

1970-73 Parking Lamp to Driving Light LED modification

This write up documents how to upgrade your factory parking lamps into more contemporary driving lights similar to what's being done on Audi's, Porsches, and Mercedes vehicles. This is not going to be like the cheapo tack-on stuff that you see when people take little LED light strips and double-stick-tape them to the headlights. The driving lights described here will be on par with what you see coming from the OEMs.

To do this project will require cutting up your existing parking lamps. If you're uncomfortable doing this, it's recommended to get another set and perform the modifications on those.

I strongly recommend reading this entire write up prior to starting on anything.

Materials

- 1.) 1/8" mirrored Plexiglas sheet. I got mine from www.estreetplastics.com.
- 2.) Clear Plexiglas sheet.
- 3.) Amber/yellow film. You can find this stuff on Ebay.
- 4.) 10mm LED's. You can get these on Ebay pretty cheap. Get as bright an LED as you can find. Mine are on the order of 380,000 MCD brightness. You also want a wide viewing angle so that they remain bright even if you're not looking at them dead center. Mine are 40° viewing angle. Basically go to Ebay and do a search on "10 mm LED mcd" and look for something with the description:

**10pcs 10mm 40° 1W Watt White LED Light
380,000mcd@300mA**

They're quite visible during the day (as is the case with the OEMs). Make sure they come with resistors to make them compatible with 12V vehicle electrical systems. Typically these LED's are only rated for ~3 V by themselves. Without putting a resistor in series, you'll blow them instantaneously.

- 5.) 10 mm LED holders
- 6.) Double stick tape

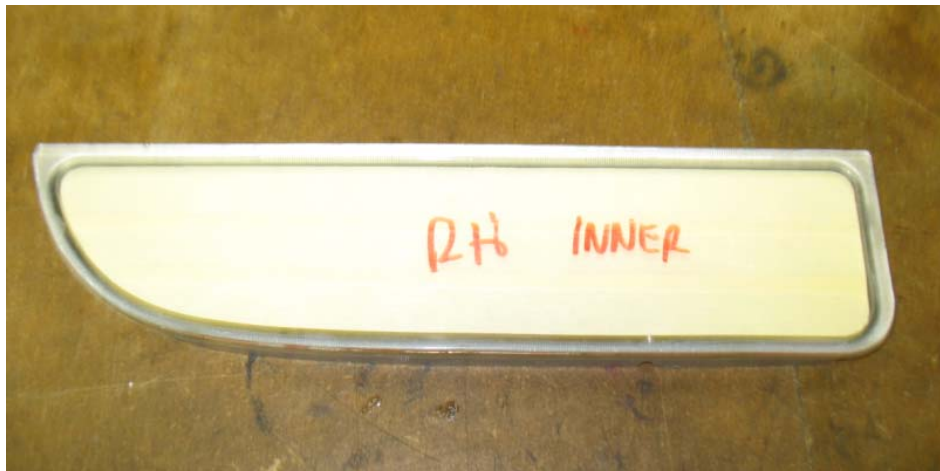
- 7.) Several feet of black, red, and purple wire. The LEDs are very low current so you can probably use 22 gauge wire. In actuality, any color wire will do, but I wanted consistency.
- 8.) Black spray paint.
- 9.) Some peel-and-stick type weather stripping from the local hardware store.

