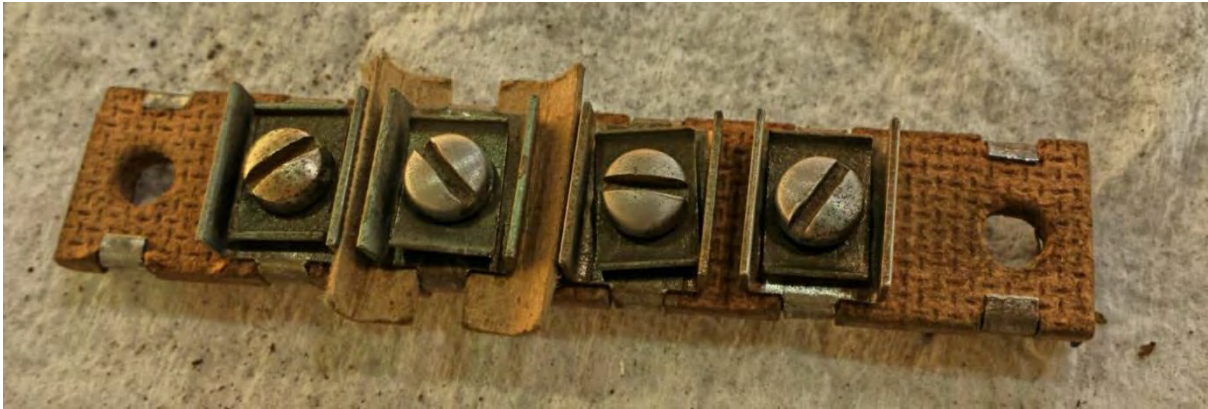


Headlight Wire Terminal Block Restoration

By John Breitenbach, June 2018



Required Items and Tools:

- 1/8" Tempered Hardboard (Home Depot item # 7005015)
- Old terminal blocks
- Cardboard, Approx. 4"x4"
- Varnish
- Ruler with 1/32" graduations
- Drill
- Drill bits, 1 ea. 7/32" & 5/32"
- Wire brushes, stainless and brass
- Sandpaper, varying grits
- Metal polish
- Small file

As many of you have no doubt discovered, fiberboard rarely survives decades intact. Likewise, many of you have also discovered that the 5-lug headlight wire terminal block is extinct. At this time, I'm unaware of a reproduction or suitable replacement. Yes, plastic terminal blocks are available, but remember I said "suitable". Sure they're fully functional and will probably hold up for a long time....they also look dreadfully out of place in my opinion. If you're taking the time to read this article, you probably agree!



My original terminal block

This project is a little time consuming, but very simple, and above all, it's affordable. At the time of writing, the hardboard is priced at just under \$5 for a 2'x4' sheet. You'll use about a foot-long strip, less than an inch wide, meaning that in the unlikely event the terminal block needs rebuilt again in the future, you'll have enough fiberboard left over for a couple hundred more! Additionally, the pattern on the "rough" side matches reasonably well with the pattern on the original fiberboard as a bit of a bonus.



Tempered Hardboard

Note that some of the dimensions may need slightly fine-tuned for your car. My car had front end damage before I bought it and the mounting brackets may have been tweaked slightly. The dimensions listed were what I measured on my car and that may not match yours exactly.

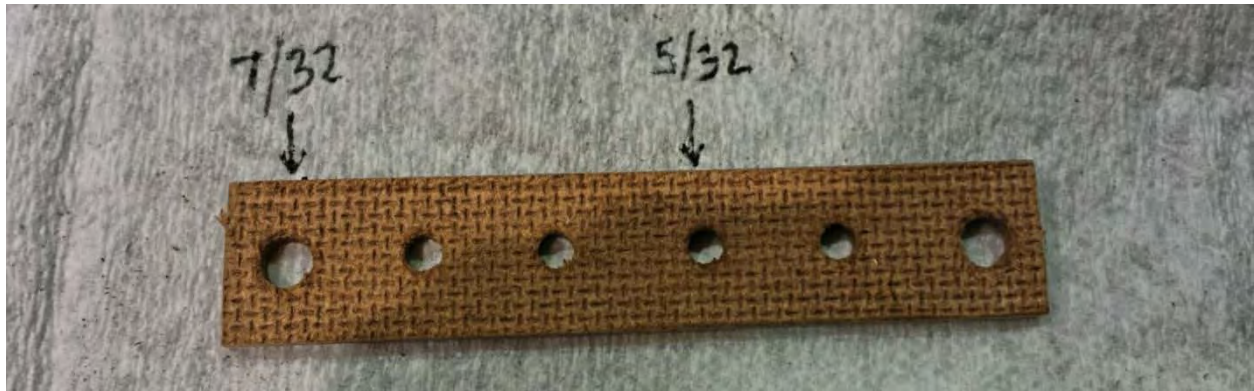
Just one more side note before we get started. I'm fairly sure the crumbling lumps of fiberboard and rusty hardware that I started with are original from the factory. You may have noticed cardboard in the "required items" list. As can be seen in the "Before" pictures, some of the terminals had sort of cardboard guards. From what I saw during disassembly, they don't appear to be a later add-on. I've heard both "original" and "not original" from people who know a lot more than I do! I chose to recreate those for my terminal blocks, but omitting them should cause no trouble if you feel they don't belong.

