



Tailgate Light Bar Installation

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If you ever looked at the rear of a 3rd generation Dodge Ram dually pickup truck, you'll notice that there is a light bar with 3 red marker lights located between the tailgate and the bumper. This light bar is there due to a federal law that requires vehicles over 80 inches wide to have 3 red marker lights in the center. This light bar is not present on single wheel vehicles due to their width being under 80 inches however, the mounting holes are present. The wiring harness and light assembly are not installed from the factory. I personally like the light bar and have decided to install one on my single wheel truck.

The under-tailgate light bar assembly is an OEM part that you can order from any Dodge dealership, but you'll generally find it much cheaper online. The part number for this light bar is 55277299AB. The parts fiche lists it as 55277299AA, the AB is an upgraded version. No matter where you acquire the light assembly from, be sure it has the plastic light housing and the wiring harness for the three light bulbs. I've seen several for sale online that don't have the wiring with it.



The hardest part of this install is the wiring. The OEM wiring solution is to obtain power from the same circuit as the license plate lights. This power is routed through a harness that powers the marker lights found on the fenders of dual rear wheel trucks and the center light bar. Obviously, a single rear truck doesn't have the marker light harness. On page 8W-91-78 of the service manual it shows the routing of the wires and gives the location of the connector plug for dual wheel trucks. I went under the truck and searched around a bit, but was unable to locate a connector plug for this light assembly. There might be a wire tucked up in the harness somewhere, but I didn't feel like completely stripping the harness apart to look for it. Even if I found a hot wire somewhere in the harness to tap into, I would have still had to cut the connector off of the light, splice in the hot wire, and fabricate a custom ground circuit.

This seemed like it would add unnecessary complexity to this simple task and would produce many more possible failure points that I would have had to worry about in the future. So I decided to use an easier and more fail-proof method of providing lights-on power and ground to this light without destroying the factory harness. My solution was the 4 pin flat trailer light connector that is preinstalled on every Ram. This would provide a solid ground and a 12v lights-on power signal. The left/right turn signal wires are not needed for this project.

I pulled the rubber cover off of the 4 flat connector and was greeted with a connector that was growing green fuzzy stuff out of the pins. This is corrosion, and all of it must be cleaned off prior to using this connector. I never use this connector (all my trailers have electric brakes and work off the 7 pin plug on the bumper) so I've never really looked at it until now. Cleaning the connector is simple, just scrape out everything that is green, even the stuff way down deep in the pins. After all the corrosion is removed, coat the connector with dielectric grease. Every auto parts store sells little packets of this stuff, usually marked as "spark plug boot grease" right beside the checkout counter. Be very generous with this stuff. Stuff as much as you can into each pin hole and cover everything that is metal. If you put too much, it'll just squish out when you attach the connector. The more you have in the connector, the better it will resist future corrosion.



Now that I have a plan to provide power to my light and a clean connector, it's time to turn my attention to making a plug-and-play harness for the light assembly. The light has a two pin electrical connector that doesn't fit anything except the dual wheel harness. You cannot acquire a mating connector unless

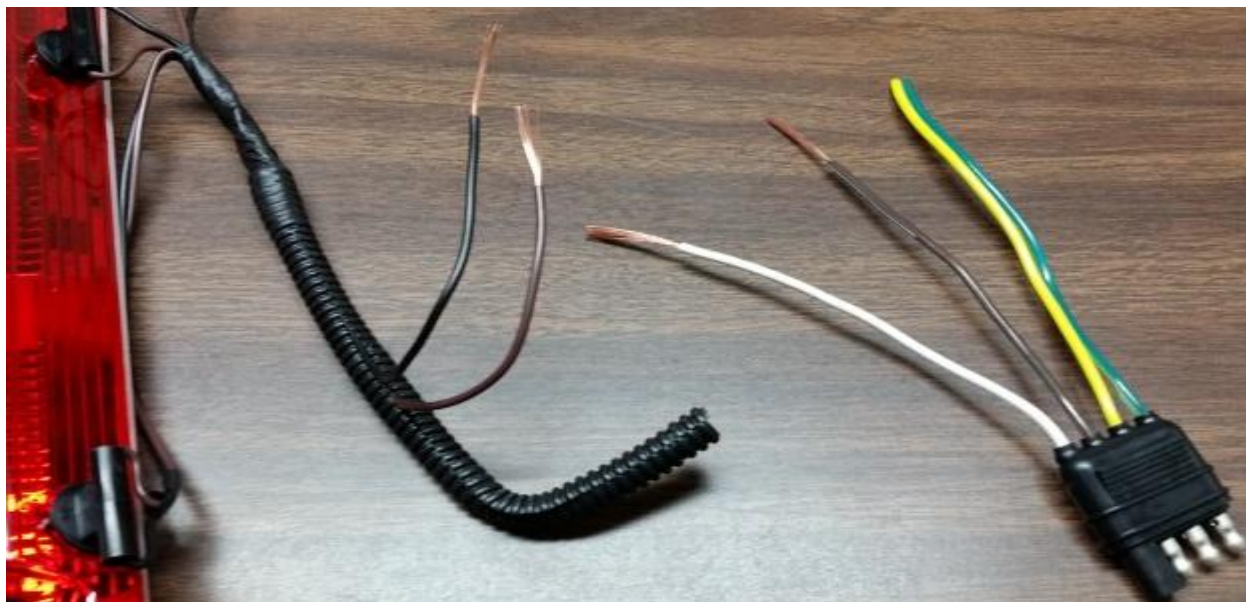
you purchase the entire harness. So I just cut it off. I also had to acquire a pigtail harness to connect to the 4 flat trailer connector. At the local auto parts store I picked up a Hopkins 4 flat harness extension (part number 48145) that was 12 inches long. Any 4 flat trailer connector would work, this is simply the one they had on the shelf at the time.



