Still’s Slick Stunt Stuka

Don Still and his beautiful black semi-scale Stuka stunt ship. Don and his entry turned in one of the top stunting performances at the big Notional meet in Dallas. Model was awarded highest appearance points of the competition. Don's busy at the Happy Hobby Haven in Beaumont, Texas, when he isn't off to some contest flying his models.

Take a good look at this semi-scale beauty, for it's the stunt ship which attracted most attention at the last National competition at Dallas. Isn't she a dream? By Don Still.

It’s spring and time for college final exams. A graduating senior goes to his desk, takes pencil and paper in hand, and hurriedly begins ... to sketch plans for the approaching model contest season. This was how the Stuka stunt ship came into being.

After having accumulated the highest score in precision acrobatics at the ’49 Nationals in Olathe, Kansas, then the following year at the Dallas Nationals being replaced for the first position by the last flight of the day, this stunter had some observations to make. Stunting had been making changes and it wasn’t in the maneuvers—appearance was becoming the thing.

The ship used at the ’49 Nationals was a large area, short coupled Atwood .60 job. With only a few minor changes, the same ship was used at the '50 Nationals. But this model lacked the now essential property realistic proportions.

Seeing the need for this different type of stunt ship, I decided on a semi scale warplane. Searching for a plane with good dimensions, sleek lines, easy cowling, and with 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.

Air Trails Magazine April 1952 by Hlsat

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This ship was awarded the highest appearance points at the 1951 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.

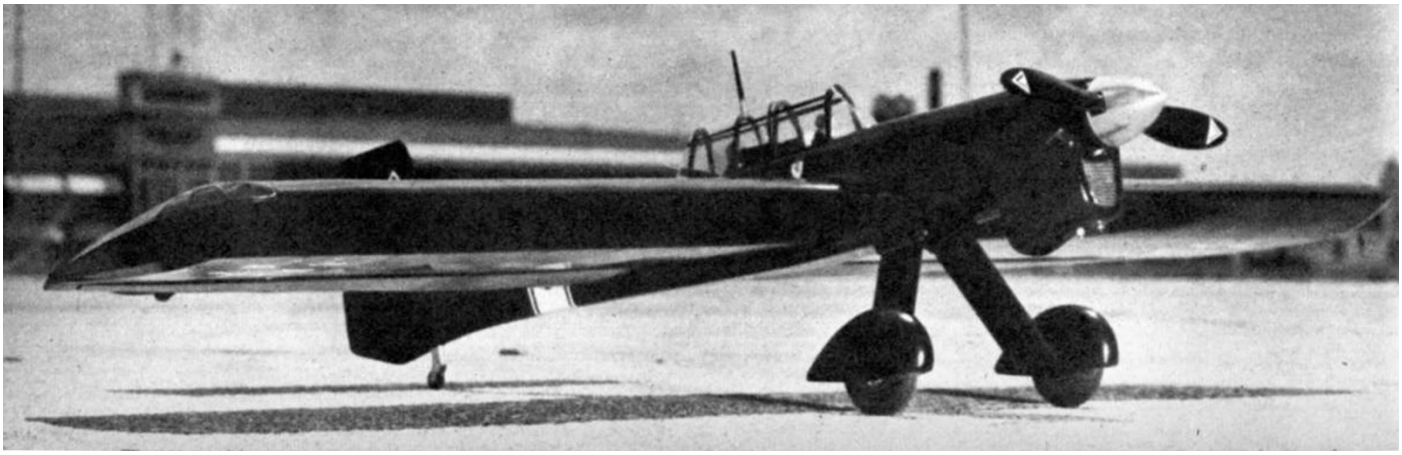
Instead of the leading and trailing edge sheeting joining at the wing's center, a full length 36"x2 1/2”x1/16" sheet is used with a shorted 2 1/2”x 1/16” sheet planking the remainder of the wing’s length. Top and bottom full length sheets are alternated, as are leading and trailing edge sheets. This 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 V4” square spar, then pull together and glue at trailing edge over Vi” 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”x1/2”x2 1/2” 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 1/8” 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 1/8” at leading edge to have zero incidence. The top is planked after wing is installed and controls hooked up. Note which holes in bell crank and horn are used. From the stabilizer to the cockpit a solid block of Vi” sheet is used, rounded on top and hollowed out. The remainder of the top is planked with 3/32”x1/2” strips.



All black and more than a yard wide! Among our "repeatedly requested" jobs this one by Don Still ranks high. For motors .19 to .35.

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The bottom sheeting is glued within the two sides up to the landing gear. From there forward, a 1/2” 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 1/8” ribs. Cover and dope. Make sure the flat side faces to the outside of the circle and is set on fuselage at about three degrees angle.

As for landing gear, two 1/2" sheets are hollowed, glued together and streamlined for the pants. The fairings are two 1/32" sheets glued at leading and trailing edges over landing gear wire. Thin gasket material serves as fillets which are glued only to the fuselage, leaving the fairing to work freely inside.

