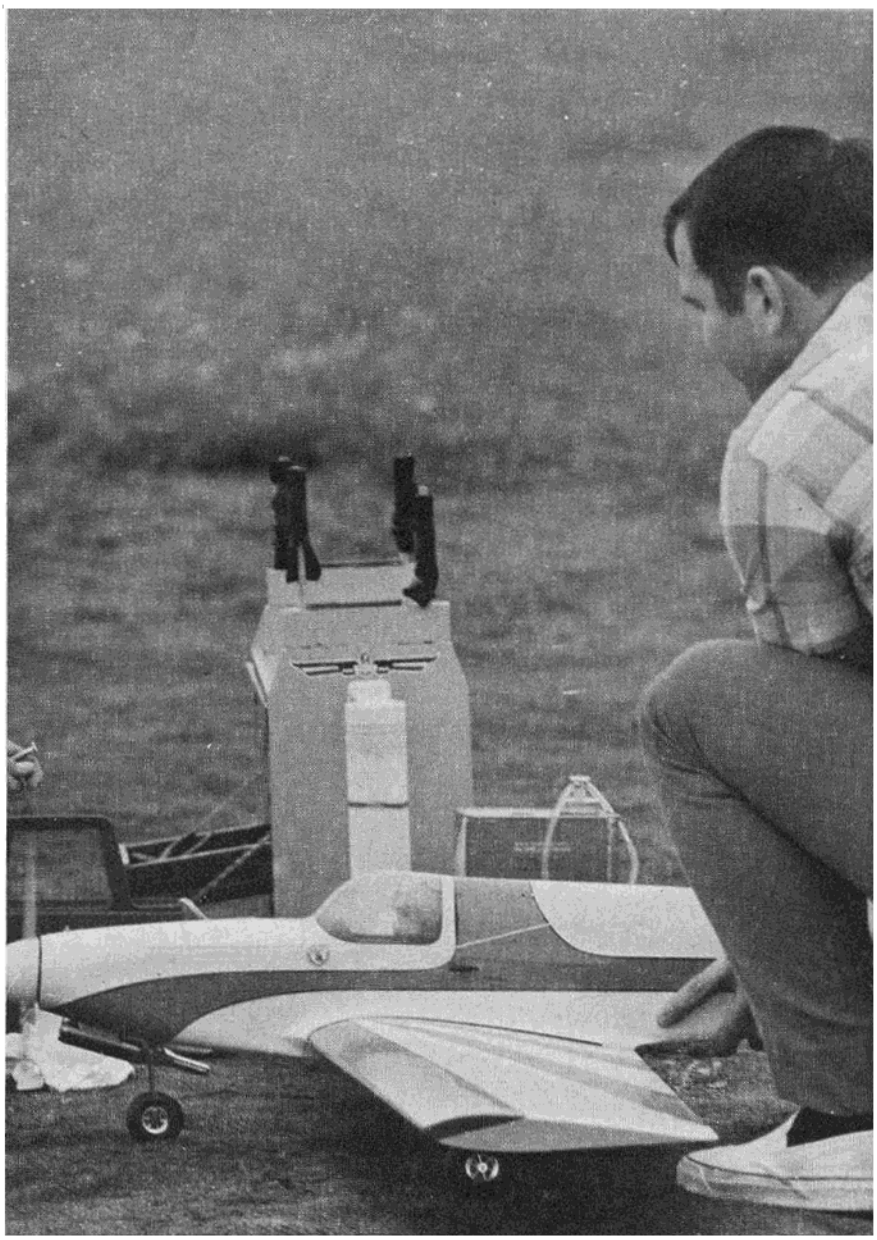
TEXAS TWISTER

A TOP SPORT AND COMPETITION DESIGN IN EITHER .40 OR .60 SIZE.

