

**Read these instructions completely before beginning installation.**

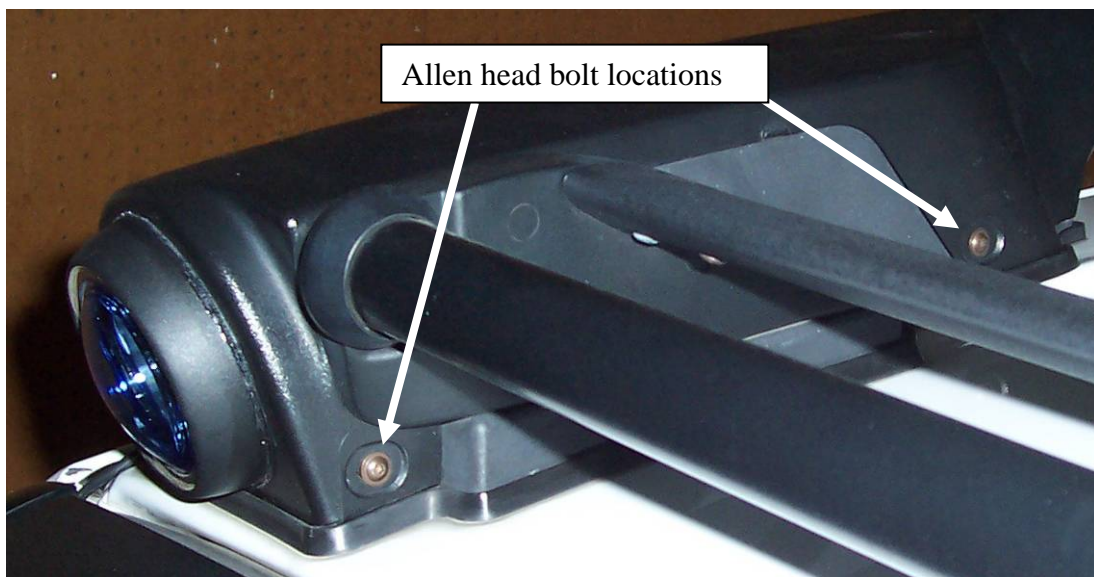
## **Components Needed For Roof Rack Light Install (Z71 Tahoe's 2003 and Up)**

- 1.) 2 ½ “ hole saw
- 2.) High temp silicone/adhesive (I used GOOP brand silicone to seal the outside and JB Weld to hold the light in)
- 3.) Wiring
  - a.) 10ga battery power wire (Red) to relay in dash (~12 ft.)
  - b.) power wire running back to lights in the roof rack (~18 ft.)
  - c.) misc. wire (Black) to connect lights at back (~15 ft.)
- 4.) 12V 30A Relay
- 5.) Aux Light Switch for dash (GM Part#15061687) \*or other appropriate switch
- 6.) Wire Connectors
  - a.) scotch locks/in-line wire taps: **3ea.**
  - b.) insulated spade connectors (10-14ga.) *MALE: 4ea. FEMALE: 8ea.*  
\* 4M, 4F-lights, 4F-relay
  - c.) 3/8” ring terminal: **1ea.** (battery & ground connections)
  - d.) ¼” ring terminal: **3ea.** (light ground wire to roof rack mount bolt and relay ground)
- 7.) In-line fuse holder w/ 20A fuse
- 8.) Phillips screw driver, standard screwdriver, T25 Torx driver, 17mm socket (for power terminal), 7mm nut driver, allen wrench

## **Mounting the Lights**

### **Modifying the Roof Rack End Caps and Installing the Lights**

- 1.) Using an allen wrench, remove the 2 bolts holding the rear roof rack cap on. Carefully pry up on the cap to remove it. (There are little tabs on the bottom that also help hold it down—be careful not to get too rough and break them)

