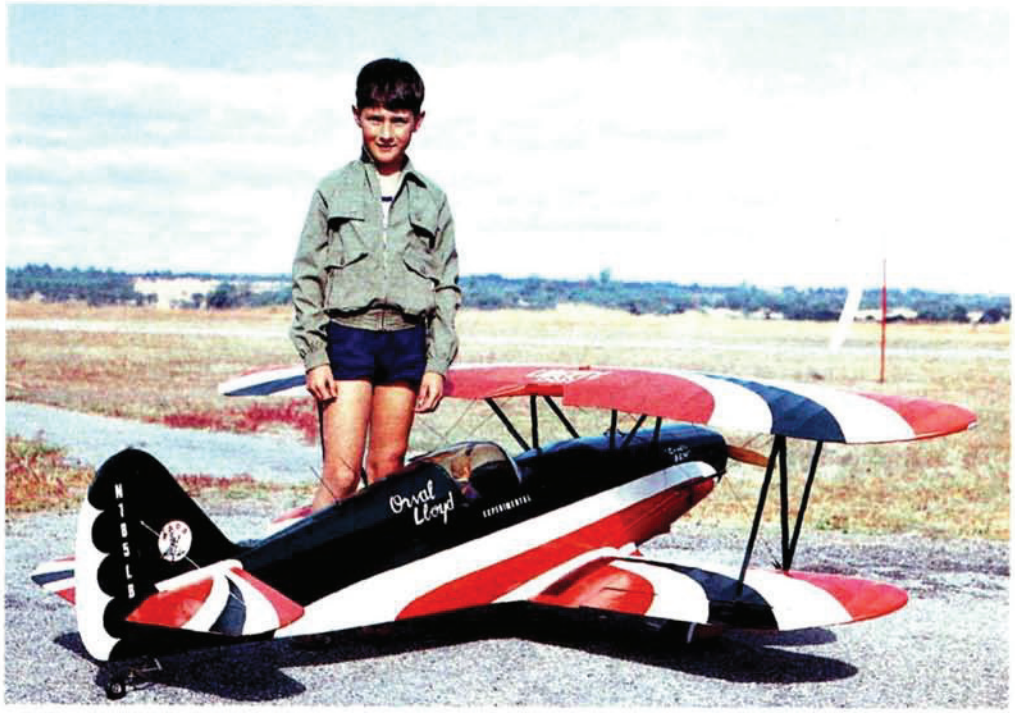


The Liberty Sport is a huge model, spanning nearly 8 feet. The model is shown here with the author's son, Michael.

by ROGER STERN

LIBERTY SPORT B

A beautiful biplane with performance to match.

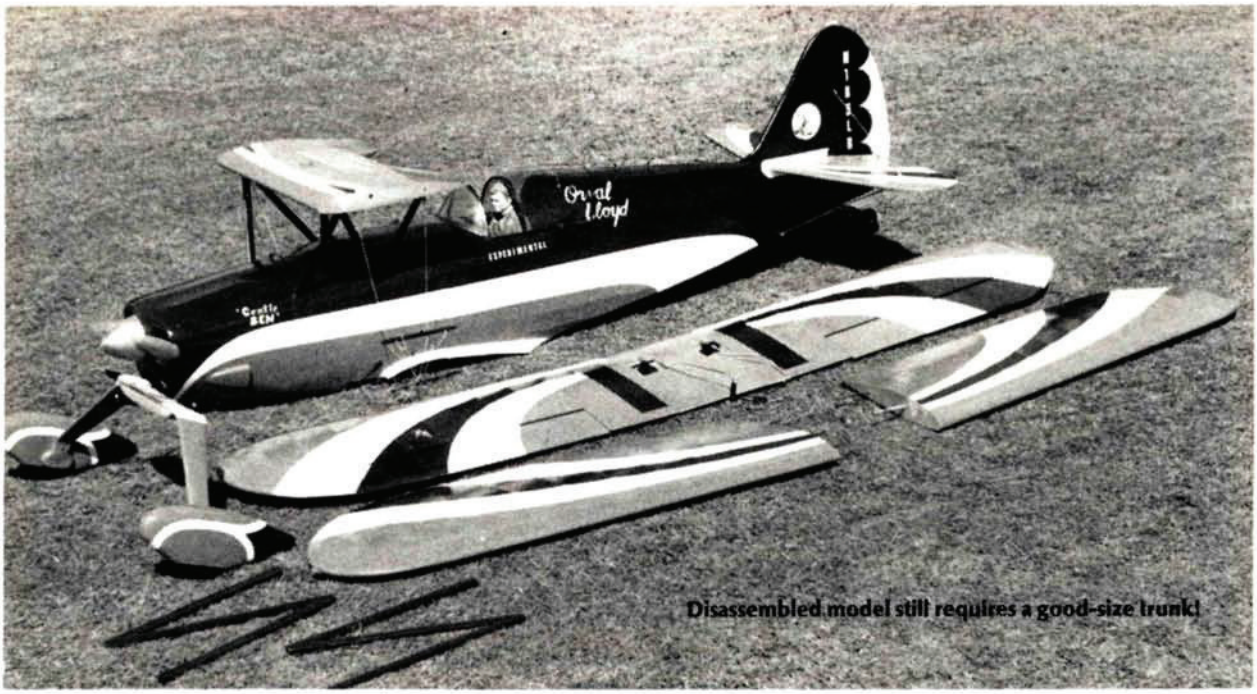
The moment of truth.

