

# L.E.D. Conversion for RV Lighting

By  
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# Barth Breakaway L.E.D Taillight conversion

I finally found a commercially available Red L.E.D. assembly that would fit inside the existing taillight housing. It is the Maxxima MX-M42200R. These units are about 3.3" X 5.25".



At first thought I was going to use the entire assembly as received from the supplier and make an adapter plate that would take the place of the existing lens. When I received the units, they were too deep and I could not do a simple flat plate adapter. So I decided to open up the Maxxima case and take out the L.E.D. assembly

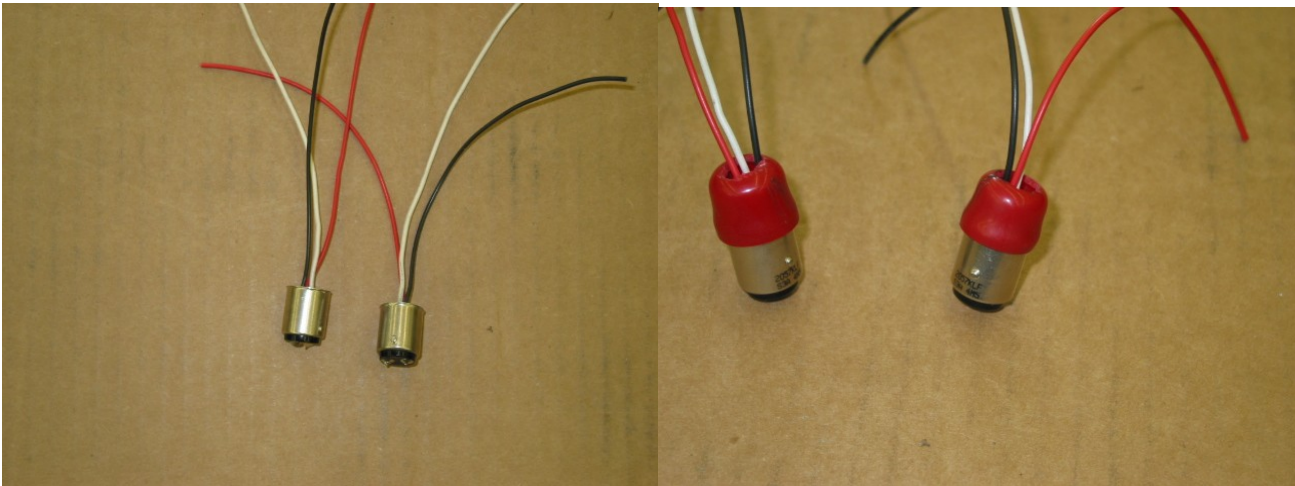




The next step was to make a custom light bulb replacement connector so I could simply plug the assembly in to the existing light bulb socket and mount the P.C.B. with the L.E.D. inside and in place of the incandescent bulb. I bought 4 bulbs and broke the glass, cleaned out all the glass and glue and removed the wires from the base of the socket.



After soldering in new wires I found a couple of plastic caps that I could use for an epoxy dam to fill the socket with epoxy and have an extension so I could get it in and out of the bulb socket.



I filled the area with epoxy let cure and was very pleased with the results.



Next I attached the wires from the plug to the L.E.D. assembly using the same color code as Maxxima. White=common, Black=taillight, and red=stoplight.



Some of you may remember the slight change that I made to the stock taillights by adding a highly reflective tape inside to brighten up and salvage as much light that I could from the light bulb, I was pleased with the results and believe that this is a good idea if you would like to keep the stock lamps.





For installation of the L.E.D. assemble I was careful to mount the P.C.B. assemble so that the middle L.E.D. bulb of the center array would be directly behind the center of the lens, so I made up a drilling plate to locate the mounting holes in exact position on all 4 housings.



Drilled housing

P.C.B. assembly plugged in



Mounting screws and nylon standoffs

P.C.B. assembly mounted



Stop/turn light comparison during daylight



The original Maxxima lights required a slight change in a resistor to increase the tail light output of the assembly but the stop/turn light output is very bright. The camera doesn't pick up all the subtle differences in light output and don't forget the lower light has the aluminum reflective tape which really helps to flood the entire lens with light.

The real noticeable difference is the almost strobe-like effect when the brake/turn light comes on, the light bulb has a very slow ramp time to full brilliance where the L.E.D. is on "right now".

The power draw for the L.E.D. tail light is 0.05A each assembly for a total of 0.2A compared to the light bulbs 0.6 each bulb for a total of 2.4A. Stop/turn L.E.D.s draw 0.3A each assembly for a total of 1.2 amps, compared to 2.2A each bulb for a total of 8.8A.

I have replaced the clearance lights with Maxxima M23015R for the red and 23015Y for the amber.



I am all L.E.D. now except for the front amber parking/turn lights, they will be next. I intend to use the existing housing there as well. The back-up lights will remain light bulbs, The headlight relay mod was a great change along with H1/H4 Hella lights. I intend to modify the "thanks" light switch so that it will blink all the lights instead of just the clearance lights AND will turn on all the lights if the main light switch is off for being passed during daytime. (I usually run with headlights on during daylight hours but sometimes just run with parking lights on.)

Commercial: Maxima lights can be found at a great store! Very fast, courteous service  
Parts Systems, Portland OR.

1-888-283-2075

<http://www.partssystem.com/home.html>

[http://www.partssystem.com/shop/productdetail.html?product\\_id=MX-M42200R&v=MAXXIMA](http://www.partssystem.com/shop/productdetail.html?product_id=MX-M42200R&v=MAXXIMA)