

# Horizontal Stabilizer Service Bulletin

Date: Friday November 19, 2004

To: All Super Rebel/Moose owners

Re: Horizontal stabilizer tip rib

INFO: A number of Super Rebels have shown cracking on the tip rib/rear spar area quite similar to the wing tip. An immediate inspection of BOTH tips is necessary for ALL Super Rebel/Moose series.

If no cracking has occurred the aircraft can still safely be flown, however it is still HIGHLY RECOMMENDED that you install the mod to prevent damage to your spar which would require new ribs and a spar doubler! [the ribs and spar doubler are not included in the mod kit].

If installing sea fins [FL-100] on your plane you can purchase these fins and the new heavier tip ribs.

**ACTION:** Inspect both tip ribs on your horizontal stabilizer for signs of cracking around the rear spar area. If cracking is evident you need to install this mod A.S.A.P. You will also need a spar doubler repair. The crack MUST be drill stopped and the size of the doubler and number of rivets required to be removed and replaced will depend on the severity and length of the crack!

**Cover Letter for the Super Rebel/Moose Modifications**

The repair modifications specified are very similar in nature and require immediate attention.

This applies to ALL Super Rebel/Moose series owners. In the mod kits we will provide you with a raw stock piece of stainless steel with a bent flange that will replace the old rib flange. This piece of stainless that is provided is enough material to fix both wings and both tips of your horizontal stabilizer.

You need to carefully read instructions and mark out each doubler piece before cutting to ensure you have enough for all!

The aluminum piece that is provided is for the wing tip mod only!

This aluminum piece provides stiffness as well as strength to the tip end of your wings.

This piece may come to you in one piece but it is for BOTH wings so cut it carefully.

**NOTE:**If your rear spar is cracked, do not complete mod as you will need to stop drill the crack and install a spar doubler first.

If your rear spar is not cracked complete mod as per instructions provided.

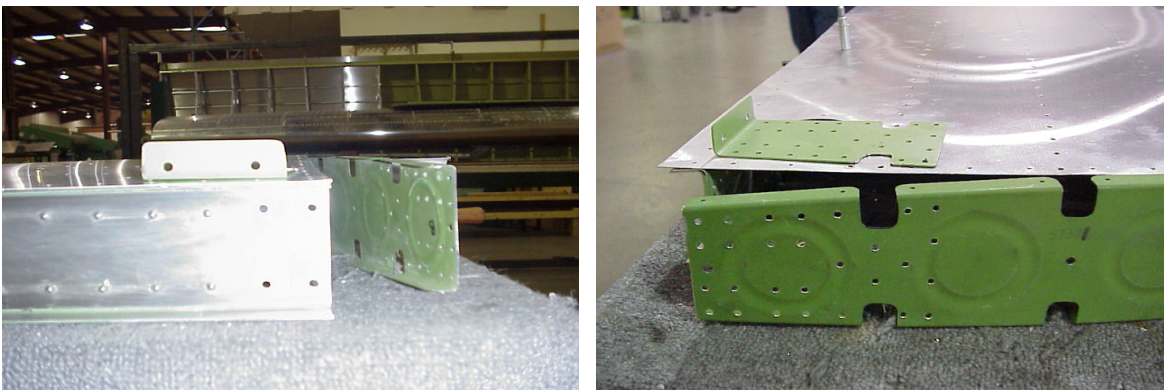
STAB SPAR PARTS LIST

<u>PART #</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>
ST1008	REAR SPAR TIP BRACE	2
RV-1410	RIVET 1/8 x 3/16 AVEX	60
RV-4412	RIVET 1/8 X 3/16 CSK AVEX	60

**Horizontal Stabilizer Tip Rib Repair**

1/ Remove tip rib rivets up to main spar (top and bottom). Be careful when drilling out the Avex rivets, they have a steel center and if you do not drill out or punch out the stem your drill may bite into the aluminum and create a massive hole!

