

## The plastic

The white plastic you see in the article is styrene. I used it because it is cheap. However, when it is exposed to fuel over a long period it becomes brittle. The cowl mounts crack and the top flies off in flight. I do not use ABS because you have to buy 1000 sheets before plastic companies will make it affordable. That is why your cowl is clear. A small bonus is that it comes in handy when you drill the holes for the needle valve and glow plug. To bond the plastic parts together you should use an acetone-based adhesive like plastic model cement. Straight acetone will work, but it is thin and the joint must be near perfect. Scrap plastic has been provided for you to do your own tests with. I used model cement, Bondo automotive body filler, Plactra prep primer and Topflight lustercote paint.

## The cowl

The cowl halves are numbered on the front ends 1&2 make a set. Take the #2's and trim the excess off then, bond the doublers to the sides. Leave a minimum of ½ inch hanging over the edge; this is the lip that you will use to attach the upper cowl half to. With the engine and prop mounted, place the cowl under the engine stub wing. Allow ¼ inch clearance between the back of the prop and the cowl; place the outer side of the cowl against the stub wing then mark the cowl where it touches the inner stubwing. Using your marks cut a notch in the cowl allowing the stubwing to pass through the cowl. The point where the cowl halves meet should be flush with the top of the stubwing. Then do the other side, do not make 2 of the same sides. Take the #1 halves and trim off the excess and fit it to the # 2 halves. Tape them together and drill the holes for the screws that will hold them in place. Note: use the plastic you cut to clear the stubwing to make “doublers” so the screws have something to bite into. Another option is to use Bondo to attach a nut to the inside if you do not like sheet metal screws.

With the engine installed, assemble the cowl halves over the stubwing. Then rotate the cowl up until the doubler (the first bond you made) meets the edge of the stub wing; there should be a little clearance between the engine and the cowl. Drill two holes and install sheet metal screws. Note: do not smash the cowl against the stubwing this will cause stress. Use your finger to push silicone into the void between the cowl and the stubwing edge. Then form a fillet with silicone between the stub wing and the insides of the lower cowl half. Why silicone to bond with? It isolates the engine vibration. Give it a full day to dry. Then drill the holes for the glow plug and the needle valve. Note if you slide a piece of fuel line over the needle valve knob, you can use Sullivan plastic push rods as a needle valve extension. Getting the fuel-line over the knob is tough; but it can be done. Wet sand the cowl with 600 grit before painting.

## The wheel fairings

Trim the excess off the upper and lower wheel fairing halves. Use acetone to bond the edges together. Then use your finger to push some Bondo into the void in the step. (I never claimed to be a master tooler, so the fit might be off some). Make the Bondo set slow; this will give it time to attack the plastic and stick well. It also makes the Bondo flexible. Trim the fairing to fit the wing and attach it with epoxy. Note : making pinholes around the edges will give the epoxy a good grip on the wing. Originally, I cut a slot in the plastic so I could remove the gear wire. This proved to be unnecessary. Wait until something happens that you need to remove it then cut the slot.....Positive thinking.