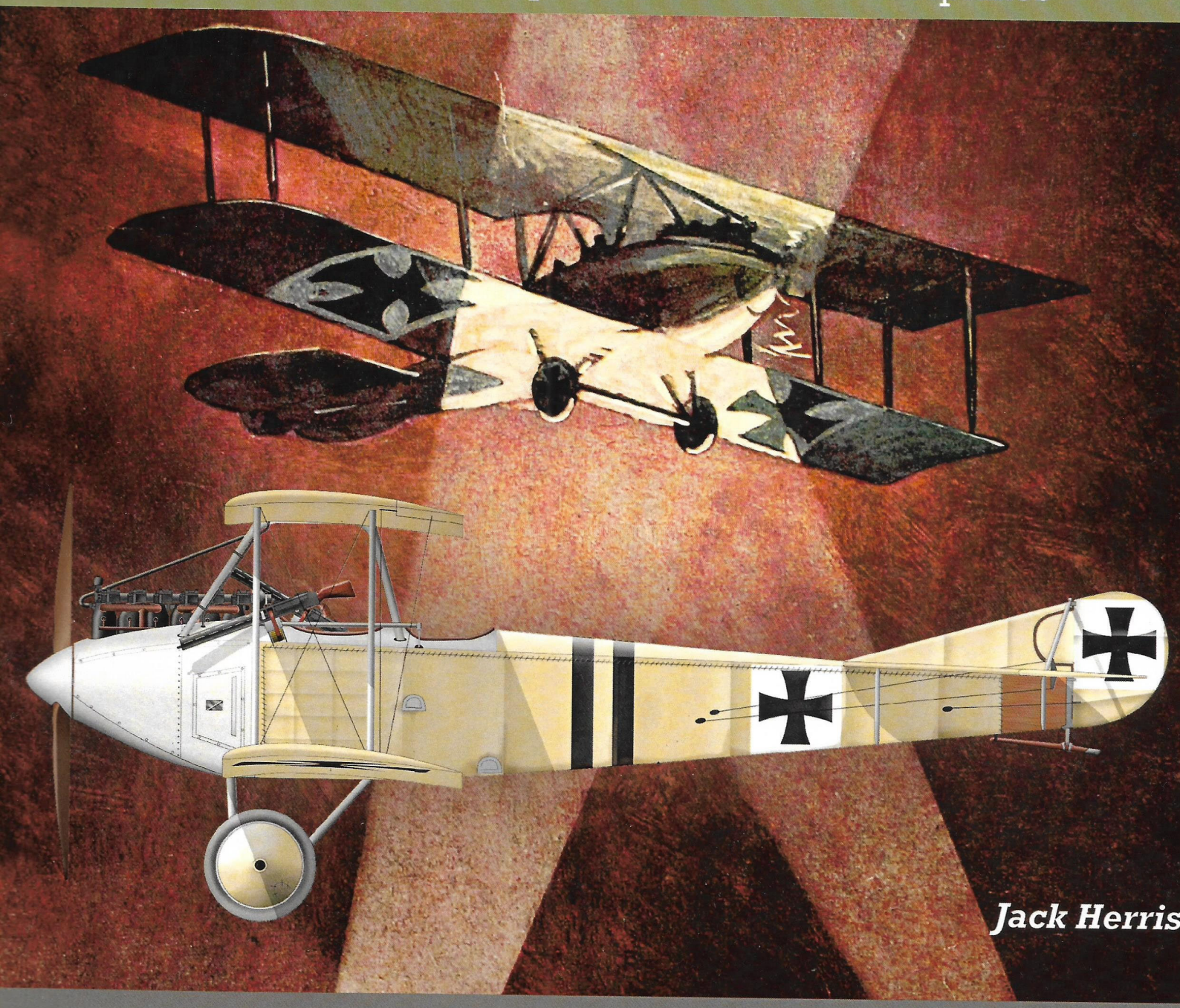
Aviatik Aircraft of WWI

A Centennial Perspective on Great War Airplanes



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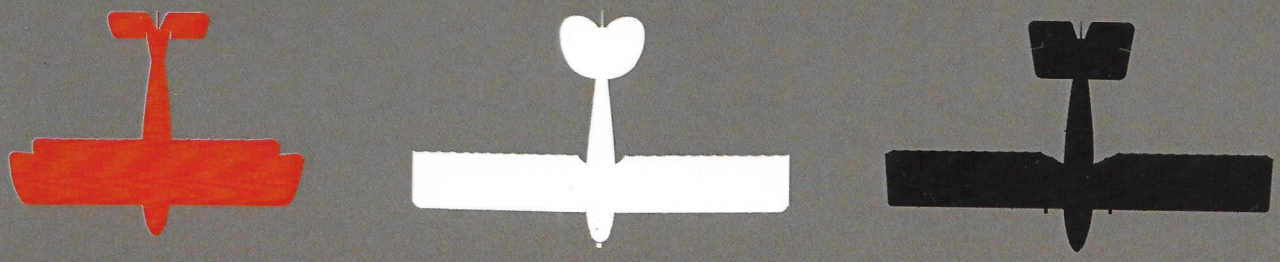

Aviatik Aircraft of WWI

A Centennial Perspective on Great War Airplanes

Jack Herris

Great War Aviation Centennial Series #10

This book is dedicated to long-time friend and colleague Aaron Weaver, whose dynamic cover designs and digital editing of these old photographs are so essential to this series.

Acknowledgements

My sincere thanks to Colin Owers, Aaron Weaver, Reinhard Zankl, Lance Bronnenkant, Dave Hooper, and Richard Andrews for photographs, and Greg VanWyngarden for photographs and helpful suggestions and material. Thanks to Bob Pearson for his color profiles, Aaron Weaver for his digital photo editing and cover design, Colin Owers (who wants to acknowledge the research of G.W. Davis V for his drawings) and Martin Digmayer for scale drawings, and the Deutsches Technikmuseum in Berlin and the Museum of Flight in Seattle for photographs. Thanks also to Reinhard Zankl for his invaluable help with serial numbers. Any errors are my responsibility.

I especially want to thank Reinhard Zankl for his photos and information on the little-known Aviatik F, and for Aaron Weaver's translation of Reinhard's Aviatik F article from *Propellerblatt*. All information on the Aviatik F is from Reinhard's article.

Cover image edited by Aaron Weaver.

Color aircraft profiles © Bob Pearson. Purchase his CD of WWI aircraft profiles for $50 US/Canadian, 40 €, or £30, airmail postage included, via Paypal to Bob at: **bpearson@kaien.net**

For our aviation books in print and electronic format, please see our website at: **www.aeronautbooks.com**. I am looking for photographs of the less well-known German aircraft of WWI to illustrate future titles. To help with photographs please contact me at **jherris@verizon.net**.

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ISBN: **978-1-935881-22-3**
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Text © 2014 Jack Herris
Design and layout: Jack Herris
Color Profiles: Bob Pearson
Cover design: Aaron Weaver
Digital photo editing: Aaron Weaver & Jack Herris

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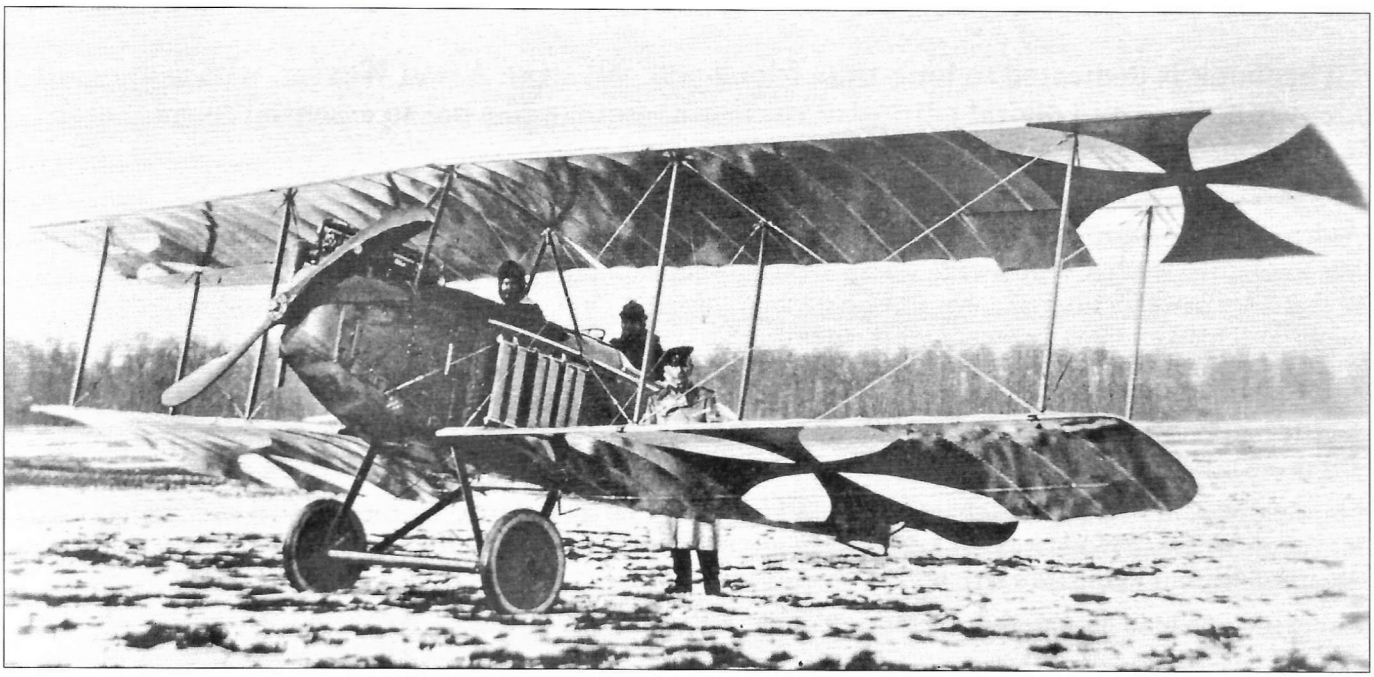
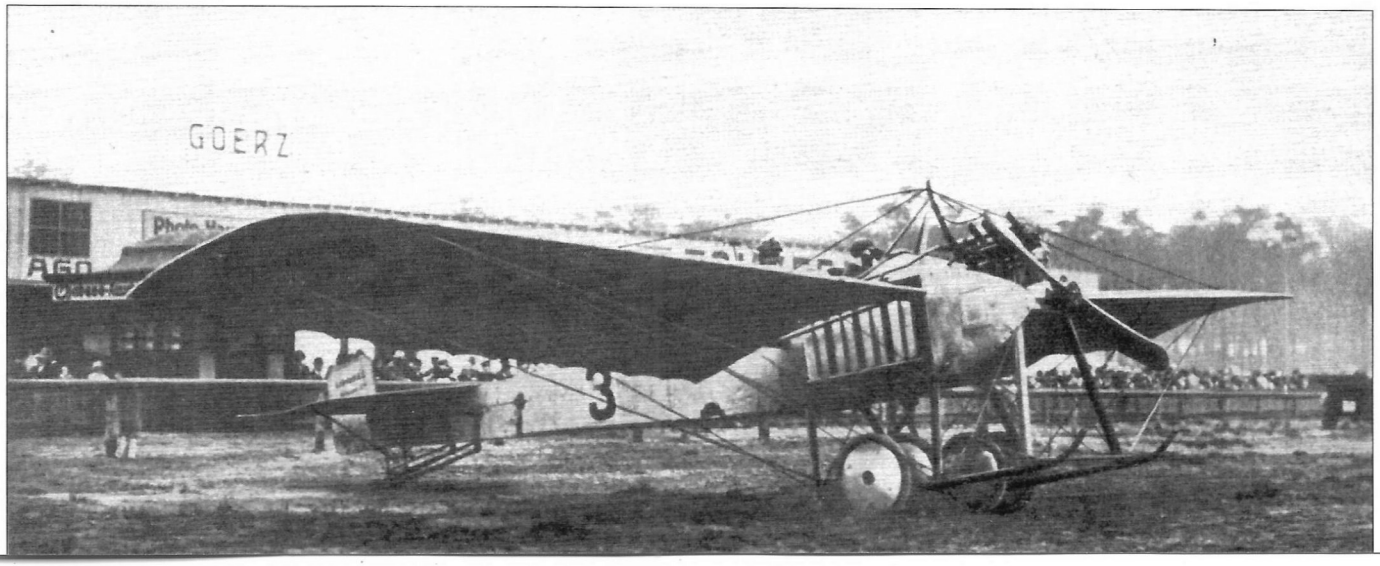


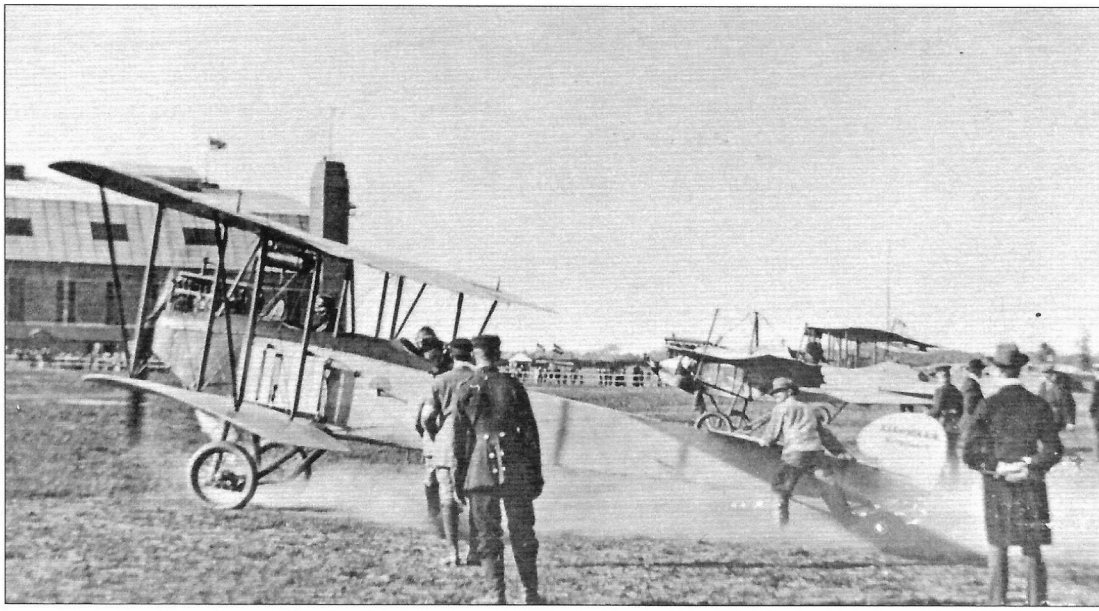
Above: This photo of an Aviatik B model P15 was distributed as a Sanke card.

Below: A pre-war Aviatik monoplane.



Aviatik Introduction

Right: An Aviatik B-type, company designation P13, is in the foreground of this pre-war image of a flying competition. Aviatik soon earned a reputation for robust, reliable biplanes and 101 Aviatiks were ordered in 1913, a substantial quantity for this early period before the war.



The Automobil und Aviatik AG located in Mühlhausen-Burzweiler (now Mulhouse-Burzweiler, Alsace, France) was established on 10 December 1909 by combining the Fahrrad und Automobilfabrik with Aviatik GmbH. The new company began production by building Farman pusher biplanes and Hanriot monoplanes under license. In 1910 Aviatik delivered a biplane to the German *Fliegertruppe*, and in 1911 the *Fliegertruppe* ordered three modified Farman biplanes from Aviatik, followed by two monoplanes and nine biplanes ordered in 1912.

To achieve more orders and eliminate license production fees, Aviatik determined to design and build its own designs. *Diplom-Ingenieur* Robert Wild, Aviatik chief engineer, responded by designing a large, robust biplane that became the prototype for Aviatik's B-type aircraft. With this new design to offer, which had a good payload, a total of 101 aircraft were ordered from Aviatik in 1913.

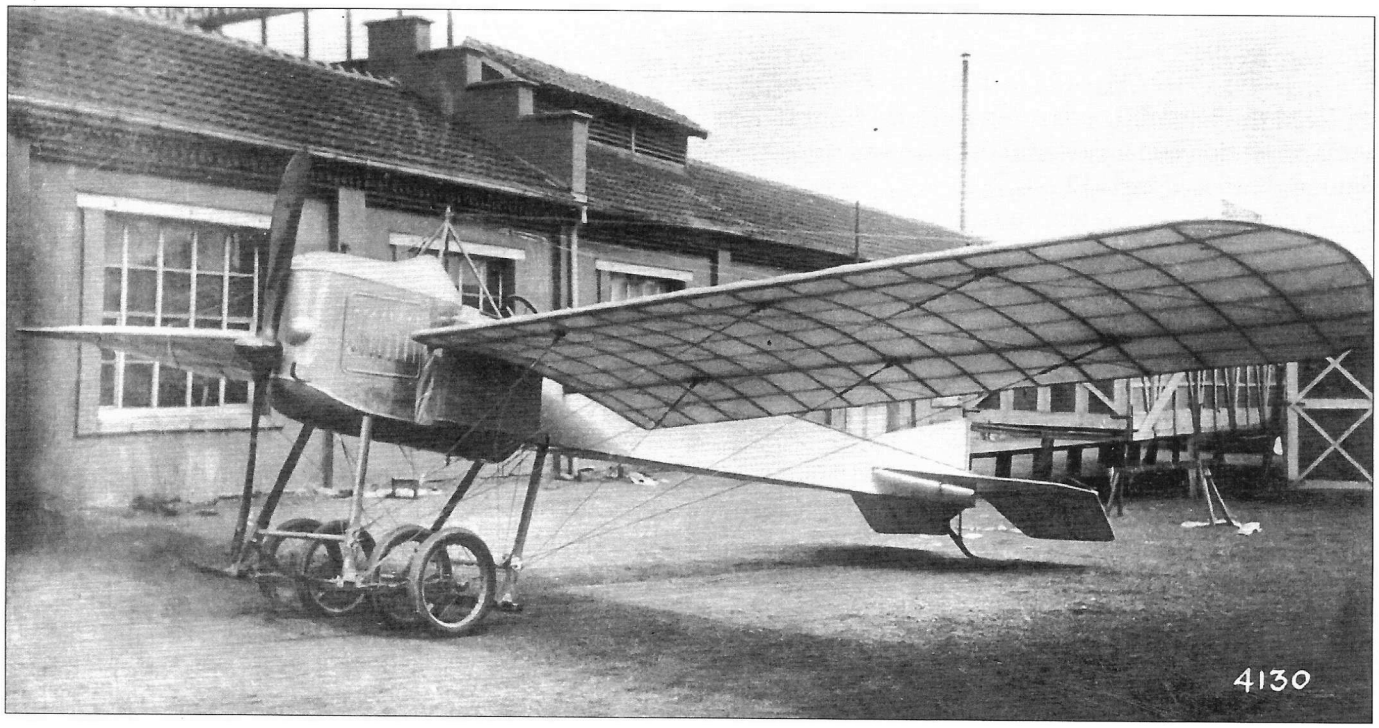
Aviatik pilots Viktor Stoeffler and Carl Ingold established several pre-war distance and duration records that gave the Aviatik biplanes a solid reputation for reliability and performance. As a result, the Wild-designed Aviatik B and C-types were built in many varieties and were purchased in substantial numbers from 1913 through 1917. Aviatik biplanes were also manufactured under license by Weiser & Sohn in Vienna, the Officine Moncenisio and Stablimenti Farina (SAML) in Italy, and the Anatra company in Odessa.[1]

The Aviatik factory was close to the French border, making it vulnerable in case of war. However, Aviatik was prepared, and the factory was quickly relocated on mobilization day. With the French army dangerously close, the machine-tool park and production inventory was evacuated to Freiburg in an overnight transport comprising 50 freight wagons. According to Siegert's diaries, the evacuation took place on the first mobilization day, August 1 1914. Unfortunately, during the First Battle of Miühlhausen on August 12, Aviatik director Georg Chatel and his wife were killed by a stray artillery shell, proving the relocation necessary. Apparently production was hardly affected by the move. However, because Freiburg was within the range of Allied bombers, Aviatik was again forced to move, this time to Leipzig-Heiterblick, where production began in June 1916 in buildings designed and erected specifically for the Aviatik aircraft factory.

In July 1914, Aviatik formed a joint venture with A. Weiser und Sohn AG of Vienna. The new company was known as the Oesterreichisch-Ungarische Flugzeugfabrik "Aviatik" GmbH and was intended to supply aircraft to the Austro-Hungarian *Luftfahrtruppe*. The story of that venture and its aircraft are related in detail in *Austro-Hungarian Army Aircraft of World War One* by Peter M. Grosz, George Haddow, and Peter Schiemer and will not be repeated here.

Aviatik was a major aircraft manufacturer during the war and in addition to its own designs built other types under license.

Above: Aviatik hangar at Darmstadt with Aviatik P13 B-types.



Above: Pre-war Aviatik monoplane outside the Aviatik factory. The design is not quite a *Taube*. Aviatik made its reputation before the war with sturdy biplanes and all Aviatik wartime designs that were built were single-engine biplanes.

Frontbeststand Inventory of Aviatik Aircraft at the Front

		1914			1915						1916						1917						1918			
Manufacturer and Type		31 Aug	31 Oct	31 Dec	28 Feb	30 Apr	30 Jun	31 Aug	31 Oct	31 Dec	28 Feb	30 Apr	30 Jun	31 Aug	31 Oct	31 Dec	28 Feb	30 Apr	30 Jun	31 Aug	31 Oct	31 Dec	28 Feb	30 Apr	30 Jun	31 Aug
Aviatik	B/12	1																								
	B/13	34	24	13	4	4	2	1	1			1	1													
	B.				17	23																				
	B.I	12	43	51	28	53	48	35	20	11		5														
	B.II						1	29	38	32	18	7	2			1										
	B.III										2															
Aviatik	C.I					1	8	9	35	81	161	150	219	183	177	110	63	27	12	1	1					
	C.II								3		7	6				22	62	50	34	4	1					
	C.III													26	47	22	20	6	2							
	C.V																		1							

Above: Aviatik B- and C-types were prominent at the front until the middle of 1917, and as a result Aviatik had a strong company reputation. After newer Aviatik designs failed to achieve production, Aviatik, with its extensive production facilities, produced other company's designs under license.

Aviatik C-Type Specifications

	Aviatik C.I	Aviatik C.II	Aviatik C.III
Engine:	150 hp Benz Bz.III 160 hp Mercedes D.III	200 hp Benz IV	160 hp Mercedes D.III
Span, Upper:	12.5 m (41.0 ft.)	11.71 m (38.4 ft.)	11.8 m (38.7 ft.)
Span, Lower:	10.75 m (35.3 ft.)	11.71 m (38.4 ft.)	10.2 m (33.5 ft.)
Chord, Upper:	1.88 m (6.17 ft.)	1.70 m (5.58 ft.)	1.70 m (5.58 ft.)
Chord, Lower:	1.88 m (6.17 ft.)	1.70 m (5.58 ft.)	1.70 m (5.58 ft.)
Length:	7.91 m (25.95 ft.)	6.95 m (22.8 ft.)	8.08 m (26.5 ft.)
Track:	1.94 m (6.36 ft.)	—	1.95 m (6.40 ft.)
Gap:	2.0 m (6.56 ft.)	1.80 m (5.91 ft.)	1.80 m (5.91 ft.)
Wing Area:	43 sq. m. (463 sq. ft.)	37.9 sq. m. (408 sq. ft.)	35.0 sq. m. (377 sq. ft.)
Empty Weight:	745 kg. (1,642 lb.)	916 kg. (2,019 lb.)	895 kg. (1,973 lb.)
Loaded Weight:	1,245 kg. (2,745 lb.)	1,509 kg. (3,327 lb.)	1,220 kg. (2,690 lb.)
Maximum Speed:	120 km/h (74.6 mph)	155 km/h (96.3 mph)	155 km/h (96.3 mph)
Cruise Speed:	—	—	140 km/h (87 mph)
Climb to 1,000 m:	5 minutes	—	6.5 minutes
Climb to 2,000 m:	16 minutes	—	16 minutes
Climb to 3,000 m:	33 minutes	—	31 minutes
Climb to 4,500 m:	—	—	55 minutes
Service Ceiling:	—	—	4,500 m
Duration:	3 hours	—	Range: 480 km
Armament:	1–2 flexible machine guns	1–2 flexible machine guns	1–2 flexible machine guns
Note: The C.III had 1 degree of dihedral on both upper and lower wings.			

Above: The specifications of the production Aviatik C-types are given in one table for ease of comparison.

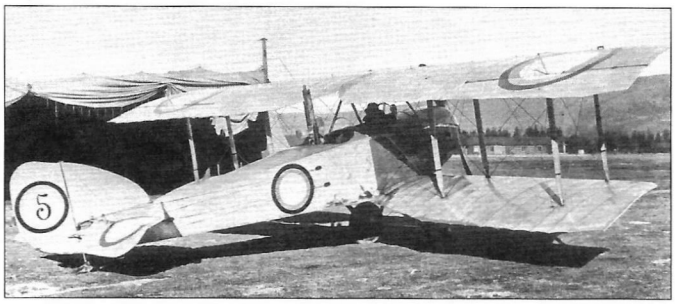
Aviatik C.I Production Orders		
Date	**Qty**	**Serial Numbers**
Unknown	3	C.28–30/15
April 1915	6	C.68–73/15
May 1915	12	C.178–189/15
June 1915	18	C.375–392/15
Sep.1915	36	C.814–849/15
Oct.1915	50	C.1400–1449/15
Nov.1915	75	C.3500–3574/15
Dec.1915	50	C.4463–4512/15
Feb.1916	25	C.212–236/16
March 1916	25	C.815–839/16
April 1916	50	C.1700–1749/16
April 1916	1	C.I750/16 – Aviatik C.Ia
April 1917	50	C.4250–4299/17 (Note 1)
April 1917	1	Note 2
Aviatik C.I(Han)		
Sep. 1915	24	C.1951–1974/15
March 1916	50	C.600–649/16
June 1916	24	C.2100–2123/16
July 1916	24	C.2764–2787/16
Sep. 1916	24	C.3367–3390/16
Total Ordered	**548**	

Note 1: Ordered as trainers, pilot in front.
Note 2: According to Aviatik records, one additional C.I prototype trainer was delivered

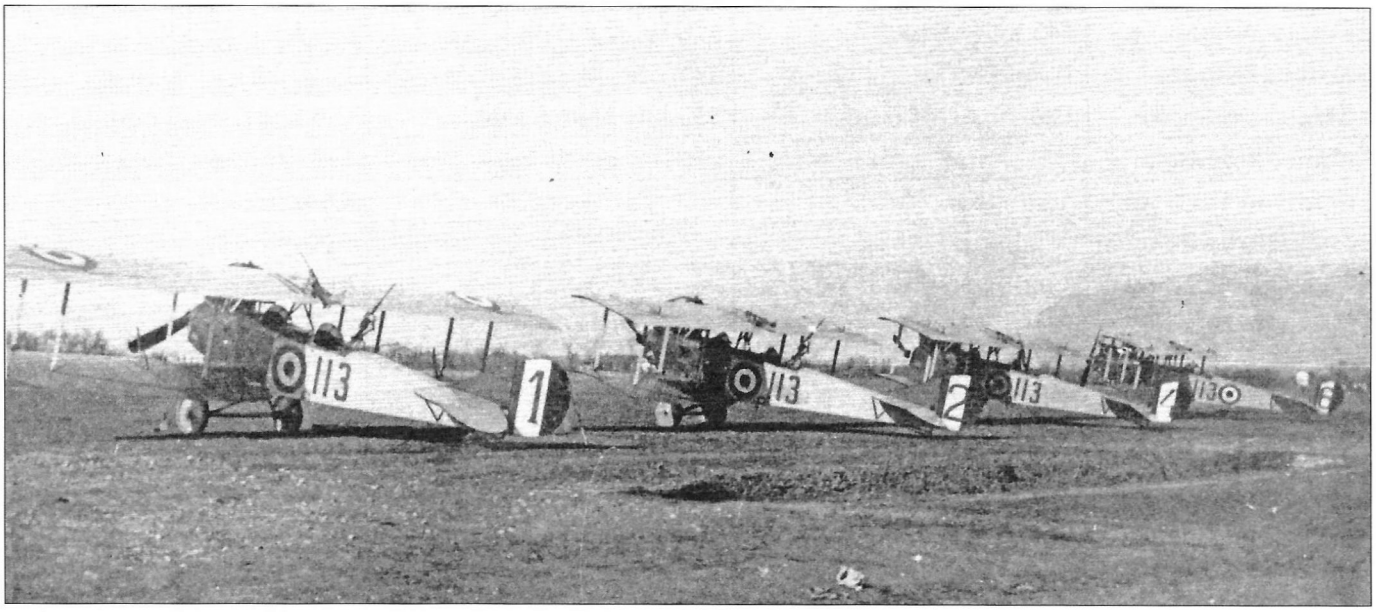
Aviatik C.II Production Orders		
Date	**Qty**	**Serial Numbers**
Unknown	1	Prototype
July 1916	75	C.3075–3149/16
Total Ordered	76	

Aviatik C.III Production Orders		
Date	**Qty**	**Serial Numbers**
April 1916	25	C.1750–1774/16 (Note 1)
July 1916	25	C.3075–3149/16
August 1917	200	C.12201–12399/17 (Note 2)
Total Ordered	**250**	

Note 1: Changed C.I order (Av C.Ia C.1750/16 = C.III prototype)
Note 2: Ordered as trainers, pilot in front



Above: The Russian Anatra D was based on the Aviatik B-type and was produced in significant numbers. Unlike Aviatik designs it was powered by a rotary engine.



Above: Aviatik designs had an impact far beyond Germany. Above are S.A.M.L.2 aircraft of Italy's 113ª *Squadriglia*; the S.A.M.L. 2, one of the more reliable and successful Italian two-seaters, was developed from the Aviatik B-type design.

Austro-Hungarian Aviatik B.II 32.12 assigned to *Flek* 8.

Austro-Hungarian Aviatik B.II Av-24 *ANNIE* assigned to *Flik* 3.

Austro-Hungarian Aviatik B.II Av-18 assigned to *Flik* 8.

Italian SAML 2 S.2542 assigned to *115ª Squadriglia*.

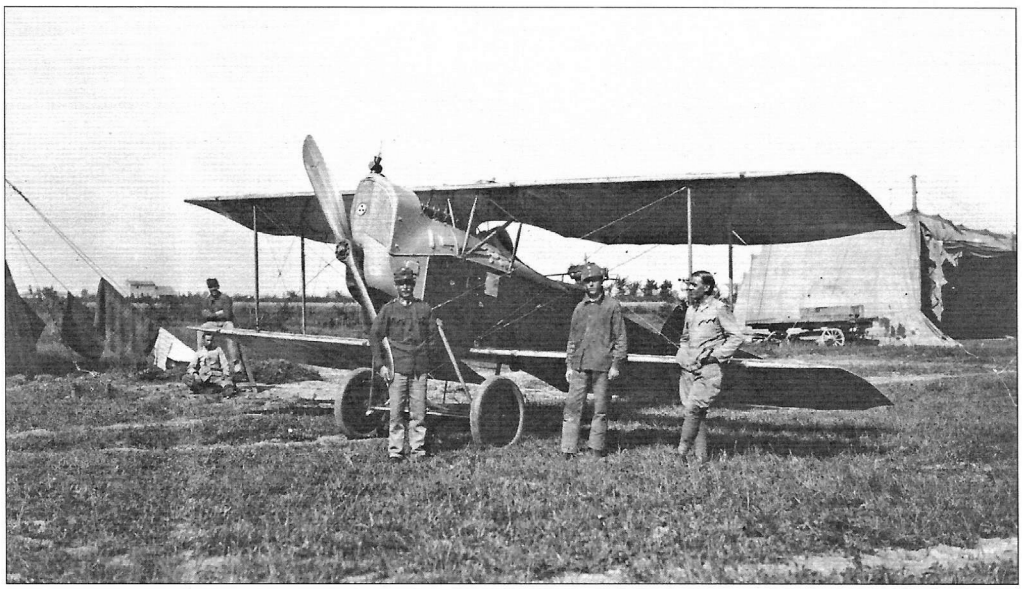
Austro-Hungarian Aviatik (Berg) C.I 214.07 assigned to *Flik* 22.

Austro-Hungarian Aviatik (Berg) C.I 37.46 assigned to *Flik* 46.

Austro-Hungarian Aviatik (Berg) D.I 138.99 assigned to *Flik* 42.

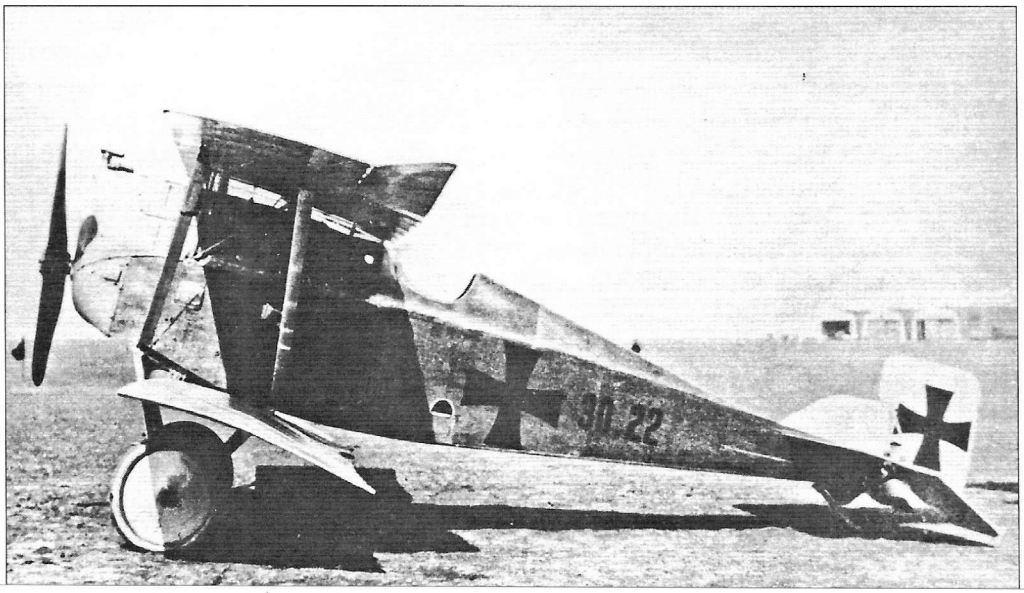
Austro-Hungarian Aviatik (Berg) D.I *MIZZI* assigned to *Flik* 74.

Right: The Austro-Hungarian branch of Aviatik initially built German Aviatik B-type designs but after hiring talented designer *Dr.* Julius Berg developed its own series of successful designs, including fighters, reconnaissance aircraft, and even multi-engine bombers. The Aviatik (Berg) D.I, sometimes called the Berg D.I to distinguish it from the completely unrelated Aviatik D.I (a license-built Halberstadt D.II) is shown at right. The Aviatik (Berg) D.I was built under license by five other companies and 677 were accepted.



Left: The Austro-Hungarian branch of Aviatik built the Aviatik (Berg) C.I, sometimes called the Berg C.I to distinguish it from the completely unrelated Aviatik C.I, is at left. Based on a slightly enlarged airframe compared to the Aviatik (Berg) D.I, the Aviatik (Berg) C.I was a fast, two-seat reconnaissance airplane. Some were converted to single-seat photo-reconnaissance airplanes that needed no escort due to their speed.

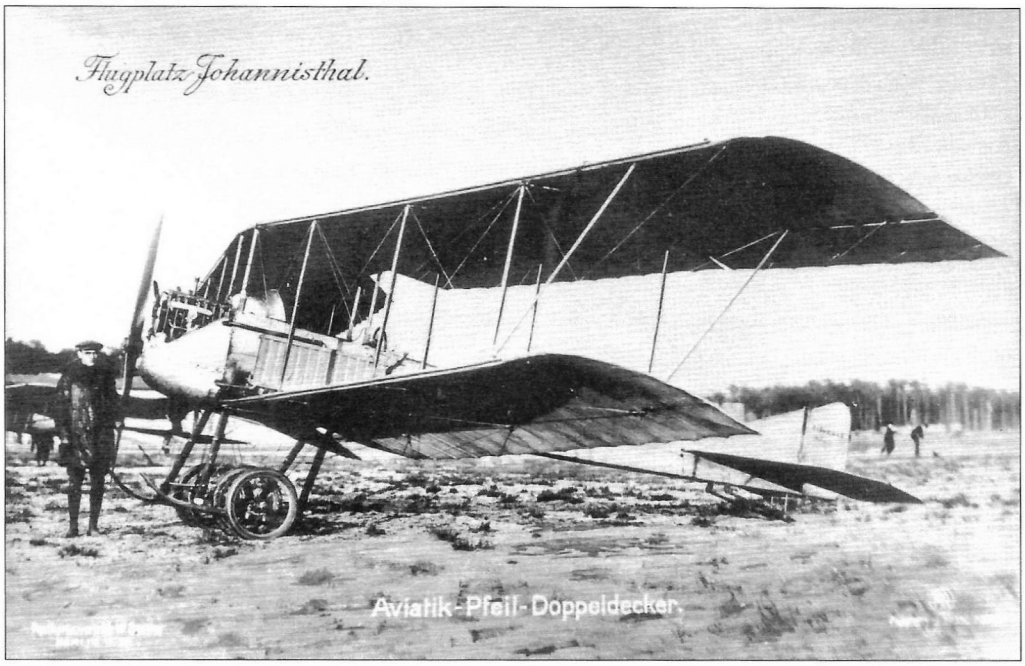
Right: The Austro-Hungarian Aviatik (Berg) D.II prototype, often called the Berg D.II to distinguish it from the completely unrelated Aviatik D.II, is at right. Prototype 30.22 had a different fin and rudder; subsequent Berg D.II fighters had the same tail design as the D.I and C.I. Only a few D.II fighters were built for evaluation.



Aviatik Two-Seat Aircraft

Based on the sturdy biplanes designed by Robert Wild, Aviatik was a major supplier of aircraft to the German *Fliegertruppe* before the start of WWI, and the name "Aviatik" was well-known to both German and Allied airmen in the early years of the war. Albatros, LVG, and Aviatik together supplied the majority of B-type and early C-type aircraft until late 1916.

Aviatik B-Types



Right: Pre-war Aviatik P13 B-type was the first of a series of successful Aviatik two-seater designs.

Aviatik B – Type P13

The Aviatik P13 (the internal company designation) was first revealed to the public in May 1912. The P13 was a large, single-engine biplane of conventional wood, fabric, and wire construction fitted with either 3½-bay (15 m span) or 4-bay (16 m span) wings. Engines used included the 85 hp Argus As.0, 100 hp Argus As.I, and 100 hp Mercedes D.I. These aircraft were used for training before the war and a few saw operational service early in the war.

Aviatik B – Type P14

Aviatik's next B-type design was a slightly smaller, more refined design, the P14 with 2½-bay wings with 14.5 m span. Again the aircraft were of conventional construction and powered by a variety of 85–100 hp Argus, Benz, and Mercedes engines.

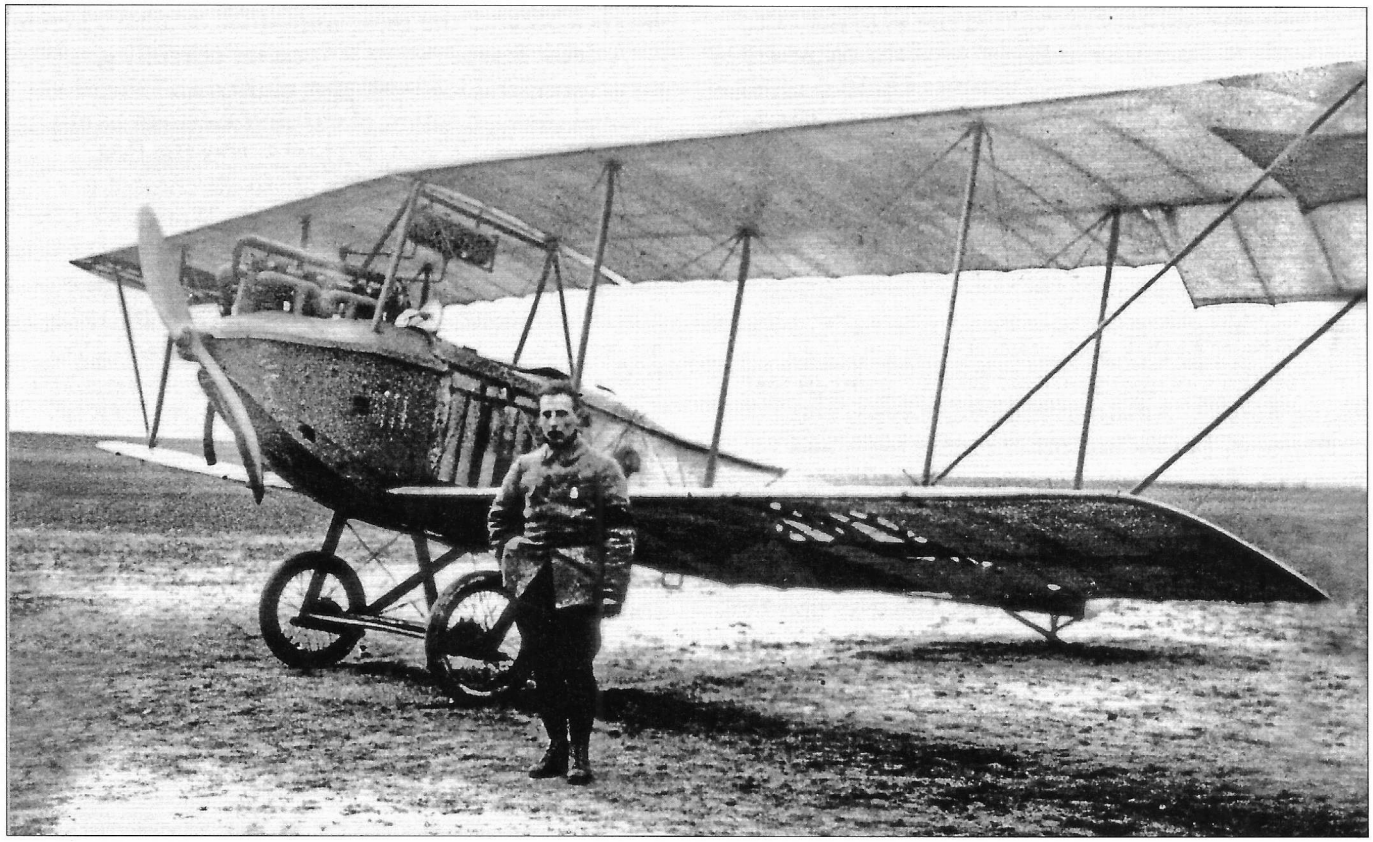
Aviatik B – Type P15

Aviatik's next B-type design was a further refined design, the P15 with 2-bay wings and a fixed fin. Three-bay P15 aircraft were also built to increase the bomb load carried by the aircraft. Construction was conventional and engines used included the 100 hp Argus As.I and 100 hp Mercedes D.I.