Tools

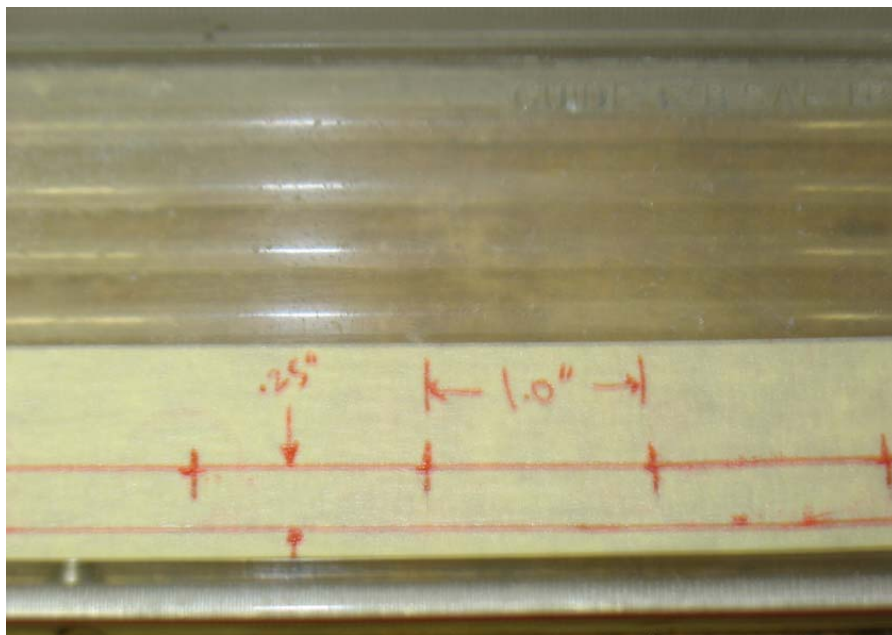
- 1.) Drill press (preferred) or a hand drill
- 2.) Scroll saw (preferred) or a hand held jigsaw.

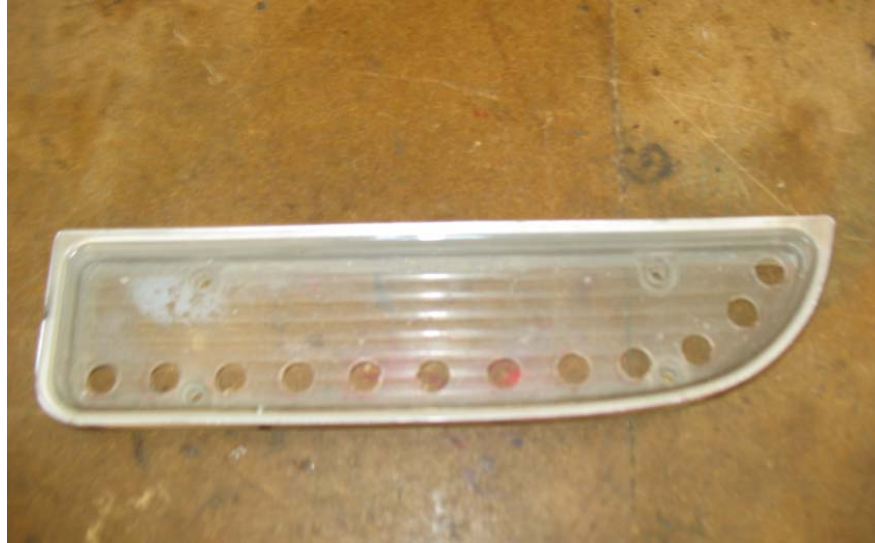
Mechanical Procedure

Start by cutting out two inserts from the mirror Plexiglas sheet. The inserts should fit inside the factory parking lamp lens.



