

## BUILDING TIPS for the "Ryan STA" Kit # FF-18

By Rick Foch

Like many vintage rubber powered scale designs, the Easy Built Ryan STA features a minimal, but adequate structure, and if built to the plans you'll have a charming SAM scale model. I decided to make a few simple modifications to increase the scale appearance, improve the flight performance and make the model a little easier to cover. Here's what I did:

### Tail Surfaces

Instead of building separate adjustable elevators and rudder, I built the vertical tail in one piece. I made the two stab halves and their elevators as a one piece unit as well, like most models.

### Wing

The wing features a very thick airfoil, widely spaced ribs and a single spar on the upper surface. I thinned each rib to 2/3 the original height and cut two 1/16" sq. spar notches into the top of the ribs, about where the spars would be in the real STA. The first (root) rib bay is 1 1/4" wide and I used that spacing for the rest of the ribs. This closer rib spacing required cutting two additional ribs for each wing panel.

### Landing Gear

I made each wheel from 3 discs of 1/16" balsa, glued cross grain to better fit into each wheel pant.

### Fuselage

To accommodate the new one-piece stab, I built a slot with 2 strips of 1/16" sq. balsa in the fuselage ahead of the tail post. I made the slot 1/16" wide at the rear and 1/8" wide at the front to allow for stab incidence adjustments during test flights. At the very front of the fuselage behind the nose block, I inlaid 1/16" balsa sheet into the first bay to add a little more strength in an area that gets a lot of handling. I also inlaid a rib-shaped piece of 1/16" sheet into each side frame to form a base to glue each wing panel to the fuselage. Like all my models, I wanted the Ryan to have a separate scale cowling. So, when building the sides, I installed two 1/16" X 1/8" balsa uprights side by side at the location of the scale cowl. I also doubled the top and bottom formers above and below the uprights. After sanding the fuselage, but before covering, I slipped a razor blade between the upright and former pairs and cut through the stringers and the longerons to separate the scale cowl from the fuselage. Next, I slightly rounded the front edges of the fuselage as on the real airplane to smooth the airflow out of the back of the cowl. After covering the fuselage and cowl separately, I simply glued the two back together. Finally, I found a plastic spinner in my scrap box that fit an old Sleek Streak prop that was just the right size. So, I used them instead of carving the spinner from a block and fitting it to the kit propeller.

### Finish

The covering is Easy Built Cub Yellow and Light Gray, attached with thinned white glue,

gently water-shrunk and after drying overnight, sprayed with two thin coats of Clear Satin Krylon. The landing gear and nose block had 3 thick coats of nitrate dope, with a good sanding with 400 grit paper after each coat. Then they and the spinner were given Two thin coats of Tamiya Acrylic plastic paint that I mixed from black and white to match the gray tissue.

I really like the completed model and hope you enjoy building, displaying and flying your Ryan STA, too!