Aviatik B.I & B.II

Until mid-1915 there were many undocumented variations in the aircraft built and the type designations did not address these. On August 8, 1915 *Idflieg* published an expanded designation system to clarify some of the details of these aircraft. In the new scheme *Idflieg* mentioned the P15a and P15b, but details of these versions are unknown because if either *Idflieg* or Aviatik described the differences, the documentation has been lost. Therefore it is not possible to identify the Aviatik B-type variants in more detail. Furthermore, existing aircraft were retroactively designated Aviatik B.I and B.II in addition to aircraft built after August 8, 1915.

What is known is that aircraft in the production batch B.1320–1355/15 were two-bay Aviatik B.II



Above: Aviatik P14 B.120/14 became well-photographed and well-known for being shot down on April 1, 1915, by French fighter pilot Jean Navarre for his first of 12 victories. This was also the first victory of Navarre's unit, M.S.12.

Above: Aviatik P14 B.120/14 in the background with the pilots of M.S.12; Navarre is second from left in the front row.

Above: Aviatik P14 B.120/14 with wings removed and Navarre in the cockpit is the center of attention at M.S.12.

aircraft with 120 hp Mercedes D.II engines and were used for bombing. It may be that Aviatik B-type aircraft powered by a 100 hp engine were retroactively designated Aviatik B.I, and those with 120 hp engines were designated Aviatik B.II, but this is supposition not confirmed by documentation.

In addition to German-buit aircraft, 23 Aviatik B.II aircraft powered by 120 hp Daimler engines were built in Austria and a further 49 'improved' B.II aircraft powered by 150 hp Daimler engines were also built in Austria. These aircraft were used at the front and later as trainers.

Aviatik P20 (Schwade)

In May 1914 the Aviatik P20, powered by a 100 hp Oberursel rotary engine, was flown in the *Prinz Heinrich Flug*, and in June the P20 was delivered to the *Fliegertruppe* for evaluation. Although it is

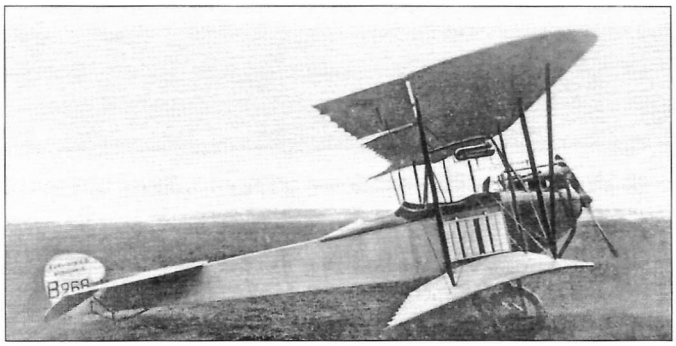
unlikely the military purchased the P20, the Otto Schwade & Company of Erfurt used the Aviatik P20 as the basis for license production of 8–10 training aircraft for the *Fabric-Fliegerschule Erfurt*. The flight school was operated by Schwade, who also owned the aircraft and trained army pilots under contract. These aircraft were built in 1914–1915 and were powered by the 100 hp Schwade *Stahlherz* rotary engine.

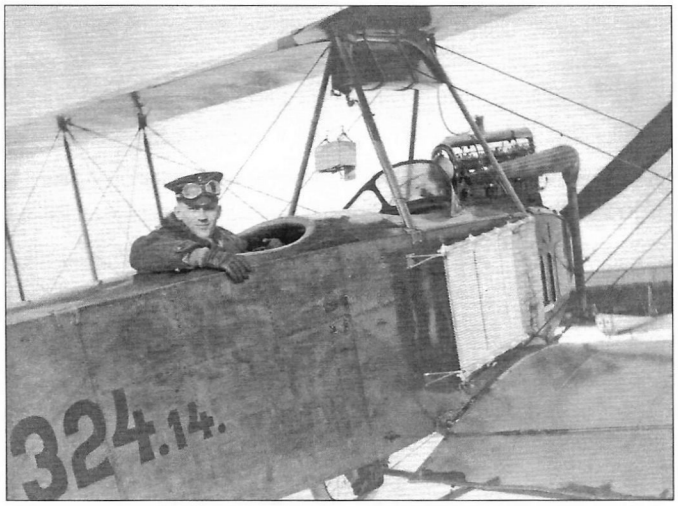
Aviatik B-Types in Combat

In 1914 the German army air service went to war flying Aviatik, Albatros, and LVG B-types and a mélange of *Taubes* and other monoplanes and biplanes. Any aircraft, especially any reliable, robust aircraft, was highly valuable for reconnaissance and light bombing. The rigors of front-line service quickly weeded out types with limited potential like the *Taubes*, and the Aviatik, Albatros, and LVG B-types became the most numerous combat aircraft.

Aviatik B-types were known for reliability, robust structures, and load-carrying ability, and therefore formed the equipment of the first German bombing units. An Aviatik P14, B.114/14, was the first German aircraft downed in air-to-air combat (on October 5, 1914 by a French Voisin V pusher). Late historian Alex Imrie claimed Aviatik B.192a/13 was the first German aircraft armed with a machine gun for offensive purposes, and on April 28, 1915, an Aviatik flown by *Hptm*. Hugo Geyer and *Oblt*. Egbert Kühn of *Feld-Flieger-Abteilung* 48 attacked and downed a Voisin pusher from a formation of three.

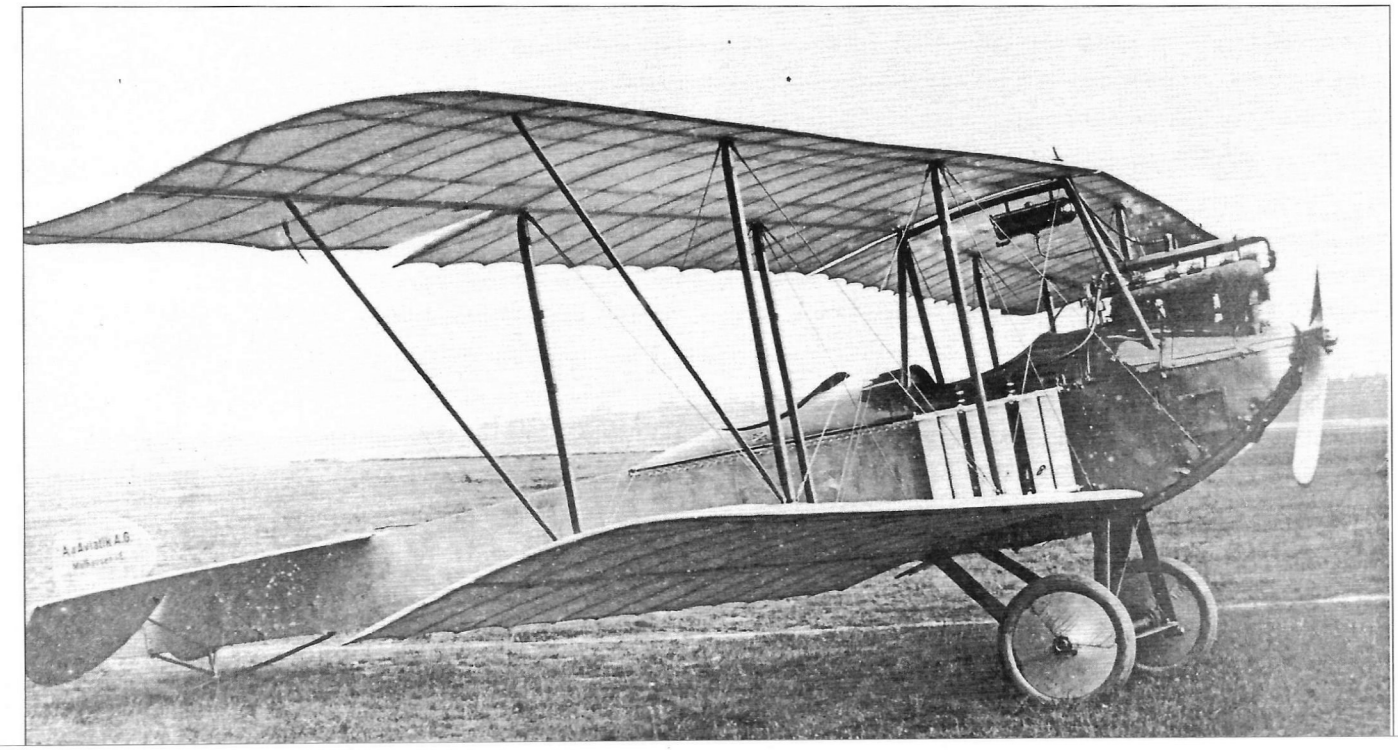
Aviatik B-types served at the front in quantity throughout 1915 and into 1916, although from late 1915 they were gradually replaced by armed C-type aircraft. Surviving B-types were then used for training.



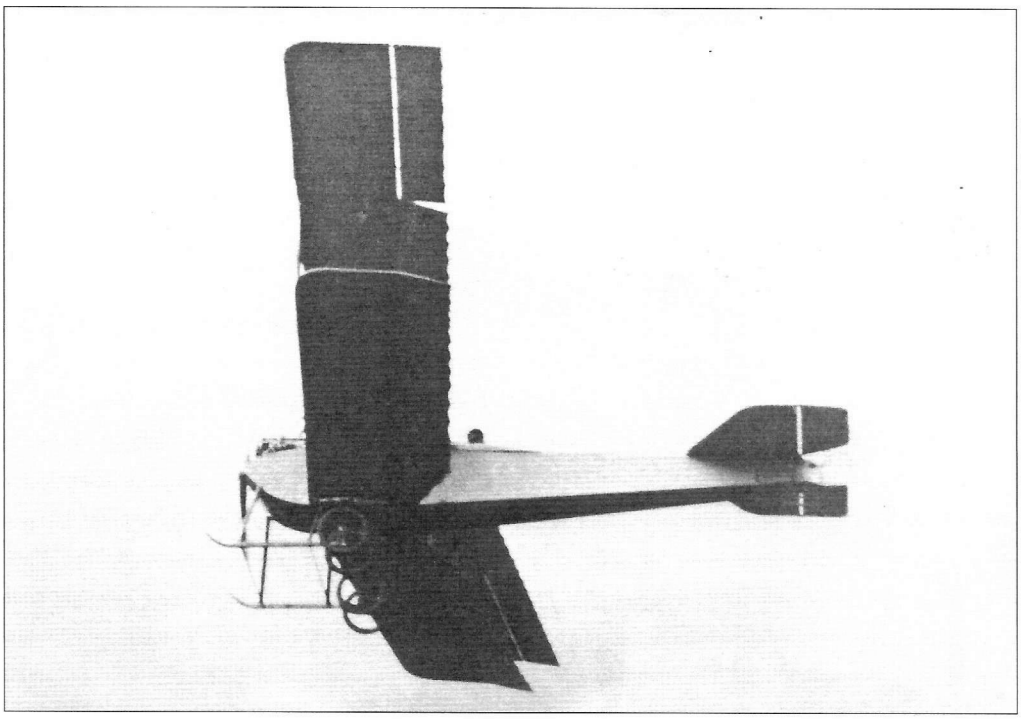


Above & Below: Typical Aviatik P14 B-types.

Right: Closeup of Aviatik P14 B-type 324/14; the pilot sat in the back seat to give the observer the best view forward and downward. The engine was a 100 hp Argus As.I.

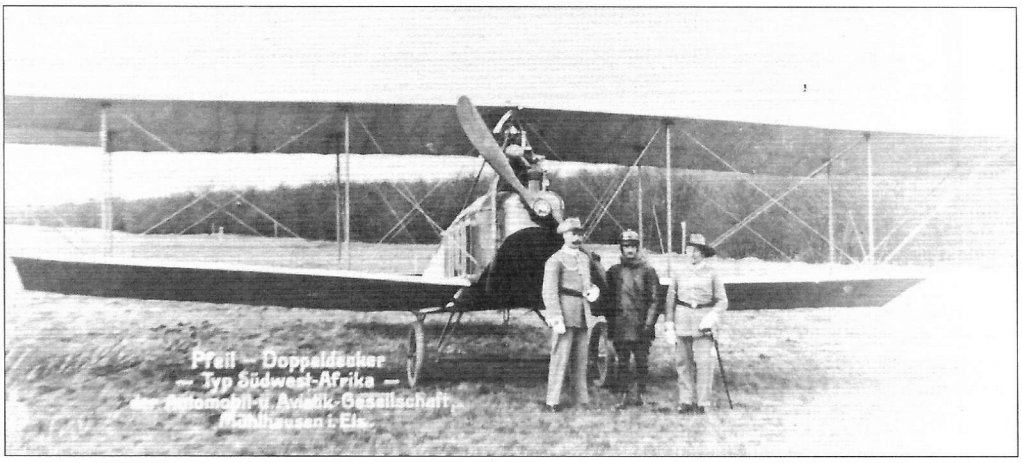


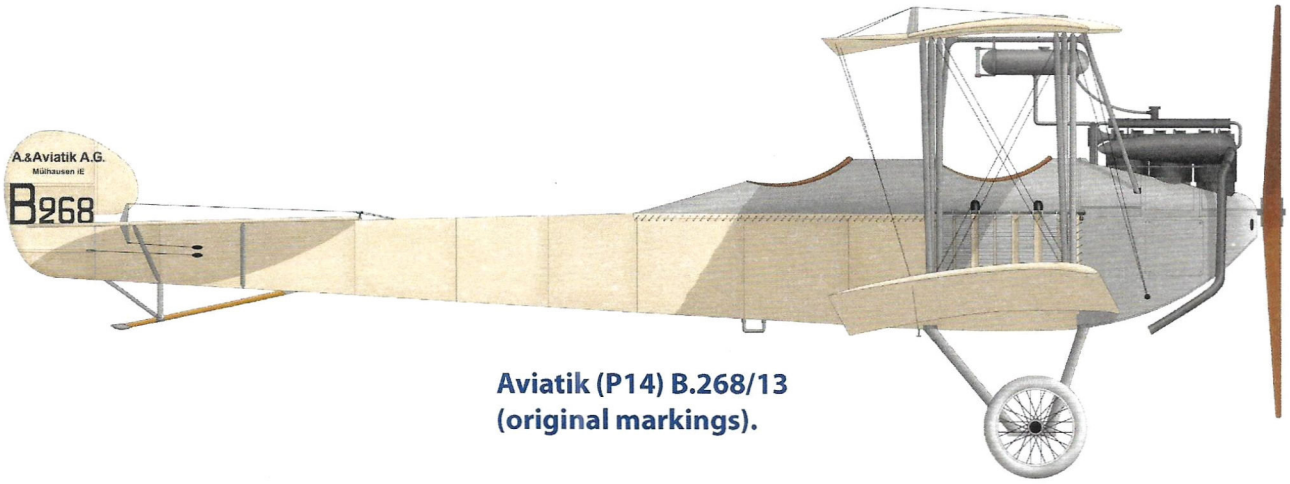
Right: Pre-war Aviatik P13 B-type in flight. The landing gear skids to prevent nose-overs were omitted from later Aviatik designs.



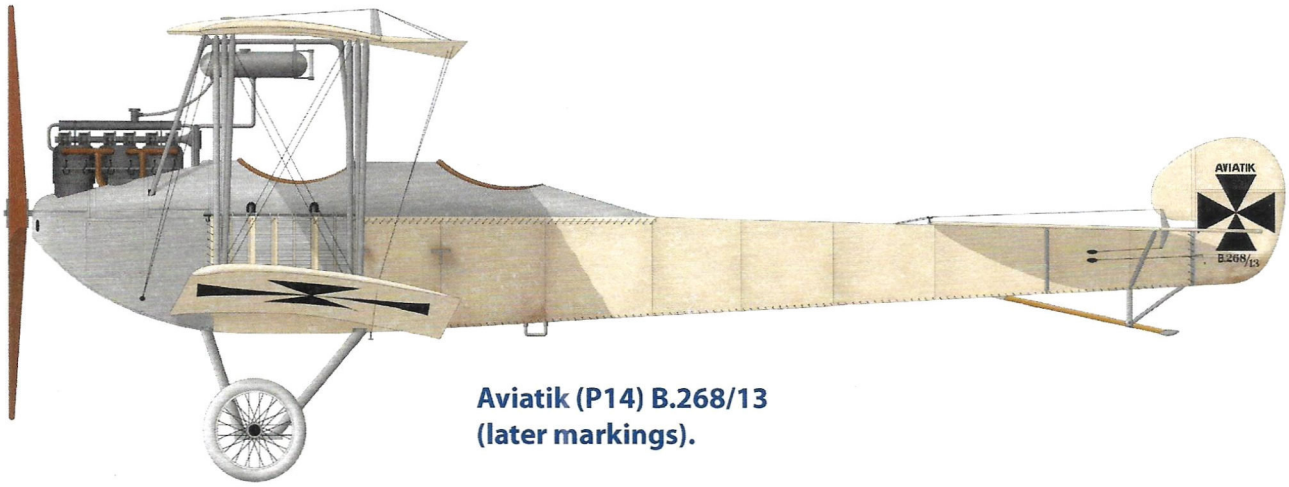
Left: Aviatik P14 B-type B36/14 gets ready for flight. *Lt.* Hermann Göring, later to become notorius for his role in the postwar Nazi party and government, is in the cockpit.

Right: Pre-war Aviatik P14 B-type intended for use in the German colony known as German Southwest Africa. Early German aircraft were often called "*Pfeil*" (Arrow) if their wings were swept back, but this was not a formal designation.

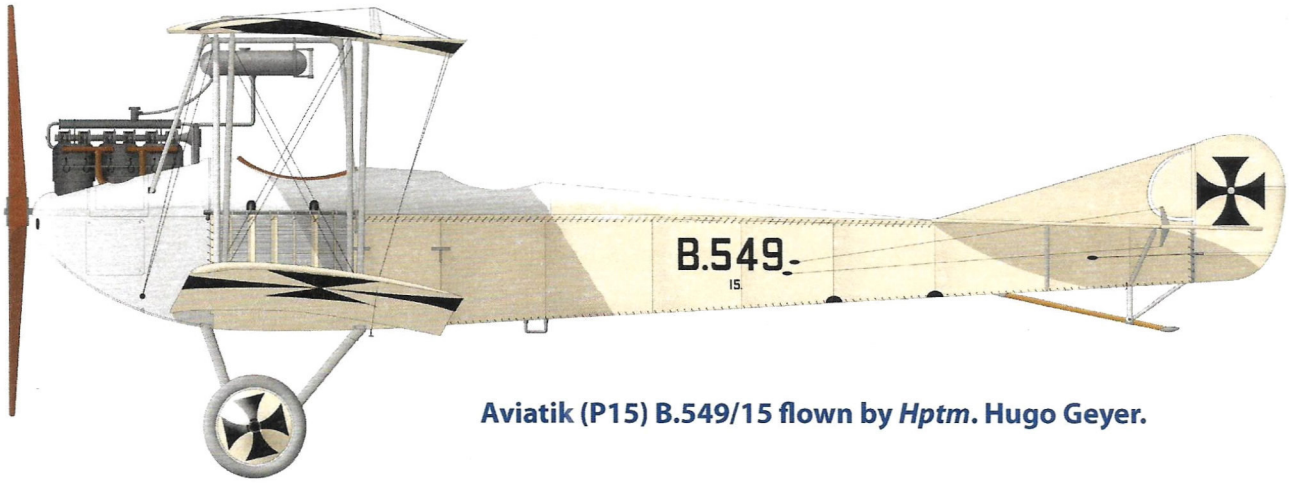




Aviatik (P14) B.268/13 (original markings).



Aviatik (P14) B.268/13 (later markings).



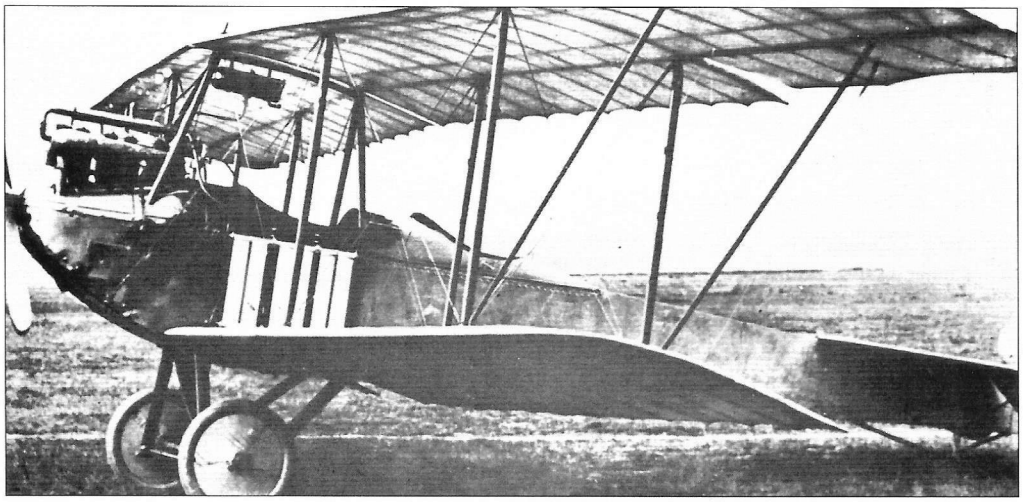
Aviatik (P15) B.549/15 flown by *Hptm*. Hugo Geyer.

Most early German aircraft were in plain finish of clear-doped linen with the early version of the iron cross national insignia. In many cases the insignia was painted directly on the fabric, while in others it was painted on a white background for contrast. Later the white background was reduced to a 50mm white outline.

Above: Another view of Aviatik P14 B.120/14 shot down on April 1, 1915, by French pilot Jean Navarre (at left) and observer Roberts. Unlike most P14 aircraft, it has a fixed fin.

Right: Typical Aviatik P14; like B.120/14 it has 2½ bays of bracing.

Below: Typical Aviatik P14 with 2½ bays of bracing. This aircraft uses a 100 hp Argus As.I engine.

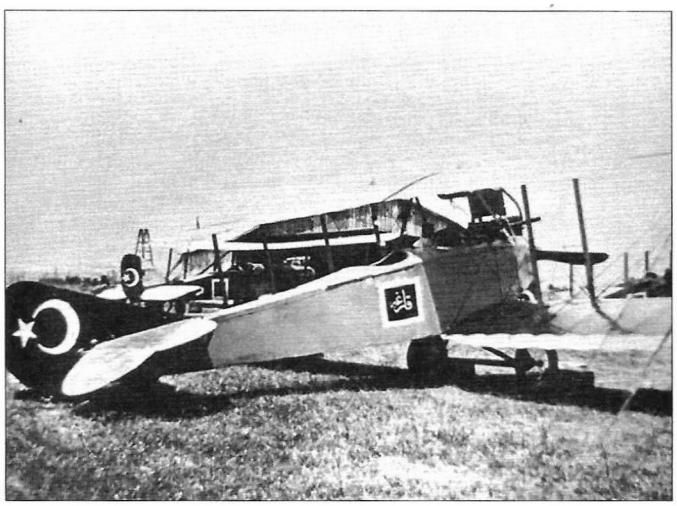


Above: Aviatik P15 B.505/15 is in the foreground of this unit lineup. Behind it is an LVG B-type, an Albatros B-type, and another Aviatik P15 B-type. These three aircraft types formed the core of early German reconnaissance units.

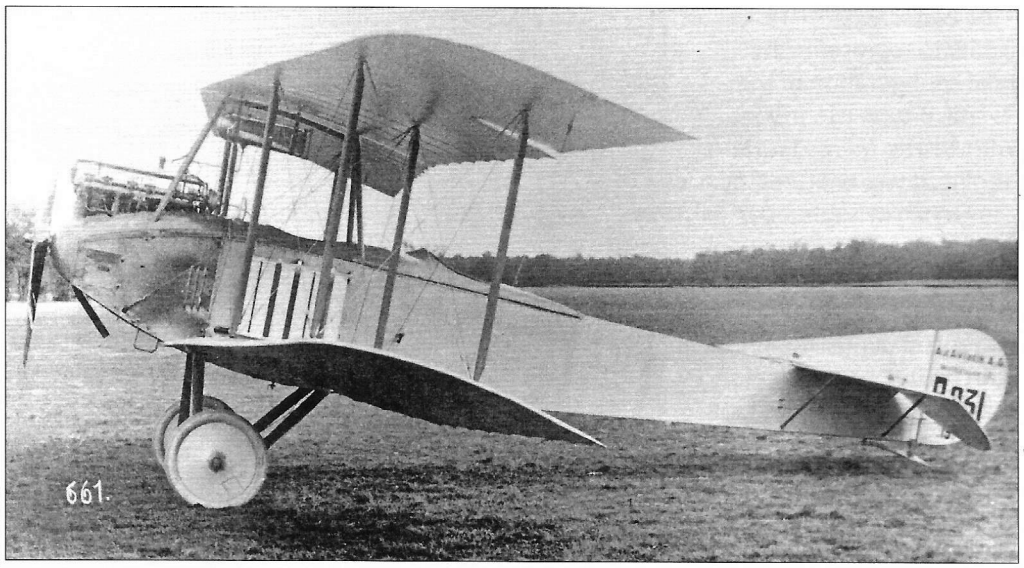
Above: Aviatik P15 B.522/15 is photographed with its abashed pilot after an incident at *Flieger-Ersatz-Abteilung* 2.

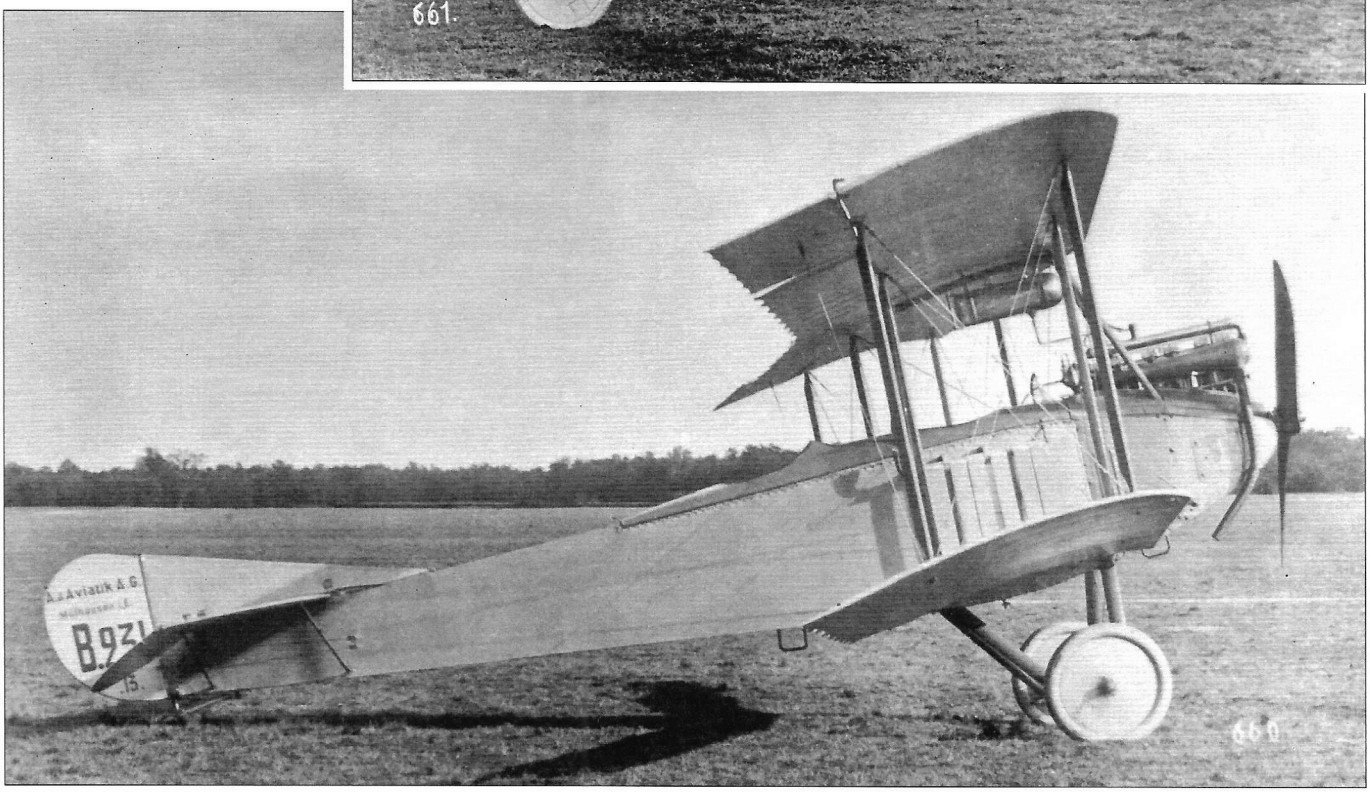
Right: Aviatik P15 B.279/13 after a serious head stand.

Below: Aviatik P15 B-type in Turkish service.



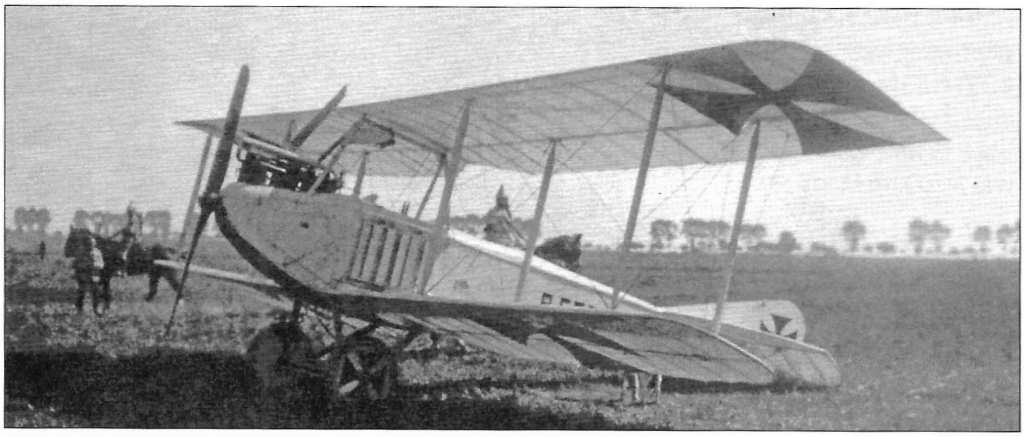
Right & Below: Factory photographs of Aviatik B.231/13 show the refined lines, including fixed fin, of the P15 model. The engine was a 100 hp Mercedes D.I.

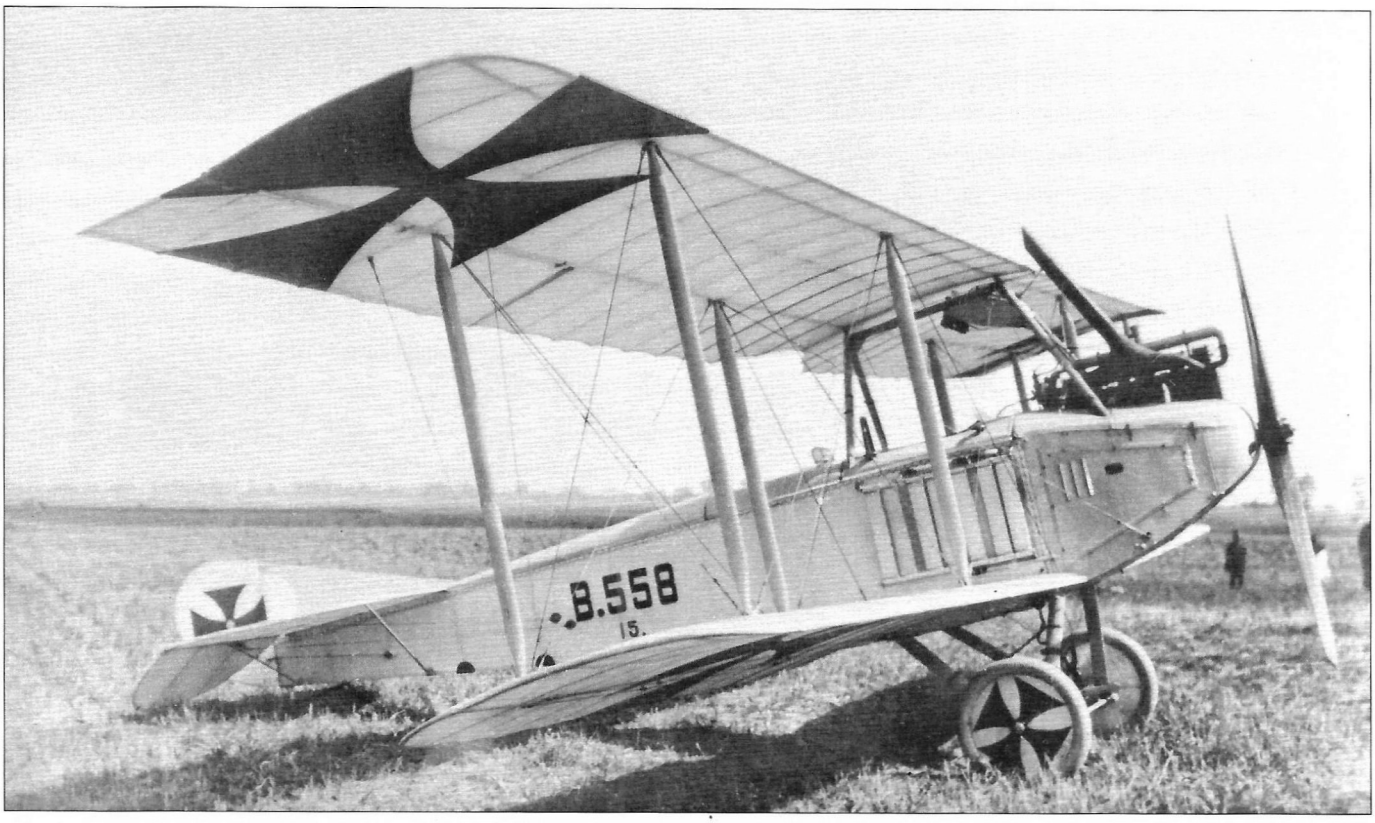


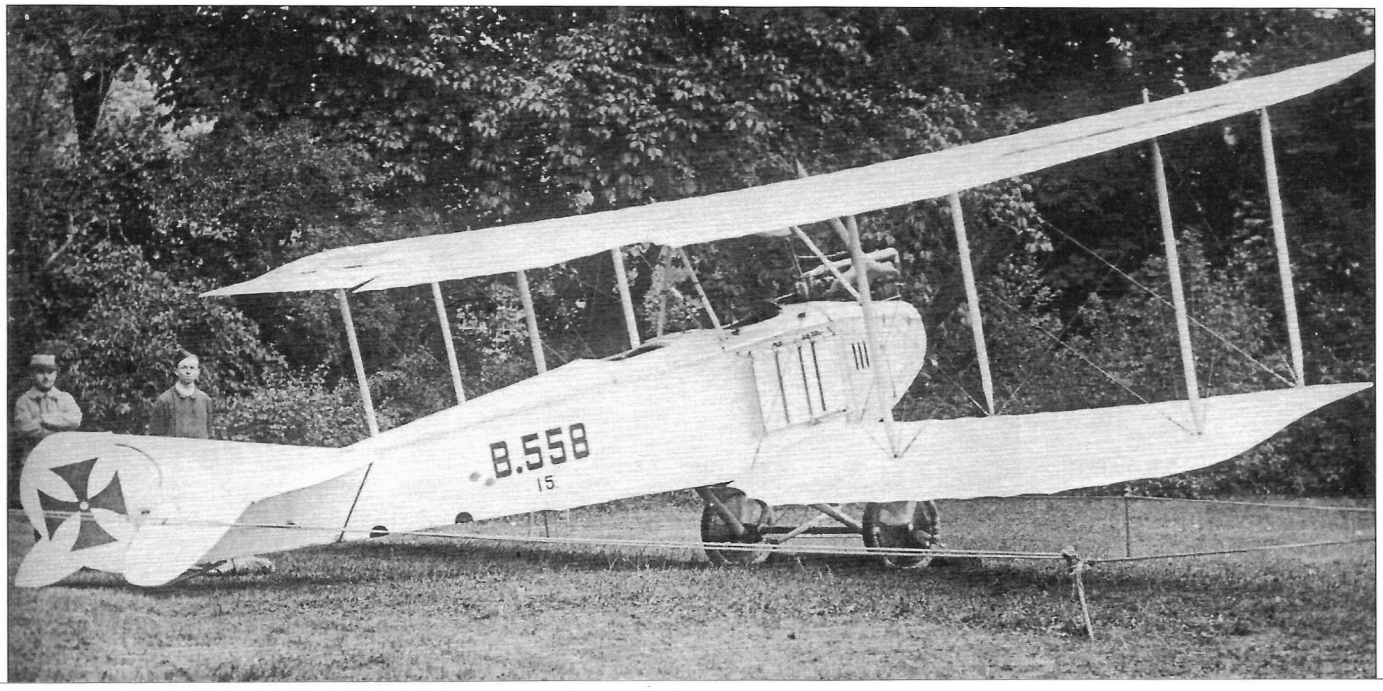


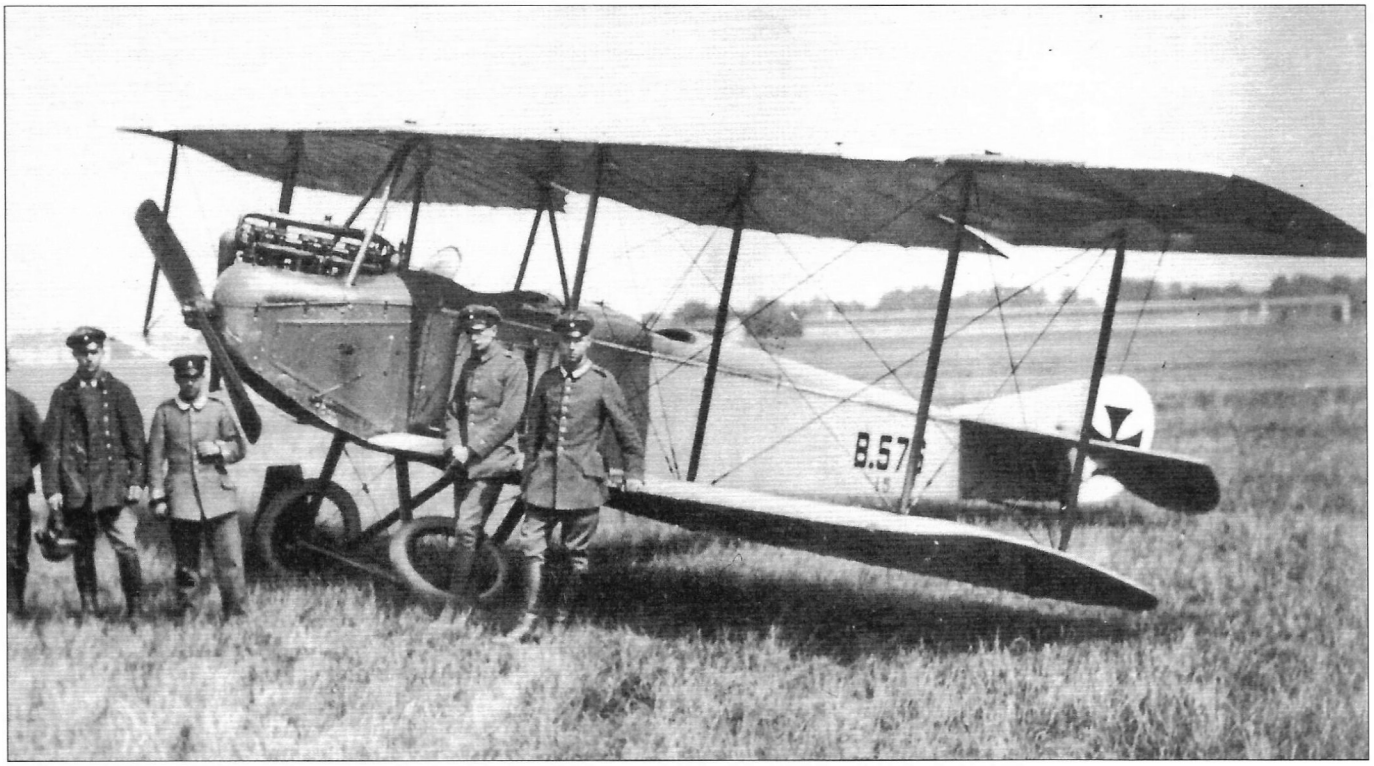
Right: Aviatik P15 B.491/15 is probably on training duty in Germany.

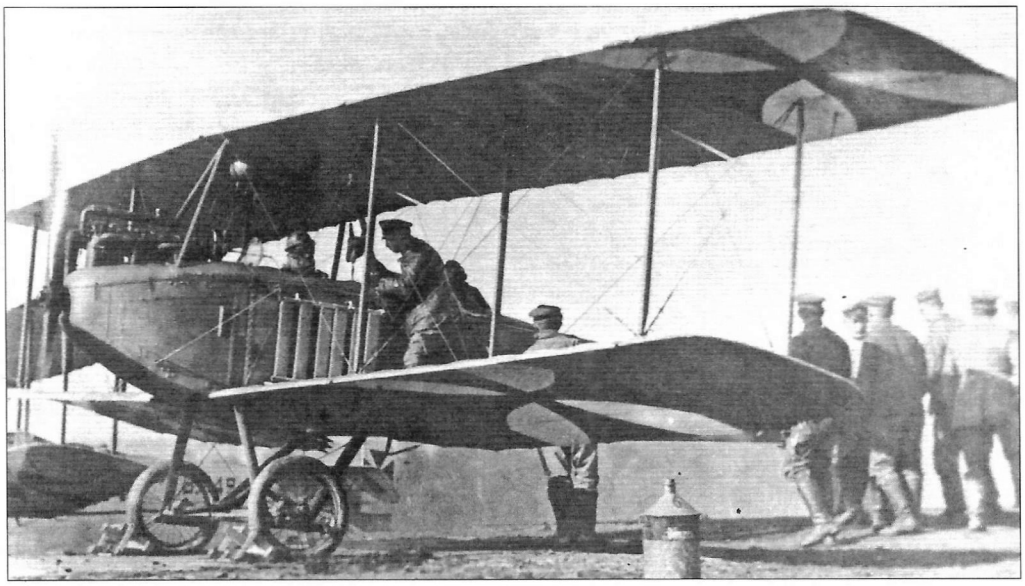
This Page: Aviatik P15 B.558/15 represents the final configuration of the Aviatik B-type P15 model with 120 hp Mercedes D.II engine. It was captured by the French in September 1915 in excellent condition and photographed for posterity. B.558/15 wears its factory markings and finish with no unit or personal markings.





