

Rubber Scale Focke-Wulf 190D9

Photos by Larry Caricchio

The *FW190D9*—known as “Dora 9” in Luftwaffe service was designed by Kurt Tank for high altitude operation and as a stepping stone to the long-winged super extended fuselage *TA-152* series of aircraft. The *D-9* ended up instead as the most successful of the *Focke-Wulf* fighters. Originally planned to provide protective cover for the twin-jet *ME-262* jets on take-off and landings when they were most vulnerable. The pilots soon found they could outclimb and outdive the BMW 801 powered *Focke-Wulfs* and were convinced it could outperform the *P-51D Mustang*. The role of the *D-9* soon changed. Compared to the “A” series, the tail assembly was moved aft and nose was extended to accommodate the jumbo 213 in-line engine and annular radiator. Noticeable bumps appeared ahead of the canopy on the fuselage and on the wings near the root fillet, to make room for two 7.9mm MG 17 machine guns and two 20mm MG 151 cannons.

The Design

The proportions of the real aircraft when scaled down are close to ideal for rubber power. First, with the tail assembly set far back, the vertical stab area hardly had

Rubber Scale has followers of all ages, and classic warbirds like this explain its continuing popularity.

by R. Preston Bruning

to be enlarged and the horizontal stab area was only slightly increased. The long nose requires little or no ballast for flying. You can pack a lot of rubber in that long fuselage for a longer motor run. The full scale prototype had generous dihedral and the tall landing gear would be ideal for prop clearance.

Construction Peculiarities

Let's start with the fuselage. Every effort was made to locate the stringers and bulkheads along the lines of the real aircraft. The fuselage was built by cutting out the entire fuselage profile through the can-

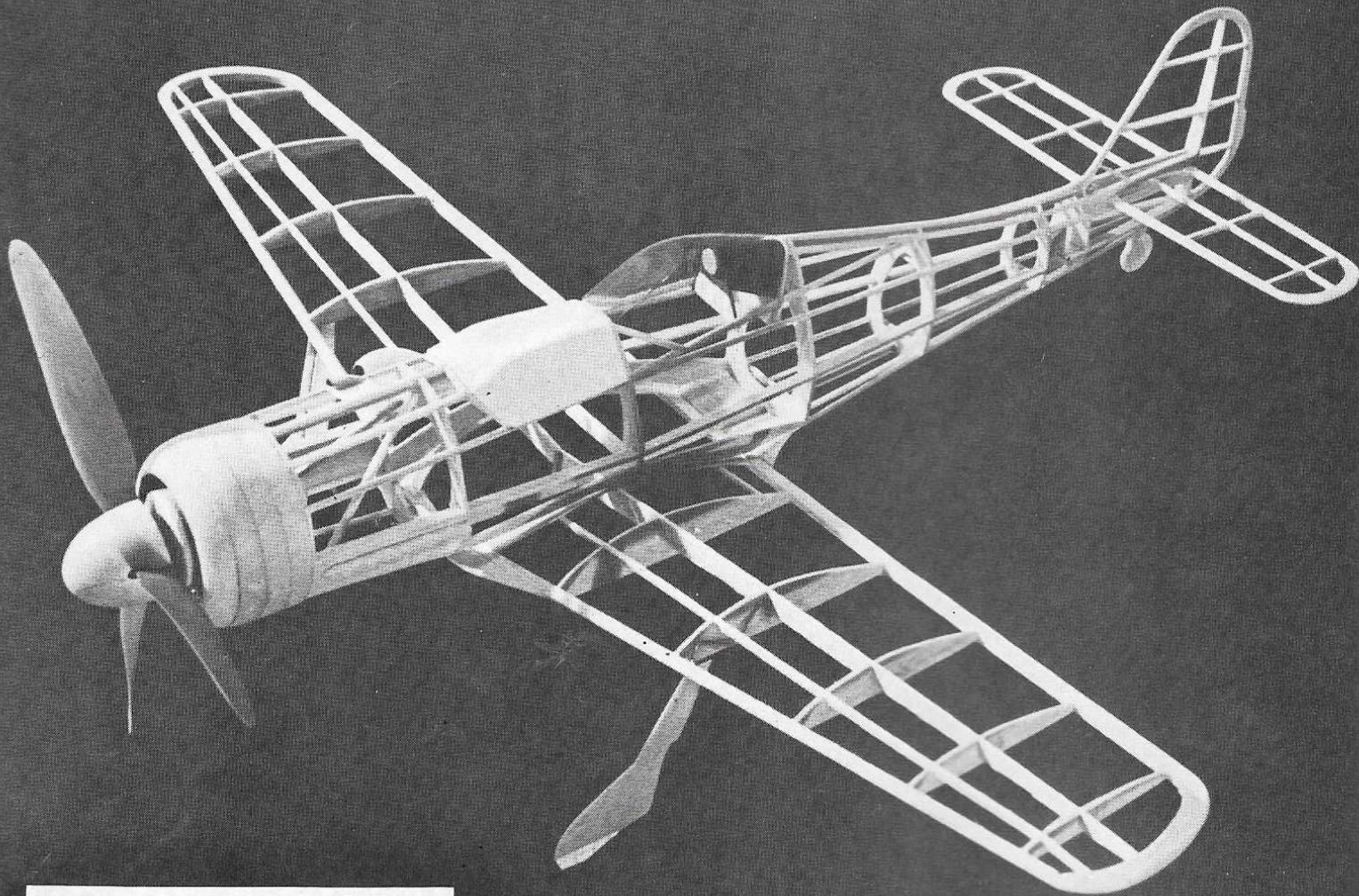
opy as well, marking bulkhead positions and doing the same for the plan view. In both cases keep the cross-sections of these pieces to $\frac{1}{16} \times \frac{1}{8}$ ". The plan view stringers were spliced together at bulkhead location “D.” Plan and profile stringers were glued to the lead bulkhead “A” and stern bulkhead “H.” The remainder of the bulkheads from front to rear were added, being careful to check the position of each before gluing. You can literally build it in your hand.

