semi-box fuselage, I chanced on the German Junkers Ju. 87B Stuka which filled the bill.

Some noticeable changes were made, namely the inverted gull wing became a straight wing with a wider chord. Otherwise the cowl, landing gear, tail surfaces, and fuselage remained approximate scale.

This ship was awarded the highest appearance points at the '51 Nats and took second place in the Senior division.

The *Stuka* was designed for medium-sized maneuvers and cannot be made to do tight, un-uniform flip-flops (a fault with most flap ships). Weight should be kept around two pounds, my ship weighing 30 ounces.

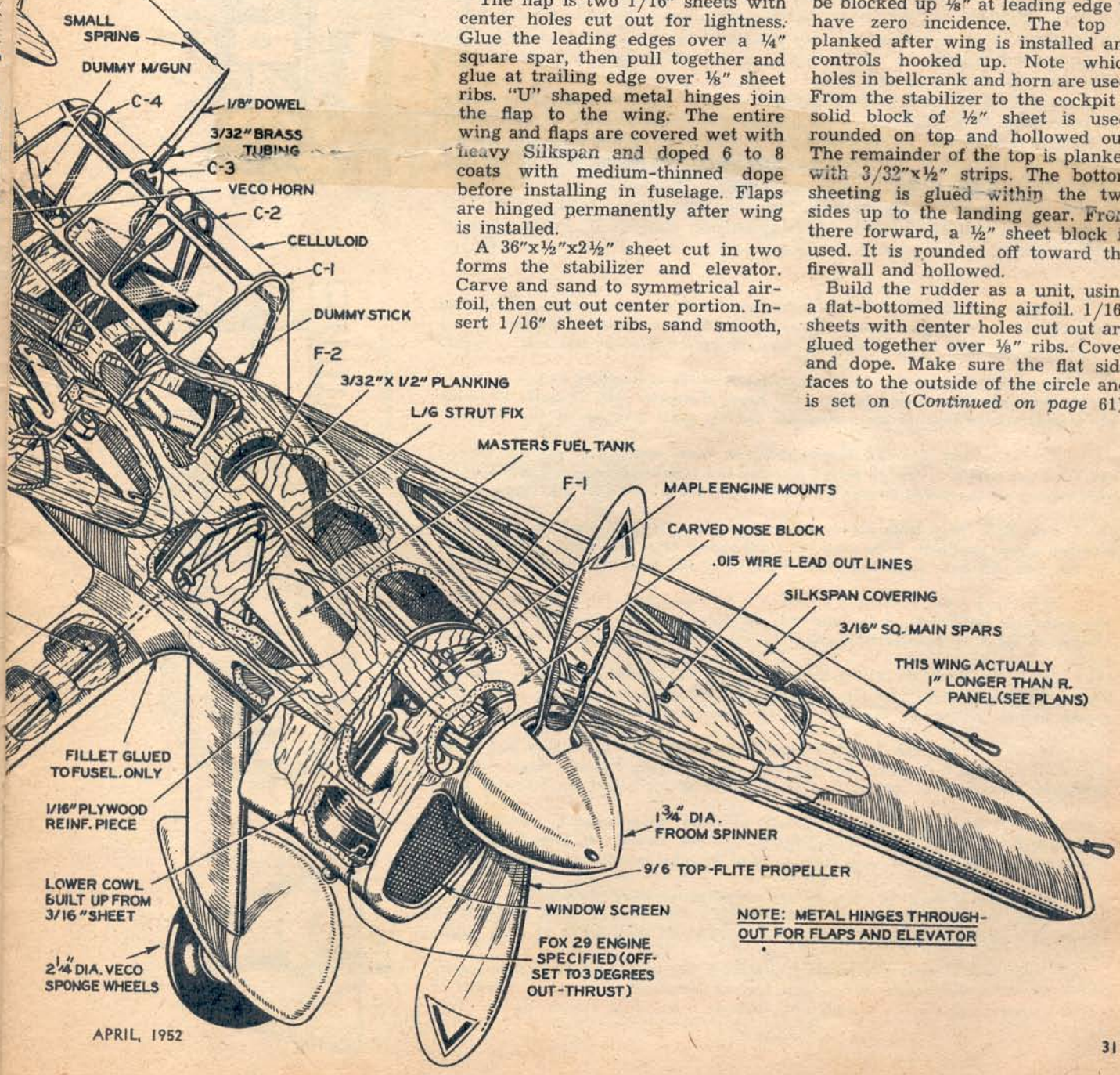
Because this ship is designed for the more experienced model builder, conventional construction advice will be omitted. Attention will be placed on unusual details. Construction was begun on the wing. It is of the popular "D" tube type. However, it was found construction time is cut considerably, with no strength sacrifice, by using two 3/16" square main spars instead of the 1/16" sheet spar. Wing alignment is also easier.

Instead of the leading and trailing edge sheeting joining at the wing's center, a full-length 36"x2½"x1/16" sheet is used with a shorted 2½"x 1/16" sheet planking the remainder of the wing's length. Top and bottom full-length sheets are alternated, as are leading and trailing edge sheets. This arrangement distributes your weak joints evenly and toward the tips of the wing.

The flap is two 1/16" sheets with center holes cut out for lightness. Glue the leading edges over a ¼" square spar, then pull together and glue at trailing edge over ⅛" sheet ribs. "U" shaped metal hinges join the flap to the wing. The entire wing and flaps are covered wet with heavy Silkspan and doped 6 to 8 coats with medium-thinned dope before installing in fuselage. Flaps are hinged permanently after wing is installed.

A 36"x½"x2½" sheet cut in two forms the stabilizer and elevator. Carve and sand to symmetrical airfoil, then cut out center portion. Insert 1/16" sheet ribs, sand smooth, cover with Silkspan and dope, add horn and join with metal hinges.

Fuselage construction is started around tank. Reinforcements of 1/16" plywood are added to the ⅛" sheet sides. Particular attention must be drawn to motor mounts. They are installed at a slight angle to correspond with the angular setting of the wing and stabilizer, thus putting the stabilizer out of the wing turbulence. The two sides are glued over firewall and landing gear bulkheads, with tank in place. Holes are drilled for installing landing gear before bulkhead is glued in. Landing gear is added later, before top and bottom planking. Now glue fuselage tail together and add bulkheads, giving the fuselage a "V" shape toward the tail.

When the stabilizer is next glued on top of the fuselage sides, it must be blocked up ⅛" at leading edge to have zero incidence. The top is planked after wing is installed and controls hooked up. Note which holes in bellcrank and horn are used. From the stabilizer to the cockpit a solid block of ½" sheet is used, rounded on top and hollowed out. The remainder of the top is planked with 3/32"x½" strips. The bottom sheeting is glued within the two sides up to the landing gear. From there forward, a ½" sheet block is used. It is rounded off toward the firewall and hollowed.

Build the rudder as a unit, using a flat-bottomed lifting airfoil. 1/16" sheets with center holes cut out are glued together over ⅛" ribs. Cover and dope. Make sure the flat side faces to the outside of the circle and is set on (*Continued on page* 61)