

PHOTOGRAPHY: LARRY KRUSE

This jaunty looking model sports the colorful scheme of a pre-WW II trainer. There's no hidden construction here, it's "basic" basic.

A CO₂ Replica: Flying Aces Stick

By Larry Kruse

Good things never get old. The author brings back a classic freeflight, this time set up for CO₂ power.

The *Flying Aces Stick* was one of the early classic designs published in 1936 in the ancestor of this magazine, *FLYING ACES*. Originally designed by Thracey Petrides and Bill Effinger, it's been re-published in the last 50 years in a variety of forms. The latest was an electric R/C version done by Randy Wrisley in a recent issue of *Model Airplane News*.

For some reason, the *Stick* is one of those planes that just grabs you right from the start, so when I saw the cover shot of Randy's yellow and blue job with the sun shining through the wings, I was hooked. It just seemed such a natural for a small CO₂ model, and I just happened to have one of Bill Brown's tiny A-23 units unoccupied at the time the urge hit me. Isn't it great how things work out?

The fuselage of the little *Stick* is just that,

a stick—or more properly, several little sticks, built directly over the plan. The 1/32-inch nose piece is the only former that requires any cutting tool other than a razor blade. Once the ply nose piece is cut out and sanded, it should be shimmed up 1/16-inch as it's placed on the building board in order to join the longerons at their center. It's probably a good idea to dampen the outside of both longerons at the nose area to accommodate the needed curve. Install the remaining crosspieces from the nose on back (except the front landing gear mount), join the tail, add the small triangular filler piece and tail skid, and glue in the motor mount as shown. If the nose piece and triangular support pieces for the motor mount are cut accurately, the down thrust and right thrust will be automatically set in.

Wire parts for the landing gear and cabane

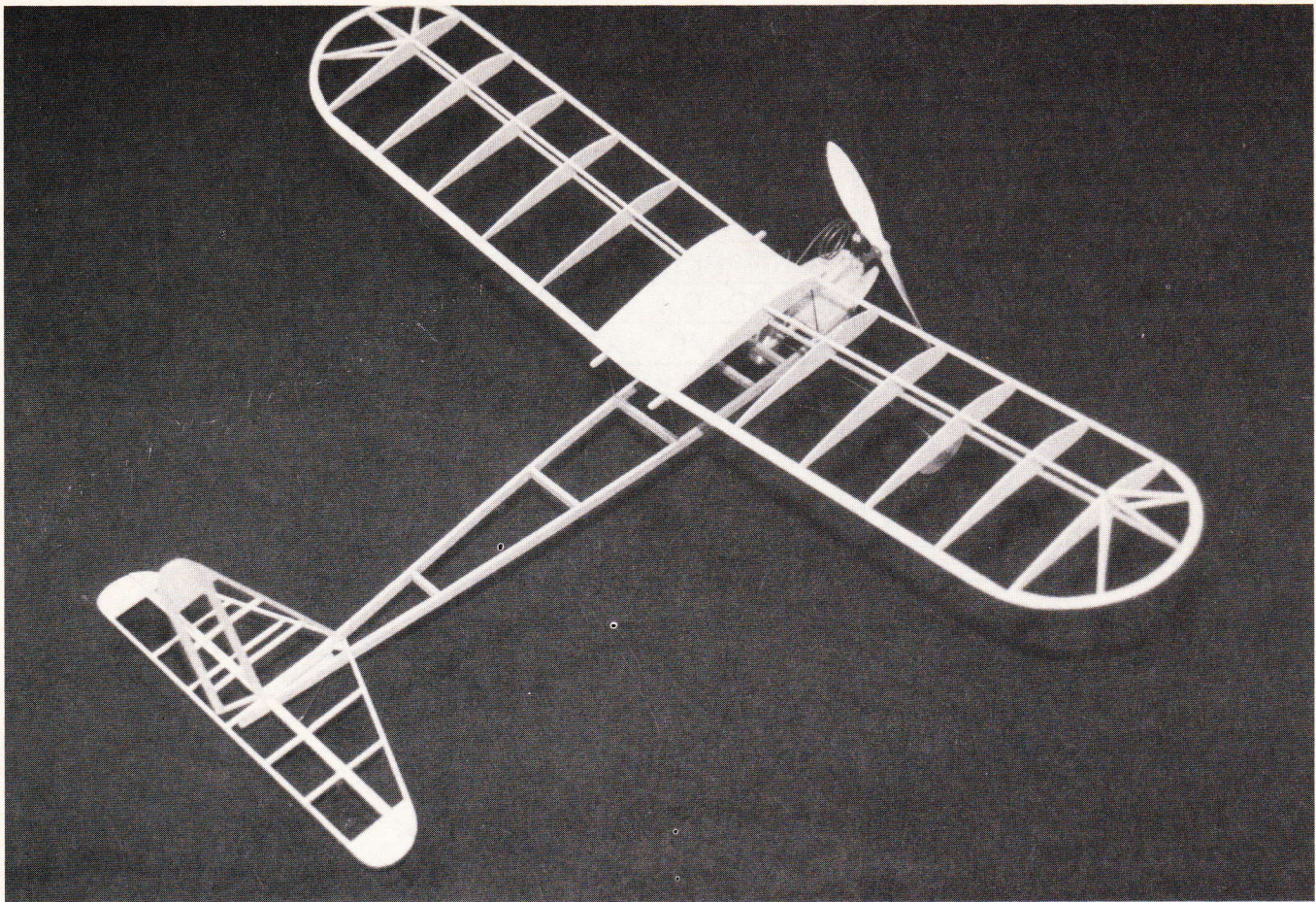
struts can now be bent and installed. Lash all pieces to the longerons and crosspieces as required with sewing thread. Install the front LG mount and coat all areas with Ambroid or a similar cellulose glue. Bend and wrap the bottom of the landing gear and spreader piece with light copper wire and silver solder the assembly together. The 3/32-inch square wing mount sticks are lashed and glued to the cabane wires as shown. Tweak the cabane wires to get an assembly that the wing will set upon squarely.

