

Savvy Off Road Tail Lights TJ/LJ 2001-2006

Thank you for the purchase of our Tail Lights. They are designed with the OEM tail light profile in mind and are a direct fit for TJ/LJ wranglers using the stock mounting holes. The Savvy Tail Lights can also be used on other wrangler models with minor wiring and mount modification.

The tail light assembly is comprised of a tail light lens and an aluminum housing with integrated side marker. The housings are made from 1" thick billet 6061-T6 aluminum which features a lower profile when compared to the OEM tail lights, as well as high strength which combined reduces the chances of trail damage. The housings are supplied either in raw aluminum or anodized black Mil-Spec Type III. The tail lights utilizes highly reliable LEDs with a greater lumen output compared to OEM tail lights. The tail lights LEDs are also water sealed and DOT compliant.

Enclosed you will find a set of instructions that will enable you to install the tail lights with a minimum of fuss and little more than basic hand tools. If you attempt the install and find yourself not understanding what needs to be done, please contact Savvy Off Road with your technical issue.

Please take the time to read these instruction and familiarize yourself with the hardware parts list before attempting your installation. The instructions are detailed, but are written to provide you with a step-by-step guide to install the Savvy Tail Lights with minimal issues.

Parts and tools needed for installation- Outside of the parts supplied in the kit, you will need personal safety equipment, assorted hand tools, allen bits, wire crimpers, and heat gun to complete the installation.

Note: The Savvy Tail Lights requires lowering of the OEM License Plate Mount. The slim design of the tail light housing does not allow for an integrated license plate lighting as provided by the OEM tail lights. Should you require license plate lighting you may purchase the License Plate LED bolts from Savvy or other aftermarket lighting.

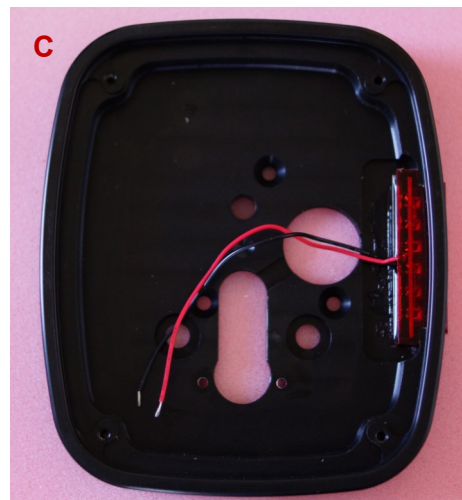
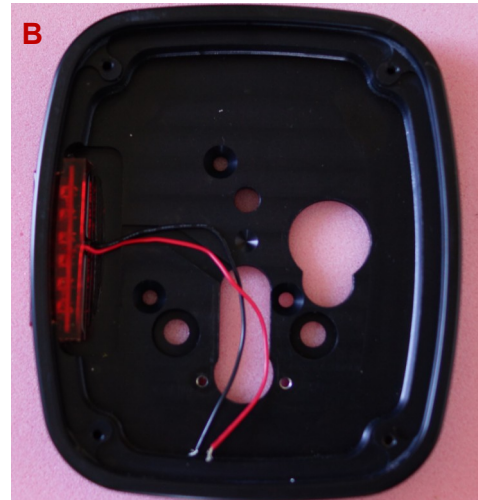
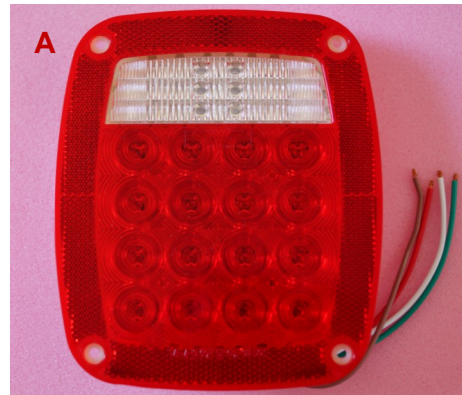
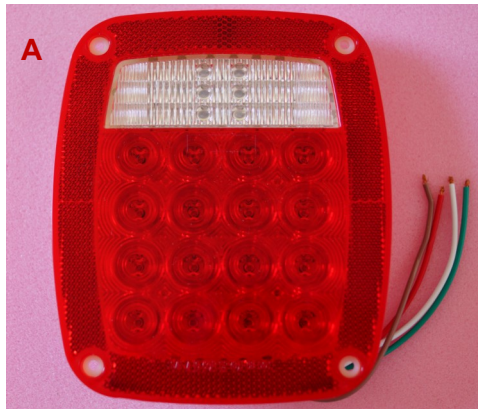
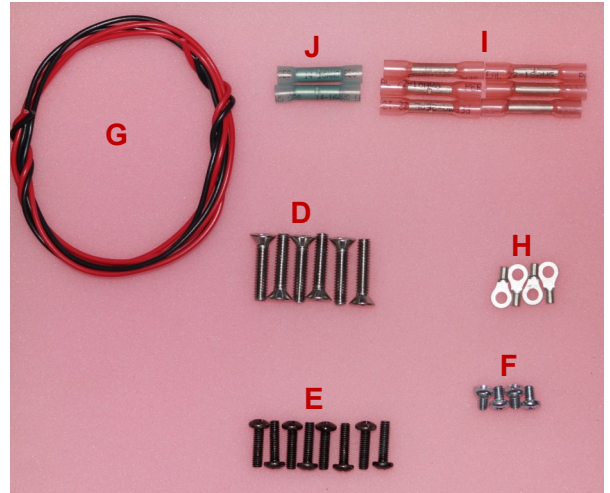
The installation of the Savvy Tail Lights will require replacement or modification of your OEM flasher relay. Your OEM flasher relay provides an aural and visual alert of a burnt out bulb by blinking at double the normal flash rate. This feature is accomplished by the relay measuring the current draw on the turn signal circuit. Installation of LED lighting onto the turn signal circuit reduces the current draw resulting in misleading indication of a burnt out bulb. To prevent false indication we recommend purchasing the updated flasher relay for your year vehicle through the Savvy website.



