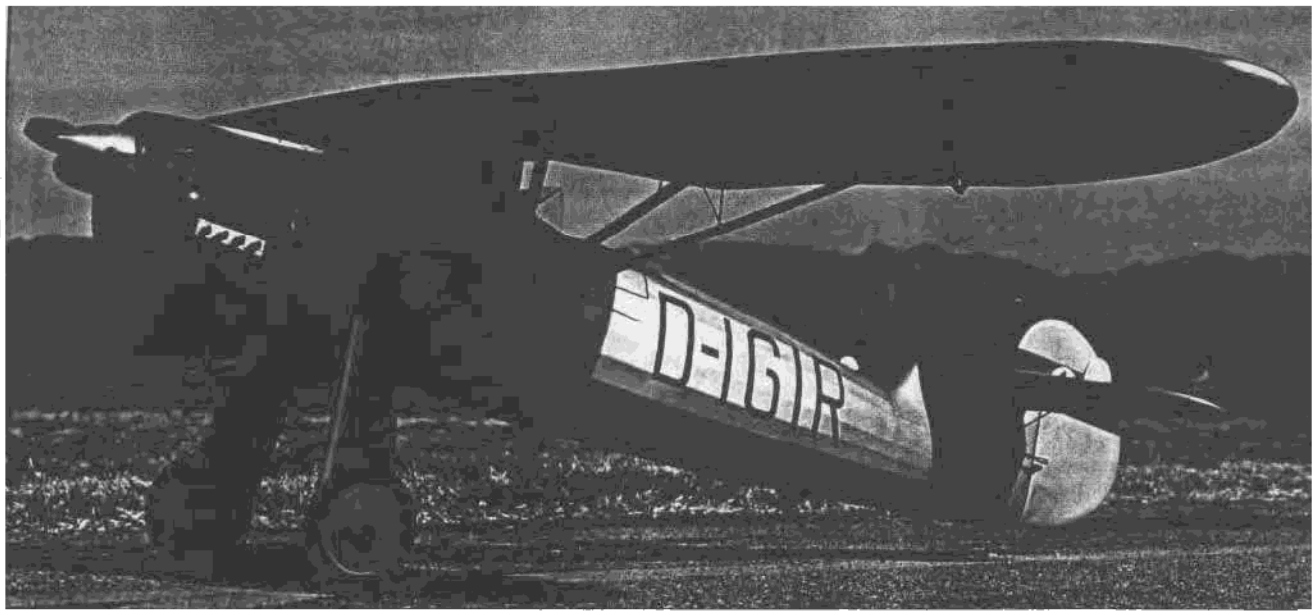


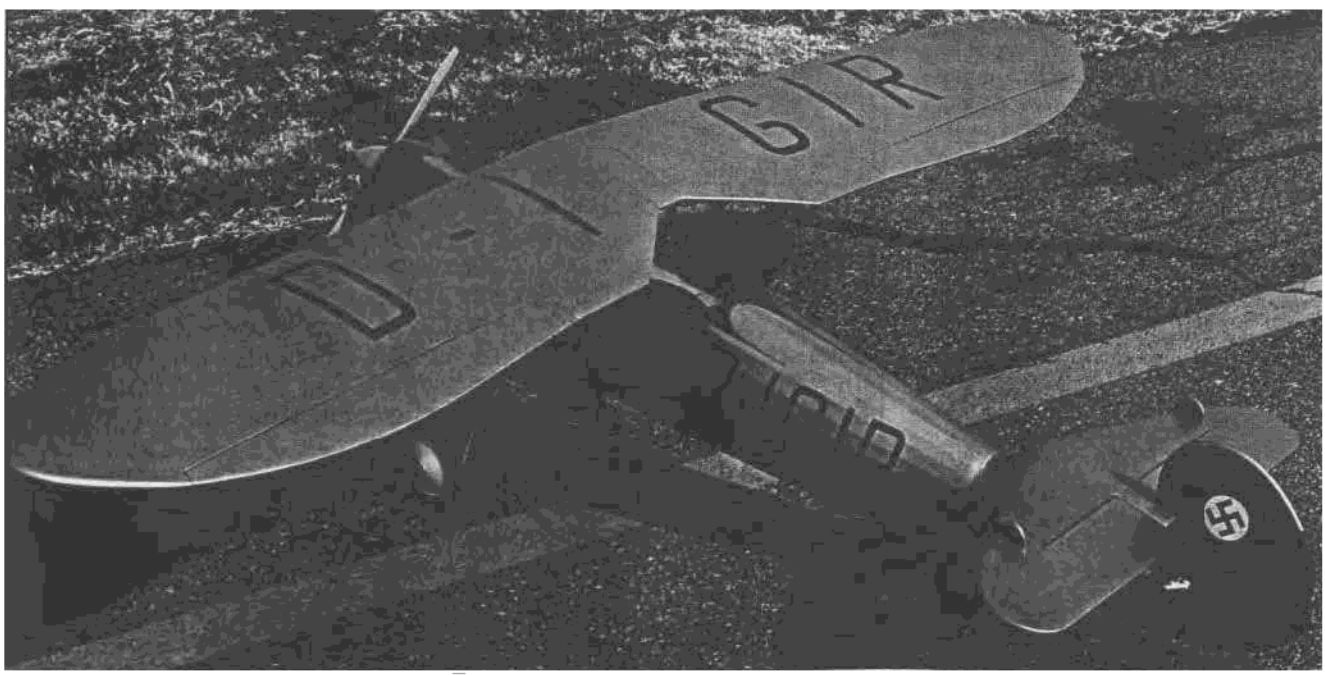
DER STOSSER

A Giant Scale "Bird" That's Sure to Draw a Crowd; and it Flies as Good as it Looks!

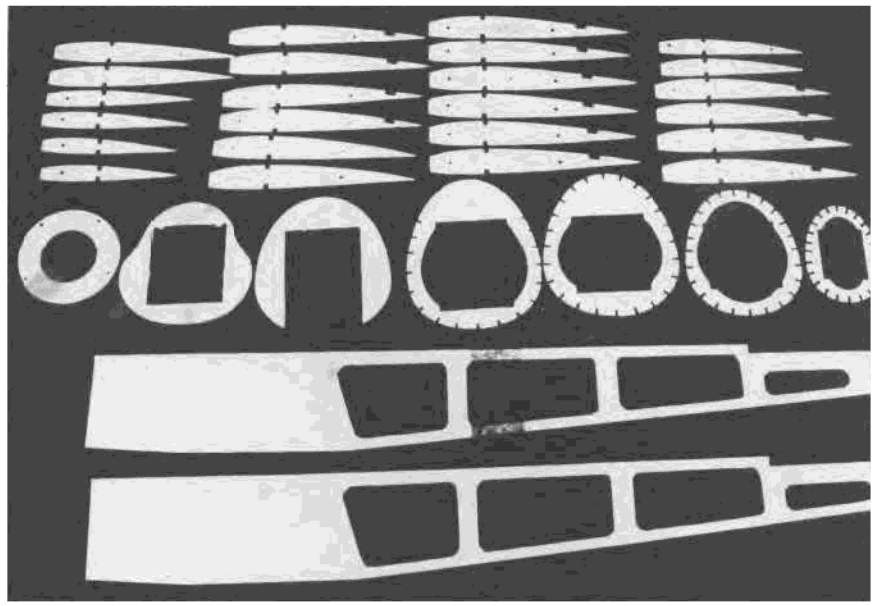
By Martin Fallandy

Dear fellow scratch-builder, our story begins in Bromberg (German for Bydgoszcz in Poland) February 24, 1898. On this day Mr. and Mrs. Tank were blessed with a baby boy whom they promptly named Kurt. Young Kurt was to study hard and become the lead design engineer for the Focke Wulf Aircraft Factory. All this occurred in the early 1930's when Germany was clandestinely tooling up for World War Two. During this period, Focke Wulf won a fly off for an advance trainer with the Stosser, designed by Kurt Tank. Wulf died in an airplane crash in 1927, Focke left the aircraft business to continue his research on his helicopter. The aircraft company