

Ack's U-Do-It CHSKY Headlight Harness Kit

Installation Instructions

***Read and understand this installation before installing the
CHSKY harness Kit***

Tools Needed for installation:

Hand drill

1/8" drill bit (or a center punch)

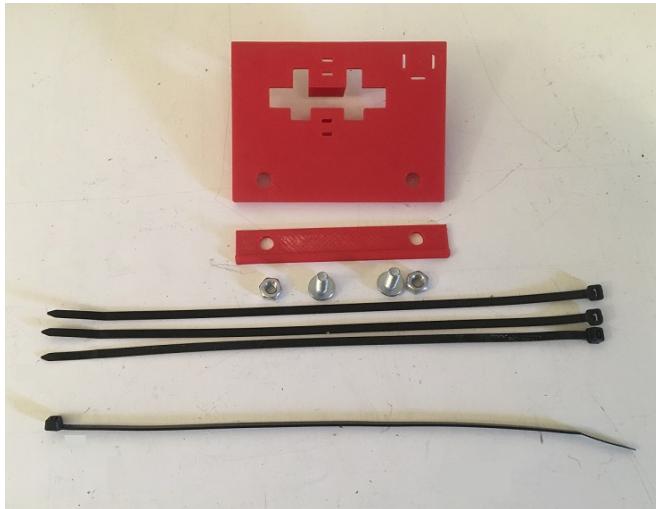
3/8" drill bit

medium Philips- or flat-blade screwdriver

7/16" wrench or socket

Dremel(tm) tool with cutting wheel (for modifying the headlamp "bucket")

felt-tip marker



U-Do-It Harness parts list:

1 3D printed mounting plate (CHSKY harness is attached to this).

1 3D printed backing plate.

2 sets of 1/4-20 nuts and bolts.

4 Baker-style wire ties

1 set of instructions

Thank you for purchasing Ack's U-Do-It CHSKY Headlight Harness Kit!

The kit comes with a 180 day warranty against all manufacturing defects, excluding those caused by improper installation as determined by the manufacturer upon warranty return shipment of the harness. This warranty DOES NOT cover the CHSKY Headlight Harness which is sold separately.

This CHSKY Headlight harness is **specifically** designed to adapt the Samurai negatively-switched wiring to LED Headlights manufactured specifically for automotive headlight use. From our experiences with aftermarket LED headlight installation, you will need to modify your Samurai headlight "bucket" mounts to accept most LED headlights. As the mounting design/method may vary from manufacturer to manufacturer, it is the responsibility of the purchaser to make whatever modifications necessary to the Samurai mounting 'bucket' to fit the aftermarket LED headlamp that is chosen by the purchaser.

Usually this process requires removal of the old headlamps then the mounting buckets from the vehicle after examining the bucket's mounting orientation. Taking a picture of the backside of the bucket assemblies with a cellphone will help.



Trim buckets to fit

Mark the parts of the inside edge of the bucket for trimming then using metal shears or a Dremel(tm) tool to cut the inner edge for proper fit of the LED headlight units. Remember - measure several times, cut once.

Installation Instructions

Use the backing plate to locate where the relay board mounting holes are to be drilled. Measure and mark a point on the Battery-side fender 4-3/4" back from the inside lip of the fender.



Relay bracket mounting

Orient the backing plate so that it lays in the stamped groove on the top of the fender with the right edge of the backing plate against the mark you made.

Mark the center of the backing plate's mounting holes onto the fender with the felt-tipped pen.

Warning: DO NOT USE THE BACKING PLATE AS A DRILL GUIDE! A 3/8" drill can damage the backing plate hole which can weaken the backing plate structure.

Using the 1/8" drill or a centerpunch, create a guide depression to keep the 3/8" drill from wandering when drilling the finished hole. Use the 3/8" bit to drill holes using the location marks that you made. If there are any burrs on the backside edge of the new holes, use a flat file to remove the burrs.