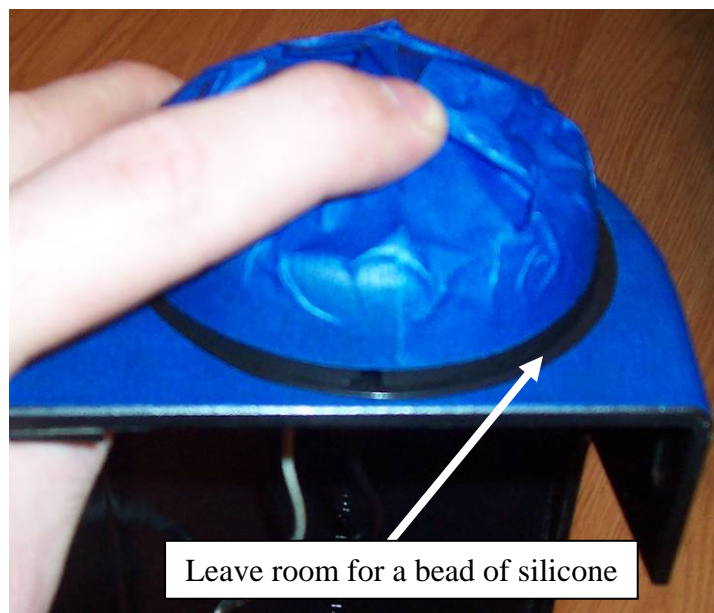


- 2.) Now you are ready to drill the hole for the light. I used a 2 ½” hole saw, and made sure that it was centered on the cap’s circular indentation. **\*NOTE:** the hole size will vary, depending on what style of light you use\* Drill the hole through the end cap, and repeat for the other side.

- 3.) Use course sand paper to roughen the bond surface on the INSIDE of the roof rack cap, and the surface of the light. This will help the adhesive grip the surfaces, and ensure a stronger bond. Only sand the areas where you will be applying adhesive.



- 4.) Apply masking tape to the outside of the roof rack cap (where you will be applying adhesive) to keep the adhesive from getting where it shouldn't. Do the same for the light lens itself. Use a razorblade to cut away the tape where you want the light to mount, cutting the hole approx. 1/8" larger to allow for a smooth caulk fillet when done.



- 5.) Do a dry fit on the light, and pay attention to the orientation of the bulb. If the filament is parallel to the ground when installed, it will typically provide a wider beam pattern. Also, if the light has any drain holes, keep them facing down.
- 6.) Apply a bead of silicone adhesive to the outer bond surface of the light (where the rim of the light meets the roof rack cap). This will create the initial bond, and keep glue from dripping out later. I used GOOP™

contact type adhesive. It dries clear and bonds well, creating a waterproof seal. Use your finger to smooth the bead around the edge of the light, making a nice, clean looking fillet. (remember, this is the part that everyone will see...so don't make it sloppy—the masking tape should help if it does smear a little). Allow the adhesive to dry firmly, to make sure it doesn't shift around on you.



- 7.) Now that you have the light positioned where you want it, liberally apply your adhesive of choice around the light back, and onto the inside of the roof rack cap. I used JB Weld™ because it will stand up to temperatures over 600°F, and basically bonds to anything. \*NOTE: The regular JB Weld takes several hours to set firmly. I would suggest using the JB QWIK™, so it sets sooner. There will be less handling time and less chance for drips or runs\*



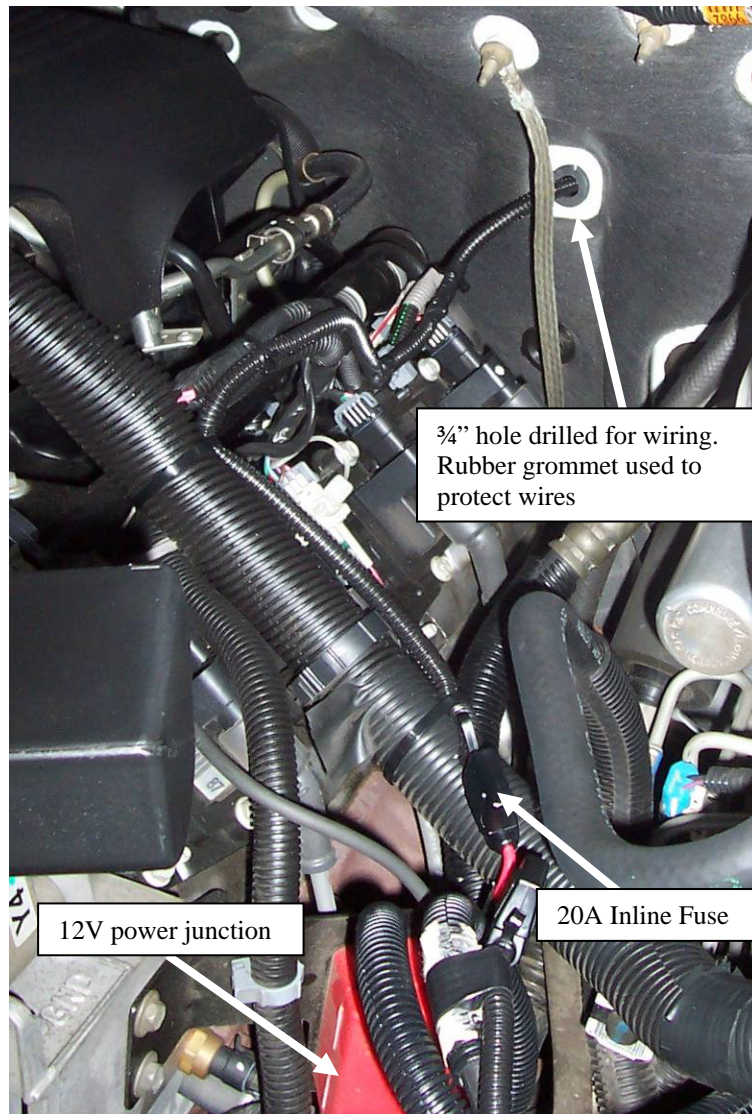
- 8.) Once you have applied a generous amount of adhesive, securely tape the light into the housing while the adhesive dries. Check every few minutes for runs, and rotate the housing as necessary to keep the adhesive where it needs to be until it sets firmly.

