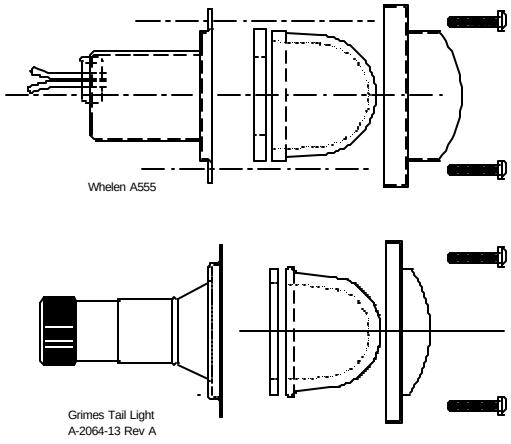
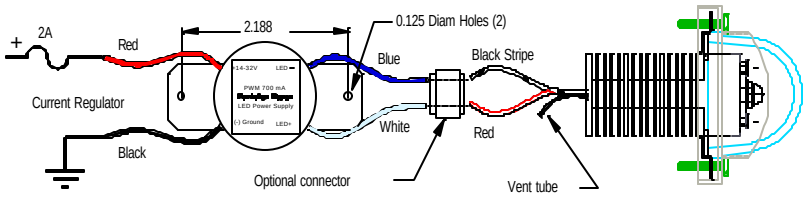
Eric M. Jones
113 Brentwood Drive
Southbridge MA 01550-2705
508-764-2072
emjones@charter.net

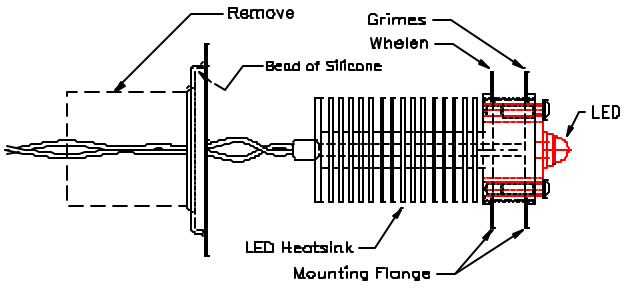
PerihelionDesign.com

EZ Retrofit Manual for Our White LED Tail Light



1) Remove the two screws that fasten the lens retainer. Remove the retainer, lens and gasket and set them aside.
2) Pull out the socket housing, note the positive and ground wire and disconnect them from the socket housing.
3) Using a bandsaw or other tool, cut the back shell off the socket housing to clear the one-inch diameter LED heatsink.
4) Install the white LED tail light 700 mA PWM precision regulator. This may be installed anywhere, but some air-cooling or attachment to a metal part of the aircraft is preferred.





The LED 700 mA current does not change over the life of the lamp or variations in aircraft voltage. A 2A fuse may be installed inline anywhere between the regulator and the control switch since the replacement of the tail light fuse is not critical to continuing safe flight.
5) Adjust the Mounting Flange Ring to the correct position for the Whelen or Grimes tail light you have. You can adjust the LED position for exact alignment by test-fitting the light and observing that the lens retainer shadow should be 70° horizontal to the left and right (measured from straight back) and the vertical shadows should be straight up and down. (Actually up and down 90° to the direction of flight) This adjustment is somewhat dependent on the gasket thickness, the lens, the airplanes orientation in flight and the mounting screw tightness, but can be compensated for by adjusting the mounting flange ring position on the heatsink of the LED position light. Silicone seal the ring when satisfied.
6) Run a generous bead of silicone sealer around the housing seals. You may elect to seal the lens and taillight assembly completely since replacement of the LED will probably be an exceedingly infrequent task.
7) Complete wiring to the panel electrical system.
8) Test. Mark in logbook.
9) Call Perihelion Design if you need help, but be aware that your experimental aircraft may be unique and digital photos would be helpful.

FOR USE IN EXPERIMENTAL AIRCRAFT ONLY.

Rev 19JAN05