I THINK MOST modelers are familiar with the Liberty Sport biplane. This is somewhat surprising, because there has only been one original full-size prototype, built and owned by Orval Lloyd. The popularity of the model came about when Sig Manufacturing kitted the design originally made by Dick Graham. Dick's original design was also published in *M.A.N.* (plan #80, $18.00) in August 1971.

What most people don't know is that Orval Lloyd is building another full-size prototype; a modified version called Liberty Sport Model "B" and it's this version that is represented here. It's scaled at 3¼ inches to 1 foot or, in other words, "a little over ¼-scale."

First let me tell you how I came to do the B version. I had already built and flown a couple of the Sig kits and wanted to move to giant-scale. As I love biplanes, I decided to enlarge the Liberty from the scale drawings given in the Sig kit. Knowing how well the small ones flew, I knew a larger version could only fly better.

The motor I used is a Kioritz 2.4, which is fully enclosed in the cowl and turns a 20x10 Top Flite prop. The model came out at 25 pounds and flies exceptionally well even at the 5,000 feet altitude here



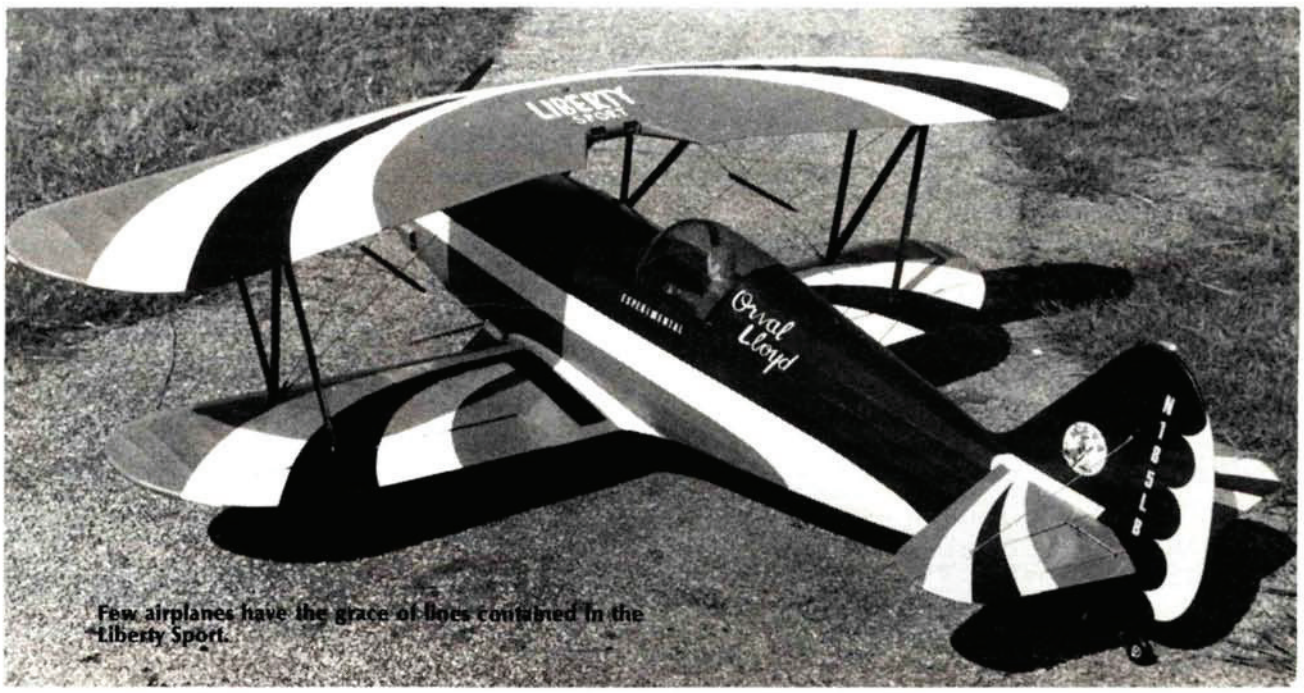
Disassembled model still requires a good-size trunk!

