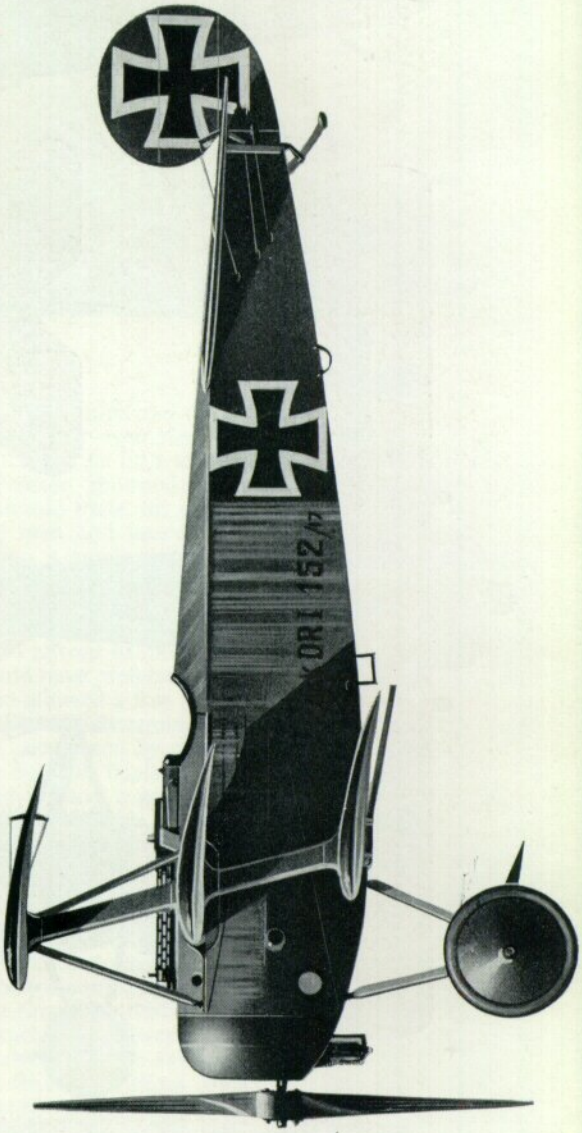
PROFILE
PUBLICATIONS

The Fokker Dr.I



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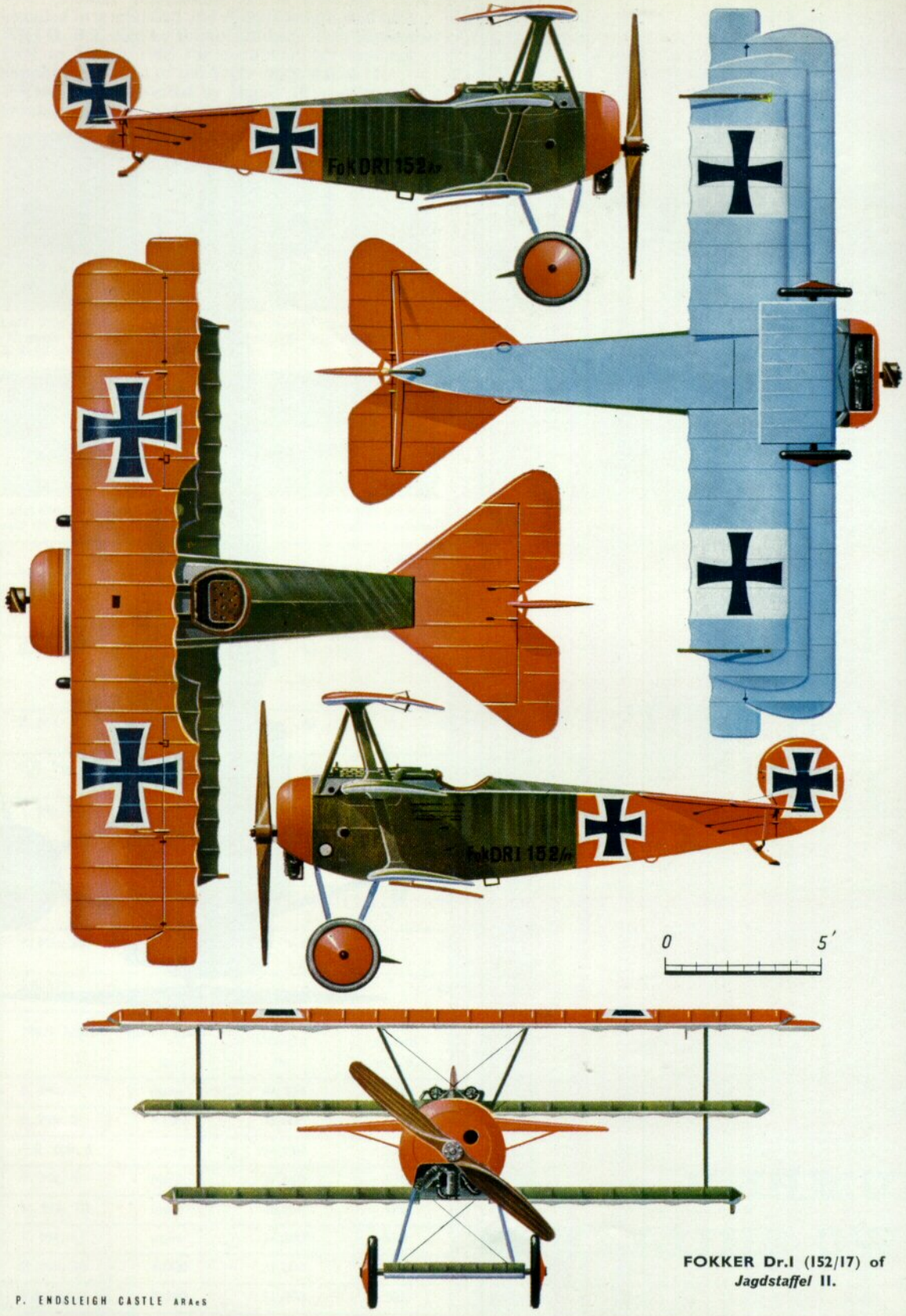
TWO SHILLINGS



FOKKER Dr.I (152/17) of *Jagdstaffel* II.