To get started, the hardboard will need to be cut. I chose to cut a strip of the correct width from one entire side and cut the strip to the required lengths after that. Keep in mind that the 5-lug side is longer than the 4-lug side. Don't make the mistake of cutting both strips to the 4-lug size. Both are $\frac{3}{4}$ " wide. The driver's side 4-lug block is $3\frac{1}{2}$ " in length. The passenger side 5-lug block is $4\frac{1}{16}$ " long.



Cut to size. Pattern isn't exactly the same as original, but somewhat close!

Time now to drill the holes. A $\frac{7}{32}$ " drill bit is used to make the holes for the mounting screws. The others are drilled to $\frac{5}{32}$ ". Spacing is $\frac{9}{32}$ " from each edge for the larger mounting holes and $\frac{19}{32}$ " between the smaller holes where the terminal lugs will go.



Above pictures show hole size and placement.

Next, you'll need to make the notches that the metal from your original blocks will crimp on. The cutouts are both top and bottom and are $\frac{3}{16}$ " wide by $\frac{1}{16}$ " deep. These will be centered on the holes you drilled in the previous step. Incidentally, I found that a handheld saw worked well for the rough cut and finishing was done with a small file and sandpaper.



Notches finished

To finish the backbone of your new terminal block, sand the fiberboard pieces to fine-tune the edges and soften the pattern on the forward side. Now would be a good time to apply a coat or two of varnish.

While the varnish is drying, begin to disassemble your original terminal blocks being sure not to lose any of the metal parts. My originals quite literally crumbled, making disassembly almost automatic. You may need to carefully straighten the tabs some on the crimped-on pieces, being sure to unbend them only far enough as necessary to remove them from the original backing board. Repeatedly or overly bent tabs are likely to break off.



Crumbly original terminal block during disassembly.

Cleaning the metal pieces is the next part of the process. Cleaning dirt and rust from the parts will result in not only a good looking finished product, but a better electrical connection. The benefits are reduced resistance, thereby less amperage draw, and less heat produced. These benefits may seem trivial, but if your charging system still consists of a generator, any little bit helps!

Cleaning is pretty self-explanatory. What worked well for me was to remove the loose dirt with a brass wire brush, followed by a soak in white vinegar to start eating rust. A stainless wire brush was my next step, then fine sandpaper used wet as needed, and finally some hand polishing with a metal polish such as Flitz. It doesn't take long to make every metal part look presentable and function well.



Clean metal parts!