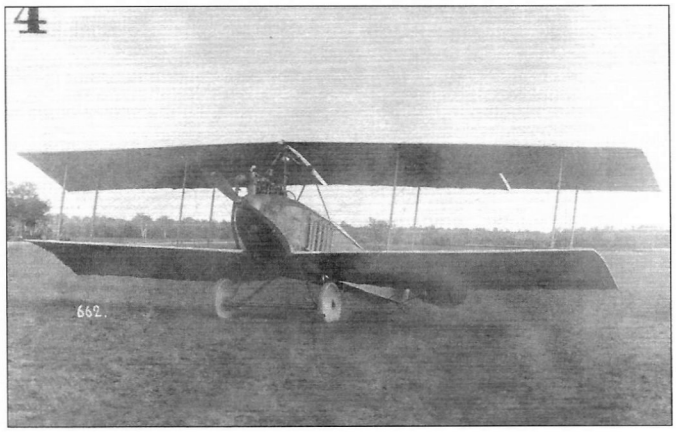


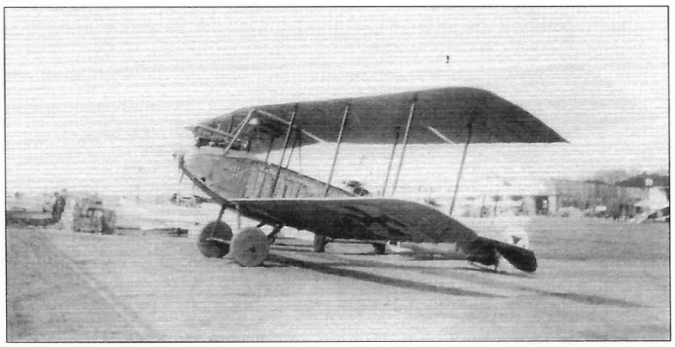




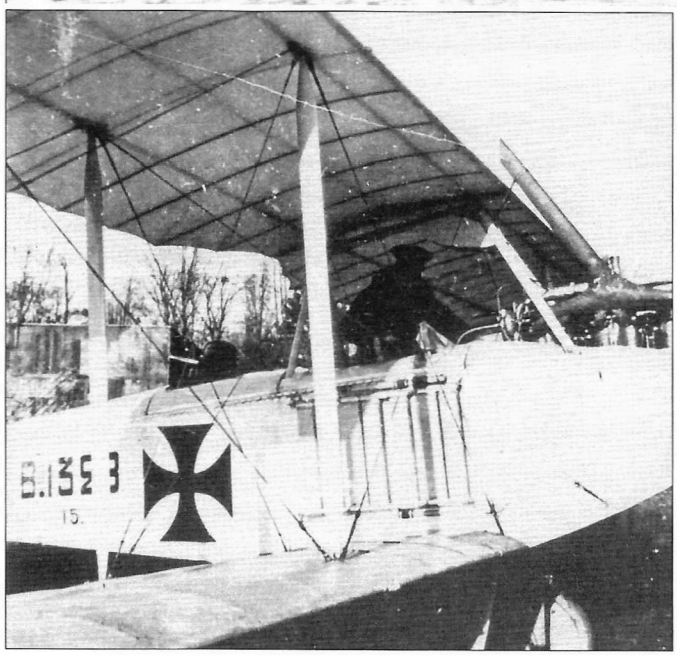
Above: Aviatik P15 B.576/15 with a bad wheel and no gravity tank under the wing. This was the final configuration of the Aviatik B-type that was developed into the Aviatik C.I.

Left: A two-bay Aviatik P15.



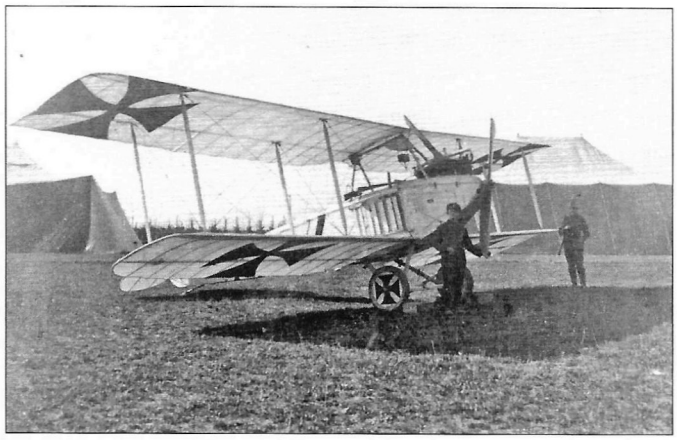


Left & Above: Two-bay Aviatik P15 models. The aircraft above appears to have wooden wheels to conserve rubber.

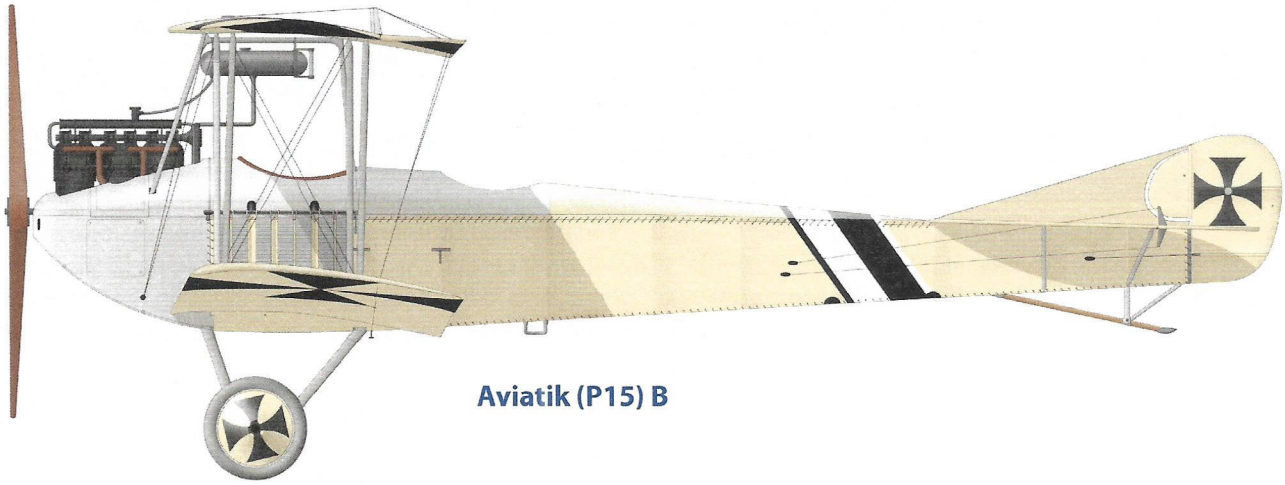


Above & Left: Aviatik B-types in the production batch 1320–1355/15 were definitely designated as Aviatik B.II. These aircraft had 120 hp Mercedes D.II engines and, with their greater payload, were used for bombing. B.II 1329/15 is shown above and 1323/15 is at left.

Below Left & Below: These two Aviatik B-types look like the Aviatik B.II aircraft above, but their serial numbers are not visible so it is not possible to verify they are from the production batch 1320–1355/15 or were Aviatik B.II. However, they appear to have had 120 hp Mercedes D.II engines.



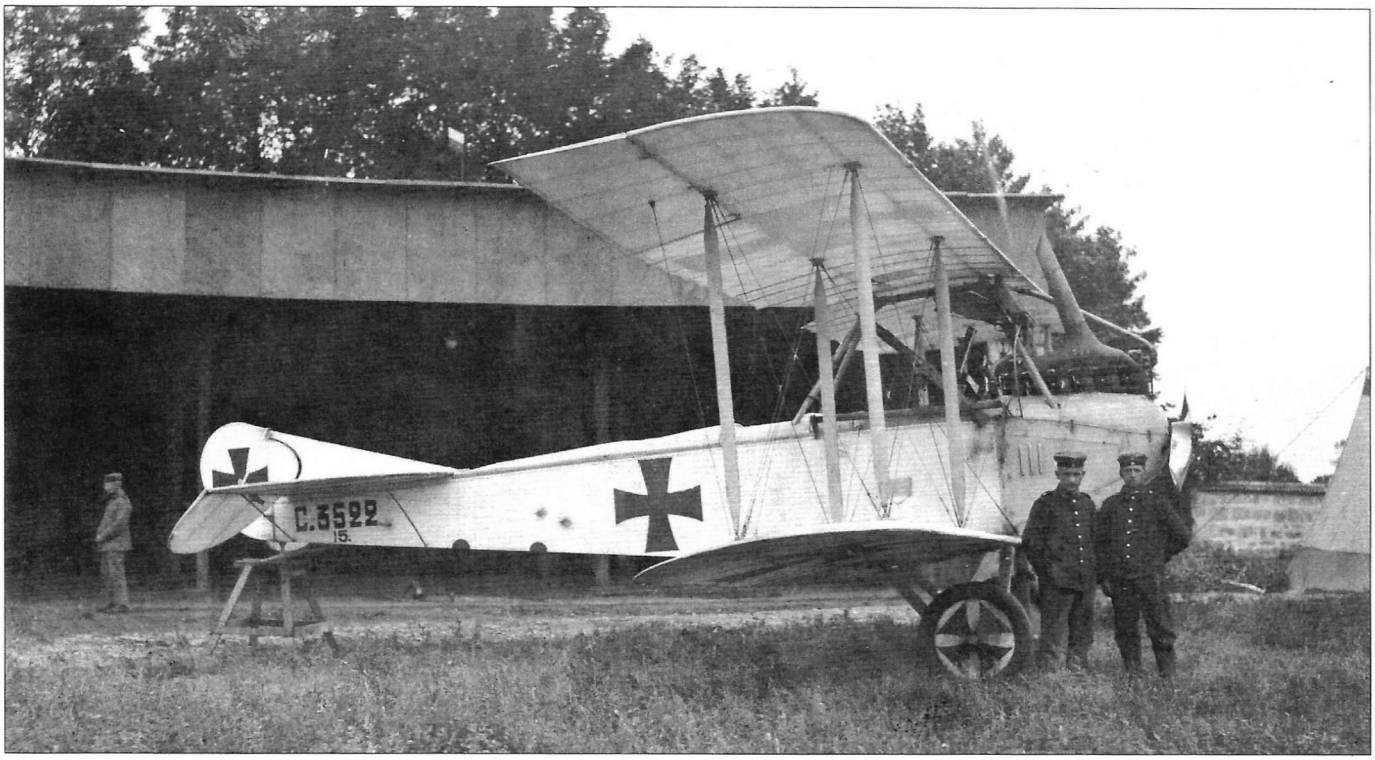
Aviatik (P15) B.529/15.



Aviatik (P15) B

Aviatik (P15) in Turkish Service.

Aviatik C.I



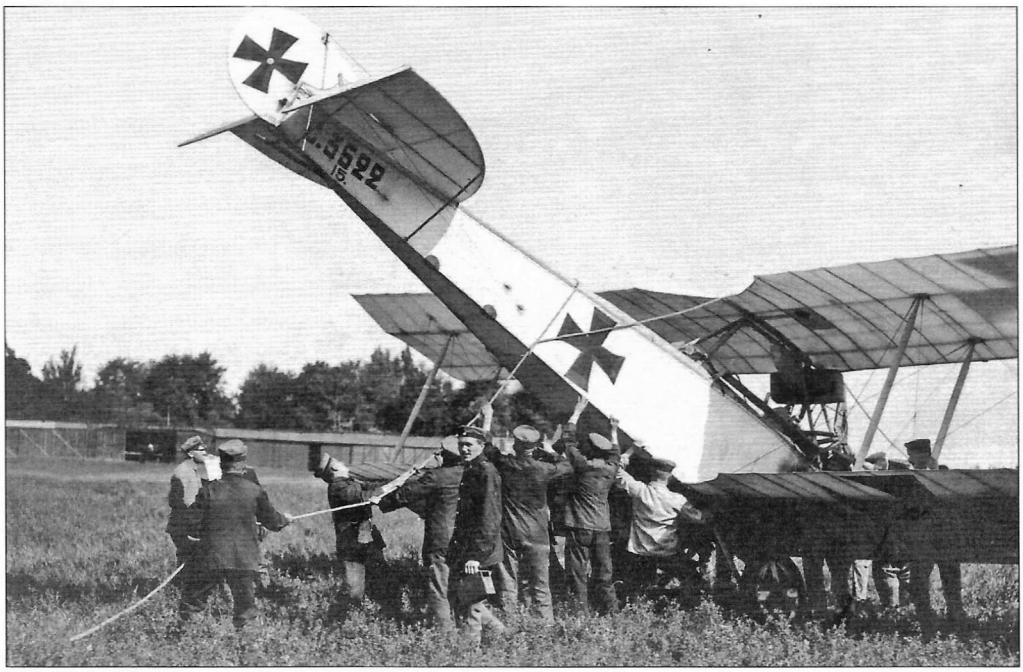
Above: The Aviatik C.I, developed from the earlier Aviatik B.II, and powered by engines of 150–160 hp, was one of the most numerous early C-types. At the dawn of air combat it was not yet certain that the gunner should be in the rear cockpit for a better field of fire to defend against attacking fighters, and *Idflieg* directed Aviatik to retain the observer in the front cockpit for better visibility forward and downward. A gun was mounted on each of the two rails alongside the front cockpit for the observer's use. This portrait is of Aviatik C.I 3522/15 and its ground crew.

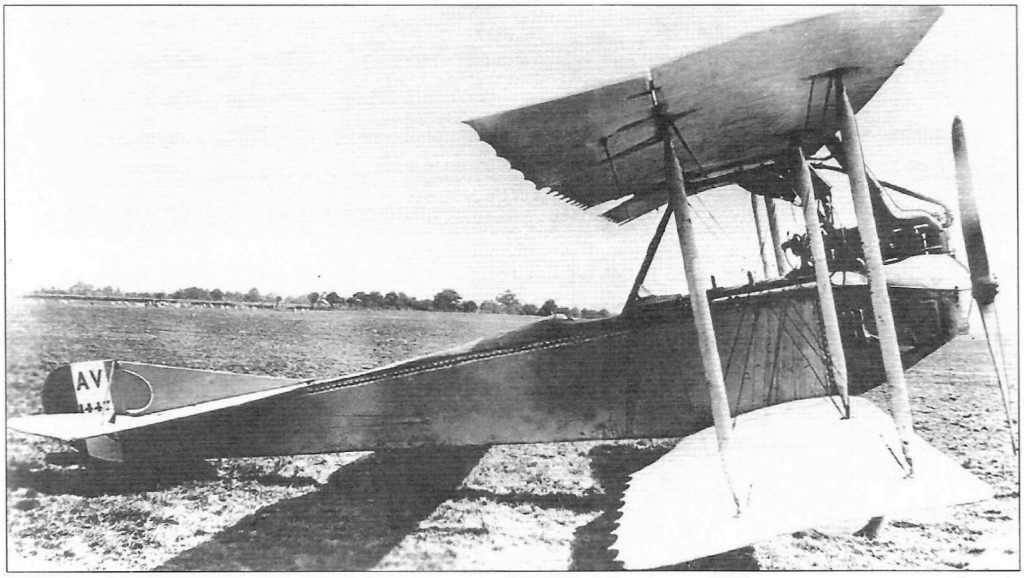
The Aviatik C.I (company designation P25) was an armed development of the earlier Aviatik Type P15. It looked very similar to its predecessor and the airframe remained conventional wood, wire, and fabric. To improve performance while carrying the additional weight of machine guns, Aviatik engineers slightly enlarged the airframe and installed a more-powerful 160 hp Mercedes D.III engine, then just entering quantity production. Machine-gun rails were fitted to both sides of the front cockpit and the wing bracing wires were moved to provide a greater forward field of fire for the guns. In mid-1915 *Idflieg* had not yet determined which layout – the machine-gun at the front or the rear – would provide the best all-round defense. To determine the superior setup, *Idflieg* ordered Aviatik C.I machines with the machine-gun armament placed in the front location, whereas Albatros C.I and LVG C.I aircraft were armed with a rear turret. No synchronized gun for the pilot was installed.

Airmen accustomed to the stable, sluggish B-types found that greater flying skill was required to handle the increased maneuverability and livelier control response of the new, more powerful C-types. However, improved performance and maneuverability were demanded by the increasing level of air combat and aircrews had to adjust. In mid-1915 the intensity and frequency of air combat were still relatively low, so the forward machine-gun location was not viewed as a particular disadvantage. *Feld-Flieger Abteilung* 6b reported that the field of fire from the front cockpit was 'medium good' and that successful attack or defense was primarily a function of the pilot's skill in air combat maneuvers. The Aviatik C.I arrived at the front in mid-1915 and served in quantity throughout 1916 before being replaced at the front in the first half of 1917.

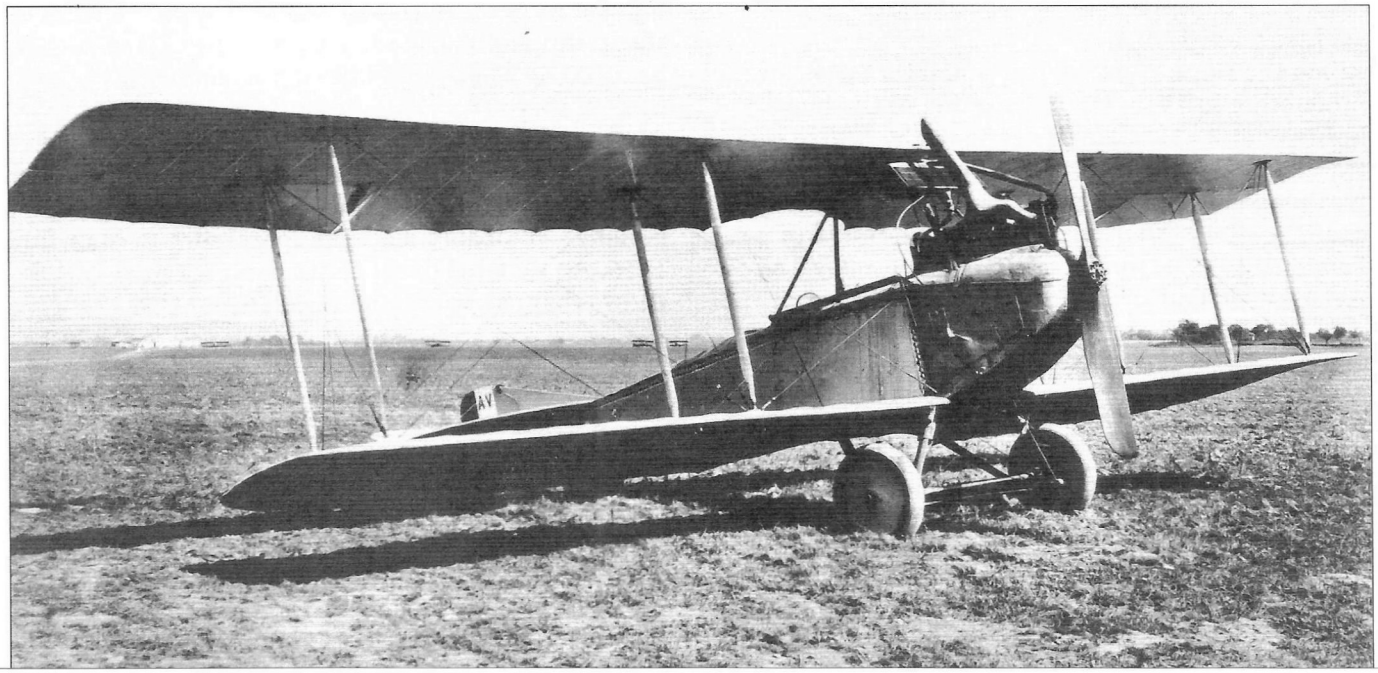
Ironically, in April 1917, *Idflieg* ordered 50 Aviatik C.I biplanes fitted with a rotating turret behind the pilot for gunnery training. This is difficult to understand because C.I production had ceased in 1916 and Aviatik was fully engaged in production of DFW C.V(Av) biplanes at the time.[2] Under the circumstances, this production program was accorded low priority; the first aircraft was not delivered until October 1917 and the type-test

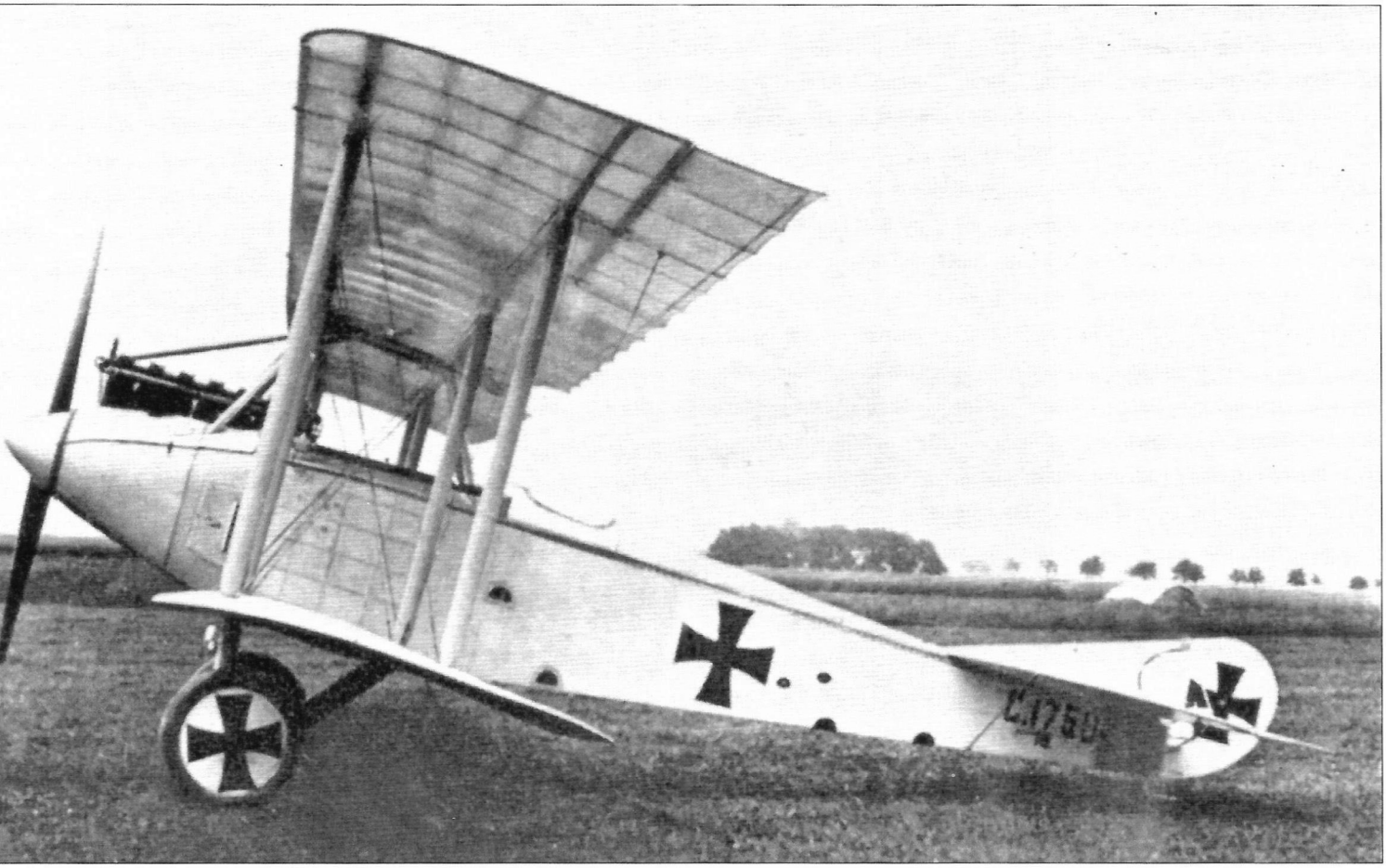
Right: Aviatik C.I 3522/15 has experienced a landing incident and is being recovered by the unit's ground crewmen. The Aviatik C.I was powered by the 150 hp Benz Bz.III or 160 hp Mercedes D.III. Like earlier Aviatik B-types, the observer occupied the front cockpit. He had one or two guns mounted on rails on either side of his cockpit to defend against enemy aircraft. The C.I's radiator was now in front of the upper wing center section instead of the fuselage sides like the B-types.





Left & Below: Aviatik C.I 1447/15 photographed after being captured by the French. The rail on the starbard side of the forward cockpit for the observer's gun is clearly visible.





Above: Aviatik C.Ia 1750/16 was the aerodynamic test-bed and prototype for the Aviatik C.III powered by the same 160 hp Mercedes D.III engine as the C.I. The C.Ia gained a useful speed increase from its additional streamlining. The later Aviatik C.II also benefitted from these aerodynamic improvements although it used a different engine and airframe.

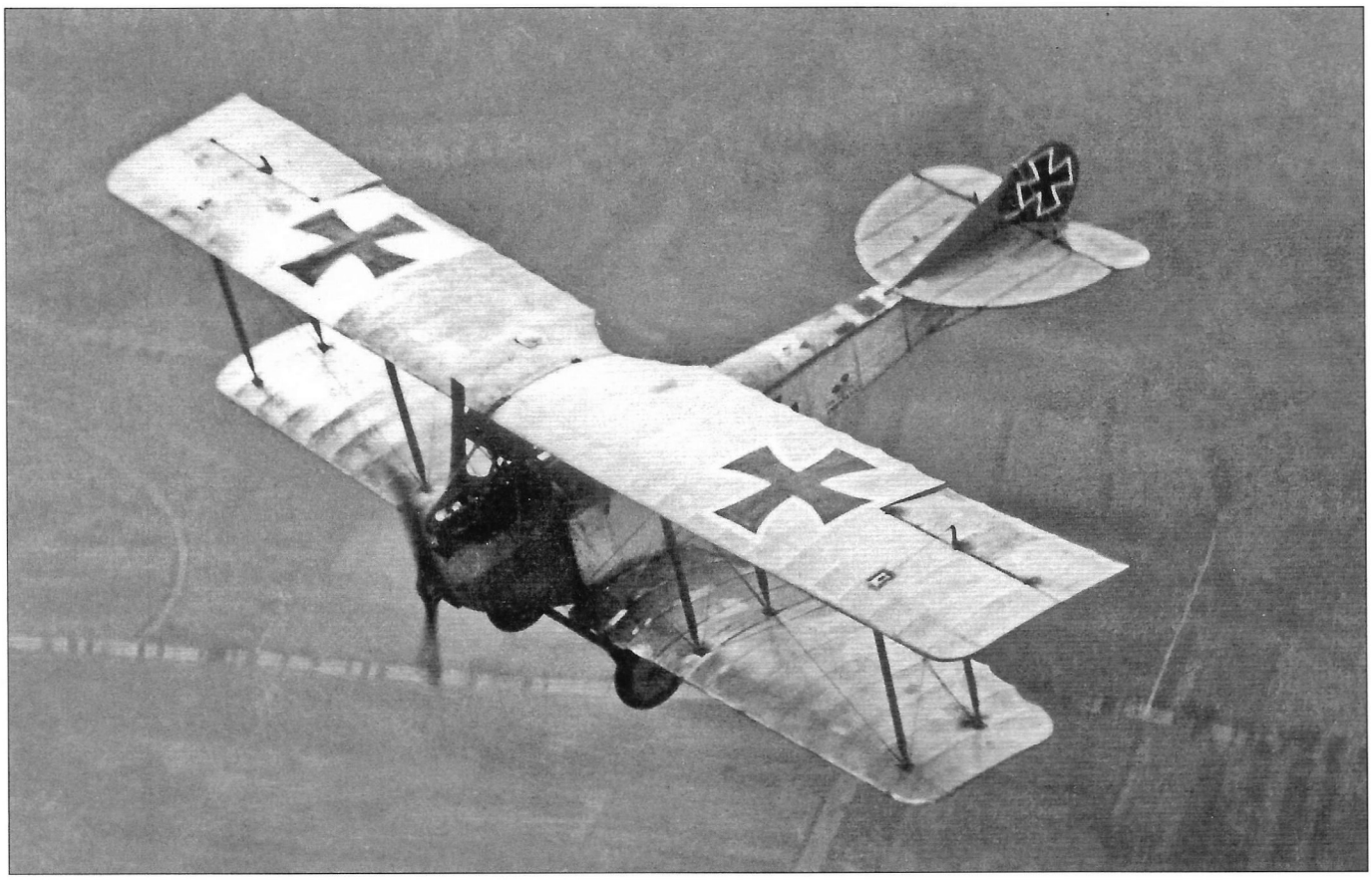
was not completed until January 1918. Aviatik records show that Leipzig-Heiterblick delivered one prototype and 40 production trainers powered by the 150-hp Benz Bz.III engine and Bork delivered ten C.I trainers powered by the 160-hp Mercedes D.III engine.

Aviatik C.I(Han)

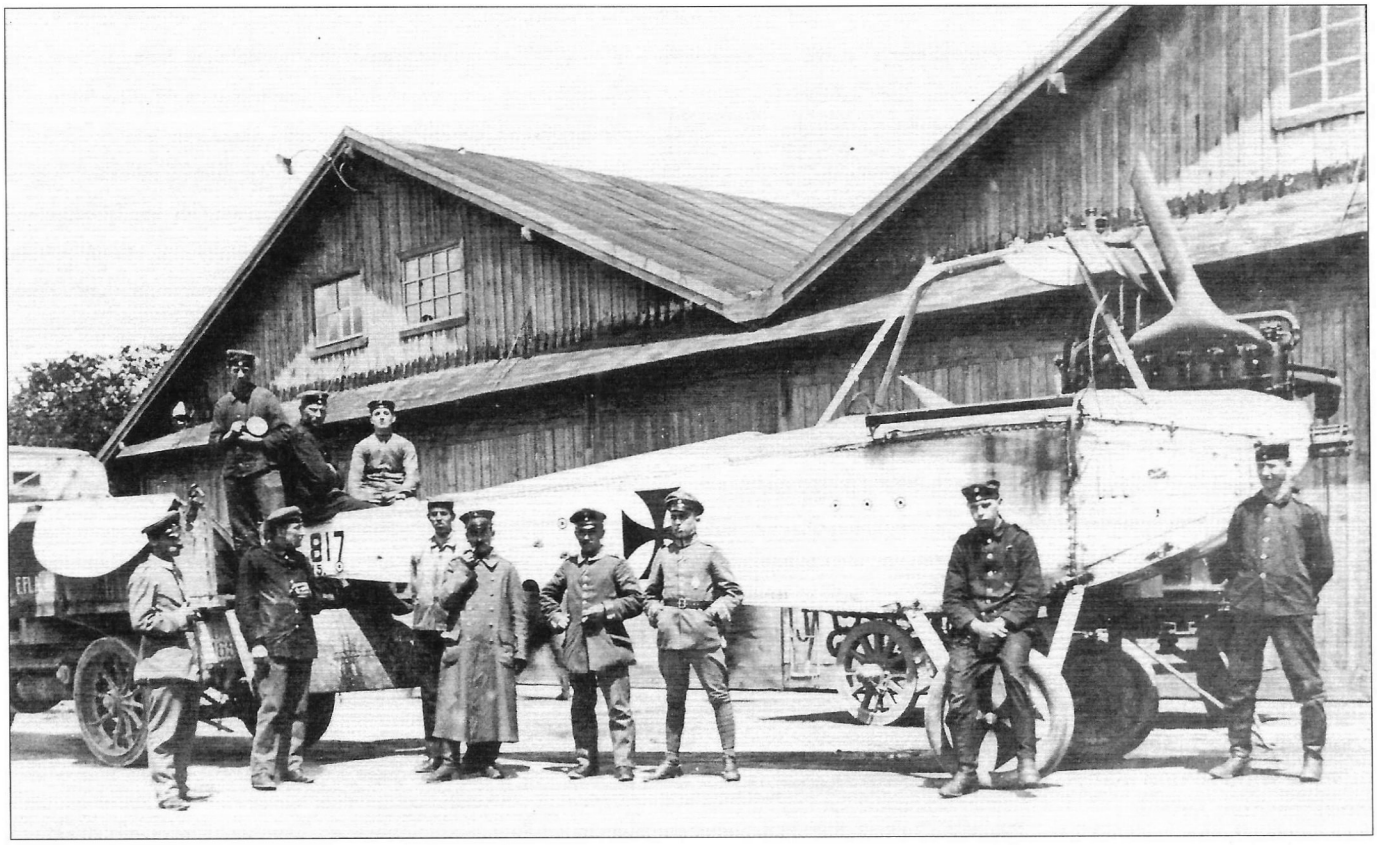
When the Hannoversche Waggonfabrik began aircraft production in 1915, the designation of the license-built Aviatik C.I originally assigned by *Idflieg* was Hannover C.I. However, this confusing designation was soon changed to Aviatik C.I(Han). The first example, C.1951/15 (w/n 1), was type-tested in February 1916. Hannover delivered a total of 146 Aviatik C.I(Han) aircraft to the *Fliegertruppe*.

Aviatik C.Ia

According to Aviatik, the Aviatik C.Ia biplane 'brought about several experimental improvements that would come into their full importance with the Aviatik C.III.' Aviatik engineers designed the C.Ia biplane to 'achieve greater airspeed at the expense of the useful load capacity.' As such, the C.Ia, powered by a 160 hp Mercedes D.III engine, represented the first prototype for the Aviatik C.III, although the production C.III airframe would be further refined. The C.Ia prototype, ordered in April 1916 – the first in an order of 25 Aviatik C.III reconnaissance biplanes – probably made its appearance in May–June 1916. An undated crash photograph taken at *FEA* 3 shows that the aircraft was designated C.Ia 1750/16.



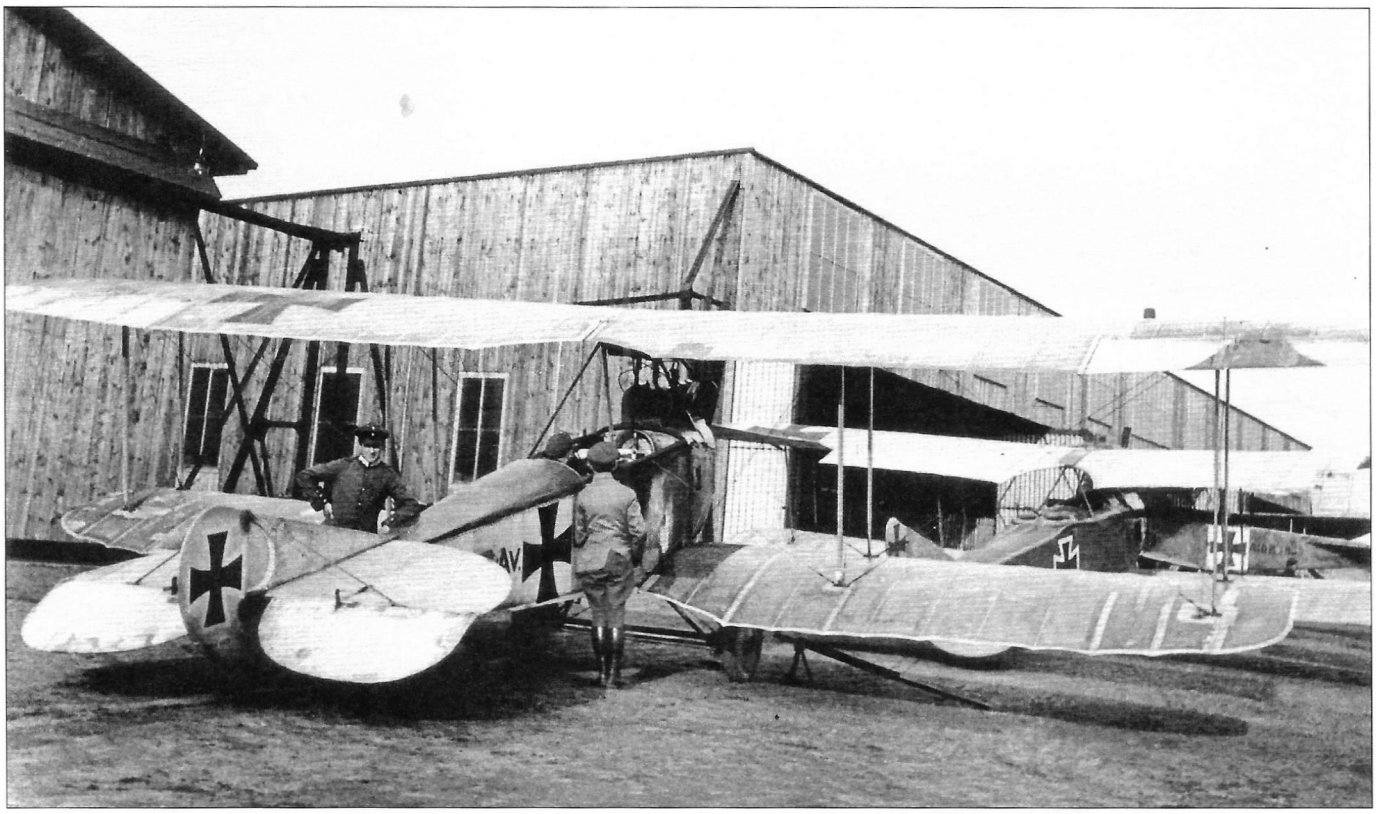
Above: In-flight view of a well-worn Aviatik C.I; as shown by its boxy lines the C.I was a workhorse, not a thoroughbred.



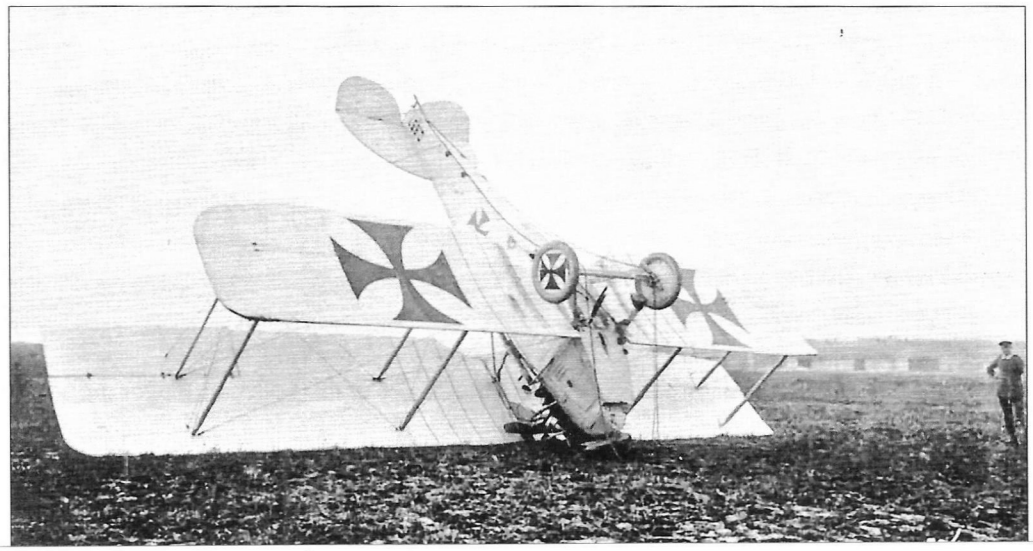
Above: Aviatik C.I 817/15 at either *Feld-Flieger Abteiling* 46 or 48 is dismantled for ground transportation.

Right: Aviatik C.I aircraft in service.

Below: Well-worn Aviatik C.I 3508/15 in training service with a *Flieger Ersatz Abteiling*.



Right: Rough field conditions combined with gusts of wind ruined many landings; here Aviatik C.I 337/15 performs the traditional head-stand.



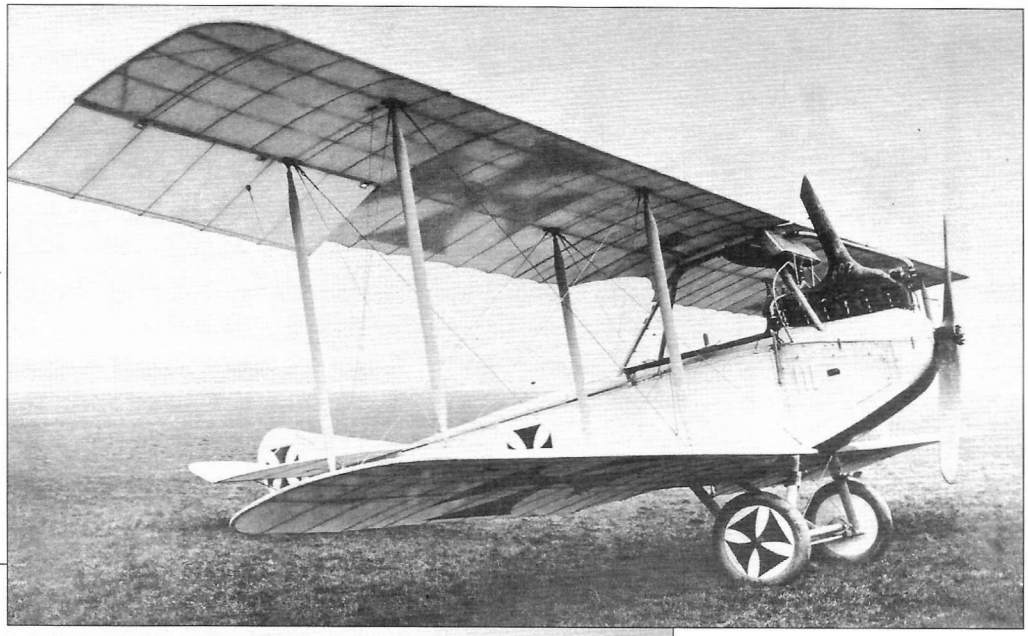
Aviatik C.I C.1428/15 assigned to *Flieger-Abteilung (A)* 206.