The Fokker Dr.I

by J. M. Bruce

Fokker FI 102/17 *in flight.* (Photo: Egon Krueger)

Two Allied fighter aircraft had a remarkable effect upon the German aircraft industry. The first of these was the Nieuport Scout, which quickly demonstrated its superiority over the Fokker monoplanes. The *Flugzeugmeisterei* asked several German aircraft manufacturers to build copies of the Nieuport; ultimately only the Euler and Siemens-Schuckert companies complied, but Albatros and Pfalz produced their D III types embodying a few Nieuport characteristics. Antony Fokker was invited to make a Nieuport copy but he preferred to try various unsuccessful biplanes of original design.

The impact made on Germany's aircraft industry by the Sopwith triplane was more widespread than that of the Nieuport. The triplane's phenomenal rate of climb and manœuvrability apparently suggested to the Germans that there must be some extraordinary quality inherent in the triplane configuration. As late as 27th July 1917, by which time the replacement of the Sopwith triplane by the Camel was under way, the *Flugzeugmeisterei* sent a circular letter to all German aircraft manufacturers inviting them to inspect a captured Sopwith triplane at Adlershof; and the *IdFlieg* indicated that they would be ready to grant orders for experimental prototypes of promising triplane fighter designs. It seems that almost every firm's project must have been regarded as in some measure promising, for triplane fighters were built in response to this invitation by the A.E.G., Brandenburg, D.F.W., Euler, L.F.G., Roland, Pfalz, Schütte-Lanz and Siemens-Schuckert concerns. The infection even spread to Austria-Hungary, where the Lohner, Oeffag, Oesterreichische-Aviatik (Berg) and W.K.F. triplane fighters appeared in 1917–18.

This time Tony Fokker was ahead of the field. In April 1917 he visited *Jagdstaffel* 11 at the front, and Manfred von Richthofen and his pilots told him about the remarkable new Sopwith triplane fighter. Fokker was taken to a forward observation post, from which he was able to see Sopwith triplanes in flight; he was also shown a captured specimen, probably a damaged one, before it was sent to Adlershof for detailed examination. The pilots of *Jagdstaffel* 11 probably had vivid memories of the combat of 7th April, when a lone Sopwith (Lt. R. A. Little) of No. 8 Squadron, R.N.A.S., had attacked their eleven Albatros D IIIs and outmanœuvred all of them. Later combats had shown that even the new Albatros D V was not a match for the little triplane.

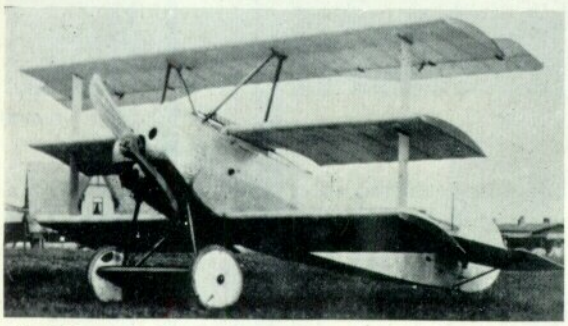
Fokker returned to Schwerin, where he told Reinhold Platz, his chief designer, a little of what he had seen and heard at the front. He told Platz to design a single-seat triplane fighter, using a rotary engine as power unit. Platz was given no other details at that time; he had to proceed on his own initiative from that point. The idea of a triplane was something of an affront to him: simplicity was his ideal, and he would have preferred to design a monoplane if he had been allowed a free hand in the matter.

Fokker's determination to use a rotary engine was not occasioned by a desire to follow the example of the Sopwith triplane: it arose from the fundamental need to have a good supply of suitable aero-engines readily available. Fokker knew that there was at Adlershof a large store of excellent 110-h.p. Le Rhône engines that had been ordered from the Swedish Thulin company but had arrived too late, as it was thought, for operational use. Fokker also knew that production difficulties were besetting the supply of the water-cooled in-line engines that were virtually standard equipment in German single-seat fighters of that time, and that his chances of obtaining supplies of such engines were slim. He thought that he would be able to obtain substantial numbers of the 110-h.p. Le Rhônes without difficulty. Moreover, he had recently acquired the controlling interest in the Oberursel firm, which was then working on a copy of the Le Rhône. A successful design for the Le Rhône might provide a useful market for Oberursel-built engines.

Platz had never seen a Sopwith triplane, nor had he any knowledge of its structure. His own design was therefore wholly original in every way and was very different from the Sopwith. His sound common sense led him to derive what advantage he could from the triplane layout that had been imposed on him; the wing area was disposed over three short-span narrow-chord wings, of which the bottom and middle surfaces were bolted directly to the top and bottom longerons of the fuselage.

Structurally Platz's triplane was remarkable for the period. He had designed two cantilever biplanes,

The first of all the Fokker triplanes, the V.3, photographed at Schwerin. (Photo: Peter M. Bowers)



The Fokker V.4. The overhanging elevator balance areas can be seen in this view. (Photo: Peter M. Bowers)

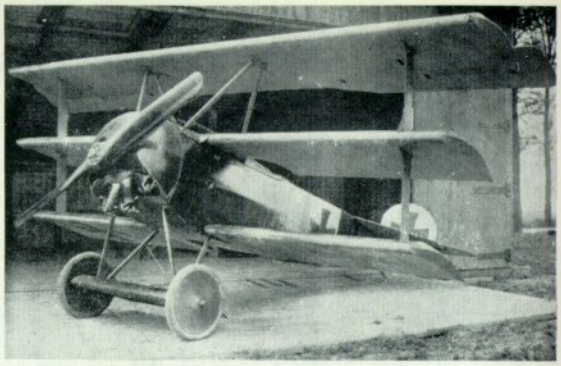
identified as the Fokker V.1 and V.2*, that had flown successfully; consequently he designed his triplane, the Fokker V.3, as a cantilever aircraft. Each mainplane had two wooden box spars set close together; these spars were joined by two strips of plywood running spanwise, the whole forming a substantial box member over which the ribs were slipped. Plain ailerons were fitted to the top wing only and were hinged to auxiliary spars.

