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### Installation Instructions for Incandescent Instrument Lighting Dimmers.

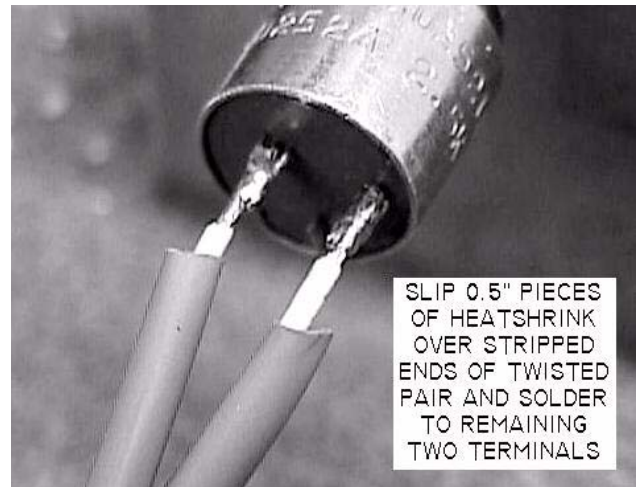
1. Select a location for the remote mounted dimmer assembly. The preferred mounting locations allow the fins to be oriented vertically. The dimmer assembly should be mounted clear of heat sources such as radio stacks and heater or defroster outlets.

2. Referring to outline drawing, drill 3 (larger dimmers use 4 mounting holes) #26 holes in the selected mounting surface and attach the heatsink using 6-32 screws and nuts (not included). For easier, one handed installation and removal, consider installing #6 nutplates in lieu of nuts.

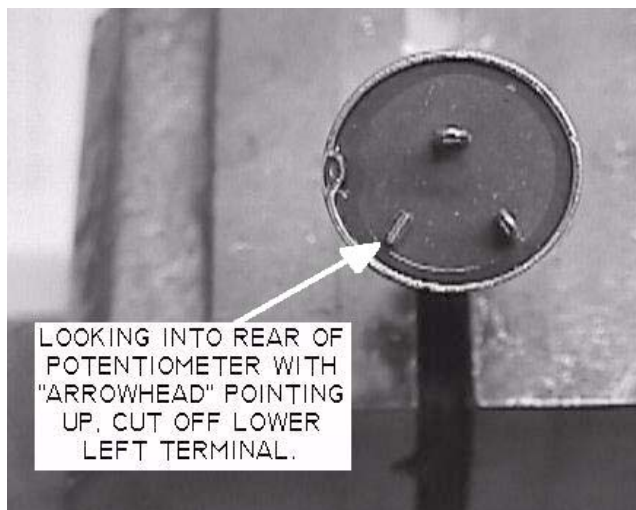
3. Cut two lengths of 22AWG wire (Mil-W-22579/16-22 recommended) to run between panel mounted control potentiometer and dimmer assembly. Use drill motor to twist the two wires to about 4 twists per inch. Carefully release the twisted pair - holding it so that it "unwinds" in an orderly fashion without tangling.

4. Strip ends of twisted pair 1/4". Cut two pieces of 1/8" heatshrink, 1/2" long. Slip pieces of tubing over prepared ends.

5. Use electronic grade solder (60/40 or 63/37 tin-lead, rosin core) to attach wires to terminals on the control potentiometer. Hook wires over the terminals and solder.



After joints cool, slide heatshrink pieces over the joints and shrink them down.



6. Slide piece of 1/2" heatshrink over the wires and onto the body of the potentiometer. The heatshrink should extend just past the shaft end of the potentiometer body.

7. Apply heat to shrink the portion of the tubing over the potentiometer body. Do not overheat or it will shrink too aggressively and crawl off the potentiometer! Heat it just enough that you can see some "wetness" showing at the end where the internal sealant has softened and to a point where it just starts to shrink over the wire end of the potentiometer. Stop at this point and let the assembly cool for several minutes.

8. Now apply heat to the wire end of the heatshrink segment being careful not to re-melt the shrink over the body of the



potentiometer . . . when the heatshrink has reduced to approx 1/4", lightly "squash" the hot tubing with a pair of needle nose pliers so as to close the tube down on the wires. An internal melting sealant will ooze out of the end. Work the end down to fully encase the wires and flatten the tubing as it cools.