The cowl is made completely of 3/16" sheet. Cut to fit over motor used. A Fox .29 powers my ship but any motor from a .19 to .35 will power sufficiently.

One last check should be made for correct balance (this is important!) and wing warps. If desired an out thrust of three degrees can be given the motor to assure taut lines. Lines are of .015" cable and from 60 to 65 feet long. Products found most suited to this ship are: Fox .29, Top Flite prop 9/6, Master's medium stunt tank, Froom 1 3/4” spinner, Veco control horns, bell crank and 2 1/4" sponge wheels.

To achieve the desired finish, time and work must be applied. Sanding and more sanding along with a Jap tissue covering will give you a basically smooth fuselage. To this three coats of clear dope and three of sanding sealer are added. Sand between coats. About four to six sprayed coats of black will give you a mirror finish. Aero Gloss was used throughout. Don't forget the fuel proofer if you use regular dope or lacquer. German insignia gives spark and realism as do the two carved pilots and all the detail you can cram into the cockpit. To form the rounded rear portion of the cockpit, cut the tail section from a 6" bubble canopy.

Take care of your finished product. Wash with soap and warm water after each flying session.

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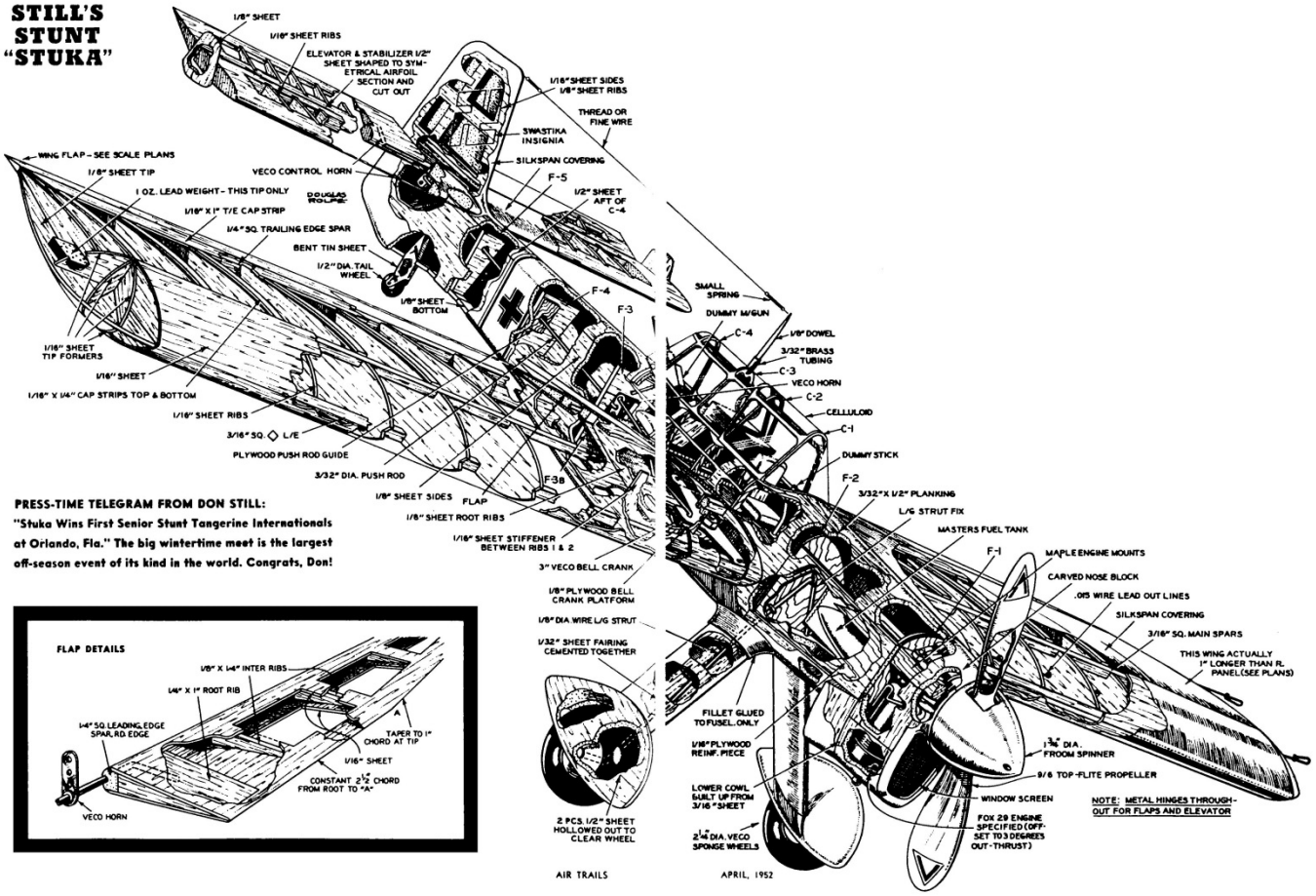

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