On the V.3 the bottom and middle wings were of equal span; the spar box of the bottom wing fitted into a slot in the fuselage that was formed by cranking the lower longerons over the top of the wing and using fairing pieces to produce the curved lower profile of the fuselage. The top wing was mounted on two inverted-V struts that were flattened at their apices to pick up both spars of the wing.

Reinhold Platz was a welder by trade, and the V.3 fuselage was a welded structure made of steel tubing. The 110-h.p. Le Rhône engine was partly enclosed in a cowling of characteristic form; its circular cross-section was faired into the flat sides of the fuselage by simple tapered pieces of plywood over which the fabric covering was stretched. The undercarriage embodied two simple steel-tube V-struts, attached to the fuselage by pinned ball-and-socket joints. Over the axle, spreader bars and shock-absorber rubber cord was built a small plywood-covered aerofoil surface; this had the same aerofoil section as the mainplanes and was large enough to contribute appreciably to the total lift of the aircraft.

As was his custom, Fokker himself made the test flights of the V.3 triplane. Following these he asked

**The V originally signified* verspannungslos, *i.e., without bracing, or cantilever; as the Platz-designed V series progressed it came to mean* Versuchsflugzeug *or* Versuchstyp, *experimental aircraft or type.*



The first of the two Fokker FIs, 102/17. (Photo: Egon Krueger)

for balanced ailerons and elevators in place of the plain surfaces that were fitted to the aircraft; he also demanded the addition of interplane struts.

These modifications led to a considerable re-design, the revised aircraft being given a new type number, Fokker V.4. Each mainplane was increased in span, that of the middle wing being made intermediate between the top and bottom surfaces; the ailerons and elevators had squarish horn balances; a single interplane strut was fitted on each side; and two LMG 08/15 machine guns were installed immediately in front of the cockpit.

The interplane struts were a sensible modification, for they substantially reduced the visible flexing of the cantilever wings. The struts were not straight-through, one-piece components like those of the Sopwith triplane. On the Fokker each interplane strut was in two separate parts. A production triplane was later flown at Adlershof with its interplane struts removed, when it was found that the wings flexed quite markedly and showed a tendency to flutter in a steep glide. The aircraft remained under control, but at that period these phenomena would have been too disconcerting to pilots for a strutless triplane to be acceptable to them.

The V.4 was a success and the type was ordered into production without waiting for the results of structural tests; the decision to order the triplane in quantity was apparently taken in July 1917, and the first contract was for a total of 320 aircraft, including prototypes. The original V.4 was regarded as the first of the three prototypes and was given the *Bestellnummer 101/17*; two further prototypes were under construction at Schwerin as *102/17* and *103/17*. Externally they differed from *101/17* in the design of the tailplane and elevators. Together these surfaces formed a triangle, the horn balances of the elevators lying wholly within the profile. Structural tests on *101/17* were successfully completed early in August; no major modifications were requested, and the only significant suggestion that followed the tests was that the steel-tube longerons of the rear fuselage should be of greater diameter. To meet this requirement the longerons of production triplanes were of 20-mm. diameter steel tubing.

As the V.4, *101/17*, was broken on 11th August 1917 when it was tested to destruction at Adlershof, operational evaluation of the triplane was made with *102/17* and *103/17*. These aircraft were officially accepted on 16th August 1917 and five days later were sent to *Jadgdeschwader I* at Courtrai, the fighter wing composed of *Jagdstaffeln* 4, 6, 10 and 11 and com-

The FI 103/17, *flown by Werner Voss.* (Photo: Alex Imrie)

manded by Manfred von Richthofen. They had the designation Fok. F I, despite the fact that the type was apparently recorded as the Fok. Dr I earlier in August during the structural tests of *101/17*, and that the official category Dr for single-seat fighter triplanes was promulgated on 19th August.

Those first two Fokker triplanes enjoyed spectacular success during their brief operational careers. They were flown by several pilots of *Jagdgeschwader I*, but *103/17* became more or less the personal aircraft of Leutnant Werner Voss, leader of *Jasta* 10, who shot down a British aircraft on 30th August 1917 while flying this F I. This was the first of the many victories to be won by the Fokker triplane; it was also the first of 21 victories scored by Voss between 30th August and 23rd September. Voss met his death in *103/17* on 23rd September in an epic combat with the S.E.5a's of "B" Flight, No. 56 Squadron, R.F.C.

The other F I, *102/17*, had an even briefer career. It was flown by Manfred von Richthofen when he shot down his sixtieth victim on 1st September 1917. He had flown the triplane for the first time earlier that day and had taken an immediate liking to the type. Two weeks later *102/17* was shot down while being flown by Oberleutnant Kurt Wolff of *Jasta* 11. Wolff was killed; his victors were Sopwith Camels of No. 10 Squadron, R.N.A.S.

Production aircraft appeared with the designation Fok. Dr I and were numbered from *104/17* onwards. They were fitted with small wing-tip skids under the bottom wings but were otherwise similar to *102/17* and *103/17*. Six were delivered to *Jagdgeschwader I* in mid-October 1917, closely followed by eleven more; deliveries were also made to other units during the month.

Disaster struck before the type was in general operational use. On 29th October 1917 Dr I *115/17* broke up in the air while being flown by Leutnant Heinrich Gontermann, leader of *Jasta* 15. It was his second flight in the aircraft; in the course of aerobatics at 1,500 ft. over the aerodrome his aircraft went out of control and the top wing was seen to break up. Gontermann was fatally injured and died next day.

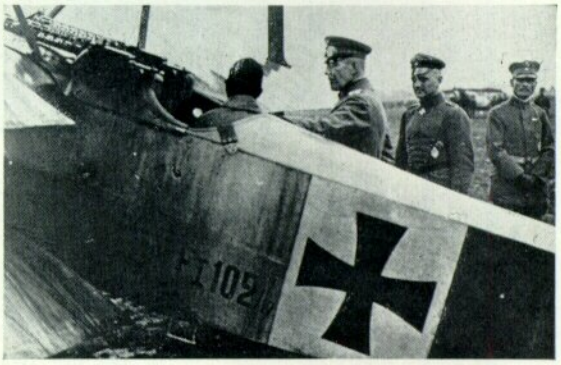
On 31st October Leutnant Pastor of *Jasta* 11 was killed when his triplane, *121/17*, broke up in much the same way. All Fok. Dr I aircraft were immediately grounded and a commission of investigation was quickly appointed and sent to the front to report on the two accidents.