For the less experienced, pin down the fuselage profile pieces and glue up the left half first. Bulkhead halves, then the stringers after that. Once so assembled, remove the completed left fuselage structure from the building surface and glue the right and left fuselage bulkhead halves to it and add the plan view piece and stringers.

The vertical fin outline was built on the plan and was then glued to the fuselage adding the ribs and spars in that order. This was done to maintain the integral look of body and tail. The vertical tail surfaces and the fuselage were covered together.

Wing Construction

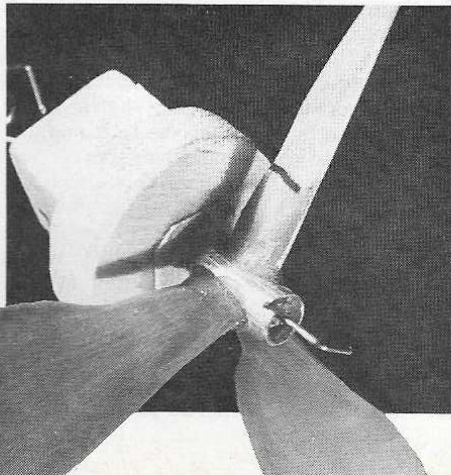
This structure is simple and straightforward. The only unusual parts were the



References

1. Focke-Wulf FW190 & TA152 Described Part 2 by Anthony Shennan and Geoffrey Pentland Kookaburra Technical Publications, 1969
2. Profile Publications Number 94
3. Warplanes of the Third Reich by William Green Doubleday and Company, Inc. 1970—pp. 214-217
4. War Planes of the Second World War, Fighters Volume One by William Green Doubleday and Company, Inc. 1965—pp. 103-106

If two are good, three must be better. Note the hub construction, notch for free-wheeling prop.



horizontal cross-grain laminating of the wing tip pieces. Through past experience, bonding the landing gear wire to the ribs with 5-minute epoxy (liberally coating around it) is plenty strong, adding plywood gussets to retain the wire as added assurance of strength. Cannon housing vac-formed pieces were added after the model was covered. The same with the fuselage bump projections.