Hardware Parts List

Hardware	Quantity
Tail Light Lens (A)	2
Driver Side (Left) Housing (B)	1
Passenger Side (Right) Housing (C)	1
12 - 24 x 1" S/S Flat Head Phillips Machine Screw (D)	6
6 - 32 x 5/8" Black Oxide S/S Pan Head Machine Screw (E)	8
6 - 32 x 1/4" S/S Pan Head Machine Screw (F)	4
18in. 20 AWG Primary Wire (Red) (G)	1
18in. 20 AWG Primary Wire (Black) (G)	1
#6 Ring Terminal 22-18 Ga (H)	4
Heat Shrink/Crimp/Solder Butt Connector 20-18 Ga (I)	6
Heat Shrink/Crimp/Solder Butt Connector 16-14 Ga (J)	2
TJ/LJ Tail Lights 2001-2006 Options	
Hardware	Quantity
LED Flasher GCD-TJ0106 Relay (K)	1

Legend: Stainless Steel = S/S



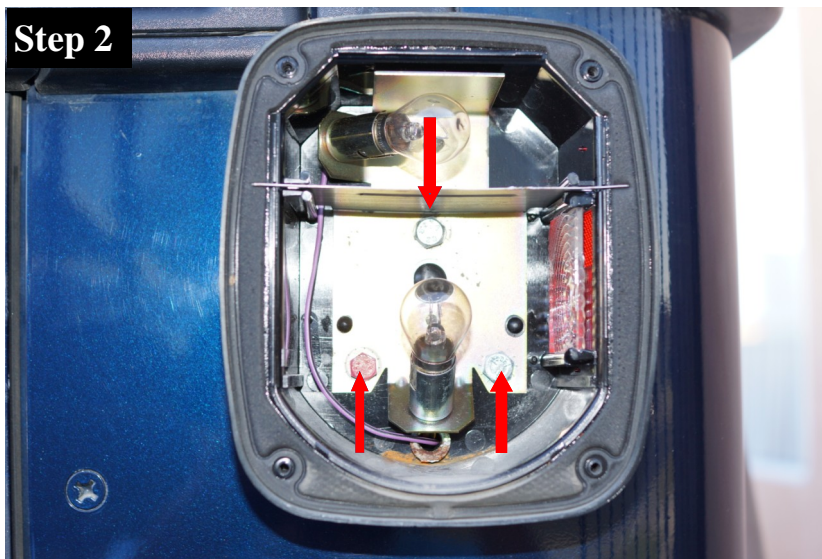
Step 1



Your Savvy Tail Lights require the reuse of your OEM tail light connectors. Please remove your OEM tail lights in order to remove the OEM connector.

Starting on the passenger (right) side of the vehicle, remove the four screws that hold the lens in place as shown by the green arrows.

Step 2



Next remove the three screws that retains the OEM tail light housing to the Jeep tub (red arrows).

Note: The tail light housing is grounded to the Jeep tub. The side marker, license plate light and tail light lens of the Savvy Tail Light also must be grounded to the Jeep tub through the Savvy Housing.

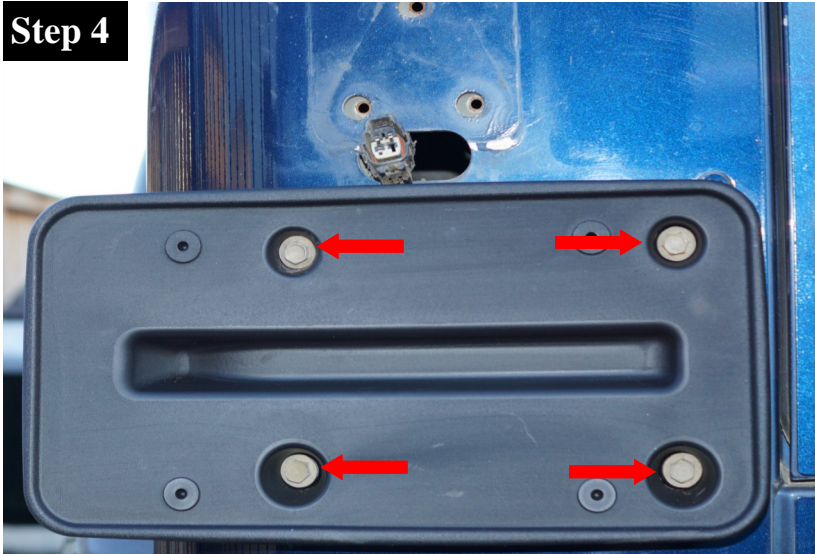
Step 3



Carefully pull the tail light housing out and disconnect the housing plug. You may have to work the connector loose from the emission hardware behind the jeep tub.

Now that you have removed the passenger side tail light housing, repeat **Steps 1-3** for the driver side (left) OEM tail light housing.