Without waiting for the *Sturz-Kommission* to arrive, Manfred von Richthofen ordered a thorough examination of all the Fokker triplanes of *Jagdgeschwader I.* This revealed unmistakable evidence of faulty workmanship in the wings: in addition to structural

(Photo: Egon Krueger)

FI 102/17 *apparently at Courtrai. Fokker in the cockpit is speaking to General von Lossberg, while Manfred von Richthofen looks on.*

(Photo: Imperial War Museum Q54398)



assembly faults, the interior of mainplanes from which the fabric was removed had been seriously affected by damp. The wreckage of Gontermann's and Pastor's aircraft contained ample confirmation of poor workmanship and skimped inspection.

The *IdFlieg* demanded that a number of modifications be made to Fok. Dr I wings and that all aircraft already completed were to be provided with new wings of sound construction that embodied the modifications. Other unused wings were to be stripped and those that could pass a searching inspection were to be modified in accordance with the *IdFlieg*'s instructions.

The *IdFlieg* thought that some residual doubt attached to the aerodynamic characteristics of the ailerons and their horn balances, and gave Fokker to understand that the *Flugzeugmeisterei* would conduct experiments on the ailerons and their balances. If these tests were in fact made (and they may have been conducted in conjunction with the official type-test of *141/17* at Adlershof on 10th November 1917) they did not lead to any significant re-design. Later triplanes had ailerons in which all ribs except the root rib were of equal size; this modification produced an appreciably more acute taper at the inboard end of each aileron. Apparently it made little difference to the flying qualities of the aircraft, for some Dr Is were flown with odd ailerons. One such aircraft was *144/17*, which was captured virtually intact on 3rd January 1918; it had an early-type aileron on the starboard side and a modified surface on the port. This triplane was given the British identification number *G125.*

The brief acquaintance with the Fok Dr I that had been allowed to German pilots before the type was grounded was enough to engender a considerable enthusiasm for it and a keen desire to take it into action in preference to the Albatros and Pfalz fighters

Subject of the official performance trials, Fok. Dr.I 141/17 with the early production ailerons.

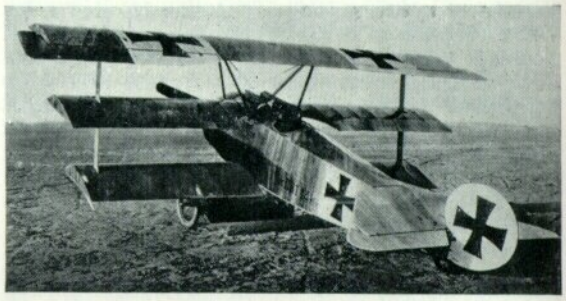
that were generally inferior to the S.E.5a, Bristol Fighter and Spad. The Dr I was an ideal aeroplane for the kind of combat that had become commonplace in 1917. Its rate of climb was remarkable and it was exceptionally manœuvrable, being in this respect the equal of the Camel without the Sopwith's one-sidedness. The Fokker triplane depended for its success on its manœuvrability, for it was not fast enough to pursue such types as the Bristol Fighter, D.H.4 and D.H.9 if they chose to run away.

The restriction on the use of the Fok. Dr I was lifted at the end of November 1917 and the type went into full-scale operational use. The ban and the need for the replacement of the faulty wings had played havoc with the production programme. This had envisaged that 173 Fokker triplanes would be delivered by 1st December 1917, but in fact it seems unlikely that more than the three prototypes and thirty production aircraft had been delivered by that date.

The Dr I was widely used and was flown by most of the leading German fighter pilots, including Manfred and Lothar von Richthofen, Ernst Udet, Adolf Ritter von Tutschek and Hermann Goering. Many of the *Aberkanonen* were able to add substantially to their scores while flying the little triplane.

Good though it was, and enthusiastic though many pilots were about it, the Fok. Dr I still lacked the performance at altitude that had become necessary by the end of 1917. The standard engine was originally the Thulin-made Le Rhône, supplies of which had been drawn from the Adlershof store. To safeguard Thulin's licence arrangements with the French Le Rhône company these engines were given special plates declaring that they had been captured; in German service they were known as *Beute* engines.

Late in 1917 the Oberursel UR. II (a copy of the 110-h.p. Le Rhône) became available and, as Fokker was the major shareholder in the Oberursel concern, was standardised for the Fok. Dr I. A German official report singles out the UR. II installation in the Dr I *188/17*, suggesting that this triplane may have had the first installation of the Oberursel. In materials and workmanship the German engine was inferior to the Thulin Le Rhône, however, and operational pilots

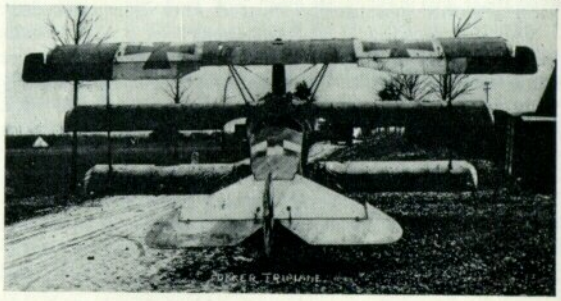


went to a great deal of trouble to secure Thulin engines in preference to Oberursels for their triplanes. Neither engine was powerful enough to meet the combat demands of 1918.

Trial installations of more powerful engines were made in an endeavour to improve the triplane's performance. One of the earliest was that of the 160-h.p. Goebel Goe. III in Dr I *108/17*. This variant of the Fokker triplane apparently qualified for the new type number V.5. It made its first flight at Goerries on 30th October 1917 and on test proved to have a better performance than the standard Fok. Dr I. It has been said that quite a substantial number

Leutnant von Stapenhorst's Fok. Dr.I, 144/17, which was brought down intact in January 1918. This aircraft had an early-type aileron on the starboard side and an enlarged aileron of the later pattern on the port. In this case the starboard aileron appears to have been a replacement component, for the painting of the black cross has not been completed. This aircraft was given the British identity G125.