- 9.) After the adhesive has dried completely (I'd let them sit at least 12hrs), peel away the masking tape on the outside of the light housing, and use a razor blade, if necessary, to make a nice clean edge around the glue. Set the lights aside, and move on to the wiring.

## Electrical Installation

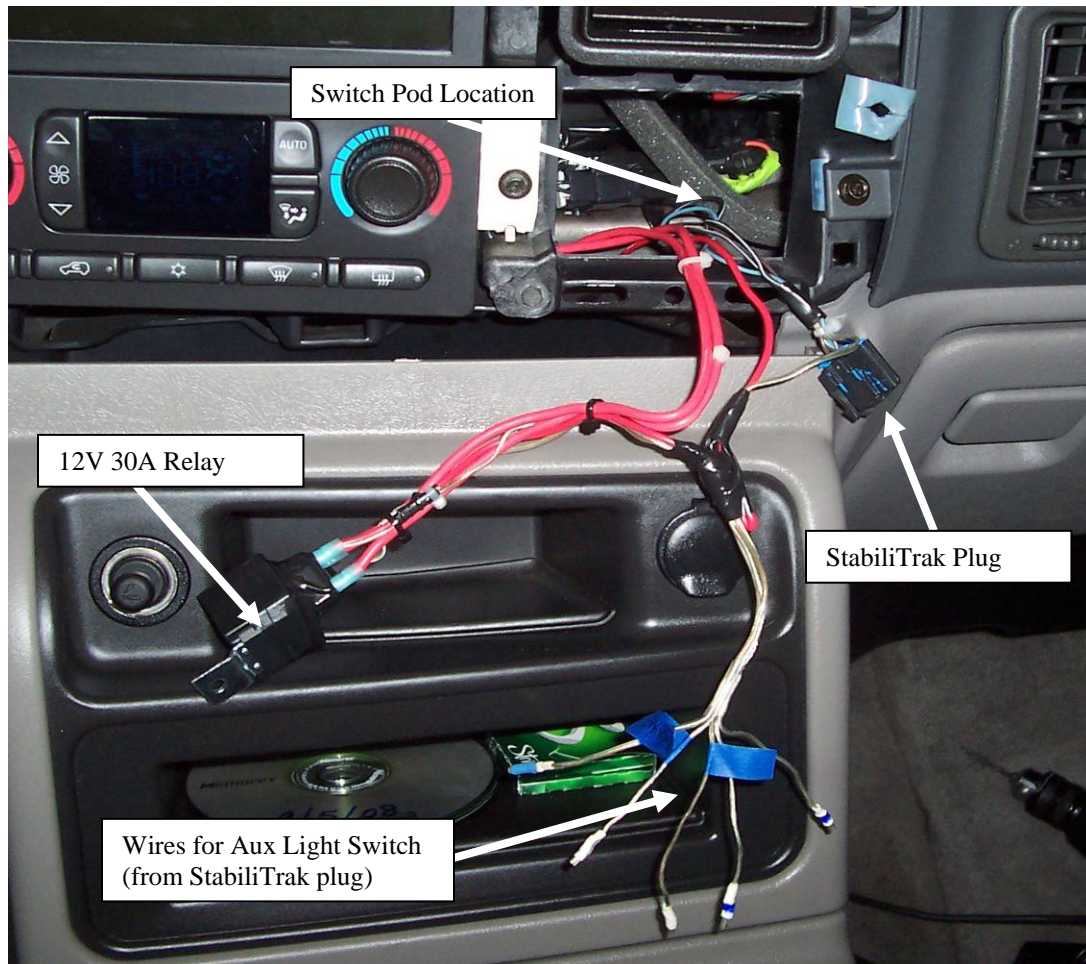
### Getting Started

- 1.) Remove the dash trim surrounding the instrument cluster, stereo/climate controls, and switch pod containing the StabiliTrak switch (or similar-depending on model)
- 2.) For the 12VDC supply wire: Crimp a 3/8" ring terminal to one end of a 10-12' piece of 10ga. wire. Install an in-line fuse holder, and run the supply wire from the battery junction terminal area (near the engine), through the firewall, and behind the dash (routed to dash switch pod location) **\*Do not connect it to the live junction terminal yet! This will be done later\*** *NOTE: you can route this wire through the firewall by using an existing hole/grommet, or you can drill a new one. I would suggest sneaking it through an existing hole if possible.*



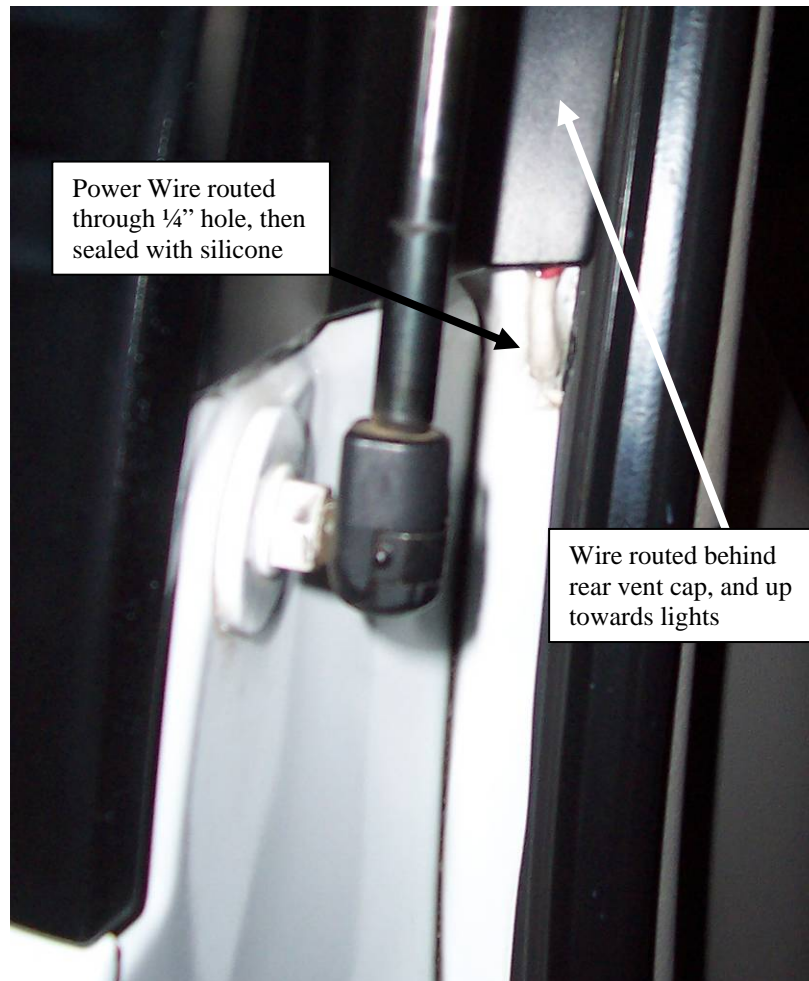
**Aux Switch Wiring (also refer to the attached wiring diagram)**