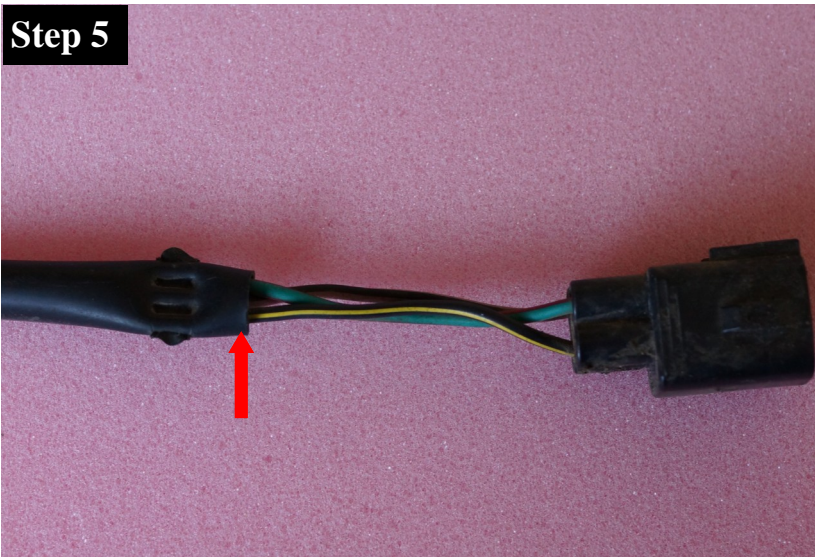
Step 4



Please note that the OEM license plate mount has to be removed and lowered to install the Savvy Tail Lights. Savvy has made a license plate relocation bracket for purchase should you require it. The low profile of the Savvy Tail Light housing eliminates the license plate lighting. If a license plate lighting is required you may purchase our LED bolts or other options in the market.

Remove the four screws that hold the license plate mount (red arrows).

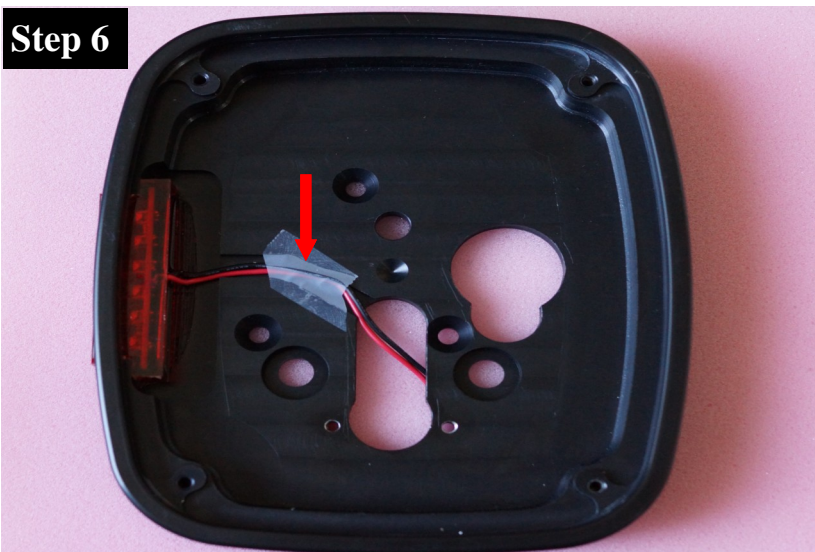
Step 5



Take the driver side (left) OEM tail light housing and cut the harness plug at the heat shrink crimp area (red arrow).

The following steps will prepare the driver side tail light housing for installation.

Step 6



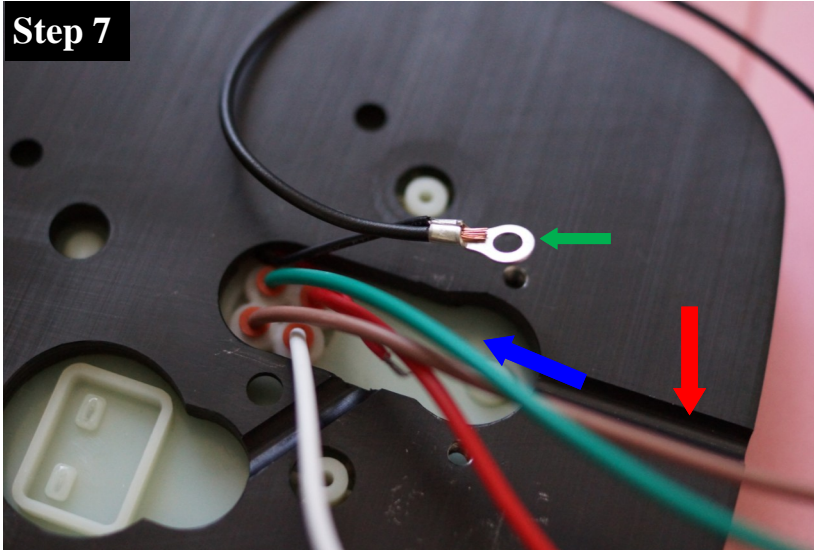
The Tail Light Housing includes a LED side marker light that must be tied into the housing ground plane and the running light power signal. These steps will be performed later on.

DO NOT trim the side marker wiring. The extra length of wiring allows access to pull the tail light lens away from the housing necessary when installing the tail light housing onto the Jeep tub.

The Tail Light Lens sits flush against the low profile housing. The tail light housing has a channel that is milled out for the side marker LED wiring.

Slip the side marker light wiring into the channel and tape the wiring as shown in the red arrow. Clear tape shown for illustration purposes only. Please use electrical tape.