(Photo: Imperial War Museum Q56019)



The Fok. Dr.I flown by Leutnant Janzen of Jasta *6.*
(Photos: Egon Krueger)

of production triplanes had the Goe. III engine but this may be a confusion with the Dr Is that had the 110-h.p. Goebel Goe. II seven-cylinder engine. At least twelve Fokker triplanes are known to have had the Goe. II. A later installation of the Goe. III was made in *416/17*, which made its first flight on 14th December 1917. This Dr I had its fuselage lengthened by 550 mm. (21·65 in.). The Goe. III required an engine cowling of increased diameter. It is not known whether any Goebel-powered triplanes were used on the western front, but some apparently went to German home-defence units; the Goebel engine was well reported on.

The final development of the Goe. III engine was the Goe. IIIa, which had a maximum output of 178 h.p. It is possible that an example of the Goe. IIIa was installed in the Fokker triplane *201/17*.

By the end of 1917 Siemens und Halske had completed the 160-h.p. Sh. 3. In this unusual eleven-cylinder power unit the engine and airscrew rotated in opposite directions. An experimental installation was made in a Fok. Dr I, which may have been the aircraft that had the Fokker *Werke Nr* 1884 but apparently no official *Bestellnummer*. It was given the Fokker type number V.7*. The engine had a fore-and-aft mounting, the cutaway in the underside of the cowling conforming to the disposition of the cross members that supported the front bearing; a taller undercarriage was fitted to provide the large airscrew with sufficient ground clearance. The V.7 was flown with two-blade and four-blade airscrews. A German official description suggests that the Sh. 3 Dr I had the lengthened fuselage of the Goebel Goe. III version.

In addition to the V.7, it is believed that one or two other Fok. Dr Is had the Sh. 3 engine. These aircraft were modified at Adlershof by *Flugzeugmeisterei* engineers or by the Siemens und Halske firm.

With the Sh. 3 engine the Fokker triplane had an excellent climbing performance and an astonishing ceiling. It soon became obvious that much development would be needed before the engine could be regarded as sufficiently reliable for operational use. Moreover, the strong torque reaction made the aircraft difficult to handle, and the great ground angle imparted by the tall undercarriage made landing tricky.

A project that was frustrated by the ending of the war was a proposal to fit one of the Sh. 3 triplanes with a three-stage compressor. This device had been developed on a Siemens-Schuckert D I and full details for the Fok. Dr I installation had been supplied to the Fokker firm in September 1918.

An earlier installation of an experimental supercharger had been made in a Fok. Dr I as part of a series of *IdFlieg* experiments the object of which was the development of a supercharger for rotary engines. For the triplane a 110-h.p. Oberursel UR. II was fitted with a gear-driven compressor of Schwade design. The installation was successful, and Schwade superchargers would have been fitted to later Fok. D VIII fighters if the war had lasted long enough.

At Fokker's request the Oberursel works had

The Fokker V.6. (Photo: Egon Krueger)

**V.10, according to one source.*

Fokker triplanes of Jasta *12.* (Photo: Peter M. Bowers)

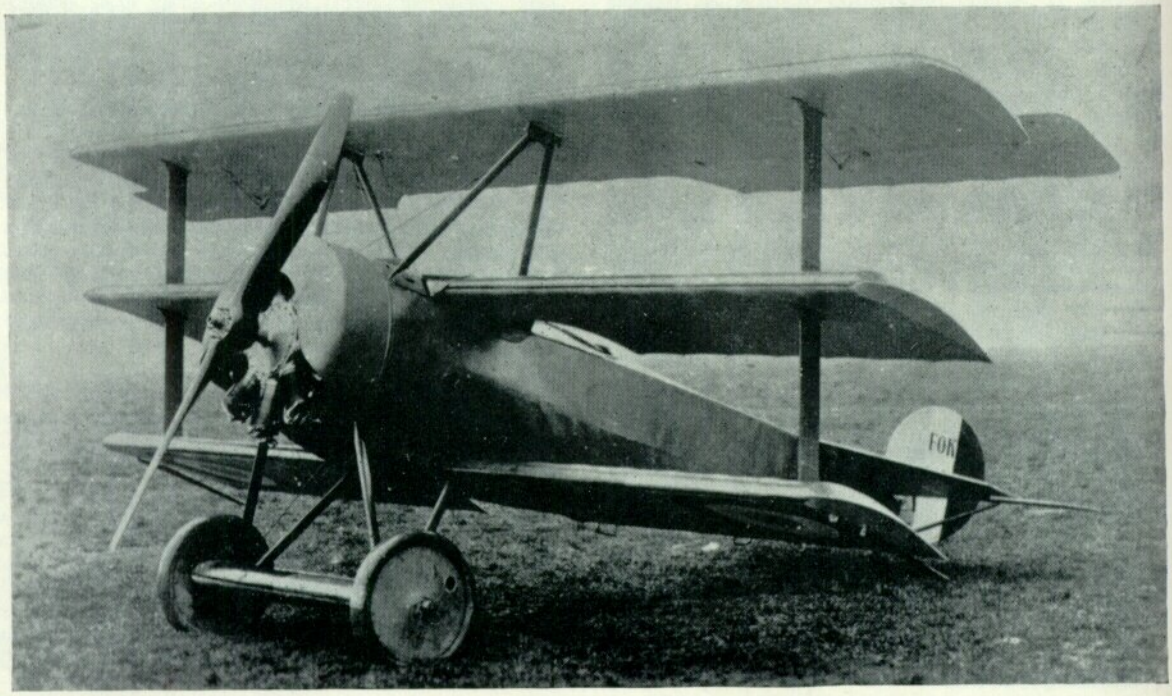
undertaken the evolution of an eleven-cylinder development of the basic Le Rhône engine. This emerged late in December 1917 as the 145-h.p. Oberursel UR. III. An early specimen was installed in Fok. Dr I *469/17*, which was used as a flying test-bed for the engine.

