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On the title page:

Fa 223 Drache during factory test flight, still without any markings.

[M. Krzyżan Archive]

*Fw 61 V2 D-EKRA in flight.
[Stratus collection]*



*Fw 61 V2 D-EKRA in flight.
[R. Witkowski Archive]*

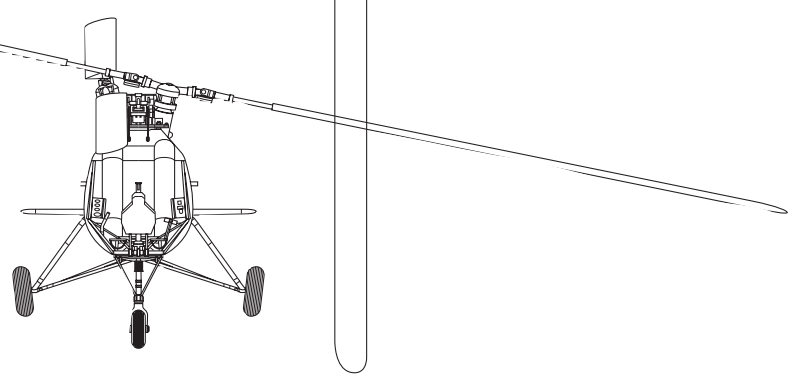
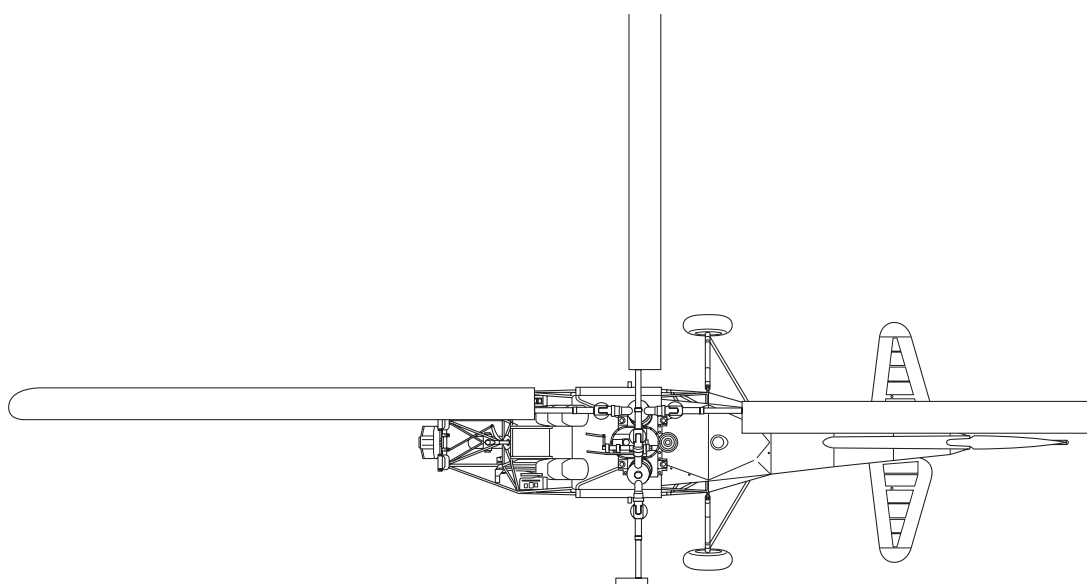
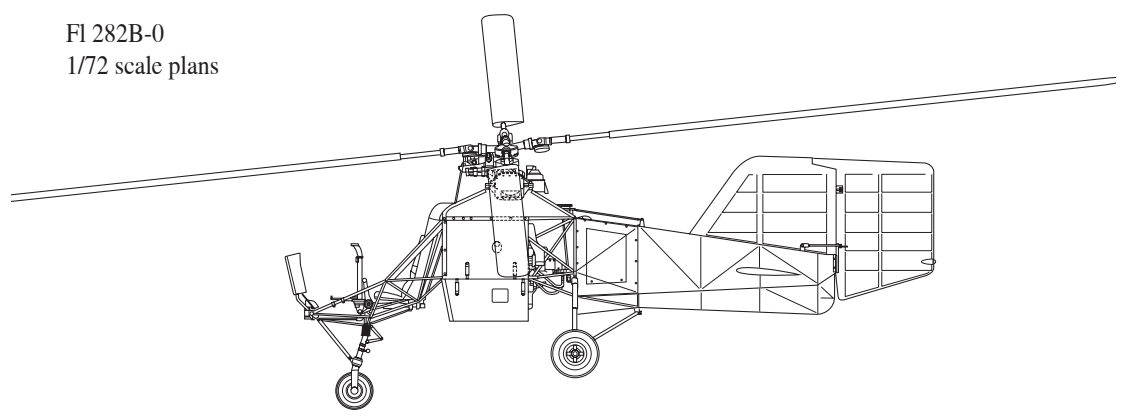


