

# AIRCRAFT PROFILE

228

## Fieseler Fi 156 Storch

by Richard P Bateson

35p





*D-IDVS, the Fi 156 V 2 (second prototype), claws into the air during a short take-off demonstration from Fieseler-Flugzeugbau G.m.b.H.'s factory airfield at Kassel-Bettenhausen. (Photo: Fieseler-Flugzeugbau G.m.b.H. ref. 1763d via John F. Brindley)*

# Fieseler Fi 156 Storch

by Richard P. Bateson

**"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 miles an hour."**

*"Airpower" by Major Al Williams, U.S.M.C. (Coward-McCann, Inc., New York, 1940)*

At the beginning of the momentous decade which would end in World War Two, Germany's Gerhard Fieseler had still to enhance his professional aviation reputation further by becoming a successful manufacturer. Until the advent of aircraft bearing his own and his company's name, Gerhard Fieseler's international renown stemmed from his accomplished skill in aerobatic competitions. Behind this practised ability lay a history of 22 victories as a fighter pilot in the old *Luftstreitkräfte*—the World War One German Air Force.

The first aircraft to bear the name of Fieseler was the F 2 Tiger, a clean but conventional-looking aerobatic biplane powered by a Czechoslovakian Walter Pollux II; an air-cooled 9-cylinder radial delivering a maximum 450 horse-power. The prototype appeared on the German civil register as D-2200 in July 1932; the F 2's *Werk Nummer (W.Nr.)*—work's or constructor's number—being 140.

However, the real starting-point of the Fi 156 *Storch* (Stork) lineage began with the second product from

the Kassel-Bettenhausen factory of *Fieseler-Flugzeugbau G.m.b.H.* This was the Fieseler 5 or, simply, the F 5, a compact tandem-seat lightplane powered by an 80 h.p. Hirth HM 60 air-cooled, 4-cylinder inverted inline. This powerplant was extremely popular with many light aircraft constructors of the period and the two-seater's production run—known as the F 5 R—was fitted with the later version HM 60 R of similar output.

Described as a trainer/tourer, the F 5 R was a low-wing monoplane with advanced design features such as oleo main undercarriage legs and full-span, slotted trailing-edge flaps with the outer sections doubling as ailerons. An ideal runabout, the F 5 R was also fully aerobatic and was to be seen on sundry civil and quasi-military flying fields in Germany during the mid-1930s. It proved to be highly popular with some of the many embryo pilots that the nationwide *Deutscher Luftsportverband e.V. (D.L.V.)*—the German Air Sports Union—was then selectively training as a first step to building-up the still clandestine *Luftwaffe*.

With the F 5 R established in production, by the autumn of 1933 Fieseler had decided that a scaled-up cabin four-seater should be entered for the following year's important 4th *Europa-Rundflug* (Circuit of Europe) which would be contested by leading manufacturers. The newly-formed *technisches Amt* (Technical Office) of the German Air Ministry—the *Reichsluftfahrtministerium* or *R.L.M.*—gave its support in principle to the idea.

Designated the Fi 97, the scaling-up of the F 5 R



Stork sire. The first Storch prototype, Fi 156 V 1, D-IKVN, depicted here with its conventional mainwheel landing gear replaced by wire-braced skis.  
(Photo: Fieseler-Flugzeugbau G.m.b.H. ref. 2381 via John F. Brindley)



Close-up of the tandem seating arrangement in the Fi 156. Equipment changes according to varying rôles was the deciding factor as to whether two or three seats (or in the case of the ambulance version, a solo layout) were fitted in the Storch.  
(Photo: Fieseler-Flugzeugbau G.m.b.H. ref. 677L via John F. Brindley)

Cockpit layout of the Fi 156 V 2.  
(Photo: Fieseler-Flugzeugbau G.m.b.H. ref. 1762 via John F. Brindley)



resulted in a smart-looking cabin monoplane of 60% heavier weight and nearly three times the engine output. At 36 miles per hour, the Fi 97 was to be fractionally slower in landing than the smaller F 5 R. Two powerplants were chosen for the Fi 97, the 225 h.p. Argus As 17 A which was an air-cooled, 6-cylinder inverted inline, and the 245 h.p. Hirth HM 8 U—in effect two of the HM 60s mounted on a common crankshaft to form an air-cooled, 8-cylinder inverted Vee engine. Both power versions were sold to customers. One such electing for some of each was the *Deutsche Verkehrsfliegerschule G.m.b.H.* of Berlin. In June 1935, D.V.S. had D-IVIF, 'ZUH and 'LIT with HM 8 U motors and D-IBYR and 'PUS with As 17 A units.

For the 1934 Circuit of Europe, the Fieseler Fi 97 was to be in advance of most of its competitors because of its excellent slow speed characteristics for landing and take-off. To this end, the Fi 97 incorporated the *Fieseler Rollflügel*—a modified Fowler trailing-edge flap extending rearwards and downwards—which could be selected by the pilot to provide a consequent 18% increase in gross wing area on each mainplane. Additionally, Handley Page-Lachmann patented automatic slats covering 55% of the wing leading-edge gave the Fi 97 excellent handling in the lower speed range. These modern devices ensured very short take-off and landing characteristics.

Flown by *Hauptmann* (Captain) Hans Seidemann in the 1934 contest, a Fi 97 gained third place over a 10,000-kilometre (6,210 miles) course. Starting at Warsaw, the route stretched across northern Europe and down through the Iberian peninsula before crossing to North Africa. It then skirted the Mediterranean before recrossing this sea via Sicily to Italy and finally ending in Central Europe. In all, five Fi 97s flew this tortuous route; all five completed the course.

Concurrently, the *R.L.M.* was extremely interested in the military use of the Autogiro, so much so that they had placed an order with *Focke-Wulf Flugzeugbau A.-G.* at Bremen Airport for a small number of Cierva C.30As following the sale of a manufacturing licence in late 1931 by the British parent company, The Cierva Autogiro Co. Ltd. Additionally, the Technical Office in Berlin commissioned *Professor* Heinrich Focke to develop a new type of gyroplane (Autogiro being



The fourth prototype Storch, D-IFMR, was used for a variety of trials. These included range tests—with an additional fuel tank slung below the main undercarriage cross-bracing—and the proving of radio equipment.

(Photo: Fieseler-Flugzeugbau G.m.b.H. ref. 2997 via John F. Brindley)

Cierva's trade name) based on the Cierva patents but having a jump-start capability (unlike the then normal technique of a short take-off run). This was designated the FW 186.

During 1935, another official specification was issued for a 2-3 seat, multi-purpose communications aircraft to exploit the latest aerodynamic high-lift devices which would provide extremely short take-off and landing capabilities. Use of the 240 h.p. Argus As 10 C eight-cylinder, inverted-Vee motor was also specified. Three German aircraft companies tendered for this contract and all three were ordered to produce prototypes.

*Flugzeugwerk Halle G.m.b.H.* (later re-titled *Siebel-Flugzeugwerke Halle K.G.*) constructed two exotic prototypes, the Siebel Si 201 V 1 and V 2. One of the most unconventional aircraft to see the light of day in pre-war Germany, this was a 2-seat design, the observer sitting forward of the pilot (himself offset to port in order to improve his forward vision) in a box-like cabin. To the rear of these crew quarters was a shoulder-wing in which was housed the centrally-mounted engine with its pusher propeller installation. The entire span of the wing of D-IYHN (the Si 201 V 1—first prototype) was fitted with moveable Handley Page-Lachmann leading-edge slats, while Fowler flaps synchronized to the ailerons occupied the trailing-edge. Additionally, each outer wing section inboard for approximately one-third span had fixed slats extending to correspond with the length of ailerons. Set low enough to clear the propeller arc, the fuselage consisted of a cylindrical tube with circular stiffeners extending rearwards to support a conventional fin, rudder and tailplane. The Si 201 V 2, D-IWHL, featured simplified wing geometry. When flying trials began in 1938, it was found that *Diplom Ingenieur* (*Dipl. Ing.*—Diploma Engineer) Friedrich Fecher's design was by far the worst performer, the *R.L.M.* deciding not to support further development of the type.

The second unsuccessful contender, though possessing a speed range and general handling characteristics similar to the winning design, was *Projekt* (Project) P 1051, a brainchild of the *Bayerische Flugzeugwerke A.-G.* designer *Dipl. Ing.* Robert Lusser. Redesignated

8-163 by the *technisches Amt* during 1936, this aircraft could not be fitted into the heavy work programme of the company that was soon to be re-named *Messerschmitt A.-G.* and responsibility for construction of the Bf 163 SV 1, D-IUCY, was first handed over to the *Rohrbach* concern in Berlin and finally to *Weser Flugzeugbau G.m.b.H.* at Bremen-Lemwerder. As a result, the planned first flight date slipped from September 1937 until February 1938. While incorporating various advanced features—the most novel being a high-set wing variable in incidence by swivelling about its mainspar with the angle of the wing bracing struts changing with this wing movement—the lack of continuity in the programme spelt its death knell. Only a single prototype was ever flown.

The winning tender was that submitted by *Fieseler-Flugzeugbau G.m.b.H.* of Kassel-Bettenhausen. Designed jointly by *Ing.* Reinhold Mewes and *Dipl. Ing.* Viktor Maugsch, with the programme co-ordinated by Gerhard Fieseler (later to pilot the V 1 on its first flight), this high-wing monoplane, with full-span fixed slats, slotted flaps and long stalky undercarriage was designated Fieseler Fi 156. Apart from the main undercarriage oleos, which were supplied by a specialist firm, the entire prototype airframe was hand-built at Kassel.

Working with far more apparent drive than its two competitors, the Kassel-based firm had three Fi 156 prototypes nearing completion by the end of 1936. The Fi 156 V 1 to V 3 inclusive were respectively civil registered D-IKVN, D-IDVS and D-IGLI. These were forerunners of the Fi 156 A-O series, a pre-production batch of ten aircraft built for general evaluation purposes. The V 1 first flew early in 1937.

It was soon found that one major attribute of the Fi 156 was its abnormally short landing characteristic. In order to clear a 50-foot obstruction on the approach, a prepared strip only some 140 yards long was needed to receive the aircraft. With maximum braking, the actual ground run was no more than 42 yards under zero wind and gradient conditions. This remarkable achievement was attributable largely to the main undercarriage design which featured an unusual length of oleo stroke, coupled with the main wheels being well forward of the aircraft's centre of gravity, thus per-



Little stressed, was the wing-folding capability of the Fieseler Storch. This considerably eased the problem of accommodation at airfields with limited hangar space and made the type speedily transportable by road. D-IFNF was a pre-production Fi 156 A-O. (Photo: Fieseler-Flugzeugbau G.m.b.H. ref. 1766 via John F. Brindley)



The public debut of the Storch was at the Swiss 4th International Flying Meeting held at the end of July 1937 on Zürich-Dübendorf airfield. Although convincingly demonstrated by Generalmajor Ernst Udet, this Fi 156 A-O, D-IJFN, perhaps did not make quite the impact it deserved, being overshadowed by more exotic German military types including the Dornier Do 17 V 8, Heinkel He 112 V 4 and a clutch of five Messerschmitt Bf 109 prototypes. (Photo: via John F. Brindley)

mitting the full use of the powerful hydraulically-operated wheel brakes.

Two more prototypes (the fourth and fifth) appeared during 1937. The Fi 156 V 4 was registered D-IFMR and the V 5 D-IYZQ; the latter, incidentally, being built to A-O standard. While one of the subsequent Fi 156 A-Os, D-IJFN, made its first public demonstration of the type at the Swiss 4th International Flying Meeting held in the last week of July 1937 at Zürich-Dübendorf, others of the same series were being evaluated for military purposes. *General der Flieger* Erhard Milch and *Generalmajor* (Major General) Ernst Udet each flew a *Storch* (Stork)—as the type was now dubbed—during the autumn manoeuvres held that year throughout Germany. The fact that the two most influential officers in the area of German aircraft procurement were already personally piloting the pre-production Fi 156 while its rivals had not even made their individual first flights, is some indication of the effort put into the Fi 156 development programme by Gerhard Fieseler and his team.

The fourth Fi 156 prototype, D-IFMR differed from other *V-Muster* (experimental types) in that it was the first of a line of civil export aircraft that the Fieseler concern hoped to sell as a result of the favourable comment expressed at the Dübendorf meeting. The civil version known as the Fi 156 B had the fixed light metal "slot" of the *Anton* (A-series) replaced by moveable slats on the wing leading-edge. This marginally improved the *Berta's* (B-series) top speed. In January 1938, D-IFMR was fitted with skis and successfully flight-tested amid the snows shrouding the *Zugspitzmassiv*, Germany's highest mountain range.

The Fi 156 was first used operationally by the German Air Force during the Polish Campaign of September 1939. The large Hakenkreuz—swastika—extending over much of the central rudder area was still retained on Luftwaffe Störche during *Weserübung*, the 1940 spring campaign in Scandinavia. Here, NV+GL is parked on a snow-bound Norwegian airfield after landing with dispatches for a nearby Divisional Staff headquarters. (Photo: *Bibliothek für Zeitgeschichte*, Stuttgart: Heinrich Hoffmann Collection ref. 25678)



Early in 1938, *Flugkapitän* Hans-Dietrich Knoetzsch, Fieseler's chief pilot accompanied by a mechanic, Emil Schmidt, set out on an ambitious demonstration tour of the Balkans and Turkey in D-IKVN (*Werk Nummer: W.Nr.*—work number 625), the Fi 156 V 1. Taking off from Bettenhausen on February 9, the two months' sojourn took them through Poland to Bucharest, Belgrade, Istanbul, Ankara, Sofia and Budapest. Great interest was shown in the *Storch* by the aviation community of each country visited.

