

## Re-covering Your Airplane

by Ken Chadwick

from Vapor Tales, Fred W. Harvey, editor

Want to re-cover your ARF? This is what I did. I wanted a stick-type airplane for some general sport flying. I found what seemed to be a likely candidate at our club auction. It was a .60-sized red ARF with the standard stick markings.

It had three servos and an older engine. The airplane seemed to be well-built and structurally sound, but I noticed that some of the covering was coming loose in various places. The covering was the sticky back kind, similar to contact paper.

Fuel had seeped under the edges and turned the adhesive to goo. The fuselage fuel tank compartment and some of the forward servo box was fuel soaked. I found that the firewall had a hole cut in the center for the cap of the fuel tank to go through, and it had not been sealed off. Also, the outside of the fire wall, had not been fuel proofed.



I removed the engine and other hardware from the fuselage. To treat the fuel-soaked area I put about two cups of dry plaster of Paris powder into the compartments. I then cut up some foam or other light material to fit into the compartments, with at least 1/4 inch space all around. Pack the powder into the corners, under and between the foam and the sides of the fuse then set it aside to work (one-two weeks).

I went through a learning experience working on the wing. First, I removed all the hardware, like control horns and servos. I then removed the covering. This type of covering doesn't act like any kind that you might buy at a hobby shop. The adhesive was very

strong and did its job well when it was new. I tried the conventional means of removal using a heat gun. I discovered that this covering has a low melting point so it blisters up and has no strength when heated.

The covering had to be peeled off cold and improves slightly if warmed. When peeling the covering cold, sometimes a little balsa came off with it. Once the covering was off, I made repairs to the structure of the wing. Some of the wing ribs were broken and cracked, and the balsa that came off had to be replaced using cyanoacrylate (CA) glue. Now I needed to remove the remaining goo that was left behind. I used acetone with steel wool to scrub it off. The goo surrenders to the acetone easily and should be followed up with a clean rag and acetone wipe down. Do this outside or with very strong ventilation. It's definitely a fire hazard. Rubber gloves are a must to protect your hands.

Sand the whole surface of the wing with 200-grit sandpaper and re-clean any goo you missed. Use some filler or light spackling to fill any surface dings and irregularities, then set the wing aside to dry. When the filler is hard (6-8 hours), sand these places again to smooth them out. Wipe the surface with a tack rag just before applying any new covering. Follow the covering manufacturer application recommendations. I didn't use any Balsarite®, and I had only one small place where the new covering wouldn't stick. This was remedied by putting an application of thin CA on the effected area and immediately wiping it off. The new covering will stick to the film of cured CA.

When the time is right, clean the oil soaked powder out of the fuselage. Using the same procedure as the wing, remove the covering from the fuselage, clean, sand and fill any imperfections. Next I set the fuselage on my table and using a level and blocks, checked the incidence of the wing to the horizontal stab. I found the stab was tilted to one side and slightly cocked. The tail feathers had been originally installed with epoxy.

To remove these pieces without breaking them, put the heat gun on high and heat the epoxy. Keep the gun moving so you don't scorch the balsa. In about five minutes the epoxy will lose its bond, and with some wiggling and gentle pulling the pieces will come loose. Keep heating the excess epoxy and scrape with a scrap of pine or other suitable wood.

To reinstall the tail, block and level the fuselage as before. Dry fit the stabilizer and check for proper incidence use T-pins through the stab to hold the correct position on the fuselage. Remove the stabilizer