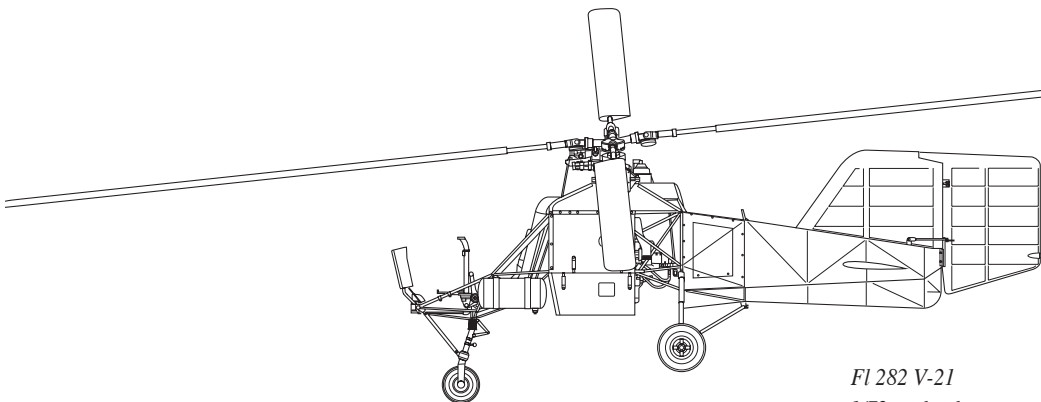
*Following the display of the
Fw 61 helicopter, the test
pilot Hanna Reitsch talks
to representatives of the
Reichsluftfahrtministerium
(Reich Air Ministry), Ernst
Udet and Roluf Lucht.
[R. Witkowski Archive]*





F1 282B-0
1/72 scale plans





*F1 282 V-21
1/72 scale plan*



*Two-seat F1 282B
V21 in flight.
[R. Witkowski Archive]*



*Two-seater F1 282B-2
V21 in flight with Anton
Flettner as the passenger.
[R. Witkowski Archive]*

Drache (Dragon)



*Henrich Karl Johann
Focke (1890-1979).
[Arch. R. Witkowski]*

The Fa 223 *Drache* (Dragon) helicopter designed by Henrich Focke was, after the F1 282 *Kolibri*, the second helicopter in the history of aviation used in actual military operations, even if only on a limited scale. The Fa 223 *Drache* proved in practice the usefulness of the helicopter in such roles as transport from inaccessible places, rescue operations, and as a flying crane. One example of this helicopter was used for nearly 200 flying hours, collecting considerable operational experience.

The idea of building a utility helicopter, based on the experience of flying the experimental Fw 61, was put forward in Germany in 1937. Two projects were considered. One was the civil 6-seat Fa 266 *Hornisse* (Hornet) helicopter for Deutsche Lufthansa airlines, powered by a 800 hp (589 kW) engine, while

*Forward fuselage of
the Fa 223 Drache.
[Carbonel via Air
Magazine]*



*Forward fuselage of the
first prototype Fa 223 V1
D-OCEB. Test pilot Karl
Bode is in the cockpit.
[M. Krzyżan Archive]*



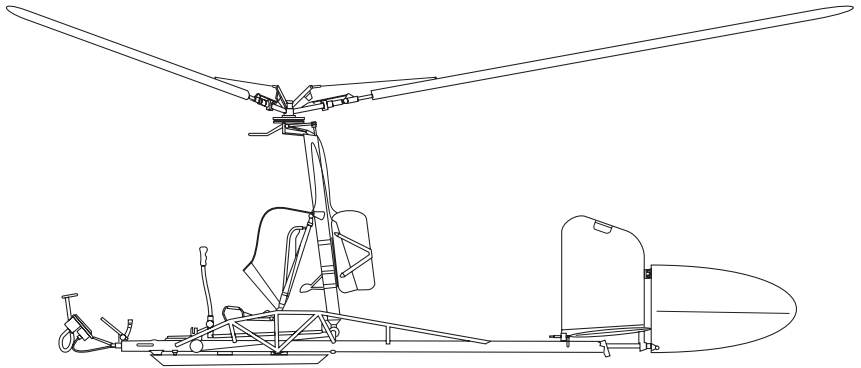


Fa 223 Drache V11 DM+SO during an engine exchange in the field.