During the early 1930s, the Soviet Government had released crumbs of information on aircraft operations in the Far North of Russia. This came to the attention of the German military authorities who proposed sending a rotary-wing aircraft to the barren Norwegian-owned islands of Svalbard (better known as Spitsbergen) lying in the Barents Sea north of Scandinavia. The object was to discover the strategic possibilities of Arctic operations. However, at that time no entirely suitable gyroplane—far less a helicopter—was found to be available and the plan lapsed.

Following the already-mentioned ski-undercarriage trials of the previous January, the same Fi 156 V 4, D-IFMR, nominally registered to the *Aero Club von Deutschland* (German Aero Club) was readied for a voyage as deck cargo to Spitsbergen. During May, after satisfactory air tests in the hands of Fritz Utech on the island, the *Storch* was again dismantled and carried on the seal-catcher *Vårglimt* (Glimmer of Spring) to the area of ice floes then north of Spitsbergen. It was then re-erected on the ice. Intensive flight trials were carried out from the floe and much valuable data on in-flight icing of airframe, engine and propeller obtained. Radio trials and range tests with an auxiliary external ventral fuel tank were also undertaken.

One of the first nations to receive the *Storch* after the *R.L.M.* had declared it free for export was neutralist Sweden. By 1938, the Swedish Air Force was seeking replacement for the obsolete Fokker C-V reconnaissance biplane (Swedish military designation S 6). What had already been revealed about the general performance of the Fi 156 indicated that here was a design tailor-made for such important tasks as spotting the fall of artillery shot, communications with forward troops and reconnaissance purposes generally. Two examples were ordered for trials. Unarmed two-seat aircraft, they arrived in the summer of 1938 and were designated P 4—*Provflygplan 4*: Test Aircraft 4—being given *Flygvapensnummer* (Air Force serials) 803 and 804. They were extensively flown by *Flotille F 3* (Squadron F 3) at Malmslätt and were found to be so



The Fi 156 U, coded CQ+QS, used for bombing trials at the Erprobungsstelle Rechlin during the summer of 1940.  
(Photo: Imperial War Museum ref. MH 13477)

versatile that an order for an additional six was placed with Fieseler-Flugzeugbau G.m.b.H. during 1939.

By this time, the *Luftwaffe* was so satisfied with the Fi 156 that further gyroplane development was discontinued. In the words of Major Al Williams, an American racing pilot invited by Udet to fly the latest German types during 1938: "They (the German authorities) were so completely sold on it, that without more ado, they had removed the blades, instruments, and engines from 28 autogiros and without bothering to disassemble the autogiros, shoved them in the corner of hangars and left them there."

Major Williams gives a vivid description of handling the *Storch* at Bettenhausen. His impression was doubtless coloured by the fact that just previously he had been allowed to fly Germany's latest monoplane fighter, the Messerschmitt Bf 109 B, which the Fieseler Company was then building under licence at Kassel.

Williams says of the Fi 156: "It was a funny-looking affair . . . With its great windows—all that seemed necessary were a few geraniums to convert it into a conservatory." Take-off was equally eye-opening: "I opened the 240-horse-power motor wide. 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 instead

of sitting on my seat. The air speed indicator read about 35 miles an hour. The angle at which the nose was tilted would have been fatal in an ordinary ship, but the *Storch* waddled right on and the controls guided it perfectly—as it sank towards the earth . . . I then wound up the flaps . . . and opened the motor. The air indicator climbed from 35 miles an hour to well over the 100 mark. Such a difference between the top speed and the low speed of the ship, that remained under control at all times, was phenomenal . . . I pulled the control stick right back against my tummy. That's absolutely fatal in an ordinary airplane. With the *Storch's* nose high in the air, we settled towards the ground." Fifty feet above the earth and still descending in this unorthodox attitude, Williams could stand it no longer, and much to the amusement of a group of watching German pilots, advanced the throttle, pushed the nose down and made a normal landing.

Advised to try again, he brought the *Storch* in with motor idling from a height of 300 feet, some 50 feet

Rechlin armourers attach an SC—sprengcylindrisch (thin-cased high-explosive)—50 bomb to the Elektrische Tragvorrichtung Cylindrisch ETC 50/VIII d bomb rack outboard of the starboard wing bracing strut connection on the Fi 156 U.

(Photo: Imperial War Museum ref. MH 13481)

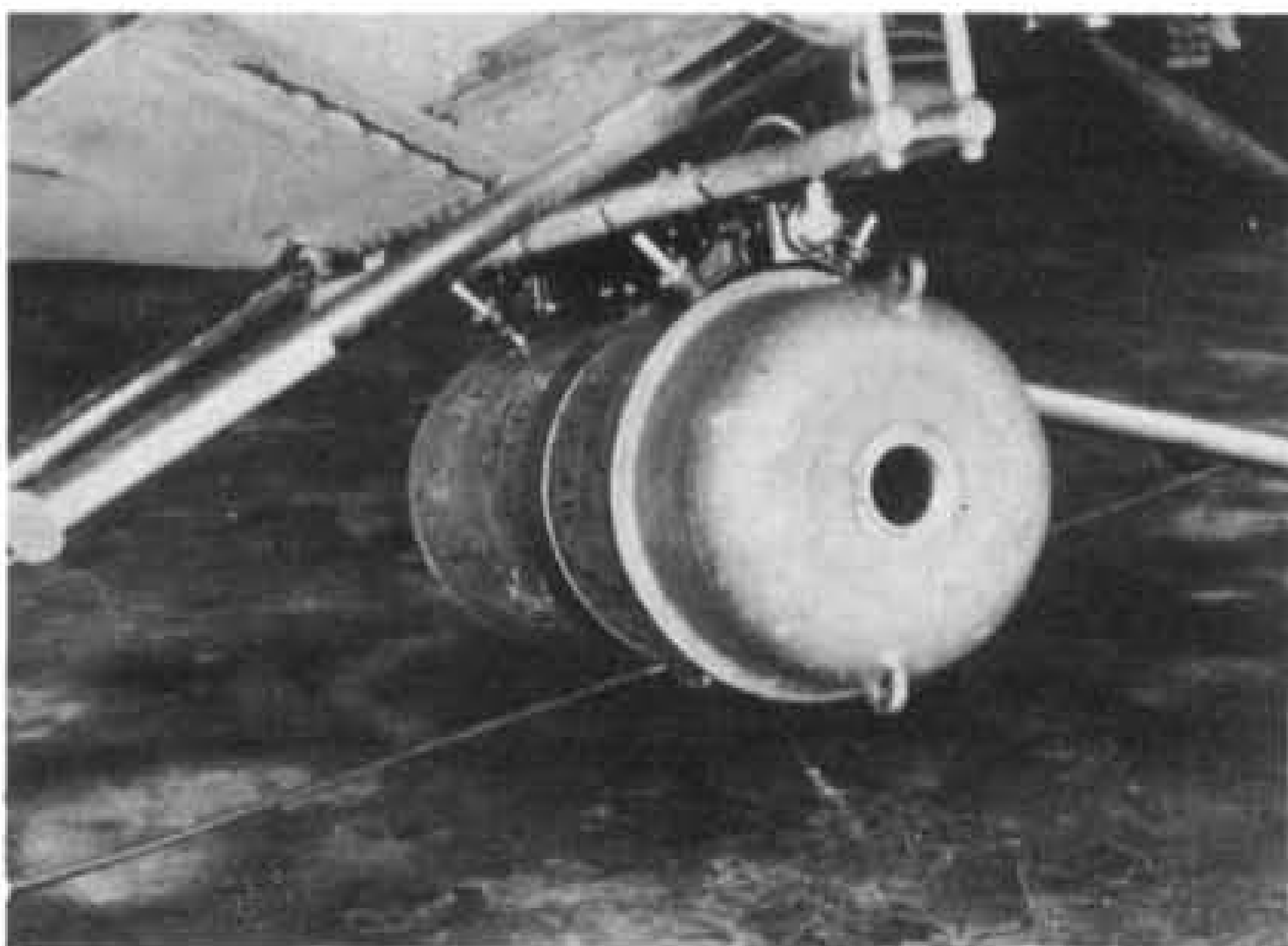
Somewhere in France during the Blitzkrieg of May 1940, Wehrmacht troops group themselves around a *Storch* for an informal snapshot. The fuselage cypher 'C2' reveals this as a Fi 156 of Heeresaufklärungsgruppe—Army Reconnaissance Gruppe—41.

(Photo: via Hans Obert)





*A Fi 156 D-O pre-production series ambulance aircraft. Probably taken in the Mediterranean Theatre during the 1941 period, this aircraft is unusual in not having a Class B.1 (D-I series) registration as carried by other civil Störche. Also interesting is the repeating of the Red Cross symbol within the registration sequence under the machine's wings. (Photo: Bundesarchiv ref. 426-383-16a)*



*The heaviest store that could be carried by the experimental anti-submarine Fi 156 U was a captured 298 lb. French depth charge. Unlike the wing bombs which could be released in a dive, the underslung depth charge had to be dropped in level flight. (Photo: Imperial War Museum ref. MH 13478)*

*Unarmed ski-equipped Fi 156 D-1 ambulance aircraft (coded GA+TH) flown by an unidentified Sanitätsflugbereitschaft—Duty Ambulance Flight. Note the revised Red Cross symbol boldly outlined by a white circle. (Photo: Bundesarchiv ref. 394-1452-15)*



upwind of the landing cross: “. . . down we went—sinking, not flying or gliding . . . From time to time, I tipped it forward a little bit to gain some ground against the 10 miles an hour wind. The last 25 feet seemed to be in a vertical line toward the grass. Down, on down, straight down, and we plunked on the grass like a wounded duck. After touching the ground, the ship . . . had advanced only about 15 feet. We struck it with force enough to bounce an ordinary ship in the air or wash out the entire landing gear . . . This, I thought, is the man-in-the-street's airplane. It won't stall and won't spin out of control. It will take off in a few feet and land on a two-bit-piece, with a dime change.”

In December 1938, a Fieseler Storch was presented by *Generalfeldmarschall* Hermann Göring, *Luftwaffe* Commander in Chief, to Marshal Italo Balbo. A famous name in Italian aviation, Balbo had been his country's Aviation Minister from 1929 till 1933. This gift was perhaps unintentionally ironic. In fact, Balbo was no lover of the Germans, being an outspoken critic of the Italo-German alliance, and had been given a new post—as Governor-General of Libya—partly in order to muffle his unfashionable anti-Hitlerite pronouncements.

The aircraft's documents were handed over by *Generalmajor Freiherr* von Bülow (the German Air Attaché) in a ceremony at the German Embassy in Rome. The Fi 156 was ferried by *Major* von Cramon (*Leiter der Attachégruppe Luft*—Head of the Air Attaché Gruppe) in stages via Bozen, Trient, Verona, Bologna and Jesi. The aircraft coped with take-off and landing conditions of snow up to 70-cm. deep without difficulty, during its journey through the Alpine and Apennine passes.

In June 1940, Marshal Balbo was killed when the aircraft in which he was flying was shot down by friendly Italian fire over Tobruk following a recognition error. Whether he died aboard Göring's gift is not known.

During 1938, work started on the *Cäsar* or C-series *Störche* (Storks). The initial production variant, the Fi 156 C-1 had an Argus As 10 C-3 motor of the same power as its predecessors. It was normally a two-seater, though a third crew member could be accommodated in special circumstances. It had no armament, but there was provision for the installation of an aerial survey camera. Standard *FuG VII* or *FuG XVII* radio equipment could be carried. The C-2 was essentially similar to the C-1 apart from the installation of a permanent seat for an emergency third crew member. Radio communications equipment was restricted to one *FuG XVII* set. Two machine pistols for use by the crew in a ground-fighting rôle were carried in the C-2, but the provision for fitting an aerial camera was deleted. Deliveries of the Fi 156 C-2 began in 1940.

By New Year's Day 1939, 120 Fi 156 *Störche* of all variants had been constructed. Production was then running at the rate of 20 aircraft per month. This was planned to continue till September of the same year when a gradual run-down would occur. Fifteen each were scheduled for delivery in October and November. The contract was to end in December 1939 when all 340 of the order would have been completed.

Early in 1939, one of the highlights of the '*Tag der Wehrmacht*'—Armed Forces Day—was the take-off and landing of the Fi 156 V 3, D-IGLI, in Berlin's



With starboard engine cowling partially removed, H4+EA of the Geschwaderstab (Geschwader Staff) Luftlandegeschwader—Air Landing Geschwader—1, taxis out for take-off.  
(Photo: Bundesarchiv ref. 566-1491-15)

Lustgarten while a large crowd watched from the pavement.

On July 8, 1939, the seventh '*Traditionsflugtag*' at Wyk on the island of Föhr (off the west coast of Schleswig Holstein) was held. This was one of the largest air displays to be mounted in pre-war Germany and was a regular meeting place for the *Luftwaffe elite*. Among the 133 visiting aircraft were two *Störche*—D-IFMR, the well-travelled V 4, and a C-1, D-IUGR. One was flown by Gerhard Fieseler (attired for the occasion in the uniform of a *Standartenführer* or Colonel of the *Nationalsozialistisches Fliegerkorps*—*N.S.F.K.*—the all-embracing organisation for air-minded youth that had absorbed the earlier *Deutscher Luftsportverband e.V.* during April 1937), the other by *Fliegerchefingenieur* Lucht, promoted five days previously on the personal recommendation of Hermann Göring to the post of the *R.L.M.*'s Chief Engineer.