SPECIFICATIONS:
Type: *Giant-Scale*
Wingspan: *7 feet, 9 inches*
Wing Area: *2,041 square inches*
Weight: *25 pounds*
Scale: *3¼ inches to 1 foot*

in Zimbabwe. Takeoffs are straight and the model is airborne within 20 feet. Performance in the air is terrific. Loops, rolls, spins, and stall turns are done with ease, and landings are a dream. I can just imagine what the performance would be like closer to sea level.

CONSTRUCTION. Anyone who's familiar with large scale models or has built a biplane will have no difficulty constructing this model. Construction is basic with a few special sequences described in the notes.

Build two fuselage sides from ¼ inch square and ¼ inch sheet balsa as shown on the plans. Glue the plywood doublers on the insides of each frame. Cut the ¼ inch square cross pieces to length from the top view and make up a box with the side frames. Ensure that this is built square and straight. Fit fuselage formers F1 and F2, and don't forget to glue the 3/16-inch brass tubing between the ¼x⅛-inch strips to hold the cabane wires. Now glue on all other formers and make up and glue on the firewall. Glue on all the stringers as shown on the side view and the section drawings.



Few airplanes have the grace of lines contained in the Liberty Sport.

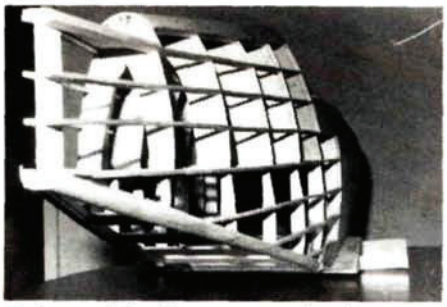
Cut the center section of F11 out for easy access to the fuel tank. Now cover the whole front end with 6-ounce fiberglass cloth and a couple of coats of polyester resin.

The 1/8-inch balsa sheeting on the front end, cockpit area, and turtledeck can now be done, but leave the sheeting off around the wing mount and tailplane area until the wings and tailplane are made and fitted to the fuselage.

The full-size Liberty is a two-seat biplane with the front cockpit used for the passenger. In most instances, when the airplane is flown solo, the front cockpit is covered over with an aluminum plate and the windscreen removed. That is how I made the model as I think it looks much better as a single seater.

The canopy can be glued permanently in place or made to slide as I have done. To make a sliding canopy, cut the canopy and glue the windscreen part on the fuselage. I used K&S square brass tubing for the sliding mechanism. I slotted a length of 3/16-inch square tubing along its length with a Dremel cutoff wheel fitted into a drill press sitting 3/32 inch above the base plate. I then slid the tubing across the base plate, thereby cutting the slot. I fit the bottom edges of the canopy into this slot and glued it with cyanoacrylate glue. I also slotted the next size larger tubing with a wider slot and slid it over the first tubing. I glued the larger tubing to the cockpit framing and it formed the railing in which the smaller tubing slides in. It's also longer by 1½ inches and a slot is cut in F4 for it to extend rearward. Fill in with 1/8-inch sheet around the slot for the fuselage covering to adhere to. The larger tubing also has a couple of small brass tags soldered to it facing downward so that they are slotted into the fuselage