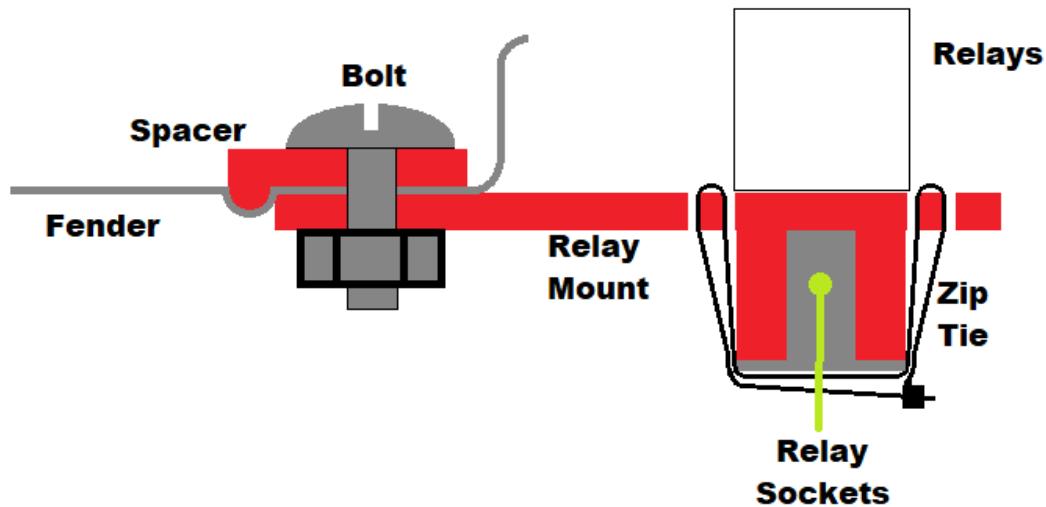


Backing plate used to mark holes

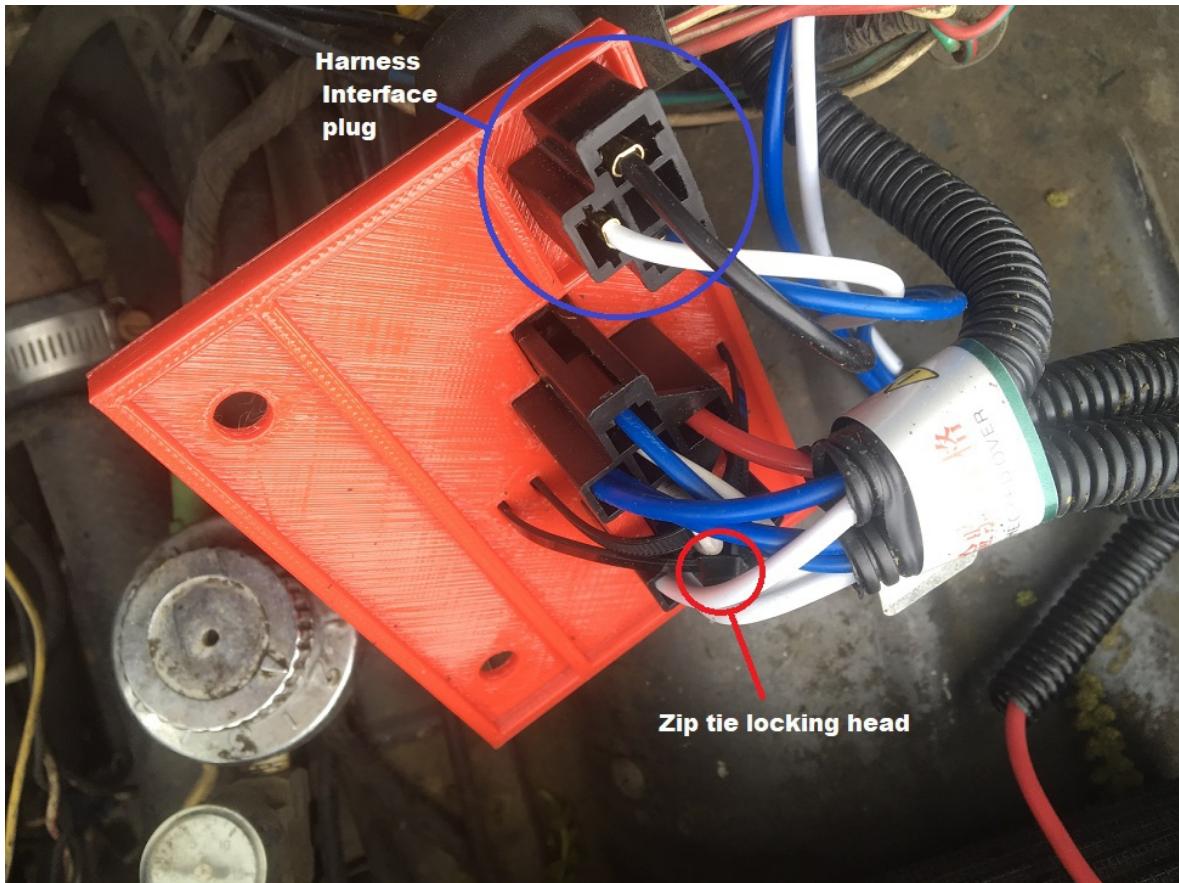
Using the bolts, and nuts, Mount the relay panel on the inside lip of the fender as pictured below. Note that washers are optional.