This extension harness has both plug ends on it because it is meant to be used as an extension. I only need the end that plugs into the truck (one shrouded pin and 3 bare pins) so I cut it in half. I ended up with the correct connector and about 6 inches of wire to work with. The single shrouded pin is the ground and the one right beside it is the tail lamp (lights-on) power. The other two are for left/right turn signals. On this specific harness, the ground is white, tail lamp power is brown, and the yellow/green are the left/right turn signals. The colors on your harness might be different, so always check to make sure.

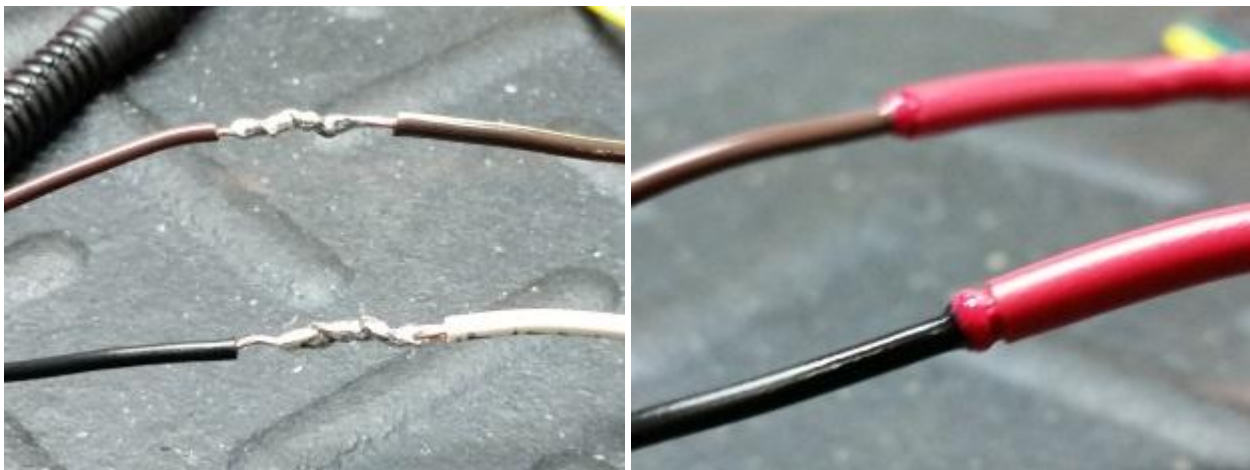


On the tailgate light assembly, the brown wire is power and the black wire is ground. So for my connections I need to connect the brown (hot) wire from the tailgate light to the brown (tail light) wire on the plug and the black (ground) tailgate light wire to the white (ground) wire on the plug.