On August 9, 1939, the German Air Force General Staff issued an instruction to the *Generalluftzeugmeister* (Director General of *Luftwaffe* equipment) quoting priorities by type for an intensified aircraft production programme. Lowest in precedence were the communications aircraft which would back up this new *Luftwaffe* 'attack force'. The German Air Force was to standardize on three types; the two-motor Focke-Wulf FW 189 (though not the ground-attack version which was struck from the programme), the Messerschmitt Bf 108 *Taifun* (Typhoon) cabin monoplane and the Fieseler Fi 156. The latter was officially designated—'Communications, Liaison and Feeder-Service aircraft'.

Kaunas in Lithuania, just a few minutes flying time from East Prussia, was to be the last venue for an

*A pilot's eye view of the interior of the Fi 156 U. The neat installation above the cabin door (upper right) is a Zündschaltkasten ZSK 244 A fuze switch box, while its companion Abwurfschaltkasten or bomb-release switch box ASK-R occupied a similar position on the left side of the cabin (latter not shown). Another non-standard fitting is the Revi C/12/D dive-bombing sight seen mounted centrally on the combing above the instrument panel.*

(Photo: Imperial War Museum ref. MH 13480)





international air display attended by representatives of the *Aero Club von Deutschland* before the start of World War Two. Among the four powered aircraft flown in from Germany on August 20 was a Fieseler Fi 156 piloted by *Herr Fiedler*, who was accompanied by *Herr Krogmann\**. Once again, its remarkably short take-off and landing characteristics caused a sensation. Eleven days later, other *Störche* with black fuselage crosses instead of civil markings crossed the Polish frontier to the south of Kaunus and spread out eastward, searching for enemy troop concentrations. World War Two had begun.

By September 1, 1939 as the *Luftwaffe* was pitted against the weak Polish Air Force, a total of 262 Fi 156 C-1s had been produced. Another 54 of the *Cäsar-eins* series were to be built before assembly switched to the Fi 156 C-2. During the period February 1940–March 1942, another 362 C-2s were to be delivered. A steady production rate of 15 per month would be reached by August 1940 and was to be maintained at Bettenhausen until the contract was fulfilled. The total order for Fi 156s now stood at 702.

Losses of *Störche* during the *Blitzkrieg*—lightning war—in Poland were very light. On the opening morning of the campaign, *Generalleutnant* (Lieutenant-General) *Freiherr Wolfram von Richthofen*, commanding *VIII. Fliegerkorps* (the *Luftwaffe* ground-attack element), had a narrow escape while flying his Fi 156, when he inadvertently crossed into Polish-held territory in an attempt to assess how the initial battle was going. His *Storch* was hit by accurate ground fire. Bullets pierced the wing fuel tanks but failed to ignite them. Streaming fuel and with the Argus motor missing badly, von Richthofen put the crippled Fi 156 down just within the German lines. On September 3, two other *Störche* were written-off. One being used by officers of *Armeeoberkommando 3 (A.O.K.3)*—third Army Headquarters—crashed and caught fire. Both occupants died. The other, belonging to *1.(H)/14*—first *Staffel* of *Heeresaufklärungsgruppe* (Army Reconnaissance Gruppe) 14—was misidentified by German ground troops who promptly shot the Fi 156 down. Both crew members were wounded.

By September 9, the German *Panzertruppen* (tank units) were poised for the final thrust against Warsaw. Ready to support this attack were the Henschel Hs 123 A ground-attack biplanes of *II./L.G.2*—second Gruppe of *Lehrgeschwader 2*—commanded by *Major Werner Spielvogel*. Early that day, Spielvogel took-off from a field near Tomaszow in a *Storch* piloted by one of his N.C.Os and headed alone at tree-top height towards the Polish capital. His object was to reconnoitre the target areas in order to be able to brief his aircrew with up-to-the-minute intelligence. Passing the bomb-cratered Okęcie airfield, he penetrated almost to the heart of Warsaw. A few feet below, German tanks clattered in the same direction. Now he was over Polish-held positions. The Fi 156 droned leisurely on, its occupants noting down map references of emplacements and strongpoints which could be later ‘winkled out’ by the dive-bombers. Suddenly, a light anti-aircraft gun sited alongside the Warsaw-Radom railway line opened up. Holed by shell splinters and with the pilot doubled up over the control column after being hit in the stomach, Spielvogel had no choice but to crash-land the *Storch* in the nearest street. Touching

### Key to colour illustrations

- 1 D-IKVN, the prototype Fi 156 V 1 *Storch* experimentally fitted with a ski undercarriage.
- 2 D-IFMR, the Fi 156 V 4 (fourth prototype) used for a variety of tests including range trials—with an additional underslung long-range fuel tank—and general radio development work.
- 3 The experimental *Aerodynamische Versuchsanstalt* A.V.A. AF-2, D-IAFZ, was basically a Fi 156 C fitted with new wings and a fuselage air-blower. No fuel was carried in the wings. The white wing finish was dictated by the nature of the boundary-layer control research carried out with this single prototype.
- 4 A standard Fi 156 C-3 *trop*, armed with a single rearward-firing *MG 15* machine-gun, seen in the wavy camouflage finish often applied to *Luftwaffe* aircraft operated in the North African Theatre.
- 5 An unarmed Swedish Air Force Fi 156 Ca-3 flown during the winter of 1944–45 on mercy missions in the *fjäll* areas of northern Sweden. Designated S 14B by the *Flygvapnet*, these *Storkar* of *spaningsgrupp F 3* occasionally carried an appropriate fuselage crest consisting of a Laplander dangling under a parachute.

\* *Adolf Krogmann* was President of the German Aero Club.

down in a fusillade of bullets, the Fi 156 caught fire. Spielvogel managed to pull his wounded companion out of the flames. Then he too was hit. Both men were later found dead by the burnt-out shell of their *Storch*.

On the next day, a Fi 156 of *4.(H)/23* was lost for reasons unknown. Two days later, September 12, a *Storch* attached to *Heeresgruppe Süd* (Army Group South) crashed at Lublinitz and was a total write-off. Probably this was a piloting error; both crew were injured. On the following day, another *Storch* was damaged beyond repair within the *Luftflotte 4* (4th Air Fleet) command area. The last Fi 156 to be involved in an accident during the short campaign was a *Storch* of *4.(H)/21* which made a forced-landing near Papiolewy on September 27 and was moderately damaged.

Although von Richthofen’s and Spielvogel’s experiences showed that lone reconnaissance flights over well-defended enemy areas in unarmed *Störche* would always be something of a gamble, the convinced pessimists in the *Luftwaffe* hierarchy who foresaw a wholesale slaughter of slow, vulnerable Fi 156s on the first day of the war were in the main to be proved wrong. As a result of early studies produced on the Polish Campaign, it was agreed that the *Storch* required some form of light defensive armament, and this crystallised in the Fi 156 C-3 (270-h.p. Argus As 10 P-1 motor) which was fitted with a 7.92-mm. *Rheinmetall-Borsig MG 15* machine-gun on a free mounting, the gun barrel protruding through a circular modification in the rear cabin glazing. Other improvements included the addition of a new type of compass, the deletion of



1



2



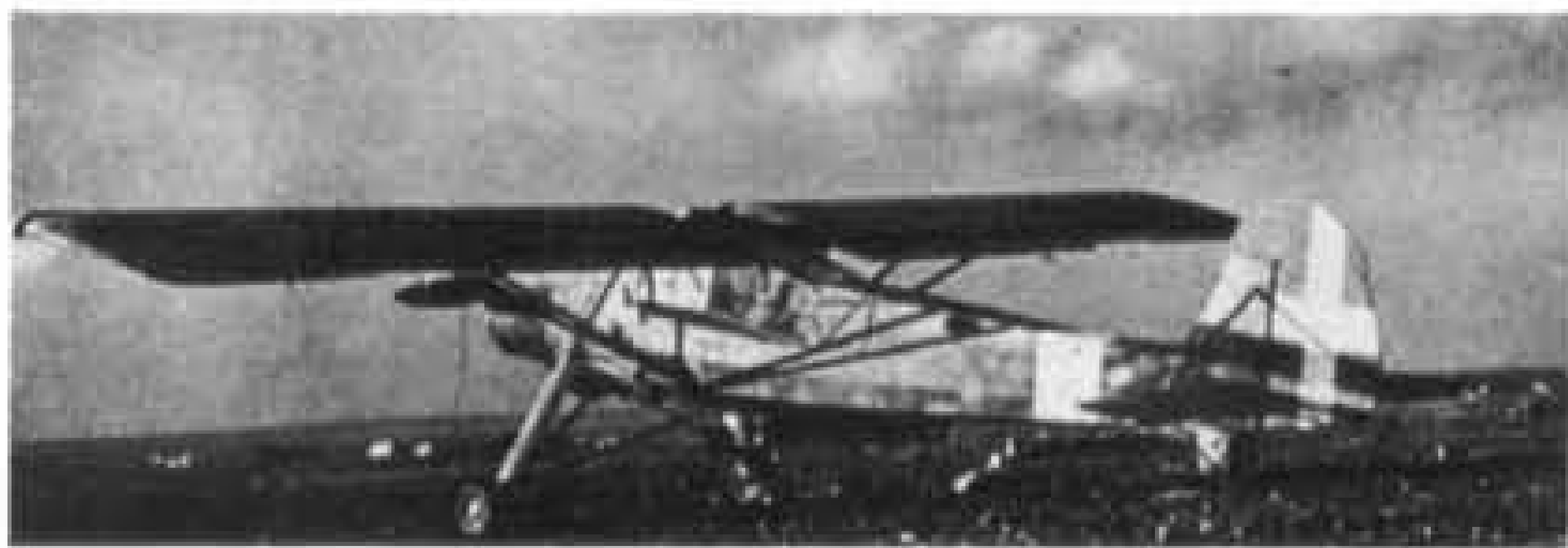
3



4



5



The Regia Aeronautica ordered a total of 15 Störche from the Germans, but the exact number delivered is not known. At least one was used by the Italian 8th Army for communications duties on the Russian Front. (Photo: via Giancarlo Garelo)



Military Fi 156s were also exported to Finland. Here, a swastika-bedecked Storch coded 'ST 112' is seen in typical Finnish winter conditions. The skis fitted to this aircraft appear to have minor modifications when compared to those used pre-war on early Fi 156 prototypes. (Photo: via Christopher F. Shores)



This A-series Storch of Grupo 46 of the Fuerzas Aereas Nacionales (Group 46, Spanish Nationalist Air Force) was possibly employed during the latter stages of the Civil War in Spain. Dubbed the Cigüeña by the Spaniards, it is known that the main bulk of an order for 20 Fi 156 Cs was delivered to Spain during 1943-44. The exact number of Cigüeñas ultimately flown by the Spanish Air Force and the units to which they were issued is still the subject of conjecture. (Photo: via Hans Obert)

The versatile Storch could cope with quite severe snow before it was forced to exchange wheels for skis. Here a Fi 156 C is run up after being refuelled from an underground tank. This photograph was possibly taken at Kaufbeuren airfield in Bayern (Bavaria). (Photo: Bundesarchiv ref. 511-269-1)



the *FuG XVIII* and sundry minor airframe improvements. Accommodation consisted of two crew seats plus an emergency 'jump seat'.

Switzerland remained an oasis within an armed camp. On the order of *Ostschweiz-Aero-Gesellschaft* at Altenrhein, a luxury version of the Fi 156 was delivered from Bettenhausen to St. Gallen for use as an air taxi and for pleasure flights in Switzerland's Alpine areas. Registered HB-ARU on September 23, it was to fly in its civil marks until June 1943 when it was impressed as 'A-99' with the Swiss Air Force. De-requisitioned by the military authorities on July 14, 1945, it reverted to HB-ARU and was struck from the civil register in 1950.

With the rapid conquest of Poland, Japanese interest in the *Storch*, which had already resulted in a tentative request for the supply of three Fi 156s, quickened. During early January 1940, Lieutenant-Colonel Izima (on the staff of the Berlin Embassy) informed the Fieseler Company that they were willing to pay some RM 67,500 for three German-built *Störche* and an additional RM 150,000 for the licence to construct the Fi 156 in Japan. Izima's personal assessment was that the Polish Campaign had shown that the Fi 156 was essential for the prosecution of a *Blitzkrieg* and its value could not be underestimated. It was not lost on the Japanese that the type was ideal for such tasks as message-dropping, transport of senior officers and a hundred-and-one other rôles in which it had recently proved its worth over Poland.

Unbeknown to the Germans, however, the Japanese Army was about to issue a specification for the design of a similar aircraft to the *Nippon Kokusai Koku Kogyo* (Japan International Aircraft Company). It was to be used for the same essential tasks as the Fi 156; notably artillery spotting and liaison work. A design team led by Kozo Masuhara started work on this project. Power was to be a Hitachi Ha-42 nine-cylinder air-cooled radial motor of 310 h.p. Later known as *Stella* to the Allies, the Army-designated Ki-76 was certainly inspired by the success of the *Storch*, but was an entirely separate design.

