

Swift



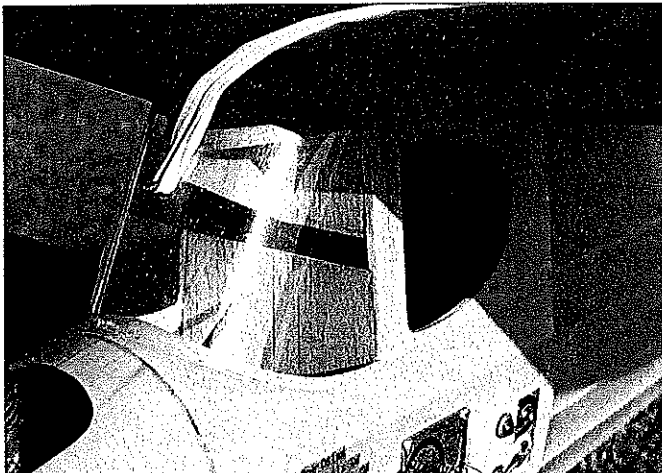
Bob Oslan

The Swift was designed in 1970 when the Old Ruler category was added to the SAM (Society of Antique Modelers) special events. The idea was to permit those so inclined to design their own models to the specifications of the 1941 AMA rules.

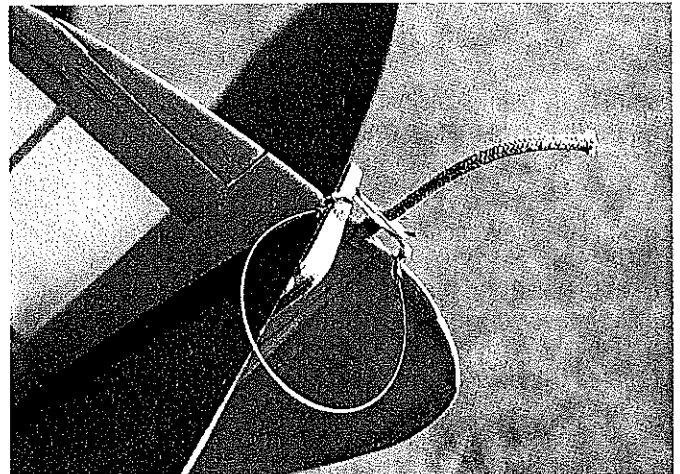
As Old Ruler is interpreted, any Old-Timer, modified Old-Timer, or original design can participate in the event. One of the primary intents was that the new designs should retain the character of those that were spawned by the rules back in 1941. The Swift accomplishes this very nicely and has surprised everyone when they learn that it was

designed in 1970 and not 1941.

The design has gone through some minor evolution. The original and the present versions look almost alike except that the latest version shown in this article has elliptical outer wing panels, an elliptical stab, a 1/2-inch shorter nose and an enlarged rudder and sub rudder. The original had free-form curves instead of true elliptical flying surfaces and was powered by a Forster .29; the new version is powered by a cross-flow O.S. .25 converted to ignition. A Torpedo .29 would be an excellent replacement for the O.S. without the need for custom ignition points.

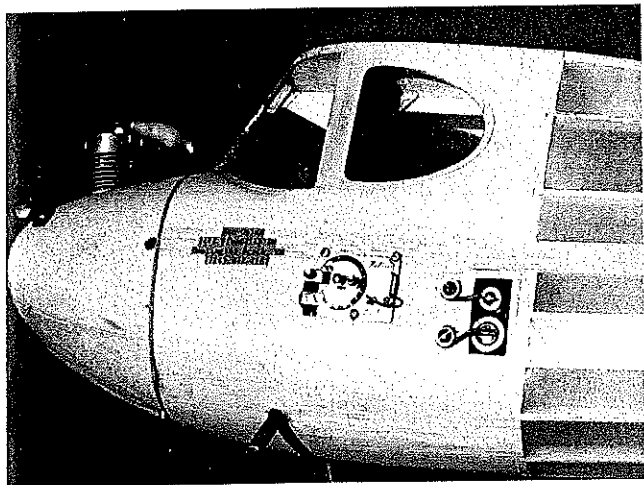


Bulkhead two has carbon-fiber strip reinforcement front and back (visible just below hold-down dowel).

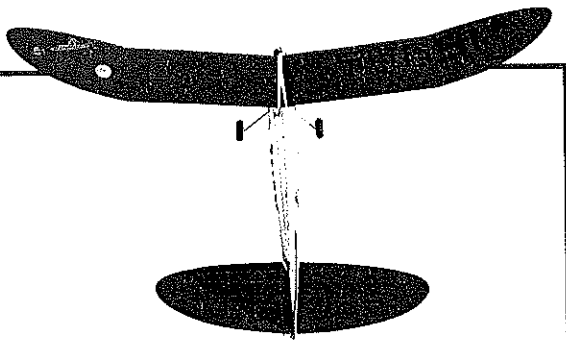


Classic dethermalizer (DT) setup. Hooks are .046 music wire; rudder tab is hinged with brass. Stab pop-up 40-45°.