Before installing the relay mounting board, secure the CHSKY relays to the Mounting board as shown in the graphic, below.

- 1 Remove the relays from their sockets then push the sockets into the mounting board oriented so that the top of the socket pair clears the top face of the mounting bracket
2. Insert one of the supplied zip ties up through the outer side hole so that the square snugging clamp faces outward as pictured.
3. Run the zip tie through the hole next to the first hole you ran the zip tie through. Tighten the zip tie so that the zip tie's square locking head is just below the bottom of the relay socket assembly as shown in the graphic, below.
4. Run the zip tie across the bottom of the relay socket underneath the socket wires then upwards through the hole nearest to the relay sockets.
5. Run the zip tie through the remaining hole to the bottom of the socket, then across to the square locking head.
6. make sure there is NO SLACK anywhere along the zip tie's path before you pull the the end of the zip tie TIGHTLY through the zip tie's square locking head to secure the relays.



CHSKY mounting arrangement - cross section view

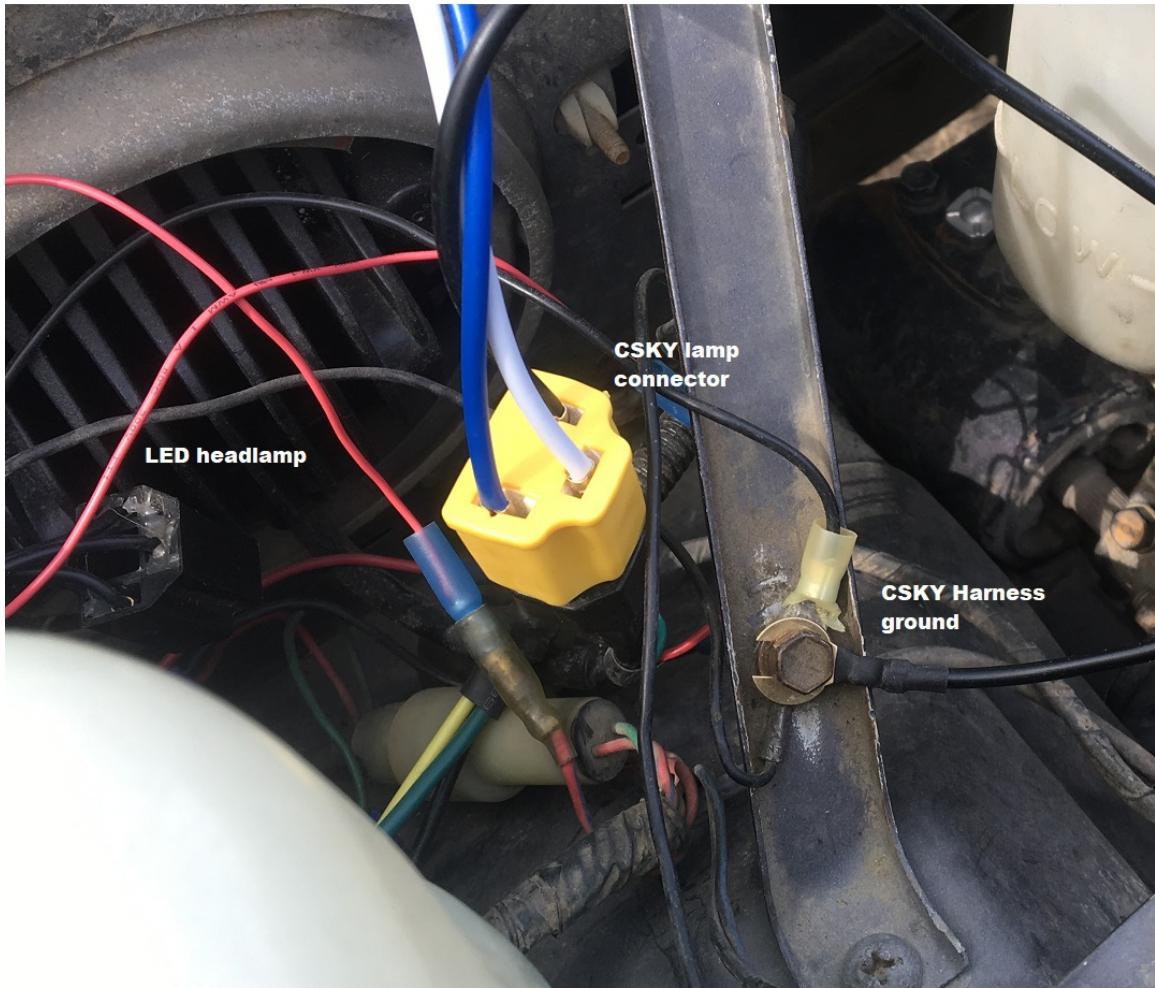


CHSKY relay mounting board (bottom side)

The finished zip tie installation should look like the above. Note the position of the zip tie locking head circled in red.

The harness interconnect socket (circled in blue in the above picture) is installed in the bottom of the mounting board. If you want to make the connection to the OEM driver's side harness connector more secure, you can use a hot-glue gun to secure the Harness interface plug in place.

Hot glue has the advantage of being easily removed if you need to make repairs. Simply apply rubbing alcohol to the "weld" joint and the hot glue will release.