Early in 1940, the *Centrala Flygverkstaden* (Central Flight Workshops) of the Royal Swedish *Flygvapnet* (Air Force) at Malmslätt received a second batch—this time of six Fi 156 C *Storkar* (the Swedes adapting the German popular name). Like the initial pair, these



*BG+IP is typical of the Fi 156 C-3 variant (armed with a rearward-firing 7.92 mm. Rheinmetall-Borsig MG 15 in a circular cupola) produced in large numbers simultaneously at Kassel and Puteaux in the middle war years.*

(Photo: Bundesarchiv ref. 396-1628-2)

were two-seaters, but this second delivery (serial numbers 3001-3002 and 3005-3008) was powered by 240 h.p. Argus As 10 E motors and were fitted with a Swedish-manufactured 8-mm. M/22-37R machine-gun in a flexible mounting installed in a cupola over the rear of the cabin. An additional ventral tank increased the range of the S 14 A (as they were designated) from the P 4's 230 miles to a maximum of 385 miles. These aircraft were also issued to F 3 at Malmslätt.

On May 1, 1940, 355 *Störche* had been delivered to the *Luftwaffe*. Of these, 18 were undergoing overhaul, 277 were serviceable, while the remaining 60 had been written off for various reasons. No doubt the start on April 9 of 'Weser Exercise'—*Weserübung*—the German invasion of Denmark and Norway, caused a sharp increase in Fi 156 wastage. The campaign was still being fought in North Norway when, on May 10, 1940, Adolf Hitler unleashed the full weight of the *Luftwaffe* in support of his momentous armoured drive into France and the Low Countries.

Although the Allies were taken by surprise, the German air losses were by no means light. On the first day of the war in the West, *Aufklärungsgruppe 156* (a special Fi 156 reconnaissance *Gruppe*) was decimated through circumstances that are still not explained. Twenty-two *Störche* were burnt by their crews while on French soil. Two German personnel were killed and another posted missing in the incident. One can only surmise as to the reason for this *debacle*. Perhaps a French counter-attack overrun *Aufkl.Gr.156's* temporary base while the *Störche* were being refuelled; possibly they landed in error on French-held territory and had to destroy their aircraft to prevent seizure by the enemy. Doubtless the facts will eventually be revealed.

Use of the Fi 156 as a V.I.P. transport was by now widely established within all arms of the German

*Officers of the Geschwaderstab of Lehrgeschwader 2 (L.G.2) treat this port undercarriage failure on L2 + AA as something of a joke. The accident rate for Störche was a high one, not because the aircraft was difficult to handle, rather that its forgiving nature tended to make Luftwaffe pilots careless—often with fatal results.*

(Photo: Bundesarchiv ref. 329-17b-4)



forces. On June 4, 1940, the recently-appointed German Air Force Inspector General, *Generalleutnant* (Lieutenant-General) Erhard Milch, with the Italian Air Attaché as a passenger, piloted a *Storch* on a tour of the newly-captured Dunkerque (Dunkirk) area. At 09.00 that day, the remaining Allied troops in the salient had surrendered to the German forces. Milch put his Fi 156 down in a meadow close to a burning village. Dozens of corpses lay around the flaming houses. Half-sunken ships lay off the beaches. On the sand vast quantities of abandoned weapons, lorries, stores and equipment were mute evidence of the scale of the Anglo-French defeat. Ten days later, another Fi 156 landed at Le Bourget Airport, Paris. It contained *General* Fedor von Bock, chief of *Heeresgruppe B* (Army Group B). His pleasant task was to take the salute of the victorious German columns as they marched past their commander in review order at the Place de la Concorde. This duty over, he drove up the Champs-Elysees to the Eiffel Tower where he repeated the performance for the benefit of other triumphant *Wehrmacht* units.

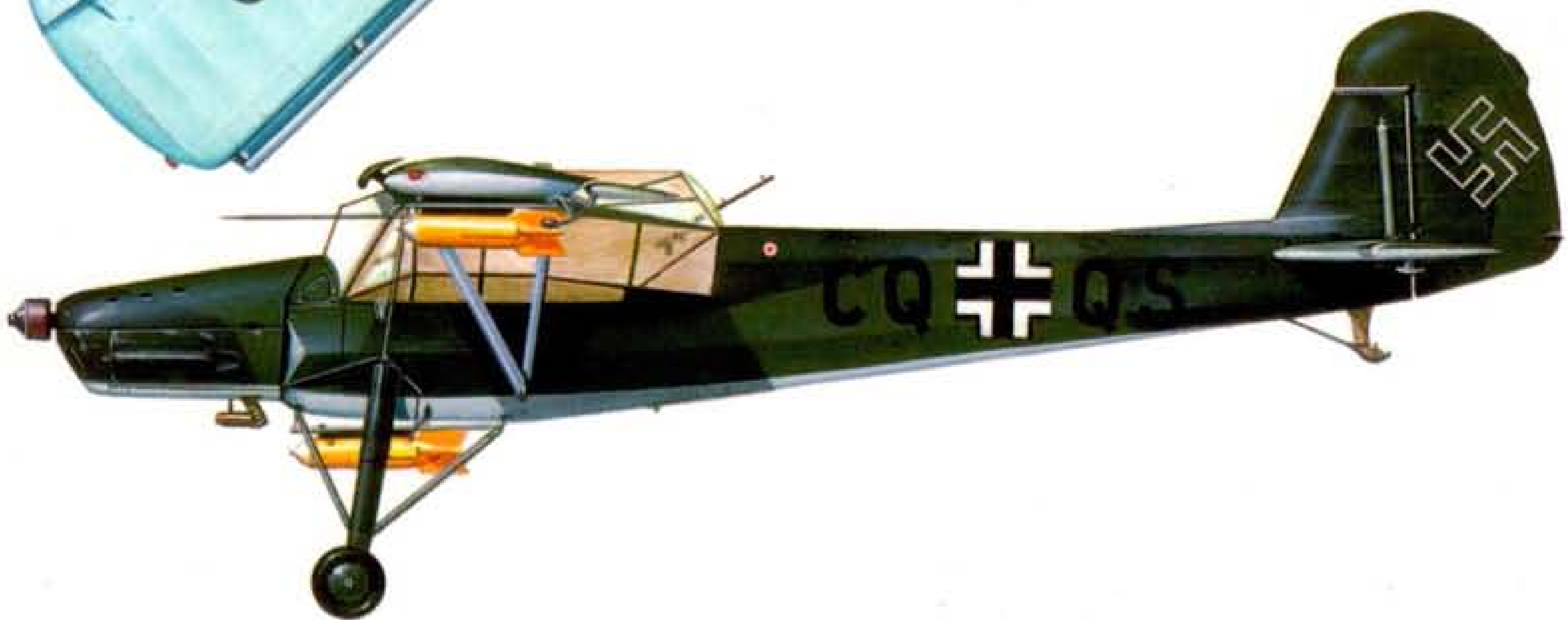
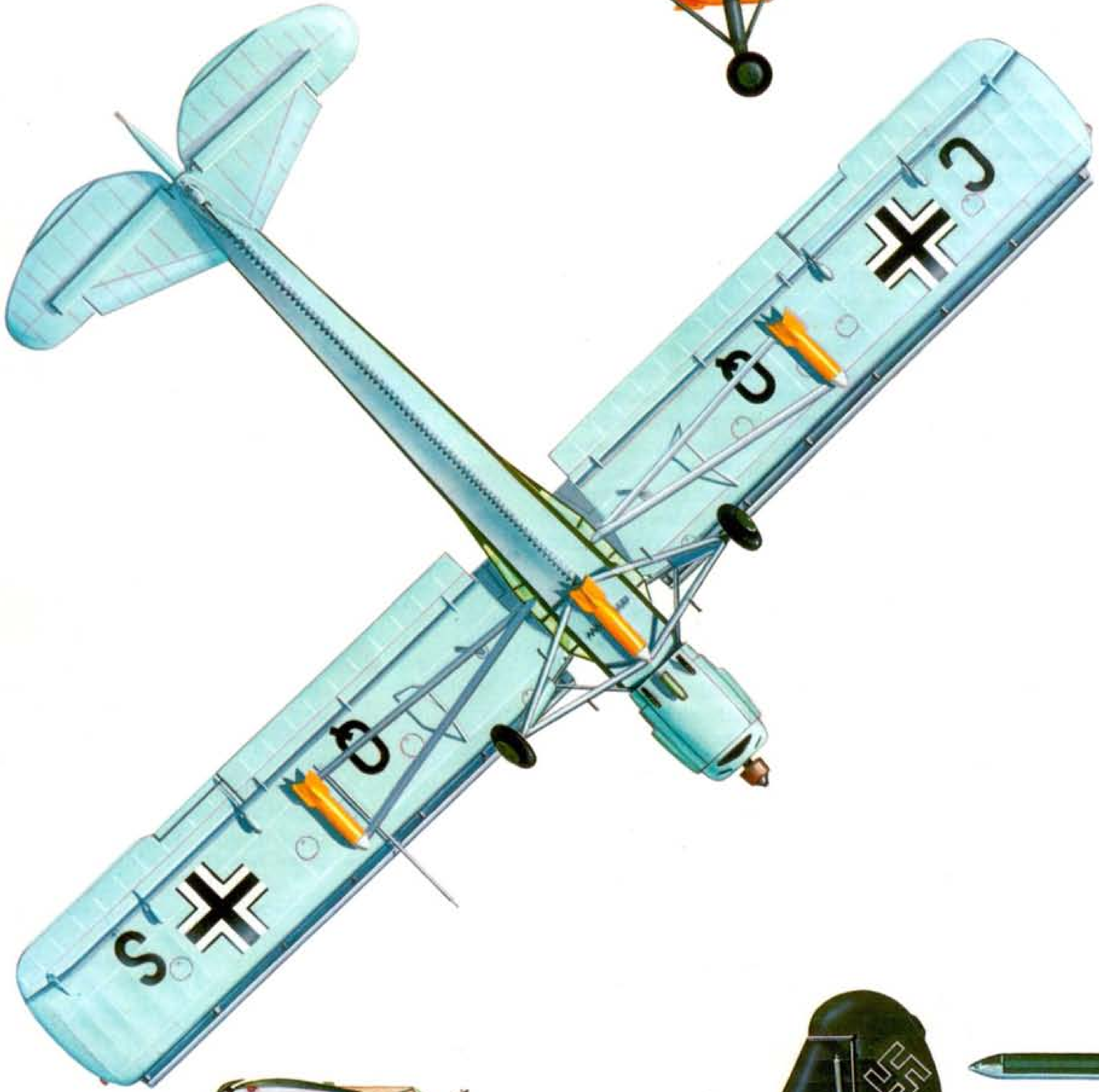
During the summer of 1940, a *Storch* modified to carry bombs and intended for use in an anti-submarine rôle, was flight-tested at the *Erprobungsstelle* (Testing and Experimental Station) Rechlin. It was designated Fi 156 U. Armed with the standard *MG 15* of the Fi 156 C-3, this *Storch* was fitted with *FuG 17* radio equipment and carried emergency crew dinghies and other marine survival equipment. Marker-flare release clips were attached to both main undercarriage legs. A variety of offensive stores could be lifted externally. Three 110-lb. *SC 50* bombs, a similar quantity of *LC 50 F* parachute flares or a trio of war booty French small-calibre depth charges were alternative loads. A single 298-lb. French depth charge could also be used if the wing racks were empty. Various attack profiles were evaluated, the most effective being in a dive with the pilot aiming through a standard *Revi C/12/D* dive-bomber sight as used by the well-known Junkers Ju 87 *Stuka*. Mock attacks were carried out in this manner in dives up to an angle of 60°.

Towards the end of the Battle of Britain in the summer of 1940, Fi 156 D-O ambulance aircraft began to enter service with the *Luftwaffe*. The D-series *Storch* (or '*Dora*') was very similar to the C-3 having the by-now-standard Argus As 10 P-1 motor; but it was unarmed and the starboard side of the fuselage was modified by the addition of a large upward-hinging hatch to allow the carriage of patients. In addition to the pilot, one 'Field Carrier 37' stretcher plus an

*Here a Fi 156 C-5 trop (observe the modified rear cabin glazing but absence of armament) has landed in the open desert near a detachment of the Deutsche Afrika Korps. The Storch performed sterling service with the Axis forces in North Africa during the 1941-1943 period.*

(Photo: Bundesarchiv ref. 438-1189-13a)





A *Luftwaffe* Fieseler Fi 156 U *Storch* used for trials at the *Erprobungsstelle*—Testing & Experimental Station—Rechlin, summer 1940. Fitted with three 110-lb SC 50 bombs, this aircraft was modified for use in an anti-submarine role; it could also carry depth-charges. When carrying bombs, a dive attack at a 45° angle with a tail wind was said to be especially effective. However, the scheme was not adopted by the *Kriegsmarine*, the German Navy.

T. Brittain © Profile Publications Ltd.



attendant could be carried, or if no orderly was needed, his emergency seat could be removed and two stretchers installed. Minor changes also had to be carried out to the elevator and rudder control runs.

During September 1940, a glowing tribute to the 'mercy flight' qualities of the Fi 156 in saving the lives of wounded soldiers was contained in a verbatim article written by *Propaganda Kompanie* reporter (*PK-Berichterstatter*) von Bevern and titled 'Race with Death'. Speedily, it was translated into Japanese characters through the initiative of Gerhard Fieseler's resourceful public relations department and transmitted to their agents in Tokyo in an effort to sell the *Dora* in the Far East.

