Obtain a 3-wire Aftermarket Jumper Harness (not included in this kit)</b> available for this Backup Light/Neutral Safety Switch, crimp on three terminal "N"s" to each wire of the Jumper Harness and insert each terminal into a connector "M", ( <b>see Figure "B" on sheet 6</b> ). Crimp on terminals "E" to the light green (circuit 24), black (circuit 155), and pink (circuit 39) wires from the Engine Kit and insert each into a connector "G". Now connect all three connectors "G" to the Jumper Harness ( <b>See photo #3, on sheet 6</b> ). <b>Note: the black wire (circuit 155) from the Engine Kit must be connected to the center pin of the Backup Light Switch.</b>		
<b>6. Auto Trans Kick Down Solenoid</b>		
Orange/Black	no printing	For the <b>1976-79 Automatic Transmission vehicles</b> , there is a Kick-Down Solenoid located near the valve body of the Automatic Transmission. Obtain the loose orange/black stripe no printing wire (circuit 55) and plug this wire into the Bulkhead connector (see sheet 2). Route this wire to the Automatic Transmission (near the valve body) and connect to the Automatic Transmission Kick-Down Detent Solenoid. <b>Use the original wiring connector, for this connection.</b>
<b>7. Main Fuse Panel Feed</b>		
Red	12V BATTERY	Route this wire from the Engine Harness to the MegaFuse supplied with the 510476 kit and cut to length, apply ring terminal, and shrink tubing and connect as shown on pages 2 and 3.
<b>8. Coil Power</b>		
Pink	IGNITION FEED	For an HEI Distributor equipped vehicle, obtain the large pink "Ignition Feed" wire (circuit 3A) which is already plugged into the Bulkhead connector, and route this wire to the battery terminal of the HEI Distributor, cut to length, install terminal "D" and insert into connector "J". Connect to the distributor.

