

# Repair of the composite propellers

Small repairs by Aircraft Owner / Operator

## General instructions:

- a) Owners / Operators may make repairs to the propeller as long as care is taken not to influence the mechanical or aerodynamic properties of the propeller, and as long as the damaged area is small – less than 20mm<sup>2</sup>.
- b) Owners / Operators may NOT carry out any repair of propeller damage which extends into the depths of the propeller blade. This will be apparent from the existence of cracks radiating from the damaged area. They may NOT repair damage resulting in the composite layers being crushed together, or damage that extends across the curve of the blade.
- c) Owners / Operators may NOT do any repair to the blade anchor point. Also, they may NOT carry out repairs closer than 150mm to the propeller hub.



## Repair procedure:

- 1) Clean damaged area thoroughly to remove dirt and grease. Clear away any loose material around the damaged area with a small file or sandpaper. Then wipe the area down with acetone or alcohol to remove grease.
- 2) Prepare a small amount of resin in a clean mixing cup. It is possible to use polyester or vinyl ester, but epoxy resin is the best choice. Always use a strong and stable resin based on high strength adhesives. We recommend one with a high viscosity, which will not settle or run due to gravity. Otherwise, you can add thickening agents such as composite powder, microfibers, or microballoons.
- 3) Add prepared resin to damaged area. Be sure to eliminate all bubbles. For this you could use an awl or needle... dip the tip into the resin and transfer small amounts of resin to the repair area slowly, making sure the resin fills all gaps.
- 4) Let resin harden according to manufacturer's instructions – some resins require up to 24 hours – before finishing.



5) File repair roughly to the original shape of the propeller blade surface. Then use 220 grit wet or dry sandpaper to smooth the edges. Be careful not to remove too much material around the edges of the repair. Continue with increasing grit sandpaper all the way up to 1200 grit. Then polish with rubbing compound.



**We wish you a very pleasant time flying.**