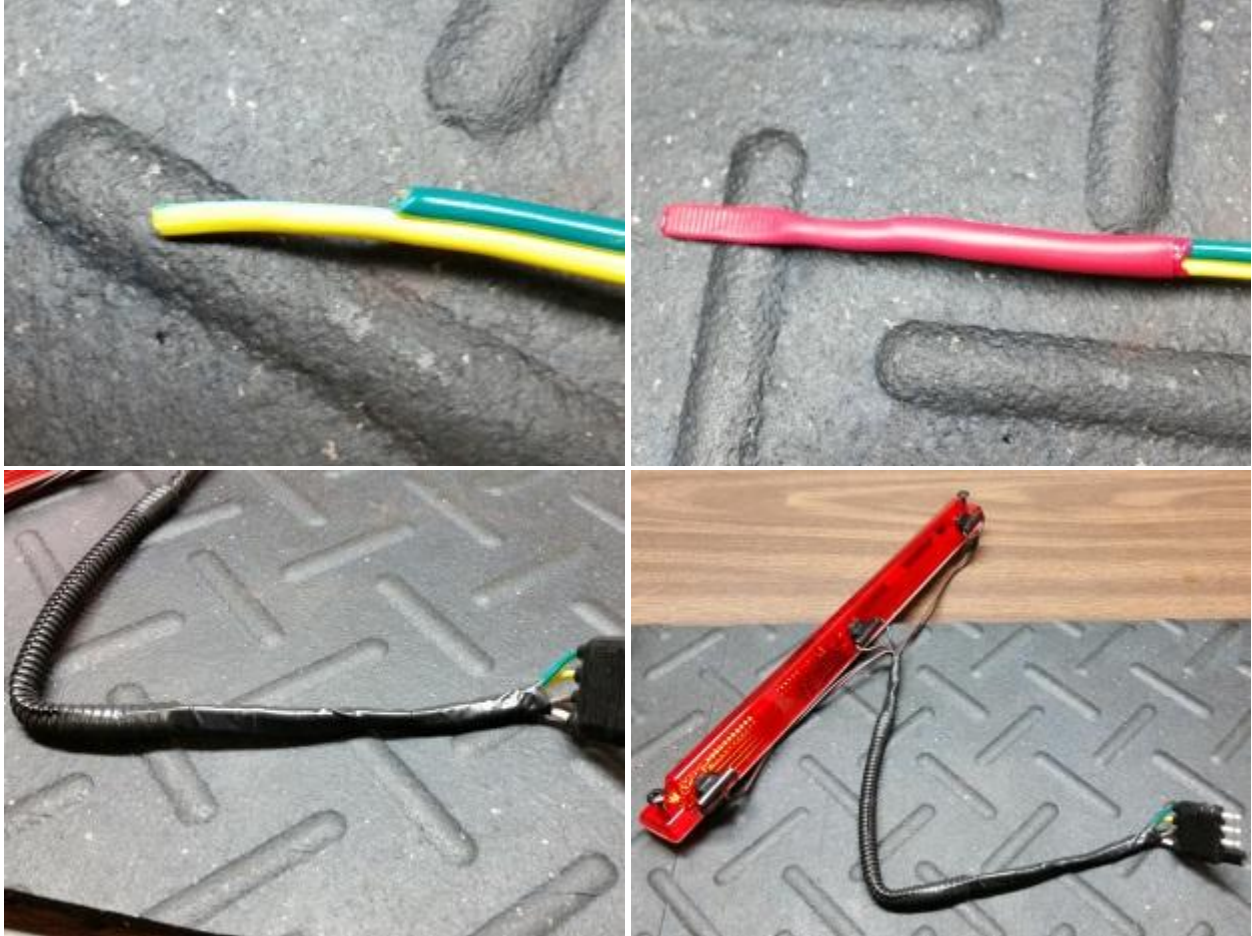


How you make the connection is completely up to you, however I highly recommend you avoid using "scotch locks" at all cost. Those are the stupid plastic things where you lay two wires side by side and force a metal blade down around them. They cut the wire strands which leads to bad connectivity, they come loose over time which leads to flickering, and they let in lots of contaminants and moisture which leads to corrosion. In my opinion, they are the absolute worst way to make an electrical connection. Being that this connection will be under the truck and subject to everything the truck throws up from the road, you need a solid weather proof splice in order to maintain a good connection.

My preferred method for this type of connection (and arguably the best connection) would be a good Lineman splice (aka. Western Union splice) that is soldered together and covered in adhesive lined heat shrink. The Lineman splice is a specific way to twist the wires together to maintain their strength (Google it) and soldering permanently fuses those wires together. The adhesive lined heat shrink has a heat activated adhesive inside of it that will seal the heat shrink tubing to the wires when applied. This will prevent any moisture or contaminants from getting to the splice. It's as close to an un-cut wire that you can get. I'm not an electrician, so my splice and solder techniques are pretty bad, but it's still way better than any "scotch lock" or a twist-and-tape splice.



After the main two connections are made, I had to figure out what to do with the other two wires from the plug (left/right turn signal) that I do not need. Since both wires would be hot whenever the turn signals are activated, I couldn't just leave them hanging due to a risk of them shorting out. I decided to cut one of the wires about an inch shorter than the other and cover them both with the heat shrink. The different lengths would keep them from ever coming close to touching each other and the heat shrink would keep them both from ever shorting out on anything under the truck. After all of the connections are taken care of, the entire harness is wound together in the original wire loom from the light and the remainder is tightly wrapped with electrical tape to keep it all together. We now have a plug-and-play light assembly that does not require any modification to the truck's OEM wiring harness.



Now that the harness is completely fabricated, it's time to mount the light assembly to the truck. Under the tailgate and above the bumper you will notice two small square holes that are just a little bit further apart than the license plate. We need to get some plastic inserts to fill those holes so the screws can hold the light in place. The inserts you will need are the square ones designed to hold a license plate onto the vehicle. Every auto parts store has these as well. They're the no-name, no-size, no-information license plate install kits that you'll see on the shelves. You only need two, but most kits come with four. Simply line them up with the holes and push them in. I found it much easier to use the handle of a hammer to push them into place. Helpful hint: Removing the tailgate makes this task much easier.



Once your inserts are installed, simply position the light and screw it into place. Make sure not to pinch any wires while installing. The harness hangs down between the bed and the bumper. Route the harness over to the 4 flat trailer plug and connect it. I chose to tuck my harness up around the wiring to my 7 pin trailer connector to keep it as far off the ground as possible.



Finally, turn on your parking lights and enjoy your work. This task took me approximately two hours to complete, which includes taking all the pictures and making notes for this article.