BY CHARLES JACKSON & BOB LOTT



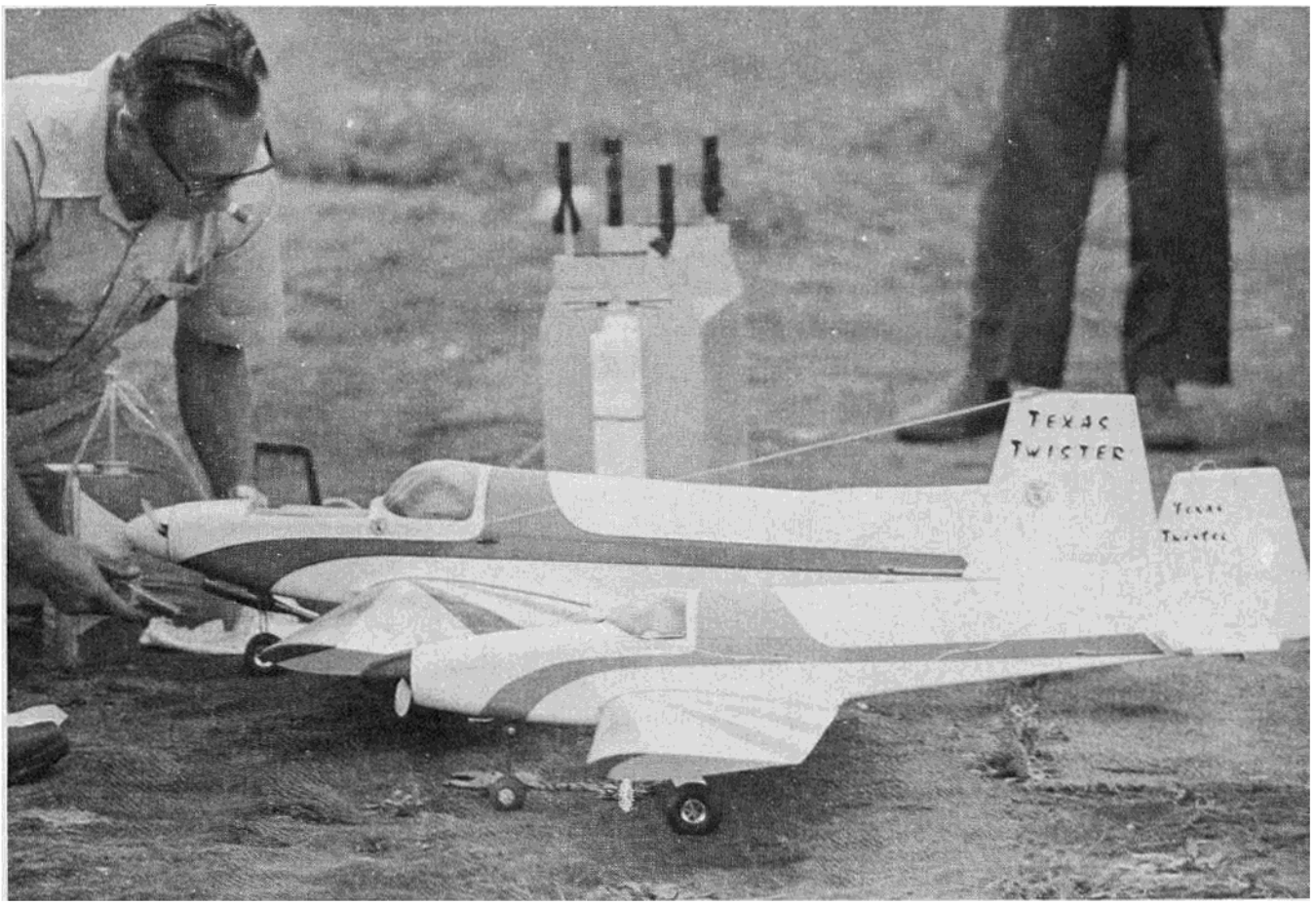
I know you have heard this line many times before, but here is an aircraft that should fill the bill for those who want either a large or small model that is capable of doing the full AMA pattern. When I started this model I was after a .40 size ship that would do the pattern without some of the drawbacks of other designs. "Tail-wagging," a problem that seems to prevail in quite a few aircraft, was one of the things I was trying to overcome. Also, there was the matter of economy - - - smaller airplanes take less balsa, gas, and so on. And, with the price of model supplies these days – that isn't bad!

After the first prototype was built it was time to see if my ideas would pan out. All went fine and, with a half turn on the aileron clevis, everything was ready for a run through the pattern. With the O.S. Max .40 peaked out, I took it through some rolls, loops, spins, and so on. The airplane was very predictable, as for instance, in a spin, when you neutralize the controls, it stops right **now - - - not** a half turn later.

Ed Hurt, one of the local fliers who is a contest buff, saw the airplane fly and wanted to try it. Desirous of another opinion, I let him have at it. He ran it through the pattern including knife-edge flight during which he applied the amount of top rudder he'd been used to using on his conventional pattern ships. The result was that the Texas Twister proceeded to climb in the knife-edge maneuver. After bringing it back in for a landing he was impressed with the way it handled and had only one negative comment - - - he said it was too small. And that is his opinion since I still like a small ship! Ed stated that a .60 size ship with the same performance would be a winner. I said that I would build one and let him give it a try.

I called Charles Jackson, my chief drawing consultant, and asked if we could run the .40 size up to a .60 version. After a few nights of working, the plans were finished, and construction began. Soon the larger version of the Twister was on her wheels. After installing the equipment we met one morning at the field and, after a couple of trim flights, Ed went through the entire pattern. The .60

Bob Lott holds the .60 size Twister for an engine check.



Both versions of the Texas Twister ready for the Pattern maneuvers.