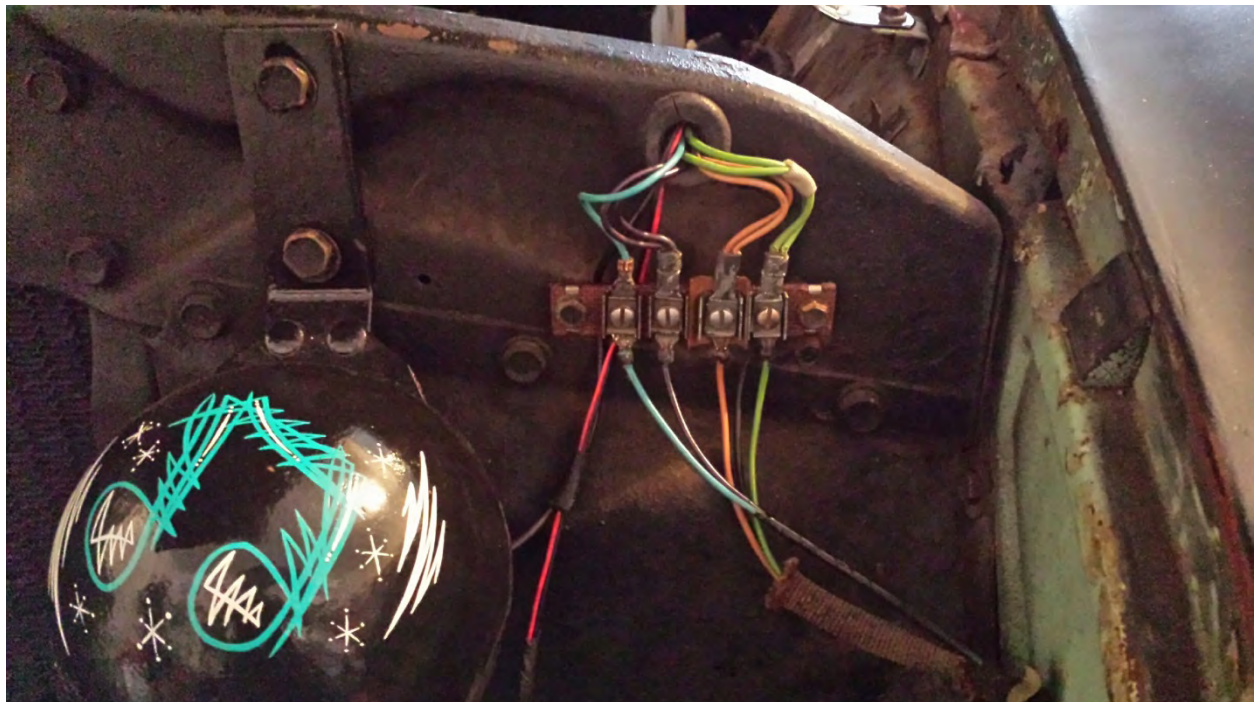
If you choose to do the cardboard guards, they can be either traced from your originals and cut out or eyeballed from my pictures. The cardboard I used was from a matchbox, the large wooden type match such as the "strike anywhere" matches in the camping section at a department store. After cutting to size, gently sand the edges to straighten them and make them look less homemade. A vertical bend is then made, approximately 45 degrees, on each side as seen in the pictures. A light coat of varnish was then applied to the cardboard parts in hopes of them lasting longer.

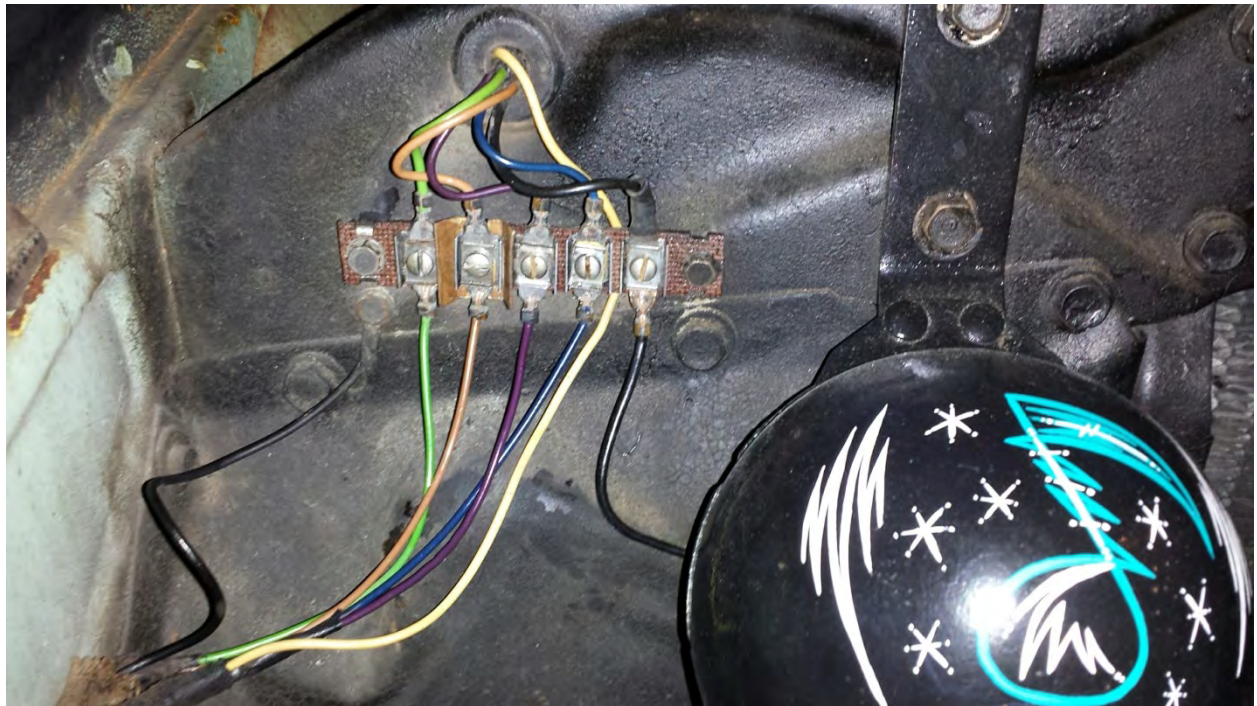


Cardboard “guards”, thought to be original.