Deliveries of Argus As 10 motors continued at a high rate. By the last day of 1940, 10,026 engines of this design had been built. Apart from the *Storch*, this type of motor was then being assembled for use in the Arado Ar 96 A two-seat monoplane trainer as well as the Bf 108 B *Taifun*. *Argus-Motoren-Gesellschaft* at its Reinickendorf factory in Berlin had constructed 9,706 of this total. They now concentrated on the 465 h.p. As 410 motor. Former Czechoslovak aero-engine companies filled the vacuum. By that same date, the *Avia* firm had turned out 110 As 10s; the *Walter* concern, 210 of the same model. In all, on December 31, 1940, these Czechoslovakian factories had outstanding orders for this motor totalling 2,140 units.

Since 1925, the *Aerodynamische Versuchsanstalt* (*A.V.A.*—Aerodynamic Experimental Establishment) at Göttingen had been experimenting with methods of dispersing airflow over wings as a means of attaining very high lift. A pioneer in this field was *Ing. A. Wöckner*. During 1940-1, an Fi 156 was used as the basis for an experimental type designated *A.V.A. AF-2*—otherwise known as the 'blown air *Storch*'. The fuselage, vertical and horizontal tail surfaces together with the undercarriage were standard Fi 156 components. Newly developed for the AF-2 were the wings (including flaps and ailerons), an air-blower installation fitted in the fuselage, while a more powerful As 10 H of 275 h.p. was supplied for this project. The As 10 H motor also drove the fan of the fuselage air-blower. The wing fuel tanks were deleted, and an external under-belly tank fitted instead. This allowed air to be passed through the wings. Multi-sectioned landing flaps were distributed over the greater part of the span and double-slotted air blowers were fitted. It was found that a maximum lift coefficient of 1.9 could be increased to one of 3.8 when the AF-2 was using the fuselage blower. Much of today's knowledge on boundary-layer control stems from this wartime work carried out at Göttingen.

One of the largest export orders for military *Störche* had come from the Royal Yugoslav Air Force. By April 1941, there were at least 36 Fi 156s in use; 24 of these were being flown by the Communications Squadron of the Yugoslavian General Staff. On April 6, Germany and Italy attacked Yugoslavia. Within the course of a few days most of these Fi 156s were destroyed by aerial action.

By now the Germans were becoming increasingly involved in the fighting in North Africa. A programme of 'tropicalization' had been instituted late in 1940 for various first-line types needed for the desert war. This resulted in *Störche* having sand-filters fitted and being equipped with emergency landing packs. The Fi 156



Generalfeldmarschall *Albert Kesselring* strides away from a V.I.P. *Storch*. On the engine cowling of the aircraft can be seen his personal insignia as Commander of Luftflotte 2 (Airfleet 2). From December 1941 until the final North African debacle of June 1943, he was jointly responsible both for Luftflotte 2 and all Wehrmacht ground operations in the Mediterranean area.  
(Photo: Bundesarchiv ref. 444-1629-18a)



With a British issue waterbottle slung from an aileron mass-balance, a captured Fi 156 provides welcome shade from the glaring Sicilian sun for the airmen of a Royal Air Force detachment newly arrived at abandoned Comiso airfield. This temporary watch office was photographed during the summer of 1943.  
(Photo: Imperial War Museum ref. CNA 1033)

Illustrations of *Störche* bearing Luftwaffe fighter unit insignia are comparatively rare, so the remains of this Fi 156 found in the El Daba area of Libya during October-November 1942 are something of a 'collector's item'. The third Gruppe of Jagdgeschwader 27 (III./J.G.27) whose crest can be seen forward of the windshield of this derelict fuselage was then equipped with a mixture of Bf 109 F and G fighters.  
(Photo: I.W.M. ref. CM 3911)



C-3 *trop* featured a *Delbag* air-filter, an additional oil tank and external belly fuel tank containing 22 gallons of aviation spirit. The projected C-4 variant was never built, all aircraft being completed to C-2 standard. The C-5 *trop* differed only from the C-3 *trop* in having all weapons removed (though the gun mountings were left *in situ*), and carried additional tarpaulins as a protection against the dust and heat, special tethering equipment for use on desert airfields and an emergency radio transmitter in case of a forced landing. Like the C-3 *trop* and the C-5 *trop*, the ambulance D-1 *trop* (developed from the D-0) had additional tankage. Fitted with an enlarged oil cooler, the D-1 *trop* carried a wide range of survival equipment.

In 1941, experiments were carried out with *Störche* fitted with wide surface tracks instead of low-pressure tyres. Two guide-rollers arranged in tandem, held rubber tracks reinforced with cable in the form of a tank track. This type of undercarriage was then being developed for the Fieseler Fi 333 multi-purpose transport aircraft. A small number of Fi 156 E-0 ('*Emil*' or E-series) were flown with this type of tracked undercarriage. One such example was coded DJ+PX.

A hitherto unknown variant was the Fi 156 F-0 or *Polizei*—Police—*Storch*. Based on the C-3 and powered by an As 10 P-1, this design was intended for internal security duties. The *MG 15* machine-gun in the 'lens' mounting was deleted and replaced by a pair of individual *MG 15*s installed laterally in the beam position to port and starboard. This required the removal of the radio-operator's seat. Radio equipment consisted of pilot-operated *FuG 21 A* and 'equipment 901 AF'; the latter is believed to have been some form of amplification device, and seems logical as provision was made for the *Storch* to carry a loudspeaker for crowd control and psychological warfare purposes. Fuel capacity was reduced to 22 gallons carried in a port wing tank.

The parent firm's efforts to interest the Japanese in the Fi 156 had at last been rewarded. On April 28, 1941, a ship docked in Japan carrying a number of crated German aircraft. One of these was the Fi 156 V 2 (D-IDVS: *W.Nr.* 5111). Accompanying the disassembled machines were Helmut Kaden and *Flugkapitan* (Flight Captain) Willi Stoer, both employees of *Messerschmitt A.G.* Herr Kaden supervised the erection of the Fi 156 by the Japanese. It was found to be suffering from the effects of corrosion following the four-month sea voyage. Stoer, a civilian (who was *Messerschmitt's* chief test pilot), made three take-offs on June 14 at Haneda airfield near Tokyo watched by officers of the Japanese Main Army Air and Technical Offices. After ground familiarisation and being checked out in the air by *Flugkapitän* Stoer, Major Hirota of the Japanese Army ferried the *Storch* away to Tachikawa airfield on the 18th, to commence a series of trials designed to discover if the performance of the Fi 156 matched its manufacturer's claims.

*Fieseler-Flugzeugbau G.m.b.H.* waited in vain for a follow-up order. The *Argus* engine company had better luck. *Kobe Seikoshō K.K.* (Kobe Steel Works Ltd.) purchased the manufacturing licence for the As 10 C motor, producing it as the Kobe 240 h.p. Later in the war the Artillery Forces of the Japanese Army issued a specification to which Professor Tetsuo Miki of Osaka University designed the *Te-Go* 'observation machine'.



The wartime British Prime Minister, the Right Honourable Winston Spencer Churchill disembarking from a rather tatty Fi 156 during a visit he paid to Allied units in Normandy, France, on July 24, 1944. Sporting 'invasion stripes' this *Storch* was used as a personal runabout by Air Vice-Marshal Sir Harry Broadhurst, then commanding No. 83 Group of the Second Tactical Air Force. (Photo: Public Archives of Canada Photographs Section ref. PL-30899)



The tables turned. Built for the Luftwaffe, this *Morane-Saulnier MS 500* (re-designated *Fi 156 C*) was used by the newly formed Forces Francaises de l'Atlantique for artillery spotting in the vicinity of German garrisons holed up in various pockets on the French Atlantic coast. Painted with Allied 'invasion stripes' but with French roundels and a fin daubed with the Free French cross of Lorraine, this *Criquet* served with Groupe GR 3/33 'Périgord' during 1944-1945. It is shown at Aulnat airfield.

(Photo: via Jack Boimare, French Branch of Air-Britain)



One of a series of photographs taken by *Kriegsberichterstatter*—War reporter—Baas, during a tour of Ukrainian-based German Air Force units, which shows graphically the miserable conditions under which Luftwaffe *Störche* were forced to operate during the long Russian winters.

(Photo: *Bibliothek für Zeitgeschichte*, Stuttgart: Heinrich Hoffmann Collection)

Taken on September 11, 1945 at the Royal Aircraft Establishment, Farnborough, this is the final production variant of the *Storch*, the *Fi 156 C-7*.

(Photo: I.W.M. ref. MH 4913)







6



7



8



9



10

## Key to colour illustrations

- 6 Now held at the *Deutsches Museum*—German Museum—München, *Storch* 'A-96' is finished in the paint scheme generally adopted by the *Flugwaffe*—Swiss Air Force—at the end of World War Two.
- 7 Used for glider towing by the Spanish Air Force, this Fi 156 C (designated L 16 by the *Ministerio del Aire*) is typical of *Cigüeñas* operated till this day by the *Ejército del Aire Español*.
- 8 A Morane-Saulnier MS 500 (No. 34) of an *Armée de l'Air* medical evacuation unit based at Gafsa in North Africa during 1957.
- 9 F-BCME, a Morane-Saulnier MS 502 *Criquet* (No. 600) in a colour scheme carried during July 1954 when operated from St. Cyr aerodrome. Later converted to MS 504 standard.
- 10 A *Reims Aviation* Morane-Saulnier MS 505 conversion, F-BEJE (No. 699), fitted with a glider-towing hook.

---

It was refused a 'Ki' number by the Army as it was not considered to come within the normal category covered by this designation. *Kobe Seikoshō K.K.* built two prototypes. One was test flown, before both were destroyed in a hangar at the Kobe plant during a U.S.A.A.F. Boeing B-29 Superfortress attack. It is claimed that the Te-Go design was an exact copy of the Fieseler *Storch*.

The great land battles fought during 1941 and 1942 across vast areas of western Russia and the see-saw campaigns waged in the North African desert proved yet again the worth of the Fi 156. It performed especially valuable service in locating shot-down German aircrew on enemy soil and air-lifting them to safety. Landing on unsurveyed ground was always risky. On September 12, 1941, *Hauptmann* Wilhelm Suwelack, *Staffelkapitän* of *Kurierstaffel 7* (Communications *Staffel 7*) put *W.Nr.* 5287 down near Dimitriewka on the Eastern Front. There was a series of gigantic explosions and the *Storch* literally disintegrated. Suwelack had landed by mistake in a minefield. This error cost him his life.

In lighter moments during occasional lulls in the fighting, the young *Luftwaffe* pilots often took time off to go hunting for wild fowl and other game. Soon it was found that duck-shooting from a *Storch* was a most stimulating occupation, combining as it did both flying and the chance to exercise one's marksmanship to the full. One well-known champion of this aerial sport was Rudolf Sinner, a desert veteran who later led *IV./J.G.54* (fourth *Gruppe* of *Jagdgeschwader*—Fighter *Geschwader*—54) during 1944 in Russia.

During 1942, the *Reichsluftfahrtministerium* increasingly utilised the spare capacity available at French aircraft factories. One such was the *Morane Saulnier* plant at Puteaux near Paris which had been mass-producing the *Armée de l'Air* (French Air Force) M.S.406 single-seat low-wing monoplane fighter until the capitulation in June 1940. Now a management team from Bettenhausen inaugurated production of

the Fi 156 on these same assembly lines. The first *Storch* deliveries from Puteaux commenced in April 1942: 121 French-built *Störche* were delivered to the *Luftwaffe* that year.

On May 26, 1942, *Generaloberst* (Colonel General) Erwin Rommel opened his North African summer offensive that was to shatter the Allied defences from Bir Hacheim northwards to Gazala on the Mediterranean coast, and to eventually push the British back almost into Egypt. Three days later, at the height of this massive drive, *Generalleutnant* Ludwig Crüwell, brilliant commander of the *Deutsche Afrika Korps* (*D.A.K.*—German Africa Corps) was shot down by ground-fire while flying over the battlefield in his Fi 156. He was captured by British troops. As a temporary expedient, *Generalfeldmarschall* Albert Kesselring—commander of *Luftwaffe* operations in the Mediterranean—took over direct control of Crüwell's force. Both Rommel and Kesselring made extensive use of the *Storch* in their day-to-day surveys of the fighting fronts.

During 1942, a *Storch* (*W.Nr.* 5599) was being used as a V.I.P. aircraft by Marshal Kvaternik of Croatia. It is likely that this aircraft was badly damaged in the summer of that year as on September 4, a request was made to the *R.L.M.* for a new undercarriage complete with tyres to be supplied. A new *Heine* propeller and braking system were also required. This the Germans sanctioned on October 15, 1942. This Fi 156 was one of two *Störche* supplied to Croatia.

Slovakia was sold three Fi 156s at the end of 1942. The purchase was arranged by the Slovak Ministry of National Defence in Pressburg through the *Luftwaffe* Mission in the Slovak capital. They arrived the following year. Two others were delivered in August 1943 and another four the following October. The total number of *Störche* ordered by Slovakia was 17, but this was later cut to 12. Delivery dates of the last three are not known.

The *Regia Aeronautica* (Royal Italian Air Force) received a communications *Storch* in November 1942 and two more in the following month. It is almost certain that one of these Fi 156s was the example handed over direct to the 8th Italian Army fighting on the Eastern Front from stocks held by *Luftwaffenkommando Don*. Early in 1943, the Italian Air Ministry raised its Fi 156 order to 15, but there is no evidence that any more were delivered before the capitulation.