went on with the name of Focke Wulf. Tank went on to lead Focke Wulf in designing the highly successful FW 190 series. The first 190 was designed for a radial engine. When radials of the size required became scarce, Kurt made a few design changes. By designing a new annular radiator and fitting it in the nose of the plane, the original 190 could accept an in-line engine. Near the end of WWII Kurt made his way to Buenos Aires. On February 8, 1951, he was commended by President Juan Peron for leading the design and fabrication of Brazil's first sonic fighter. Here Kurt's trail runs cold. It is doubtful he is still alive as he would be 98, but not impossible. Whatever his political affiliation may have been, his contribution to aviation was significant.

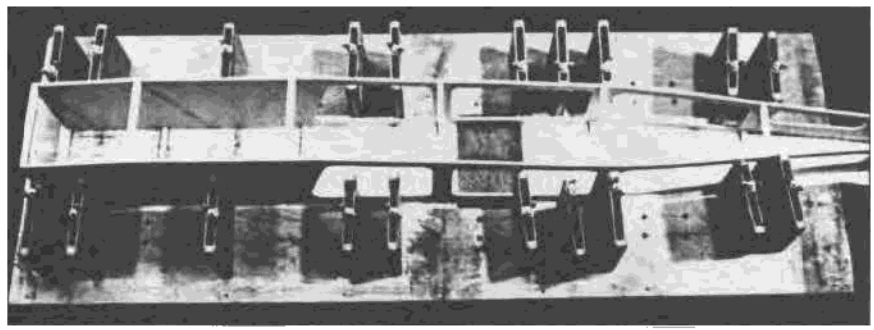
The FW 56-Stosser (Stosser means bird of prey) first came to my attention because



