



# Fieseler Storch

Hurst Bowers

Approaching the touch-down point the model cannot be distinguished from the real thing—if you are willing to squint an eye or two.



IT IS SOMEWHAT ironical that one of the most ungainly aircraft ever designed should be the product of an accomplished aerobatic pilot and fighter ace. But such is the case of the "Storch." It was conceived, designed, and developed by Gerhard Fieseler, one of Germany's most renowned aerobatic pilots, and a World War I fighter "ace" with 22 victories.

The Storch was the outgrowth of Fieseler's experience gained from work with light, highly-efficient aircraft during the early 1930s. It was one of three responses to an official specification issued in 1935 for a 2-3 seat, multi-purpose communications aircraft. The specification required that the latest aerodynamic high-lift devices be used in order to obtain maximum short take-off and landing capabilities. It also specified that the 8-cylinder, inverted-Vee, 240-hp Argus engine be used. And thusly, the Fi 156 came into being when Fieseler's company, Fieseler-Flugzeugbau G.m.b.H., of Kassell-Bettenhausen, was awarded the contract.

The prototype flew in early 1937 and its short-field characteristics were phenomenal. To clear a 50-foot obstruction, a strip of only 140 yards was required for landing. With maximum braking, the actual ground run was no more than 42 yards under zero wind conditions. The secret to this remarkable performance was largely attributable to the long landing gear and oleo travel, and the center of gravity being well behind the wheels, which permitted maximum braking to be employed. Major Al Williams, U.S.M.C., who was invited in 1938

Left: Handsome is as handsome does. As a scale project it's a bit out of the Cub class—but is by no means overwhelming difficult. Compare the leading edge slots with the picture on the right. Special finish gives the miniature that well-worn and weathered look. Below: This front quarter view details the "greenhouse"—it's all windows! Note odd-shaped cowl for the inverted-V engine of the real plane. Bottom: greenhouse pieces built on ordinary box fuse.

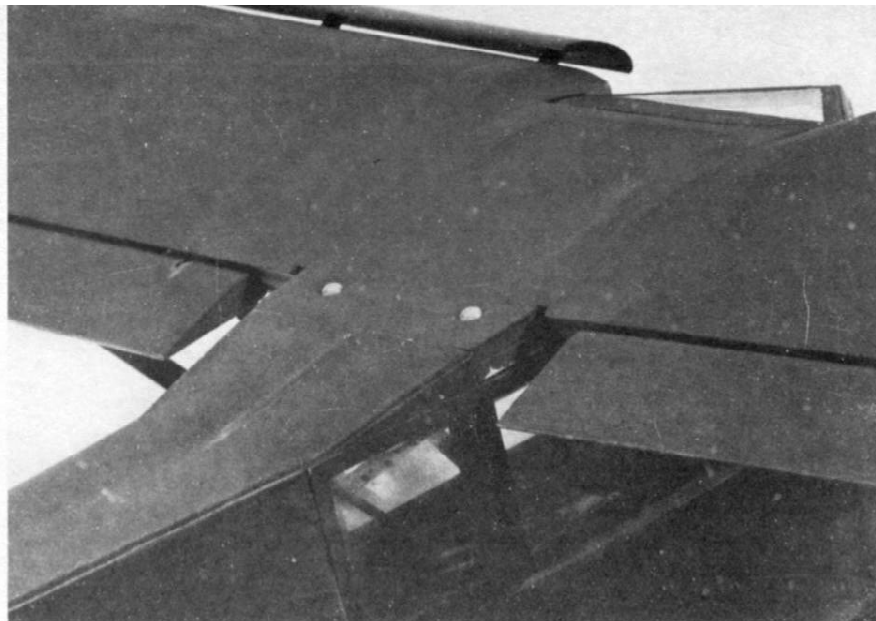


An authentic RC Scale model of the German WW II STOL Aircraft. Slots and flaps make the model behave the same way as the original. For .23 to .45 power.

by General Ernst Udet to fly the Storch, very aptly summed it up when he was quoted as saying: "It was a funny-looking affair...with its great windows all that seemed necessary were a few geraniums to convert it into a conservatory...After a ground run of about 50 feet, the flying nightmare jumped into the air at an angle that had me lying on my back...the air-speed indicator (reading) about 35 mph."