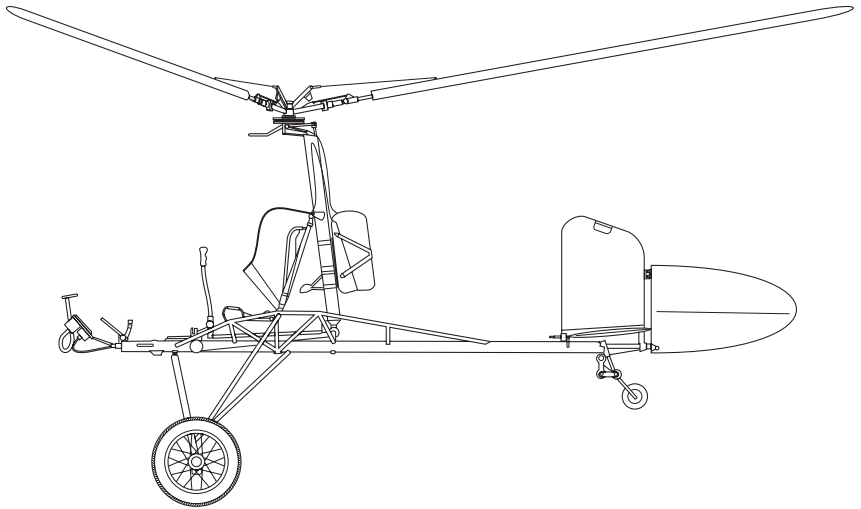
[Carbonel via Air Magazine]



Wagtail (Bachstelze)



Fa 330A
1/48 scale



In 1942 the vast expanses of the Atlantic and Nordic Sea saw a fierce battle fought between the German U-boats and Allied convoys heading from America to Britain or to the Soviet Union. Although in that battle German submarines achieved considerable success, their crews requested further improvements in order to achieve even better results. One of these requests was for a greater radius of observation when the U-boat was on the surface. This could be achieved by using a gyroglider towed behind a submarine, its pilot-observer transmitting his observations directly to the captain of the ship. From an altitude of 120 m he would be able to watch the sea surface over 25 nautical miles (46 km), while from the conning tower the radius of observation was a mere 5 miles (9 km).

The idea was approved by the U-boat force commander, Admiral Karl Dönitz, and in the spring of 1942 Focke Achgelis at Laupheim received an order for development of a single-seat gyroglider to be towed behind a surfaced

Projects

Apart from the rotorcraft described in the previous chapters, which were put into production and limited operational use, German designers (and Austrian designers working for the Third Reich) also planned other rotary wing machines, which existed only as experimental prototypes or wind-tunnel models, or even remained on paper.

von Doblhoff

Helicopters of the Austrian baron Friedrich von Doblhoff ended their development as experimental prototypes, so they have to be seen as unfinished projects. The designer had long been interested in the concept of direct rotor propulsion, free from reactive torque, as attempted in the 1930s by Curtiss and



WN 342, von Doblhoff's experimental helicopter of 1943.

[M. Krzyżan Archive]

Blecker in the USA, Anton Flettner in Germany, and Vittorio Isacco in Italy and the USSR. In 1942 he undertook to build a small single-seat experimental hybrid helicopter with a jet rotor (the vehicle was supposed to only take-off and land as a helicopter, becoming an autogyro in cruise conditions). According to uncorroborated information, the work was done to a Kriegsmarine contract. The rotor of the WN 342 helicopter was propelled by a fuselage-mounted 60 hp (44 kW) Walter Mikron 4/II piston engine driving an Argus As 411 compressor. Compressed air was then led via ducts to the head of the 3-blade rotor, and along the blades to nozzles at their tips, where fuel was injected into the air stream and ignited.

The first attempts to hover the V1 prototype were made inside a hall at Wiener Neustadt in September 1943, with August Stephan as the pilot. The first free outdoor take-offs, and hovering of up to 8 minutes at 1 to 3 metres, took place on 2 October 1943. After the airfield was bombed by the Allies and the V1 prototype was destroyed, further trials were moved to Ober-Grafendorf,

WN 342, von Doblhoff's experimental helicopter of 1943.

[R. Witkowski Archive]



where in 1944 three more WNF 342 prototypes, the V2 and V3, and in 1945 the V4, were completed. The V2 was powered by a more powerful Walter Mikron 4-I engine rated at 95 hp (70 kW), while the V3 and V4 used the 135 hp (99 kW) Argus As 8B. The V3 prototype was flown throughout its planned hybrid envelope, both as a helicopter during take-off and landing, and as an autogyro in cruise conditions. However, the machine was never put into production.

Another Austrian working for the Third Reich was Paul Baumgartl. He developed a helicopter that was built, but never qualified for production or use. He obtained an order to develop it in 1941. The idea was to design a 'back-pack helicopter' for use by individual soldiers. The first, engineless, prototype called *Heliofly* II-58 was built in 1941, and the second, called *Heliofly* III-57, powered by two two-stroke 8 hp (5.9 kW) Argus engines, was built a year later. Both prototypes were fitted with contra-rotating 4.76 m diameter rotors. The helicopter weighed 20 kg. Information about flight trials of the *Heliofly* III-57 prototype is lacking. It is certain, though, that the *Heliofly* III-59 prototype reached the flight test stage, although it was no longer a 'back-pack helicopter', as it was fitted with skids and an altered lifting system. The machine had two single-blade contra-rotating rotors (6.10 m diameter), of which the lower one used the engine as the counterweight.