Rumania was another recipient of the ubiquitous *Storch*. A single Fi 156 Ca-3 ('a' for *Ausland* or Export model of the C-3 sub-type) together with a quantity of spares was the subject of a RM 180,081 contract concluded in November 1942 between *Fieseler-Flugzeugbau G.m.b.H* and the Rumanian Secretary of State for Air. The Governor of Transnistria's request for five *Störche* made in February 1943 was turned down by the German Air Ministry. The rejection was accompanied by a curt note to *Oberststabsingenieur* (Colonel Staff Engineer) Gruber at the *Generalluftzeugmeister*—Liaison Station at Bucharest, that ". . . in future, individual demands for deliveries to Rumania will be considered in the context of overall aid in the form of equipment for the Royal Rumanian Air Force in conjunction with *Luftflottenkommando 4.*" Approval was, however, given for the sale of 100 Argus As 10 C-3 motors for use in Rumanian operated types during



On March 19, 1943, two Luftwaffe Störche on-route to Italy landed at Samaden through a navigation error. They carried secret documents intended for a German fighter unit. These were gleefully seized by the Swiss Intelligence Service. One of these aircraft, coded CN+EL, was impressed by the Swiss Air Force as 'A-97'; the other (TI+VR) became 'A-98'. Fitted with Swiss-designed skis which did not require the removal of the main-wheels (as did the standard Luftwaffe issue), 'A-97' lands on November 24, 1946 with survivors from a Douglas C-47 Skytrain accident on the Wetterhorn Glacier high up in the Swiss Alps. Today, 'A-97' can be seen on permanent exhibition at the Verkehrshaus, Luzern. (Photo: Keystone Press Agency ref. 667/KEYSTONE/513651 via Leslie F. Sarjeant)

February 1943. Germany's Rumanian ally had asked for double the quantity of the later As 10 P model; in this request they were unsuccessful.

This rebuff did not prevent other Rumanian officials from coveting these highly-prized machines. Captain Panteli, Head of the Rumanian Purchasing Commission for the Procurement of War Material from Germany managed to persuade the *R.L.M.* to release a *Storch* for use by the Rumanian Admiralty. It was taken from the Kassel assembly line in May 1943. Ultimately, 45 Fi 156s were delivered to the Rumanian Air Force and used by four liaison units, *Escadrile* (Squadrons) 111, 113, 114 and 115. It is likely that most of these were refurbished *ex-Luftwaffe Störche* turned over by various German units, rather than new deliveries from the Fieseler plants.

During February 1943, the Fieseler company received an order from the *R.L.M.* to supply the Royal Hungarian Air Ministry with 10 ambulance variants of the *Storch*. This was five less than the total Hungary required. Presumably Fi 156 D-1 aircraft, these were to be delivered at the rate of two per month, March till July inclusive. Earlier, five other Fi 156s had been ordered by Hungary. Sanction was given for four to be

supplied and these arrived in Hungary during March 1943.

Bulgaria was another country to receive a small number of Fi 156s. Twelve communications *Störche* were dispatched to the Royal Bulgarian Air Force during June-July 1943. Four ambulance versions were also received in the summer of 1943—respectively two apiece in July and August. Probably the last Fi 156 to be sent to Bulgaria before the Germans were forced out of the country was a *Storch* delivered during January 1944 to the *Deutsche Luftwaffenmission* in Sofia. Whether this aircraft was seized during September when the Bulgarians turned against their former allies is not known.

The sale of 20 communications *Störche* to the Spanish Government was approved in the summer of 1943. Deliveries were to be at the rate of five per month over the period August-November. Ten were received in August 1943; another six during January 1944. Shipping details on the remaining four are not known.

Swedish opinion of the *Storkar* had been high ever since the *Flygvapnet's* initial sampling of the type in June-July 1938. In June 1941 the expenditure of

While *ex-Luftwaffe Störche* were being flown at the R.A.E., the *Morane-Saulnier MS 500 Criquet* was being evaluated by Royal Air Force pilots at the Aircraft and Armament Experimental Establishment, Boscombe Down, Hampshire. This aircraft, No. 130 (presumably the 130th. post-Liberation production machine) was flown extensively throughout October 1945 being allotted the military serial VG 919.

(Photo: Imperial War Museum ref. ATP 15124C)

VP 546 (believed to be *ex-'AM 101'*) was a hardy perennial with the Royal Aircraft Establishment's Aerodynamics Flight at Farnborough for many years after the war. Werk Nummer 475061, it was this *Storch* that Lieutenant-Commander (now Captain, R.N. ret'd.) Eric 'Winkle' Brown flew onto the British aircraft carrier, H.M.S. 'Triumph' during a sortie from R.N.A.S. Ford, Hampshire, on May 28, 1946. Photographed at White Waltham airfield during the summer of 1948.

(Photo: Air-Britain archives via Charles W. Cain)



1,210,000 *Kronor* (Swedish Crowns) was approved for the purchase of a dozen additional Fi 156s. This brought the total order for Swedish military *Storkar* to 20. However, the purchase decision coincided with Operation *Barbarossa* (Red Beard)—Germany's invasion of the Soviet Union—and production for the *Luftwaffe* could hardly keep pace with the consequent wastage. It was not until the summer of 1943 that Germany was able to meet Sweden's request for more Fi 156s made under the terms of a special agreement '*Kompensation Walzenlager*', in exchange for roller bearings.

Eight *Störche* were sent to Sweden during June 1943; another four followed the next month. Although officially Fi 156 Ca-3 sub-types, these turned out on arrival to be C-3 *trop* variants, painted in a scheme appropriate for the North African campaign. Being fully tropicalised and complete with sand filters they had to be extensively modified before they were suitable for use over Sweden's winter wastes. Designated *S 14 B* and powered by the up-rated Argus As 10 P-1 motor of 270 h.p., these 3-seat *Storkar* had modified rear-glazing and were flown unarmed. They were allotted Swedish military serials '3809-3820' inclusive, and issued to *F 3* at Malmslätt.

Following the Allied landings in Sicily during June 1943, Italy was now faced with imminent invasion. After the catastrophic defeats in North Africa this set-back in Sicily sapped Italy's will to continue the war. There was universal disillusionment, both with Fascism in general and the Italian's German allies in particular.

On June 19, the German *Führer* (Leader), Adolf Hitler, flew to Venice. Landing at Treviso airfield he was to meet the Italian *Duce* (Leader), Benito Amilcare Andrea Mussolini. Their subsequent confrontation in a nearby villa coincided with an Allied air attack on Rome. Hitler dominated the meeting. Mussolini was curtly informed that the predicament of the German and other Axis armies in Russia made the dispatch of reinforcements to Italy quite impossible.

On July 24, the Fascist Grand Council met for the first time since December 1939 and an order of the day was issued demanding the resignation of Mussolini as commander of the armed forces in favour of Marshal Pietro Badoglio. To this decree Mussolini submitted. The next day he was placed under protective arrest on the orders of Victor Emmanuel III, King of Italy. After two days held in various *Carabinieri* barracks in the Italian capital, while in the streets Mussolini's previous supporters joyfully pulled down his portrait and other Fascist symbols, Marshal Badoglio moved the former dictator away from Rome to the island of Ponza. Ironically enough, this isle had been used by the *Duce* as a place of banishment for his own political adversaries.

Adolf Hitler reacted swiftly to the news that Mussolini had been overthrown. On July 27, 1943, he summoned the commander of a special SS unit, *Kommando Friedenthal*, to his field headquarters at Rastenburg in East Prussia. *Hauptsturmführer* (SS-Captain) Otto Skorzeny's daunting task would be to locate the exact whereabouts of Mussolini and organise his rescue.

On August 6 the Badoglio Government, getting wind of a possible rescue bid, again moved Mussolini. This time he was transferred to a small naval base on the island of La Maddalena off Sicily. Skorzeny, to-



Contrast the MS 500 flown immediately post-war at Boscombe Down with this late-production Criquet—No. 751—taken in France during the mid-1950s. Apart from the addition of a port wing-mounted landing light and both fixed and whip fuselage radio aerials, the later model has a revised rudder contour and other slight modifications to the cabin area.

(Photo: via Jack Boimare: French Branch of Air-Britain)



'A-99' was the original Ostschweiz-Aero-Gesellschaft Fi 156 delivered as HB-ARU to Switzerland at the outbreak of World War Two. In June 1943 it too joined the Flugwaffe (Swiss Air Force) being flown on communications and mountain-rescue duties in the gaudy 'neutrality scheme' depicted here.

(Photo: Swiss Military Archives via Leslie F. Sarjeant)



Imported post-war from the Č.S.S.R., this Čap was used by the airline Swissair for aerial surveying and special charter flights. In 1950, it was sold to the Swiss chocolate manufacturer, Lindt und Sprüngli A.G. It was re-registered D-EKUS in 1956.

(Photo: Swissair via Leslie F. Sarjeant)



Replacement of the Argus As 10 C or P motor by a 230 h.p. Salmson 9 ABC air-cooled 9-cylinder radial engine, although marring the lines of the Storch, was inevitable as supplies of the German-manufactured motors dried up in the West. F-BBTV is seen at Guyancourt, near Paris, during early May 1948.

(Photo: Air-Britain archives via Charles W. Cain)

The name Criquet (*Locust* and not cricket as it is often incorrectly translated) was applied to all French variants of the Fi 156. This MS 502 (No. 607) is in Armée de l'Air—French Air Force—livery.

(Photo: Bernard Régnier/Serge Blandin archives, France)





The slow-flying qualities of the Storch and its derivatives made it highly popular with audiences at early post-war air displays. Here, the French stunt artist, Roland Toutain, goes through his repertoire on the wing of a Morane-Saulnier MS 502 (230 h.p. Salmson 9ABb radial) at Villacoublay near Paris in July 1947. (Photo: Air-Britain archives via Charles W. Cain)

gether with a hand-picked force of SS troops had in the meantime flown to Italy. Every effort was now made by the Germans to locate Mussolini's hiding place. On August 18, a *Luftwaffe* reconnaissance aircraft flew so low over La Maddelena that Mussolini was later to claim that he had been able to see the pilot's face. Unbeknown to *Il Duce*, Skorzeny was a passenger in this aircraft, having traced Mussolini to the island after the interception of a letter written by Countess Edda Ciano (Mussolini's eldest child, then wife of the Italian Foreign Minister).

Before Skorzeny could organise a rescue attempt, Mussolini had been flown in a *Regia Aeronautica* ambulance seaplane from La Maddelena to Lake Bracciano, north of Rome, where an ambulance was waiting for the 'patient'. Now Mussolini went to ground in an inn near the foot of a funicular railway linking the highest mountain peak in the Apennines, the Gran Sasso d'Italia, with the surrounding countryside.

On September 3, the first Allied troops landed on the mainland of Italy. September 8 found the Italian State Radio announcing the surrender of the Badoglio Government to the Anglo-Americans. The resourceful Germans at once set about occupying the whole country, sending in some 20 Divisions. Marshal Badoglio called on his fellow countrymen to aid the Allies, thus sparking off a fratricidal war of great ferocity and bitterness.

The time had obviously come to move Mussolini to a yet safer haven. What better than the Albergo-Rifugio, in peacetime a fashionable ski-hotel, high up on a 6,500 foot plateau, and terminus of the cable railway. There he would be safe from an army. On the day of Italy's capitulation, Otto Skorzeny flew over the isolated hotel in which Mussolini was captive. He was looking for a suitable spot on which his commando force might land in the vicinity of the refuge. The whereabouts of Benito Mussolini's hiding place was a secret no longer.

On September 10, Mussolini listening to Italian radio, was aghast to hear that one of the terms of the armistice negotiated by Badoglio with the Allies was that he must be handed over to them. Skorzeny had to move fast. At 14:00 on Sunday, September 12, 1943 on a hot windless afternoon, Mussolini watched fascinated from his prison window as one by one, 12 small DFS 230 troop gliders detached from their droning tugs and descended in wide circles towards the Gran Sasso. Originating from Pratica di Mare airfield, these dozen

DFS 230s carried Skorzeny's most experienced men and *Luftwaffe Fallschirmjäger* (parachute troops); 120 personnel in all.

Meanwhile, at the foot of the funicular, another body of paratroops accompanied by six armoured cars had overpowered the Italian guard post. Some forty more armed Germans were soon taking the awe-inspiring ride up the swaying cable railway to back up their comrades then landing from the air.

Out of the leading DFS 230 stumbled a high-ranking Italian officer, General Fernando Soletti, a pistol pressed in the small of his back. With the advantage of surprise and the *Carabinieri* hesitating to fire on such a personage, the Germans were swiftly in control. The well-trained SS personnel, with Skorzeny in the lead, smashed their way into the building and within minutes Mussolini was free once more. The action had been entirely bloodless.

However, of the 12 DFS 230s used for the operation, only eight, all streaming tail-mounted braking parachutes, had landed more or less intact on the steeply sloping boulder-strewn rough grass area around the hotel. One had crashed, seriously injuring its occupants. Three others had apparently overshot altogether.

Now that the *Duce* was in Skorzeny's hands, the immediate problem was how to transport him to a place of safety out of reach of Anglo-American commandos or Italian regular forces loyal to Marshal Badoglio. The only slip in the plan as conceived was that another Fi 156 originally to have flown the freed Mussolini from the foot of the cable railway to Aquila airfield, had damaged its undercarriage while landing in the valley below. A rapid getaway now seemed out of the question.

However, a Fieseler *Storch* flown by *Hauptmann* Gerlach, personal pilot of *Generaloberst* Kurt Student, *Oberbefehlshaber der Fallschirmtruppen* (Commander in Chief of Parachute Troops), circled the Gran Sasso awaiting for just such an eventuality. On this frail Fi 156 now depended the success of the mission.