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<u>Wire Color</u>	<u>Printing</u>	<u>Description</u>
		For Prestolite BID Systems, route this pink wire directly to the “+” side of the coil and connect.
		For Aftermarket Systems, such as MSD, Accel, etc. connect per the manufacturers recommendations.
		For a vehicle that requires resistance in the feed to the Ignition Coil (such as a Duraspark or points-type Ignition System) route this wire to the Ballast Resistor ( <b>not provided in this kit</b> ). Crimp on terminal “D” and insert into connector “G”. You can now connect to the Ballast Resistor, polarity does not matter.
<b>9. Resistor Bypass</b>		
<b>Yellow</b> <b>Pink</b>	<b>STARTER SOLENOID-R</b> <b>IGNITION FEED (cutoff portion)</b>	The yellow Starter Solenoid Resistor Bypass Wire is provided if you are using an Ignition System with a Ballast Resistor. Obtain the loose yellow “STARTER SOLENOID – R” wire (circuit 7). Connect the ring terminal to the “I” terminal of your Starter Solenoid, see sheet 2, or the “R” terminal of your Starter Solenoid, see sheet 3 (for the GM 2.5L vehicles). Route the other end of the yellow wire to the Ballast Resistor, cut to length. Obtain the cutoff section of the large pink “Ignition Feed” wire (circuit 3A from step 8) and double it with the yellow wire (circuit 7) and crimp on terminal “D” and insert into connector “G”. You can now connect this connector “G” to the Ballast Resistor. The other end of the large pink wire can be routed and connected to the (+) side of your Ignition Coil (see sheets 2 or 3).
<b>10. Starter Solenoid</b>		
<b>Purple</b>	<b>STARTER SOLENOID-S</b>	Obtain the large purple “STARTER SOLENOID – S” wire (circuit 6). This wire is already plugged into the Bulkhead connector. Route to the Starter Solenoid, cut to length, slide sleeve “L” onto the wire, install ring terminal “C”. Slide sleeve “L” over the terminal and attach to the Starter Solenoid’s “S” terminal (see sheet 2 or 3).
<b>11. Alternator Output Power</b>		
<b>Red</b>	<b>no printing</b>	Use the 6ga red wire, MegaFuse, ring terminals, and shrink tubing from the 510476 kit. Route 6ga red wire from MegaFuse to the alternator and cut to length, apply ring terminal and connect as shown on pages 2 and 3.
<b>12. Alternator Regulator</b>		
<b>Brown</b>	<b>ALTERNATOR IGN</b>	If you have a GM “SI” Alternator, plug the loose brown “ALTERNATOR IGN” wire (circuit 4) into the Bulkhead connector as shown on sheet 2 or 3. Route the other end of the wire to the GM “SI” Alternator, cut to length and install terminal “E”. Insert the brown wire (circuit 4) into the 2-way white connector of the “GM “SI” Alternator Exciter Wiring” jumper harness next to the red wire that is already in the white connector. Now plug this white connector into the Alternator.
<b>13. Electric Choke</b>		
<b>Tan</b>	<b>ELECTRIC CHOKE</b>	For vehicles equipped with an Electric Choke, obtain the loose tan “ELECTRIC CHOKE” wire (circuit 39A) and plug it into the Bulkhead connector. Route the other end of the wire to the Electric Choke, cut to length, install terminal “E” and insert into connector “G”. You can now connect to the Electric Choke.
<b>14. Water Temp Sender</b>		
<b>Dark Green</b>	<b>WATER TEMP SENDER</b>	Obtain the dark green “WATER TEMP SENDER” WIRE (circuit 35) which is already plugged into the Bulkhead connector. Route this wire to the Water Temperature Sender, cut to length, install terminals “E” or “P” (install sleeve “K” first if using terminal “P”), plug into connector “F” (if using terminal “E”) and connect to the Water Temperature Sender (see sheet 2 or 3).
<b>15. Oil Pressure Sender</b>		
<b>Dark Blue</b>	<b>OIL PRESSURE SENDER</b>	Obtain the dark blue “OIL PRESSURE SENDER” wire (circuit 31) which is already plugged into the Bulkhead connector. Route this wire to the Oil Pressure Sender, cut to length, install terminals “E” or “P” (install sleeve “K” first if using terminal “P”), plug into connector “F” (if using terminal “E”) and connect to the Oil Pressure Sender (see sheet 2 or 3).
<b>16. Tachometer Signal</b>		
<b>White</b>	<b>COIL --&gt; TACH</b>	<b>NOTE: This kit does not support the use of an original factory Tachometer (see the Warning Page).</b>
<p><b>If you wish to use an aftermarket Tachometer or have your original Tachometer reconfigured:</b> Obtain the loose white “COIL --&gt; TACH” wire (circuit 121) and plug into the Bulkhead connector, as shown, on sheets 2 or 3. Route the other end of the wire to the negative (-) side of the Ignition Coil or to an aftermarket Ignition Module and connect. See the aftermarket Ignition Module Manufacturer’s recommendations for connection.</p> <p><b>If you have an HEI Distributor:</b> Route the loose end of circuit 121 to the HEI Distributor, cut to length, install terminal “E” and insert into connector “H”. This connector can now be installed into the TACH location of the HEI Distributor (see sheets 2 or 3).</p>		
<b>17. Electric Fan</b>		
<b>Orange</b>	<b>ELECTRIC FAN</b>	If you wish to add an Electric Cooling Fan to your vehicle, obtain the loose orange “ELECTRIC FAN” wire (circuit 300) and plug into the Bulkhead connector, as shown, on sheets 2 or 3. This circuit is provided to feed the Ignition trigger wire of your Electric Fan Relay ( <b>not available with this kit</b> ). See the Electric Fan Manufacturers recommendations for the relay electrical hook-up. <b>Note: Circuit 300 is a keyed hot feed.</b>

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**FIGURE "A"**  
1976-86  
Back-up Light Switch  
Manual Transmission