- 1.) Remove the StabiliTrak switch pod, as well as the blank plate next to it.
- 2.) Unplug and examine the StabiliTrak switch plug, and locate the 12V (switched) supply wire (**BROWN**), ground wire (**BLACK W/ WHITE STRIP**), and backlight illumination wire (**BROWN W/ WHITE STRIPE**) \*use a multi-meter to verify\* (if you don't have the StabiliTrak switch in your dash, you will need to run wires that provide the same function as those listed).
- 3.) Use scotch locks/in-line wire taps to splice into the wires listed above. Allow approximately 6" of wire to make the connections to the Auxiliary Light switch (GM Part#15061687).
- 4.) Install small female type connectors onto the ends of each of the 6" tapped wires, and plug into the corresponding Aux. Light switch terminals. **\*NOTE:** I used the small female type connector terminals from a car stereo wiring harness.  
*Switch Terminal A = No Connection*  
*Switch Terminal B = Ground-**BLACK W/ WHITE STRIPE** wire*  
*Switch Terminals C and D = 12V supply (switched)-**BROWN** wire*  
*Switch Terminal E = Dash Illumination-**BROWN W/ WHITE STRIPE** wire*  
*Switch Terminal F = Relay activation wire (details next)*
- 5.) Install another small female type connector to an 8" piece of wire, and connect it to Aux. Switch Terminal "F" (the other side of this wire will end up connecting to the relay so it "closes" the connection when the switch button is pressed—discussed next).



## **Relay Wiring**

- 1.) Create a ground wire for the relay. Crimp a female spade terminal onto one end of a 12" piece of wire, and a 1/4" ring terminal onto the other end. Connect the spade terminal to relay terminal 86, and find a location nearby that will serve as a solid chassis ground for the ring terminal.
- 2.) Crimp a female spade connector to the end of the 8" piece of wire (connected to Aux. Switch terminal "F"), and plug the connector onto relay terminal 85.
- 3.) Crimp a female spade connector to the previously routed 12V fused supply wire, and connect it to relay terminal 30.
- 4.) Crimp a female spade connector to the end of a 15-20' section of 10ga. wire. Plug the spade connector to relay terminal 87. Route the other end of the wire along the driver's side to the rear of the vehicle (this will be the switched supply line that powers the lights). Tuck the wire under the door sill trim or carpet, and route it all of the way back to the tailgate/hatch area.
- 5.) Pass the 12V switched supply line through the rear door gasket, and route it to the driver's side rear vent area. **\*NOTE:** I ended up drilling a 1/4" hole through the metal around the door seal in order to route the wire out of the vehicle. Make sure to seal it accordingly, to prevent water from getting in.