Gerlach sized up the situation. The Albergo-Rifugio, a strange roughly semi-circular building was perched several hundred yards from the edge of a steep precipitous cliff. The whole of the flatter portion of this plateau was strewn with large rocks, any one of which could precipitate a catastrophe. There was virtually no wind and time could not be spared waiting for evening when cooler air might give a better take-off performance.

The khaki-clad German troops, captured *Carabinieri* and civilian hotel staff all joined in the task of

First illustrated in the March 20, 1948 issue of the now-defunct 'Aeroplane Spotter' magazine, this Czechoslovak Čap, OK-AJA, was typical of many used both by the Czechoslovakian Air Force and the aero clubs during the period immediately prior to the Communist take-over of the country.

(Photo: Air-Britain archives via Charles W. Cain)





Set amidst magnificent scenery, the gliding centre at Grunau near Hirschberg in Schlesien (Silesia) where the legendary Wolf Hirth was chief instructor, together with the Wasserkuppe site in the Rhön mountains, were, during the 1930s, the twin "Meccas" for gliding devotees the world over. It is perhaps no coincidence that Hanna Reitsch (whose home was in Hirschberg) became one of Hirth's star pupils while attending the Grunau school. Today, Schlesien is part of Poland, and the town of Hirschberg has been re-named Jelenia Gora. The Grunau site is still used for soaring by Polish enthusiasts though the Storch tugs have long since disappeared. SP-AMK is seen at Jelenia Gora during 1955. Two years later it was being used in a medical role by the 'Flying Group of Warsaw's Ambulance Station'. (Photo: 'Skrzydłata Polska'—'Polish Wings')

moving the boulders and other obstructions from the landing area. Gerlach made one dummy approach, his landing speed higher than normal in the thin mountain air. Circling the hotel again, the *Storch* descended towards its allotted alighting area. Gerlach touched down, braked hard and stopped.

After a short exchange with the *SS-Hauptsturmführer*, an unshaven and visibly frightened Mussolini, clad in a long overcoat and porkpie hat was assisted into the Fi 156. Gerlach calculated that with himself and the bulky Mussolini, application of the emergency 'Doppelschritte' or 'double-step' take-off procedure using an initial full 40° of flap, might just get the *Storch* off the ground before it passed over the edge of the cliff. The terrain dictated a downwind take-off.

By now it was 16:30. Gerlach was anxious to be off. Mussolini sat huddled behind the *Luftwaffe Hauptmann*. To the pilot's horror, Skorzeny insisted that he accompany his precious charge on the return flight. Argument was in vain. Skorzeny squeezed his massive 6 foot 2 inch frame into the cramped cabin aft of *Il Duce*. While Gerlach ran the Argus motor up to full power, other soldiers clung to the Fi 156's tail-bracing struts, dust whipped up by the screaming propeller stinging their faces.

Gerlach dropped his hand. The troops holding down the tail scattered. Simultaneously the pilot released the brakes. Slowly the *Storch* gathered momentum across the grass. Some distance from the cliff's edge there was a loud crash distinctly audible above the roaring of the light plane's motor. The port mainwheel buckled as it struck a rock. The Fi 156 veered sharply to the left. Gerlach jabbed on hard opposite rudder and strove to pick up the port wing. Skorzeny leaned all his weight against the increasing swing. Miraculously,

the developing ground loop stabilised. To the awe-struck troops watching, disaster seemed imminent. Apparently not yet airborne, the crabbing *Storch* reached the edge of the cliff. Taking a shower of stones and other debris with it the *Storch* sank from view. Teetering at the stall, the overloaded Fi 156 munched towards the valley below the dominating Gran Sasso d'Italia.

With consummate skill, Heinrich Gerlach nursed the straining *Storch*, slowly reducing the flap setting to a best-climb angle of 15°. Then he set course northwards towards Pratica di Mare. After this hair-raising take-off, even a one-wheeled landing with such an important personage as Benito Mussolini aboard seemed almost child's play to the immensely relieved Gerlach. *Operation Eiche* (Operation Oak) had succeeded.

Transferred to a well-appointed transport Heinkel He 111, the Italian leader and his *SS* rescuer flew on to Wien-Schwechat airfield on the outskirts of Austria's capital. While Skorzeny, basking in the *Führer's* favour received the immediate award of the *Ritterkreuz* (Knight's Cross), *Hauptmann* Gerlach had to be content with the knowledge that his too had been a job well done. A task, moreover, that could probably not have been performed at that time by any other fixed-wing aircraft except the spindly Stork.

The autumn of 1943 saw Fi 156 production at Bettenhausen being run down to make way for an increased rate of Focke-Wulf FW 190 day-fighter assembly at the plant. The last two *Fieseler-Flugzeugbau*-built *Störche* left the factory in October 1943. Despite material shortages and French-inspired sabotage—the *Gestapo* was brought in to try and stamp this out—no less than 403 Fi 156s originated from Puteaux during 1943. With the *Storch* cut-back at

Bettenhausen, surplus jigs and tools were shipped to German-occupied Czechoslovakia and installed at the *Mráz* factory at Choceň. The first delivery from this plant took place in December 1943.

Two new variants, the Fi 156 C-7 and an improved Fi 156 D-2 *Sanitätsflugzeug*—ambulance aircraft—and both powered by Argus As 10 P motors, were scheduled to replace earlier *Störche* during 1944. The majority came from this Czechoslovakian factory, plus a small batch of others from *Leichtbau Budzyn*.

While *Luftwaffe Störche* performed a multitude of tasks on all the fighting fronts, neutral *Storkar* fitted with skis and long-range tanks were used for patrolling the German-held border with Sweden for much of the war. During the winter of 1944-5, privation caused numbers of Norwegian refugees to attempt the dangerous trek over the *fjäll* or northern mountain areas into neutral Sweden. *Spaningsgrupp*—Reconnaissance Group—F3, operated from ice-bound Lake Luessajärvi (not far from Kiruna Central on the railway from Stockholm to Narvik) in missions designed to locate these fugitives. These *S 14s* bore crudely painted red-cross markings on fuselage sides and under the mainplanes. Some 120 sick and frost-bitten persons were spotted and carried to safety during this period. Flying conditions were often appalling in these bleak northern latitudes, and it says much for the versatility of the Fi 156, as well as the flying skill of their Swedish crews, that so many successful rescues were made.

One of the best known exponents of the Fieseler *Storch* was the diminutive woman flier, *Flugkapitän* Hanna Reitsch. During the winter of 1943-1944, *Generaloberst* Robert Ritter von Greim, another former *Luftstreitkräfte* fighter pilot with 28 victories, who was later to help organise the Chinese Air Force under Chiang Kai-shek during the 1920s, allowed *Fräulein* Reitsch to act as his personal pilot. Von Greim was then commanding *Luftflotte 6* in Russia. Hanna Reitsch flew his Fi 156 for some weeks during visits to German Air Force units in the East. Later, during the Red Army's siege of Breslau in 1945, against the specific orders of Adolf Hitler, she piloting one Fi 156 and with von Greim flying another, flew the German Assistant Minister of Propaganda into the city. The two *Störche* landed in one of Breslau's main streets. Despite this morale-boosting visit, the fortress capitulated to the Russians on May 6, 1945.

Perhaps her most famous exploit was the flight she made on April 26, 1945 into the heart of beleaguered Berlin in a *Storch* piloted by von Greim, who was to be promoted *Oberbefehlshaber der Luftwaffe* by the *Führer* following *Reichsmarschall* Hermann Göring's political downfall and subsequent arrest by SS-troops. Arriving at Gatow from Rechlin in a single-seat FW 190, with von Greim wedged behind the pilot and Hanna Reitsch cocooned in between the rear-fuselage frame members, they found that all routes into the German held areas of central Berlin were blocked by Soviet troops. At 18:00 hours, a Fi 156 took off from Gatow with the unsuspecting future Air Force commander at the controls and his female companion standing behind him in order that she could grab the control column if he was hit while they flew at tree-top height through the gauntlet of Russian ground-fire. After an epic flight during which their *Storch* was damaged, von Greim wounded and Hanna Reitsch

had to put the Fi 156 down without the benefit of rudder control, they presented themselves at the *Führerbunker* and reported to Adolf Hitler. Having achieved precious little by this self-sacrificing mission, Hanna Reitsch ferried the wounded von Greim out of doomed Berlin in an Arado Ar 96 two-seat tandem monoplane trainer four nights later.

During the spring of 1945, desperate measures were taken to try and stem the flood of Soviet armour sweeping ever westward towards the heart of the Third Reich. Among the *ad hoc* units set up were five *Panzer Aufklärungsschwärme* intended to locate Russian tanks in the area controlled by *Luftflotte* (later *Luftflottenkommando*) 6. Whether these *Storch*-equipped formations were purely for spotting Soviet tank movements, or were actually to engage them with light bombs has not been ascertained. Certainly the Bücker Bü 181 *Bestmann* (Best Man) side-by-side seat, single-motor monoplane trainer, hastily equipped with underwing *Panzerfaust* (Tank Fist) air-to-ground rockets, was flown in a low-level anti-tank rôle in these last desperate days. At least two of these Fi 156 units survived until the cessation of hostilities on May 8, 1945; *Pz. Aufkl. Schw. 4* and *5* surrendering at Kosteletz and Reichenberg respectively.

Another ill-starred plan was the attempted assembly of all available helicopters and *Störche* in the 'Alpine Redoubt'. Issued on April 27, 1945, by the evacuated *Oberkommando der Luftwaffe* (by then located in Austria), this order envisaged the setting up of liaison *Staffeln* of these aircraft to be based on airfields and landing strips in the Innsbruck, Aigen-Zeltweg and Southern Alpine areas of Austria. It was intended that these units would maintain essential communications in these mountainous regions where the anticipated 'last stand' against the Allies was to take place. Like all else, this instruction was overtaken by events.

The cessation of hostilities did not see the sudden eclipse of the Fieseler *Storch*. Quite the contrary. Masquerading under new designations, *Störche* continued to flow from the formerly German-controlled factories in liberated Czechoslovakia and France.

At Puteaux, *Morane-Saulnier* now built the *Criquet*—locust. The newly nationalized factory of *Ing. J. Mráz* at Choceň, although re-titled *Automobilové Závody*—Motor Car Works—continued to build the *Storch* but under its Czech name *Čáp*.

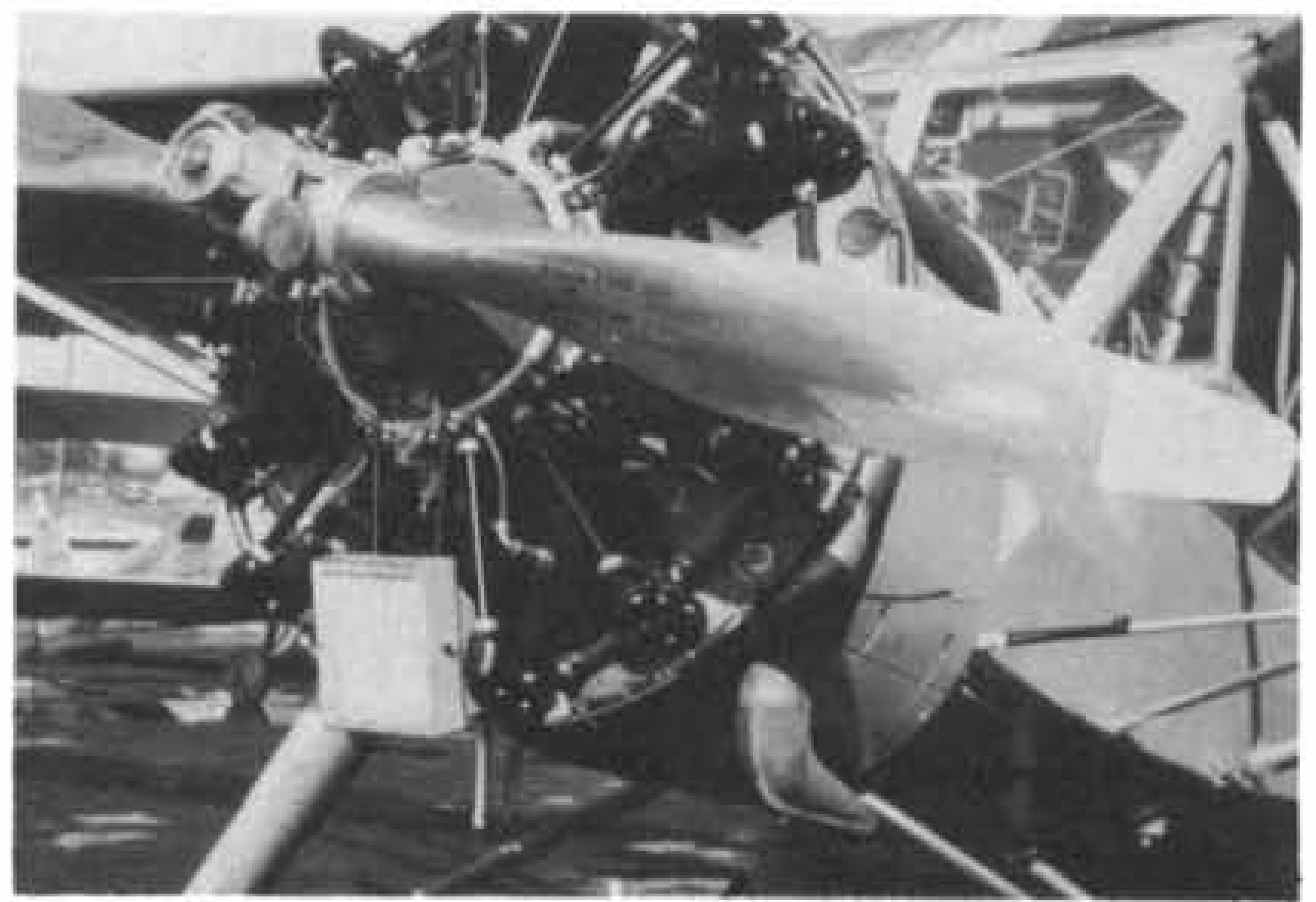
The original Fi 156 C design was designated the *Morane-Saulnier* MS 500. When supplies of Argus engines ran short the airframe was tailored to take a Renault 6Q motor. This resulted in the MS 501. Radial-motor variants MS 502 (Salmson 9ABb); MS 504 (Jacobs R-755-A2) and MS 505 (Jacobs R-755-A2) followed. The *Morane-Saulnier* MS 505 variant was a conversion carried out by Reims Aviation as recently as 1964-1965 in which the MS 502's 230 h.p. Salmson motor was replaced by a Jacobs engine developing 304 h.p. The MS 504 was a special 'one-off' variant, F-BCME (No. 600), which was refurbished at Castelnau during 1968.