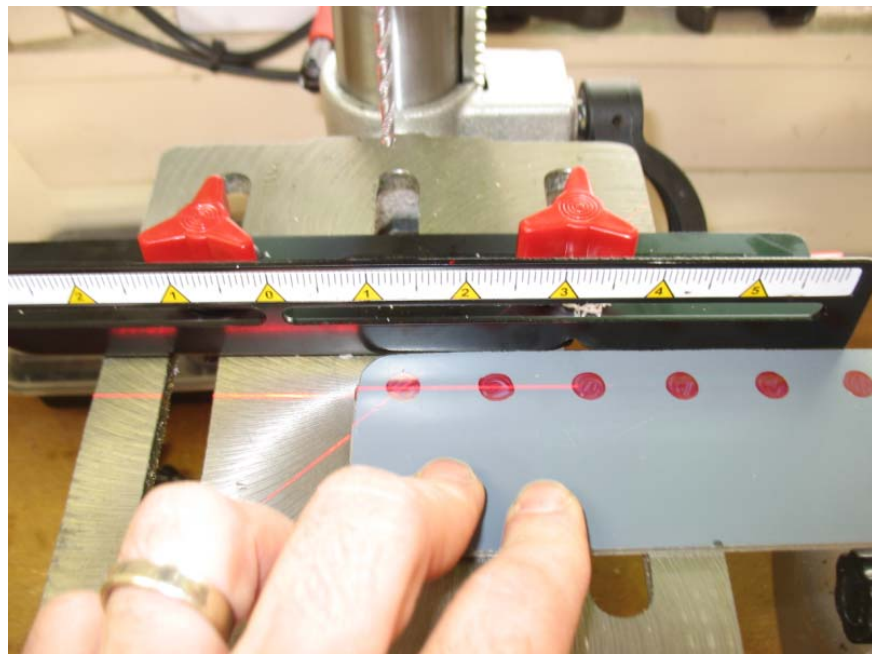
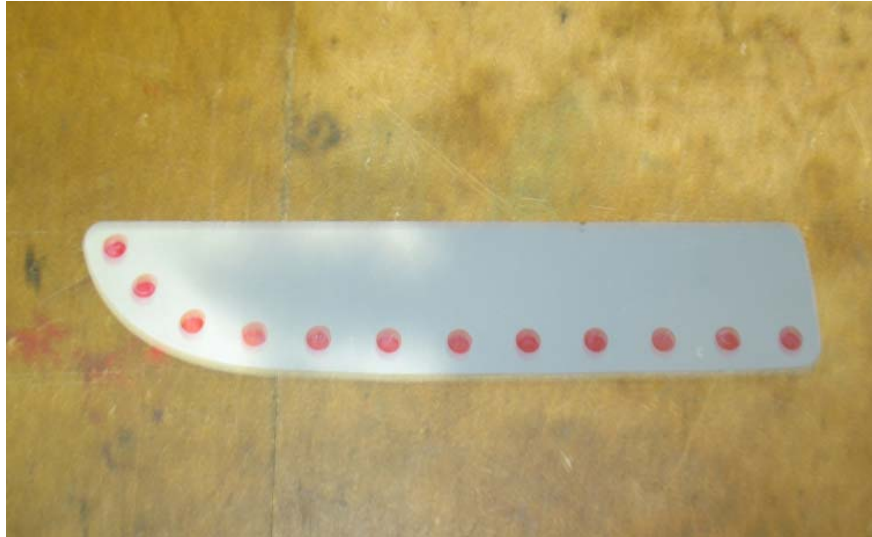
Next, mark and drill the holes for the LEDs holders on the parking lamp lenses. I used approximately 1.00" spacing. I say approximately because as the pattern goes up the curve, you may have to fudge it a little.





Then transfer the pattern to the mirror plexiglass and drill the holes.





Reposition the insert in the parking lamp lens and then install the LED holders.



Now to the parking lamp housing. It's necessary to cut the boot off the top.