NAME
STOSSER FOCKE WULF FW 56
DESIGNED BY
Martin A. Fallandy
TYPE AIRCRAFT
Stand-Off Scale
WINGSPAN
83 Inches
WING CHORD
12 Inches (Avg.)
TOTAL WING AREA
996 Sq. In. (Approx.)
WING LOCATION
Parasol (above fuselage)
AIRFOIL
Semi-Symmetrical (NACA 2412)
WING PLANFORM
Elliptical
DIHEDRAL, EACH TIP
1 Inch
OVERALL FUSELAGE LENGTH
57 Inches
RADIO COMPARTMENT SIZE
Ample
STABILIZER SPAN
26-3/4 Inches
STABILIZER CHORD (inc. elev.)
6-1/2 Inches (Avg.)
STABILIZER AREA
174 Sq. In.
STAB AIRFOIL SECTION
Flat Bottom
STABILIZER LOCATION
Top of Fuselage
VERTICAL FIN HEIGHT
10-1/2 Inches
VERTICAL FIN WIDTH (inc. rud.)
6 Inches (Avg.)
REC. ENGINE SIZE
1.2-2.0 Cu. In. 2-stroke
FUEL TANK SIZE
16 Oz.
LANDING GEAR
Conventional
REC. NO. OF CHANNELS
4
CONTROL FUNCTIONS
Rud., Elev., Throt., Ail.
BASIC MATERIALS USED IN CONSTRUCTION
Fuselage .....Balsa & Ply
Wing .....Balsa & Ply
Empennage .....Balsa & Ply
Wt. Ready To Fly ..... 216 Oz. (15 Lbs. 8 Oz.)
Wing Loading .....31 Oz./Sq. Ft



Prefabrication kit.

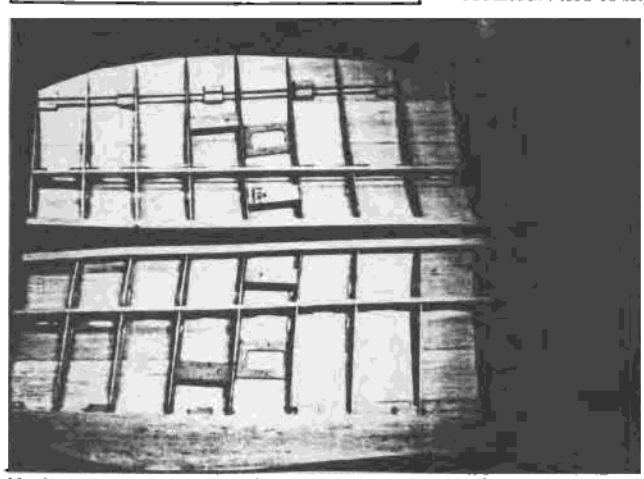


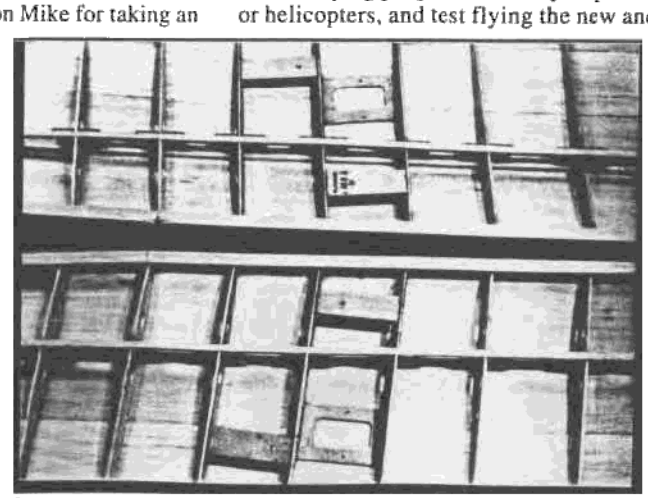
Fuselage box section laid up in RCM fuselage jig (RCM Feb. 1972).

of the different empennage. Kurt apparently wanted a rudder that would not be blanketed by the elevator during any flight configuration. As my years increase and my reflexes decrease, I thought it would be nice to have an easy going parasol wing-type aircraft. So the Stosser was selected for a 1/5 stand-off scale model.