**Note**

If you do not plan to label the dimmer control with a plastic overlay panel, you may wish to delete the #38 holes in the next step. Most installations do feature some sort of overlay that hides these anti-rotation holes. If you choose not to use them, the anti-rotation tabs may be snapped or sanded off the potentiometer.

9. Referring to the outline drawing, locate and drill two #38 and one .25" hole in the panel for installation of the potentiometer. Deburr holes.

10. Install overlay before installing the control potentiometer from behind using supplied lockwasher and nut. A 5/16" nutdriver fits the potentiometer mounting nut.

**Note:**

There are two variations of the dimmer assembly that use different pin numbers on the connector. Make sure you use the numbers appropriate to the revision level of your dimmer.

11. Referring to wiring diagram, complete the wiring of the dimmer assembly using electronic grade solder to attach wires to the dimmer assembly's mating connector. Use 1/2"

pieces of 1/8" heatshrink over the soldered connections.

12. Install retaining screws on connector using supplied clips. After the screws are installed, the "threaded" portion of the clip may be flattened to prevent loss of the screw by excessive rotation during subsequent removals.

13. You may shorten the potentiometer shaft with a large pair of diagonal cutters or line-man's pliers. Cut shaft with the potentiometer un-mounted from the panel so that shock of the "snip" doesn't damage the potentiometer's bearing. Attach knob by tightening setscrew with 0.050" allen wrench.

14. Install connector on dimmer assembly and snug down the retaining screws. Tie wires into ship's wire bundles.

16. At maximum counter clockwise, the dimmer assembly will keep about 4 volts on the panel lamps. Their life under this condition is VERY long; keeping the bulbs warm even during daytime flight makes them more resistant to vibration. We do not recommend installation of upstream switches of any kind which would turn the lamps completely OFF.

Kit checklist:

1 each, 2.5K potentiometer (Make sure potentiometer has nut and lockwasher).

1 each, Dimmer assembly (Tested)

1 each, Knob (Make sure knob has both setscrews installed).

1 each, 9-Pin, D-sub Female connector

1 each, Kit of connector retaining screws and clips

6 inches, 1/8" heatshrink

1 inch, 1/2" internal melting wall heatshrink.

1 set, Instructions (4 Sheets).

Variations on a theme:

Only the smaller of the heavy duty heatsinks for a DIM15-14 and DIM10-28 dimmers is illustrated (1.50" wide). The DIM30-14, DIM28-28, DIM50-14 and DIM35-28 heatsinks are twice as wide (3.00") and mounts with four screws.

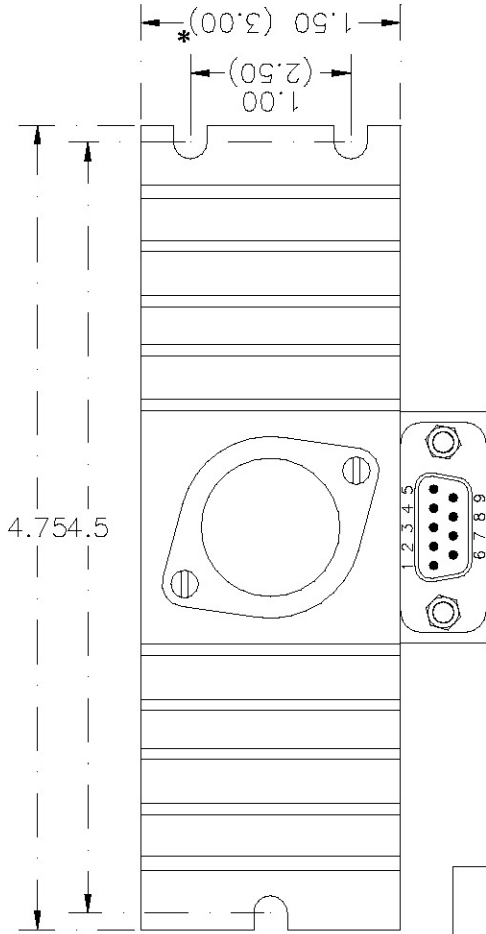
All dimmers of the same revision level have the same wiring diagram and differ only in size of heatsink and current rating of the integrated circuit dimming controller.