The Propeller

The prop was made by cutting several Star Flyer props in two and filing 120 degree notches to make a three bladed hub. Plastic solvent glue is used to join the blades to the hub.

Next, file $\frac{1}{16}$ " x $\frac{3}{8}$ " deep notches into aluminum tubing to fit over the hub joint. Epoxy liberally. This makes a very strong three-bladed prop that looks quite realistic in every sense. (One can change the pitch by bending the blades.) Just $\frac{1}{8}$ " ahead of the hub, file a spiral catch (see plans), after cutting off the excess tubing. Thin the blades down by scraping with an X-Acto blade or file. Spray the prop flat black with Pla enamel.

Spinner

The spinner was formed by turning down a model rocketry balsa nose cone centered on a wood screw shaft. Cut the head off in an electric drill clamped to the workbench. This makes a quicky kind of lathe if you're

not set up with the real thing. The center was bored out to a $\frac{1}{8}$ " dia. wall thickness. Down and right thrust was drilled into the nose plug before the aluminum tubing was glued in.

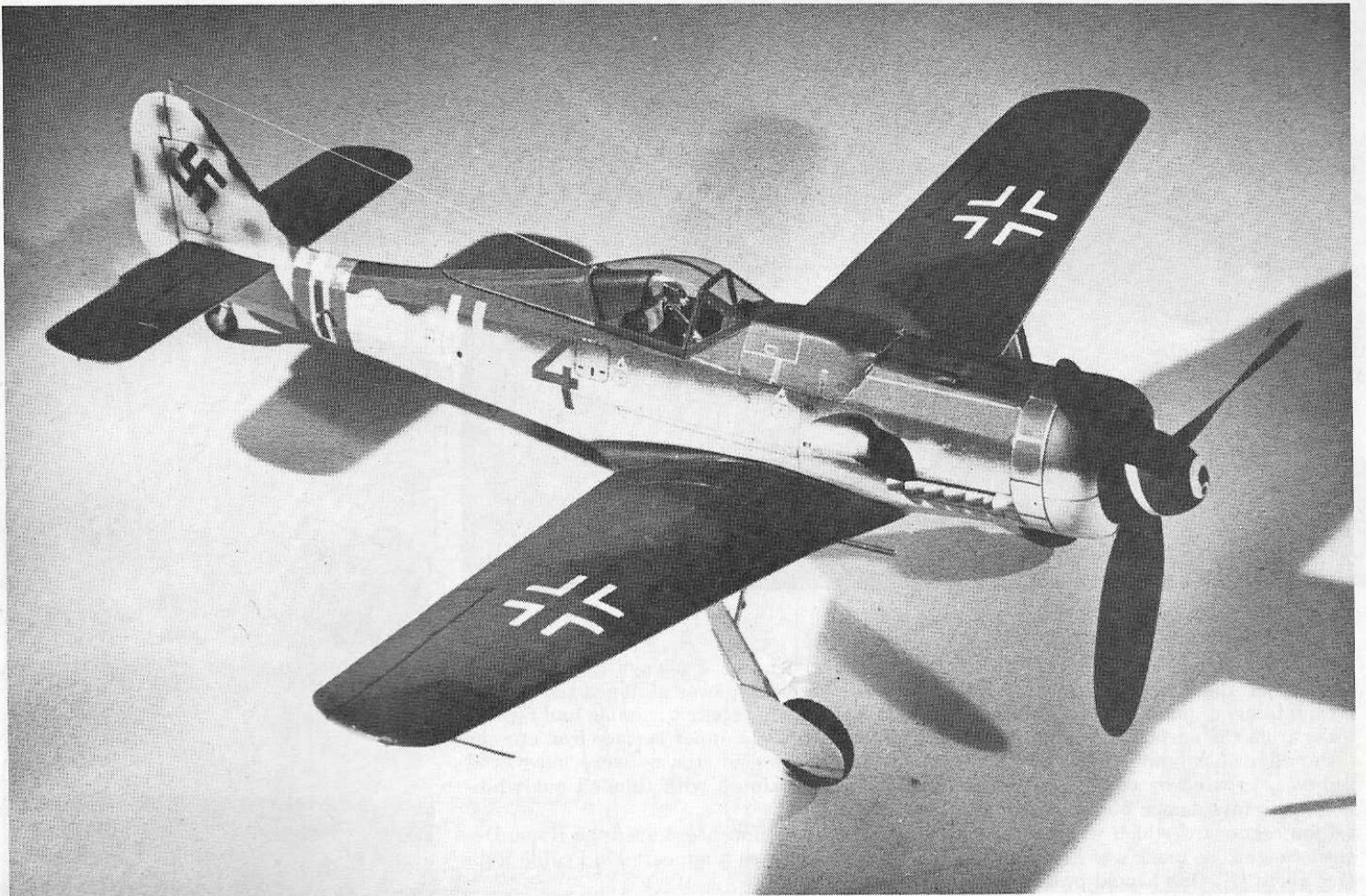
Covering

Superfine Jap tissue was used on the *Focke-Wulf*. After the water shrinking operation the tissue was coated with a half and half dope-thinner mixture with a few drops of plasticizer added.

Airbrushing the model was time consuming and a bit difficult. Special attention was devoted to the masking operation. The top wing surface and fuselage side iron crosses were masked out with $\frac{1}{8}$ " tape, as well as the home defense bands around the fuselage which were painted first.

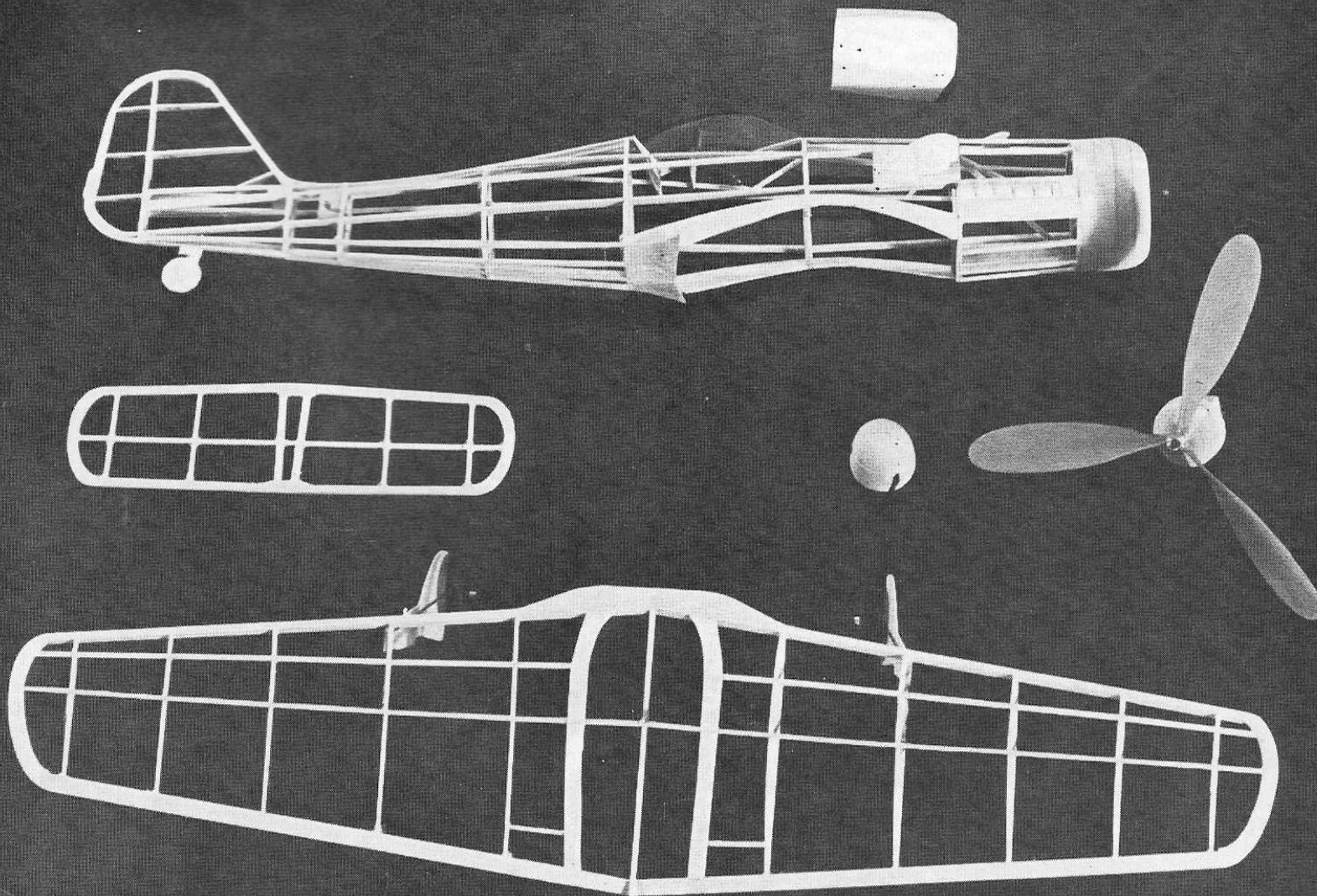
The model was next masked to receive the light blue undersurface and color for the lower half of the fuselage. Pactra Military Flats (Aero Blue) was used since it won't attack styrene and gives a nice matte finish.