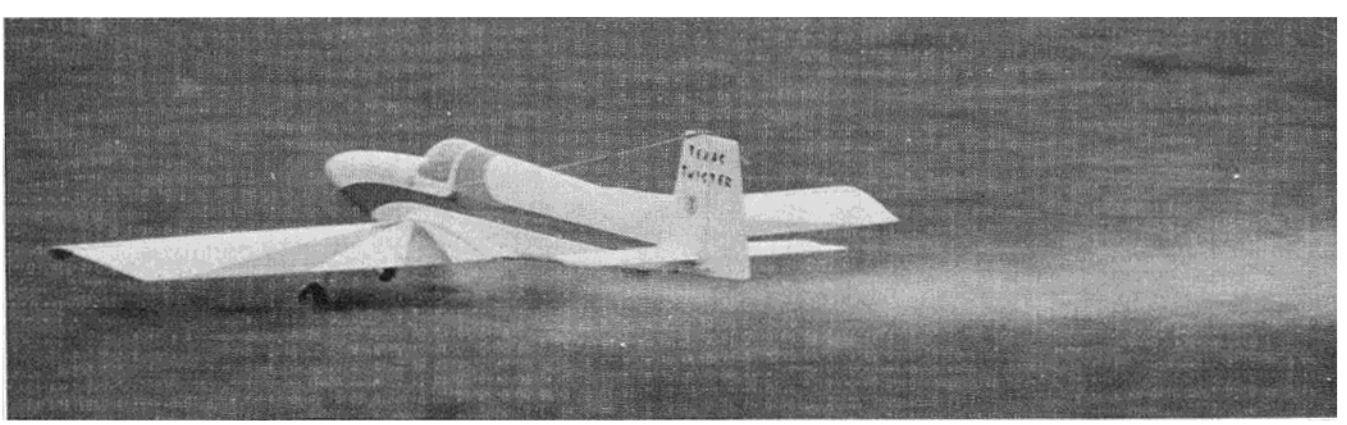
size Texas Twister proved to be as good as the .40 or perhaps even a little better. Ed said he would enter it in the Dallas R/C Contest the following day and with that I left him to practice and told him I would see him at the contest the next morning. With only one day to practice Ed flew the plane to a first place in Class B! And I guess that is enough said about the Texas Twister in either the .40 or .60 size. Now let's get down to the construction details which are identical for both versions.

CONSTRUCTION

Construction is quite conventional with two exceptions. The first is that, because of the small horizontal stabilizer and elevator, I highly recommend the use of the Kavan hinge covers. This seems to give a smoother flow over the airfoil. The ¼" size works for the wing, elevator, and rudder. On the .60 version use the 5/16" hinge covers.

The second exception is to be sure to key the firewall and the No. 2 and No. 4 bulkheads as this gives the fuselage the squaring needed. In keying the firewall you will save a lot of extra bracing and, by just going through the doubler, spreads the stress and vibration of the engine over the entire doubler. Also, if you use the T-type motor mounts I suggest, I would recommend the Midwest Pylon type since the back of the "T" is not as wide, in comparison, to similar mounts I have used in the past. I have been using the Midwest type for some time and I've had no failures to date.

The lift-off of the maiden flight. Two days later Dr. Ed Hurt won 1st in B Pattern at Dallas!



From RCModeler Apr. 1973

FUSELAGE:

First, cut out the two sides and the doublers. I suggest using 1/32" ply doublers on the .60 version and 1/64" ply on the .40. The 1/64" ply is available through Sig Manufacturing if you can't obtain it locally.

Make sure that the sides are identical otherwise the fuselage will not be true. Select your wood carefully – the two sides should be medium balsa and the rest should be on the light side. All wood was purchased off the rack so super light balsa is not necessary. Also, you should decide, at this time, whether to use the foam stab and vertical fin. If not, you may choose the size wood that can be carved to the airfoil shape and then lightened. The size of the wood depends on which size plane you select to build.

Cut all the bulkheads and pre-drill the firewall for the engine mount, throttle, and fuel lines. Glue the bulkheads in this sequence: No. 2 and 4, let dry, then set the firewall in place and, as soon as this assembly is dry, complete the installation of bulkheads 3, 3A, 5, 6, 7, and 8. Follow this with the tail post making sure that it is 90 degrees to the fuselage. 5-Minute Epoxy can be used on most of the structure.

Now, at this time, cut off the right fuselage side ¼" forward of the firewall and temporarily mount the engine so that you can center the plywood ring after gluing the bottom and top nose pieces. True up the front of the blocks with the engine in place so that when you install the ply ring and spinner the clearance is the same all around. After this is dry, remove the engine and add the fillers to the nose area. Save the carving for a little later and put the bottom rear pieces in place.

Next comes the most difficult part. After the top bea is placed on the bulkhe and sa led so it will conform, y u can fit the top sides to the approxi nate position then put them in the sink (if it's big enough) or the bathtub. In any case, let the two pieces soak until they're very flexible. A little ammonia in the hot water will make the wood extremely flexible. While they are soaking, install the longerons that fit between the bulkheads to which you will be gluing the base of the turtledeck. You can use 5-Minute Epoxy but keep the glue out of the area where the turtledeck and the side of the fuselage meet.

Now, install the turtledeck, one