culver cadet

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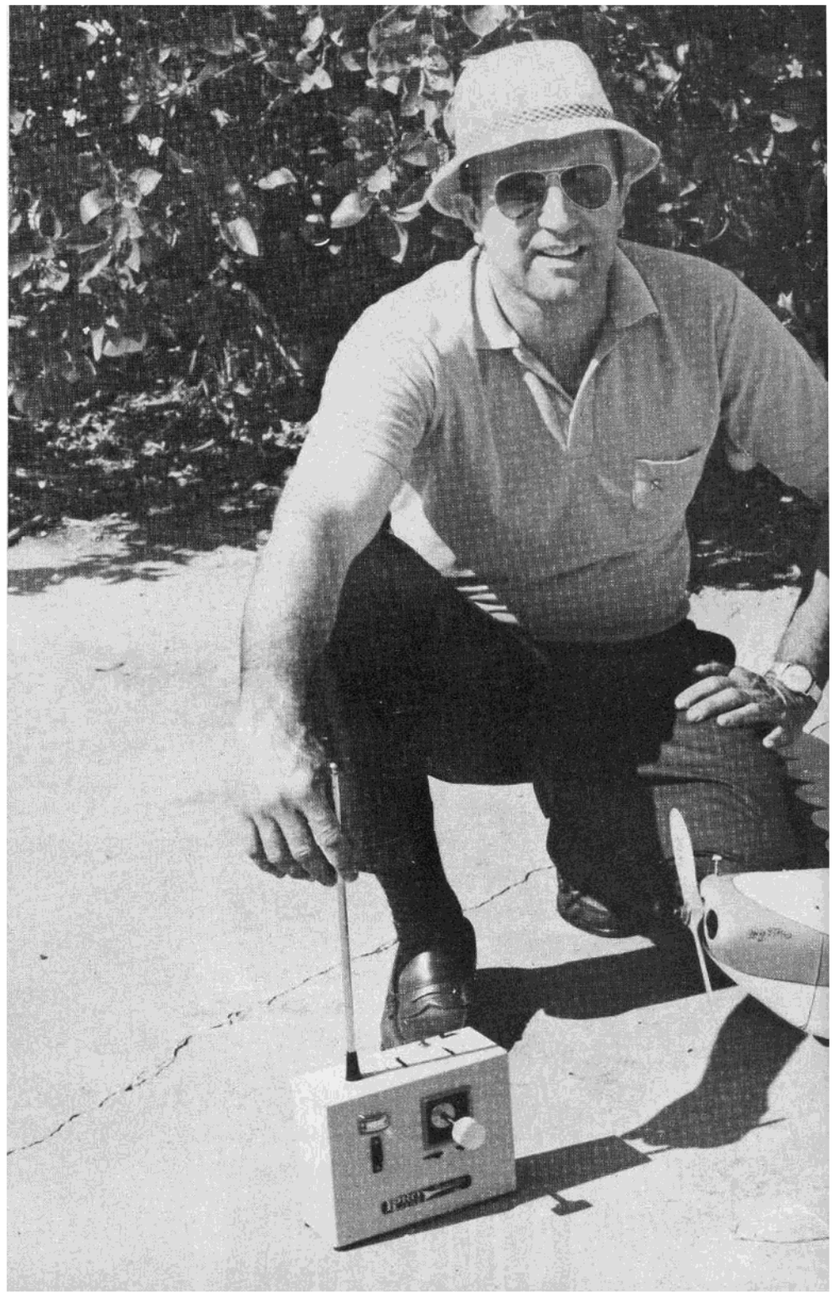

The whole story is a feeling that comes over you when there is an uncontrollable desire to do something to, or perhaps, even for oneself. Such as building a model airplane that is just a little different than the next guys, or as the case may be in this day and age, girls. But in this instance we decided to build something that had retractable gear, was fully scale and, for the difference, featured a semi-elliptical wing.

The little Culver was ideal, easy to build, and best of all, it is all wood covered and easy to simulate. No rivets, lacing, and such trivia to complicate matters if you are contest minded. Being of no mind at all, I decided to model mine after a local hero's full scale prototype. Besides, he wanted to buy the finished model to hang in the hangar next to the real one. Isn't that just beautiful? Pity I can't find him now that the bird is finished. Oh well, the thought lingers on.

So, you say, this is exactly what you have been looking for. A neat little scale ship that is small enough to throw (gently of course) in the car and not take up too much room, and easy to assemble when you get to the field. Great, get some wood and start hacking. Don't forget the 1/32" plywood. Makes for neat turtlebacks. For that matter you could cover the whole ship with it.

