INSTALLATION GUIDE

VOLVO VNL SIDE STEPS

BEFORE YOU START

It's simply not possible to provide detailed instructions for all installation scenarios. Far too many variables and truck variations. **The information in this document is intended to be used as a guide.** It is not a detailed step-by-step how-to installation manual. We do not spell out every single step along the way. We cover the essential steps related to installing this kit. Beyond that however we must assume the installer has the skills, knowledge and tools necessary to do the work using the information we provide. You may need to vary your installation based on your truck. This is particularly the case with the electrical wire routing and switching. If you're unsure about how to do the installation – particularly the electrical components – we urge you to seek assistance from someone who has those skills.

Make sure you have ample area in which to work and that the area is protected from rain or cold temperatures. The 3M adhesive tape (and 3M Adhesion Promoter) works best if applied when the air temperature is above 40 degrees (and of course is DRY).

Bench test your setup. We know this takes a few extra minutes but we STRONGLY suggest you bench test your lights (and LED controller if purchased) on a table before doing anything further. While we test every light strip and controller before shipping, bench testing your lights will eliminate the possibility of any problems with the lights or controller before mounting. Also, the process of bench testing gives you an opportunity to understand the wiring system without interference from other wires, connectors and cables. You can use any 12vdc battery to do this (e.g. car battery, motorcycle battery, lawn tractor battery or 12vdc power supply). Bench testing takes an extra 10 or 15 minutes. It's simple to do and can potentially save you hours of time and frustration down the road.

We assume you are installing these side step lights as part of another Boogey Lights LED light kit on your truck – typically either the UNDER-CAB or UNDER-GLOW LED light kit. In the over whelming majority of cases, the power leads coming from these Side Step LED strips will simply connect to one of those existing light kit (using the included quick-disconnect connectors we provide in this light kit). If that is not the case in your situation, you'll need to connect the power leads coming from these Side Step LED strips to power.

Mounting Locations

The LED strips for these side step lights are built on our HEAVY DUTY LED strip series. The quantity and lengths of those strips depends which side step light kit version you purchased. Here are the possible options:

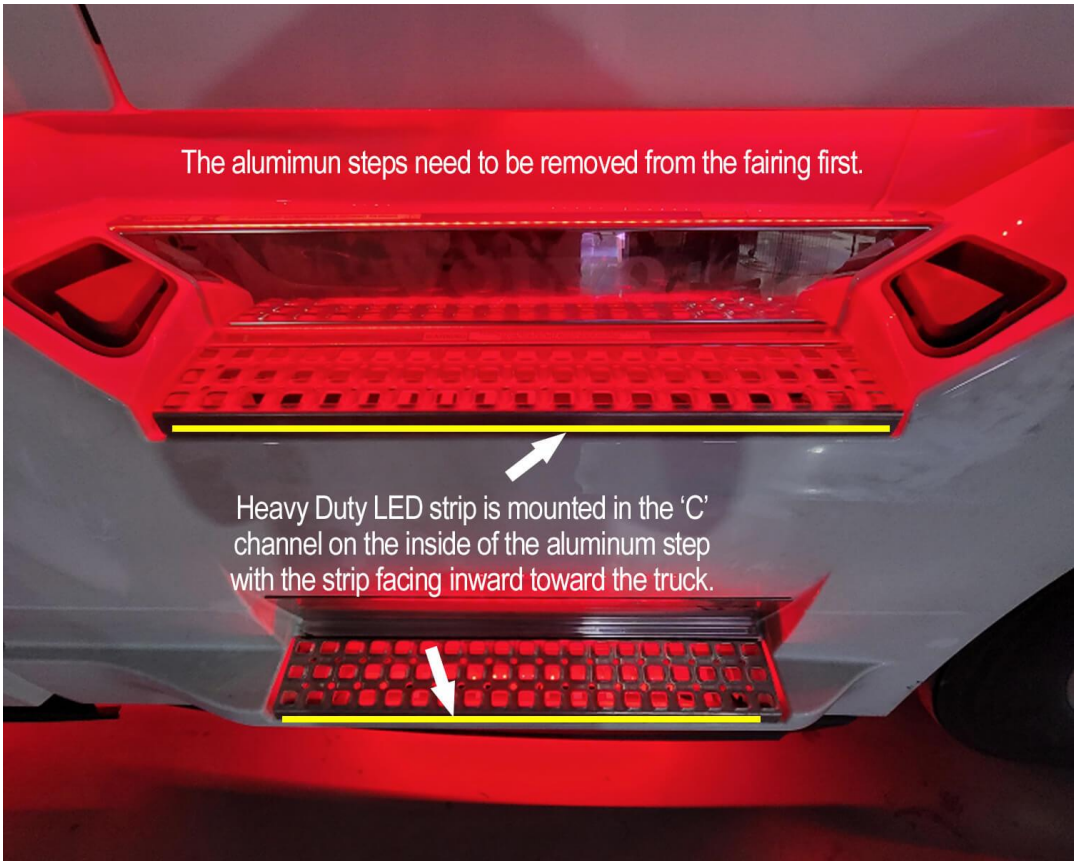
- Front Steps only: 2 – 30 LED Heavy Duty LED Strips (each are about 22" long)
- Rear Steps only: 2 – 15 LED Heavy Duty LED strips (each are about 12" long)

If you purchased both the front and rear steps together, you should have 4 Heavy Duty LED strips in the lengths as detailed above.