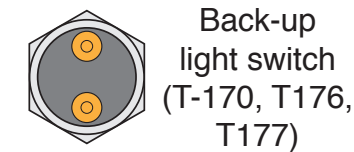
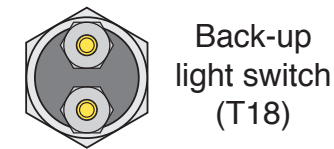
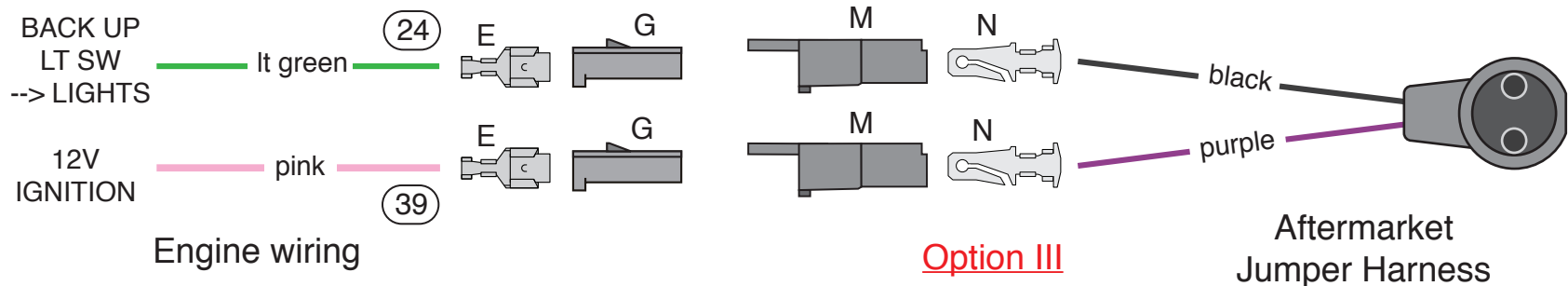
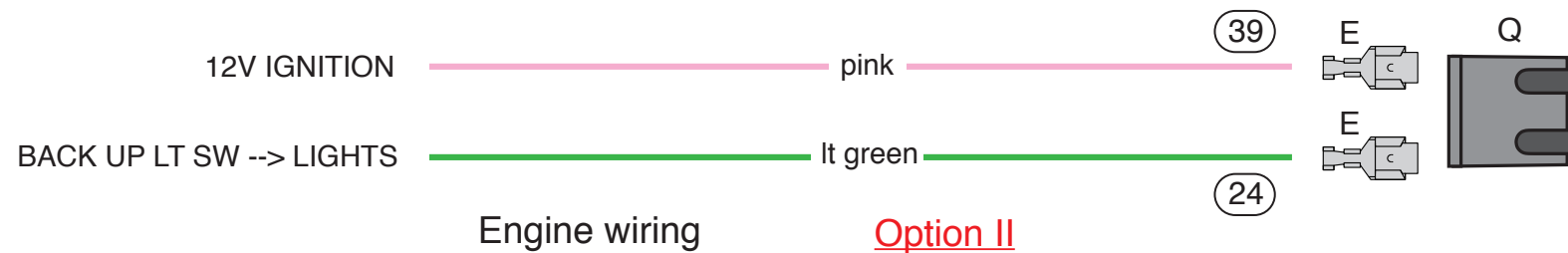
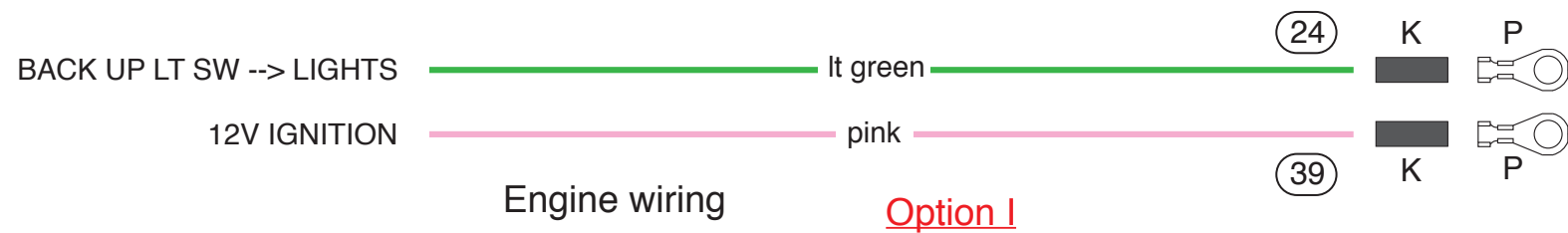