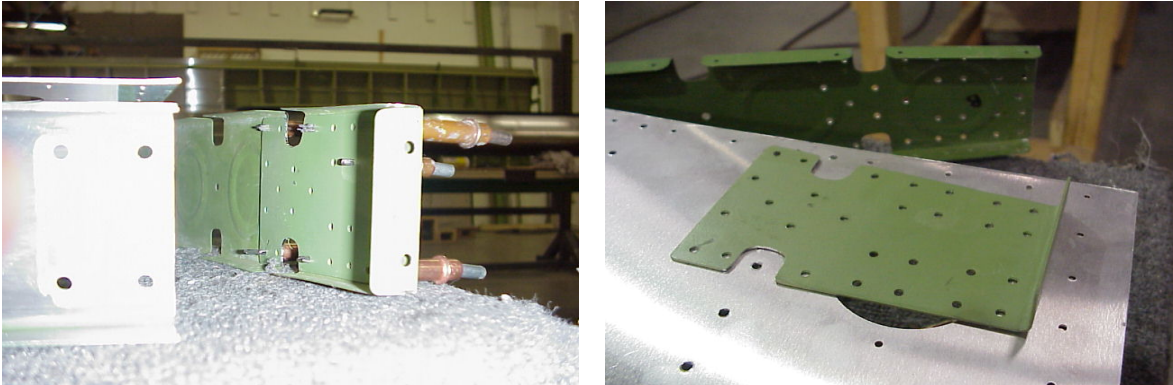
2/ Remove hinge brackets and label them accordingly.



3/ Trim steel doubler provided to fit on the inside of rib. Trim back an eighth of an inch from the radius of the rib flanges and cut out slots for the stringers.  
**THE STEEL DOUBLER NEEDS TO BE ON THE INSIDE OF THE RIB TO ENSURE THE ELEVATOR HAS FREE MOVEMENT!**

4/ Layout rivet pattern on the new doubler similar to the photos provided.

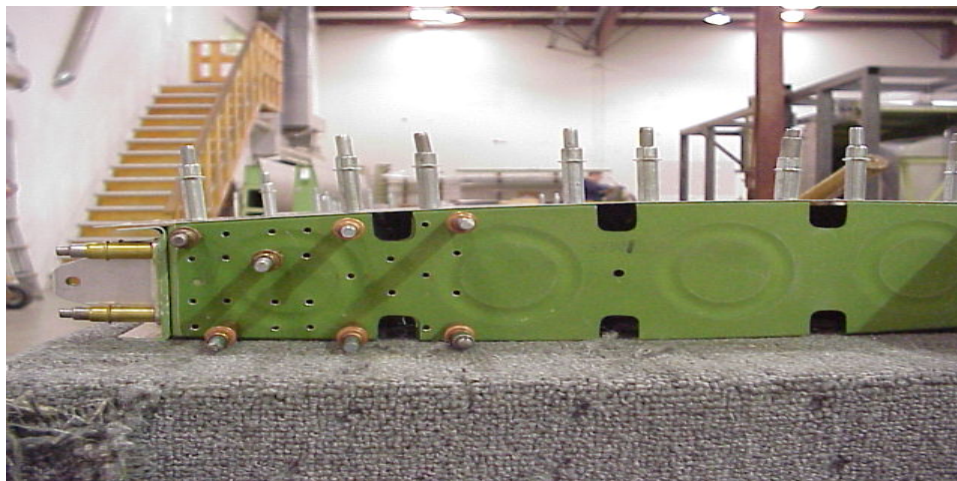
There are approximately 28 rivets in this repair. The edge distance needed for ALL rivets is one quarter of an inch from center of hole to the edge of the material. Avoid the tooling hole on the trailing edge of the rib when spacing out the rivets. Also try to stagger the new rivets from the old existing rivets in the skin to allow room for all rivet tails.



5/ Drill these holes to a #40 first, then up to a #30.

6/ Before drilling out the hinge bracket holes cleco the rib back to the skin (top and bottom) for proper alignment. Suggestion: Drill the hinge bracket holes to #40 first and cleco the pilot holes. Steel is a bit more difficult to drill and this #40 pilot hole helps drill up to #11. Take apart and deburr the rib and the doubler. The holes drilled for the hinge bracket may be a little close to the radius so you would have to grind down one side of the washers to allow the nut to sit properly.

**YOU MUST ZINC CHROMATE THE STEEL DOUBLER AND DIP ALL MOD RIVETS TO PREVENT GALVANIC CORROSION!**



7/ Bolt the hinge brackets back on first to allow maximum space for wrenches, then rivet the doubler on, then rivet skin back on to the rib. Repeat for other side.

The steel doubler should be cut from raw stock provided @ 3 and a quarter inch wide times 2 and approximately 5 inches long not including the bent flange.(One for each side).



8/ The sea fins (FL-100) and the stab. Tip rib (ST-1002) are available for purchase.

- FL-100 is \$50.14 USD
- ST-1002 is \$43.40 USD

9/ Here are some additional photos to help you see the finished product