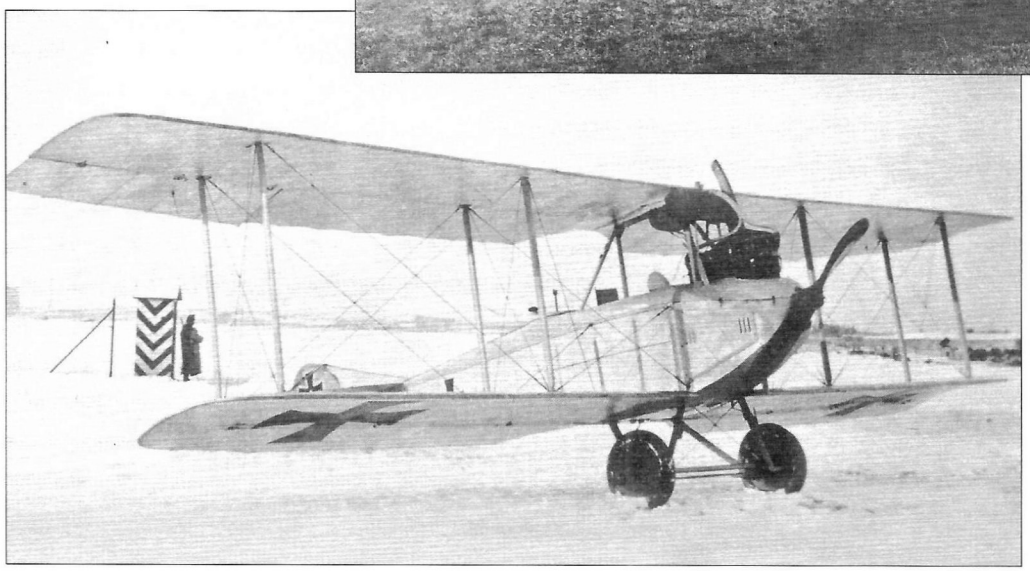
Aviatik C.I assigned to either *Schutzstaffel* 16 or 26.

Aviatik C.I of *KG*2.

Left: Aviatik C.I C.228/16 *LULU* having a rough day in training service with *Flieger Ersatz Abteiling 9* at Darmstadt.

Right: Aviatik C.I in the typical factory 'white' finish. The factory normally painted insignia on the wheel covers in addition to the normal locations. The national insignia were often applied to the middle of the wing rather than the wing tips.

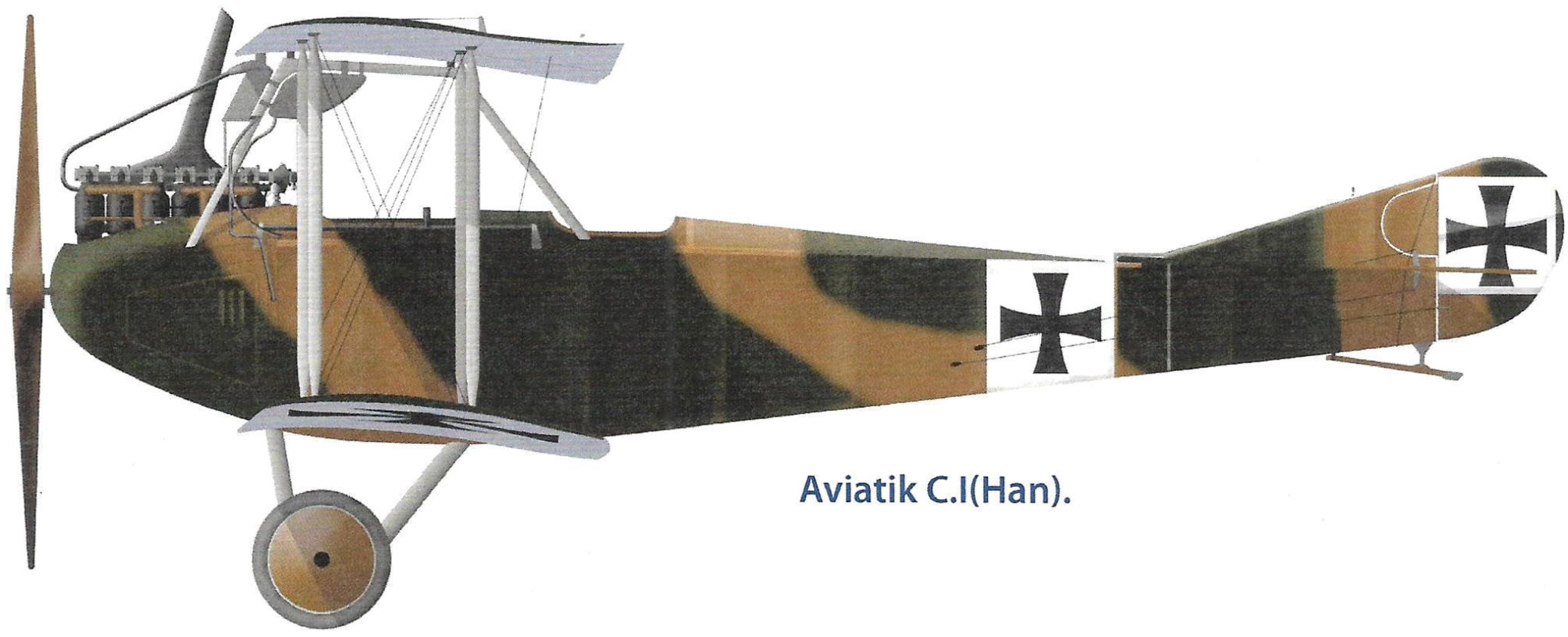




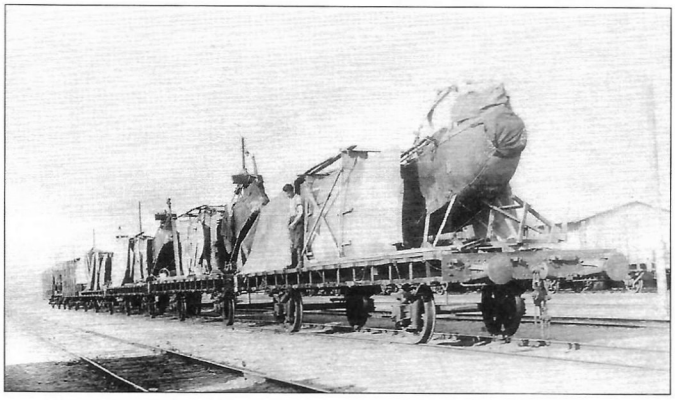
Left: Aviatik C.I trainer on a snowy airfield with a chevron-striped guard shack in the background.

Aviatik C.I C.228/16 *LULU* in service with *Flieger Ersatz-Abteilung* 9.

Aviatik C.I Trainer.



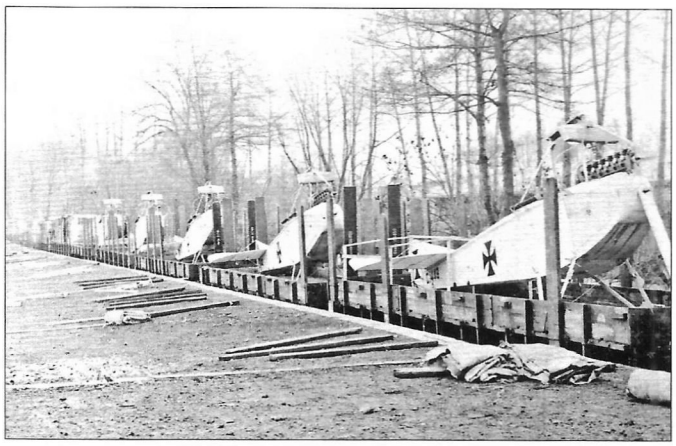
Aviatik C.I(Han).



Above: Aviatik C.Is of *FA* 63 being transported on the Eastern Front.

Below: Aviatik C.Is of *FA* 65 being prepared for transport; 1449/15 is closest to the camera.

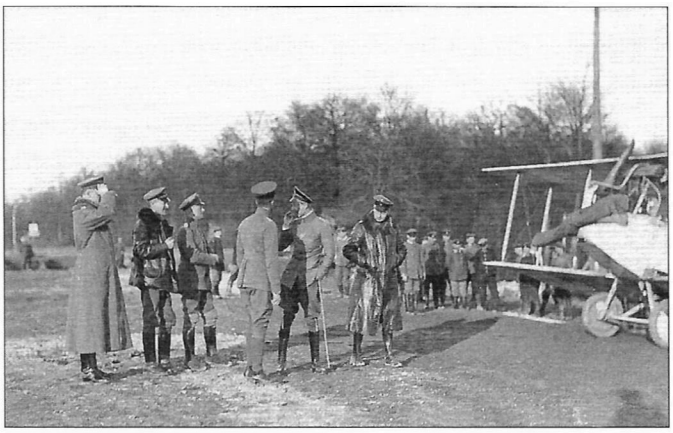
Bottom: Aviatik C.I with its aircrew.

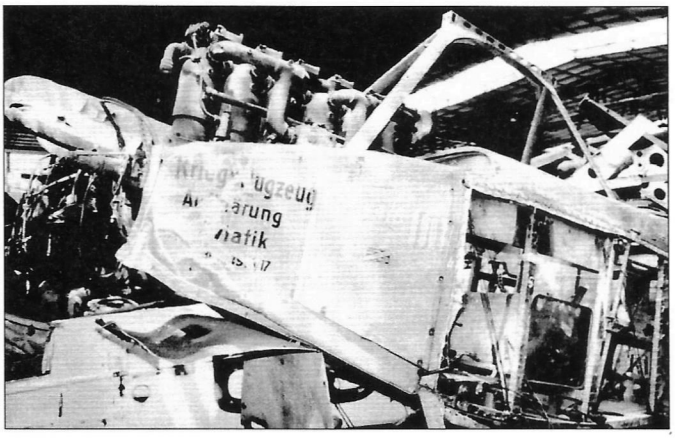


Above: This Aviatik C.I was built by Hannover as shown by the tapered cooling louvres by the crewman.

Below: The curved metal rod prevented the observer from shooting through his own propeller.

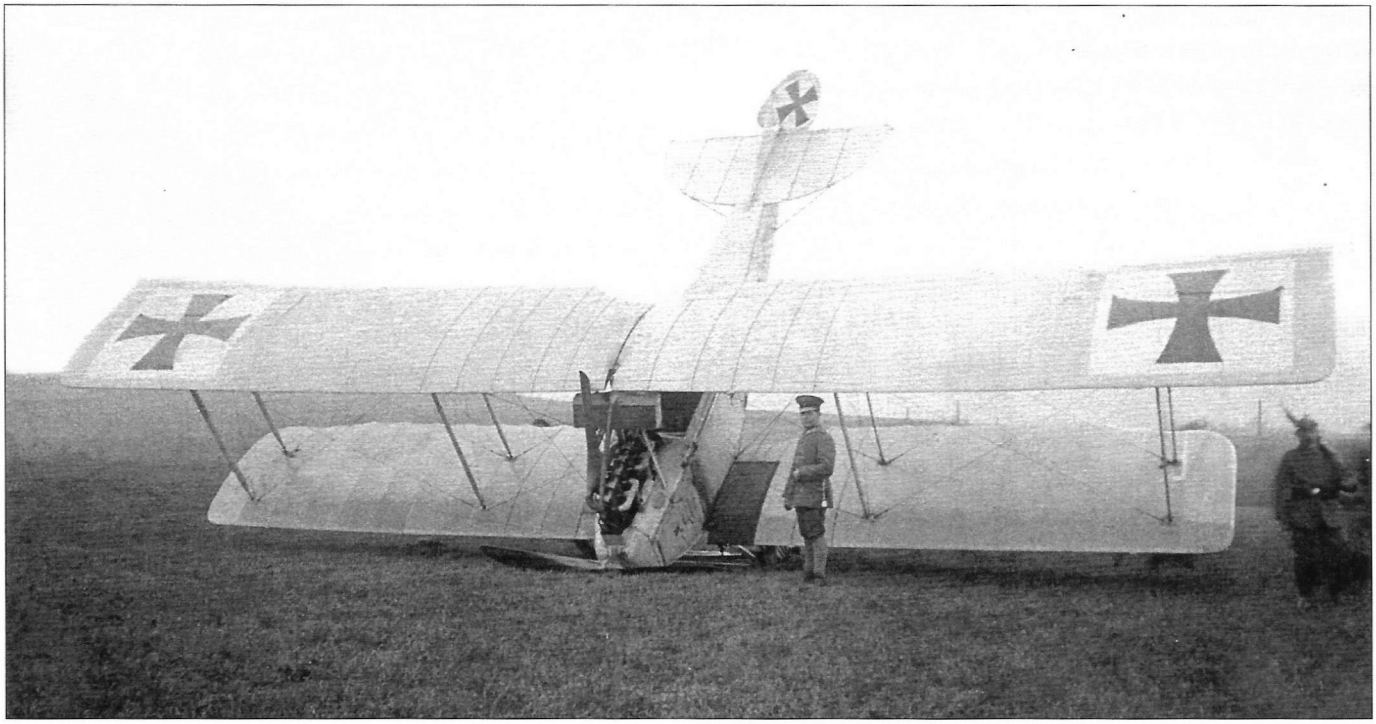
Right & Below: Two views of the Crown Prince inspecting an Aviatik C.I during his visit to *KG*2.





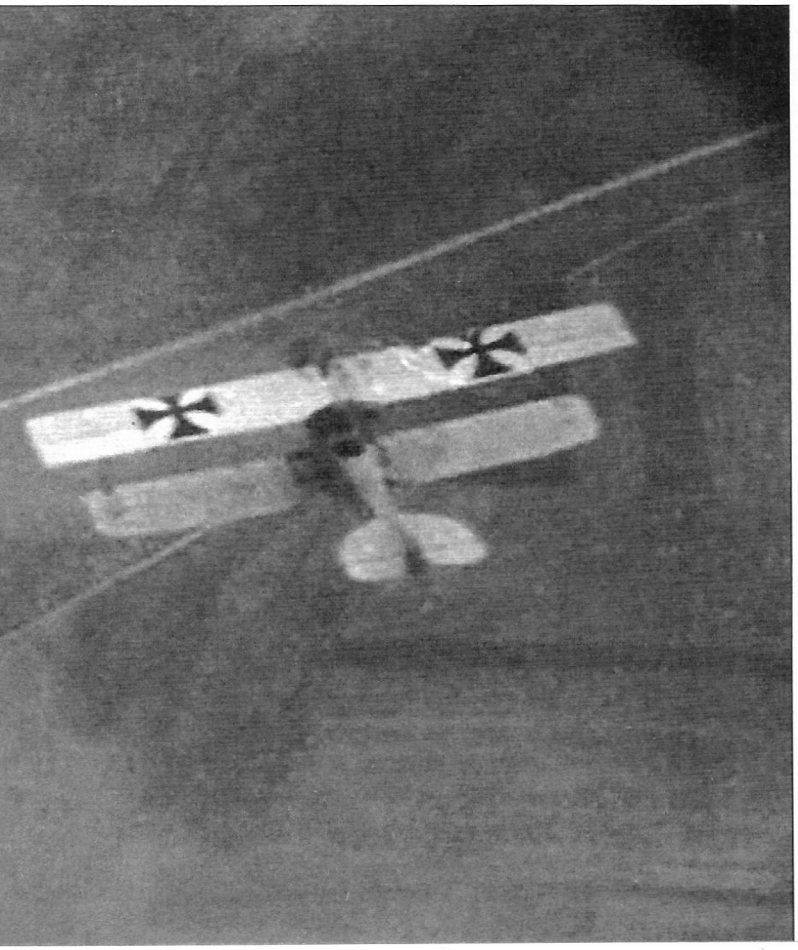
Above: An Aviatik C.I with damaged nose on display.

Left: An Aviatik C.I of *KG*2 has its left gun pointed forward. The gun could not be safely fired through the propeller arc because it had no synchronizing gear.



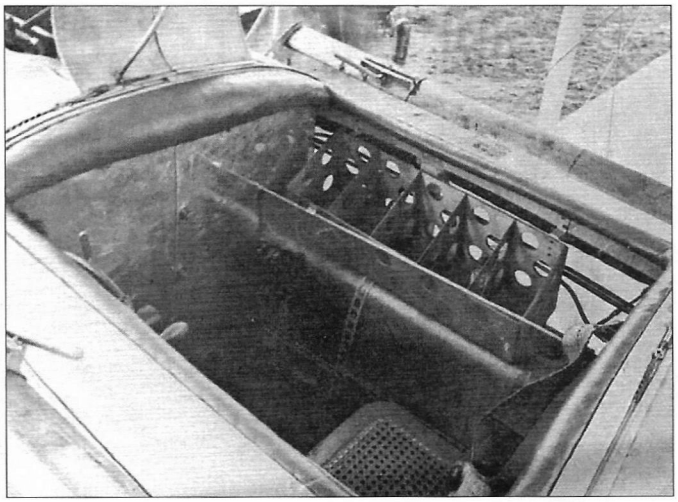
Above: Another Aviatik C.I that has experienced a typical landing mishap. The national insignia of this aircraft are at the wing tips instead of mid-span.

Above: An Aviatik C.I goes about its busines. The national insignia of this aircraft are at mid-span.



Above: An Aviatik C.I with wing damage apparently from a taxi accident.

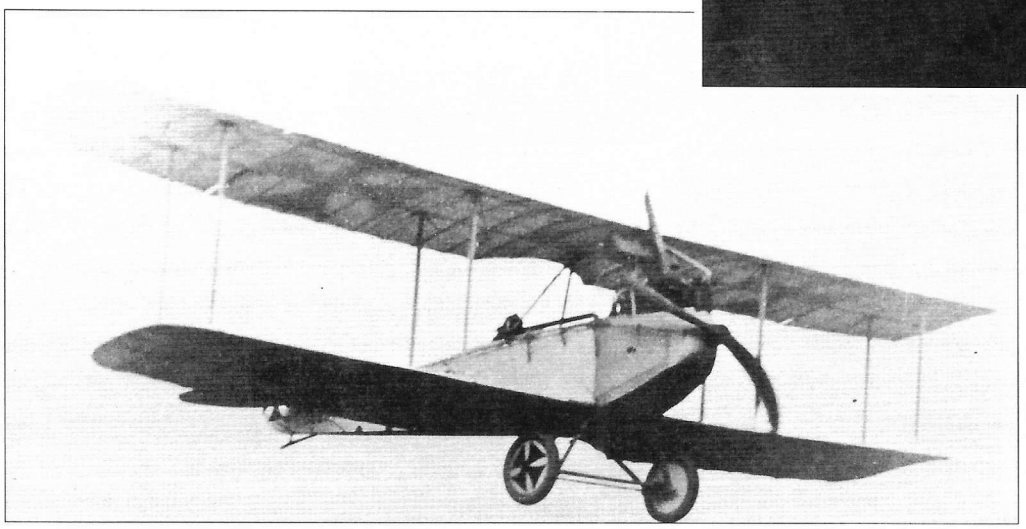
Above: Aviatik C.I observer's cockpit.



Above: An Aviatik C.I that has experienced a landing mishap after coming down by mistake in Basel, Switzerland. The finish was reported as light blue.

Above: Closeup view of an Aviatik C.I ready to take off.

Below: Aviatik C.I 3562/15 in flight with only the pilot aboard.

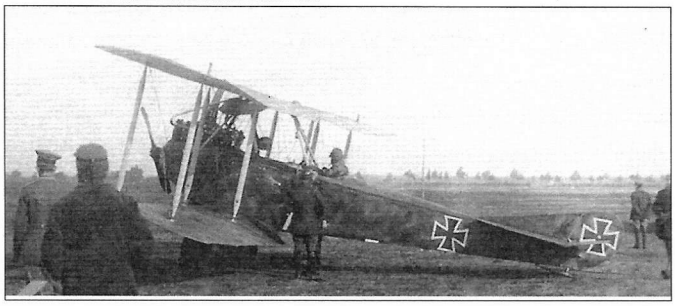


Below: Aviatik C.I 3562/15 is in the center background of this view of *Flieger-Abteilung (A)* 207; an Albatros C.I is on the right.

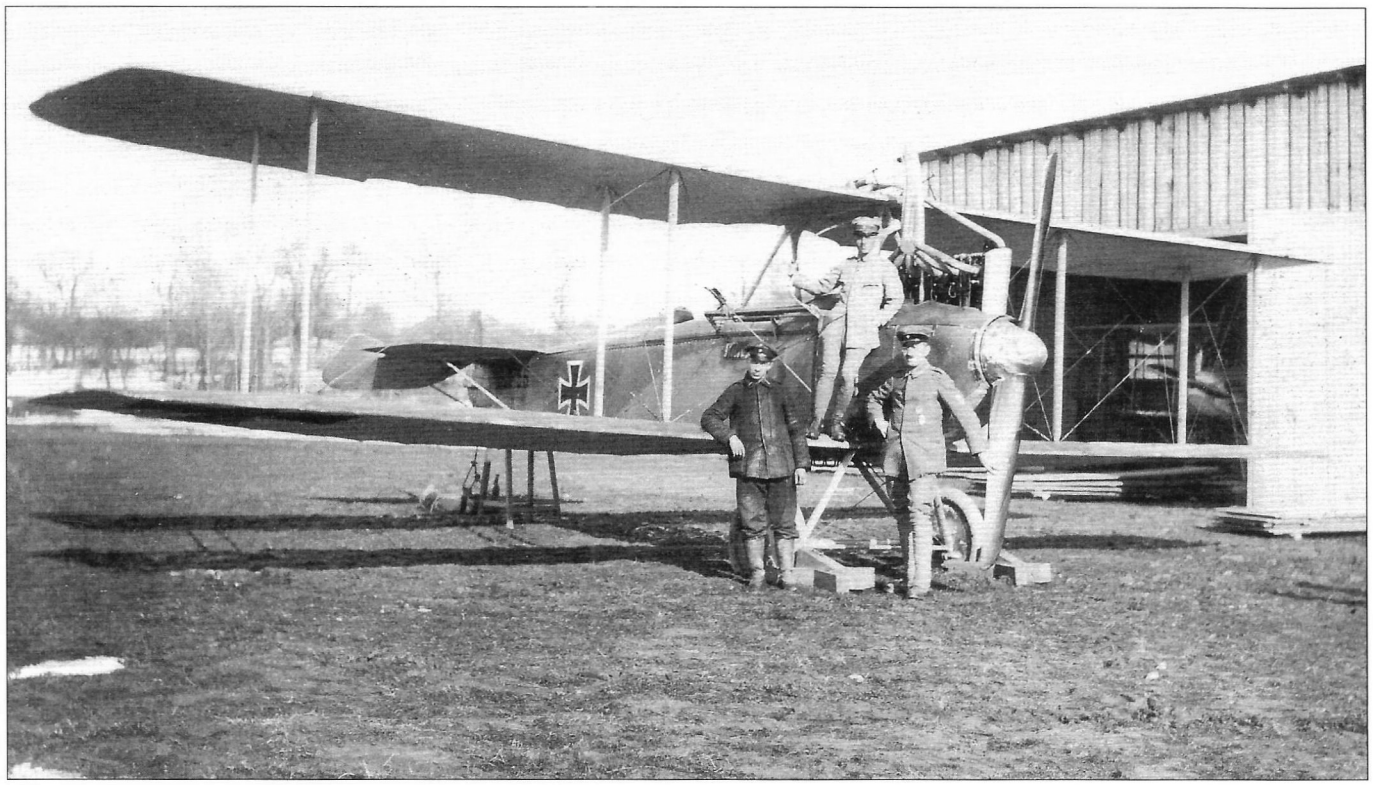
Left: An Aviatik C.I with Arthur Rahn at right.

Below: An Aviatik C.I with dark finish, unusual for a C.I except for those built by Hannover, which sported a distinct, banded two-color scheme on their upper surfaces.

Bottom: A workhorse Aviatik C.I lands after another reconnaissance mission.



Aviatik C.II



Above: The Aviatik C.II, developed from the C.I, used the more powerful 200 hp Benz Bz.IV engine, making it faster than the C.I. Unfortunately, at *Idflieg's* insistence it retained the observer in the front cockpit and the side-mounted guns, making for a cramped working environment and restricted field of fire. Unusual for a two-seater, the pilot had a headrest! Only a single production batch of 75 Aviatik C.IIs was constructed, after which Aviatik was directed to produce the DFW C.V under license. The Aviatik C.II and DFW C.V used the same engine and construction techniques, so had similar speed. However, the DFW had excellent maneuverability and handling qualities, critical attributes the Aviatik C.II lacked.

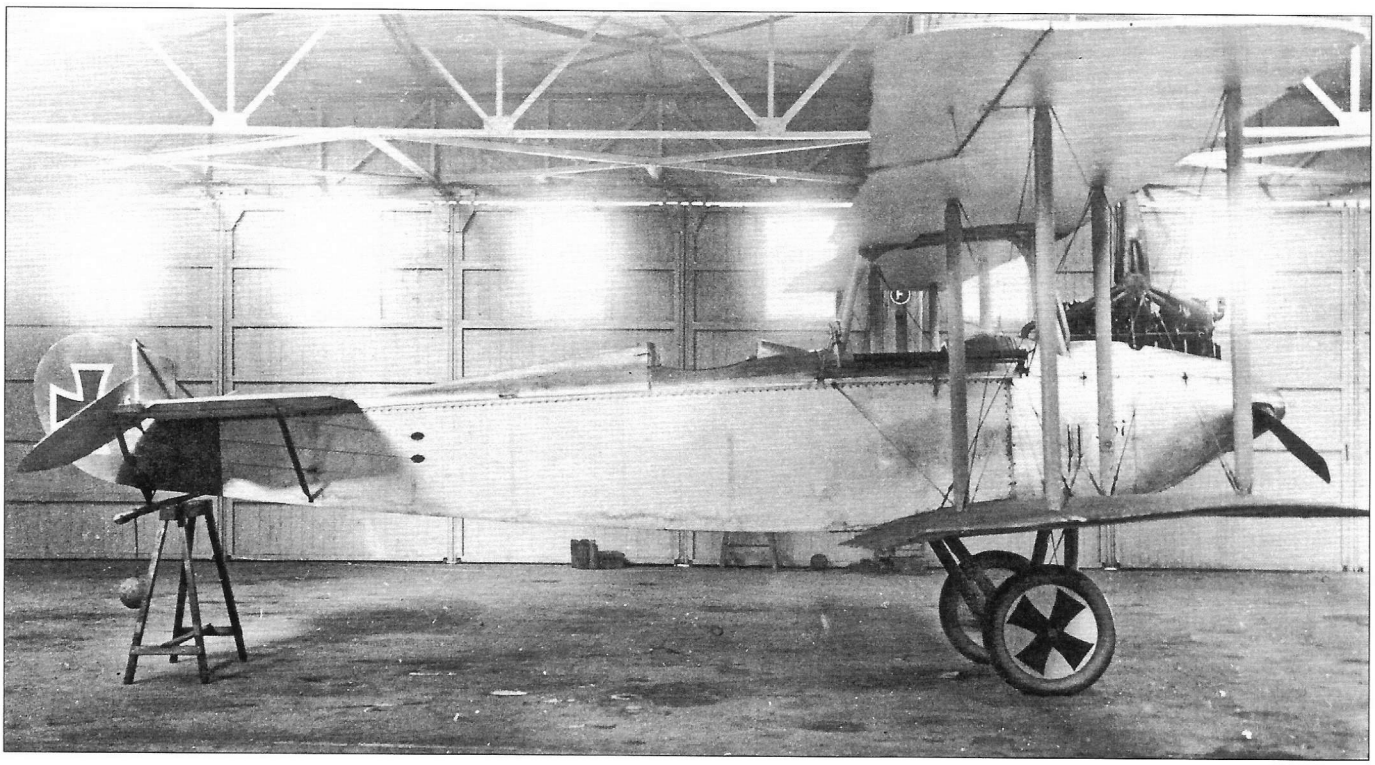
As the air war intensified and better opposing fighters appeared, faster C-types were needed to keep pace. The Aviatik C.II was developed from the earlier C.I in an attempt to provide the improved performance required. Like the C.I, it retained the awkward, observer-in-front seating arrangement and similar configuration and conventional construction. It was one of the first C-types to be powered by the 200 hp Benz Bz.IV, giving it significantly more power than the C.I. In addition to greater power, the C.II had a more streamlined nose than the C.I that included a propeller spinner, and the boxy, under-wing radiator of the C.I was replaced with a radiator of airfoil shape mounted in the upper wing. These aerodynamic improvements in the C.II were all based on the C.Ia prototype.

To further reduce drag, the wing span and area were reduced. A distinctive C.II feature was its vertical tail, which eliminated the fixed fin of the C.I in favor of a larger, strut-braced, horn-balanced rudder. Another distinctive C.II spotting feature was the pilot's headrest, which was unusual for a two-seater.

C.II Production and Service

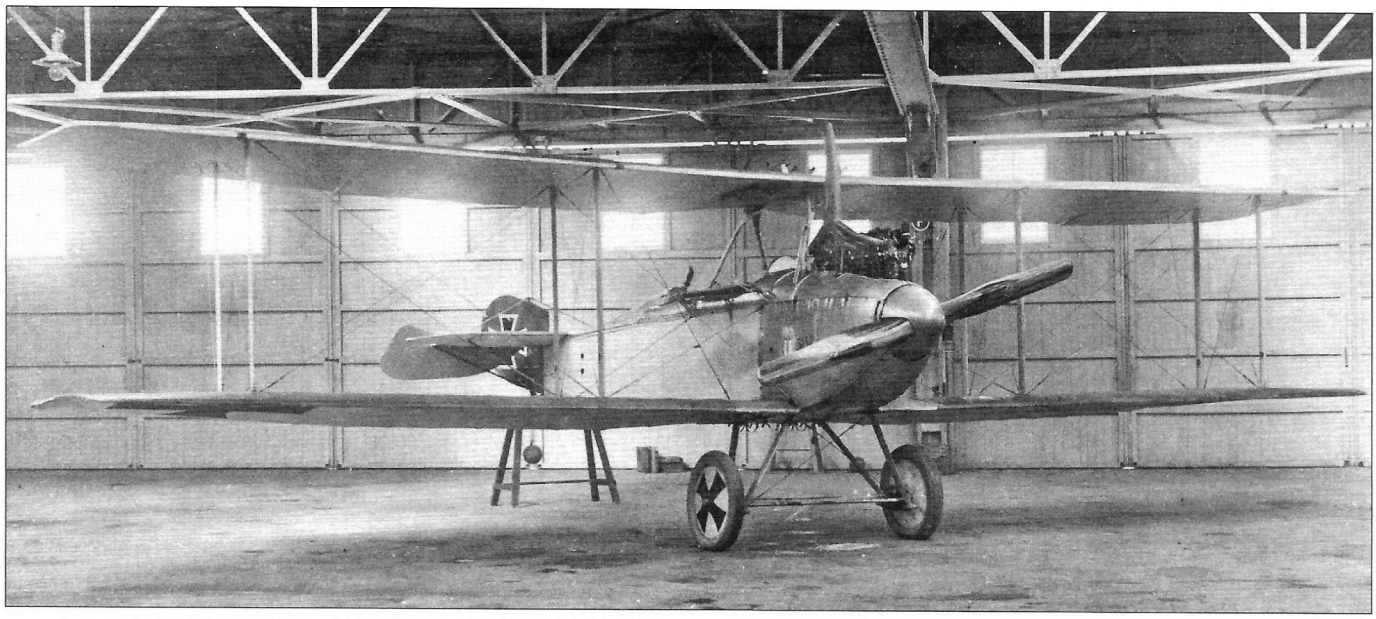
In July 1916 an order was placed for 75 Aviatik C.II aircraft with 200 hp Benz Bz.IV engines, serials C.3075/16 to C.3149/16. An Aviatik C.II prototype (C.3685/16) was load tested between 23 September and 2 October 1916. The higher serial number (*Militärnummer*) for the prototype is explained by the fact, that prototypes – at least in 1916 – were bought or accepted by the authorities later than the series planes. Although later general practice was to order three prototypes for aircraft considered for production – a flying airframe, a static airframe for structural testing, and a spare – as far as is known only one C.II prototype was built. The date of the initial flight is unknown, so it is not known if the production order was placed before or after flight tests.

The Aviatik C.II appeared at the front in small



Above: This side view of the Aviatik C.II shows its unique profile, emphasizing the small rudder without fixed vertical fin and the headrest for the pilot, who occupied the back seat. The type's limitations were designed in.

Below: This front quarter view of the Aviatik C.II shows the small rudder without fixed vertical fin and one of the gun mounting rails along the side of the observer's cockpit in front of the pilot. The radiator was now an airfoil type in the upper wing center section. In typical Aviatik fashion the wheel covers are marked with crosses.



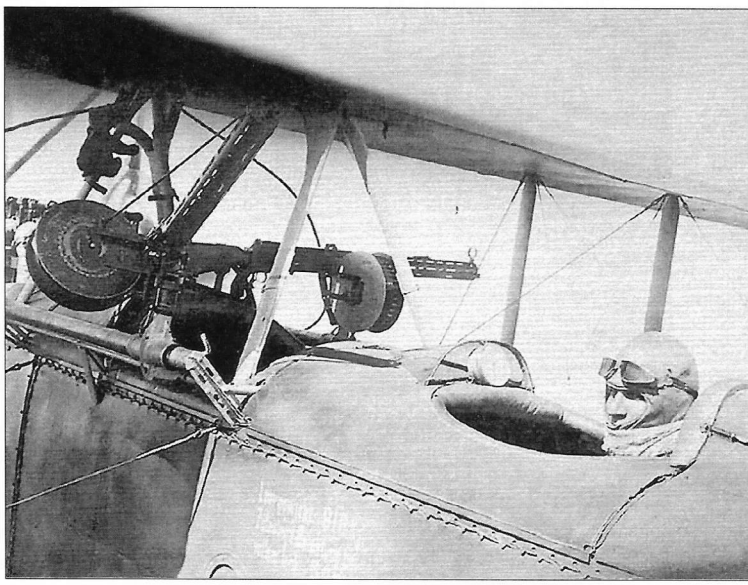
numbers from late 1916 through mid 1917, a maximum of 62 being at the front at the end of February, 1917. The entries in the *Frontbeststand* table showing the C.II at the front before late 1916 are either transcription errors or a mix-up with license-builder designations, because the C.II production series was not ordered until July 1916.

The Aviatik C.II was used on operations primarily, and perhaps solely, on the less demanding Eastern Front. Units known to have flown the C.II include *Flieger-Abteilung* 47b, *Flieger-Abteilung (A)* 244, and *Flieger-Abteilung (A)* 283. In addition, Aviatik C.II aircraft were noted at *AFP* 10, 12 and 14, all in the East, and later at various school units.

Above: Turkish officers inspect an Aviatik C.II; the unusual tail design and pilot's headrest are distintive C.II identification features. The bars for mounting the guns and the curved metal rods to prevent the gunner from shooting into his own propeller are clearly visible.

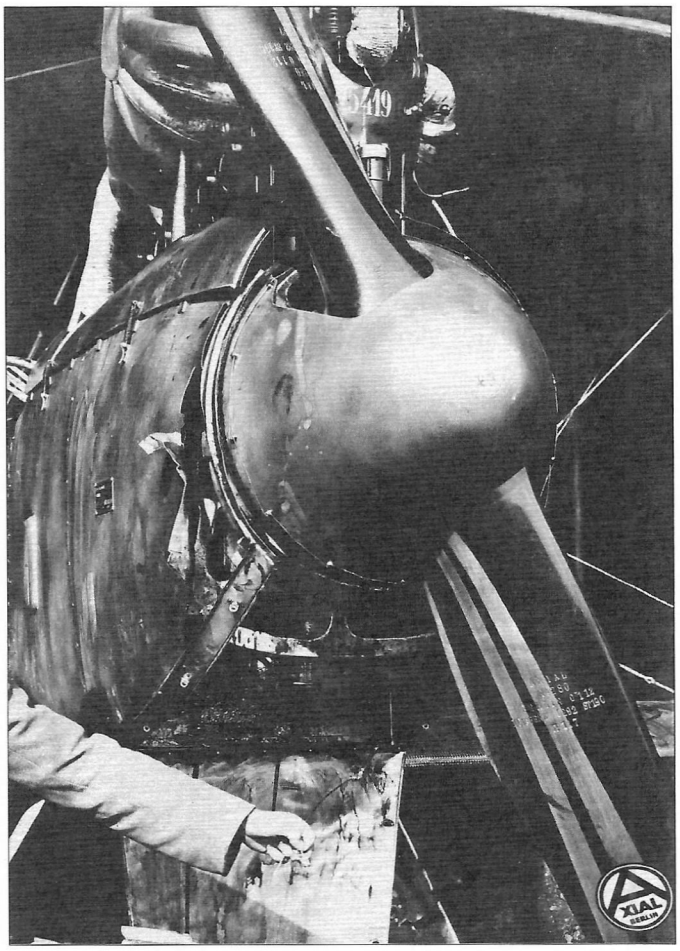
Right: Closeup of an Aviatik C.II cockpit.

Below: Side view of an Aviatik C.II.



Above: An Aviatik C.II in flight over the vast Eastern Front shows its unusual tail design.

Below: An Aviatik C.II that has suffered engine failure. Axial produced the propeller.



Below: An Aviatik C.II has suffered a bad landing on a snow-covered field.

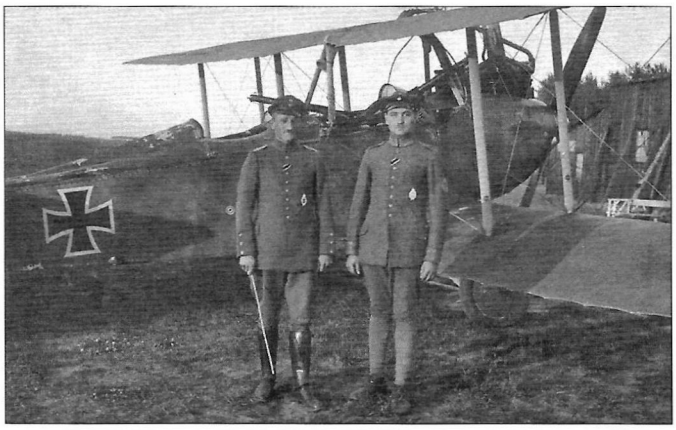
Bottom: An Aviatik C.II with its aircraft and a ground-crewman in a primitive hangar on the Eastern Front.

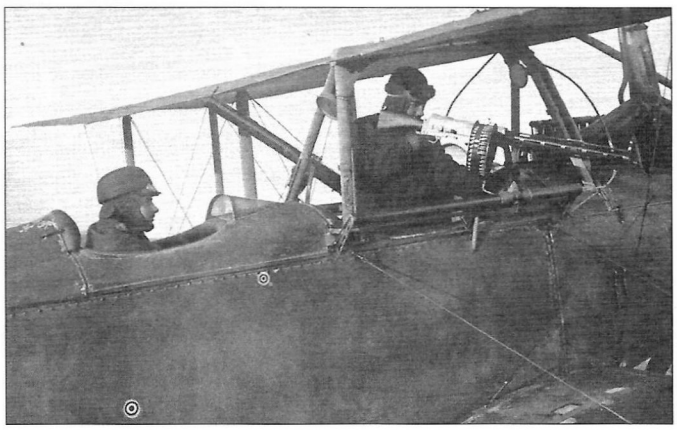
Aviatik C.II, perhaps the prototpe.

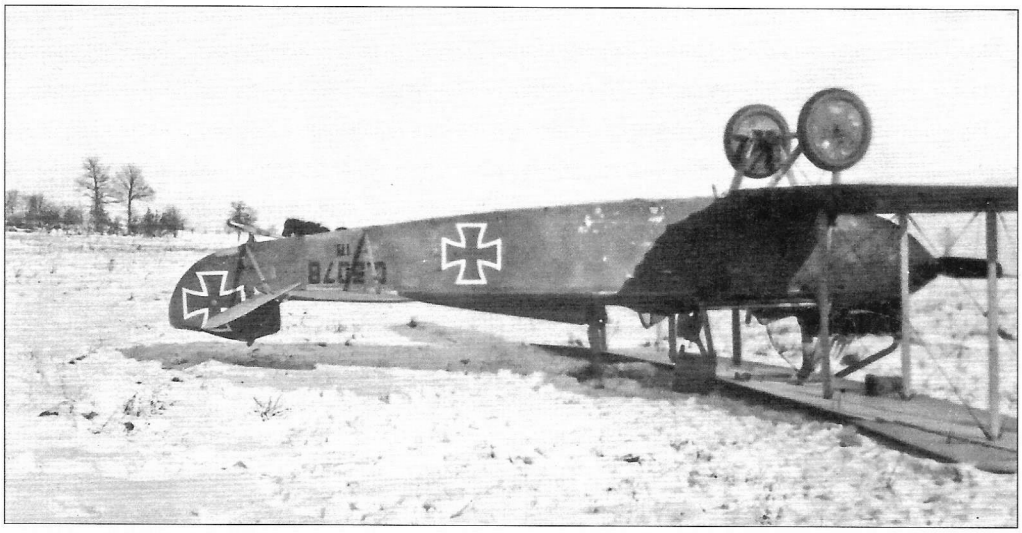
Aviatik C.II flown as a 'hack' by Manfred von Richthofen.

Aviatik C.II 3078/16, a typical production C.II.

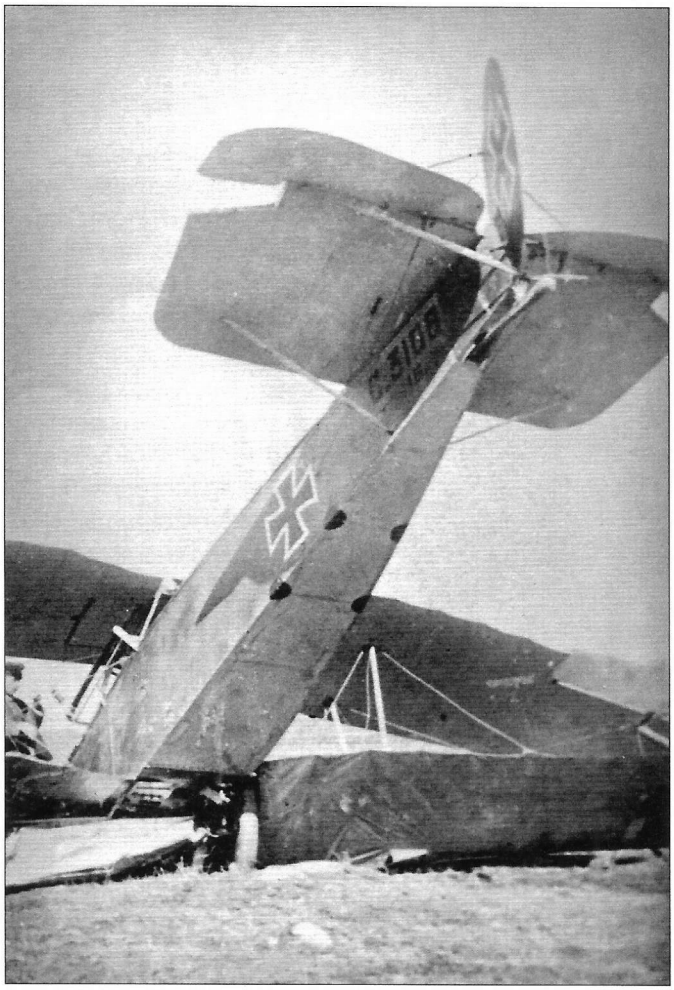
This Page: An Aviatik C.II serving with *Flieger-Abteilung* 219 and its crew are shown in these views. The aircraft wears its factory finish with no unit or personal markings. The two machine guns for the observer, one of a rail on each side of his cockpit, are clearly shown, as are the metal rods that prevent him from shooting into his own propeller.