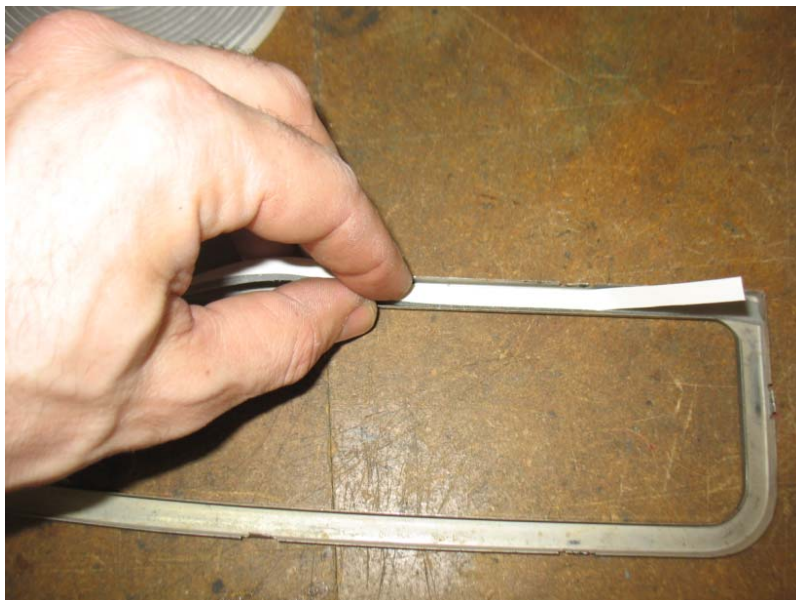


For the new lenses, it's just a matter of cutting out clear Plexiglas using the factory lens as an outline. Then mask off the areas of the lens where the LEDs will shine through. After that, paint the rear side black and apply the amber film tint.



The outer trim rings will serve to seal up the driving lights. As such, they need weather stripping to seal them against the factory parking lenses.

Apply the weather stripping to the inside portion of the trim ring, working your way around the trim ring.



After that, apply the double stick tape to the front side of the trim ring and attach the Plexiglas lens. Press firmly to ensure a good seal.



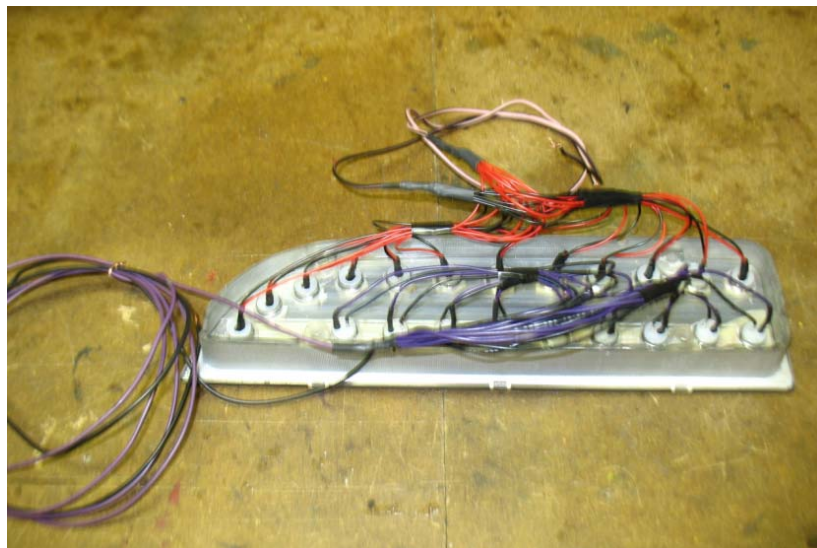
Now the electrical portion needs to start.

Electrical Procedure

Put the supplied grommets on all of the LEDs first. Solder a resistor to the cathodes on each diode. Then solder red wire to 12 of the LED's and purple wire to the remaining 9. Solder black wire to all 21 anodes.