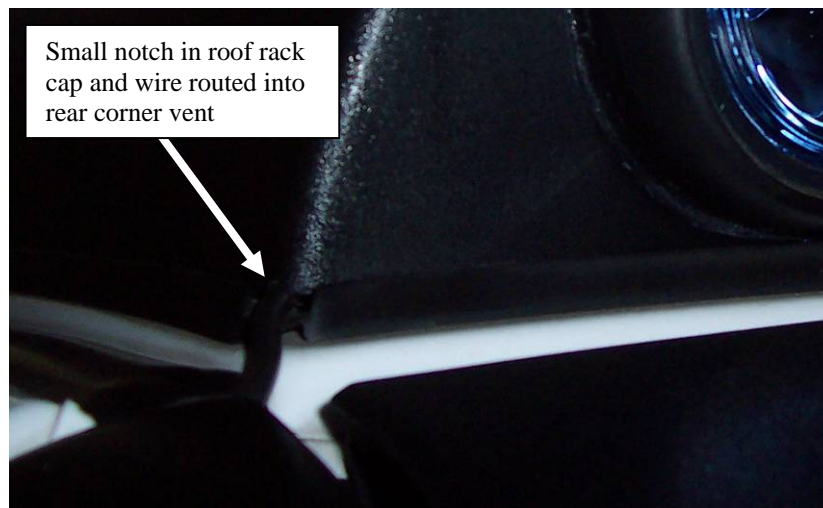


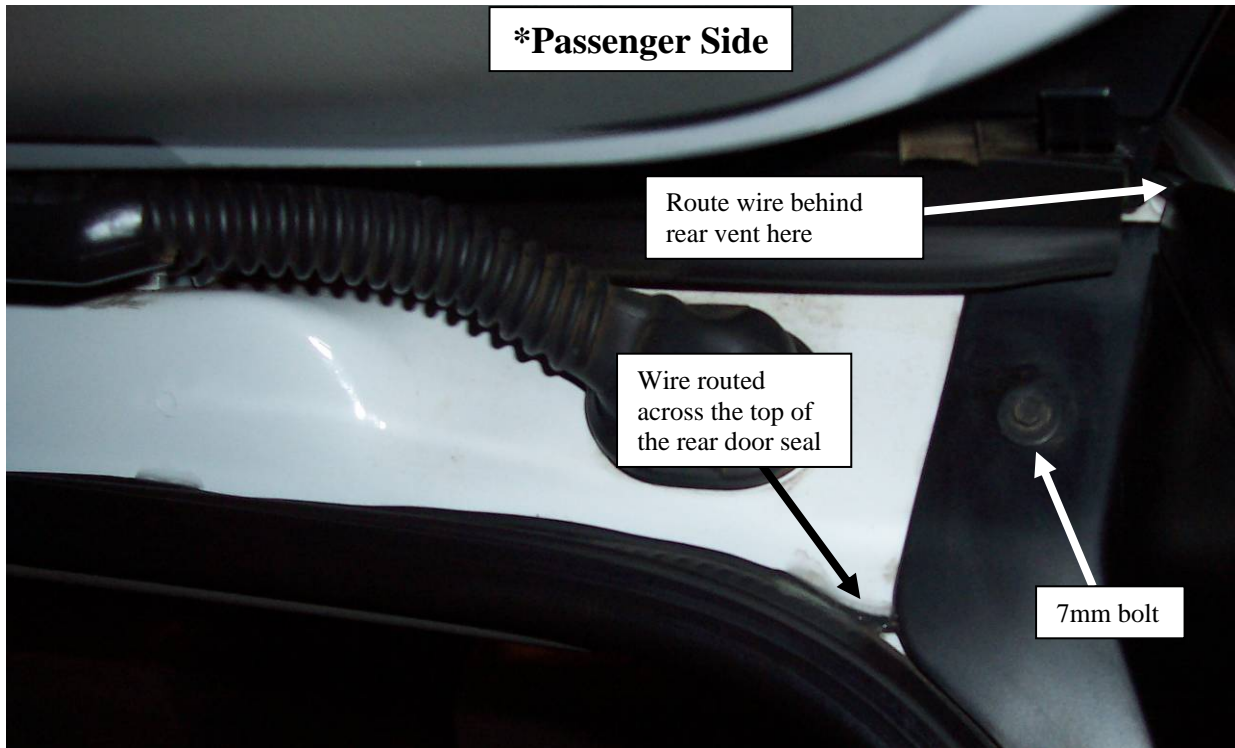
- 6.) Mount the relay behind the dash, zip tie/bundle wires together, remove the blank pod cover and install the Aux. Light