Left: Aviatik C.II 3078/16 has experienced a landing accident. Invariably, Aviatik C.II aircraft are seen in factory finish without unit or personal markings. The serial number is under the horizontal tail, so is often not visible in photographs. C.II aircraft all appear to be finished in a dark, two-color camouflage scheme on upper surfaces, a contrast to the single, light color normally used on the Aviatik-built C.Is.



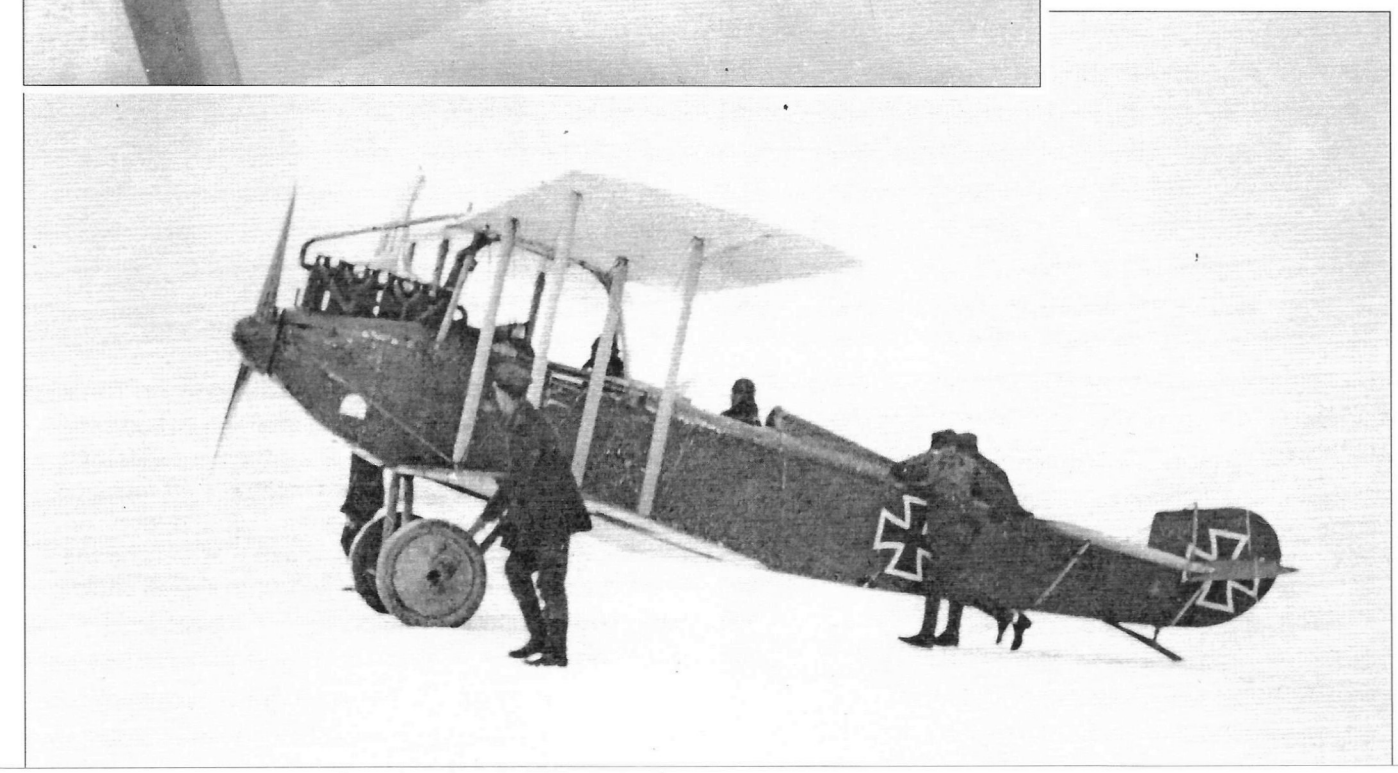
Left, Above, & Below: At left, Aviatik C.II 3108/16 has experienced a landing accident. The photos above and below appear to show the same accident. The aircraft wears its standard factory finish with serial under the tail.

Left: Another Aviatik C.II after a landing accident. This was all too common for aircraft during WWI, which had to be landed carefully into the wind. A last-moment shift in the wind direction could easily result in the aircraft touching down in a side slip; if that happened a 'ground-loop', or rotating the aircraft around the wheels that were on the ground, was common. The relatively light aircraft could easily end up in this situation.

Right: Aviatik C.II has its portrait taken with one of its aircrew. The distinctive C.II identification features of side-mounted guns, metal rods to prevent the observer from shooting through his own propeller, and pilot's headrest are all clearly visible.

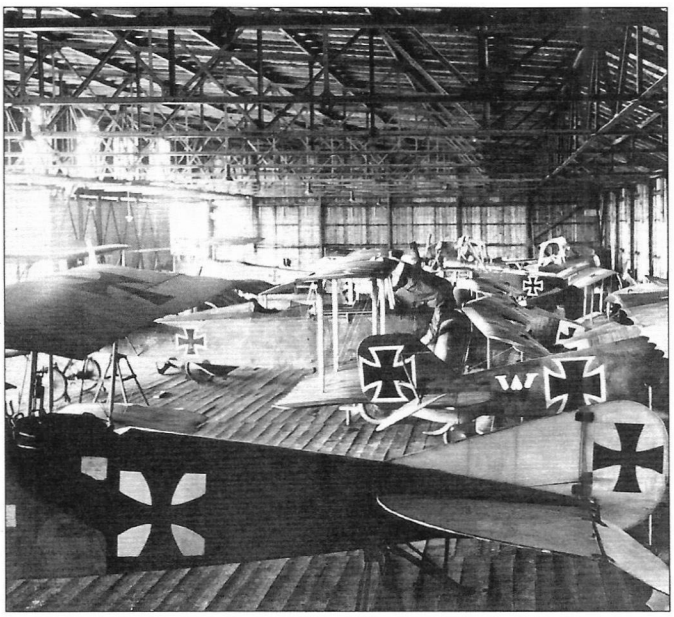
Left: Aviatik C.II on a typical snow-covered field on the Eastern Front. The rudder was painted in camouflage colors with a white-bordered iron cross insignia.

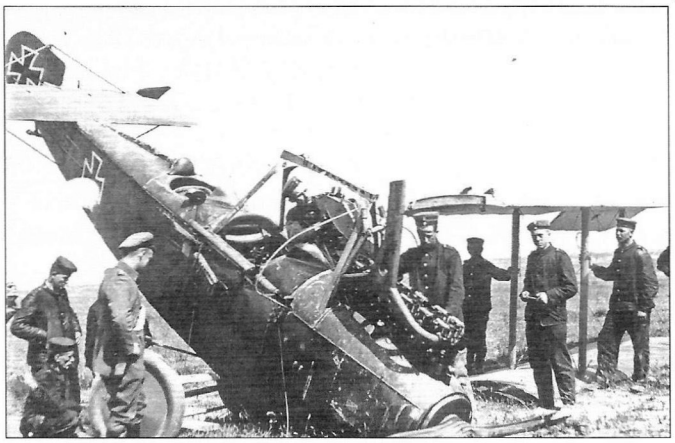
Below: An Aviatik C.II on a normal snow-covered field on the Eastern Front preparing for a mission. The under-size rudder with no fixed fin characteristic of the C.II shows clearly, as does the pilot's headrest



Above: Aviatik C.II 3124/16 in an embarrassing situation.

Below: An Aviatik C.II in the center background in a hangar at Brest-Litovsk on the Eastern Front.

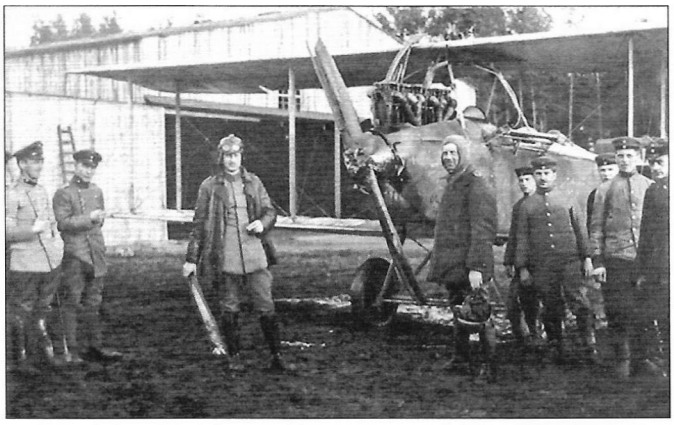




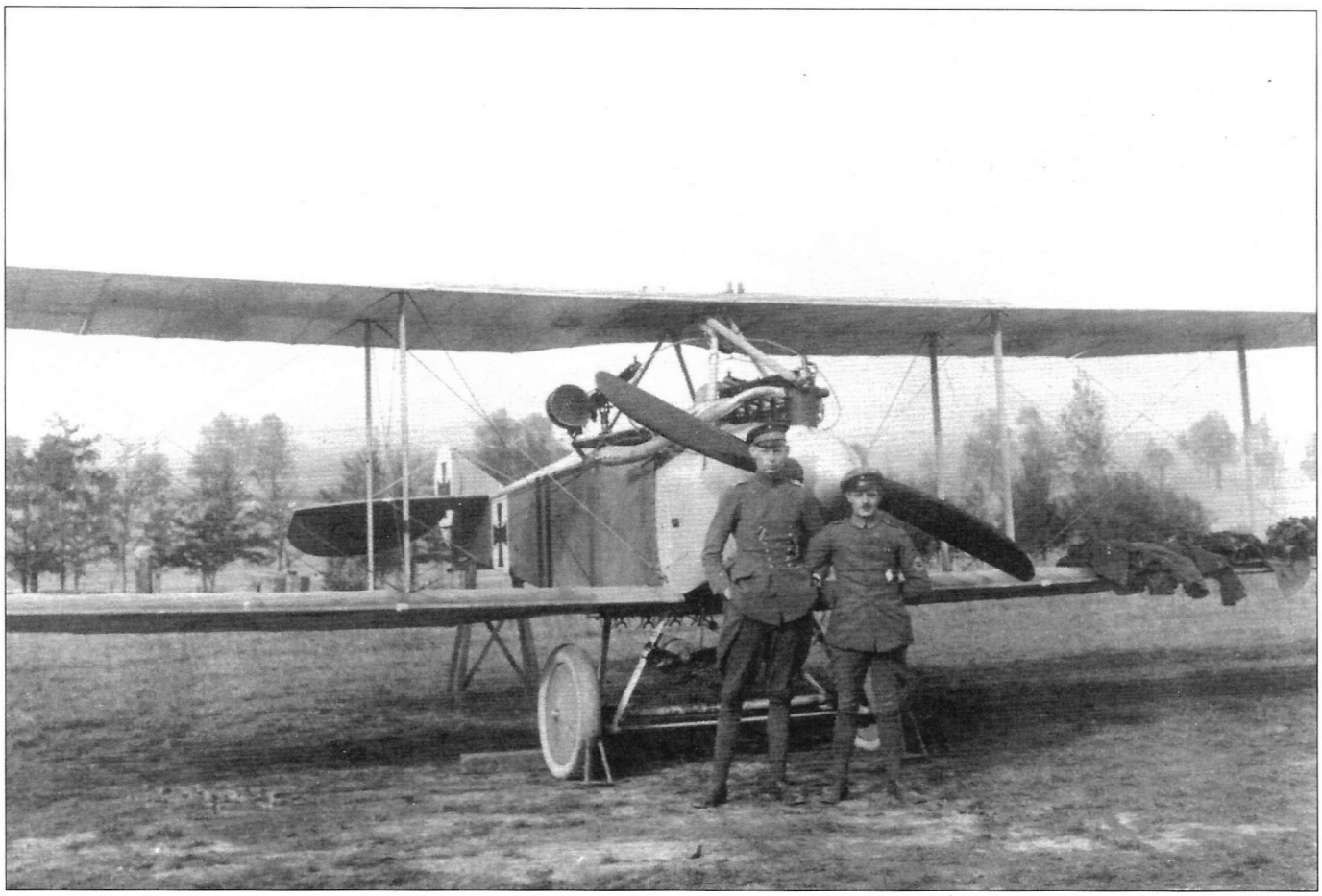
Above: Aviatik C.II crash on the Eastern Front.

Right: Aviatik C.II at an operational unit with its aircrew and ground crew.

Above: *Rittmeister* Manfred von Richthofen (left) flew this Aviatik C.II to his meeting with the *Kaiserin* (Empress) at Bad Homburg. The C.II was used as a hack on the Western Front.



Aviatik C.III



Above: The Aviatik C.III, developed from the C.I, used the same 160 hp Mercedes D.III engine but was much more streamlined, making it faster than the C.I. Unfortunately, at *Idflieg's* insistence it retained the observer in the front cockpit and the side-mounted guns, making for a cramped working environment and restricted field of fire.

Like the Aviatik C.II, the Aviatik C.III was developed from the earlier C.I in an attempt to improve performance, especially speed. The C.III retained the same configuration, construction, and unhandy, observer-in-front seating arrangement as the C.I, and was powered by the same 160 hp Mercedes D.III engine. Like the C.Ia and C.II, the C.III had a more streamlined nose with propeller spinner, and the boxy under-wing radiator was replaced with one of airfoil shape mounted in the upper wing. Basically, the production C.III differed from the prototype C.Ia by having a smaller wing to reduce drag. Unfortunately, the smaller wing reduced payload and climb rate; giving the faster C.III basically the same climb rate as the C.I.

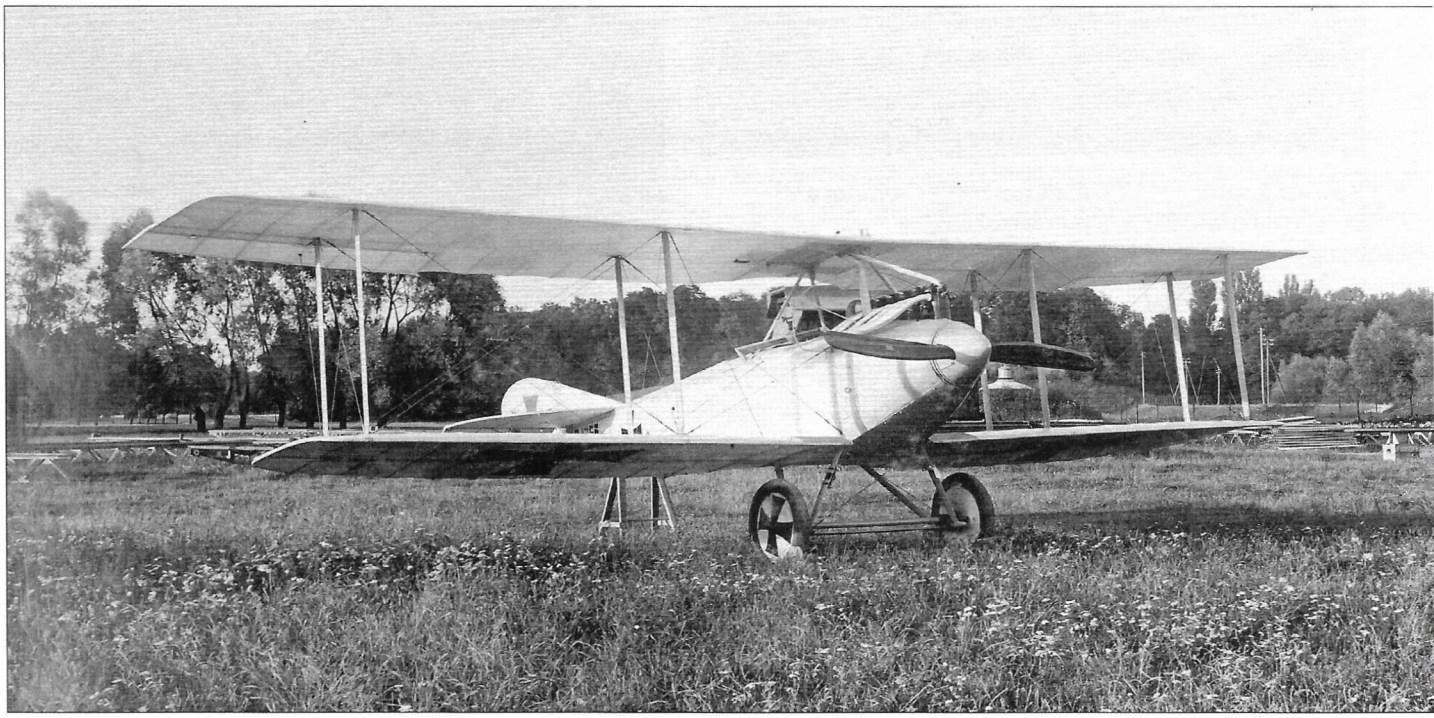
Unlike the C.II, the C.III retained the fixed fin and rudder of the earlier C.I and lacked the pilot's headrest that was unique to the C.II. To further increase speed, useful load was less than the C.I.

C.III Production and Service

The prototype for the C.III was Aviatik C.Ia C.1750/16 from the last C.I order of April 1916 for 75 Aviatik C.I (C.1700/16 to C.1774/16). The last 24 aircraft of that order (C.1751/16 to C.1774/16) were built as the C.III. A further 25 Aviatik C.III aircraft were ordered in July 1916 with serial numbers C.3150/16 to C.3174/16. In August 1917 there was a final Aviatik C.III order for 200 aircraft as trainers, serial numbers C.12201/17 to C.12399/17. These differed from the original C.III in having the pilot in the front and the observer, with his flexible machine gun, aft.

Interestingly, the Aviatik C.III preceded the C.II into service. Although the C.II and C.III shared many aerodynamic refinements from the C.Ia, the C.III was more closely related to the earlier C.I design and used the same 160-hp Mercedes D.III engine as the

Above: Based on its fuselage insgnia, this Aviatik C.III apparently served with *Flieger-Abteilung (A)* 209 before being interned in the Netherlands, as shown by the over-painted national insignia. The pointed spinner differs from the more rounded spinner normally seen on Aviatik C.III aircraft.

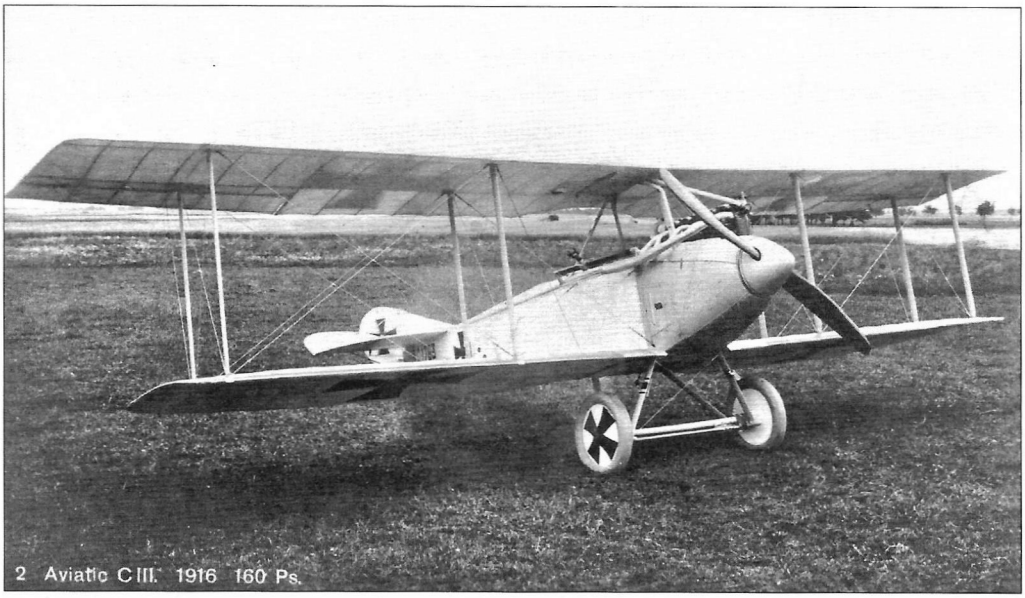


Above: The Aviatik C.III had clean lines for a two-seater; this example has the rounded spinner normally seen on the C.III.

C.I. Furthermore, that engine was available earlier than the Benz Bz.IV used in the C.II.

The C.III appeared at the front in small numbers from mid 1916 through early 1917, a maximum of 47 being at the front at the end of October, 1916.

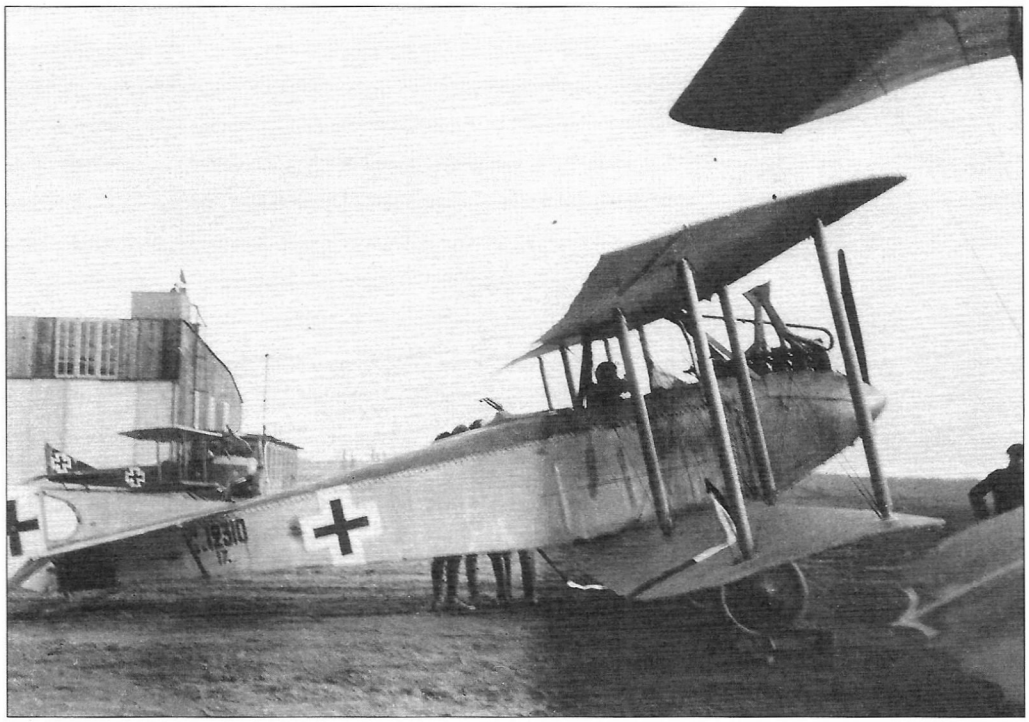
Operational units known to have used the Aviatik C.Ia/C.III include: FA25, *FFA*12, *FFA*42, *FFA*65, *FFA*67, *bFFA*4, *bFFA*6, *KS*25/*KG*5, and *FA*47b; school use was with *SchS*8.



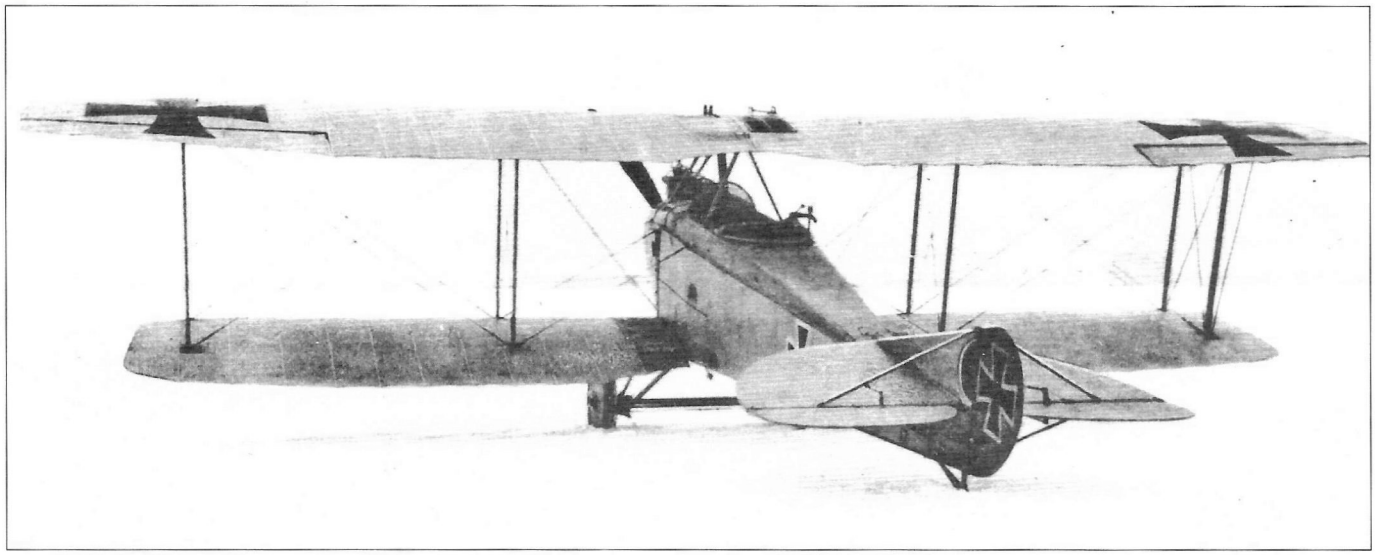
Left: An Aviatik C.III displays the clean lines that made it usefully faster than the C.I despite using the same engine, a 160 hp Mercedes D.III.

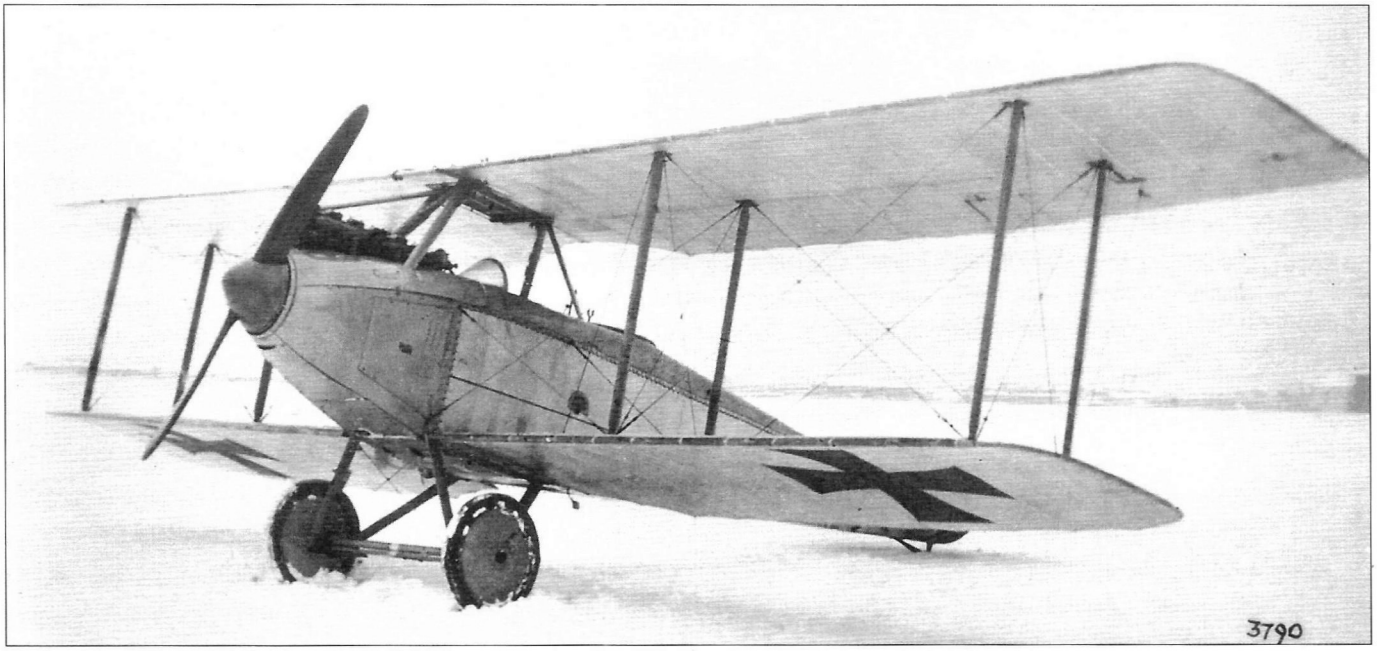
Above: Aviatik C.III 12378/17 has lost its spinner and broken its propeller in a training accident.

Above: An Aviatik C.III in dark camouflage, an unusual finish for a C.III.



Left: Aviatik C.III 12310/17 was ordered as a trainer; in this configuration the pilot sat in the front cockpit.



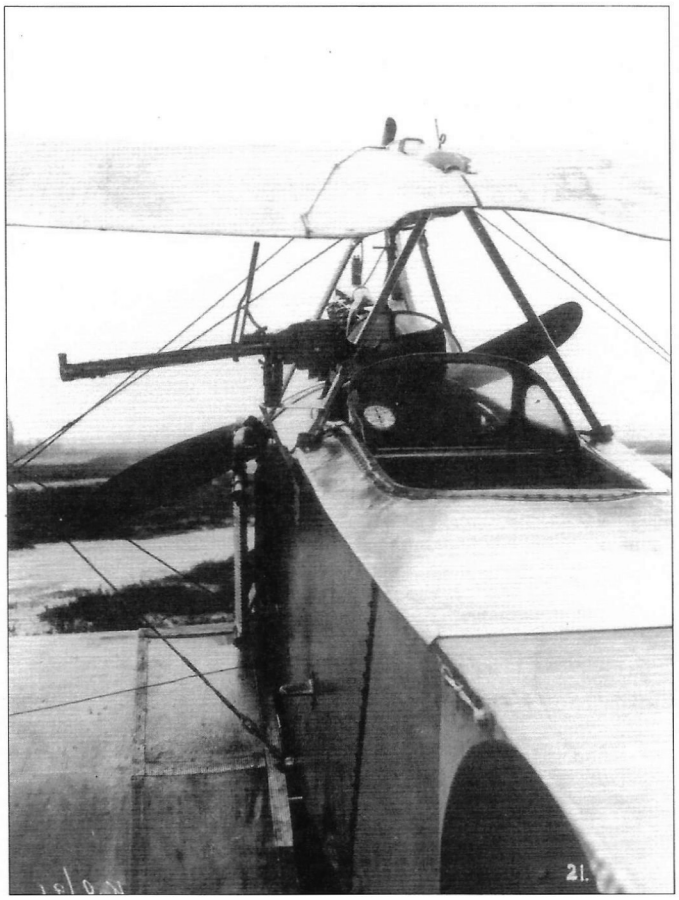


Above & Top: An Aviatik C.III in pristine condition waits in the snow for its next mission. Absence of the gun-mounting rails along the forward fuselage sides indicates this aircraft was ordered as a trainer with the pilot seated in the front cockpit.

Right: An operational Aviatik C.III aircrew poses with their ground crew and their aircraft. The starboard gun is clearly visible.

Above: An Aviatik C.III at left is lined up with Albatros C.1212/16 of *Flieger-Abteilung* 25.

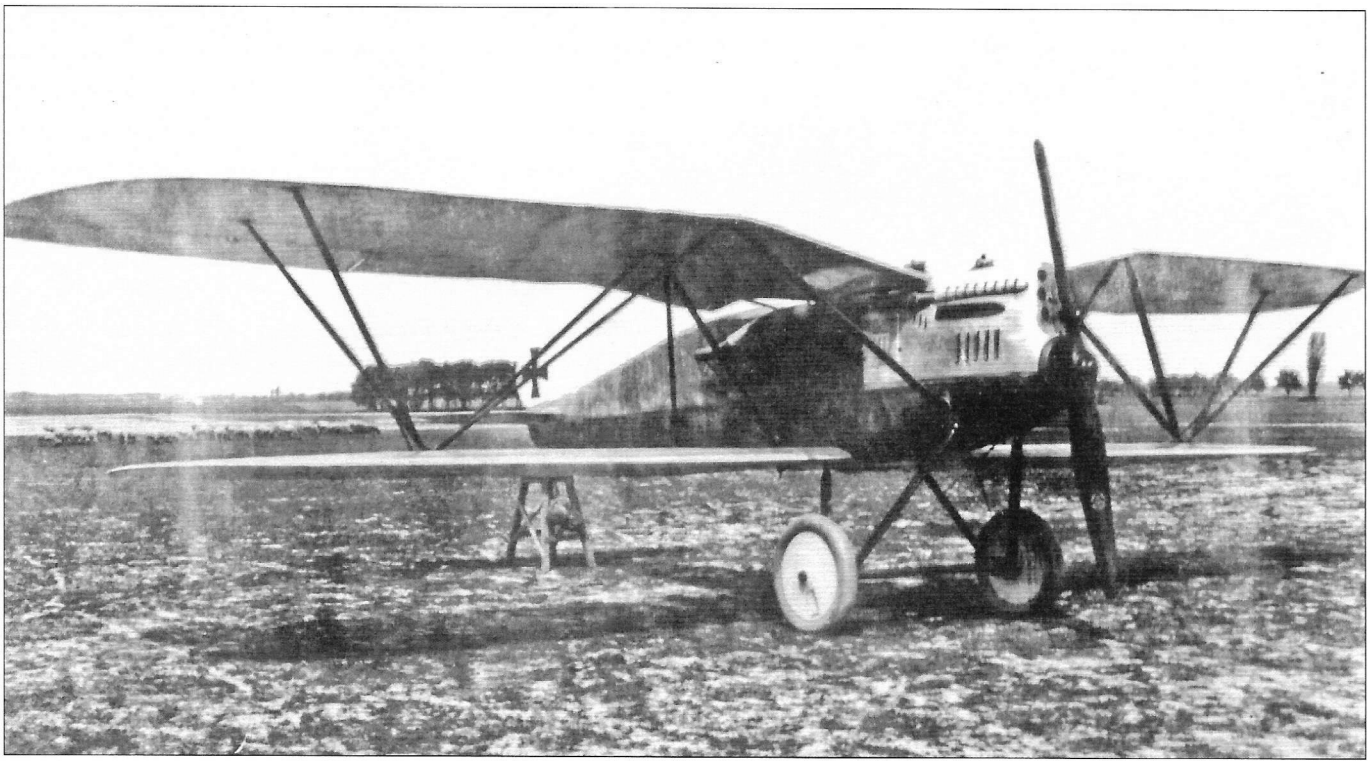
Below: An Aviatik C.III in Netherlands service postwar.



Below: An armed Aviatik C.III and crewman.

Above & Below: The restored fuselage of Aviatik C.III 12250/17, one of the 200 ordered for training, in the museum in Poland. To its left is the fuselage of Roland D.VIb 2225/18.

Aviatik C.IV & C.V



Above: The Aviatik C.V was a significant departure from earlier Aviatik two-seat aircraft. Its interesting wing design was chosen to optimize visibility and the observer's field of fire upward. The pilot was finally moved to the front cockpit and equipped with a fixed, synchronized machine gun.

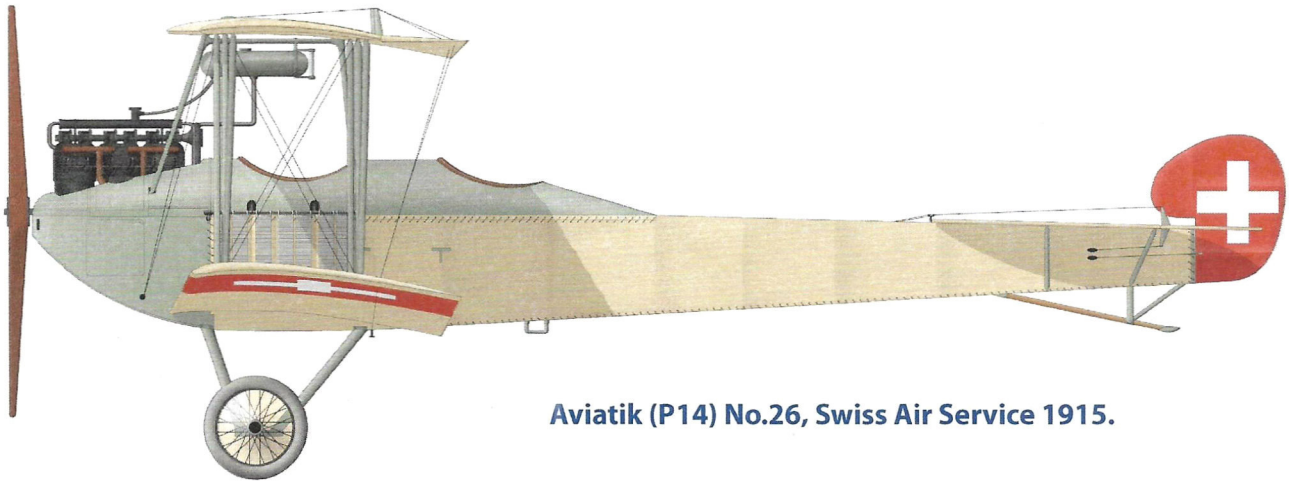
The Aviatik C.IV may have been the original designation for the DFW C.V built under license by Aviatik. The Aviatik C.V was the next true Aviatik two-seater design. Powered by a 180 hp Argus As.III, the C.V was of conventional construction but had an interesting gull-wing configuration to give maximum visibility and field of fire above the aircraft. The bracing struts were of significantly different design than earlier Aviatik C-types. The C.V differed from previous Aviatik C-types in having the pilot in front with a fixed, synchronized Spandau and the observer in the rear cockpit with a flexible Parabellum. The photo shows a lip at the front of the aircraft and apparently a propeller spinner was designed to be fitted. The C.V may have remained a single prototype, but one was shown at the front in June 1917 in the *Frontbestand* bables.

Aviatik C.I(Han) C.3379/16 *Lene* of *FEA* 9.

Aviatik C.VI, C.VII, & C.VIII

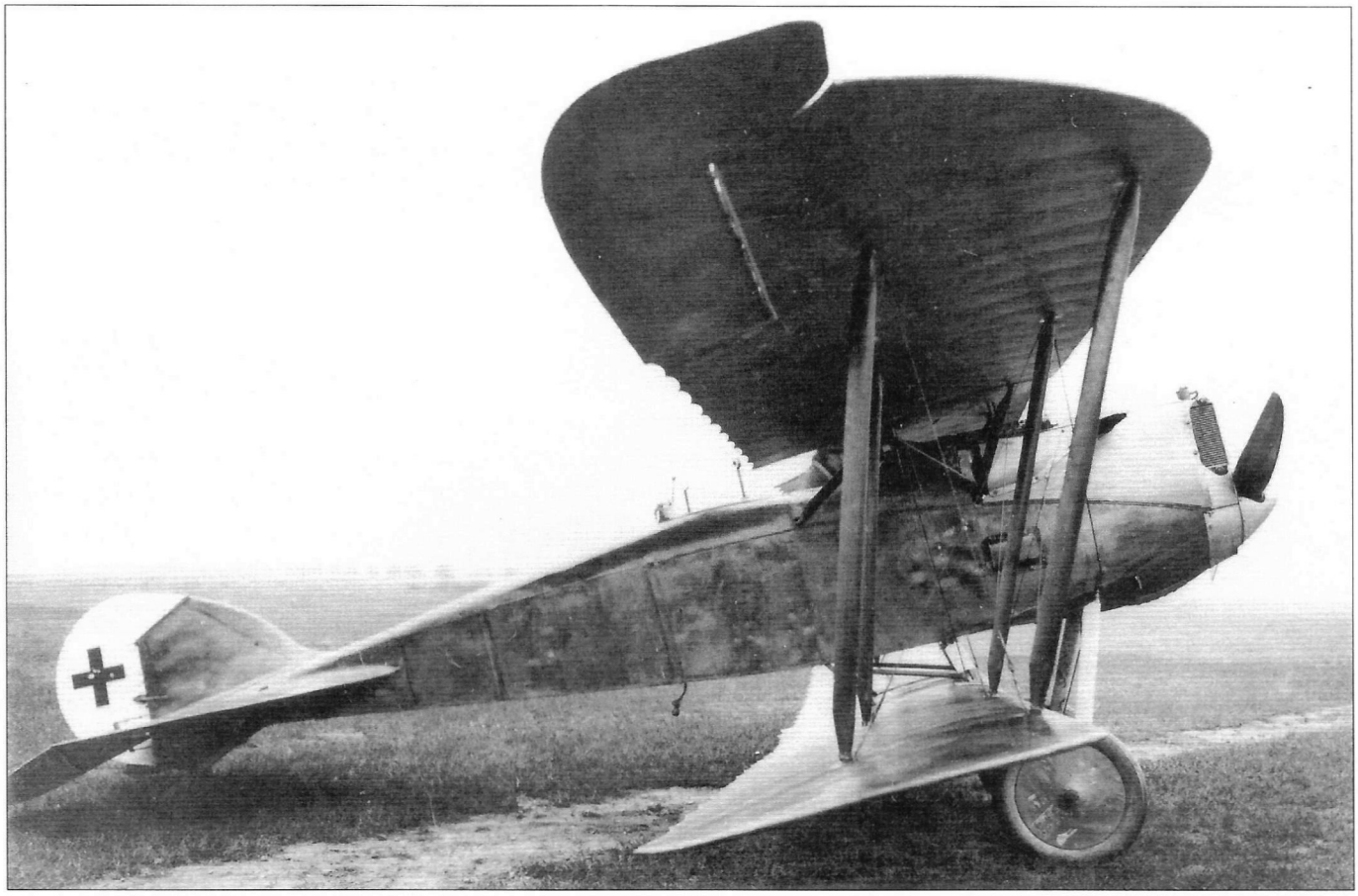
Above: The Aviatik C.VIII was a small, single-bay biplane apparently designed as a light C-type. The C.VIII remained a prototype; the Halberstadt and Hannover designs were produced in quantity instead and both were very successful.