Designed in 1970 to meet 1941 rules, this Class B model has a classic look.



attery installation is visible behind Tatone timer, modified for engine cutoff. Two AA batteries in series.



Type: FF Old-Timer

Wingspan: 58 inches (flat)

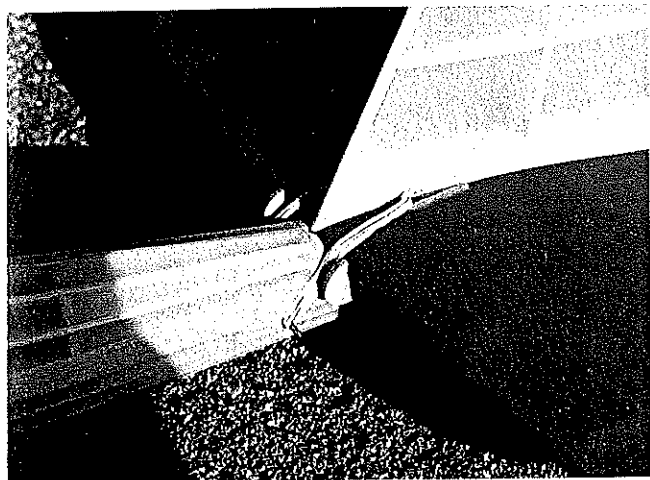
Engine: O.S. .25
converted to ignition

Flying Weight: 26.6
ounces

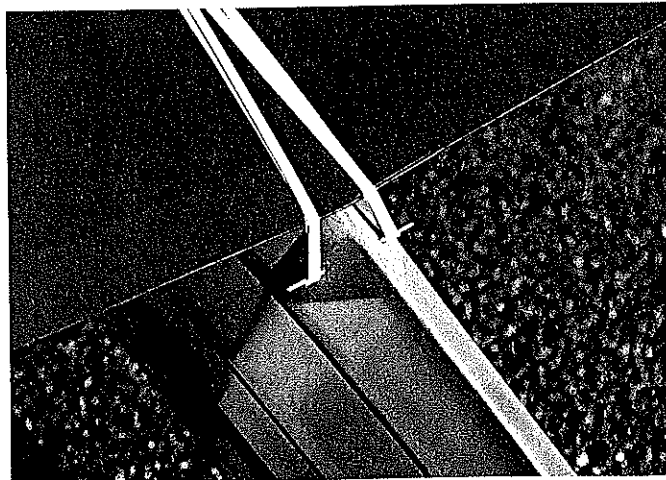
Construction: Built-up

Covering/finish: Silk and
dope

Photos by the author Graphic Design by Julie Anne Visco



tab attachment setup. Note notch in bulkhead—allows rudder clearance when stabilizer pops up for DT.



Wing hold-down detail. Wing trailing edge has $\frac{1}{32}$ music wire inlaid for rubber band crush protection.

The Forster-powered original was a docile flyer; the O.S. .25 version is a different story. The added power showed the Swift to be "under-ruddered" at high speed. Dutch-rolling under power and a sometimes-straight, sometimes-circling glide were problems. Rudder area was added until things got under control.

Performance is quite good. In still morning air, it routinely does 4- 4½ minutes on a 25-second engine run ROG (Rise Off Ground).

CONSTRUCTION

Fuselage: The fuselage is built on a crutch. It is important that the crutch be straight and not bowed up or down, which will affect decalage. Note that all bulkheads glue to the front side of the crutch cross-members (except #2, which glues to the back side). The 3/16 plywood firewall should be tilted four degrees to provide downthrust.

When you're satisfied that the crutch is straight and the bulkheads are in place, attach the 1/8 x 3/8 top stringer, then the 1/8 x 1/4 bottom stringer with its 1/8 square extension. Install the wing platform.

Stringer notches are shown on bulkheads 3, 4, and 9. The rest of the stringer locations are shown as centerlines. Use these as guides when installing stringers. A handy notching tool can be made by gluing a 3/32 wide strip of medium-grit sandpaper to the edge of a four-inch piece of 3/32 x 1/4 balsa. Mark the stringer position and sand in the notch. Sight along each stringer as you install it so it doesn't get wavy. Stringers get crowded at the rear of the fuselage and will have to be tapered considerably.