The wing ribs should be cut from light 1/20-inch and installed between the pinned down leading and trailing edges. Note the required wash-in in the left wing panel. Cut out and make up the wing tips as shown, and glue them into position, shimming them to an appropriate height above the building board. When both wings are dry, block them up to the required dihedral angle. The spars and center sheeting complete the wing assembly. Taper the trailing edge and round the leading edge as shown and then sand everything smooth in preparation for covering.

The tail group is built flat on the plan. I built the prototype with hinged elevator and rudder; however, the model required no adjustment. Your choice: if you decide not to hinge it, you should eliminate one of the spars from both the vertical and horizontal surfaces. Deleting the spars may eliminate the need I found for a bit of clay behind the motor mount in order to get the model to balance properly.

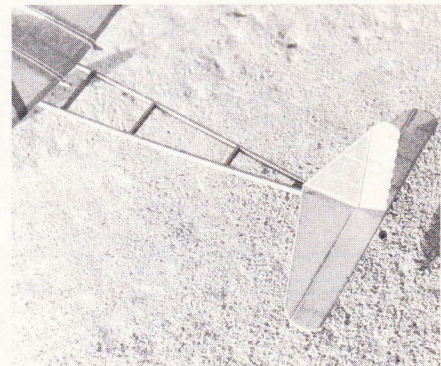
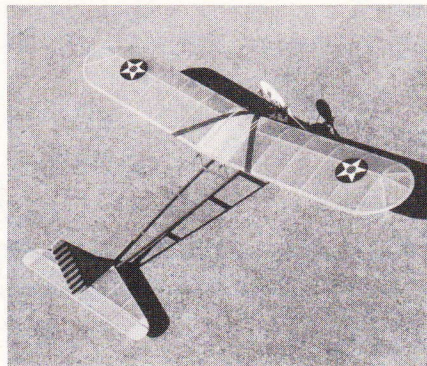
Wheels are cut from 1/32-inch ply with 1/32-inch ply hubs on the outside. Short axle bushings can be cut from aluminum tubing and "Hot Stuffed" in place. Black "Magic Marker" was used to color the tire area. A drop of glue holds each wheel on the landing gear axle.

CO₂ Replica Flying Aces Stick



I was so enamored of Randy Wisley's color scheme that I duplicated it in tissue. The wings and stab were yellow Micro-X tissue, the fin blue, and the fuselage was painted with one coat of blue Floquil. The rudder was covered with white Micro-X tissue. Small strips of red tissue attached alternately over the white of the rudder give a nice pre-WW II look to the tail. The wing insignia originally came from SIG's *Cub* kit. I think the insignia decals are available separately from SIG if you want to go that way.

All tissue was attached with thinned white glue and shrunk with sprayed isopropyl (rubbing) alcohol. I found it necessary to pin down the tail surfaces as they dried to prevent warping. The fin/rudder assembly was given two very thin coats of nitrate dope. The wing was given four coats of thin nitrate. The tissue on the wing should have a sheen to it if water-slide decals are going to be used.



Bare bones shot shows the minimal structure to advantage (**top**). The sheeted center section resists the tension of the rubber-band holdowns. Wings and tail are covered with yellow Micro-X tissue (**above left**). Tail surfaces (**above right**) were hinged with soft copper wire for easier flight trimming. At launch, the *Stick* climbs in a gentle left turn (**below left**). The *Stick* cruises along just prior to the power waning (**below right**). As the model enters the glide mode, the left-hand circle widens out. Motor power lasts about 1½ minutes.