Step 7



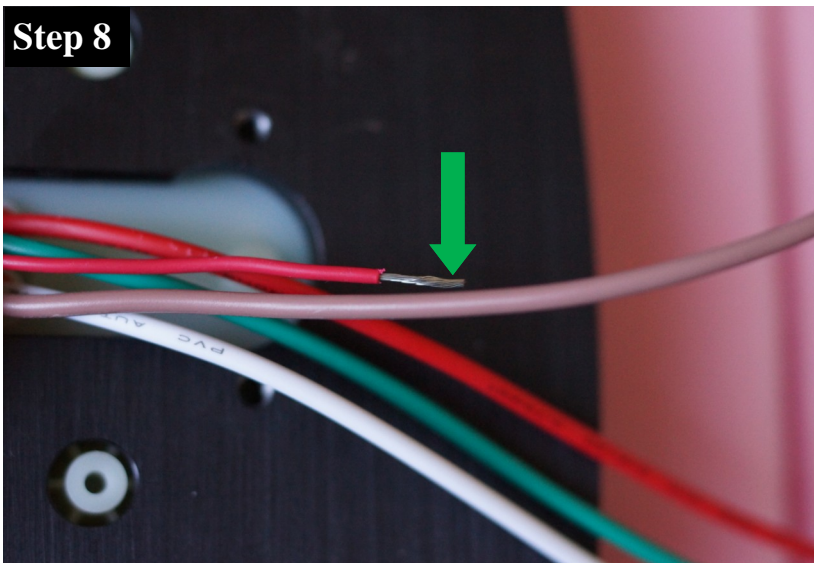
Note: When the lens is installed in the housing the area shown by the **blue arrow** must be kept clear as the wiring must bend and clear the Jeep tub.

The driver side housing has a channel for wiring license plate lighting to the tail light (**red arrow**). If not installing license plate wiring this channel will be unused.

Install the tail light lens into the housing as shown. Feed the side marker wiring and lens wiring through the opening (**blue arrow**). Optional license plate lighting wires (G) are provided should choose to install License Plate Lighting. If you choose not to install please disregard wiring actions pertaining to license plate wiring.

Strip the black wire for the LED side marker light and license plate ground wire (12in. 20 AWG Primary Wire **Black G**) and crimp together using #6 Ring Terminal 22-18 Ga (H) as shown in the **green arrow**.

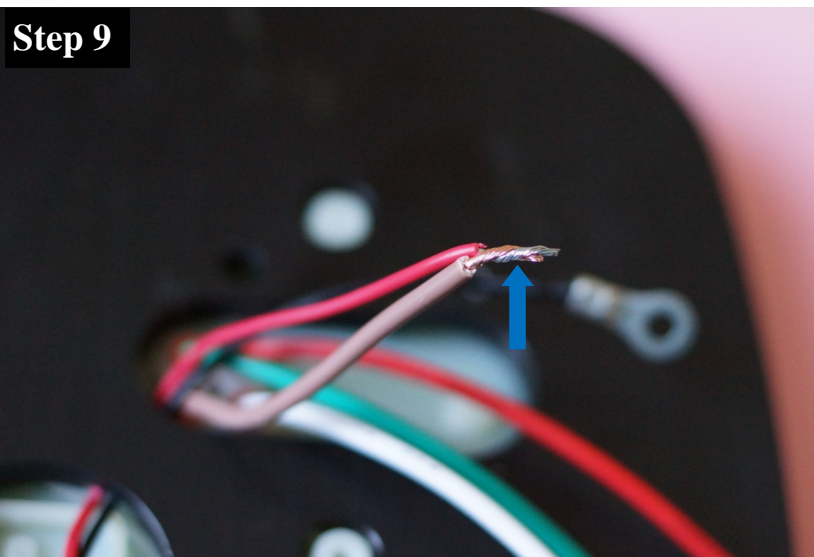
Step 8



Note: The side marker light must be connected to the driving light signal of the tail light which is the brown wire. The following steps will instruct you to splice the red side marker wire to the brown driving light signal.

Stretch out the red wire of the side marker light against the brown tail light lens wiring and cut the brown wire as shown in the **green arrow**.

Step 9



Strip about 5/16" off the insulation for both brown and red wires and twist together as shown in **blue arrow**.

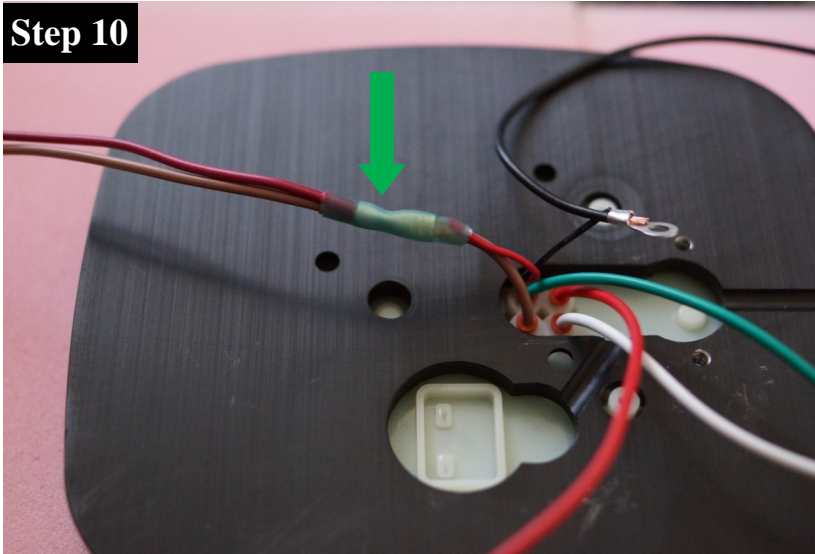
Strip 5/16" off the remaining brown wire which you will reattach using a 16-14 Ga Heat Shrink Crimp Solder Butt Connector (J).