Photo #1

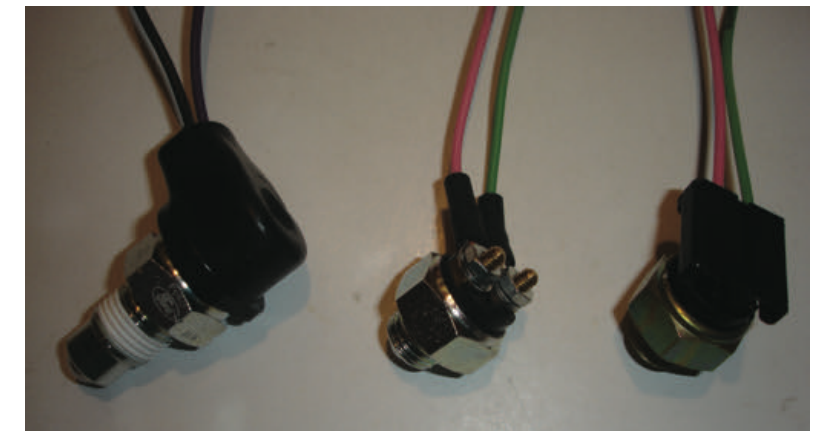


Photo #2

**FIGURE "B"**  
1980-86  
Back-up Light Switch/Neutral Safety Switch  
Automatic Transmission

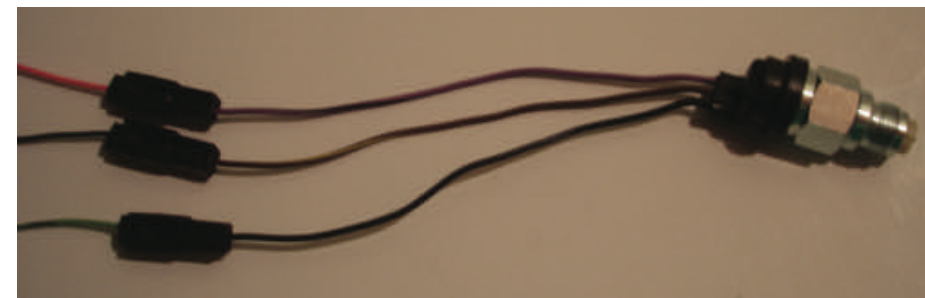
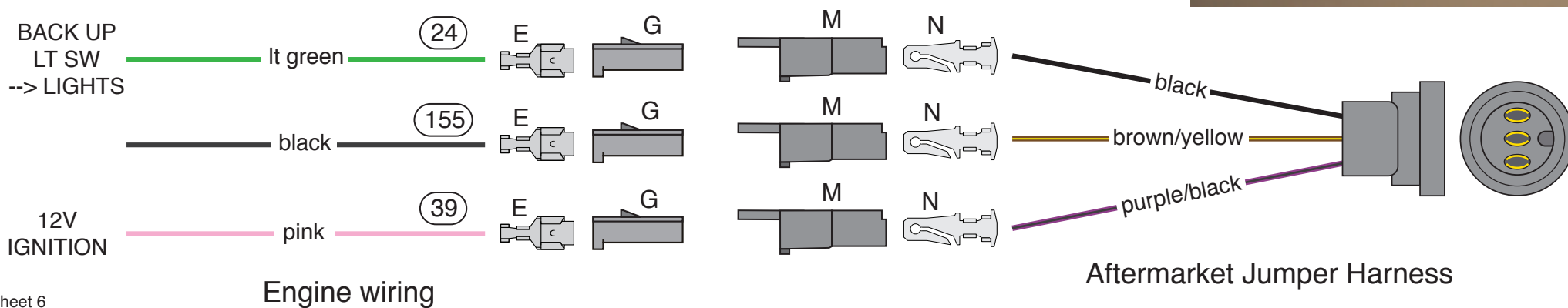


Photo #3



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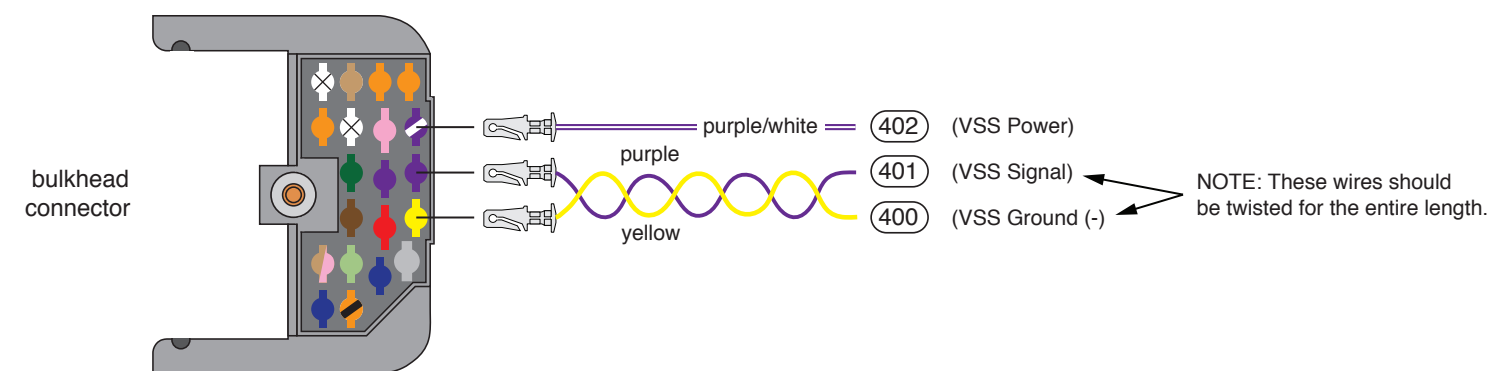
DESCRIPTION:  
**1976-86 Jeep CJ  
Classic Update Series  
ENGINE KIT**

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## TYPICAL VEHICLE SPEED SENSOR CONNECTIONS

Below are some general instructions for hooking up a Vehicle Speed Sensor for an electric speedometer. 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 you will not need to plug these wires into the bulkhead. It is best to consult the speedometer manufacturer's instructions if you have any questions.

Yellow	VSS Ground	Plug into bulkhead in the location shown below, route to VSS, cut to length and connect to VSS neg. "-".
Purple	VSS Signal	Plug into bulkhead in the location shown below, route to VSS, cut to length and connect to VSS input.
Purple/ White	VSS Power	Plug into bulkhead in the location shown below, route to VSS, cut to length and connect to 12V power on VSS.



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