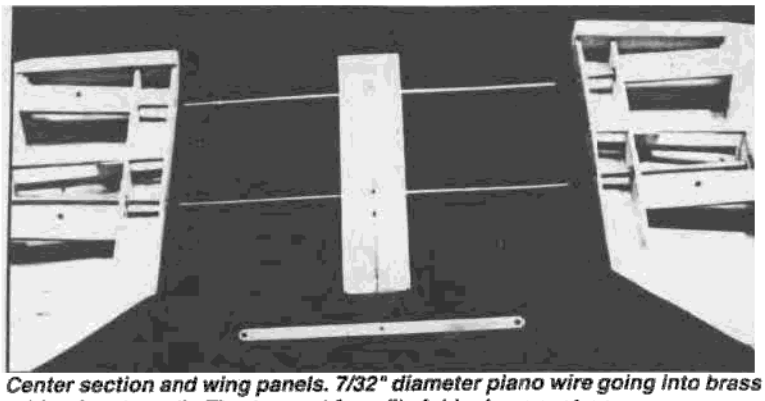
Before continuing with the construction, I would like to express my appreciation for the research accomplished by my sister, Dr. Yvette M. Fallandy, Professor of Languages at Sonoma State University, California. It seems that with the right library and computer touch, if it exists, it can be located and recalled. Also to my son Mike for taking an 8-1/2" x 11" sheet of 3-views and enlarging them to 1/5 actual size. Another computer mystery to me. The 3-views were courtesy of Dick Gleason, 1106-10th Drive S.E., Austin, Minnesota 55912. This man has to have every model airplane and full-size airplane magazine ever published. Also a great number of plans. Nothing is too obscure for Dick to deliver.

All test flying was done by Jay Replogle, owner and operator of Hobby House, Inc., 17721 Vanowen Street, Reseda, California 91335, (818) 609-1968. Jay can be found almost every morning at the Sepulveda Basin helping people learn to fly airplanes or helicopters, and test flying the new and

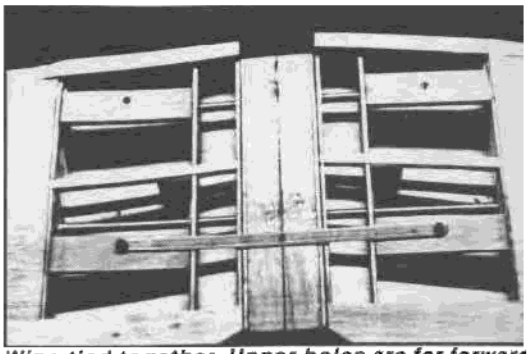




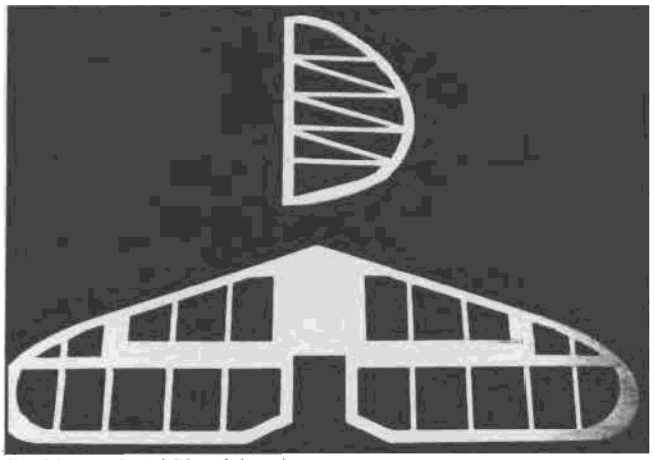
Underside of wings showing servo mount and wing strut mounting points.



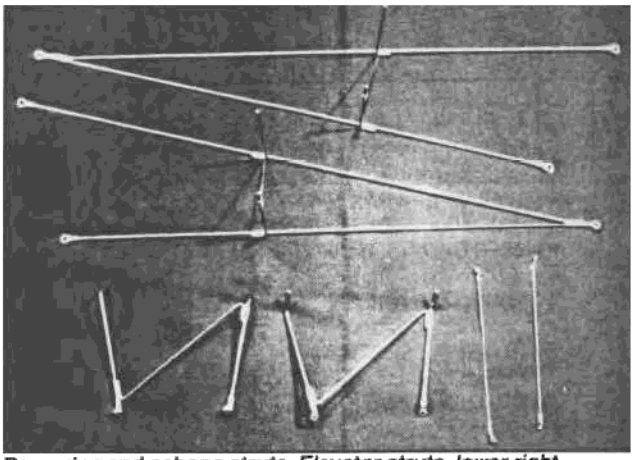
Center section and wing panels. 7/32" diameter piano wire going into brass tubing for strength. Tie strap cut from file folder hanger strap.



Wing tied together. Upper holes are for forward cabane struts. Rear tie strap bolts double for rear cabane struts.



Rudder and stabilizer/elevators.



Bare wing and cabane struts. Elevator struts, lower right.