Germany might have made more extensive use of rotary engines if adequate supplies of suitable lubricating oil had been available. Apparently as part of the development of *ersatz* lubricants, it seems that captured Allied engines were run on these oils to determine their effect on performance. This may have been the reason why the Dr Is Nos. *485/17*, *527/17* and *562/17* were fitted with captured 130-h.p. Clerget engines. These aircraft passed their official acceptance-flight tests on 24th April 1918.

Two days later No. *100/18* made its official acceptance flight at Goerries. This Fok. Dr I was fitted with a captured 160-h.p. Gnôme engine, presumably a 150-h.p. Gnôme Monosoupape. Little is known about this installation, but it may have been made for the same reason as the Clerget.

Other experimental installations were made in *195/17*, which was fitted with an engine described in a German official document as a Rhenania Le Rhône. This must have been an Oberursel UR. II built under licence by the Rhemag-Rhenania Motoren-Werke A.G. of Mannheim. This same company were

A Fok. Dr.I that was tested by the French authorities. The engine cowling and airscrew appear to have been borrowed from a Nieuport Scout; the engine is a 110-h.p. Le Rhône.



contractors for the 160-h.p. Siemens-Halske Sh. 3, and there are indications that a Rhemag-built Sh. 3 was fitted to *195/17*.

The greatest recorded number of operational Fok. Dr Is was 171 on 1st May 1918. In that month production of the triplane ceased; its replacement by the Fok. D VII had begun during the previous month, and nineteen of the new biplanes were in operational use by 1st May. By that time the Fok. Dr I's most famous exponent was dead: Manfred von Richthofen had been shot down on 21st April while flying *425/17*.

The Fok. Dr I continued to serve operationally until the Armistice in small numbers with home-defence fighter units: 69 were recorded as in operational use on 1st November 1918.

Many of the triplanes that had been withdrawn from operational units were relegated to training duties. Some of these were fitted with the 110-h.p. Goebel Goe. II seven-cylinder engine and were flown with the guns removed.

With the Armistice the Fok. Dr I virtually disappeared. None had been delivered to any other country, consequently the remaining aircraft must have been destroyed by order of the Allies. A less-than-authentic specimen was preserved in Berlin between the wars but was destroyed by Allied bombing during the 1939–45 conflict; no genuine Fok. Dr I is known to exist anywhere today.

A second type of Fokker triplane had been built in 1917. Fokker pursued the sensible policy of building two prototypes to perform the same function, one with a rotary engine, the other with a stationary power unit. Although his chances of obtaining supplies of the latter engines were slender he probably hoped that a first-class design might win him priority.

At Fokker's request, therefore, Platz designed the V.6 triplane, powered by the 120-h.p. Mercedes D II, as the stationary-engine counterpart of the V.4. Because he had aimed at achieving much the same wing loading as that of the rotary-powered triplane the V.6 was a much larger and more cumbersome aircraft with wings of greater span and chord. The pilot sat well aft, where the long nose and broader wings limited his field of view. The bottom wing was close to the underside of the fuselage, and flight tests showed that it created so much interference drag that the effectiveness of the elevators and rudder was impaired. At a later stage the wing was faired into the fuselage but this did not cure the trouble.

Unsatisfactory in several respects, the Fokker V.6 was abandoned. It may have bequeathed a few components to the freakish and unsuccessful Fokker

One of the few Fokker triplanes to survive the war was this specimen that was displayed at the Berlin Exhibition of Water and Air Sports, 1936. Its markings and colour scheme were not authentic and its rudder was not standard. Its chief point of interest was its Goebel Goe. II engine. (Photo: Pavel Vancura)

Standard production Fok. Dr.I with late-type ailerons and 110-h.p. Oberursel UR.II engine. (Photo: Egon Krueger)

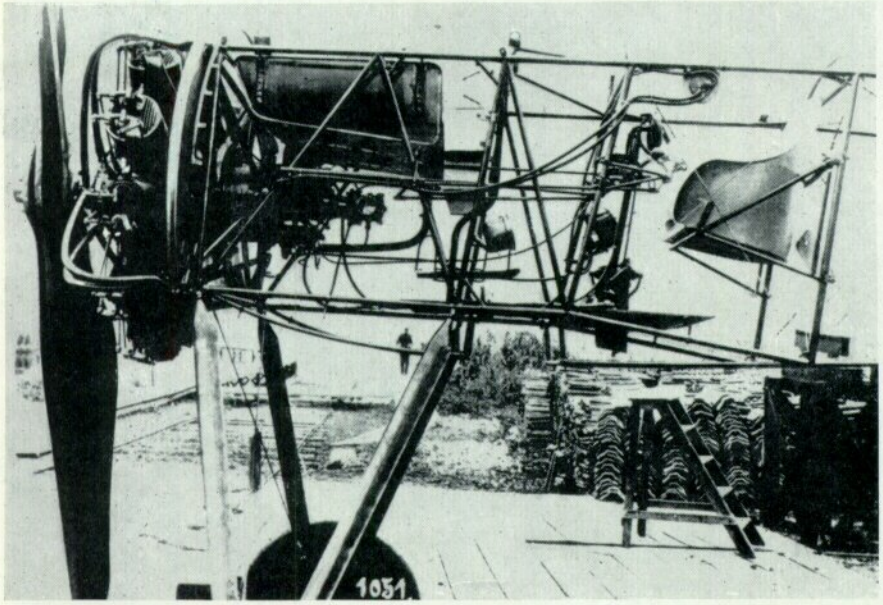
Oberleutnant Otto Esswein and the triplanes of Jasta *26.* (Photo: Peter M. Bowers)

V.8, but it is perhaps worthy of note as the first Fokker type to have the frontal radiator that was to characterise several later Platz-designed fighters.