switch next to the StabiliTrak switch. Finally, replace the dash trim.



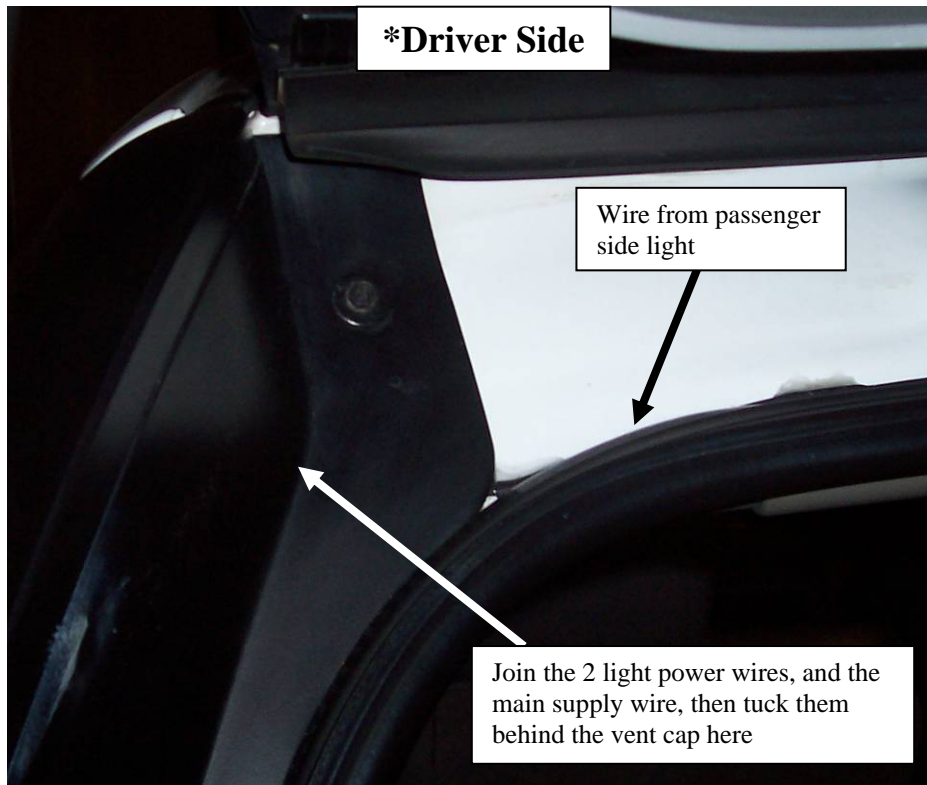
### **Rear Light Wiring (after the lights are glued/secured into the roof rack end cap)**