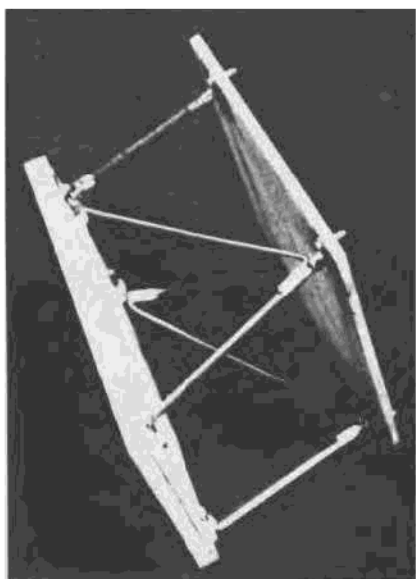
unusual. Jay flies them all, from the unlimited at Madera, California, to a 1/2A trainer. If you are in the San Fernando Valley or just passing through, give yourself a break and stop in at Jay's shop. Jay and his people are knowledgeable in all phases of the hobby, airplanes, boats, cars, plus trains and plastic models. You won't be disappointed.

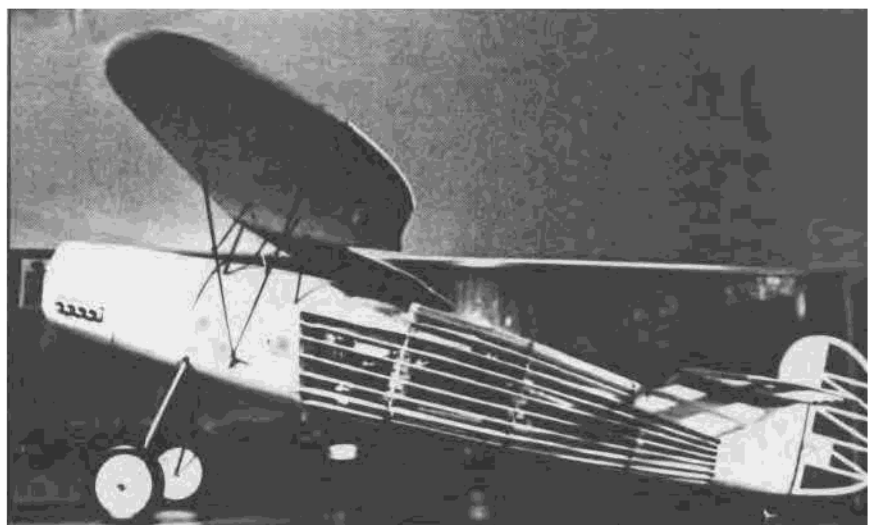
CONSTRUCTION

If the model appeals to you, don't let anyone talk you out of building one. Although larger than some, remember, big airplanes fly, small airplanes flit. If you are a first time scratch-builder, don't worry as there is no hidden tricks, no retracts or flaps, just glue one piece to another. A Dremel jig saw is handy; if you get in a bind, write to me in care of RCM, and I'll help you all I can. When you're through, you will have an easy flying, easy to keep track of, different model.

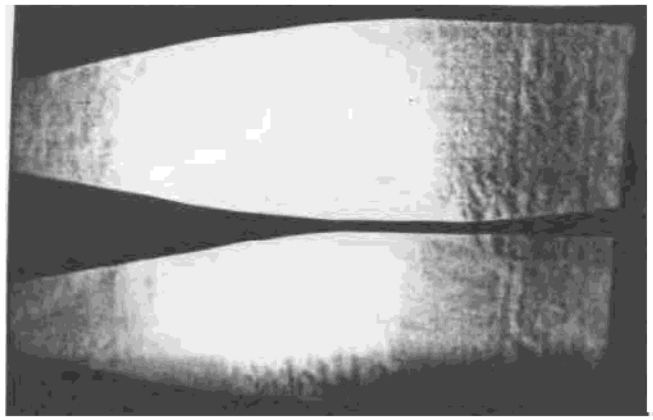
Fuselage:

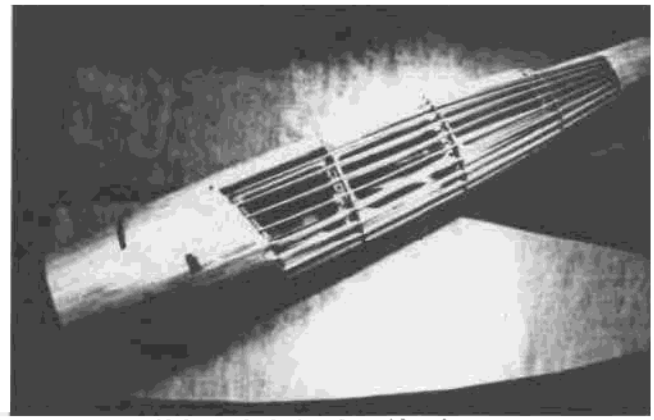
The fuselage is a box for strength with formers passed over the box and secured in place. Glue the two blanks together from which the sides are to be cut. Put the glue in spots that will be cut away as lightening holes. Cut the two sides as a unit, don't forget to drill the 1/16" holes where indicated. Cut the lightening holes away last and the two halves will separate. The box that forms the fuselage is set up on the RCM Fuselage Jig (RCM Feb. '72). With the fuselage box complete, pass 1/16" music wire through the predrilled holes, and this will correctly position the bulkheads. Usually, at this point I'm anxious to add the stringers and start sheeting. But think ahead, add all the internal things that you can think of: servo rails, tank mount, tube to run the elevator and rudder leads to the servos, power switch, charging receptacle, and T-nuts to receive the engine of your choice. After all the internal mounting required has been installed, sheet the front end with 1/8" x 3/8" balsa strips, this will allow 1/32" for sanding





Left: Cabane fixture for ease of soldering and accuracy. Right: Bare bones complete.



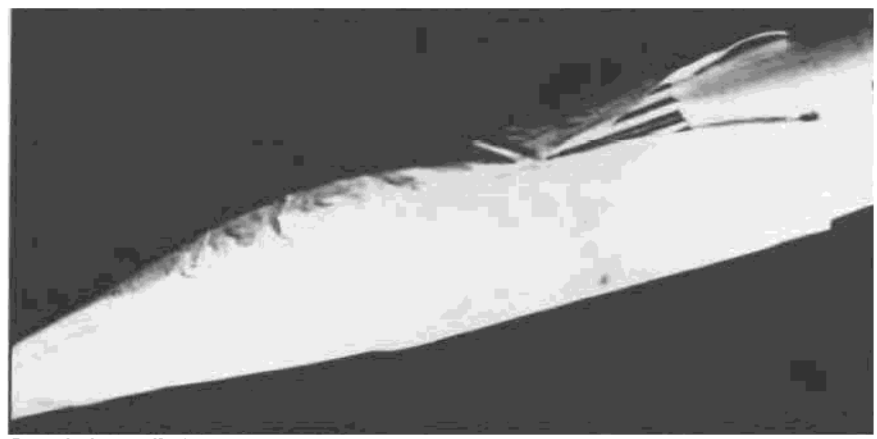


Left: Both halves of windsock to be sewn together and pulled over fuselage. Right: Halves of windsock and fuselage.

and contouring. Next add the stringers and light balsa to the empennage, and lightly sand the entire fuselage to shape.

Wings:

The wing ribs are laid up on 1/4" diameter drill rods. This method was described in the July 1991 issue of RCM. Lubricate the rods with a light coat of Vaseline, this will aid in their removal. Add as much sheeting as possible on the top side of the wing. This will set the proper shape for the wing while it is held in place. With the top side complete, remove the rods and invert the wing. From the underside of the wing, add the servo supports, and wing brace anchor points. Cut out the ailerons and add the facing to the cut out area of the wing and the front of the aileron. Now is a good time to thread a string through the holes provided. This will be used later to pull the aileron servo wire through to the center section, where it will connect to the opposite wing and "Y" connection for a lead into the receiver. Complete the center section with the 7/32" diameter drill rod, extending as shown on the print. Assemble the entire wing inverted with the receiving 1/4" i.d. brass tubes and associated parts. Place a sheet of plastic wrap between the two joining faces. When all is set up as accurately as possible, flood all joints with CA. The underside of the wing may now be sheeted, and the servo hatches added. The wingtips are laid up from 1/2" sheet. Lightly sand as required. The wing struts are required for in-flight strength. With the model inverted, and the wing mounted on the cabane struts, cut the wing struts to length. Crimp the wiring terminals with the struts in place, then carefully remove the struts and solder terminals in place. With the wing struts in place you can locate the "N" braces between the struts and the underside of the wing. These "N" braces provide no strength to the wing, but are purely for scale appearance.



Sock being pulled over fuselage.

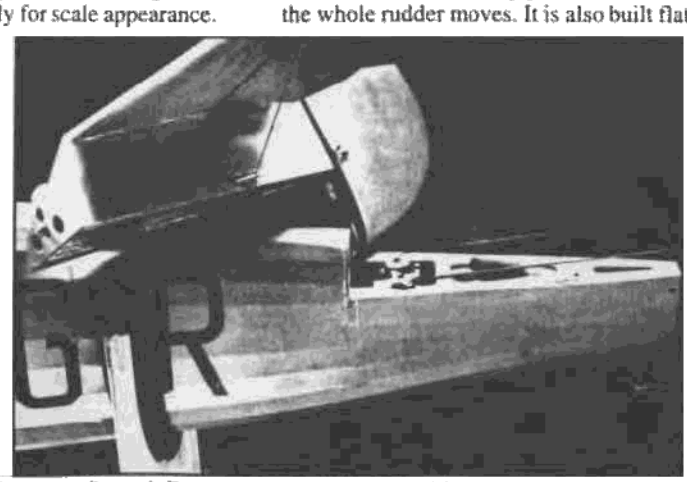
Coverite shrunk in place, over fuselage.