Production: In addition to the V.3 prototype a total of 320 Fokker triplanes were ordered. These aircraft were numbered 101/17 to 220/17 and 400/17 to 599/17. At least one more Dr I was given an official *Bestellnummer:* this was 100/18 which, according to one source, may have been 117/17 modified and renumbered. Another aircraft was built with *Werke Nr* 1884 but apparently had no *Bestellnummer.* All Fok. Dr I aircraft were built by the Fokker Flugzeugwerke G.m.b.H., Schwerin-in-Mecklenburg.

Service Use: Western Front—Principally used by *Jagdstaffel* Boelcke and *Jagdstaffeln* 4, 5, 6, 10, 11, 12, 15, 17, 26, 27, 32b and 36, but small numbers were used by other units. *Home Defence*—Some Fok. Dr Is used by *Kampfeinsitzerstaffeln.*

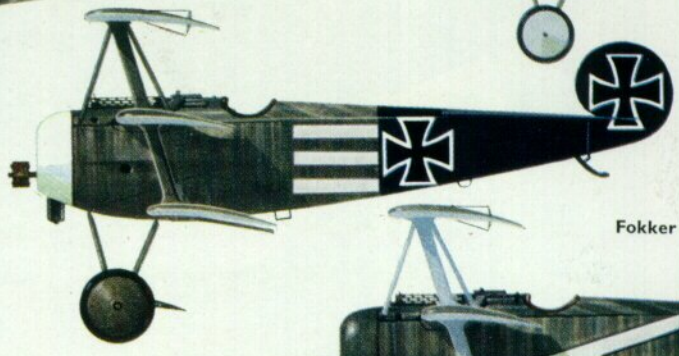
Examples of Fok. Dr Is used by operational units:
Jasta Boelcke—128/17, 129/17, 130/17, 191/17.
Jasta 10—103/17 (Fokker F I).
Jasta 11—102/17 (F I), 106/17, 110/17, 114/17, 119/17, 121/17, 127/17, 144/17, 147/17, 152/17, 155/17, 157/17, 163/17, 545/17, 591/17.
Jasta 12—216/17, 218/17, 404/17, 405/17.
Jasta 15—115/17, 400/17, 401/17, 402/17, 403/17.
Jasta 26—182/17, 183/17, 184/17, 185/17.
Jasta 27—186/17, 187/17, 189/17, 190/17.
Jasta 36—212/17, 213/17.



The engine and forward fuselage of the Fokker V.7.

Fokker Dr.I, flown by Lt. Werner Voss, Commander of *Jasta* 10.

Fokker Dr.I, flown by Lt. von Linsingen, *Jasta* 11.

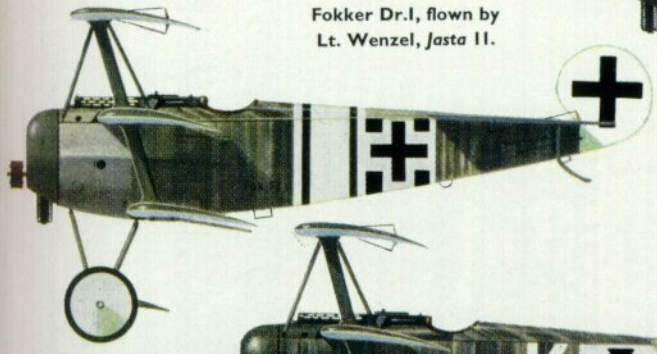


Fokker Dr.I, *Jasta* 12.

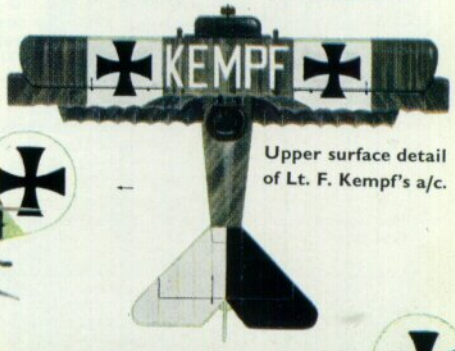
Cowl detail of above.

Fokker Dr.I, *Jasta* 12.

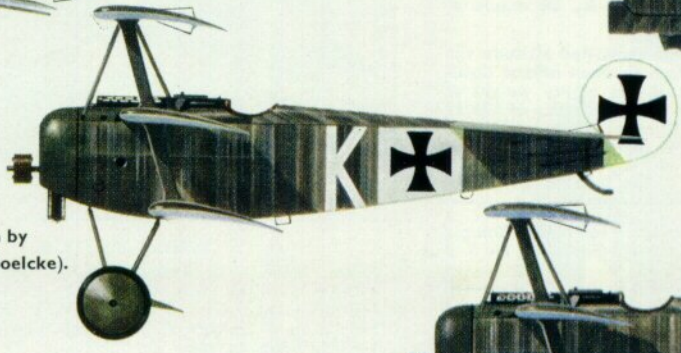
Fokker Dr.I, flown by Lt. Wenzel, *Jasta* 11.



Legend reads "do you remember me."



Upper surface detail of Lt. F. Kempf's a/c.