In addition to the Heavy Duty LED strips, we include two pairs of quick-disconnect connectors per step configuration. If you purchased both front and rear step lights, you'll receive four pairs of quick-disconnect connectors.

Each led strip mounts inside the aluminum step assembly on each fairing with the LED strip facing inward toward the truck. Two per fairing on each side of the truck. You'll need to remove the step grates and fairings from the truck. There is a 'C' channel on each aluminum step where the LED strip will fit. Again, the light strip should be shining inward toward the truck. See photo below.

Simply wire both LED strips together and connect them to the male part of one of the supplied quick-disconnectors. The female end of the quick-disconnect will be on the truck side and connect to your other light kit or power. We include additional power lead wire for this purpose. Repeat this process for each pair of lights on each step you're lighting. See diagram at the end of this document of how to wire in these quick-disconnect connectors.



We recommend leaving an extra 2' or 3' of power lead slack on the back side of the fairing to allow for movement of the fairing when it is being removed from the truck for service.

Power & Switching

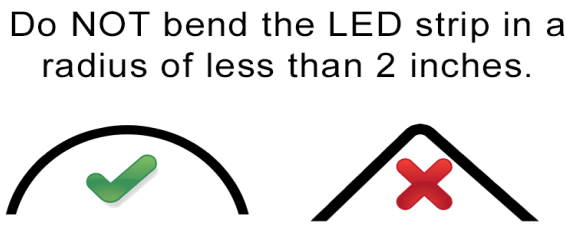
We assume you are installing these side step lights as part of an existing Boogey Lights installation – typically an Under-Cab or Under-Glow light kit. In those situations the power leads from these side step lights will connect to the power leads coming frim one of those other light kits.

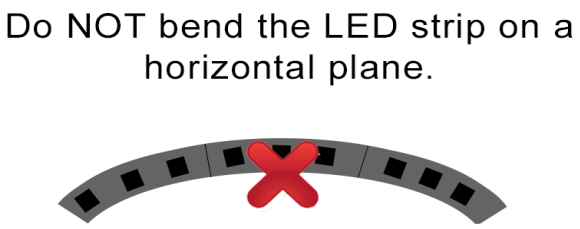
If you're installing these side step lights as a stand-alone light kit, you'll need to access 12vdc. Whenever possible, we suggest going directly to the truck's battery bank under the driver's side of the truck. You'll of course need a switch or controller of some type to operate the side step lights. If you purchased another switch or LED controller, we include the wiring diagram for that switch or controller.

MOUNTING

While these Heavy Duty LED Strips are designed to take a beating, it's important you do not bend the strips in a radius of less than 2". Also, do not bend the LED strip on a horizontal plane. Doing so will damage the circuit traces on the PCB board causing the LED strip to fail, voiding the warranty.

Follow these steps for mounting your LED strips:





- The area where you are mounting the LEDs has to be clean: free of all dirt, oil or anything that might affect the LED from sticking. You only get one opportunity to mount the LEDs so it's critical the area be prepared properly.

- Use rubbing alcohol to clean the area where you are going to mount the LED strip. Be sure to let the alcohol dry completely before proceeding to the next step. (Note: Do not use acetone or similar cleaner).

  If the area is especially greasy, you'll need to clean it with a degreaser or similar solvent. IF you do, be sure to use rubbing alcohol on the surface next to completely remove any left-over residue from the degreaser.

- Next, use the 3M Adhesion Promoter supplied with your kit to "paint" on the promoter where you are going to mount the LED strip. ***This is an important step. Do not bypass.*** Allow the promoter to dry for 60-90 seconds.

- Peel off the red backing tape that protects the 3M adhesive tape on your LED strip. Be careful not to let the tape touch anything. The 3M backing tape on these LED strips are one-use only. They cannot be reused.

Carefully push the LED strip to the area you have prepared. You will want to apply only enough pressure to the strip to make sure it is firmly mounted. *You only get one opportunity to do this.* Once the LED strip touches a properly prepared surface that has been promoted, that LED strip will be very difficult to remove. Moreover, if you do remove the LED strip, the strip cannot be used again without adding another layer of 3M adhesive tape to the back. DO NOT press too hard as too much pressure can damage the LEDs and connecting wires in the strip. Also, do not pull, stretch or twist the LED strip. Too much tension on the strip will also damage the LEDs such that some of the LEDs in the strip will not illuminate. The strip must be mounted flat against a single continuous mounting surface, in a straight line. Really important that the ENTIRE STRIP be stuck to the mounting surface and that you NOT attempt to span across multiple mounting surfaces.

QUICK-DISCONNECTS

Here's a photo showing how to use the 1/8" and 1/2" heat shrink to connect and seal the feeder cable connections to the power leads of each Heavy Duty LED strip. Tightly twist the copper wires together. Important that none of the copper wire strands poke through the heat shrink. Make sure they're all laying down (and not pointing outward). Then, slide the 1/8" heat shrink over the connection and heat shrink that connection. Repeat for the other 3 (or 1 if single color LEDs). When those connections have been made, slide the ½" heat shrink on top of the bundle and heat shrink. For the 1/8" heat shrink you only need about an inch (1") or 1.25" of heat shrink to seal each connection. Use 2 or 2.5 inches of the ½" heat shrink to cover the bundle.