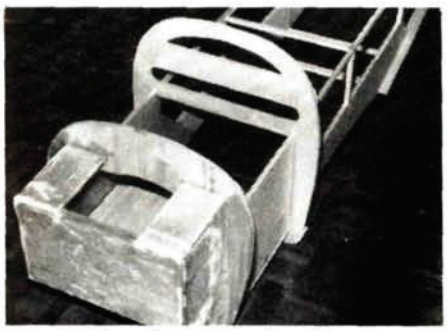
(Continued on page 108)



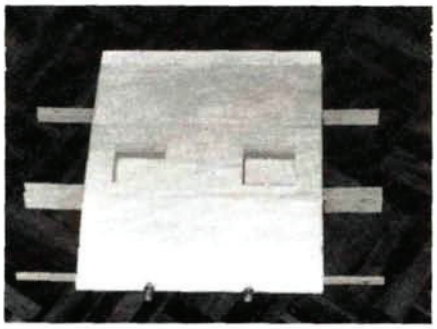
Stringered fuselage construction is strong and light.

Setting up top wing for proper alignment is critical.

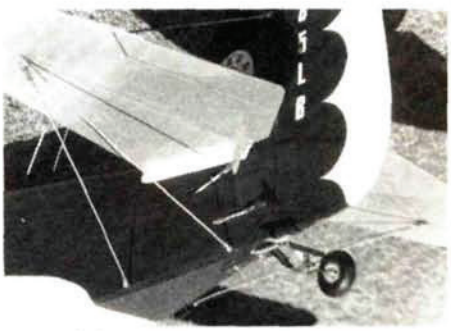
Aileron hookup is used on lower wing only.



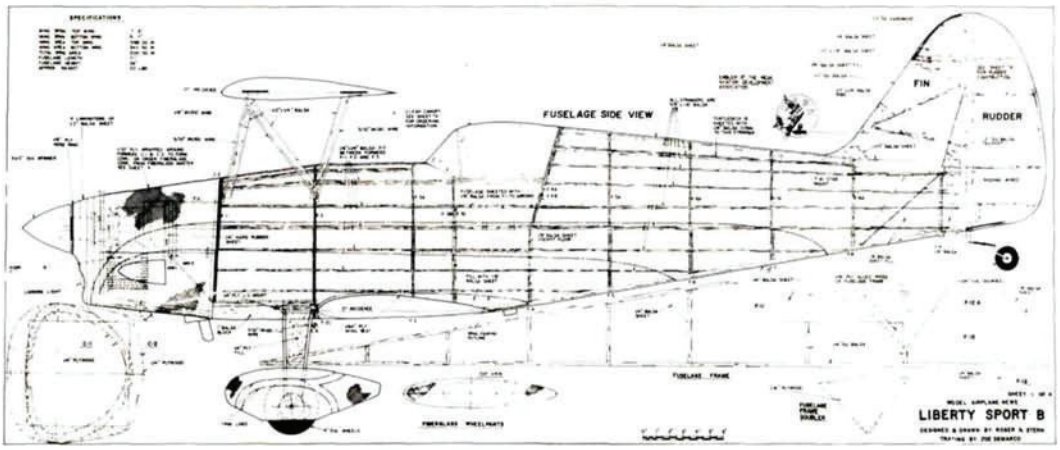
Front end engine mount should be glassed.