The Aviatik C.VI was the DFW C.V built under license by Aviatik. The C.VII was apparently an un-built project, making the 1917 C.VIII the next Aviatik two-seater design actually built. The C.VIII was a small, single-bay biplane apparently designed as a light C-type in competition with the Halberstadt CL.II and Hannover CL.II. Like these competitors the C.VIII was powered by a 160 hp Mercedes D.III. To give sufficient gap between the wings to avoid aerodynamic interference, the lower wing was attached to a keel below the fuselage and braced with additional struts. The C.VIII remained a prototype.

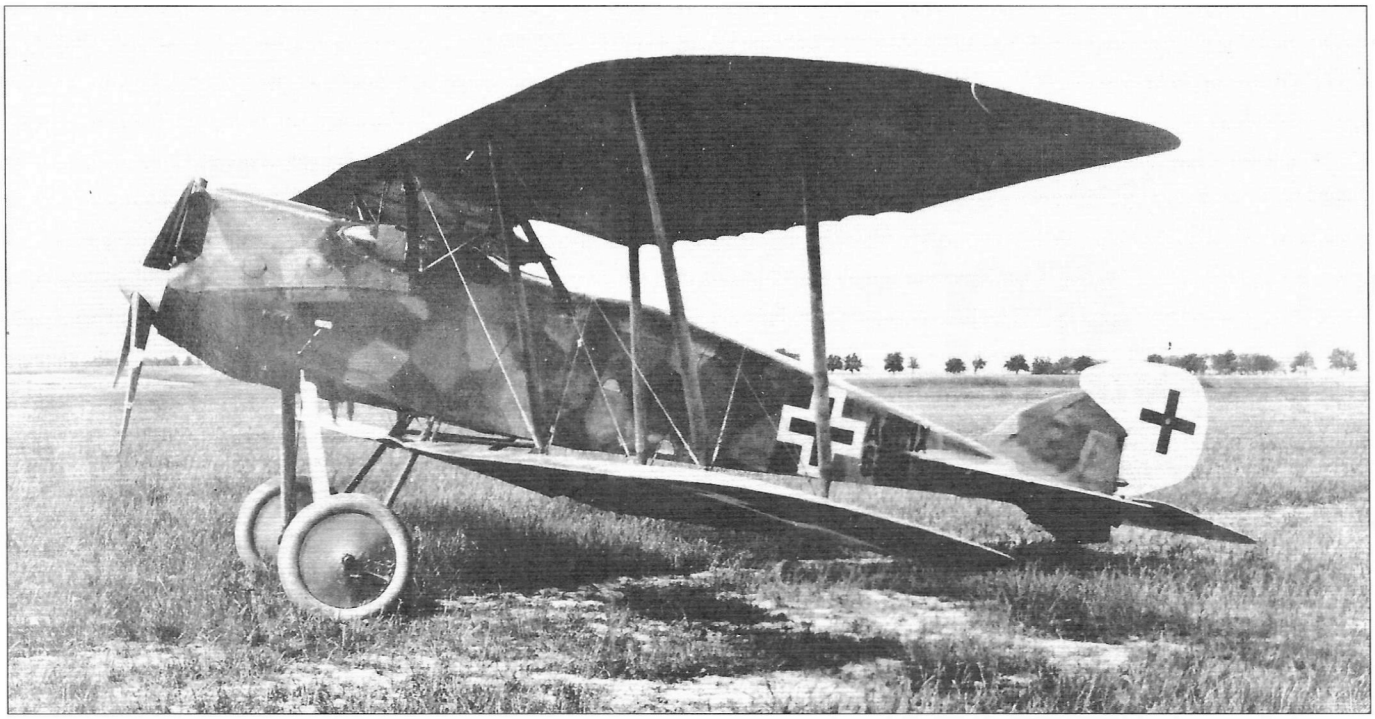


Aviatik (P14) No.26, Swiss Air Service 1915.

Aviatik C.IX

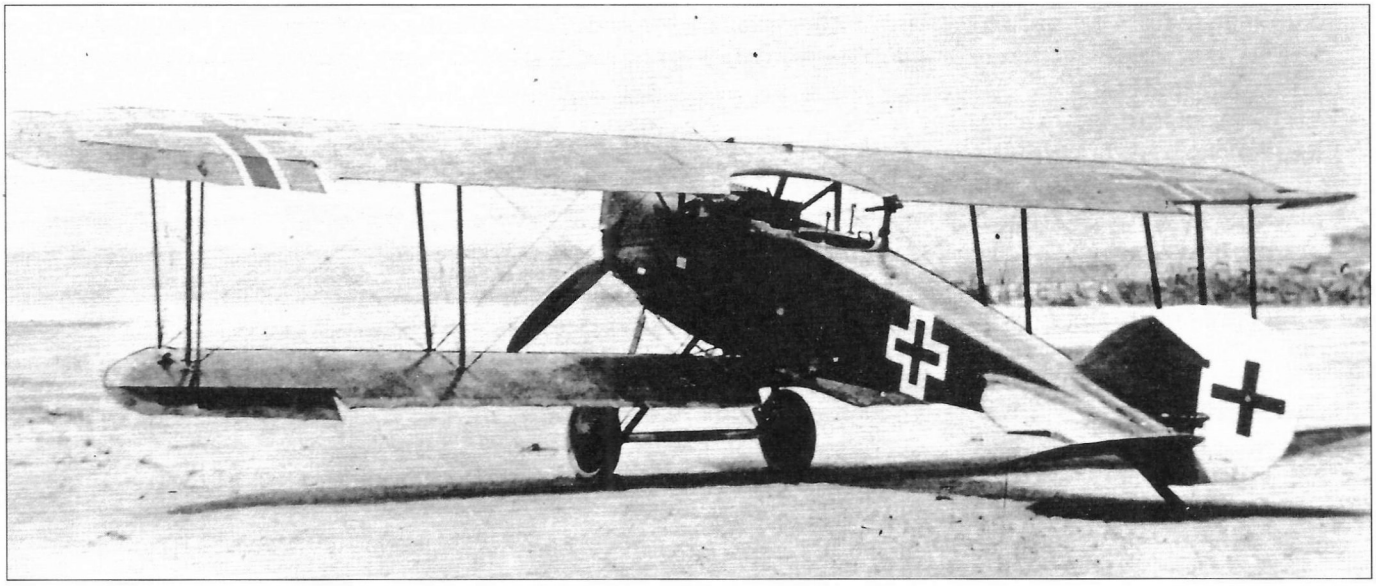


Above & Below: The Aviatik C.IX was the last Aviatik C-type built. The aircraft above is probably the first of three prototypes, while the aircraft below, which features an enlarged rudder, is probably the second of three prototypes.

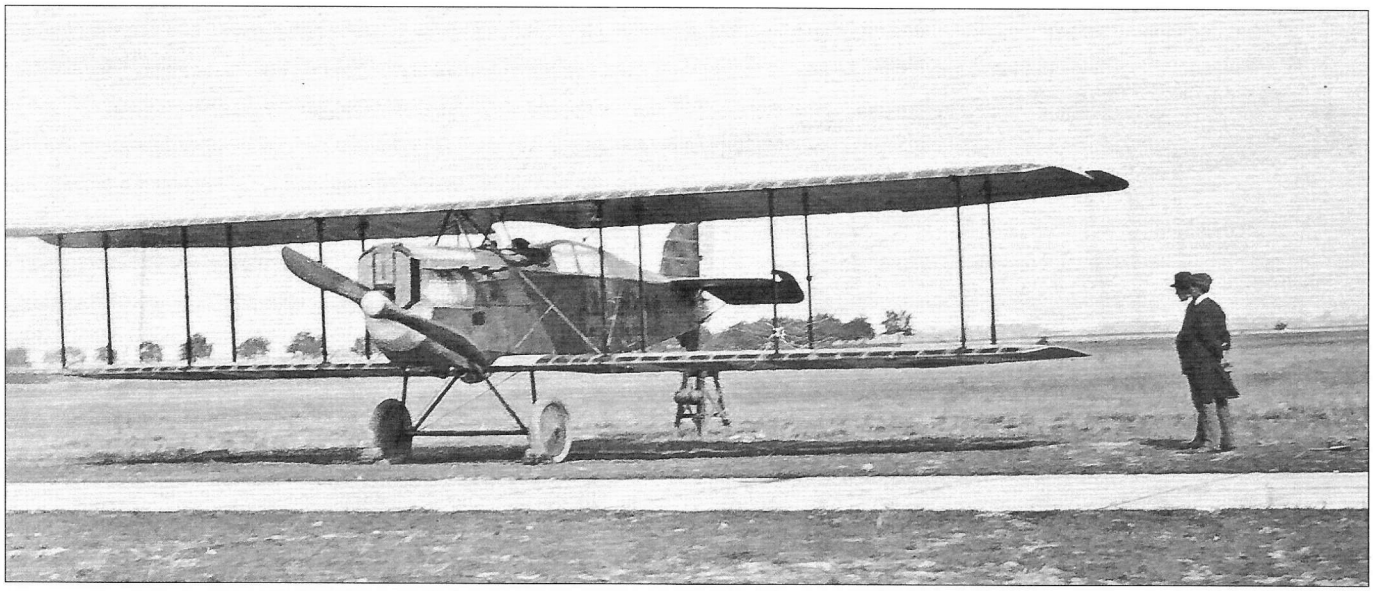


Above & Below: The Aviatik C.IX used the same 200 hp Benz Bz.IV engine used in the earlier C.II but was much more advanced aerodynamically. This aircraft, probably the third prototype of the three built, has ailerons on all four wings connected by actuating struts for higher roll rate and improved maneuverability. A nose radiator was used in the C.IX. The late-style crosses verify the date as sometime in 1918.

The C.IX was the final Aviatik two-seater design built. During 1918 three prototypes, 6306–6308/18, were constructed. Powered by the 200 hp Benz Bz.IV and mounting a nose radiator, the prototypes explored different tail surfaces and aileron configurations in an attempt to optimize maneuverability and flying qualities. The lower wing was suspended below the fuselage on struts for greater wing gap. The second airframe was tested to destruction at Adlershof in mid-June 1918. Armament was the then-standard fixed, synchronized Spandau for the pilot and flexible Parabellum for the observer. The Aviatik C.IX was not chosen for production.



Aviatik F.I



Above: The Aviatik F, completed postwar as a transport, was apparently converted during production from the Aviatik F.I designed in response to *Idflieg's* new "F" class long-range reconnaissance aircraft.

In September 1918 *Idflieg* defined a new aircraft class, "F", which stood for *Fernaufklärerflugzeuge* or long-range aerial reconnaissance aircraft. The classification was sent simultaneously to Rumpler, Halberstadt, L.V.G., Albatros, Aviatik, D.F.W., L.F.G. Roland, and Sablatnig, who were required to satisfy the following requirements:

- Maximum altitude (8,000 m)
- Speed at high altitude (160–170 km/h at 7,000 m, more than 140 km/h at 7,400 m)
- View for the pilot downward and to the sides, and the possibility to vertically see the ground
- Observer space only for photographic equipment.
- Parachute.
- Fuel tanks for 325 gallons of gasoline, either a tank with two separate chambers or a double-walled, bullet-resistant tank
- Wireless transmitter with heating
- Liquid oxygen for breathing at altitude
- A fixed forward-firing machine gun and a flexible machine gun in a rotating ring for the observer.

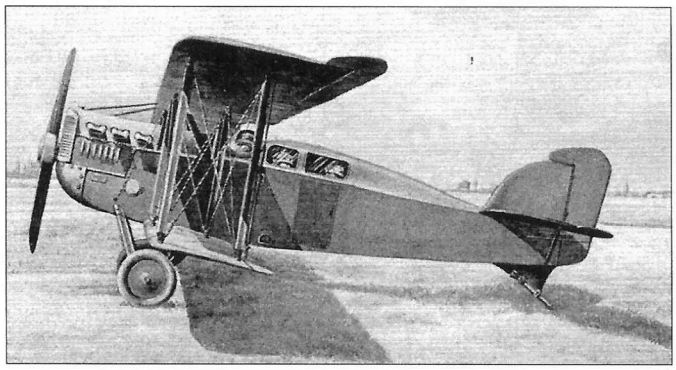
A number of engines were suggested, including the 350 hp Benz Bz.V V-12, the 350 hp Man V-10, the 260 hp Mercedes D.IVb, the 370 hp BMW V-12, and the 300 hp BuS.IVa six-cylinder. Examples of the Benz Bz.V V-12 were delivered in September. A Roland F.I to this requirement was ordered in Septmber and delivered in December.

A competition between F-types similar to the fighter compeitions started in September but the Armistice brought the competition to a halt.

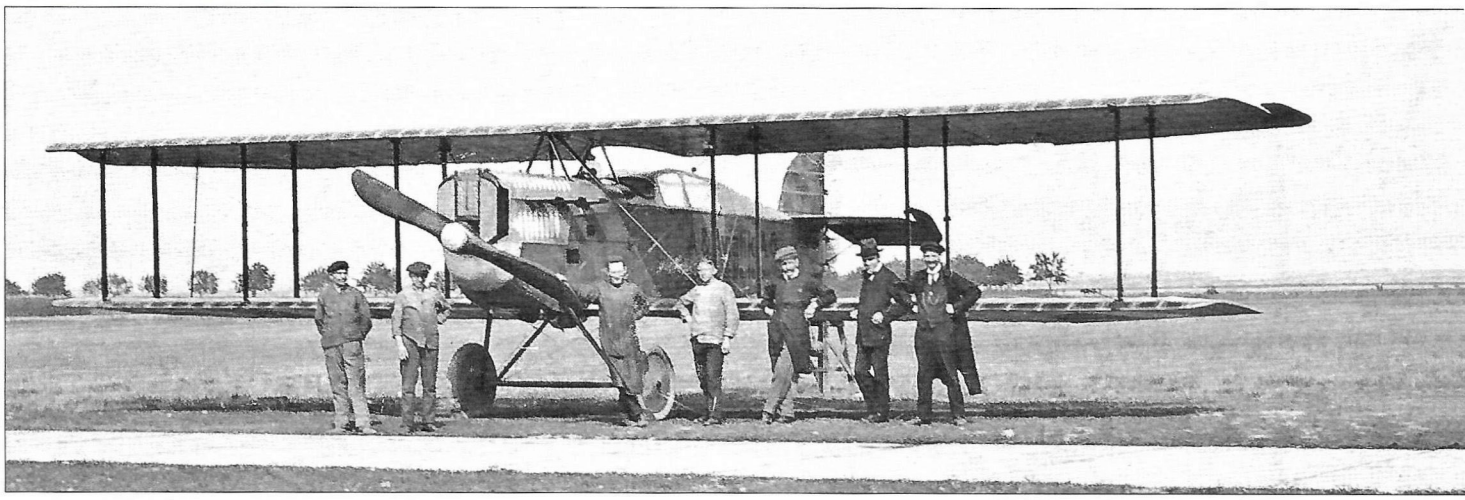
Aviatik F.I Specifications

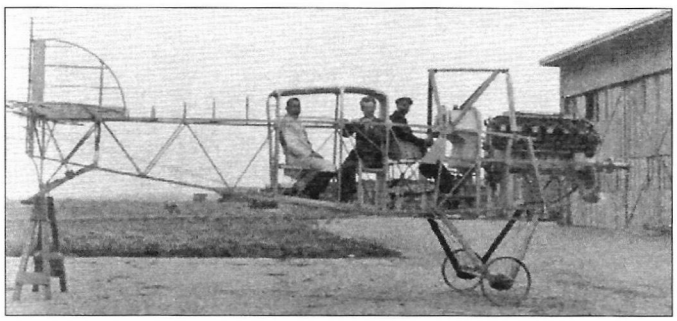
Engine:	300 hp Benz Bz.V (V-12)	
Wing:	Span	15.0 m
General:	Length	7.9 m
	Height	3.1 m
	Empty Weight	1,050 kg
	Loaded Weight	1,615 kg
Maximum Speed (at 2,000m):		175 kmh
Climb:	5000m	35 min
Ceiling (absolute):		6,500 m
Endurance:		3 hours
Range:		525 km

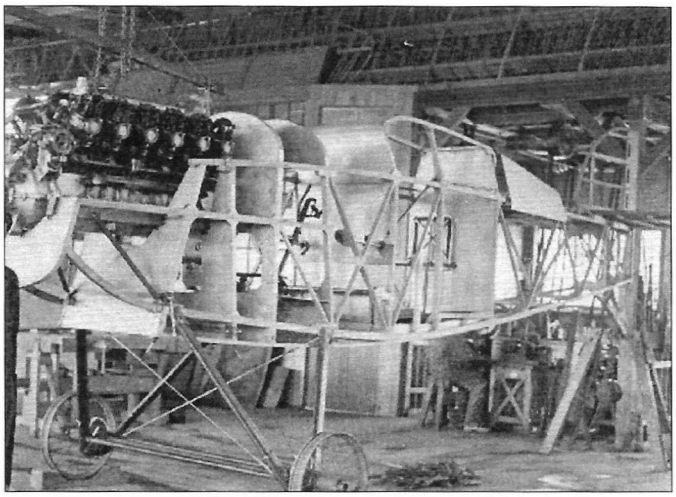
The aircraft that was completed postwar as the Aviatik F Limousine for two passengers and mail was almost certainly the Aviatik F.I long-range reconnaissance design converted to a transport. The Aviatik F was a large, three-bay biplane that bore a marked resemblence to the Aviatik D.VII fighter.



Above: An artist's rendering of the Aviatik F. Limousine.







Above: Structure of the Aviatik F during completion as a Limousine carrying two passengers.

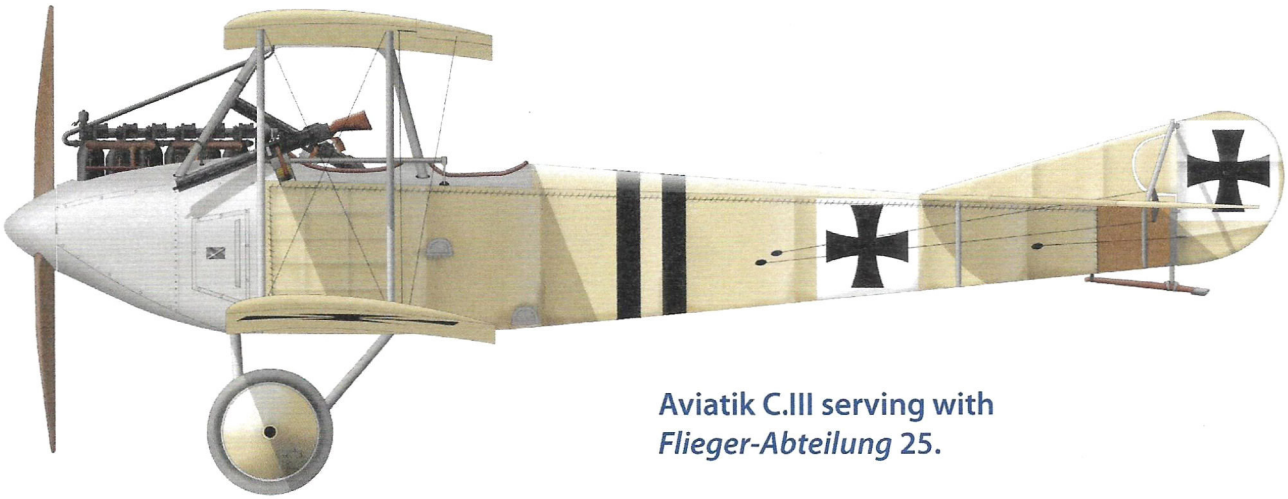
Top: The Aviatik F during flight evaluation.

Right: The Aviatik F during construction as an F.I.

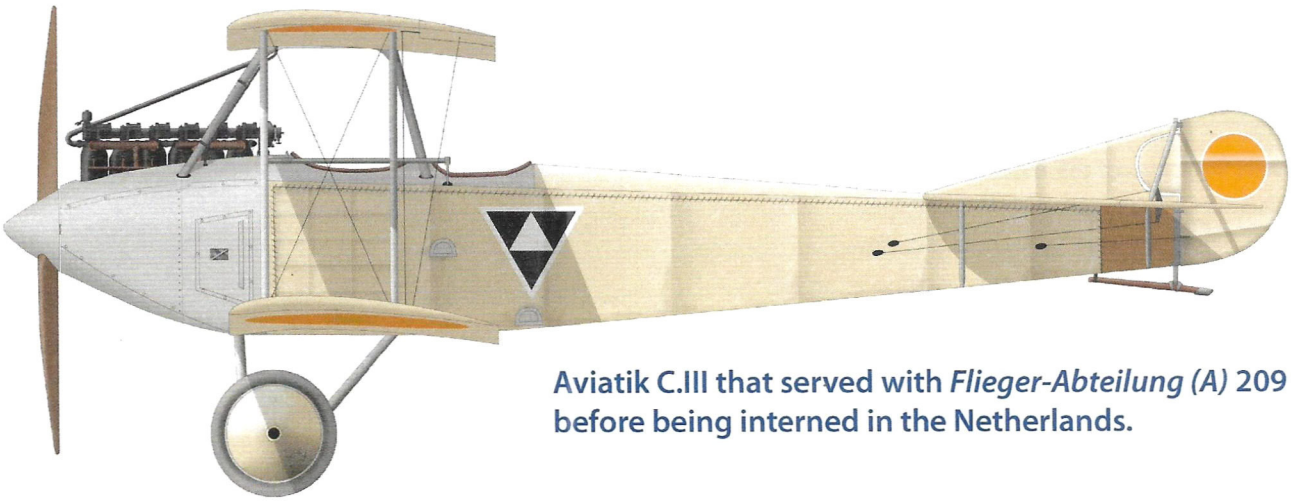
The fact that a Benz Bz.V V-12 was installed, one of the engine types recommended for the F-class, and the fact that the aircraft was completed in the first half of 1919 indicate that it was designed during 1918 for the F-class requirement. Furthermore, a photo of the aircraft under construction in the factory shows the rear cockpit ready for installation of a gun ring, while another photo of it outside the factory shows it now being built as a transport.

The Aviatik F was completed as a transport; whether it flew is not known for certain but is likely given that it was completed.

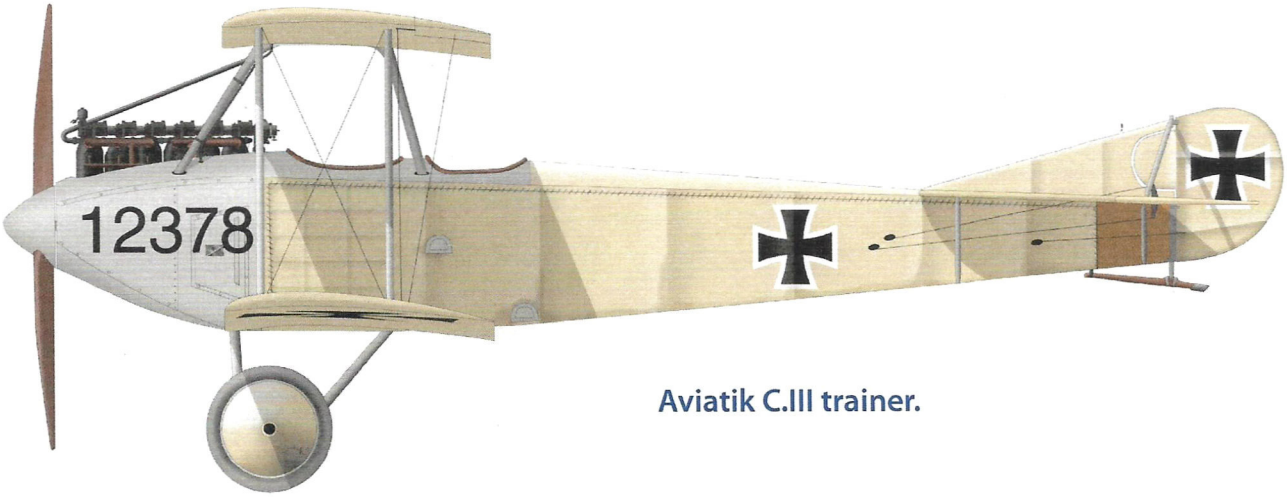
Below: The Aviatik F during postwar flight evaluation. There are no records of it having flown, but that is highly likely considering that it was completed. Use of a two-bladed instead of a four-bladed propeller seems unusual considering the 350 hp delivered by the Benz Bz.V V-12.



Aviatik C.III serving with *Flieger-Abteilung* 25.



Aviatik C.III that served with *Flieger-Abteilung (A)* 209 before being interned in the Netherlands.



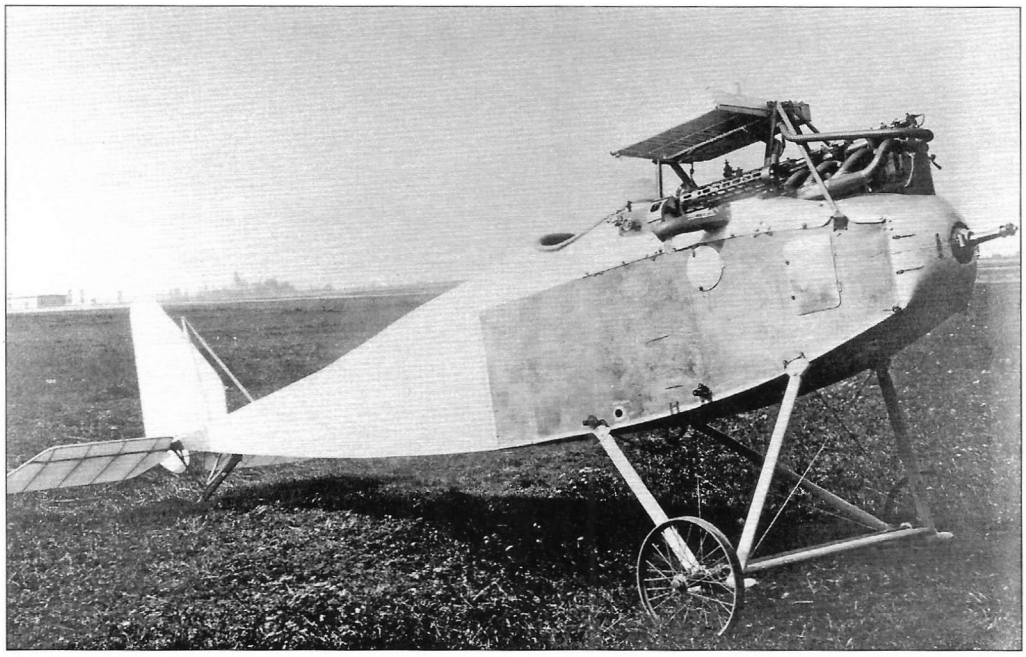
Aviatik C.III trainer.

Aviatik Fighters

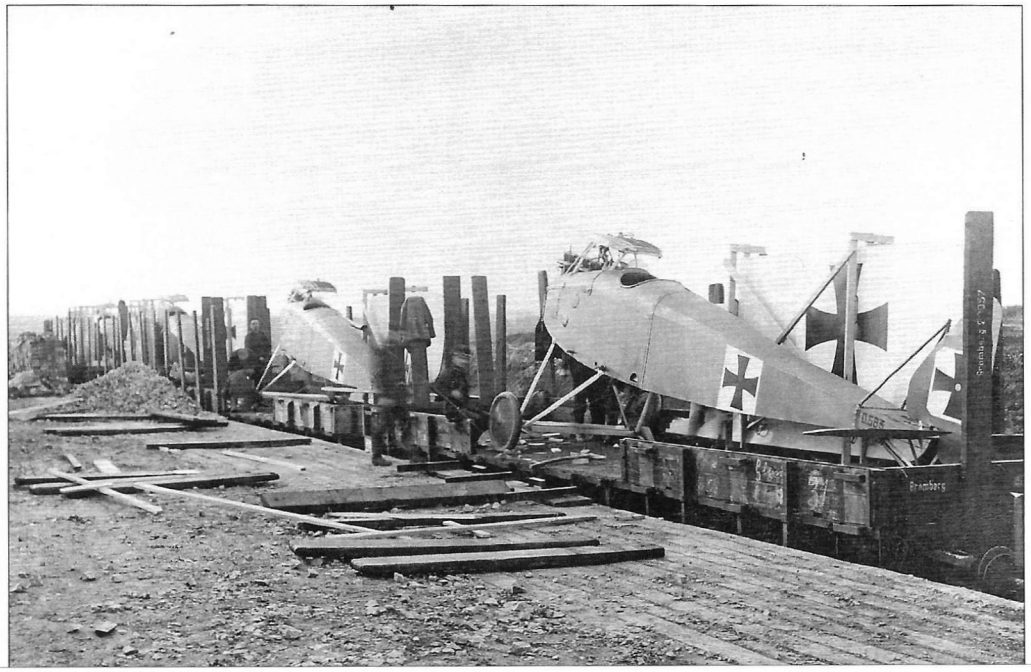
Beginning in 1916, Aviatik started building the Halberstadt D.II fighter under license, and in late 1916 built the first fighter of its own design. In late 1917 this was followed by another prototype, the Aviatik D.III, the first in a series of prototype fighters powered by experimental V-8 engines. German V-8 engine development was protracted and the engines were not ready for series production in time to power any German warplane in combat. As a result, the later Aviatik fighters, which had sufficient performance and handling qualities to be approved for production, came too late to prove themselves in action.

Aviatik D.I

Aviatik built the Halberstadt D.II under license as the Aviatik D.I. When *Idflieg* rationalized aircraft designations, it was logically re-designated the Halberstadt D.II(Av).



Left: The Aviatik D.I was the Halberstadt D.II produced under license. After *Idflieg* rationalized aircraft designations, it was re-designated the Halberstadt D.II(Av). It was powered by a 120 hp Mercedes D.II. With wings removed for transportation, this aircraft shows the engine details and single synchronized machine gun.



Right: Aviatik D.I fighers, later known as the Halberstadt D.II(Av), are packed on railroad cars for shipment to the front. Trains were more reliable over long distance than the airplanes of the time, hardly an encouraging thought for the aircrews.

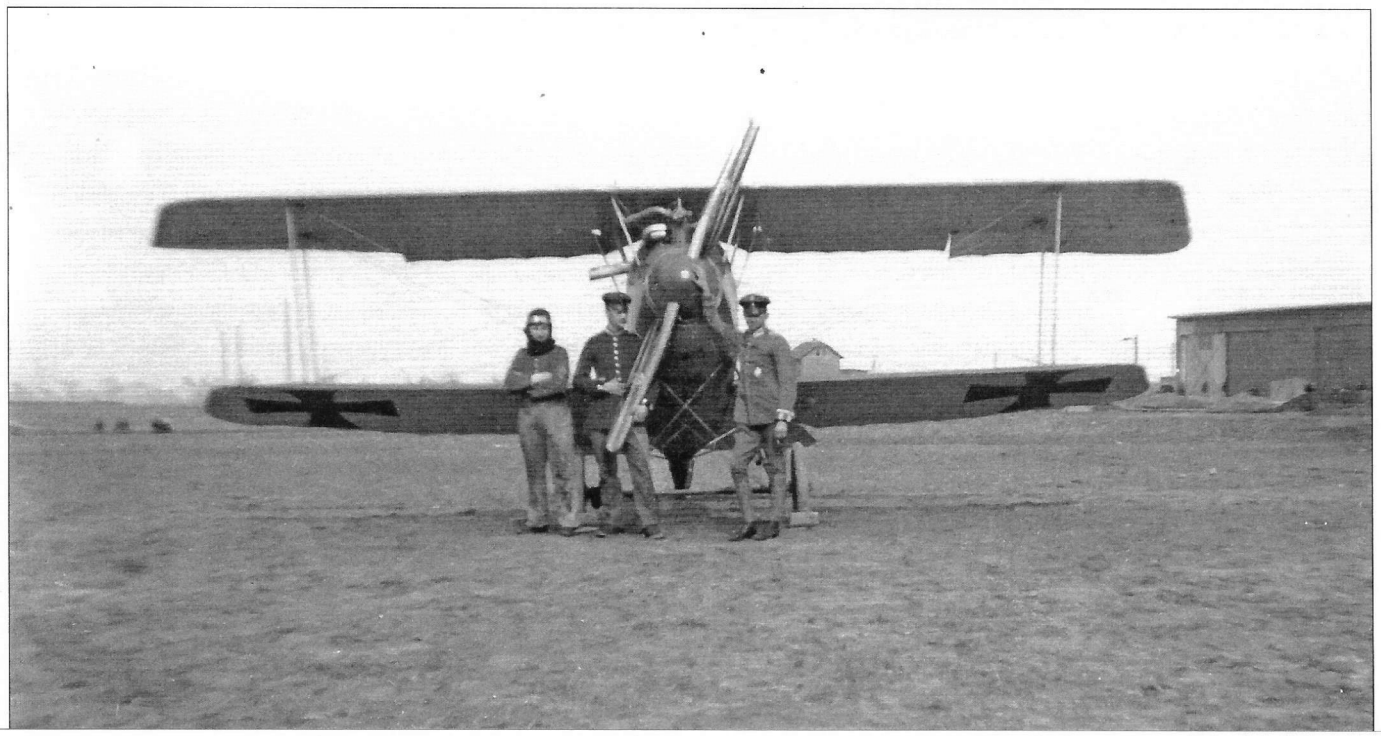
Aviatik D.II

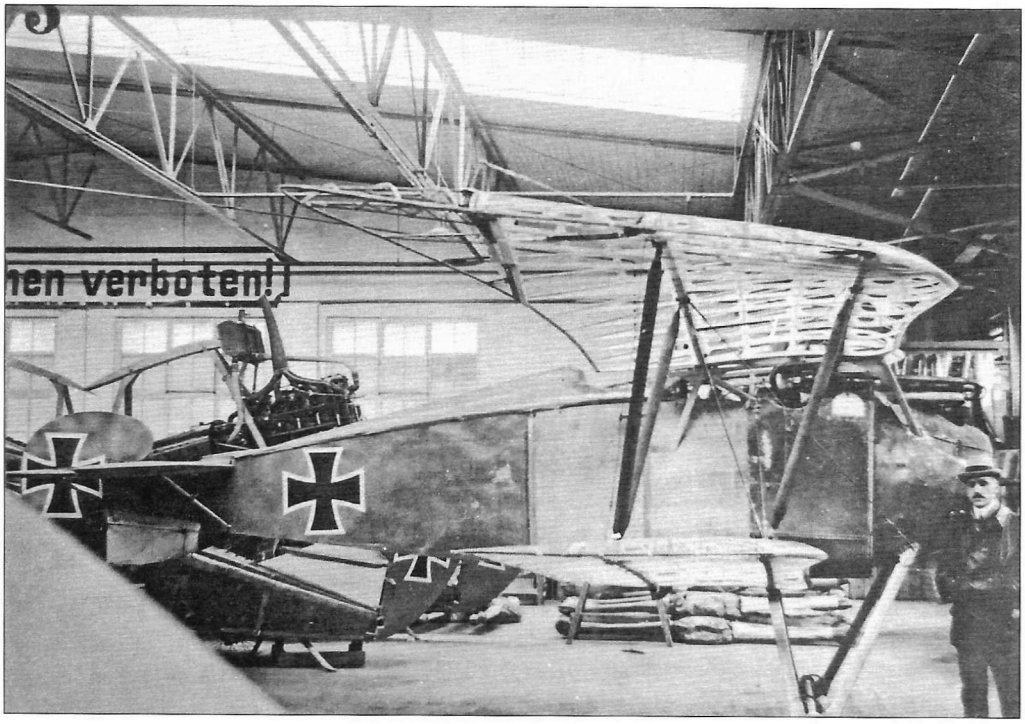
The Aviatik D.II, Aviatik's first original fighter, was built in late 1916. Like Albatros fighters, the Aviatik D.II was powered by a 160 hp Mercedes D.III engine and had two synchronized machine guns. It was a single-bay biplane with conventional interplane struts. Primarily built of conventional wood, fabric, and wires, the forward fuselage was steel tube and the rear fuselage was covered with plywood. The D.II demonstrated mediocre performance and only one prototype was built.

Aviatik D.II Specifications

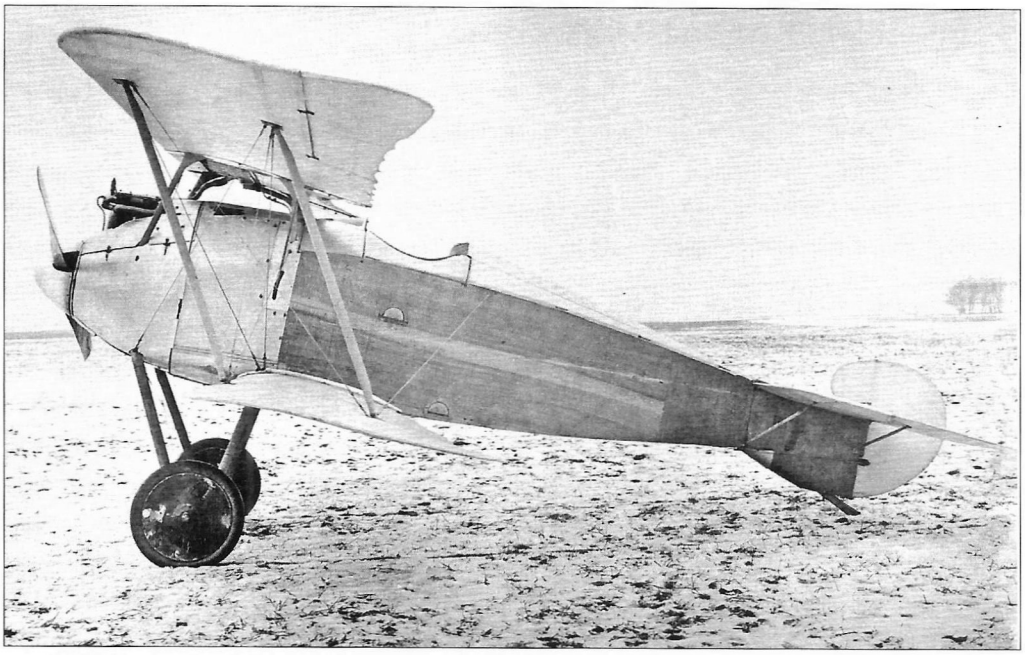
Engine:	160 hp Mercedes D.III	
Wing:	Span	8.84 m
General:	Length	6.82 m
	Height	2.87 m
Maximum Speed:		150 kmh
Climb:	1000m	7.2 min

Below & Bottom: The Aviatik D.II was powered by a 160 hp Mercedes D.III and had mediocre performance.





Left: The Aviatik D.II before its wings were completed. Its rear fuselage was covered with light plywood.



Right & Below: In these photos the Aviatik D.II was rigged with much more stagger on the upper wing tthan it was at left. Powered by a standard 160 hp Mercedes D.III, it had mediocre performance.

Aviatik D.III

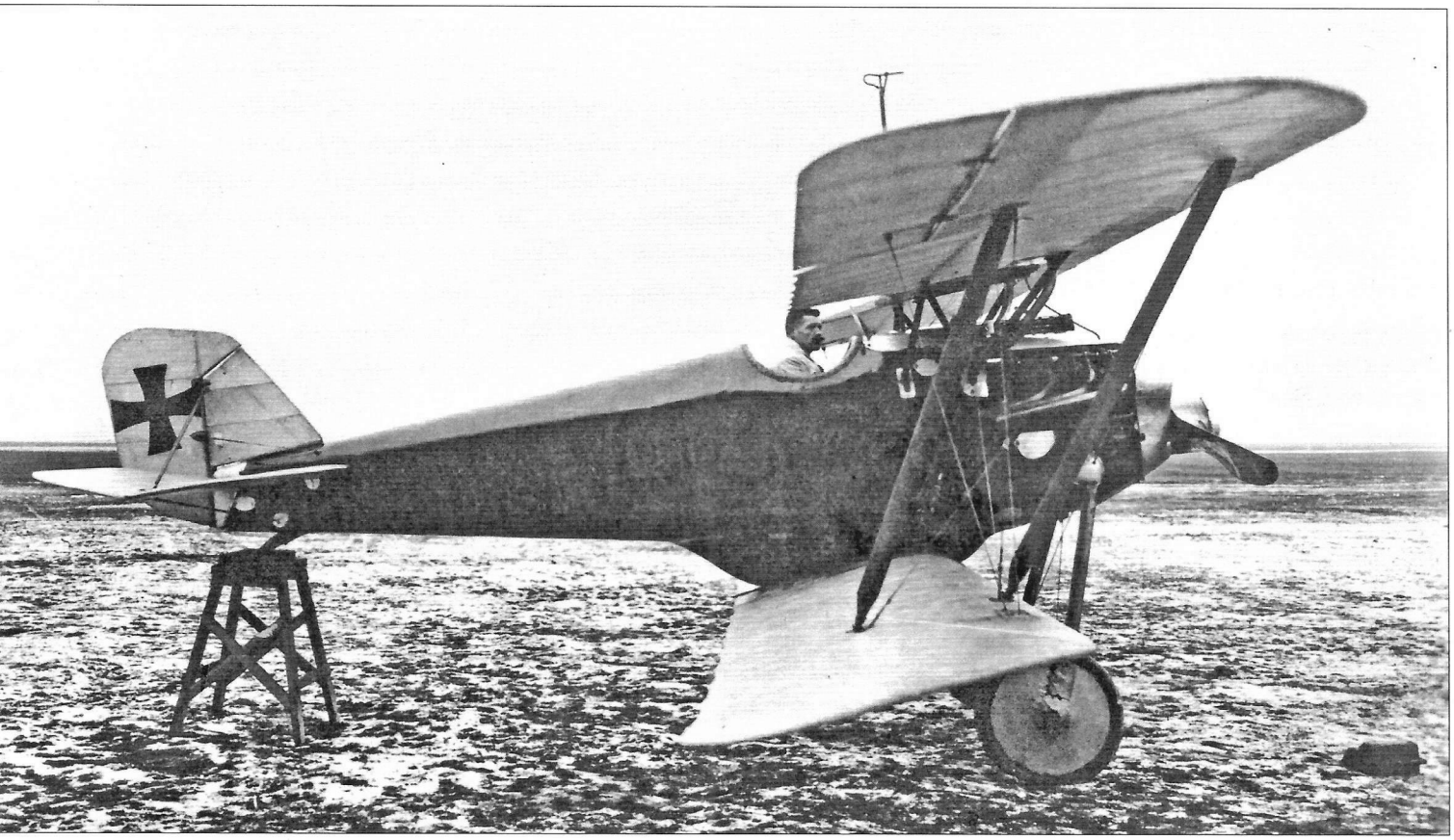
The Aviatik D.III, powered by an experimental ungeared 195 hp Benz Bz.IIIbo V-8 flew for the first time in November 1917 and competed in the First Fighter Competition. The lower wing was mounted on a keel to give adequate gap between the wings to avoid airflow interference. The forward fuselage was of steel tube with plywood skinning and the wings were fabric covered wood. The initial type test was performed from 9–12 February 1918, at the end of the First Fighter Competition. The D.III prototype was then returned to Aviatik for modifications, and type-testing was resumed in April. A second prototype was built with a geared 195 hp Benz Bz.IIIbm V-8.