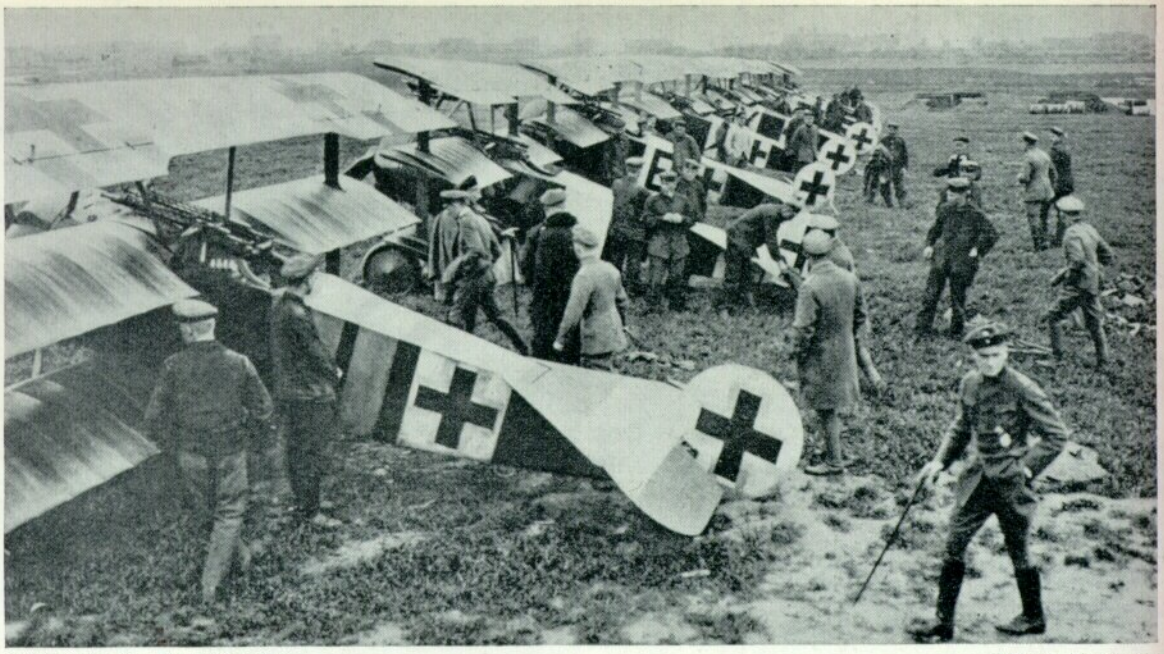
Fokker Dr.I, flown by Lt. F. Kempf, *Jasta* 2 (Boelcke).

Fokker Dr.I, unit unknown.

Tailplane detail of above.

Fokker Dr.I, unit unknown.
Note swastika repeated on fuselage top decking.

Fokker Dr.I, unit unknown, upper wing crosses as fuselage.



Another photograph of Jasta *26.* (Photo: Alex Imrie)

WEIGHTS AND PERFORMANCE

A considerable variety of figures have been quoted in respect of the Fok. Dr I. At the acceptance trials of 141/17 in October 1917 the following climbing performance was recorded (with 110-h.p. Le Rhône): to 6,560 ft., 4 min. 10 sec.; to 9,840 ft., 8 min.; to 16,400 ft., 20 min. 35 sec. The speed recorded was 118 m.p.h., presumably at ground level, but this is an over-optimistic figure. In later trials (April 1918) the triplane's speed was recorded as 97 m.p.h. at 9,200 ft., 86 m.p.h. at 13,800 ft.

With the exception of the speeds at unspecified altitude the figures in the following table are from German official documents. Additionally, these record that the empty weight of 188/17 with 110-h.p. Oberursel UR. II was 871 lb., of 195/17 with a UR. II made by the Rhemag-Rhenania Motoren-Werke 851 lb., and of 416/17 with a Goebel (presumably a Goe. II) 864 lb.

Engine	110-h.p. Le Rhône	145-h.p. Oberursel UR. III	160-h.p. Goe. III	160-h.p. Sh. 3
Weights (lb.):				
Empty	894	948	970	1,082
Military load ...	130	—	—	—
Pilot	176	—	—	—
Fuel and oil ...	90	—	—	—
Loaded ...	1,290	1,378	1,400	1,512
Maximum speed (m.p.h.):				
at unspecified altitude ...	—	115	118	120
at 13,120 ft. ...	102·5	—	—	—
Climb to:	m. s.	m. s.	m. s.	m. s.
6,560 ft. ...	6 5	4 20	4 0	—
9,840 ft. ...	10 5	7 5	7 0	—
13,120 ft. ...	15 15	10 50	10 0	—
16,400 ft. ...	23 50	15 30	14 0	—
Ceiling (ft.) ...	20,000	24,280	27,230	—
Endurance (hours)	1½	—	—	—

The author gratefully acknowledges the loan of material from Peter L. Gray and Egon Krueger: this, and the researches of the late A. R. Weyl, have contributed to this history.

The V.7 at Adlershof, fitted with a four-blade airscrew. (Photo: Egon Krueger)

SPECIFICATION

Power: 110-h.p. Le Rhône; 110-h.p. Oberursel UR. II; 110-h.p. Goebel Goe. II; 145-h.p. Oberursel UR. III; 160-h.p. Goebel Goe. III (Fokker V.5); 160-h.p. Siemens-Halske Sh. 3 (Fokker V.7); 130-h.p. Clerget 9B; 150-h.p. Gnôme Monosoupape.

Dimensions: Span, top 7·19 m. (23 ft. 7·08 in.), middle 6·225 m. (20 ft. 5·08 in.), bottom 5·725 m. (18 ft. 9·4 in.); length (Le Rhône) 5·77 m. (18 ft. 11·16 in.), (Goe. III) 6·4 m. (20 ft. 11·96 in.); height 2·95 m. (9 ft. 8·14 in.); chord 1·0 m. (3 ft. 3·37 in.); gap, upper 875 mm. (2 ft. 10·45 in.), lower 855 mm. (2 ft. 9·66 in.); stagger, top/middle 230 mm. (9·05 in.), middle/bottom 225 mm. (8·86 in.); dihedral, nil; incidence 2 deg. 18 min. (washing in to 2 deg. 30 sec. at port wing-tips); span of tail 2·62 m. (8 ft. 7·15 in.); wheel track 1·67 m. (5 ft. 5·75 in.); tyres 710×85 mm.; airscrew diameter (Axial) 2·62 m. (8 ft. 7·15 in.).

Areas: Wings, top 7·58 sq. m. (81·59 sq. ft.), middle 5·04 sq. m. (54·25 sq. ft.), bottom 4·86 sq. m. (52·31 sq. ft.), undercarriage aerofoil 1·18 sq. m. (12·7 sq. ft.), total 18·66 sq. m. (200·85 sq. ft.). Ailerons, each 0·8 sq. m. (8·6 sq. ft.), total 1·6 sq. m. (17·2 sq. ft.). Tailplane and elevators (total) 2·7 sq. m. (29 sq. ft.). Rudder 0·66 sq. m. (7·1 sq. ft.).

Armament: Two fixed 7·92-mm. LMG 08/15 machine guns with Fokker *Zentralsteuerung* interrupter gear and 1,000 rounds of ammunition.