Ground connector and headlamp connector

Attach the ground wire connector for each headlight connector by loosening the 10mm bolt on the fender brace by the headlight where the side light grounds are attached. Slip the ground contact under the nut, then retighten. A small dab of electrical grease can help prevent corrosion at this connection.

Using the remaining wire ties, run and secure the long part of the harness across the front of the Samurai so that the end can connect to the LED headlight at its mounting location. Attaching the cable harness to the tubular front crossmember with zip ties (see below) is suggested.



Zip Tie installation

Plug the harness connectors (equipped with H4 plugs as found on the original harness) into the LED headlights as shown above.

Run the Red Positive cable to the positive terminal on the battery slipping the cable connector under the loosened bolt head then retighten. If your battery is in another location, you may need to extend the length of these cables. Make sure that you use 12-gage wire for the extension. Be sure that you connect the extended positive cable to the positive post of the battery or your headlights will not work!

This completes the LED Harness installation.

You should be able to turn the low and high beams on using the control stalk. If not, go back and double check the wiring that connects the board to the battery for a reversed connection.

Make sure that the OEM headlight connector has been thoroughly cleaned and is firmly seated to the CHSKY harness connector, pictured above. If necessary, give the old OEM socket connector a thorough cleaning to make sure that it connects to the CHSKY adapter plug.

If a headlight does not light up properly, double-check that the headlight plugs are firmly seated in the H4 connectors on the ends of the harness.