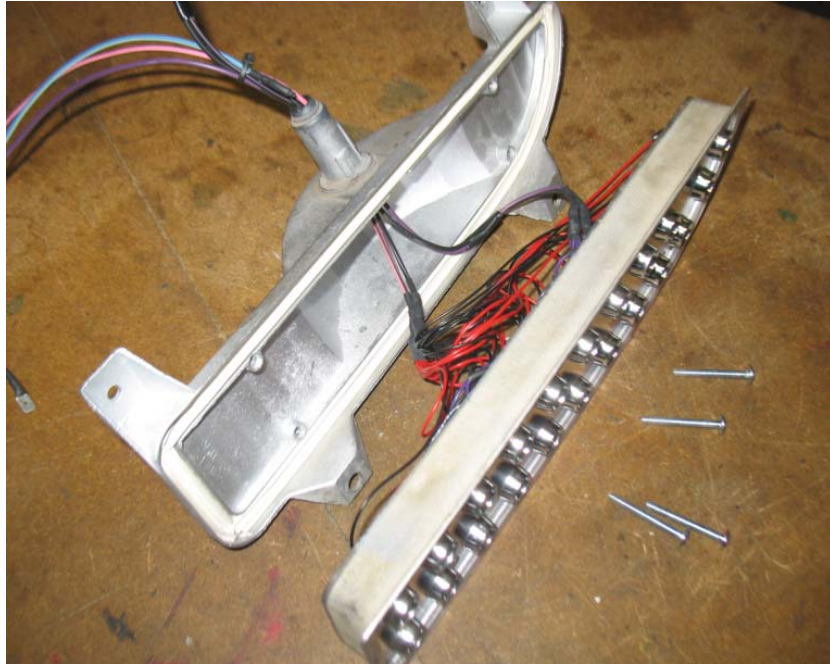
Cover the cathode and resistors with heat shrink tubing.

Each LED and grommet are then installed into the LED holders on the driving light.

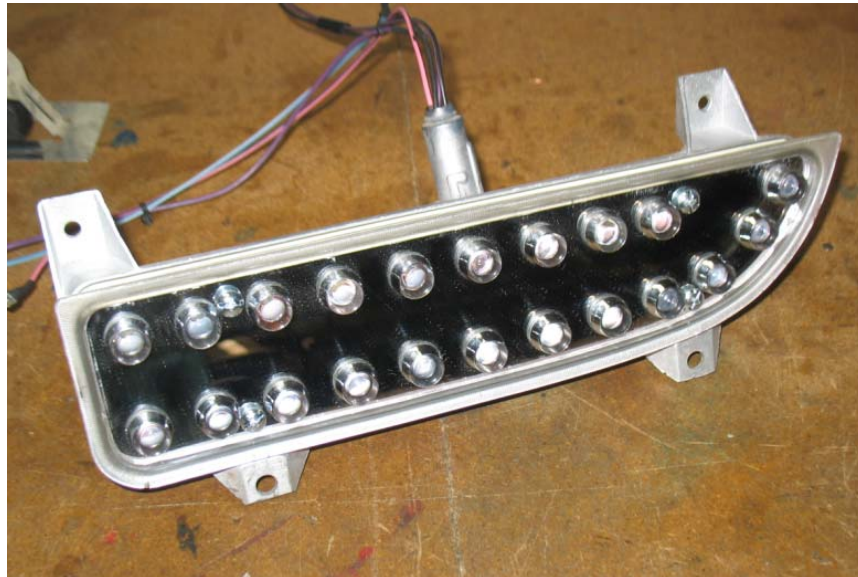


Solder all the red wires in parallel and all the purple wires in parallel. The same for the black wires. Attach at least a 16 gauge wire to each of the wire bundles. These single wires will integrate into the vehicle electrical system.

Next, run the wires into the parking lamp housing.



And then bolt it all together.



Finally, attach the trim ring to the parking lamp lens as you normally would. It'll take a little more effort now that there's weathers tipping in the interface, but it'll still work.

Install the driving light assembly into the car just like the factory.

On my setup, the driving lights come on when the ignition is on. Which means it was necessary to bring switched +12V out to the front of the car. Once there, you can either solder the red wire to the +12V wire, or put a connector on it (as I did). The black wire goes to chassis ground.

For the turn signals, simply intercept the turn signal wire from the factory parking lamp wires and connect the purple wire from the driving light to the parking lamp wires.

What you end up with is the following:







Video of parking lamps

<http://www.youtube.com/watch?v=khQ8zPXINtU>

<http://www.youtube.com/watch?v=FKKXO0cQjYQ>