The Aviatik D.III did not make a big impression during the competition but a small number with 195 hp Benz Bz.IIIbo engines were built for test and evaluation. Performance was considered superior to the Albatros D.V, although by this time that was not a particularly high standard. Aviatik continued to develop the D.III and it also competed at the Second Fighter Competition along with the similar Aviatik D.IV.

Note: Both Daimler (making the Mercedes engines) and Benz V-8 engines were built in both geared and ungeared versions as reflected in their designations. Geared engines had the suffix 'm' for '*mit*' (with), meaning with gears, while the ungeared engines had the suffix 'o' for '*ohne*' (without), meaning without gears.

Aviatik D.III Specifications

Engine:	195 hp Benz Bz.IIIbo V-8	
Wing:	Span	9.0 m
	Area	21.0 m^2
General:	Loaded Weight	864 kg
Climb:	1000m	2.5 min
	2000m	5.7 min
	3000m	11.0 min
	4000m	17.0 min



Above: The Aviatik D.III was powered by an ungeared, experimental 195 hp Benz Bz.IIIbo V-8. Flown for the first time in November 1917, it competed in the First Fighter Competition. Despite being an 'also ran' at the competition, a small number were ordered for test and evaluation, with the primary focus most likely being engine development.

Above & Below: The Aviatik D.III fighter prototype was powered by an experimental Benz Bz.IIIbo high-speed V-8 engine that was not yet ready for production.

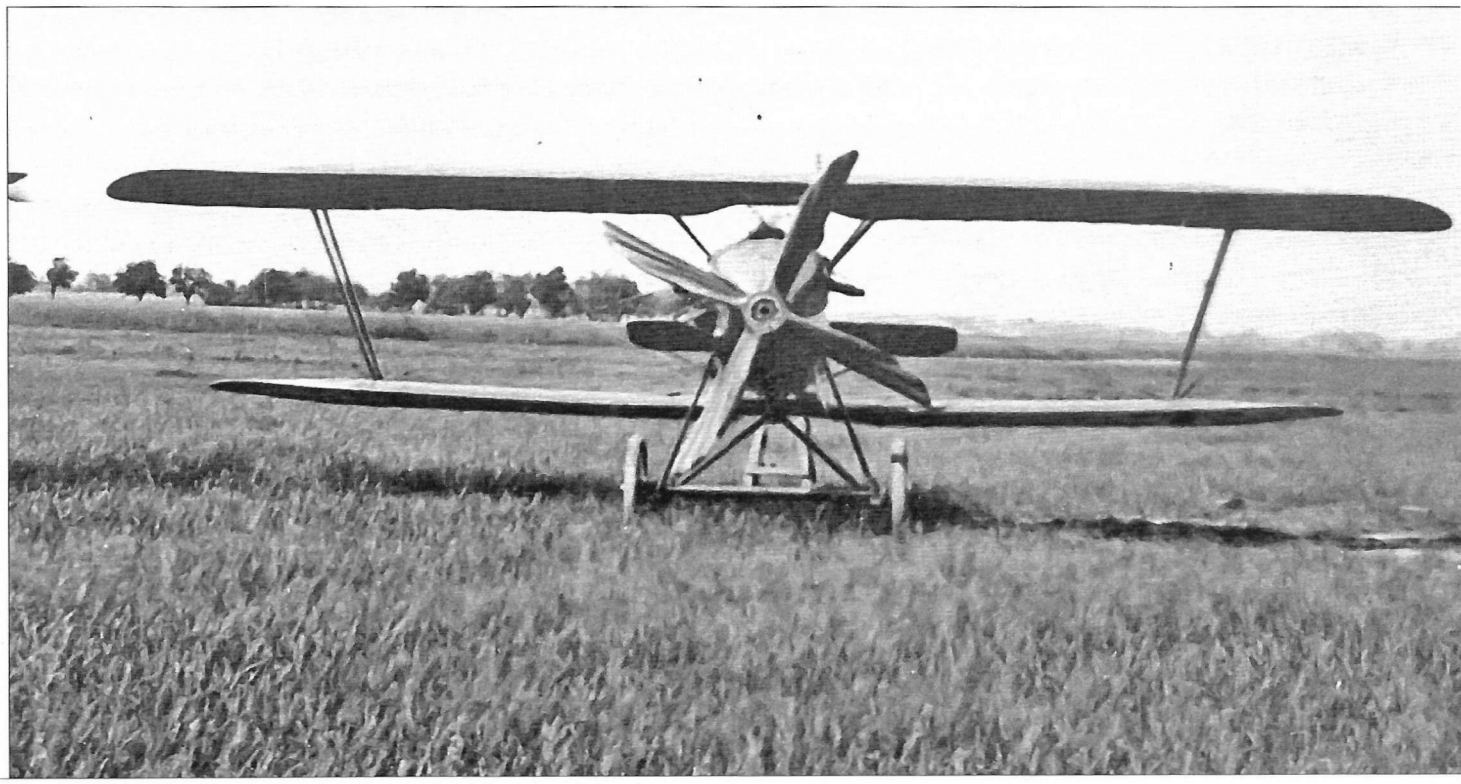
Above & Below: The Aviatik D.III fighter evaluated both the geared and un-geared versions of the Benz Bz.IIIb V-8 and competed at both the First Fighter Competition and the Second Fighter Competition.

Aviatik D.IV & D.V

Both the Aviatik D.IV and D.V were prototype single-bay biplane fighters powered by the geared Benz Bz.IIIbv V-8 that was a larger-displacement version of the geared 195 hp Benz Bz.IIIbm V-8. The D.IV was essentially similar to the D.III while the D.V was a new design without flying wires. The D.III and D.IV both competed at the Second Fighter Competition.

Aviatik D.IV Specifications		
Engine:	195 hp Benz Bz.IIIbv V-8	
Wing:	Span	9.0 m
	Area	21.0 m²

Above & Below: The Aviatik D.IV fighter competed at the Second Fighter Competition. The D.IV differed from the D.III in having the Benz Bz.IIIbv, a larger displacement version of the Bz.IIIbm used in the D.III. Both D.III and D.IV suffered from having pre-production engines and helping develop those engines may have been their primary purpose. Photographs of the Aviatik D.V are not available.



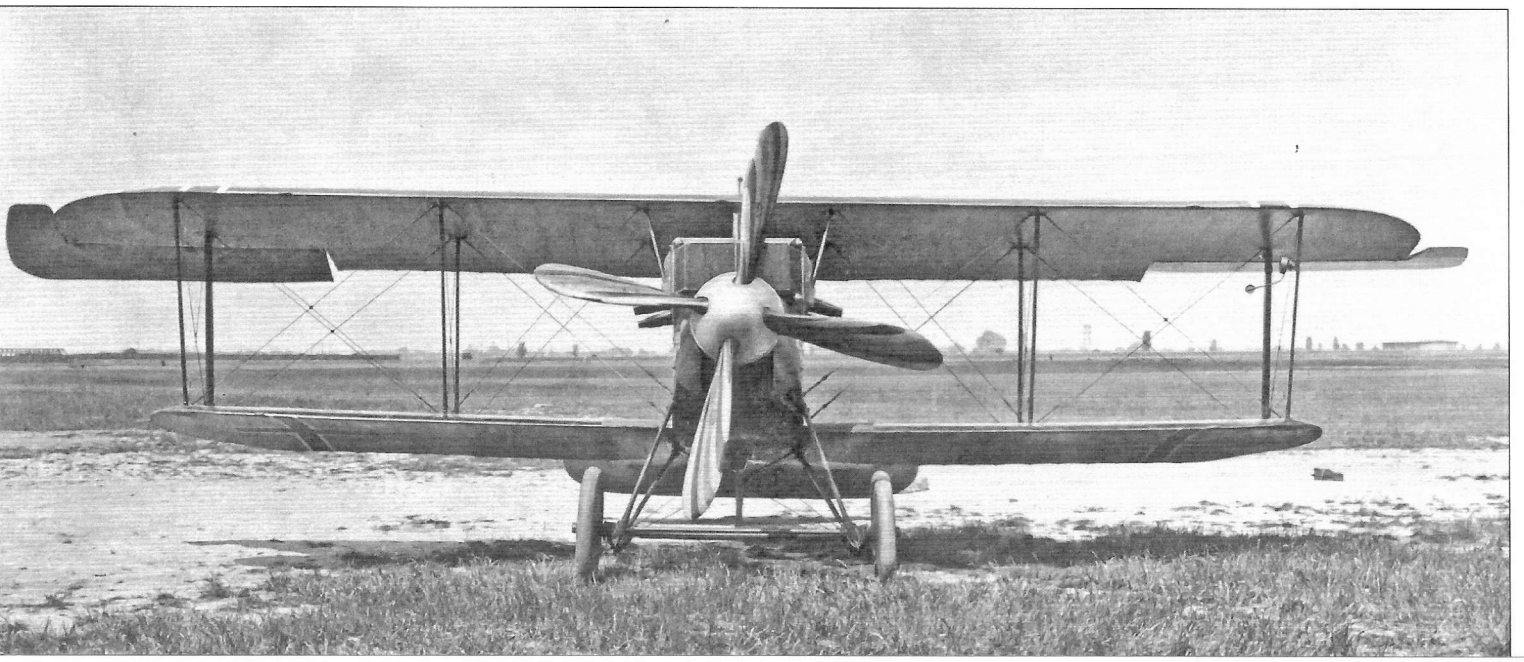
Aviatik D.VI

The Aviatik D.VI fighter, a new, two-bay design that owed little to preceding Aviatik fighters, first flew in August 1918 due to engine problems, too late to compete at the Second Fighter Competition. The D.VI was powered by the 195 hp Benz Bz.IIIbm geared V-8 and armed with the standard fighter armament of two synchronized machine guns. The Aviatik D.VI proved to have excellent flight characteristics, but the single example built was overtaken by the improved Aviatik D.VII.

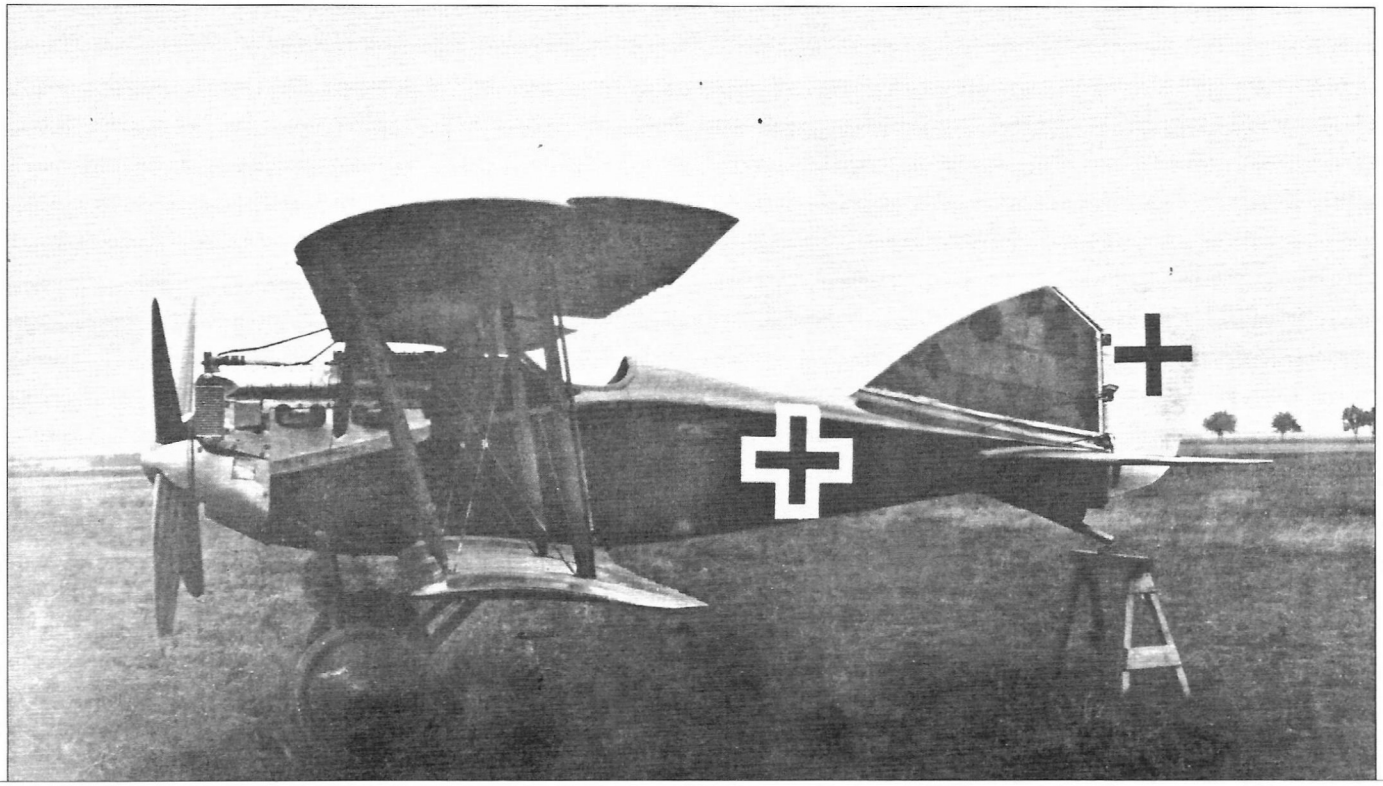
Aviatik D.VI Specifications

Engine:	195 hp Benz Bz.IIIbm V-8	
Wing:	Span	9.66 m
General:	Length	6.10 m
	Height	2.50 m
	Empty Weight	750 kg
	Loaded Weight	940 kg
Maximum Speed:		188 kmh
Climb:	5000m	17.8 min

Above & Below: The Aviatik D.VI fighter was too late to compete at the Second Fighter Competition but was in time to be evaluated by the front-line pilots in July. Its flying qualities were excellent, but it was overtaken by the improved Aviatik D.VII.



Above & Below: Two views of the Aviatik D.VI, which was evaluated by pilots in conjunction with the Second Fighter Competition despite not being a formal entry in the competition. The example below has a larger fin and rudder, likely as a result of flight testing. The following D.VII had an even larger fin and rudder. Power was from a Benz Bz.IIIbm geared V-8.



Aviatik D.VII

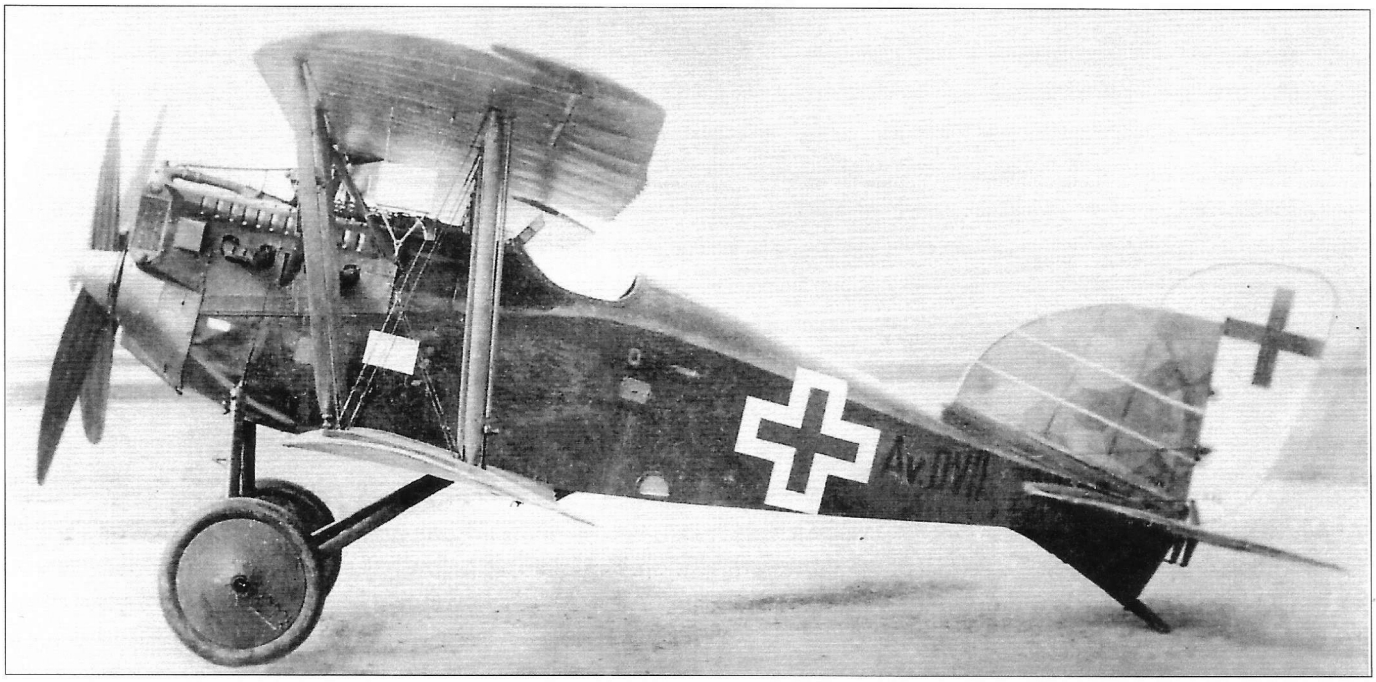
A development of the Aviatik D.VI, the Aviatik D.VII had substantially revised tail surfaces but was otherwise essentially the same as the D.VI and was powered by the same Benz Bz.IIIbm V-8 used by the D.VI. Likewise, it was armed with the standard fighter armament of two synchronized guns.

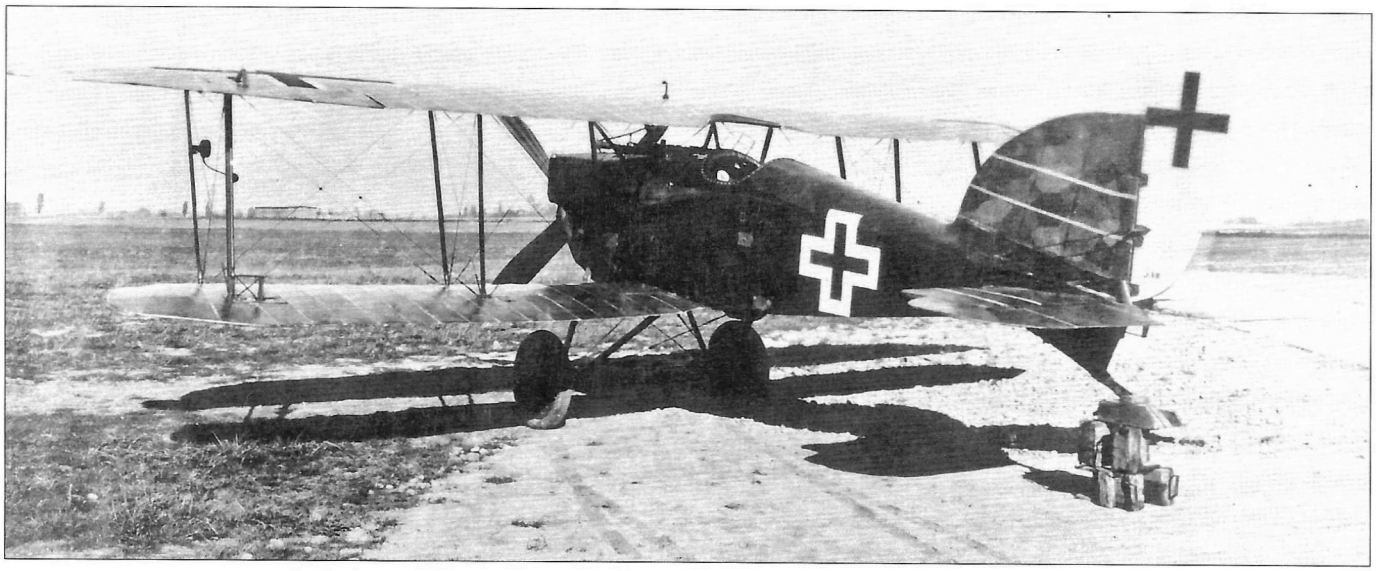
Although planned to compete in the Third Fighter Competition, that competition was reserved for aircraft powered by the BMW.IIIa engine, so the Aviatik D.VII did not participate. Nevertheless, it was covertly placed in production and the Inter-Allied Control Commission found 50 completed Aviatik D.VII fighters after the war.

Aviatik D.VII Specifications

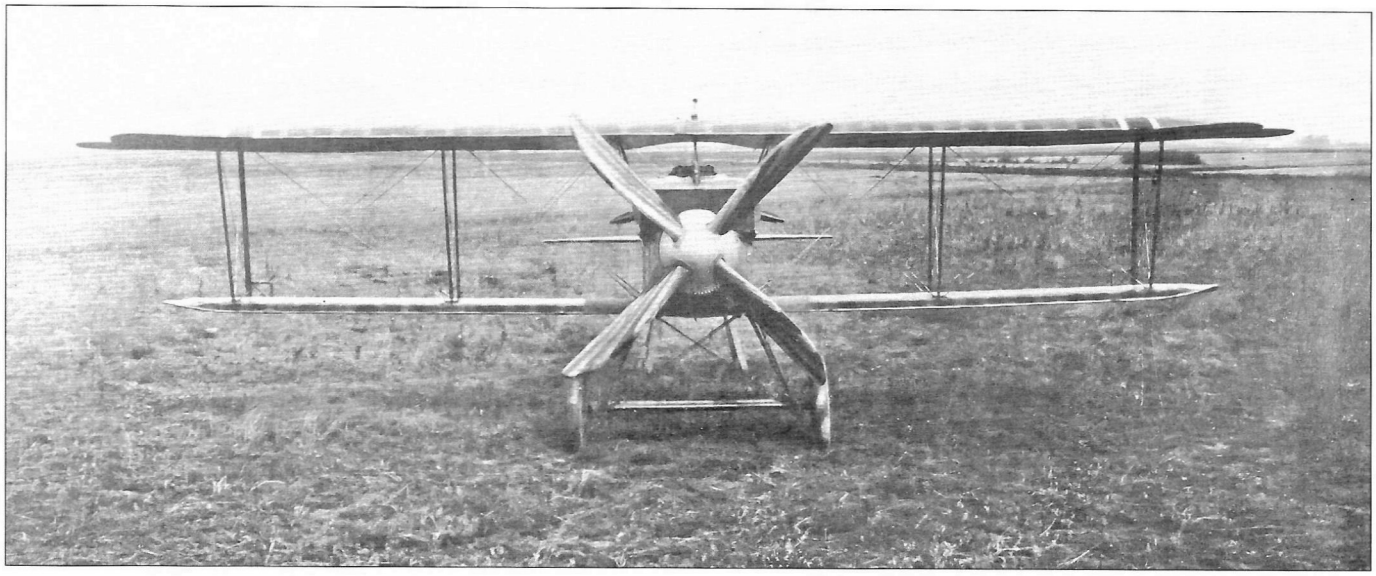
Engine:	195 hp Benz Bz.IIIbm V-8	
Wing:	Span	9.66 m
General:	Length	6.10 m
	Height	2.50 m
	Empty Weight	745 kg
	Loaded Weight	945 kg
Maximum Speed:		192 kmh
Climb:	6000m	24.0 min

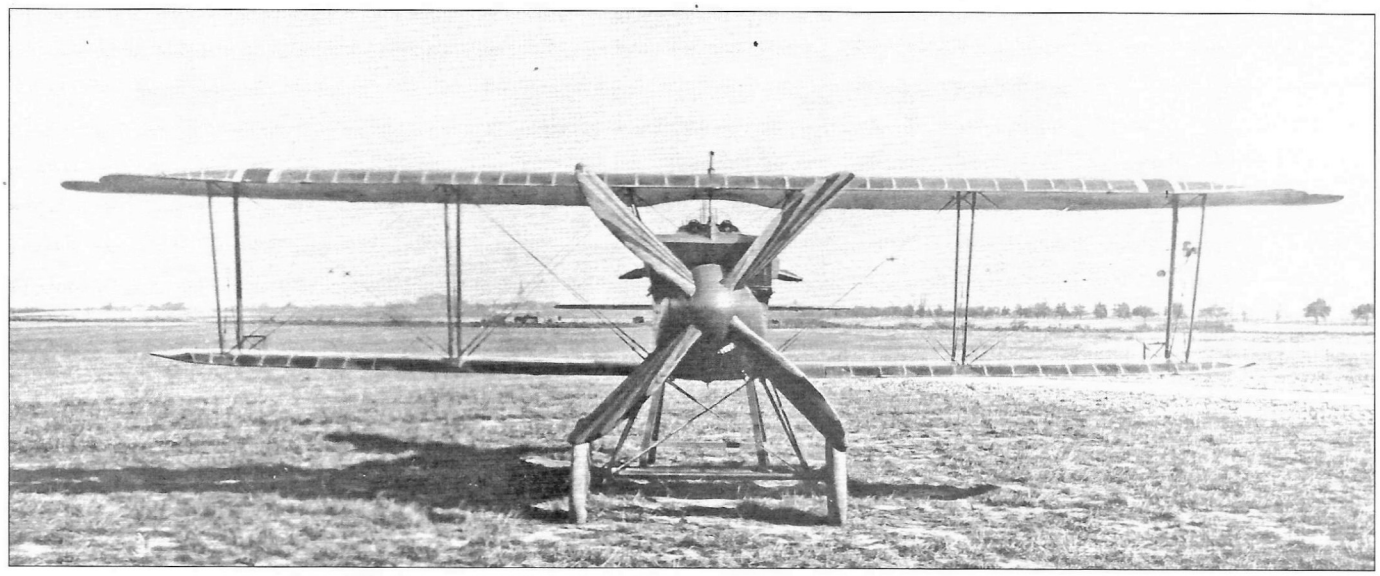
This Page: The Aviatik D.VII fighter was developed from the similar Aviatik D.VI but had larger tail surfaces for even better maneuverability and flying qualities.

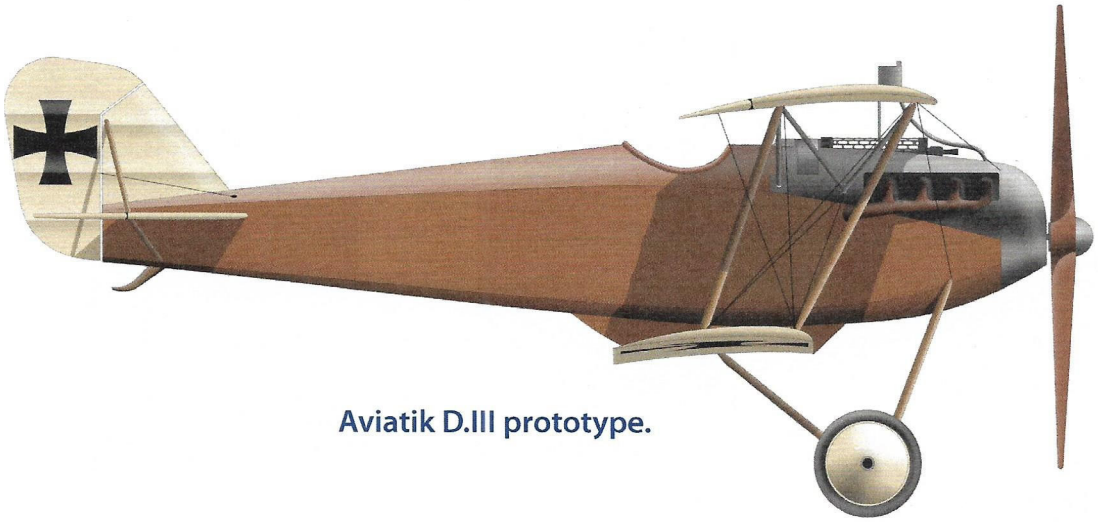




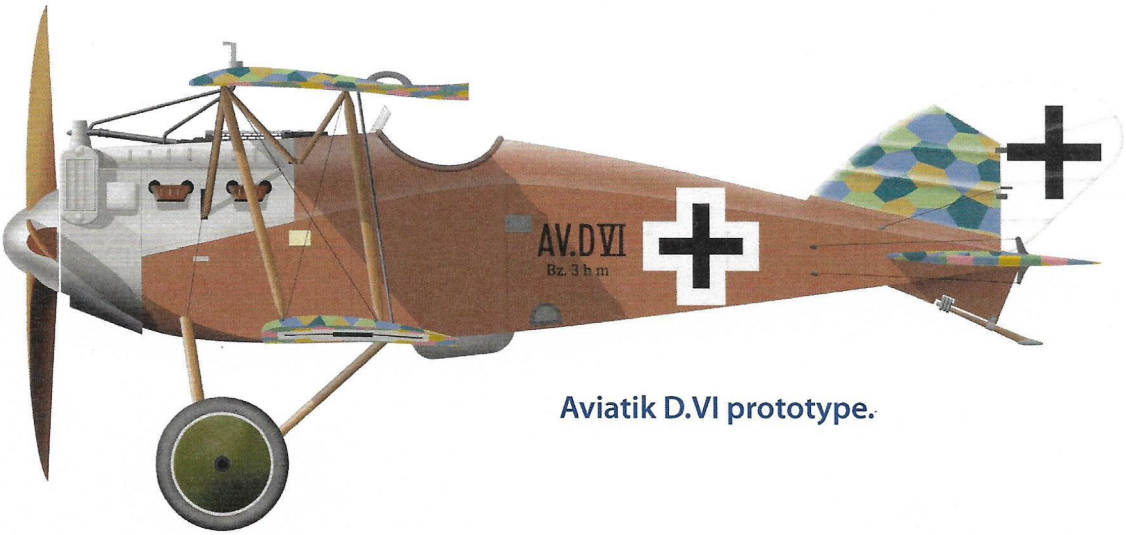
This Page: The little-known Aviatik D.VII fighter was apparently placed in production but never reached the front. The Inter-Allied Control Commission found 50 production aircraft in clandestine storage after the war.







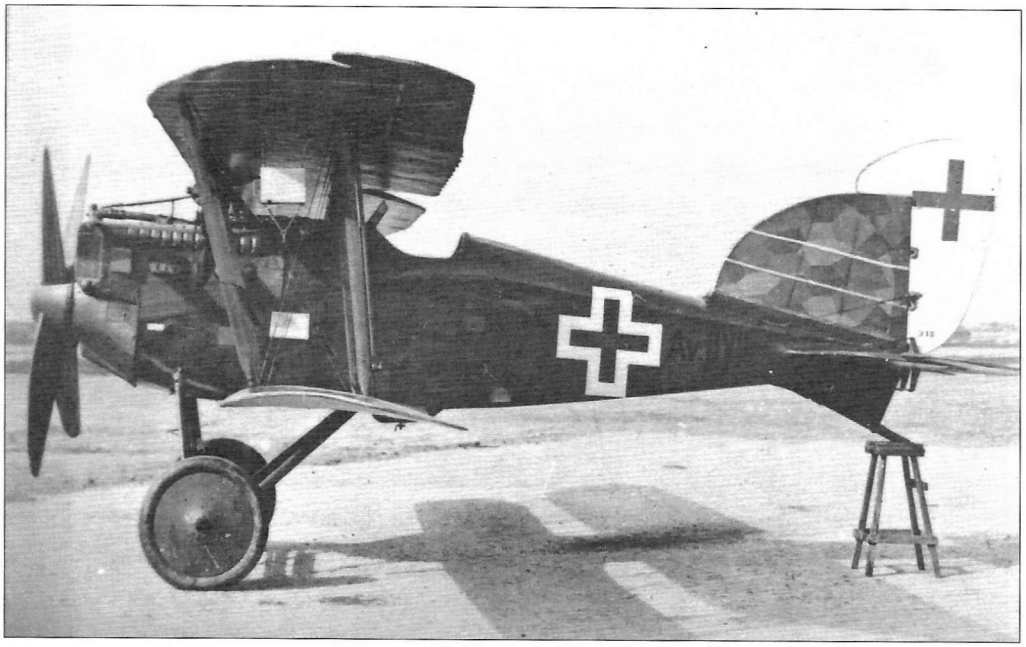
Aviatik D.III prototype.



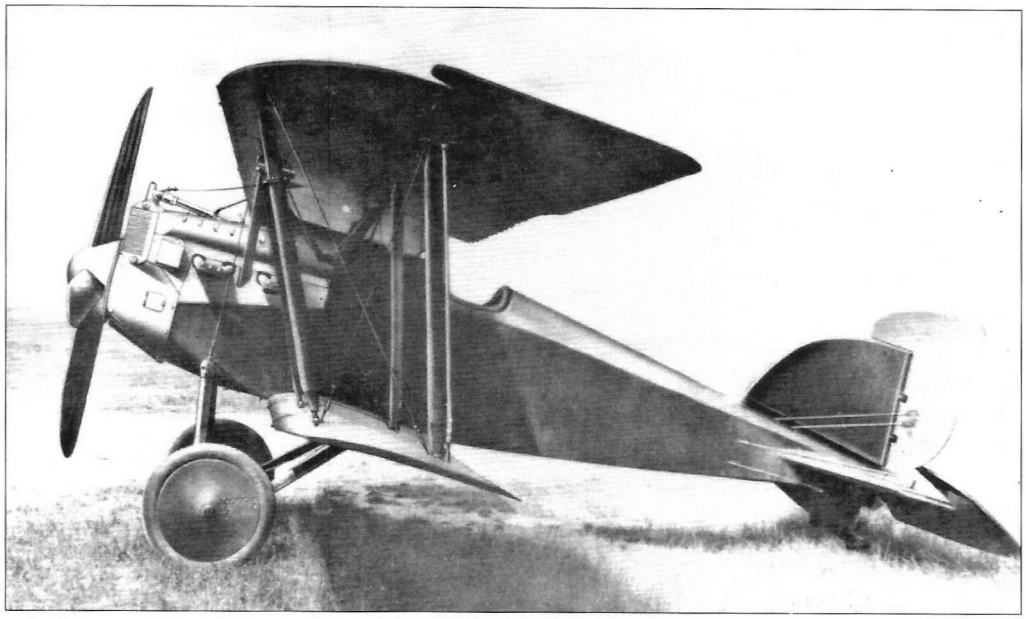
Aviatik D.VI prototype.

Aviatik D.VII prototype.

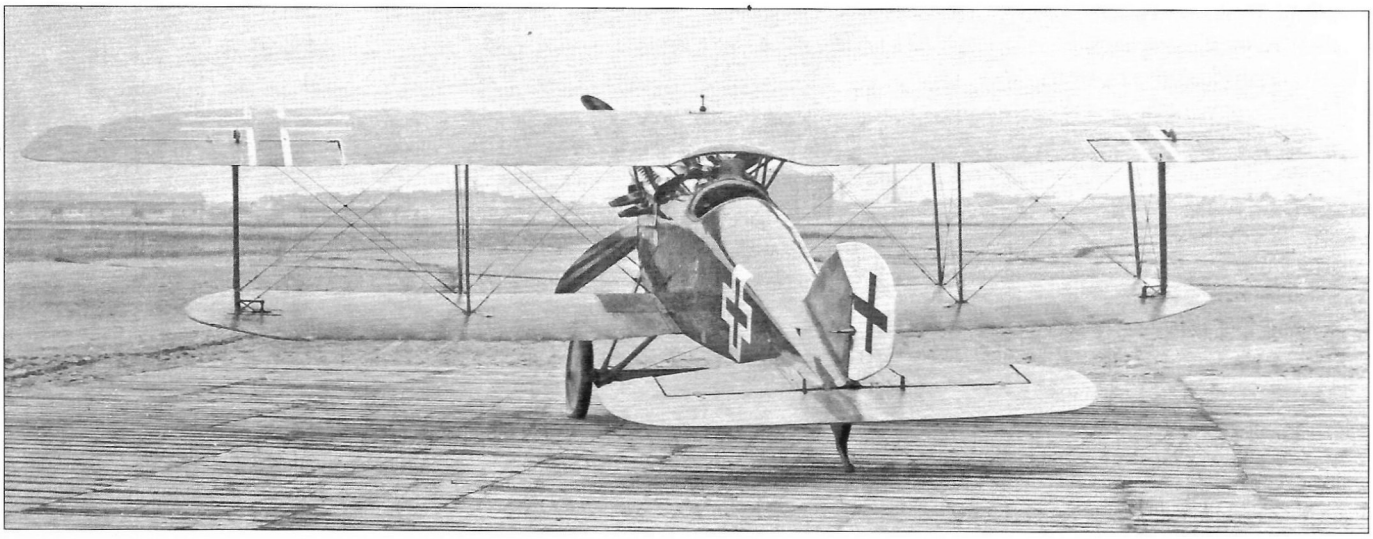
Right: The production Aviatik D.VII fighter.



Right: The prototype Aviatik D.VII fighter before markings were applied.



Below: The prototype Aviatik D.VI fighter lead to the D.VII; the key difference between the types was the size and shape of the horizontal and vertical tail.



Above: Postwar crash of an Aviatik D.VII fighter. The name "Aviatik" was painted on the bottom of the lower wing.

Top: An Aviatik D.VII fighter during flight trials. The name "Aviatik" can just be seen painted on the bottom of the lower wing.

Right: An Aviatik D.VII fighter in flight during development.

Aviatik B (P14) "15" at the Aviatik flying school at Leipzig-Mockau in October 1916.

Aviatik B (P14) "15" at the Aviatik flying school at Bork in November 1917. The same aircraft as above, it has been recovered, the rear cockpit turtledeck removed, and a revised exhaust fitted.

Aviatik C.I(Han) C.2100/16 in training service.

Aviatik in Retrospect

By virtue of its successful pre-war designs of robust, reliable two-seat biplanes that were built in substantial numbers for the time and served in quantity early in the war, Aviatik was one of the most well-known German aircraft manufacturers. Aviatik was also one of the more conservative aircraft manufacturers and all wartime Aviatik designs built were single-engine biplanes of mostly conventional construction. Aviatik built some multi-engine aircraft under license but avoided building seaplanes and exploring unconventional structures and aerodynamics.

Aviatik's early B-type aircraft, designed by Swiss citizen Robert Wild, were robust, reliable aircraft with good payload and served as early bombers in addition to reconnaissance duties. Together with the Albatros and LVG B-types, the Aviatik B-types comprised the bulk of the German army's aircraft inventory from 1914 into 1915. Wild returned to Switzerland on the outbreak of war and the armed Aviatik C.I was based on his P15 B-type.

Following their successful B-types, the Aviatik C.I, along with the Albatros C.I and LVG C.I, constituted the first generation of C-types that appeared at the front in mid-1915. Sharing the good flight characteristics of the Wild-designed Aviatik B-types from which it was derived, the C.I, powered either by a 150-hp Benz or 160-hp Mercedes engine, was a dependable workhorse that performed the standard two-seater duties of artillery spotting, bombing, and general photo-reconnaissance from mid-1915 through early 1917. A total of 548 Aviatik C.I biplanes were built by Aviatik and Hannover. Due to its safe flying qualities, as of January 1918 some 200 remained active in training service.

As air combat intensified, the need for greater speed became apparent and Aviatik developed two derivatives of the C.I to achieve it. Better aerodynamic form was clearly needed and the C.Ia prototype had improved streamlining together with the same wings as the C.I. Both new production types, the C.II and C.III, combined the streamlining from the C.Ia together with smaller wing span and area for reduced drag.

Like the C.I, the C.III used a 160 hp Mercedes and was a rugged, dependable workhorse. However, the C.III was only produced in small numbers and was soon replaced in production by more powerful and effective types like the DFW C.V.

Using the new 200-h.p. Benz Bz.IV and redesigned tail, the C.II represented a greater departure from the C.I design than the C.III. More powerful and streamlined than the C.I, the C.II was significantly faster, although climb and ceiling likely were little better due to its greater weight. Like the C.I, the C.II was a rugged, dependable workhorse that performed typical C-type duties reliably despite the limitations of its seating and armament arrangement.

However, unlike the successful C.I, the C.II was limited to a single production order. The C.II was designed to the same requirement as the DFW C.V, used the same engine and structural technology, and had comparable reliability and speed. So how does one explain that Aviatik C.II production was limited to 75 aircraft while the DFW C.V was produced in greater numbers (3,955) than any other WWI German aircraft? What did the DFW offer the Aviatik did not?

Unfortunately, primary documentation on this decision has not surfaced, so we must compare the two aircraft in more detail. The most obvious difference is the awkward seating arrangement used by the C.II, which compromised its self-defense capability. However, both the Aviatik C.I and C.III were produced for use as trainers with the conventional, pilot-in-front seating position, so such a conversion of the C.II would have been easy to accomplish. Certainly that modification was much easier than having Aviatik change production over to a completely different type, the DFW C.V, as was actually done.

Despite being replaced in production by improved aircraft like the LVG C.V, the DFW C.V served successfully on the demanding Western Front until the end of the war. In contrast, the Aviatik C.II served primarily, and perhaps solely, on the Eastern Front with its far more permissive air combat environment. Apparently, the real advantage of the DFW C.V over the Aviatik C.II was its excellent maneuverability and handling characteristics. These qualities made the DFW a much tougher opponent in air combat then the Aviatik C.II and appear to be the reason for the limited C.II production. Although switching the crew to conventional seating positions was straightforward, attempting to modify the C.II to match the DFW C.V's flying qualities was not. Therefore, Aviatik was directed to build the DFW C.V under license in 12 production orders totaling 1,400 aircraft.

By the time the Aviatik C.II and C.III arrived at the front, air combat had become much more frequent and intense, especially on the Western Front, then when the C.I debuted. Although

the C.II and C.III retained the solid reliability of the C.I coupled with a useful speed increase, their development had been out-paced by rivals and overtaken by changes in the operational environment. In the more hostile combat conditions they faced, survival, let alone success, required better maneuverability and flying qualities than the Aviatik C.II and C.III could deliver. Therefore, Aviatik was assigned to manufacture the superior DFW C.V under license. Although Aviatik continued to develop new C-type aircraft designs, none reached production.

However, Aviatik remained active in design and built the Aviatik F transport postwar that was converted from the design of the F.I prototype for a new category for long-range photo-reconnaissance aircraft. A bold departure from earlier Aviatik two-seater designs, the Aviatik F.I had promise if hostilities had continued.

Aviatik's fighter designs were even less successful. Only the D.VII reached production, and that so late that none saw combat. Much of the problem was the protracted development of German V-8 engines, but the first Aviatik fighter design to demonstrate superior qualities, the D.VI, first flew in August 1918, just a few short months before the Armistice.

