

## Repairing Fuel Tanks

Recently Jeff Rose (TN) invited me to his place to install my new electronic ignition. While I was there he told me of an interesting repair technique. Occasionally it becomes necessary to open the top of a fuel tank to make a repair. The question is how to close it with out making a bigger leak than you had before.

Jeff has used the following technique to successfully repair several different Vari-Ezes.

First locate the tank baffle and then cut a 6" X 8" rectangular plate out of the tank top directly over the baffle. This will permit you to get to both sides of the baffle from the same hole. *Editor note: If you have no idea where the baffle is and doubt the plans were followed, you could always park the plane outside on a cool damp evening and let the condensing air mark the baffle location.*

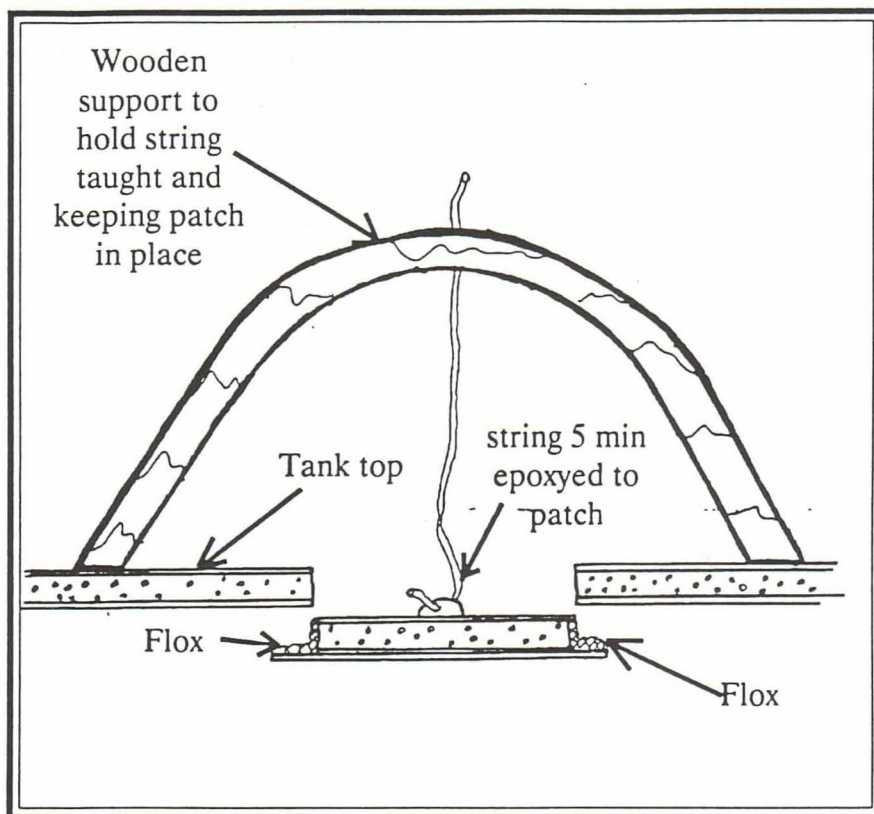
Reach through the rectangular opening, scuff up the suspected surface, and then paint epoxy on the leaking area.

When the repair is done and you are sure all contamination has been removed it is time to close the tank.

Lay up a 7" X 9" two ply BID patch on a piece of plastic on the table top. Lay the freshly sanded 6" X 8" tank top foam rectangle in the center of the 2 ply layup. Be sure the BID is wet so it will bond to the bottom of the rectangle. After cure, sand the 1/2" overlapping BID until it is dull and apply a liberal coating of floc on the BID ledge and to the foam edge.

Lower the foam patch into the tank opening and rotate so the patch lines up with the opening. Attach a rubber band or cord to the tank top rectangle with 5 minute epoxy. Pull the patch up into place using enough pressure to squeeze out the excess floc. Secure the cord to a piece of wood spanning the hole so the patch will stay up, in place, until it is cured. Wipe off the excess floc. After cure, sand and cover the seam with a 2 ply BID tape to cover the cut line.

After the epoxy has cured, leak test the tank and then fill and finish the surface.



## It's renewal time

### Tift Tricks

My Ole Pappy once said, "If you keep your mouth shut, your eyes open, and walk in the shadow of greatness you will surely learn something of value." While at KCGIG 93 I decided to try that directive. I must admit keeping my mouth shut was the hardest part but the four things I learned were worth the effort. I chose Bruce Tift as my mentor and learned:

1. Always carry a JB or Duro epoxy kit with you for emergency prop repairs. Open up the split in the prop, force in the epoxy, clamp with a rubber band and allow to cure. If a little wood is missing the epoxy will fill the void and can be shaped to match the original contour.

2. When tracking a prop, place a stick on the wing held in position with a bean bag. Align the stick so it is one inch in from the end of the prop. (The tips may vary a little) Be sure the mags are off and initially torque the prop to 150 inch pounds. Rotate the prop to determine if the prop to stick gap is the same.

3. If the gap is different you may use a piece of file folder stock as a shim between the prop flange and the prop face to help even up the track. If the track is only off a **very small amount** you might try differential bolt torque to true up the track. Be sure at least the manufacturers minimum torque is kept on the bolts, however.

4. You can check to see if the crank flange is bent by removing the prop and rotating it 180 degrees then replacing it on the prop flange. If the opposite end of the prop is now the farthest from the stick you have a bent crankshaft flange. Ouch!

**BIG BUCKS!!**