

## MURPHY DROOP WING TIPS FOR MOOSE AIRCRAFT

Please refer also to chapter 16 in the 2500 manual.

These wing tips are options on Moose aircraft, providing a substantial increase in wing area, reduction in wing loading and greatly reduced tip drag. They can be retrofitted to existing aircraft, or incorporated into new construction.

Due to the need for a spar extension within the tip, the spar extension is placed aft of the main spar, picking up the stringer line immediately behind the main spar.

- Indicates a step required only in a retrofit.

\*1/ Drill out rivets holding the old tip in place, and remove, leaving the aluminum parts W-606 and W-609.

2/ Trim flange off new wing tips. To do this measure from a fixed point to trace your cut line as the tip is not constant along the flange.



3/ Using measurements from the old tip if retrofitting, or pushing the tip onto the wing, mark roughly where the cut out for the aileron spade will be (bottom surface only). Leave  $\frac{1}{2}$ " excess material.



4/ Push tip onto wing and position carefully. Transfer stringer rivet lines and main spar rivet lines from wing to tip.

5/ Cut stringer material to 10 X 22" lengths (later kits use lengths of angle-RAWST-64). Lay out rivet pattern along the traced lines on the tip similar to the pattern on the wing. Drill #40.

6/ Install stringer extensions at each stringer location except the location just behind the main spar top and bottom. Drill through holes drilled in step 5. Use same rivet pitch as on wing, and butt stringers in tip up to stringers on wing, with 1/16" gap between their ends. Rivet in place with RV-1410 rivets.

A stringer extension is placed at the main spar top and bottom, and the spar extension will be placed at the stringer location just behind the main spar.

7/ Locate W-509 main spar extensions. Place one inside the other and clamp together so they will fit snugly inside tip.

8/ Install angles at stringer location behind main spar. Drill and rivet in place with four RV-1410's.



9/ Attach spar extension to angles, drill and cleco.

10/ Push tip onto wing, position carefully and drill out flanges on main spar extension through holes you drilled in tip in step 5. Cleco.

11/ Finalise trimming of tip around aileron spade. Remove tip and trim.

12/ Place a travel light inside tip (to highlight existing holes in a retrofit). Refit tip, finalise position and drill through tip into tip rib of wing and W-606 and W-609, #40 with approx. 1" rivet pitch, or pick up existing holes.

It is a good idea to mark existing rivets in wing tip rib, so the rivets holding the tip in place will fall between these.