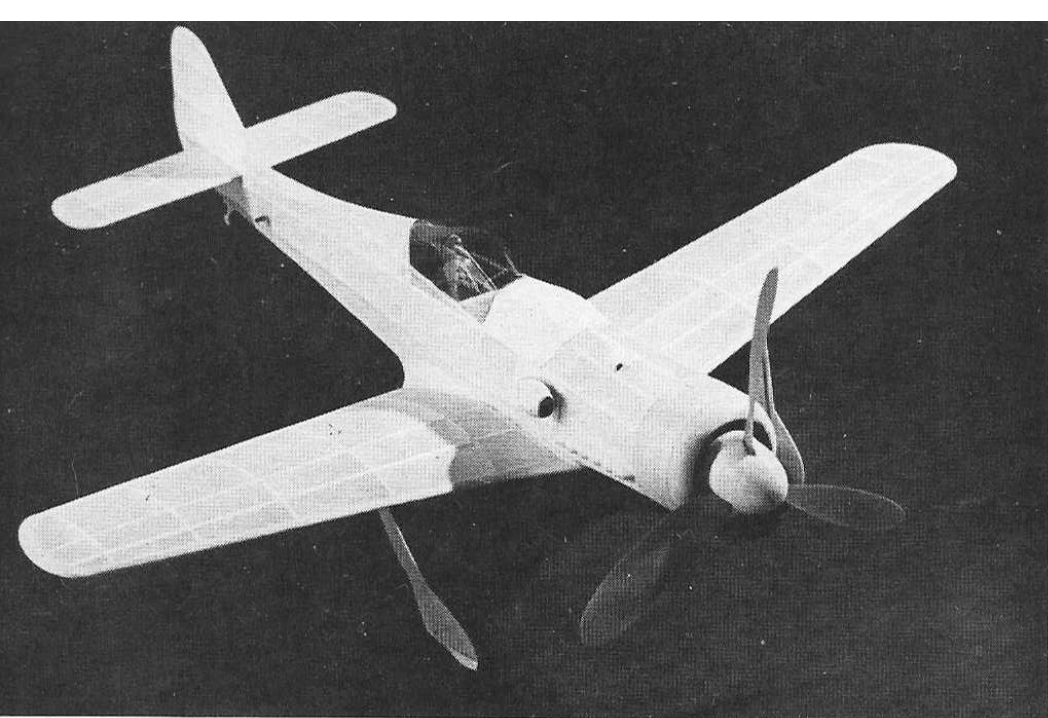
In painting the wings, experience taught me to make sure when masking to allow for color overlap in the case of the splinter camouflage pattern. The color on the top of the fuselage blending into the light blue sides was achieved by cutting the original fuselage mask open along the top centerline and cutting an irregular wavy edge down far enough on both sides. Don't adhere this edge. Let it stay $\frac{1}{4}$ " away from the surface and spray directly from the



At left: Formers, stringers, spars and ribs. Three dimensional puzzle of parts to create lightweight and yet rugged frame. A practical structure.