A total of approximately 2,900 Storchs were built between 1937 and 1945 in Czechoslovakia and France, as well as in Germany. All aviation enthusiasts are thoroughly familiar with the records which they made. Production even continued in France and Czechoslovakia for several years after the war, the aircraft being used for agricultural, rescue, club, and glider-tow purposes, as well as military tasks in far parts of the world. I saw Storchs being used by the French in Indo China in 1953. It may be compared with the Douglas DC-3/C-47 in versatility and longevity. Even today most small airfields which you may visit in Western Europe will have a Storch





The wing attaches in normal RC fashion—note nylon hold-down bolt heads. The tricky appearing slots are built like a small wing—note the permanent attachments which are shown in the gap between the slot and the main wing.

Close-up of the tail shows the unusually balanced flippers and an overall impression of the slots, aileron and flap on the port side.

## Fieseler 'Storch'

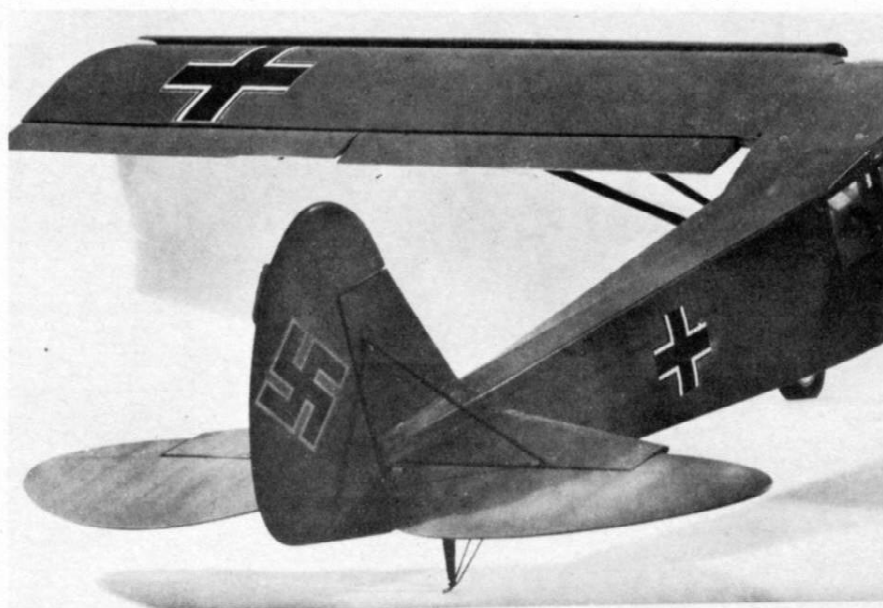
or two continuing on as working airplanes, although most of them now are equipped with radial engines.

During the past few years we have learned new acronyms such as "STOL" and "VTOL," and seen them applied to what one might consider to be a new category of aircraft. Such is not the case—they are merely "buzz words"; fads of today. The Storch was a true STOL aircraft long before we had such a name for it, as was the Curtiss Robin, the Ford Trimotor, and many other aircraft from that pre-World War II era.

Why did I select the Storch for a radio-control building project? I guess I can answer that with another question: "why do people climb mountains?" I had just returned from a tour of duty with 7th Air Force in Saigon and had not done any modeling for some time. I had always been fascinated by this plane, and thought that it would be a good project to get back into the hobby with, as well as provide an interesting exercise in the use of flaps and slots on a model. Needless to say, my expectations were fulfilled. Through the years, I had collected considerable data on the Storch which, I may add, is quite easy to obtain, so I kicked-off the project on a rainy Sunday afternoon.

The construction of the Storch is truly an exercise in building, although it is generally straight forward, and simple. There are, however, a few areas where caution should be exercised and specific building techniques are helpful. I shall try to point out these without going into vast detail on all other areas where the plans are entirely self-explanatory.