N.R. Series

Apart from Baumgartl, Nagler and Rolz also worked on a miniature single-man helicopter. They built the first prototype of the NR 55 folding 'back-pack helicopter' in 1940 and tested it indoors (without free flight testing). A year later they developed it into the NR 54 V1 flying machine, with a single-blade 7.92 m rotor, driven by a two-stroke 24 hp (17.6 kW) Argus engine. That same year the designers built a twin-engined variant of the helicopter, the NR 54 V2, with two two-stroke 8 hp (5.9 kW) Argus engines, four examples of which were subjected to ground and flight tests. The NR 54 was not accepted for production. The NR 53-I and NR 53-II helicopters developed by Bruno Nagler, with enclosed cockpit and with undercarriage, remained at the project stage.



This spread: Official demonstration of the VR-1 helicopter, the Czechoslovak version of the Fa 223 Drache to authorities in 1948.

[J. Fernandez]





Above: Flettner Fl 265 V3, 'TK+AN', 1940. Creme 05 (Cream) overall with German markings.

Below: Flettner Fl 265 V5, 'GI+SB' Berlin-Johannisthal, 1941. Creme 05 (Cream) overall with German markings.



Top: Focke Achgelis Fa 330 A-1, 1942. Silver overall with German markings.

Bottom: Focke Achgelis Fa 330 A-1, 1945, in French markings.





Above: F1 282 V21, the first B-2 series machine.

Below: F1 282, probably V52 with Soviet markings. German camouflage RLM 71 Dunkelgrün upper-surfaces and RLM 65 Hellblau undersides. German markings overpainted in green.

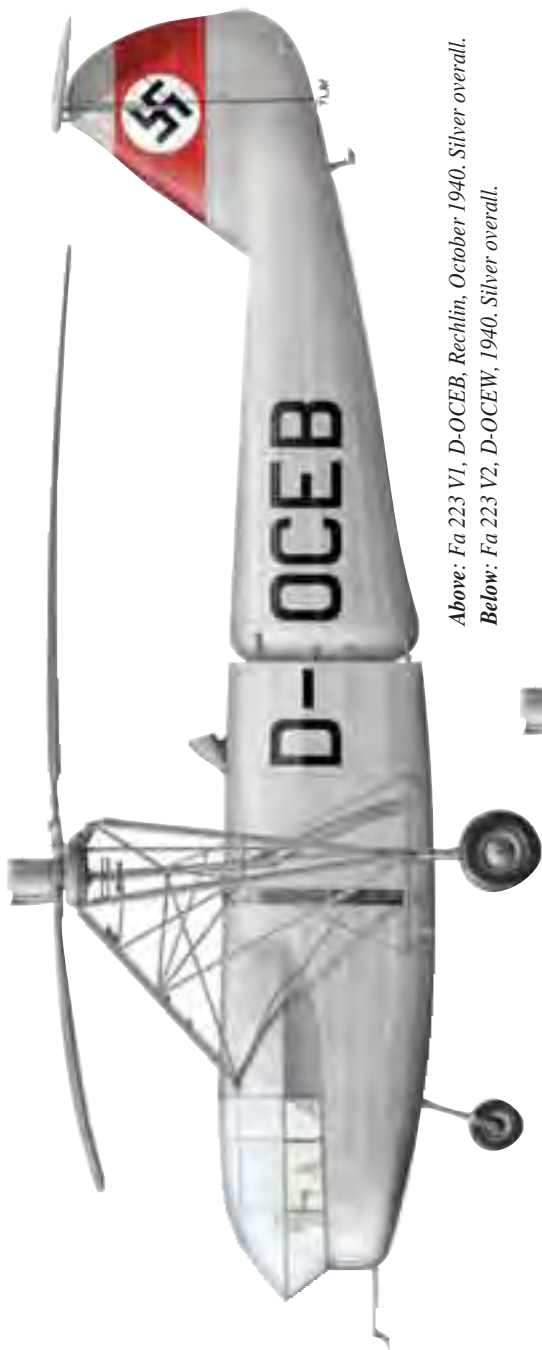




Above: FI 282 V23 with American code "FE-4613", September 1945, Freeman Field.

Below: WNF 342 V4 as seen after the war.





Above: Fa 223 V1, D-OCEB, Rechlin, October 1940, Silver overall.

Below: Fa 223 V2, D-OCEW, 1940, Silver overall.





This page: Photos of Fa 330 W.Nr. 100503, Cosford, UK.

Straus coll.