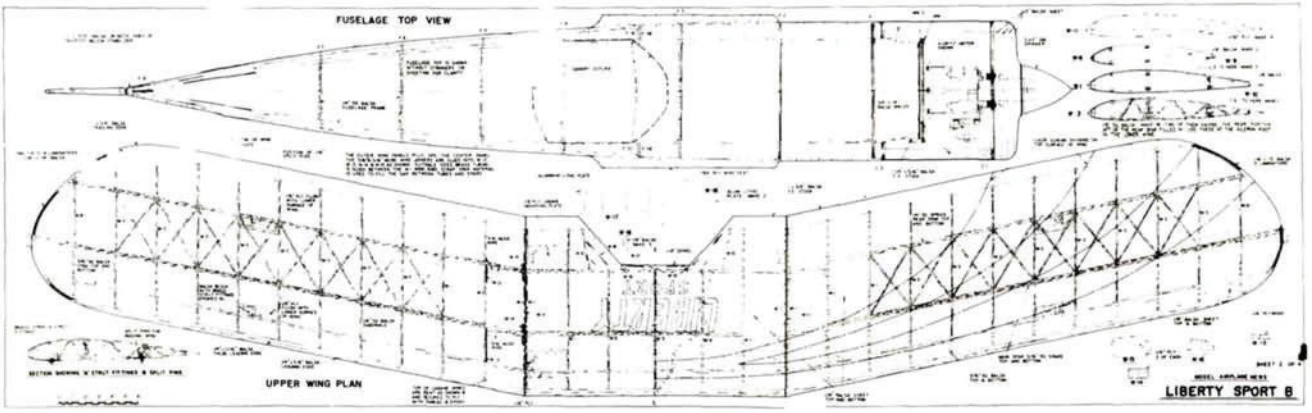


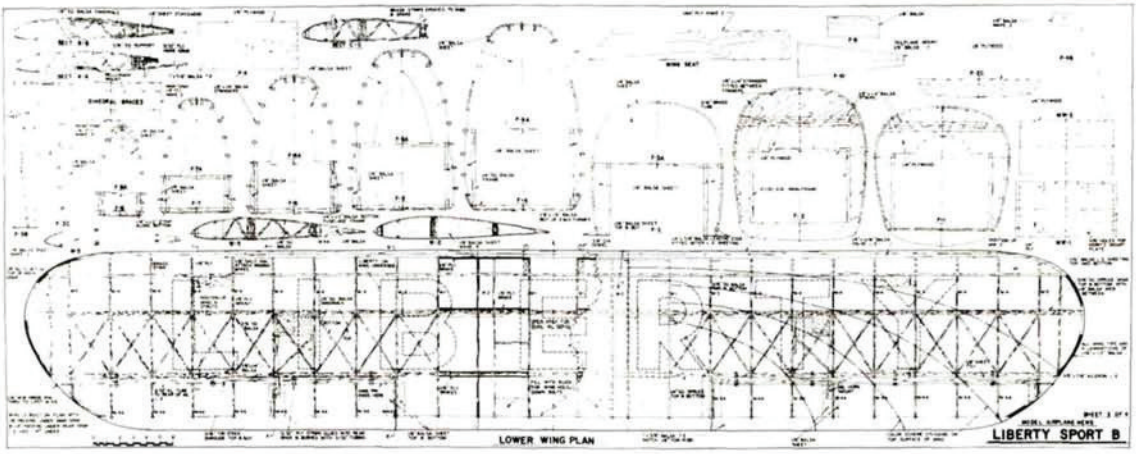
Lower wing also uses plug-in panels.

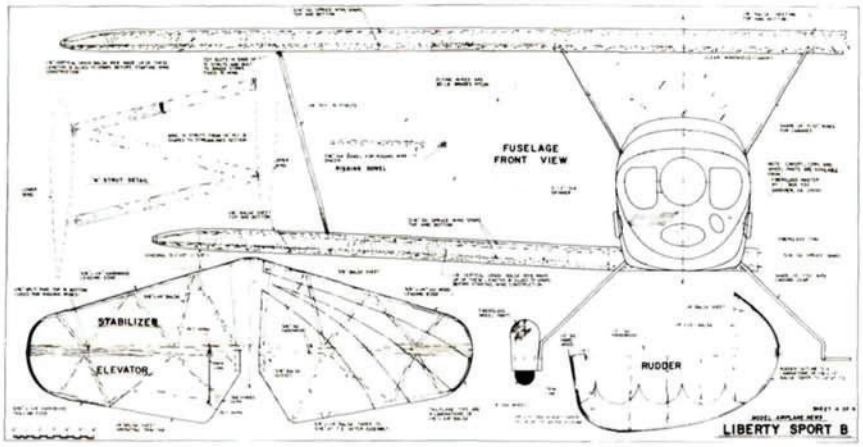


Stabilizer supports are necessary.









FULL-SIZE PLANS AVAILABLE... PAGES 120, 121