Strip 5/16" off the license plate signal wire (12in. 20 AWG Primary Wire **Red G**)

Twist together both the remaining brown wire and license plate red wire (G) similar to illustrated.

Step 10 will show exactly how the wiring will be crimped together.

Step 10

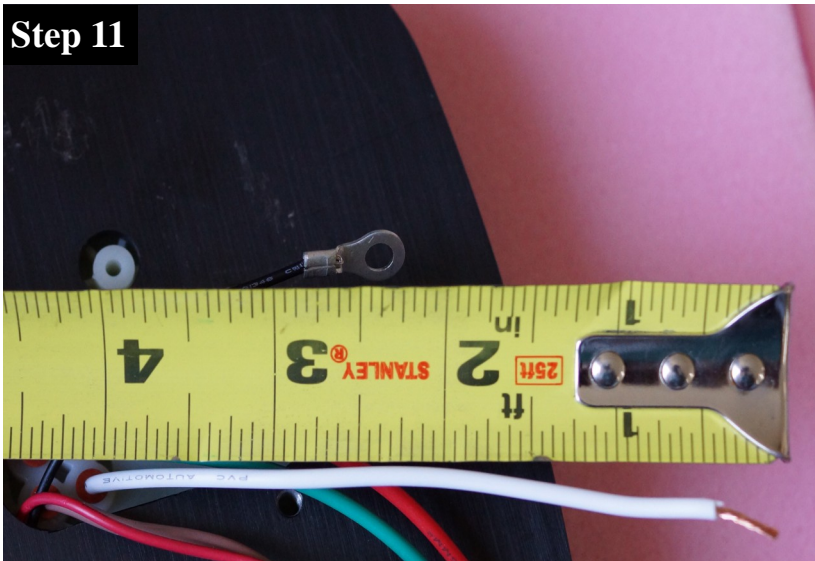


Using a 16-14 Ga Heat Shrink Crimp Solder Butt Connector (J), crimp the side marker power (red) wire to the brown tail light lens wire to one side of the butt connector and the 12in. 20 AWG Primary Red Wire (G) and remaining brown tail light lens wire to the other side of the butt connector (green arrow).

If you are not installing license plate lighting simply splice the side marker red wire to the tail light lens brown wire.

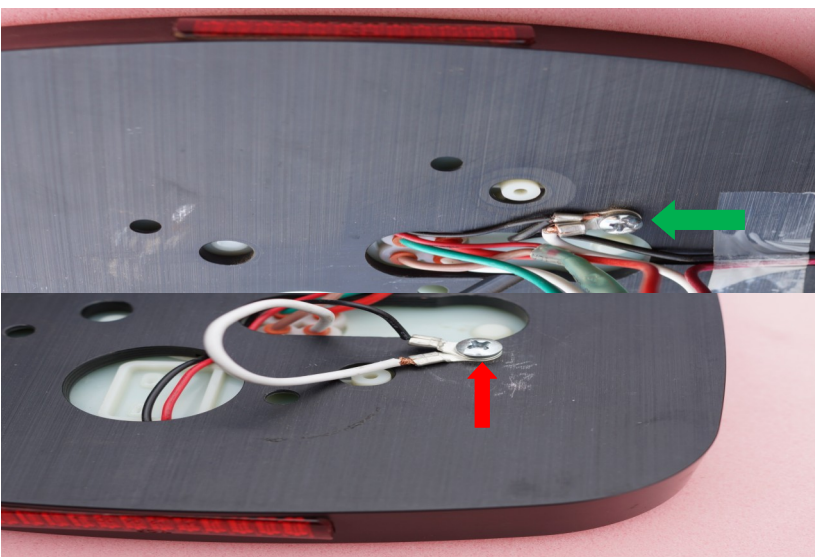
Use a heat gun to flow the solder and heat shrink tube over the wiring. Take care to not melt the wiring when heating.

Step 11



The white wire on the tail light lens must be grounded to the tail light housing. Measure and cut the white wire to 4 inches.

Note: The ground wire has extra length to allow separation of the tail light lens from the housing with enough access to install the tail light mounting screws.



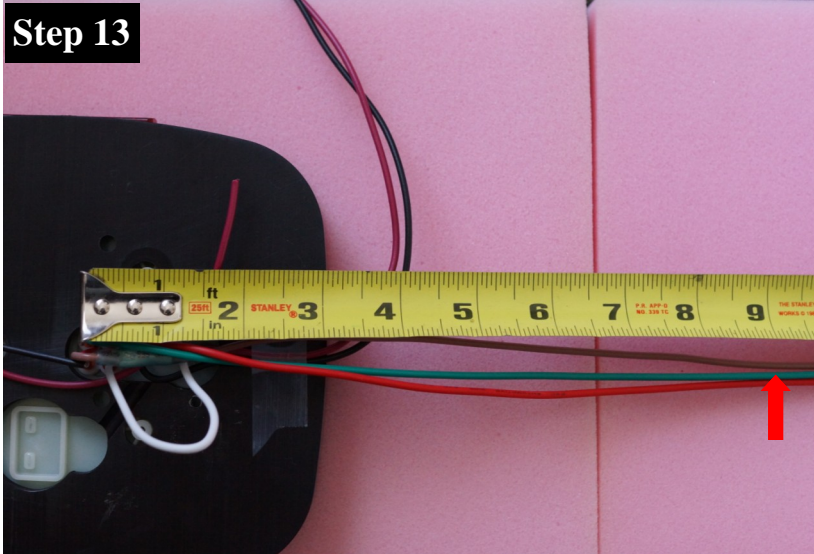
Crimp a #6 Ring Terminal to the white wire and install both the side marker, license plate lighting and tail light lens grounds to the housing using (1) 6 - 32 x 1/4" Pan Head Machine Screw (F) on the threaded hole closest to the side marker lens.

