

# LED Tail Lights Connected with Tail Light Bulb Base

by Tom Whitton, GMCES member from Paducah, Kentucky

LED tail lights not only look great when lit but they also provide additional safety in all weather conditions. Here's an easy method to upgrade the GMC tail lights without cutting away the existing tail light mounting area.

## Purchase the following:

- A) One pair of used or new taillight lenses for Chevrolet or GMC Vans 1985 – 1996.
- B) One pair of LED trailer lights from Harbor Freight or other source. Harbor Freight #93263-9VGA, 4" Submersible LED Stop/Turn Trailer Light. \$16.99 each.
- C) If you don't have or can't borrow one, purchase the Adjustable Circle Cutter from Harbor Freight (#37370-1VGA) which is designed to give a clean cut.

## Supplies:

- A) Four decking screws and a wooden board that is a minimum of 6 inches x 6 inches.

## Procedure:

- 1) Use a Dremel Tool or other appropriate cutting tool to trim the inner shell of the taillight lens. (See photo)
- 2) Using the four decking screws, secure taillight lenses to the wooden board which, in turn, is fastened to a drill press bed.
- 3) After determining the center point, cut a hole in each lens using an adjustable circle cutter which is designed to give a clean cut. It is suggested that you practice on scrap plastic or wood to make sure you have the size set correctly. An interference fit is best for inserting an LED light into a lens.
- 4) Locate a hole in the plastic lens so wire connected to the LED light will fit inside taillight recess area. Use small amount of clear silicone caulking and press LED taillight into lens. See finished LED tail light in photo.
- 5) Taking a used, # 1157 standard light bulb, crush and remove the bulb glass and adhesive from inside the bulb's base.
- 6) Remove old solder from the light bulb connections inside the metal base of bulb.



7) Strip the wires on the new LED fixture and solder wires to locations shown in the diagram using the following scheme:

- a. White (ground) to inside metal base
- b. Red to base bottom connection for brake light; solder from outside and round solder for connection
- c. Black to base bottom connection for tail light; solder from outside and round solder for connection

8) To assist with properly inserting the bulb base, bend a short piece of 14-gauge wire into a U-shape, insert and solder both ends into metal base to form a handle.

9) When cooled, pour some epoxy into the cavity to securely hold soldered wires and 14-gauge wire handle in place.

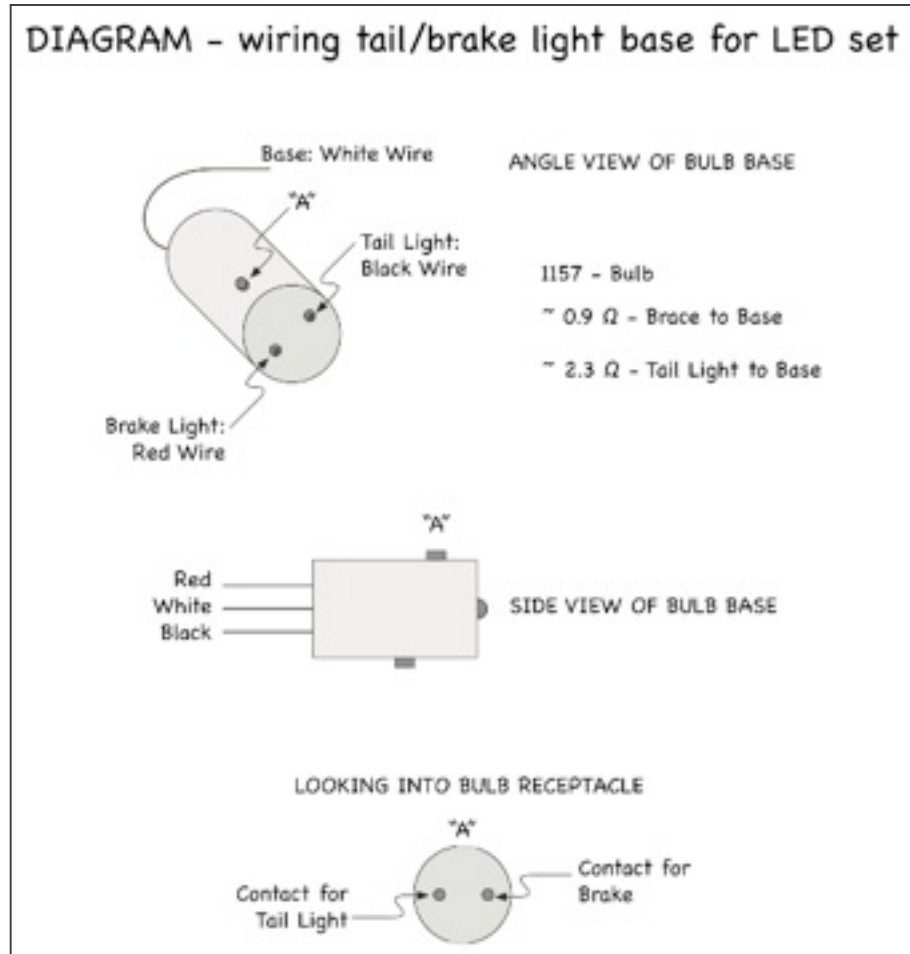
10) When epoxy is cured, hold handle and turn the bulb base into the taillight socket just as you would a light bulb.

For owners who prefer to utilize a bulb base that is prewired, please contact me as I am thinking about just offering the finished bulb bases ready to screw into the tail light socket with pigtail wires for connection to the GMC owner's choice of LED lights.

### **NOTE: For Rosta Electronic Cruise Control Users Only**

Because the LED does not draw as much current as the light bulb, if you have installed Rosta electronic cruise control you will probably need to add the following to the electronic circuit (next paragraph). Otherwise, you may not be able to engage the cruise control. This holds true regardless of how you wire the LED taillights.

The violet wire in the Rosta system is either looking for ground or 12 volts. In the added circuit, when the brake switch is engaged a relay is energized. The normally open contact closes and supplies 12 volts to the violet wire of the cruise control. The relay closed contact goes to ground.



When the brake switch is deactivated the violet wire of the cruise control goes to ground through the normally closed contact.

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