*Ex-Luftwaffe Störche* too saw much service with the victorious powers up till the mid-1950s. In the British Zone of Germany alone, 62 Fi 156s were captured intact. Another 52 were seized in Norway and 31 in Denmark. Of this total of 145, France was given 64 airframes as war reparations, Norway 17 and the



*The Storch of the seventies. Still very much alive is the series of Criquets refurbished and re-engined by Reims Aviation. Complete with all-metal variable-pitch two-blade propeller, this 304 h.p. Jacobs R-755-A2 radial-powered MS 505, F-BJQD (No. 120/40), was rebuilt from a MS 502, being subsequently based during the winter of 1965-66 at St. Auban airfield. With an extra 74 horse power in hand, the MS 505 is a very lively aeroplane, and one that will probably be seen on Continental airfields for several years to come.*

(Photo: Ronald Moulton, 'The Aeromodeller')



Netherlands one. Sixty of the remainder after being flown for the most part by R.A.F. or British Army units on communications or policing duties in occupied Germany were eventually destroyed there. Another three (coded Air Ministry 'AM 99', 'AM 100' and 'AM 101') were ferried to the Royal Aircraft Establishment at Farnborough in Hampshire, England, for experimental purposes. One was later used for deck-landing trials on a Royal Navy aircraft carrier.

Neutral countries such as Spain, Sweden and Switzerland acquired additional *Störche* flown by deserters both during the war and following the cessation of hostilities. In 1950, no less than 21 *Storkar* were serving with the *Flygvapnet*. Sixteen were still

flying ten years later when the Swedish Air Force finally withdrew the type from service use and sold them to various aero clubs. However, they proved too expensive to operate, so these surplus *S 14s* were passed to the firm of Osterman Aero at Stockholm, whence, after overhaul, they returned once more to their spiritual homes in Austria and Germany. They are still being used to this day mainly by gliding centres as tug aircraft or for crop-spraying.

The detailed post-1945 record of the *Storch*, *Criquet* and *Čáp*, whether it be in support of the French colonial wars in North Africa and Indo-China, its extensive but unsung use by the Socialist bloc in Eastern Europe or as a mountain-rescue tool in the

*A derelict Storch parked under shrapnel-torn trees in Berlin's Tiergarten photographed during July 1945. The wide Charlottenburger-Chaussee which bisected this parkland from east to west was used by Luftwaffe communications aircraft during the Battle for Berlin in April 1945, as an emergency landing strip. Reitsch and von Greim themselves used the eastern segment of this road near the Brandeburger Tor on their courageous flight into Berlin on April 26, 1945.*

(Photo: Imperial War Museum ref. CL 3257)





Swiss Alps, is equally as fascinating as its World War Two accomplishments. Space restrictions, however, preclude its telling here.

## SPECIFICATION FIESELER FI 156 C-1 COMMUNICATIONS AIRCRAFT

### Dimensions

Span (unflapped) 46 ft. 9 in. (14.25 m.), (flapped) 48 ft. 4½ in. (14.75 m.); overall height (ground attitude) 10 ft. 0 in. (3.05 m.); overall length (ground attitude) 32 ft. 5½ in. (9.90 m.); wing chord with leading-edge slots closed 6 ft. 0 in. (1.83 m.); wing area including fuselage section 279.8 sq. ft. (26.00 m.<sup>2</sup>); wing loading at weight of 2,811 lb. (1,275 kg.) 10.04 lb./ft. (49 kg./m.<sup>2</sup>); power/weight ratio at weight of 2,811 lb. (1,275 kg.) 11.68 lb./h.p. (5.3 kg./PS); wheel track 11 ft. 6 in. (3.38 m.); maximum undercarriage oleo travel 16 in. (406.4 mm.); main-wheel tyres 500 × 180 mm.

### Accommodation

The Fi 156 C-1 was delivered in three conditions. Condition I: 2-seater without radio. Condition II: 2-seater with radio. Condition III: 3-seater without radio.

### Powerplant

One *Argus AS 10 C-3* air-cooled, 4-stroke, inverted-Vee, unsupercharged 8-cylinder engine. Maximum power (limited to 5 mins.) 240 h.p. (240 PS); limiting r.p.m. at maximum power 2,000 (2,000 U/min.); sustained power limit 200 h.p. (200 PS); r.p.m. at sustained power 1,880 (1,880 U/min.); fuel consumption at sustained power 104.9 lb./hr. (47.6 kg./h.). Fixed two-blade wooden *Heine* or *Schwarz* propeller. Diameter 8 ft. 6½ in. (2.60 m.).

### Fuel

Total of 32.5 Imp. gals. (148 l.) contained in wing tanks.

### Armament

Nil in C-1. C-2 carried 2 machine-pistols. C-3 one 7.92 mm. *Rheinmetall-Borsig MG 15* machine-gun in a LL-K flexible mounting in rear cabin. Aiming by *Visier 65* gunsight. 1 machine-pistol. C-4 not produced (all aircraft completed as C-2 variants). C-5 *trop* had gun mounting fitted but weapons were deleted.

### Radio Equipment

Only fitted when delivered in Condition II (Fi 156 C-1). Then a choice of *FuG VII* or *FuG XVII* radio equipment could be fitted. C-2 had *FuG XVII*. C-3 had no radio equipment. C-4 not proceeded with. C-5 *trop* carried no fixed radio equipment, but had a forced-landing emergency transmitter in its desert survival pack.

### Weights

	Condit. I		Condit. II		Condit. III	
	lb.	kg.	lb.	kg.	lb.	kg.
Empty weight	2,006	910	2,006	910	2,006	910
Additional equipment*	64	29	150	68	53	24
Gross tare weight	2,070	939	2,156	978	2,059	934
Fuel						
32.5 Imp. gals. (148 l.)	243	110	243	110	243	110
Lubricants	22	10	22	10	22	10
Crew						
(each 176.5 lb.:80 kg.)	353	160	353	160	529	240
Free weight	2	1	4	2	2	1
Total flying weight	2,690	1,220	2,778	1,260	2,855	1,295

Additional equipment\*: Instruments and navigation equipment 1.23 lb. (0.56 kg.); safety and rescue equipment 10.69 lb. (4.85 kg.); visual signal and communications equipment 20.50 lb. (9.30 kg.); airborne auxiliary equipment 6.34 lb. (2.88 kg.); manually-operated armament 13.27 lb. (6.02 kg.); cameras (Condition I) 10.58 lb. (4.80 kg.); radio equipment (Condition II) 97.61 lb. (44.28 kg.); Strength group—H 3. Maximum permissible take-off weight 2,910 lb. (1,320 kg.).

### Performance\*

\* (Performance is given for a flying weight of 2,738 lb. (1,240 kg.) as far as weight is critical. The term 'sea level' implies a mean air density  $p 1/8 \text{ kg. s}^2/\text{m}^4$ .) Maximum permissible speed, 165 m.p.h. (265 km/h.); Maximum speed at sea level, 109 m.p.h. (175 km/h.); cruising speed at 90% r.p.m., 93 m.p.h. (150 km/h.); maximum speed with landing flaps lowered, 75 m.p.h. (120 km/h.); maximum permissible rate of descent at a landing weight of 2,910 lb. (1,320 kg.), 15.4 ft./sec. (4.7 m/sk.); minimum speed at sea level in level flight in still air (a) with lowered landing flaps, (b) with landing flaps retracted, (a) 32 m.p.h. (51 km/h.), (b) 38 m.p.h. (61 km/h.); minimum speed with an 8 m.p.h. (3.5 m/sk.) headwind with lowered flaps, 23.8 m.p.h. (38.4 km/h.); take-off distance in still air on mowed grass, 230 ft. (70 m.); lift-off\*\* distance from a braked start to a height of 49 ft. (15 m.); 525 ft. (160 m.); take-off distance with an 8 m.p.h. (3.5 m/sk.) headwind, 154 ft. (47 m.); lift-off\*\* distance from a braked start to a height of 49 ft.



The French influence in Cambodia. An ex-Armée de l'Air Criquet in the little-known markings of the Royal Khmer Air Force. (Photo: via Bernard Régnier and SPB Archives)

(15 m.) with an 8 m.p.h. (3.5 m/sk.) headwind, 328 ft. (100 m.). (Lift-off\*\* performance valid with fully lowered landing flaps); rate of climb at sea level with 10° flap, 15.7 ft./sec. (4.8 m/sk.); maximum angle of climb with 15° flap, 12.6°; maximum angle of climb with 15° flap with an 8 m.p.h. (3.5 m/sk.) headwind, 15.2°; time to climb to 3,281 ft. (1,000 m.); 3.9 mins., to 6,562 ft. (2,000 m.); 8.8 mins., to 9,843 ft. (3,000 m.); 15.6 mins., to 13,124 ft. (4,000 m.), 25.7 mins.; service ceiling 17,061 ft. (5,200 m.); absolute ceiling, 19,358 ft. (5,900 m.); range (based on still air, at altitude limited to 6,562 ft.—2,000 m., with engine setting of 1,800 r.p.m., cruising speed of 93 m.p.h.—150 km/h.), 205 miles (330 km.). Note: additional 3.3 Imp. gals. (15 l.) of fuel deducted from total capacity of 32.5 Imp. gals. (148 l.) for warm-up, take-off, climb and two circuits of the airfield; flight duration, 2½ hours; landing run in still air from a height of 49.2 ft. (15 m.) to a standstill, 410 ft. (125 m.); distance of braked run, 85 ft. (26 m.); landing run from a height of 49.2 ft. (15 m.) in an 8 m.p.h. (3.5 m/sk.) headwind to a standstill, 308 ft. (94 m.); distance of braked run, 52½ ft. (16 m.); stalling speed, 31.6 m.p.h. (51 km/h.).

### Main Source

*Fieseler Fi 156 Baubeschreibung; Datenblatt für Fi 156 C-1. Mai 1938. Fieseler-Flugzeugbau G.m.b.H., Kassel-Bettenhausen.* (Imperial War Museum Documents Library reference GDC 21/10).

## Series Editor: CHARLES W. CAIN

### ACKNOWLEDGEMENTS

Much previously unpublished data on the Fieseler Fi 156 found in these pages comes from captured German records now deposited with the Documents Section of the Imperial War Museum in the charge of Dr. David Bates. Information relating to the little-known Bf 163 is drawn from the excellent monograph, 'Verbindungsflugzeug Weserflug Bf 163 D-IUCY' prepared by Herr Hans Justus Meier with the assistance of Herr Hans Joachim Ebert and published privately by V F W-Fokker G.m.b.H. at Bremen. Material on the French-built Criquet variants was kindly supplied by Monsieur Jack Boimare of the French Branch of Air-Britain; with Founder member Serge P. Blandin also assisting valuably. Much of the Nipponese data originated from Mr. M. C. Richards of the Japanese Aviation Research Group of Air-Britain, while the detailed résumé on Swedish Storkar could not have been written without the unstinting help provided by Mr. Björn Karlström and Mr. Bo Widfeldt. Other general information was forthcoming from the German Aviation Research Group of Air-Britain. Photographs were provided by the Bundesarchiv Bildarchiv (through the courtesy of Herr Helmut Regel at Koblenz), Mr. John F. Brindley in Geneva, Mr. Geoffrey Pleasance and his ever-helpful staff at the Imperial War Museum's Photographic Section; also, the Public Archives of Canada, Mr. Ronald G. Moulton the Editorial Director of 'Aeromodeller', Herr Hans Obert, Monsieur Bernard Regnier and the SPB Archives plus Mr. Christopher F. Shores. Art-work reference research coupled with the production of 'master' drawings was the responsibility of Mr. Leslie F. Sarjeant, who in his capacity as Leader of the Swiss Aviation Research Group of Air-Britain, was able to supply additional data on Swiss Störche. I wish to place on record yet again my sincere gratitude to Major John M. Ellingworth, M.B.E., who, despite Service commitments, provided this author with a non-stop flow of translations, and without whose assistance Profile No. 228 would certainly not have been produced. Finally, special thanks go to Herr Gerhard Fieseler (who as a spritely 75 year-old, still lives in the town of Kassel where he is by now something of a household name) for his courtesy in accepting a copy of the original unedited manuscript.