Note: The grounding of the driver side tail light is on the left side of the housing green arrow.

Tape license plate wiring in the channel as shown. Clear tape shown for illustration purposes only. Please use electrical tape.

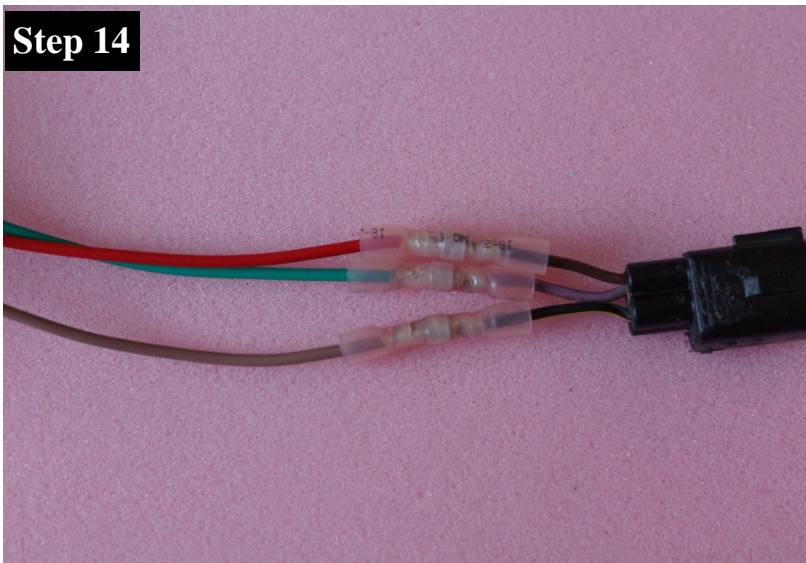
The grounding of the passenger side tail light is on the right side of the housing red arrow.

Step 13



Measure and cut the tail light lens red, brown and green wires to nine inches at the location shown by the red arrow.

Step 14

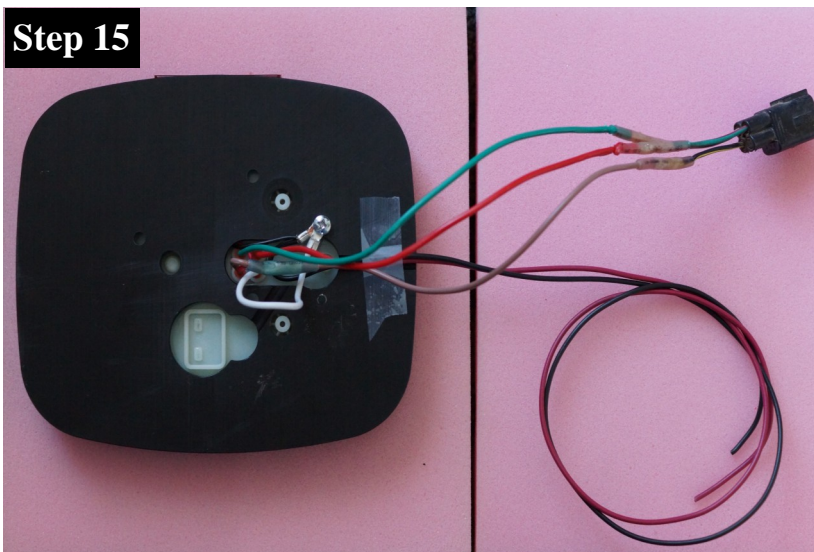


Strip 5/16" off the insulation of the tail light lens wires and OEM plug wires.

Using (3) Heat Shrink/Crimp/Solder Butt Connector 20-18 Ga (I) to connect the wires as shown below. Crimp and Heat Shrink the wiring as shown:

Tail Light Wiring Legend		
Function	Lens	OEM Connector
Left Brake/Turn	Red	Brown/Red Stripe
Right Brake/Turn	Red	Green/Red Stripe
Reverse	Green	Purple/Black Stripe or White/Green Stripe
Running	Brown	Black/Yellow Stripe or White/Yellow Stripe

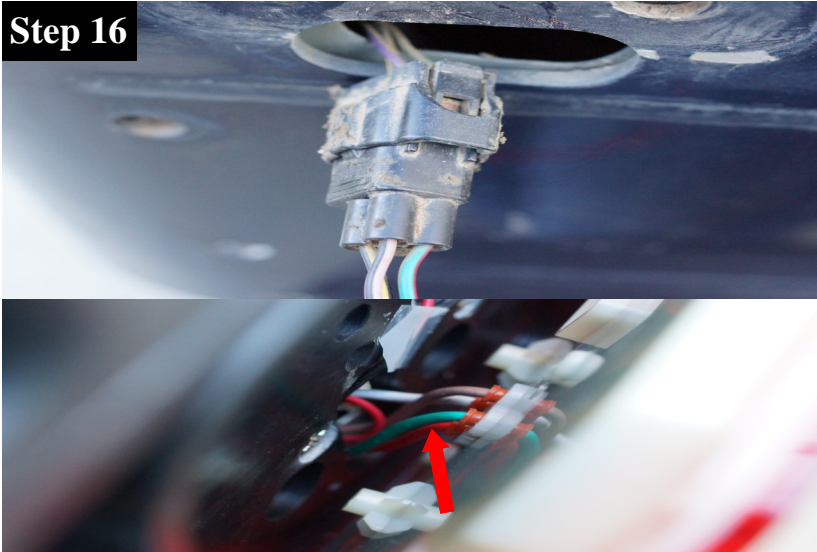
Step 15



You driver side tail light assembly is now complete. Please repeat **Steps 5-14** to assemble your passenger side tail light. Please note there is no license plate wiring meant for the passenger side tail light. Disregard actions within the repeated steps for license plate lighting.

