

Spinner to Propeller Template

ED: -I find one of the most tedious jobs of installing a new prop is to fit the spinner to the new blade contour.

Steve Beert, Long-EZ builder in IA, sent these pictures describing an easy to make blade template. First, cover the new spinner with paper mache'. When it has dried thoroughly, remove the paper mache' form and cut holes approximately where the blades will be located. Mount the paper mache' spinner on the backing plate and new prop assembly. Lay up strips of paper mache' or duct tape over the intersection of the prop and spinner. Remove the paper mache' template/spinner from the back plate and prop.

Slip the template/spinner over the new spinner and trace the prop blade outline on the new unit. A few strands of resin impregnated carbon roving inside a composite spinner's cutout will keep it from bowing out of shape

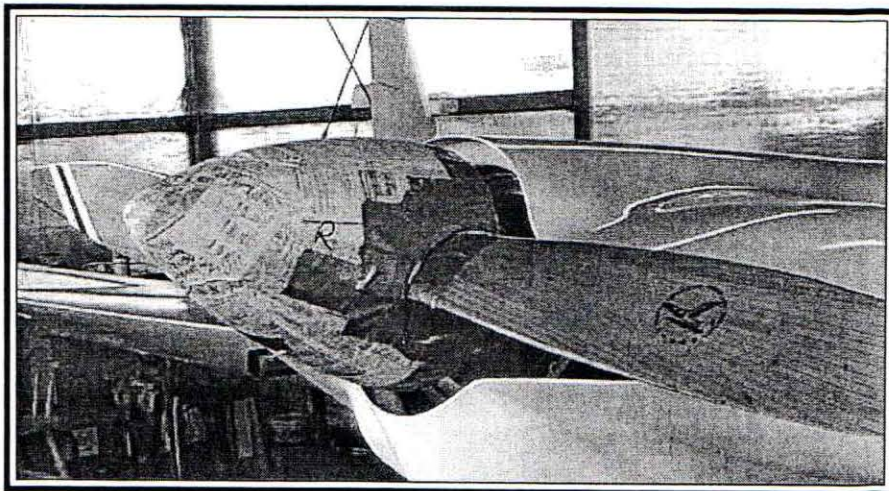
I understand congratulations are in order for Steve as he has just had first flight of his Long-EZ!

EZ Poxo Q&A
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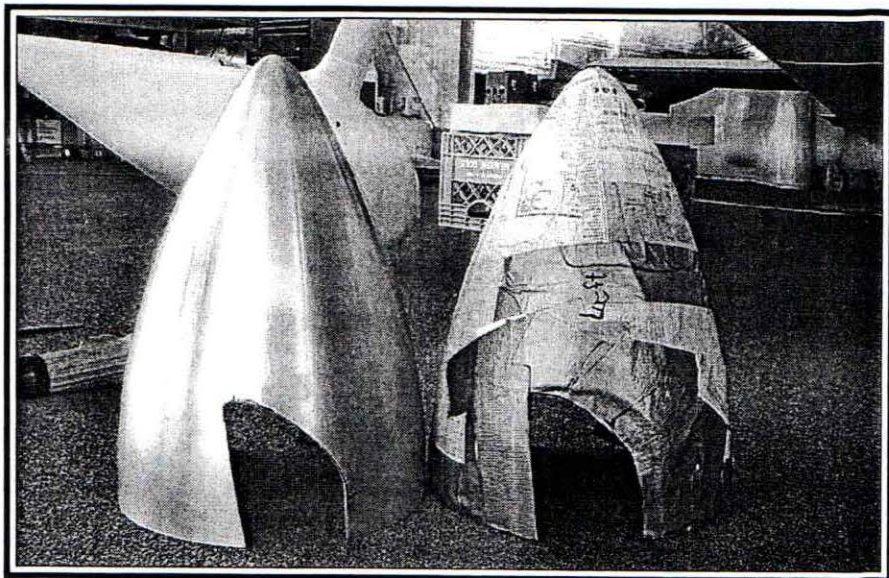
Question - I store EZ Poxo in an unheated pump. After several weeks, the hardener develops a gummy film on top. With heat and lots of stirring, the stuff dissolves. The epoxy cures normally and seems fine. I wondered what the gummy stuff is. Is it what you have referred to as crystallization? I live where humidity is high.

Gary Hunter (TX) - Unlike most hardeners, EZPoxo hardeners can crystallize like the resins typically do. It becomes a rather opaque dull slushy mixture. And just like the resins, heating and stirring will reconstitute the mixture back into a homogenous liquid form. However, your description of "gummy film" doesn't fit the description of a crystallized hardener.

EZ Poxo hardener does contain styrene monomer which can evaporate



paper mache' template ready to remove



finish trimmed spinner and paper mache' template

from the surface forming somewhat of a skin or thicker layer of hardener. Sort of like when you leave the lid off of a can of paint. Keeping the lid on the reservoir tightly sealed between uses will help to alleviate that. THIS, is most likely your situation.

As with all hardeners, the amine can react with CO₂ and moisture in the air to form what is called a carbamate that may be a gooey gummy type substance in the case with EZPoxo hardener. Keeping a tight lid on the hardener in between uses will alleviate most of the potential for evaporation and CO₂ related problems. This is sort of an extreme, but maintaining an inert gas like nitrogen or argon in the reservoir headspace will certainly eliminate the possibility of

carbamation ever being a problem. Carbamation usually does not blend back into the hardener with heating and stirring. The possibilities are low, but, If carbamation is the problem, I would not use that hardener anymore.

Lastly, there is a slight possibility of styrene polymerization that can form a gummy gooey translucent polymer that will may rise to the surface over a long period standing. VERY RARE. Depending on the extent of polymerization, the (now) POLYstyrene will blend back into the hardener upon heating and stirring. The physical properties of the cured resin will be fine. However, you may notice an increase in viscosity resulting from the polymerized styrene in the mixture. If the styrene is polymerizing, I suggest getting some fresh hardener.