Begin by building two fuselage sides directly on the plans. Notice that I have marked the basic side outline with "V" marks to eliminate confusion, particularly in the area of the cabin. Just stay within



this outline, and when completed, remove from the plan and join together in the conventional "rubber model" manner. Add the keel pieces, formers, stringers, planking, etc., and the fuselage is complete and may be set aside.

No explanation is needed with regard to the tail. I elected to use the lamination method for constructing the outline, however, if you prefer something else, by all means use it. Just remember that the aircraft has a long tail moment and that the tail members should be kept as light as possible. Of course, this holds true with the entire structure—the lighter it is built (without sacrificing strength) the better the aircraft will fly and the more realistic its STOL performance will be.

Now comes the wing, which is where the real secret of the model's performance lies. Notice that from the leading edge to the rear spar it is very simple and conventional. The "D" box forward of the front spar provides maximum strength with very

little weight. The flaps and ailerons are constructed like small, sheet covered wings with a very large leading edge with slots cut in it to receive the hinge arms. Notice that the flap and aileron are connected by a single 30-in. piece of 1/16 steel wire serving as a hinge pin in each wing panel. This is a strong and very efficient method, providing smooth and true surface movement. The gap is partly closed on the top surface by a small, triangular strip running spanwise. Although the builder may use any other hinge system desired, I strongly suggest the method shown on the plans and described above. Granted, it is a more difficult method, but one that is realistic, and one which will certainly greatly improve flight performance. Try it. Once you have mastered it you may want to use it on all your scale models. Just be sure that the flaps have about 45 degrees down travel. To be effective they should really "hang out."

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While on the subject of flaps and ailerons, notice the optional positions shown for the servos. Of course, the type equipment which you use will, to some extent, dictate the mounting requirements, but, if possible, I would place them in the wing bays on each side of the fuselage, with access through a small ply panel on the bottom surface. They were mounted in the center section on our test model and, although entirely satisfactory, they were visible through the top skylight (which was later covered).

Another area where some explanation may be required is the wing slots. I built mine from 1/16 sheet formed "C" leading edge stock normally used for control-line wings. The contour was about right and, by cutting and laminating two thicknesses, then sanding to shape, a very strong and true slot member was formed. They were mounted to the wing by the small mounts shown on the plans, which were sawed from 1/8 plywood, and epoxy. They were mounted after the aircraft was covered and color doped; however, this is purely a matter of personal building technique.

The landing gear, struts, details, etc., will present no trouble and a little effort will result in vastly improved appearance. Covering is a matter of individual preference

and skill. However, if I build another Storch I will cover it with silk. I enjoy working with that material and have been able to save weight by using it. My original model used Coverite and, although it was easy to use and looked good, I found it to be quite heavy and butyrate dope would peel off. I understand this can be prevented by brushing on a couple of base coats of nitrate dope; as is the case when covering a full-size aircraft with Ceconite. Color combinations, insignia, and all details regarding marking, etc., may be found in *Aircraft Profile*, publication number 228. This document will also provide all material required for proof of scale presentation in sport scale competition, as the center spread contains excellent 5-view drawings in color.

For that first test flight just be sure everything moves the way it should and that balance is at the usual 35% MAC. Control responses are excellent and the slots and flaps most effective. Just remember, when you drop flaps get on the trim to roll the nose over—otherwise it will really come up on you and require considerable stick pressure to keep it down.

At this point I wish to thank Doss Steed for the excellent job of antiquing that he did on my model. His technique is similar to that used by Dave Platt, and really makes the old Storch look like it went

through a winter on the Russian Front. I also wish to thank Jim McNerny for his excellent radio installation and flying. He can make the aircraft perform as all well-behaved STOLs should. He had planned to use the Storch as a flight demonstrator in the Washington area, when he was relocated to the West Coast, a gain for California and a loss for us. Also, Bob Munn, who is now with our Embassy in Pretoria, beautifully mounted the O.S. Max engine. How could my Storch have failed to be a winner with all the help from such gifted friends? It is truly an exercise in the art of modeling and well worth your best efforts. I know that you will enjoy building and flying the Storch as much as I have.