Once complete your are ready for installation on your Jeep.

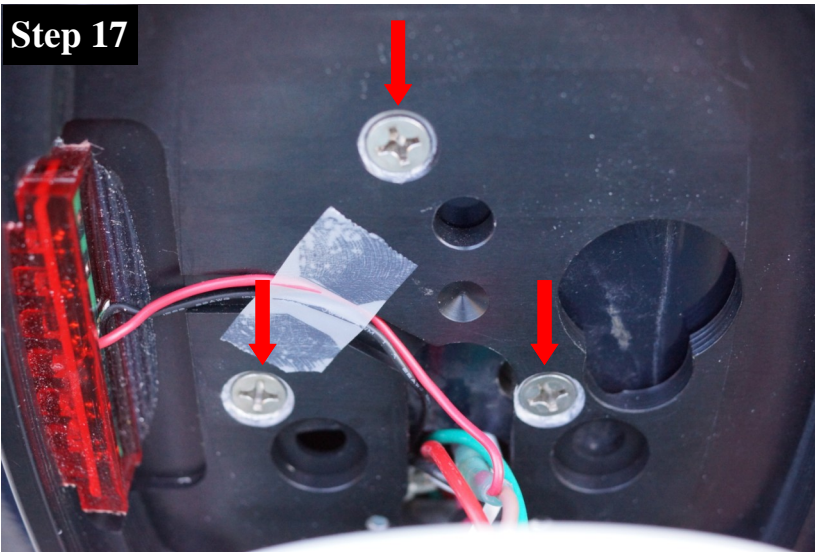
Step 16



Continue your installation on the driver side of the vehicle. Plug the tail light in and push the wiring back into the Jeep tub.

Carefully slide the wiring back into the Jeep tub so that you can hold the housing flush against the Jeep tub. Take care that the license plate wiring remains in the housing channel where it was taped. Recall in **Step 7** that the wiring must bend in the opening of the housing to line up with the opening in the Jeep tub.

Step 17



With the wiring behind the tub, pull the lens open and install (3) 12 - 24 x 1" Flat Head Phillips Machine Screw (D) as shown by the **red arrows**.

Lay the tail light lens back into the housing. Take care that the side marker wiring remains in the housing channel where it was taped. Recall clear tape shown for illustration purposes only. Please use electrical tape.

Step 18

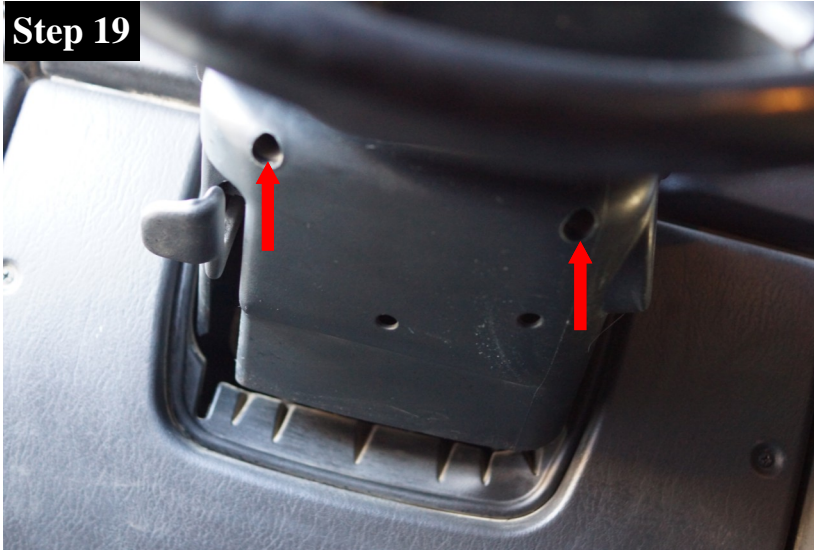


Install (4) #6 - 32 x 5/8" Pan Head Machine Screws (E) as shown in the **green arrows**. Start all 4 screws before tightening to snug. **Do not overtighten to avoid cracking the tail light lens.**

You are now complete with the installation of the driver side tail light. Please repeat **Steps 16-18** to install your passenger side tail light.

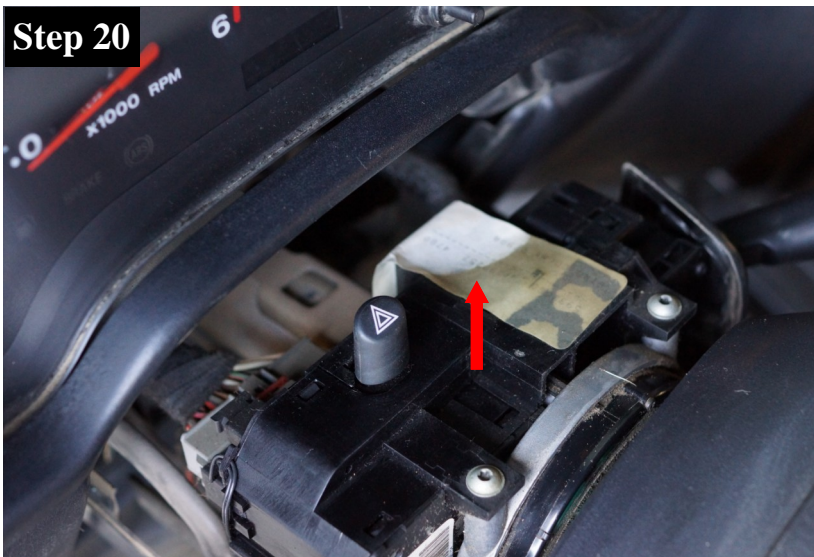
Note: The optional license plate wiring is shown at the bottom should you decide to install license plate lighting (red arrow).