- 1.) Connect a 1/4" ring terminal to the ground wire of each light. Remove the rear-most roof rack mounting bolt with a torx driver, place the bolt through the ring terminal, apply silicone sealant to the threads and head of the bolt and tighten back down. \*Ensure that you have a good ground connection between the ring terminal and the bolt head--use sand paper to rough it up a little\*
- 2.) Start wiring at the passenger side roof rack light. Using approximately 8' of wire (you can use black to match the rubber gaskets, or try to color match to your paint so its not as noticeable), connect one end to the positive terminal of the light using spade connectors (so you can replace the bulb later if needed)
- 3.) Route the other end of the wire out of the roof rack cap (you can make a small notch in the cap to allow it to fit down flush), and down into the rear corner vent cap. Remove the upper rear vent bolt with a 7mm nut driver, and feed the wire down behind the vent cap without completely removing it. Next, run the wire across the top of the rear hatch seal towards the driver's side of the vehicle. I applied 1" wide sections of GOOP adhesive to the wire every 12", which basically glued it to the top of the rear hatch seal as it was routed to the drivers side.





- 4.) Repeat step 3 to make the connections for the driver's side roof rack light. Route the wire down past the driver's side vent cap to where the wire from the passenger side light meets up.
- 5.) Join the two positive leads (from the roof mounted lights) with the 12V switched supply wire that was routed earlier. \*Ensure that this connection is sealed properly, so it does not corrode or short out over time\* To conceal all of the wiring, I simply pried the driver's side vent cap up enough to stuff the wire junction behind it.