If you haven't already done so, laminate 2A, the 1/16 plywood

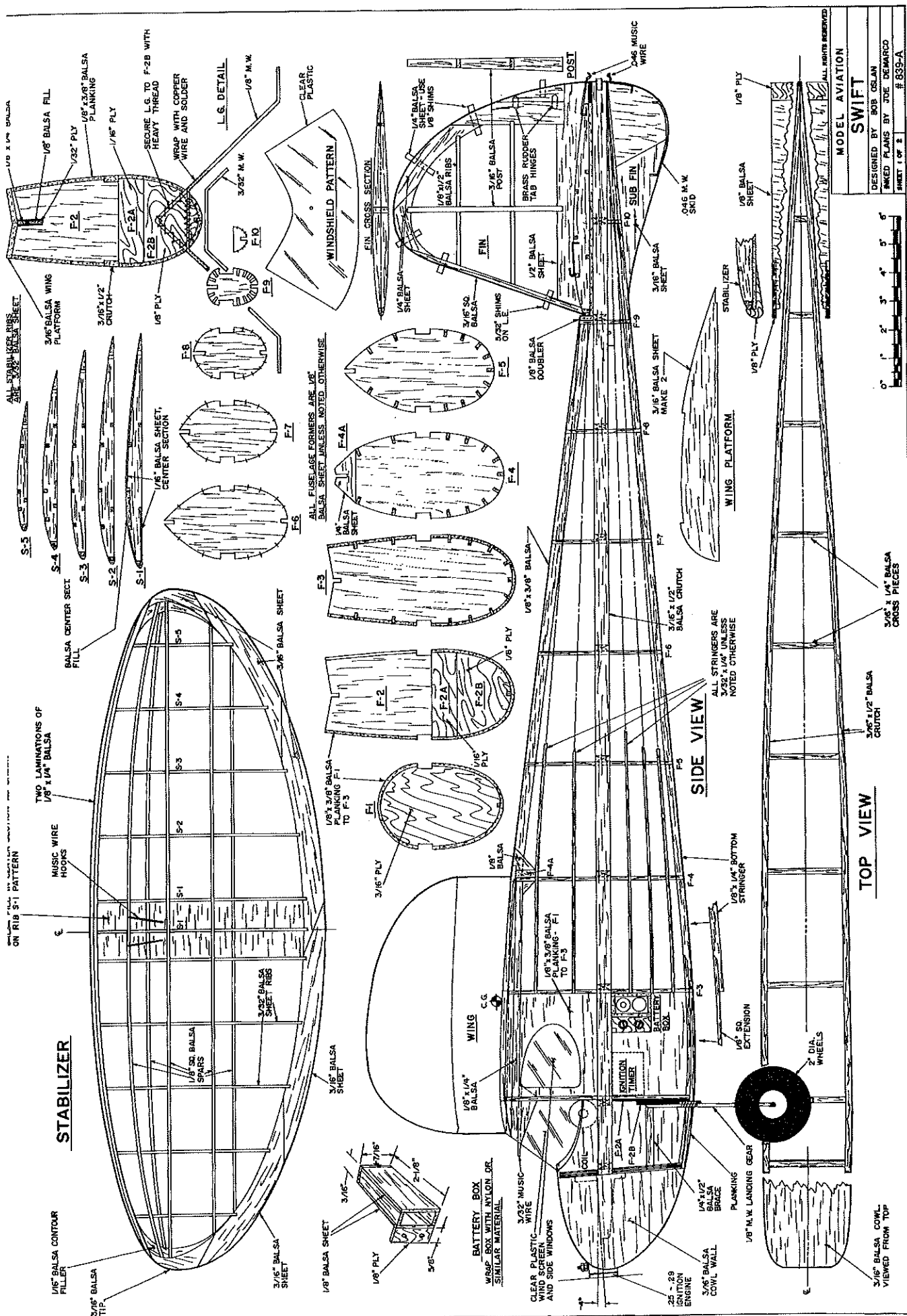
doubler, to bulkhead 2. Glue and lace that landing gear to 1/8 plywood 2B. 2A will have to be routed to clear the thread that protrudes from the back of 2B. When you get a sure, clean fit, glue the landing gear and 2B assembly to 2A and clamp in place until it's dry. When the landing gear is in place, the fuselage can be planked as shown on the plan. Note the carbon-fiber strips shown on bulkhead 2. These keep the bulkhead from bowing under tension from the wing rubber bands. The battery box is designed for two AA batteries taped together with wire leads soldered on in series. The output leads attach to 4-40 machine screws that thread into blind nuts on the backside of the plywood panel on the side of the battery box. The output leads and friction between the tape and the inside of the battery box hold the batteries securely in place.

Wing: The wing is a conventional multispar type with an NACA 6409 airfoil. Note that the three center ribs have flat bottoms instead of being undercambered; this is to provide maximum contact surface for the wing on the wing mount. Referring to section A-A on the plan, see that the wood added to the bottom of the spars that tapers from CR to rib 1. This should be done after the wing halves are joined.

Vertical and Horizontal Stabilizers: These are simple and self-explanatory. The dethermalizer (DT) limiter is flexible cable attached to the DT hooks on the stab and subrudder. Make the cable long enough to allow the stab to pop up 40-45°. The cable itself can be made from light Control Line leadout cable.



Swift meets the 1941 AMA rules, although it was designed in 1970. Old Ruler event retains "character" of that era's models.



MODEL AVIATION
SWIFT
 DESIGNED BY BOB OLAN
 SWIFT PLANS BY BOB OLAN
 SHEET 1 OF 2 # 839-A