The schematic on page 4 and an inset on page three give wiring details for the gooseneck map light assembly

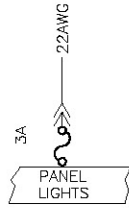
INSTALLATION KIT CONTENTS:

- 1.5/3.0 AMP DIMMER ASSEMBLY
- 9-PIN, D-SUB CONNECTOR, FEMALE
- RETAINING SCREW KIT
- 2.5K MINIATURE POTENTIOMETER
- KNOB
- 1/2" HEATSHRINK, 1" LONG
- 1/8" HEATSHRINK, 6" LONG
- SCHEMATIC AND OUTLINE DRAWING
- INSTRUCTION SHEET

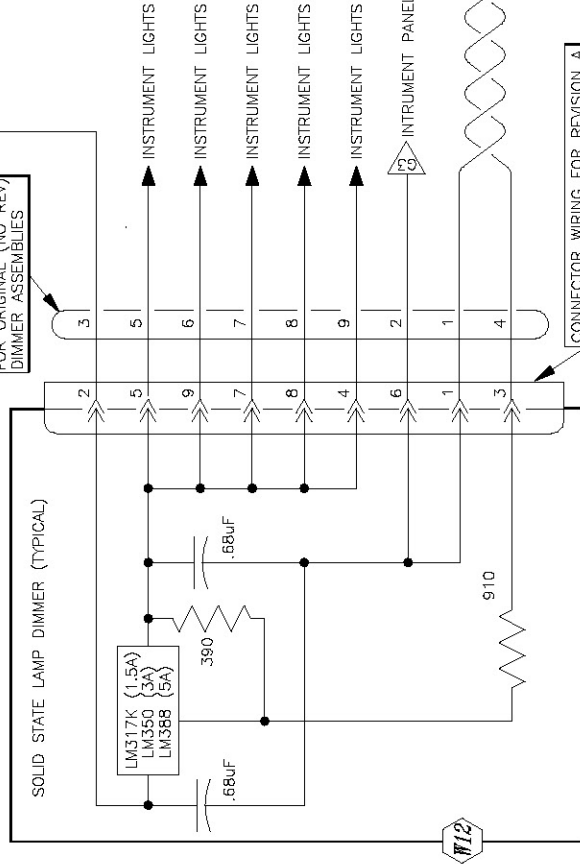
**For Use with Incandescent Lighting Displays Only. Will Not Work with LEDs.**



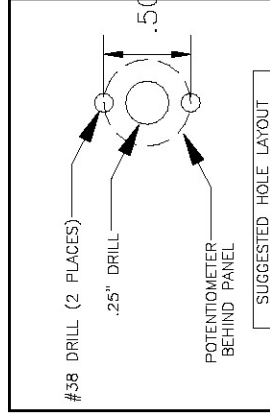
\* DIMS IN PARENS ( ) APPLY TO DIM50-14, DIM22-28, DIM30-14 & DIM22-28



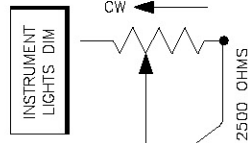
CONNECTOR WIRING FOR ORIGINAL (NO REV) DIMMER ASSEMBLIES



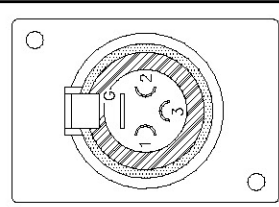
CONNECTOR WIRING FOR REVISION A AND LATER DIMMER ASSEMBLIES



SUGGESTED HOLE LAYOUT FOR CONTROL POTENTIOMETER



BOTTOM VIEW OF GOOSE-NECK LIGHTING FIXTURE CONNECTOR:



LAMP CONNECTS TO TERMINALS "1" AND "2". IF YOUR AIRPLANE IS METAL AND THE CONNECTOR CAN GET A "GROUND" THROUGH THE MOUNTING, JUMPER TERMINAL "1" TO "6". OTHERWISE, RUN 22AWG WIRE FROM "1" TO PANEL GROUND. TERMINAL "2" CONNECTS TO ANY OF THE DIMMER ASSEMBLY'S OUTPUT TERMINALS.

B&C Rev. Fixture Connection Description 06/05/07

For Use with Incandescent Lighting Displays Only. Will Not Work with LEDs.