Step 19



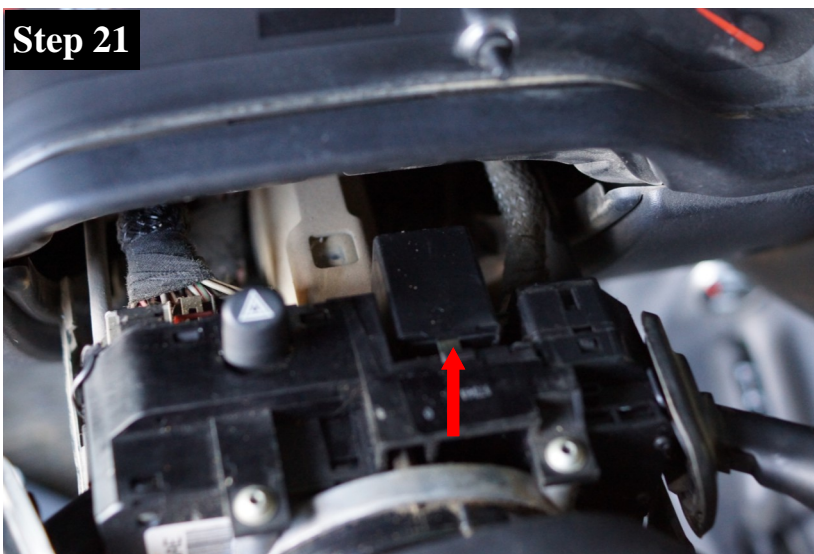
To install the LED Flasher Relay remove the two screws as shown by the **red arrows**.

Step 20



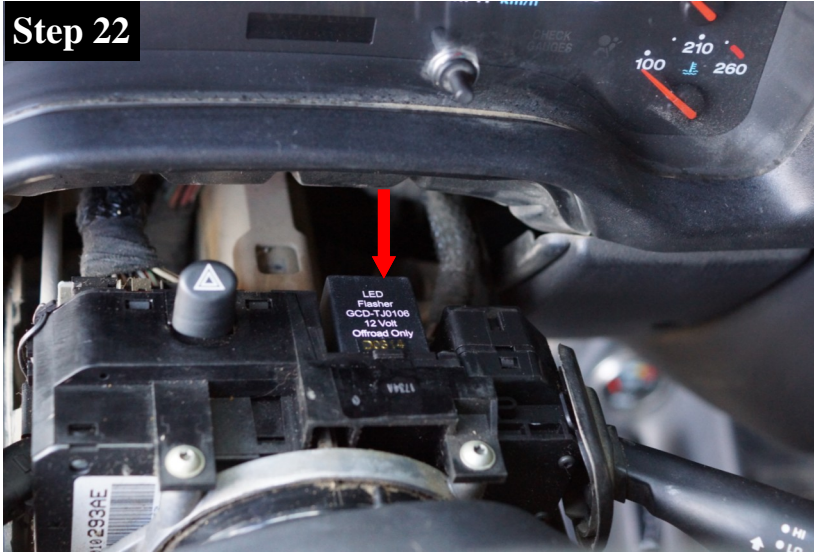
Under the tape is the OEM flasher relay that will be replaced (**red arrow**).

Step 21



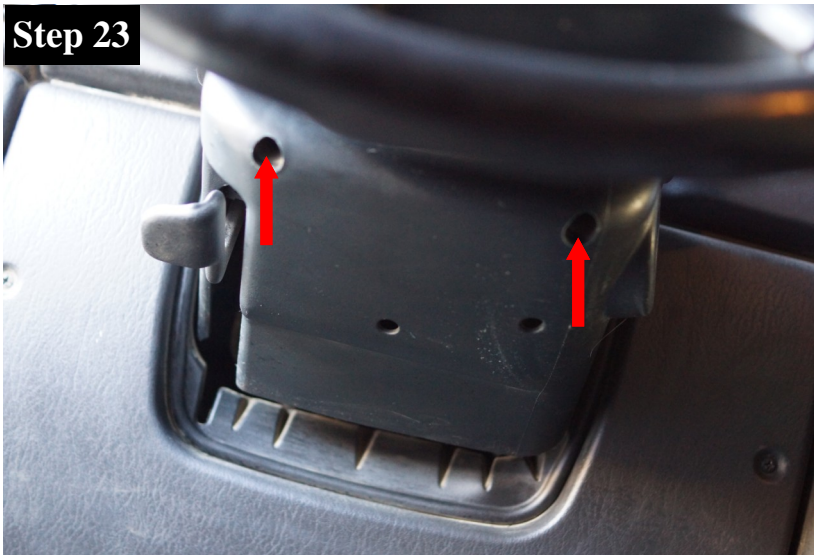
Grab the OEM flasher relay and pull in the direction as shown by the **red arrow**.

Step 22



Install the LED Flasher Relay as shown by the (red arrow).

Step 23



Reinstall the steering column cover and two screws previously removed.

You are now complete with your Savvy Tail Light and LED Flasher install.