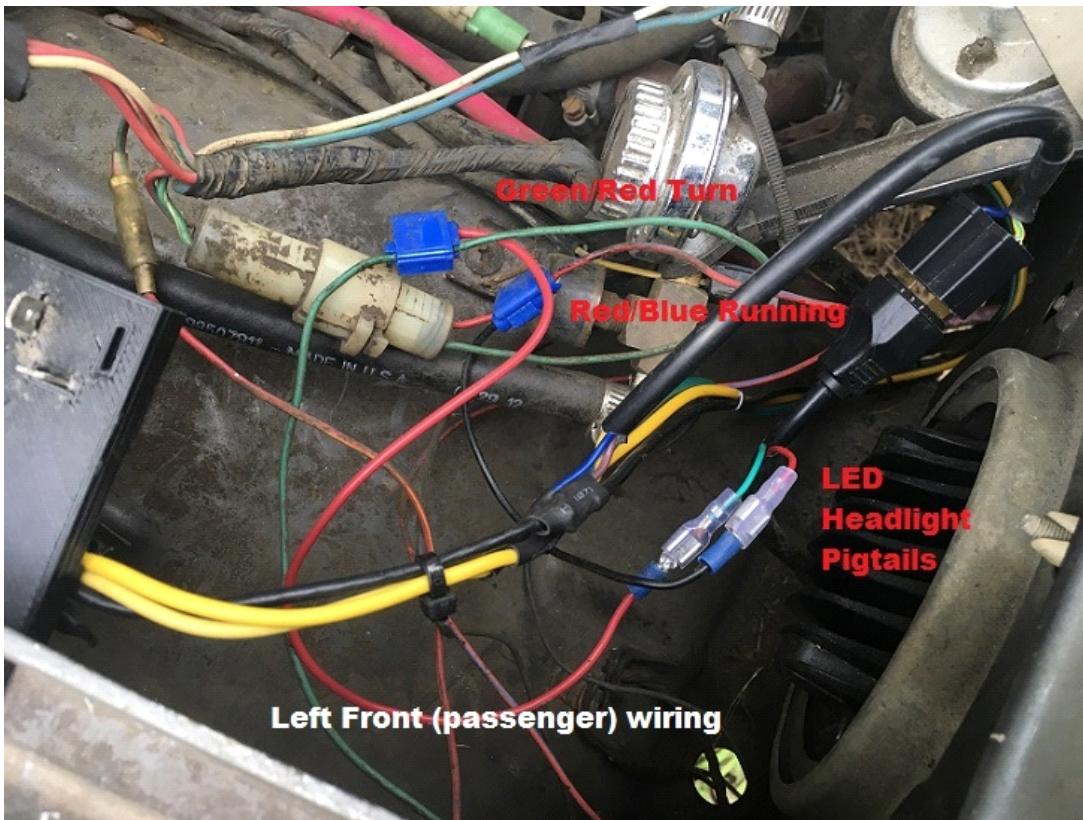
In case of further problems, email me at jcambron@sbcglobal.net for further troubleshooting help or warranty service.

Turn signal and DRW "running lights" connections on Headlamps equipped with these lighting features

Some LED headlights have extra built in LEDs that work as internal turn signals (yellow) and internal "running lights "(white). These are driven by other lighting circuits on your

Samurai and **NOT** by Ack's LED Headlight Harness.

To make these lights work, you must splice into the appropriate lighting circuit. Picture 9 shows two splice wires installed on the left (passenger) front side of the engine compartment



Picture 9

Turn Signals

Splice a 12" pigtail with a 1/4" spade connector as follows:

The Green-Yellow wire on the right front corner of the Samurai at the bumper is the right turn signal wire.

The Green-Red wire on the left front corner of the Samurai at the bumper is the left turn signal wire.

Connect these pigtails to the turn signal wire as documented in the LED Headlamp instructions. If there are no instructions, simply plug the connector in then test connectivity by running the turn signal. If the yellow turn signal light in the Headlight

assembly works, you are done. If not, try the other connector.

Internal Running lights

Use the same process as the Turn signals, above, to connect the LED Headlamp internal running lights using these wires in the Samurai wiring harness:

The Red-Green wire on the right front corner of the Samurai at the bumper is the right running light wire.

The Red-Blue wire on the left front corner of the Samurai at the bumper is the left running light wire.

Warranty Information:

For warranty service during the first 180 days of ownership (Applies ONLY to the Ack Store kit parts and NOT the CHSKY harness) or for help on problems after the warranty expires, email me at jcambron@sbcglobal.net.