Elevator and Stabilizer:

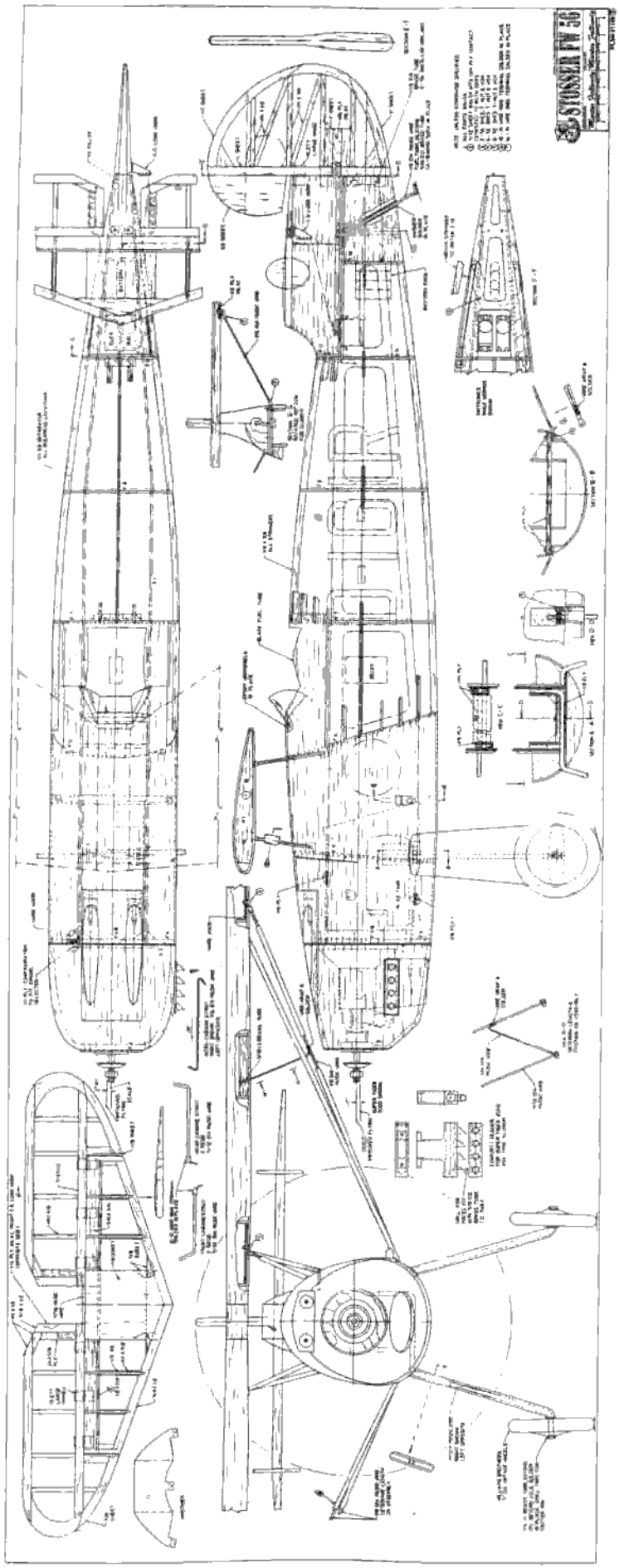
The elevator and stabilizer are built flat in the conventional manner. Why the elliptical elevator tips move with the elevator, I have no idea -- must have been the way Kurt wanted it.

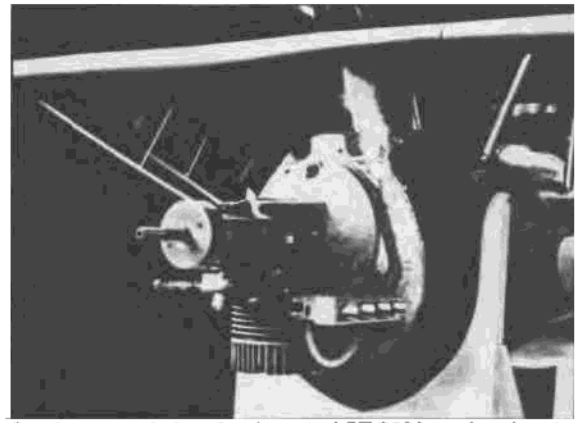
Rudder:

There is no stationary part of the rudder, the whole rudder moves. It is also built flat,



Left: Empennage removed showing elevator servo (upper), rudder servo (lower). Battery in foam. Right: Rudder and elevator assembly removed. Two holes in aft end are for pins locking in bottom two rudder hinges.