When all your parts have been prepared, assembly can begin. Putting the parts together is very straightforward and consists of securely and carefully bending the tabs on the metal plates onto the fiberboard, and starting the screws and smaller metal plates. The cardboard guards are placed 2nd from outermost on each side, sandwiched between the larger metal plate with the tabs and the fiberboard base.

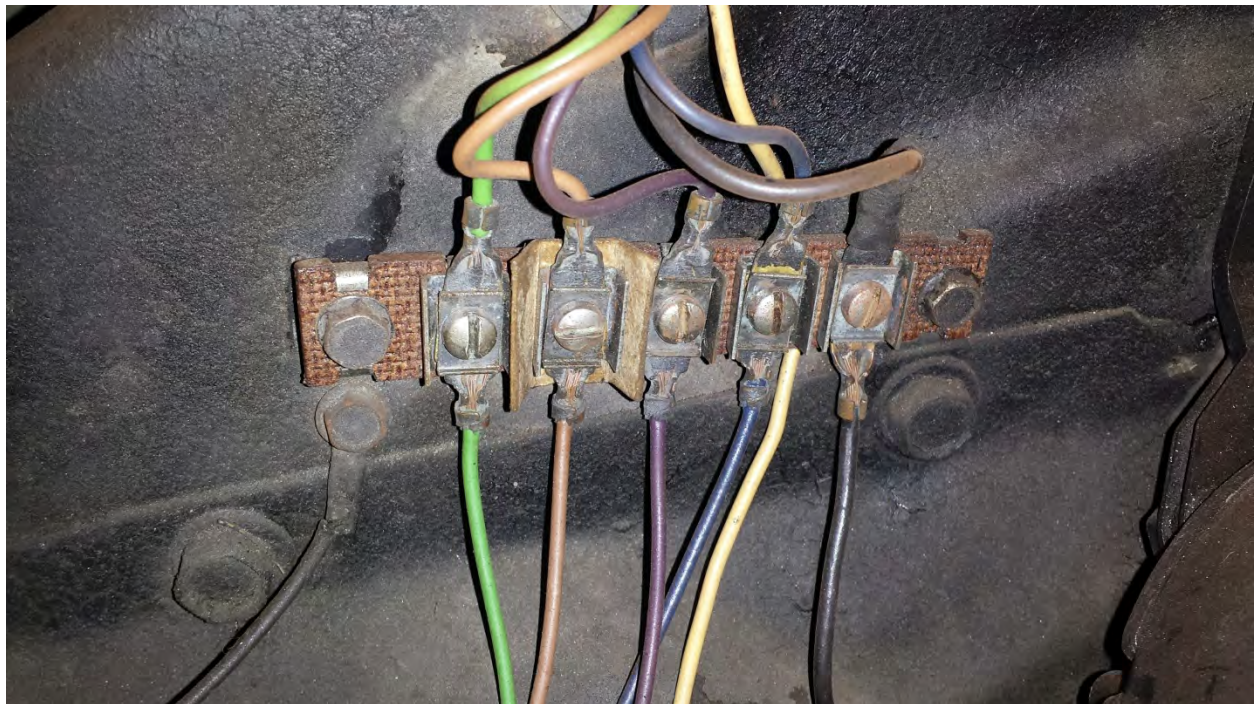
At this point, all that’s left is assembly into the car. Remember to thoroughly clean the terminal ends of each wire being installed to remove any corrosion, and be careful not to over tighten the mounting screws! Also, a good tip for cleaning the insulation on the wires and sort of bringing back the color is to gently wipe them down with a paper towel dampened with lacquer thinner.





The finished product

Overall, this was an easy and rewarding project that can be done for a very small price, and using only simple hand tools. So far these have been on my car for a little over four years and look about the same as when I made them. They've held up well so far but if they didn't.....well there's enough fiberboard leftover to make a few hundred more!



Over four years later, still about the same!