Above: A ship and a shadow. Neatly sprayed, design captures the essence. Below: Balsa bonework. Each piece for a purpose. Ring cowl balances all.





side. This produces a soft edge. To burn in the top of the fuselage, I simply held a straight-edged mask on both sides $\frac{1}{16}$ " away from the surface at a level along the lower edge of the canopy. The spots on the tail were created by cutting out irregular holes within a drawn outline shape of the tail on cardboard which was sprayed at a close range. The mask was held off the surface about $\frac{1}{2}$ ". One should practice first on cardboard to achieve the desired results on the model. The panel line work was done with prisma color fine point nylon tip marker pen and a silver pencil on dark colors.

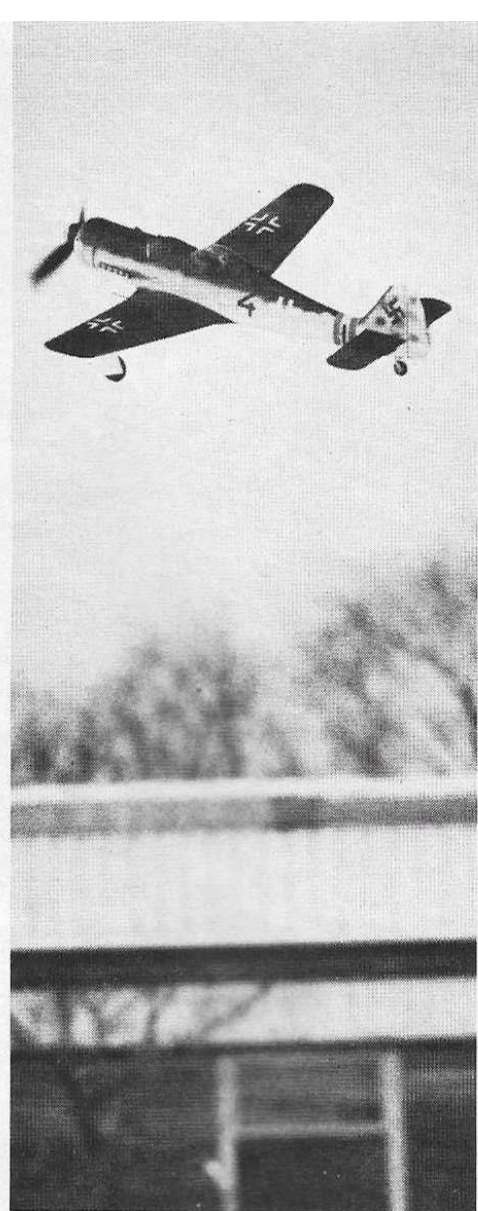
The cockpit framing, black swastikas, lower surface iron crosses and #4 on the fuselage sides were cut out appliques of jap tissue, with peel-back Scotch brand rubber cement tape on the back surface. This gets away from the worry of doping on

painted surfaces. I always spray up the colors on extra pieces of doped tissue on a balsa frame for cockpit framing and repairs in the field. The upper surface iron crosses and fuselage side crosses were uncovered and hand painted with thinned out white latex paint.

For color reference, I used the Home Defense Fighter as it appeared in Profile Publication #94.

The Flight Trials

The model was flown to the left, with right and down thrust plus 2 degrees wash-out in the right wing tip. The left wing had a small down-trim tab. Left turn was built into the vertical stab before covering. Power is one loop of $\frac{5}{32}$ " Pirelli rubber, 17" in length. The all-up weight turned out to be $1\frac{1}{4}$ ounces.



A machine for hunting. Focke-Wulf climbing out as the rubber winds unleash. Quite a performer. Top left: Awaiting the spray. Cover it neatly. Below: A wide stance, excellently proportioned.