There isn't anything really difficult about the construction, just lots of 1/8" sheet balsa for the sides and bottom. Try to pick your sheets very carefully. The sides should be as nearly the same in weight and grain. All the forward bulkheads are made from 1/8" ply except for F-6 and the firewall.

I have the mold for the cowl and if you need a cowl write to me and I will make arrangements to get one to you, although it is very simple to make your own mold. I made mine from balsa. You could even make the whole cowl from balsa. No matter, at least put a cowl on because it looks terrible without it. There are no scale details on the cowl and the slots are not in the wing. There are so many different mods around I figure you would rather do it yourself.

I would suggest building the wing before you get too far on the fuselage. This will enable you to align the wing to the fuselage properly and drill the front holes for the hold down dowels. One word of caution with the wing. Build it straight and add a degree or two of wash-out in the tips. If you have a wing jig this would help, but be very careful. A crooked wing will give some very interesting flight results . . . for a very short time.

The rudder tail post should be installed before sheeting the bottom of the fuselage. You can install the horn and pushrod completely inside but I found it easier to have the horn come out through the side so I could also hook up the tail wheel.

I think you will find room inside the fuselage to install just about any type of equipment you wish but balance this little beast just aft of the landing gear. Roughly speaking, about 3/4 inch back. I didn't show the installation of a retract gear because at the time there wasn't the abundance of retracts on the market. It is best to use your manufacturers instructions for proper retract gear installation. The plans show 3 inch wheels but I used 2¼" wheels which were about scale for the ship I was modeling. Besides, you can get away with a smaller hole in the wing! In the full scale aircraft there are two small windows in the cockpit floor that enabled the pilot to actually see his wheels in the up position. Pretty sneaky!

The scale Cadet I modeled had tinted windows and didn't have the full size side glass. The owner had cut it down. Originally, the sides came all the way over the top. Visibility was good but I

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think the sun coming in made it a little warm.

The cockpit will probably be the most bothersome. I'll tell you how I did it. I filled the cockpit area with soft balsa blocks and just tack glued them in position. When dry I carved the shape of the cockpit, sanded and brushed on a couple of coats of dope and sealer to make a smooth surface. I bought some 1/16 plexiglass from the local airport supply and molded it over the cockpit area by first heating the plexiglass over the oven and when it starts to sag quickly press it over the cockpit sides and mold it into shape. I used cloth gloves and just worked the material around the sides. It sounds pretty looney but much to my surprise it actually worked. I used the same type of gloves the film people use which are made of soft material so you won't scratch the film.

Next, after allowing the glass to cool, trace the door outline, leaving enough extra material to epoxy to the cabin walls. I used a jig saw to cut the glass, being careful not to crack it. After cutting and sanding the edges smooth, trace the glass outline on the cockpit sides. Of course, you'll have to remove the shaped balsa sides and trim the cockpit to shape. By cockpit I am speaking of the section that goes over the top of the cockpit. I then cut the sides to the thickness of the glass so it fits flush. Just like a routed edge around the cockpit door. Tinting the glass was also much easier than I thought. I just got some Rit dye and followed directions and placed the glass in the hot solution watching that it wasn't hot enough to soften the glass. You just keep rolling the glass around and watch it and when it's the right color rinse it off when it cools a little. Wasn't that easy?

So that is about the story, children. The rest is just plain building and sanding, and sanding and . . . . yecch! Cover the model with silkspan and dope and paint or whatever other arrangements you care to make. By the way, the windshield was tinted the same way and it was just regular ol' sheet you get at the friendly hobby shops found in your town.

After painting, install your equipment. I used an Enya 60 in mine without any special exhaust system but I think it probably would be a good idea to install one. I just opened the bottom of the cowl and it seemed to work fine. Make sure that there is plenty of air coming in to cool the engine, especially around the head. I opened the front of the cowl on both sides to allow air to come in.

The tail surfaces are scale and if you are more interested in sport flying it wouldn't hurt to add another 10% or so of area to the horizontal stabilizer.

On my model I used the early Royal Products retract gear which worked very well with a 180 degree servo. Whatever you use, be sure it operates smoothly because it is very nice to have the wheels down when landing!

Basically this is a simple little airplane to build. It should make a neat little scale thing to have around. Flying a tail dragger like this little shorty is not as bad as you might think. As a matter of fact it tracks very well. In fact, I was surprised at how straight it went.

Just make sure everything is straight and you have enough power and the CG is right and you said your prayers and keep smiling through it all and good luck. □