Cowl removed showing inverted ST 2000 engine, header and stacks.

but additional balsa must be added to the lower end on each side to bring it in line with the tail end of the fuselage.

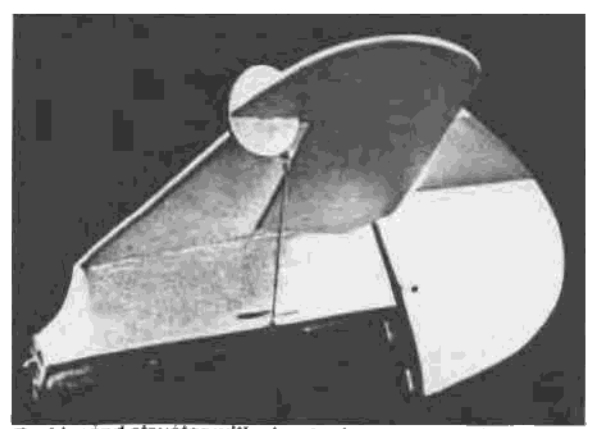
Covering and Painting:

The entire model is covered with "Super Coverite." This is a cloth material that is heat shrinkable and almost foolproof. I used the windsock method to cover the fuselage. Make a pattern by drawing a line forward from the middle stringer to the fire wall, in other words at the equator. Now starting at the tail and going forward every 6", measure from the equator to the top and bottom of the fuselage. You will end up with one half of a windsock-like pattern. Cut out a left and right side pattern. These do not have to be too accurate, just make sure that they are big enough. Sew the top and bottom of the sides together with the sticky side out. Turn it inside out, sticky side in, and pull it over your fuselage like you would pull on your socks. With your plastic film iron, seal the material over both the tail end and the fire wall, this will keep the material from pulling towards the center of the fuselage. You should have a seam on the top and bottom of the assembly. Stand back and hit it with a hot air gun, being careful not to exceed the temperature recommended by the manufacturer. In fact, now would be a real good time to read "Coverite's" very adequate instructions. But fear not, the whole thing will shrink up drum tight and you will be thrilled and amazed. Cover the wings and tail much as you would with a plastic film covering.

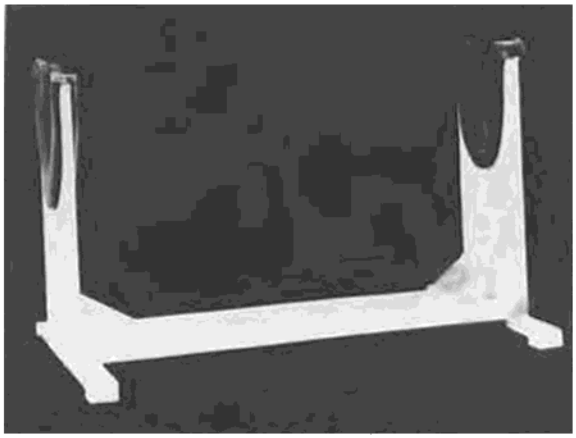
After many inquiries, I ended up giving my model two coats of nitrate dope for a filler as recommended by "Coverite." Next, I used Plastic-Kote 1001 (bright silver metal) from "Pep Boys." The red is the same material. Whatever you do, one thing everyone seems to agree on, try whatever system you choose on a set-up other than your model, and give it a good test with whatever fuel you use.

Flying:

The fateful day comes sooner or later. In the case of the Stosser it came later. Unfortunately, the Stosser suffered some earthquake damage due to our big shaker, and repairs



Rudder and elevator with elevator brace removed as a unit.



Cradle — handy for building and inverted engine starts.

were required. Plus, narrow minded neighbors wanted to rebuild walls, fences, and other barriers that it seems are required to isolate R/C modelers. When I'm king, believe me things are going to be different.

Jay and I met at Sepulveda Basin. We performed a pre-flight check, range check, and fired up. Building a support cradle is well worth the effort, as turning the model over, placing the engine upright, makes starting a lot easier. The first flight showed not enough right authority plus a constant climb. Back in the shop, the engine was cocked about 2-1/2° to the right and about 1/2° down. Back to the Basin with a marked improvement. Jay executed a few snap rolls, loops, and Cuban Eights.

Afterthoughts:

Although a great effort was made for scale authenticity, if I had it to do over I would:

(a) Spread the wheels for better ground handling.
(b) Install a conventional steerable tail wheel.
(c) Enlarge the rudder area slightly.
(d) Offset the engine as shown on the print.

So fellow scratch-builder, have a go at it and if you get in a bind, write to me in care of RCM, and I'll help all I can, happy landings.