

TOTAL PERFORMANCE
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LN CLEAR LENS KIT
February 22, 2013

LN CLEAR LENS KIT

WINGTIP KIT (VA-148)

1.000 VA-148	W/TIP LENS 4/6/8
1.000 W-431-L	BULKHEAD LENS LEFT
1.000 W-431-R	BULKHEAD LENS RIGHT
2.000 W-432	LENS RIB
1.000 BAG 903	CS4-4
1.000 DOC WINGTIP LENS K VA-148 LENS KIT INST.	

BAG 903

CS4-4

22.000 RIVET CS4-4 POP RIVET

NOTES

INSTALLING THE WING TIP POSITION LIGHT LENS

The wing tip lens kit contains the plastic lenses and two-part aluminum ribs which provide mounting support for the lens and the light fixture.

The Lexan lenses are supplied as a one piece molding. They may be cut with a saw, snips, or a die grinder and cutting disc.

Cut the molding into two lenses, one left and one right. Finish the edges.

Use each lens as a template on the appropriate wingtip to mark the area of fiberglass which must be removed. As shown in the sketch, the aft edge of the lens will be about 10 inches back from the centerline of the wing tip, measured along the curve of the inboard end. The thickness of the fiberglass varies, so build up the thin spots with a layer or two of fiberglass cloth and resin. Ideally the fiberglass should be exactly as thick as the lens, so the two will make a smooth butt joint.

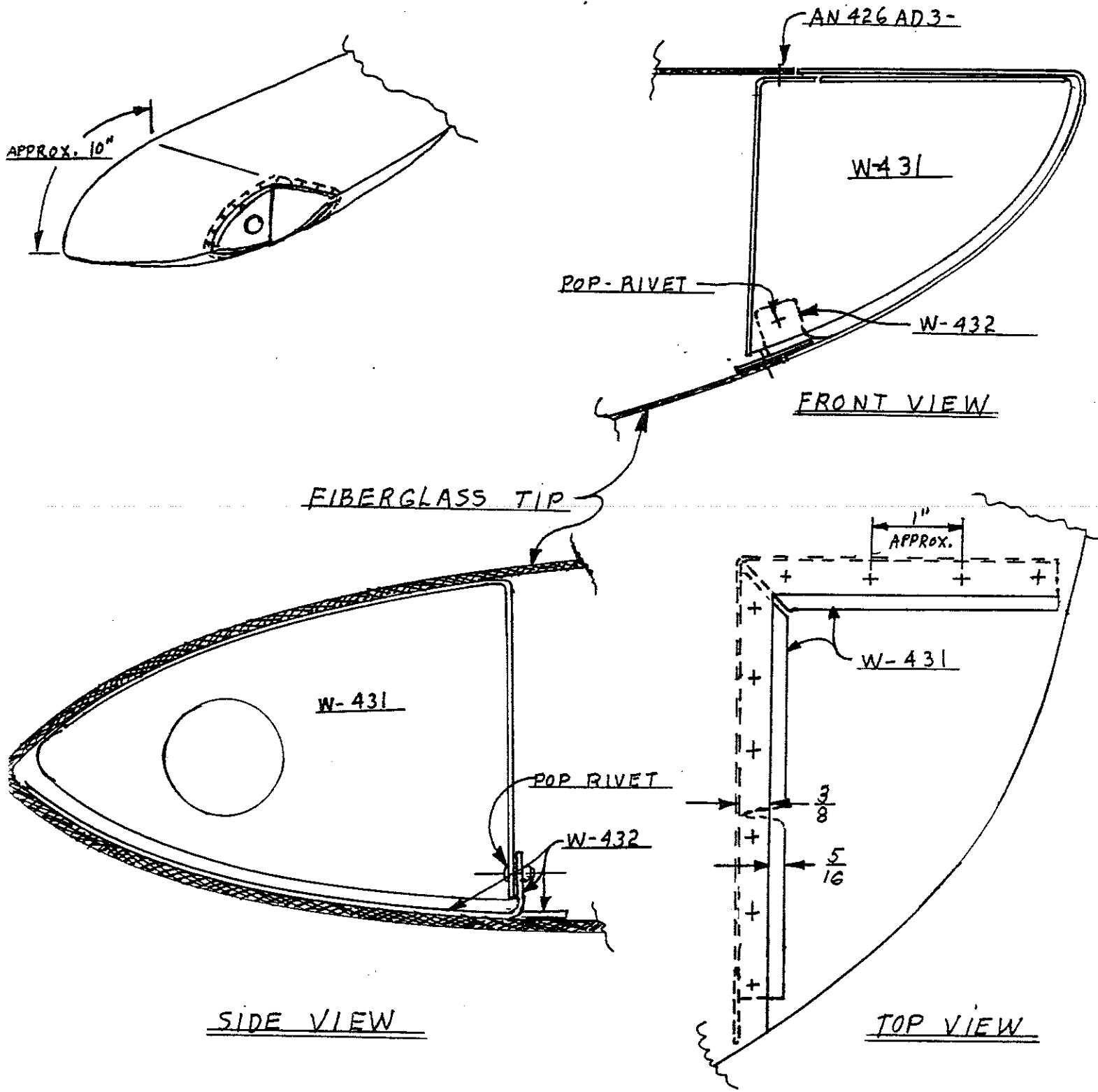
Once the wing tip is cut out and built up, the W-431 rib may be clamped in place. As shown in the sketch, the flange of this rib should stick out about 5/16" to provide a mounting surface for the lens. The forward flange of the rib may require a notch as shown to contour with the wing tip. This rib is riveted to the tip with AN426AD3 rivets (the length will vary with the thickness of the material) but for now keep it clecoed until the complete assembly has been fitted.

Hold the lower rib W-432 in position and drill it to the wing tip. Mark, cut and bend a tab as shown that attaches the W-431 and W-432 ribs together. Connecting the two ribs is important, because the wingtip loses rigidity when the lens opening is cut out and should be reinforced.

Drill the lens to the flanges of the ribs and rivet with CS4-4 or other soft aluminum blind rivet. Bulbs do not need to be changed often, so drilling out and replacing the rivets is not a big consideration. The lens could be attached with #6 flush head screws and nutplates if the builder desires. Fasteners of either type should be spaced approximately 3" apart.

Our prototype lens kit was tested with a Grimes Model E position light, but other makes and models can be used. The builder must make his/her own determination regarding the position of the light fixture so that it meets FAA requirements.

LENS KIT PARTS LIST		
PART NO.	NAME	QUANTITY
<i>VA-148</i>	vacuum formed lens (makes 1 left/1 right lens)	1
W-431	upper rib	2
W-432	lower rib	2
CS4-4	pop rivet	20



DWG LK-1