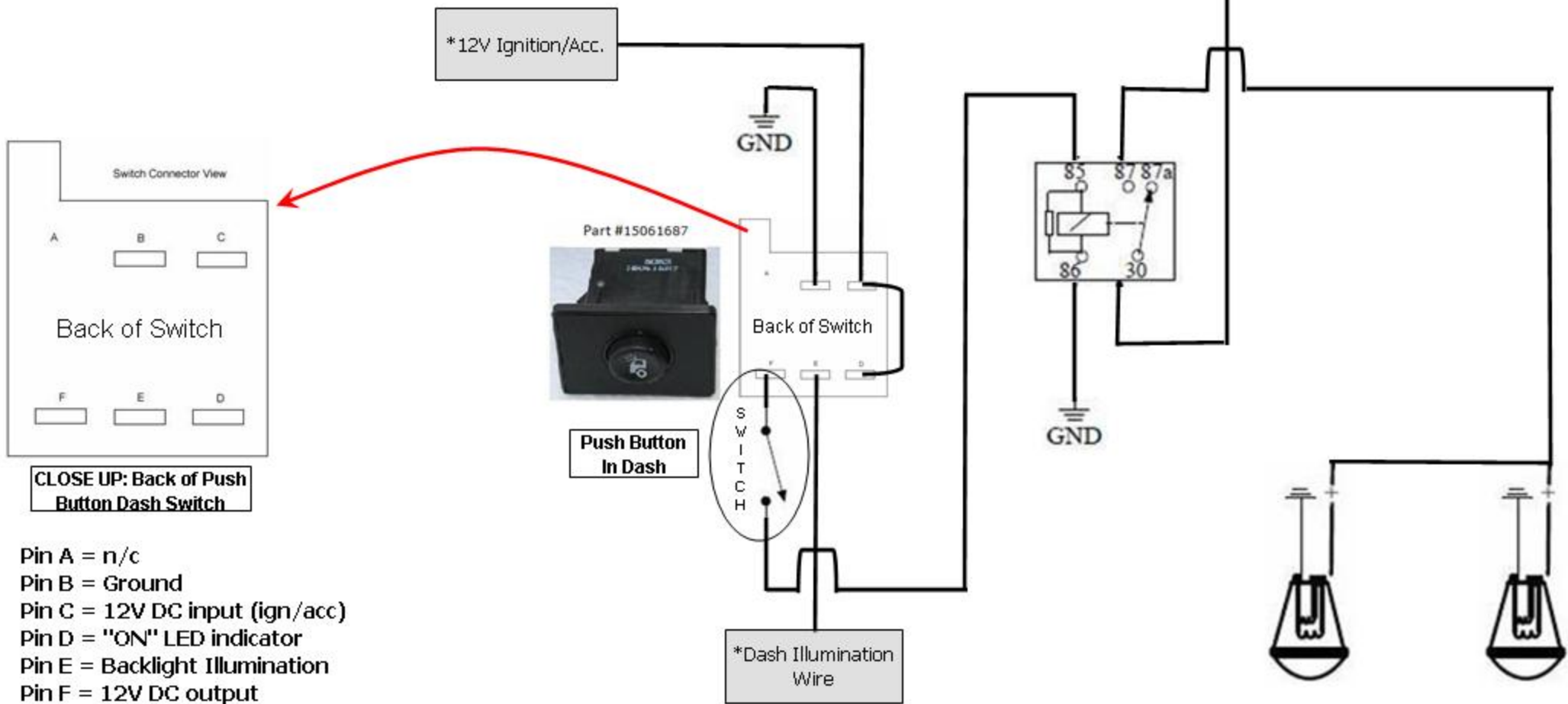
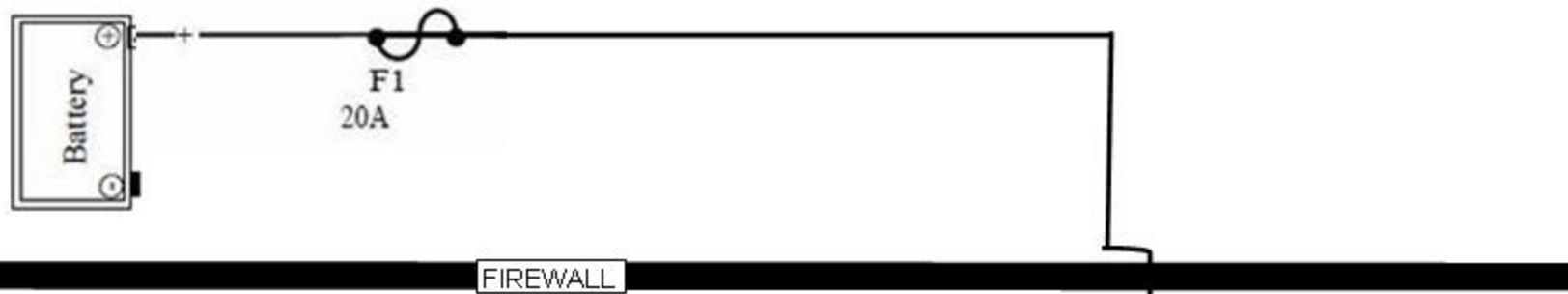
- 6.) Re-install the roof rack end caps (containing the new lights). Make sure all wires are neatly tucked away and secured where possible.
- 7.) Re-install the rear vent cap screws and ensure that the wiring is secured and hidden from view.

**Finally...**

- 1.) Connect the 3/8" ring terminal to the power distribution block (near the engine) \*Be careful not to short your 17mm wrench out as you remove the nut—wrap the wrench/socket driver handle in electrical tape or other insulating material\*
- 2.) Install a 20A fuse in the inline fuse holder.
- 3.) Neatly bundle/zip tie all wires and ensure all connections are well insulated.
- 4.) Turn on ignition, press the Aux. Light button mounted in the dash and....LIGHT!



**\*Note:** This is a first draft, and there may be some errors, or confusing statements. I would appreciate any feedback for improvement.



- CLOSE UP: Back of Push Button Dash Switch**
- Pin A = n/c
  - Pin B = Ground
  - Pin C = 12V DC input (ign/acc)
  - Pin D = "ON" LED indicator
  - Pin E = Backlight Illumination
  - Pin F = 12V DC output

- \*NOTES:**
- Pin D requires a const. 12VDC to function properly when the switch is active. Wire Pin D and Pin C in parallel
  - Switch should only be used to activate a relay, as it is not rated to source much current

Rack Mounted Reverse Lights