Thus Aviatik had no opportunity to regain the strong reputation the company enjoyed early in the war.

Aviatik was one of the more important and productive German airplane manufacturers, but after the mediocre showing of the Aviatik C.II and C.III, Aviatik's greatest importance to German aviation was as a manufacturer of other company's aircraft under license.

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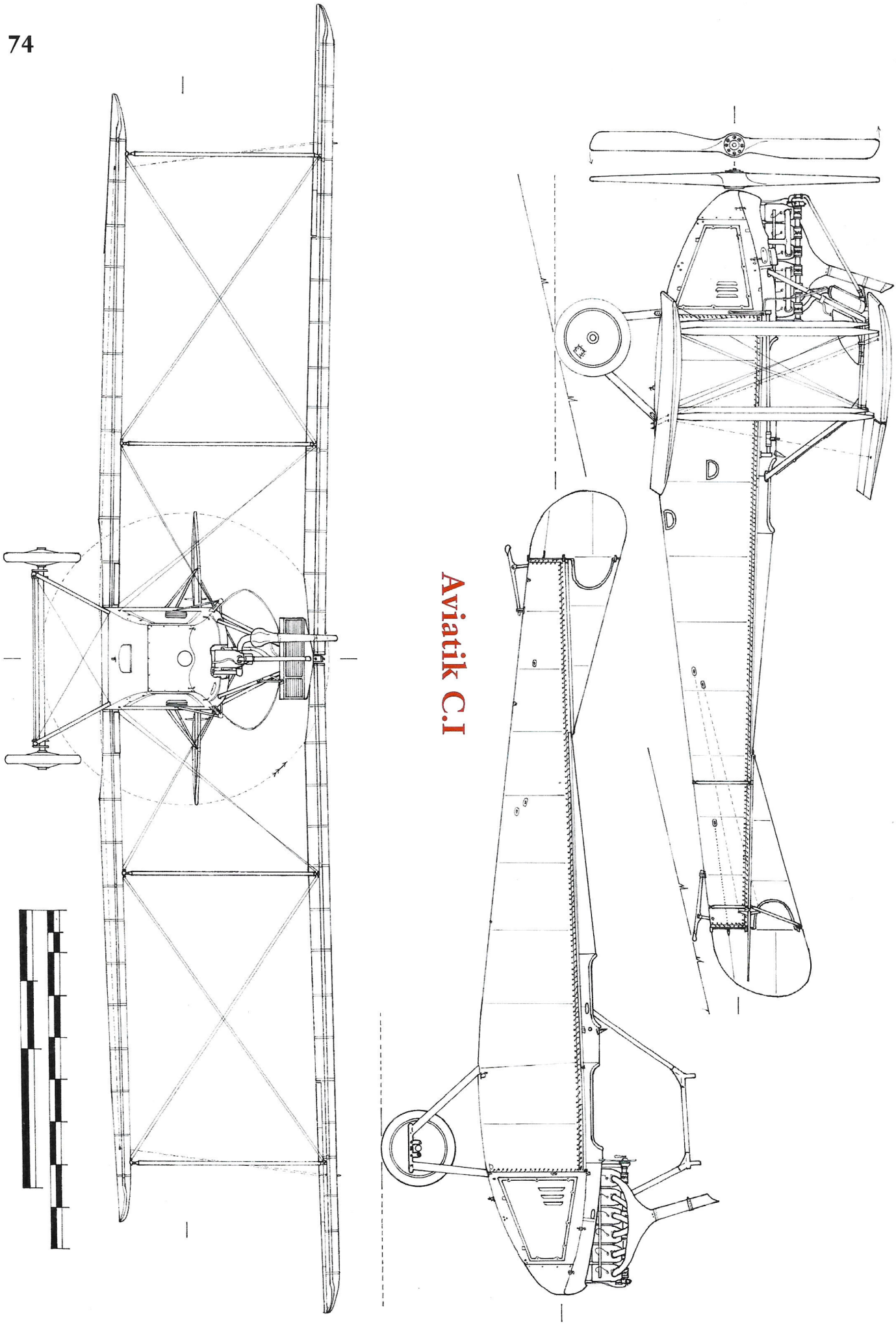

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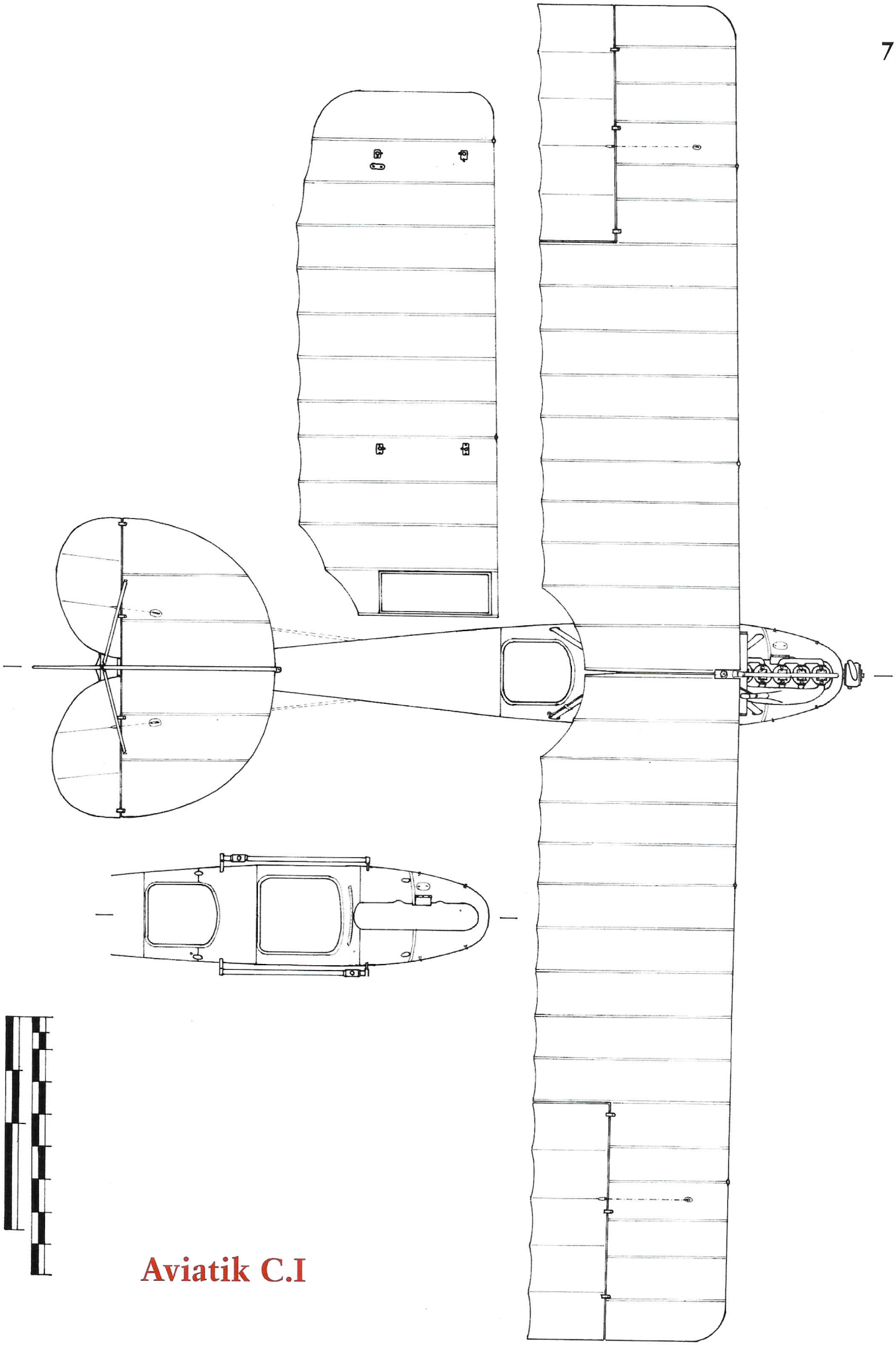

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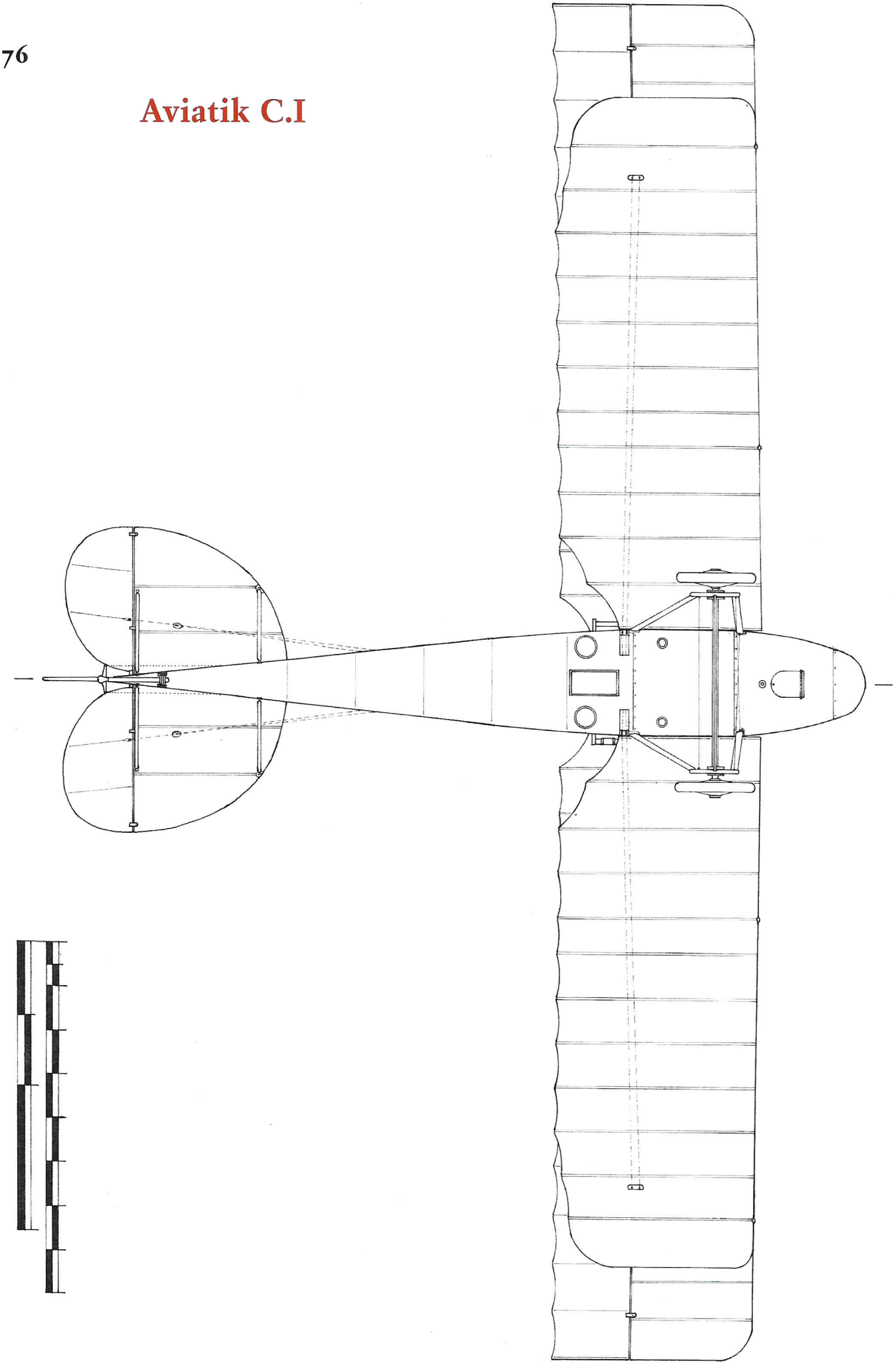

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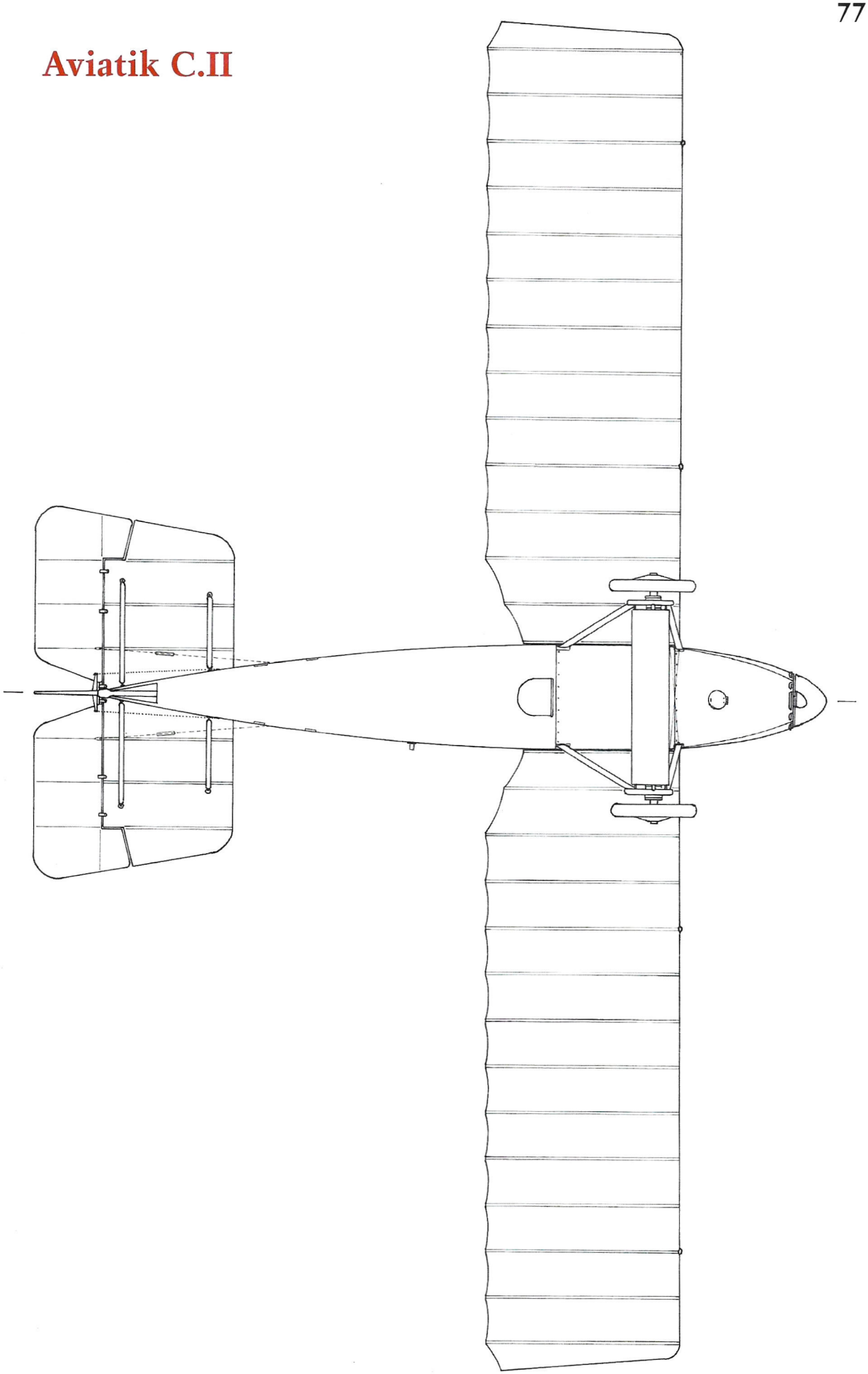

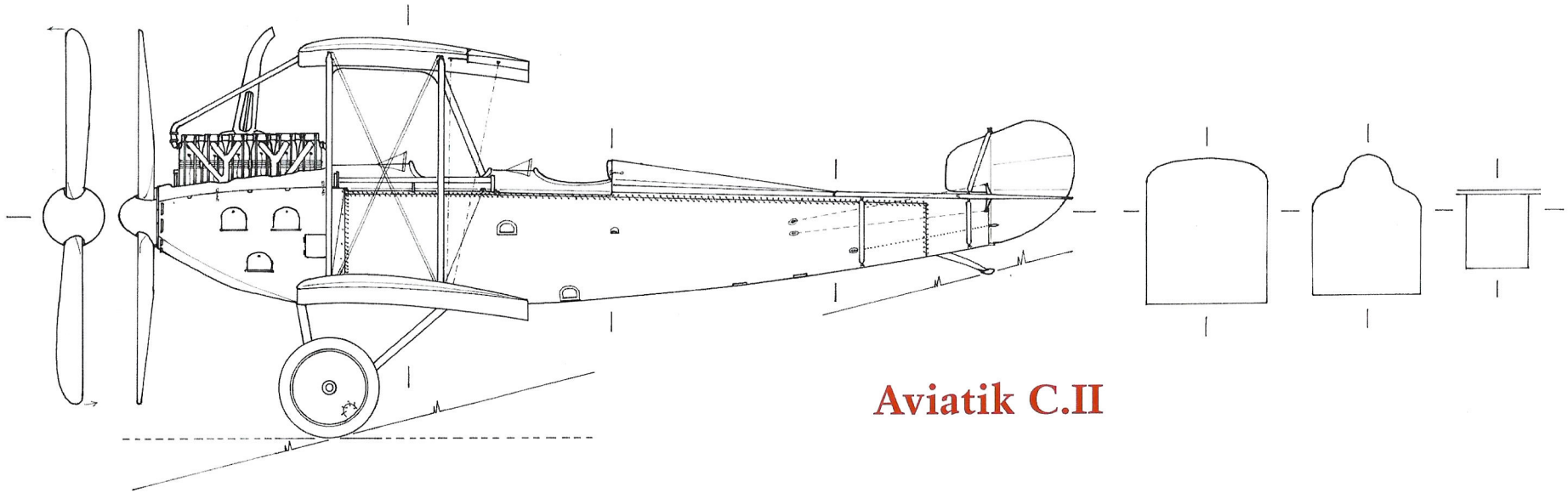

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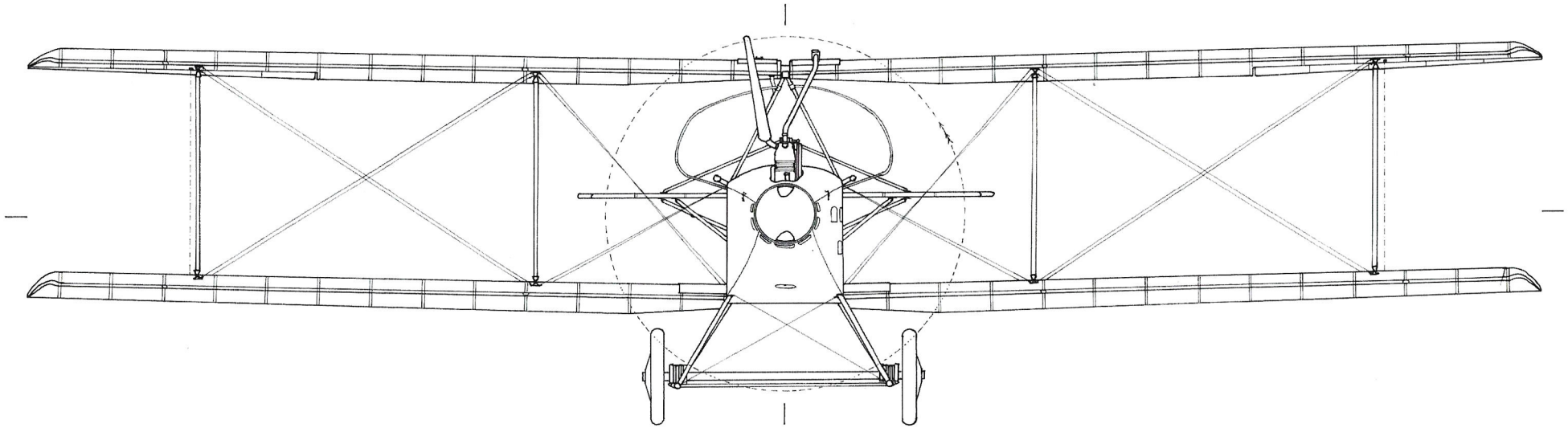

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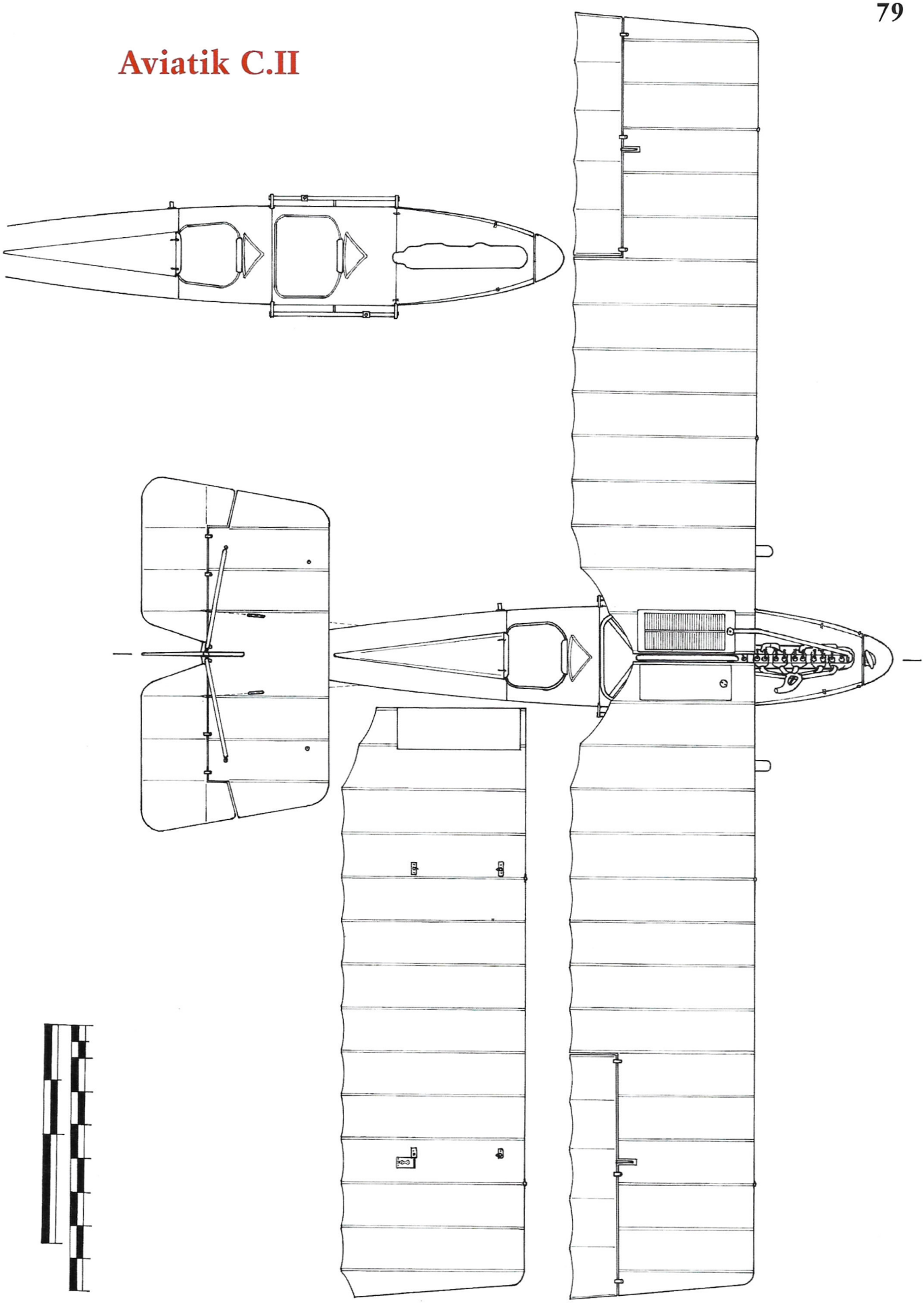

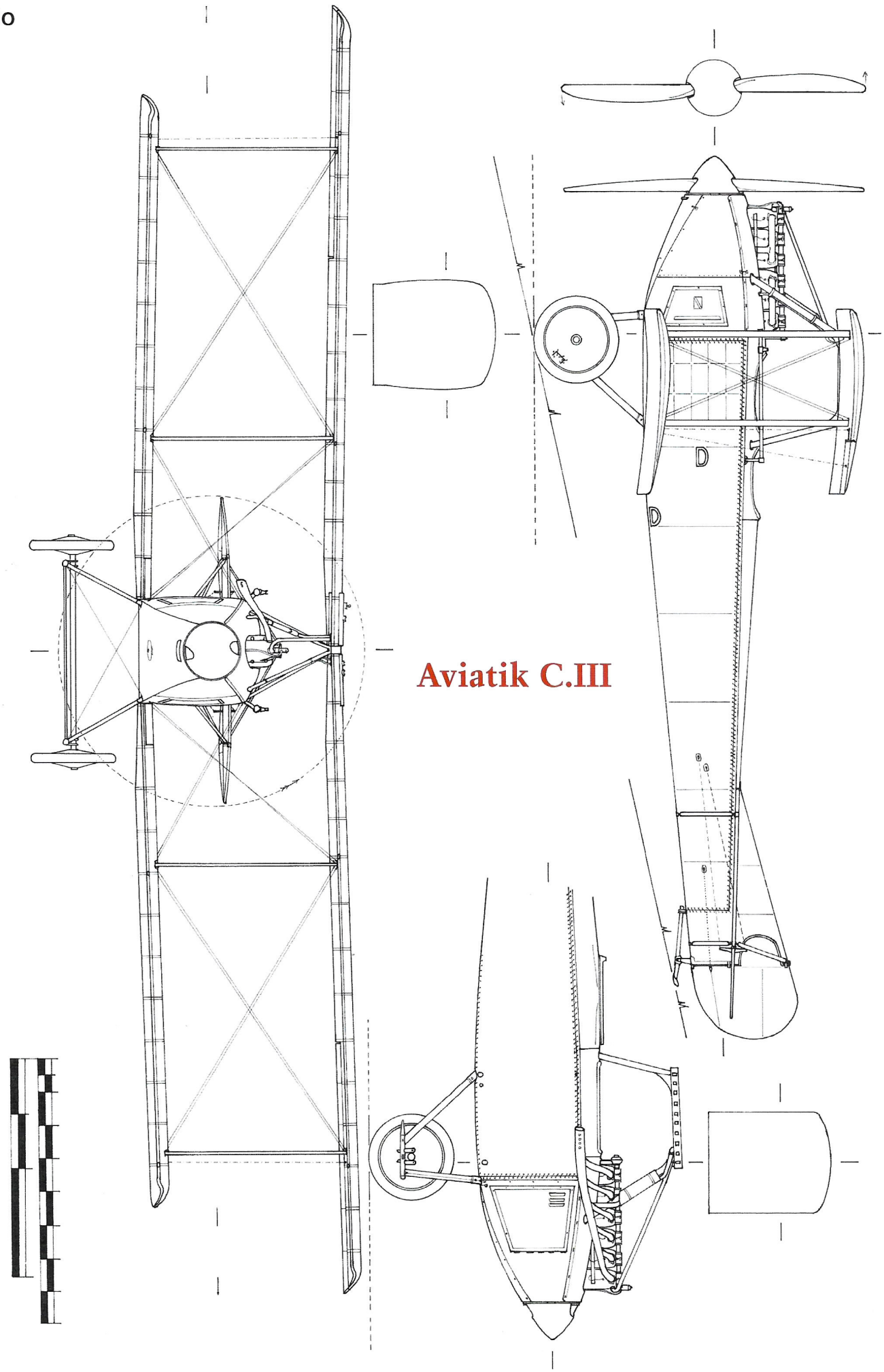

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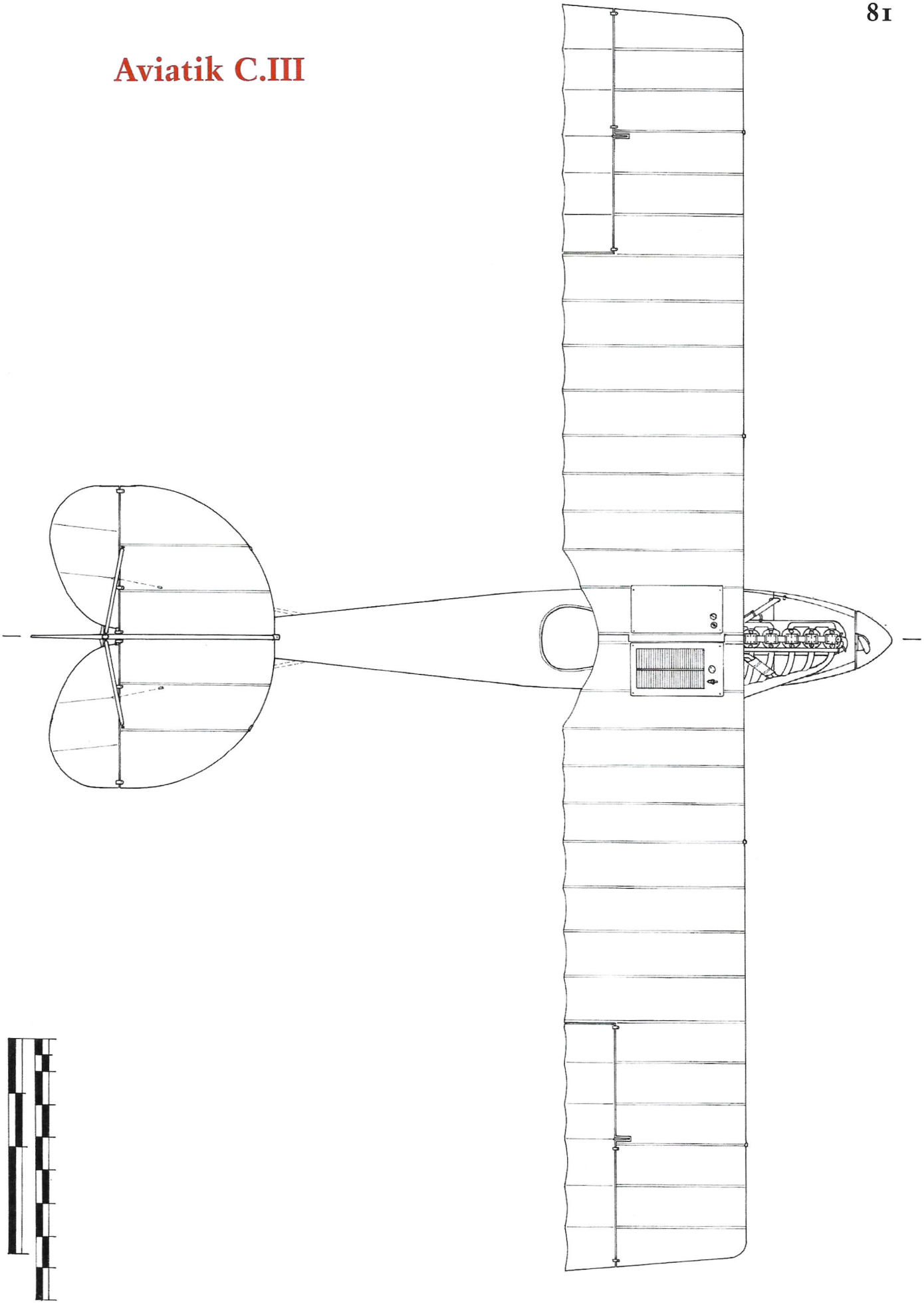
Aviatik C.III



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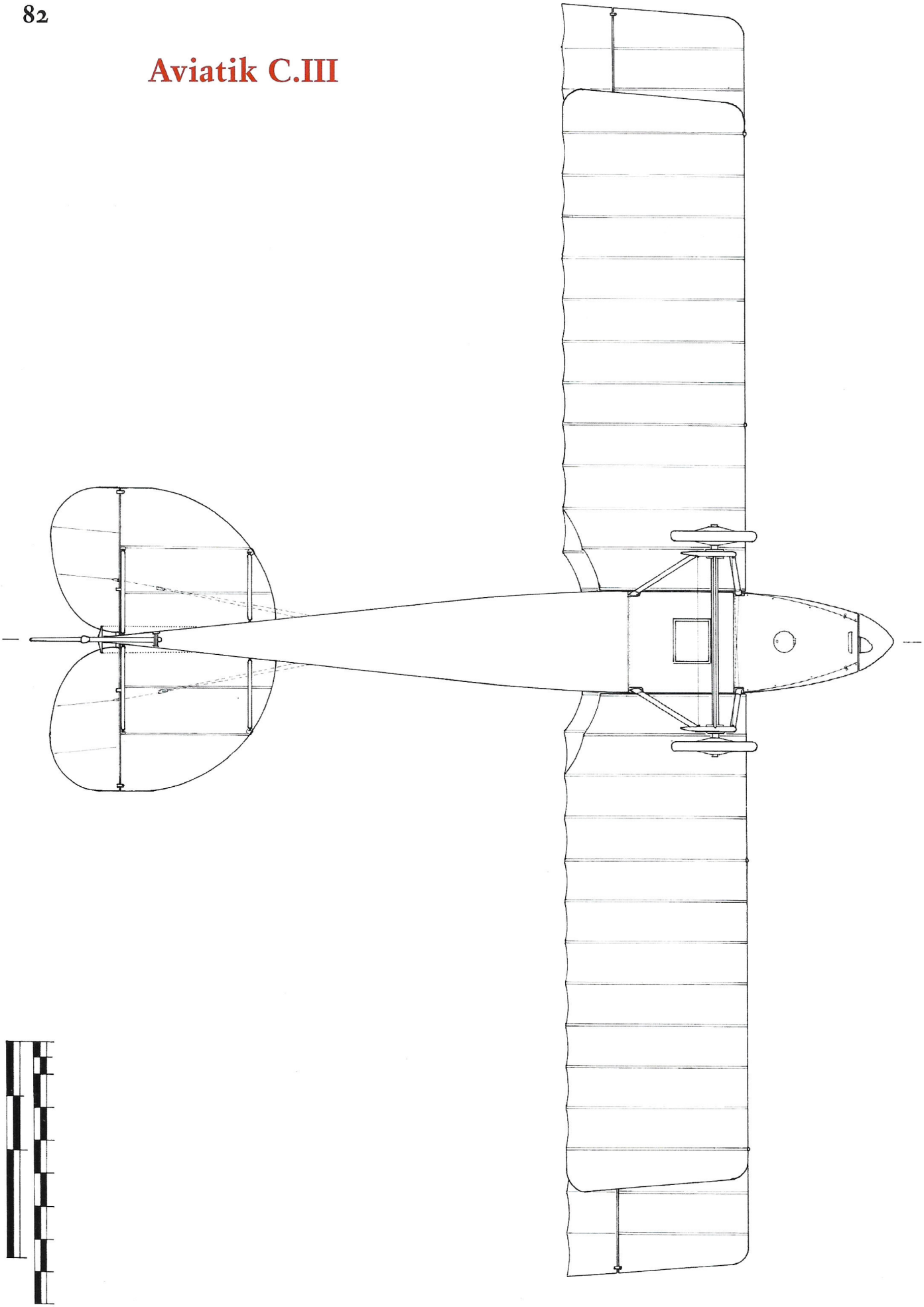

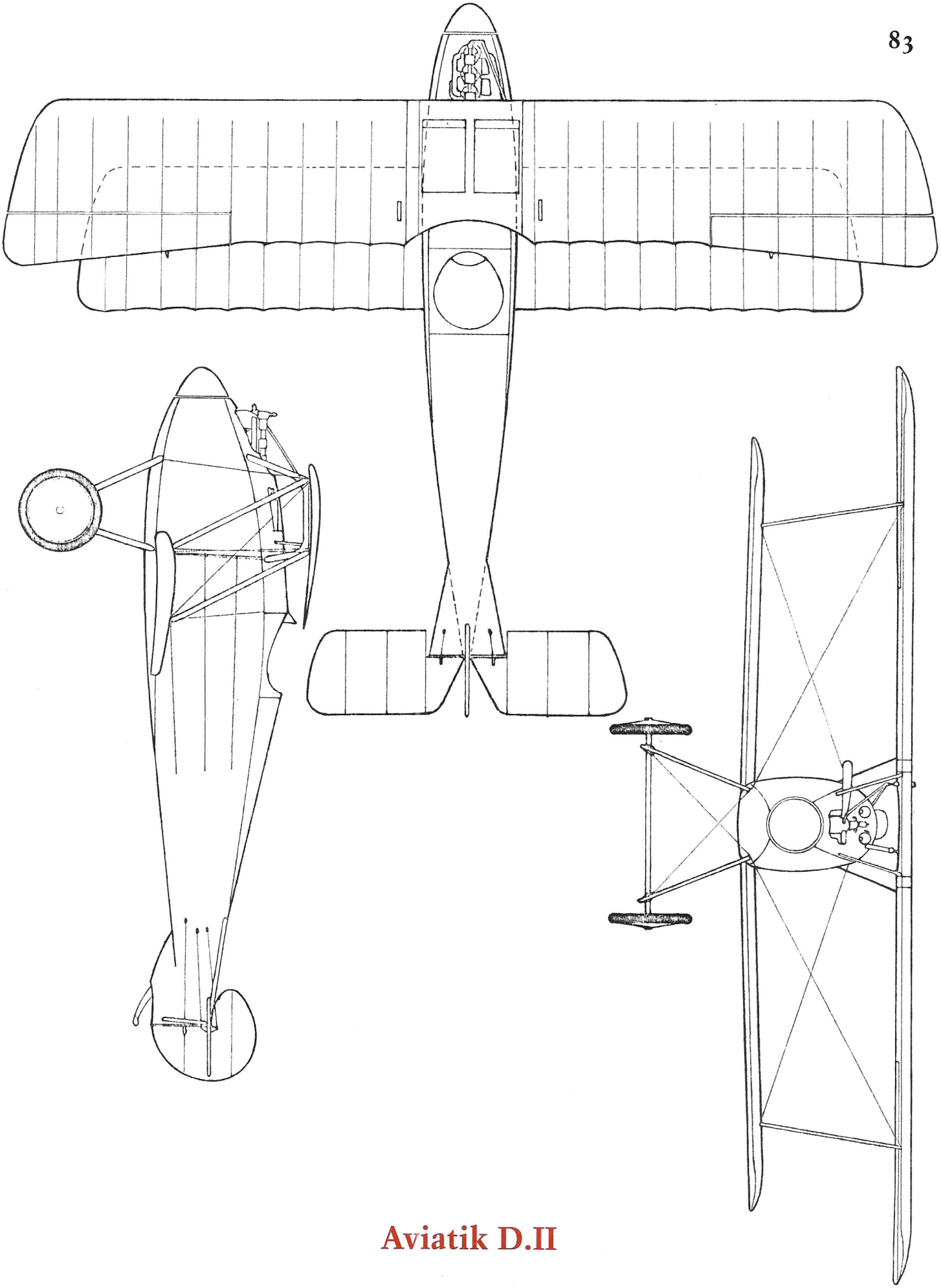

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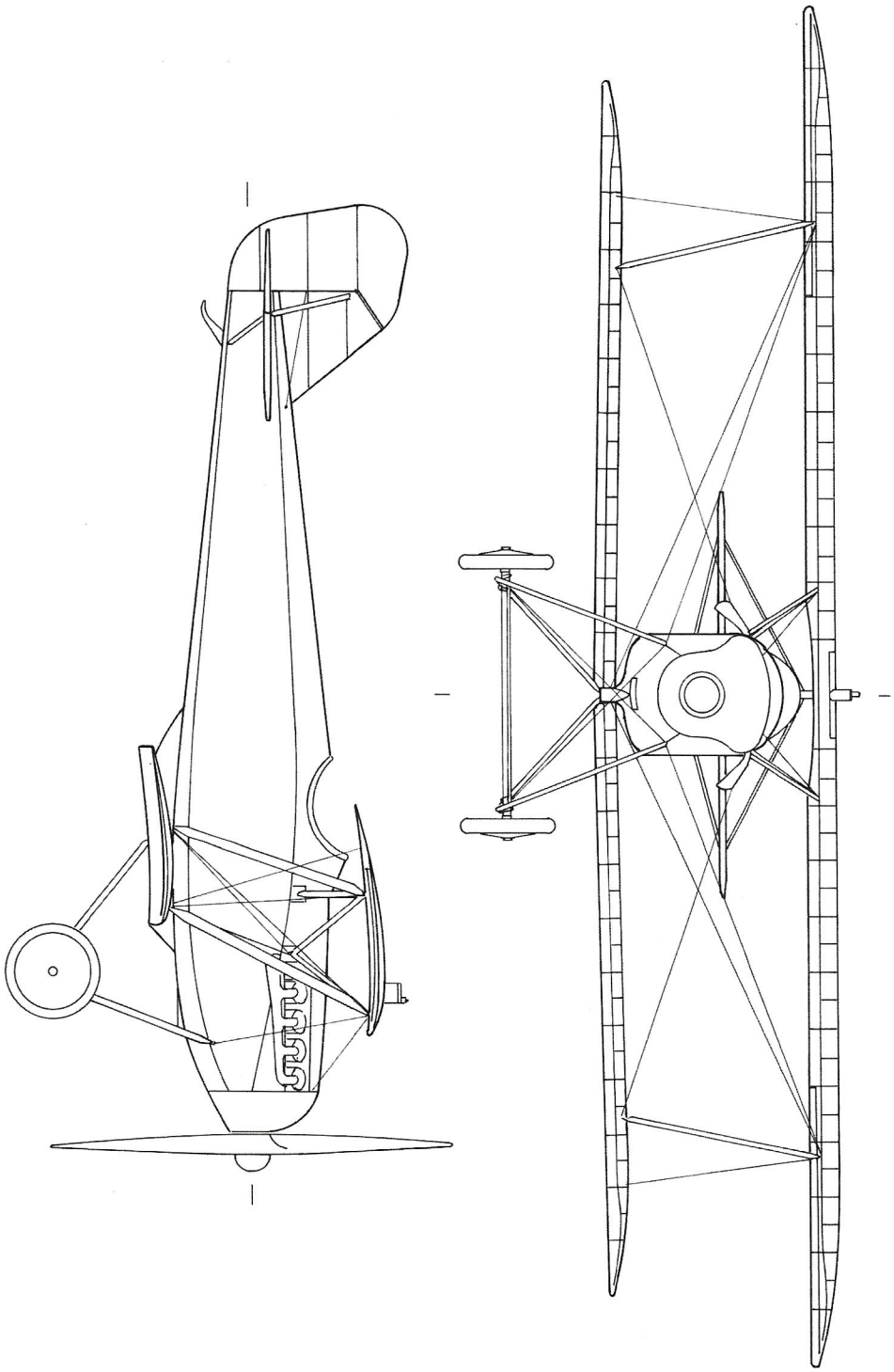

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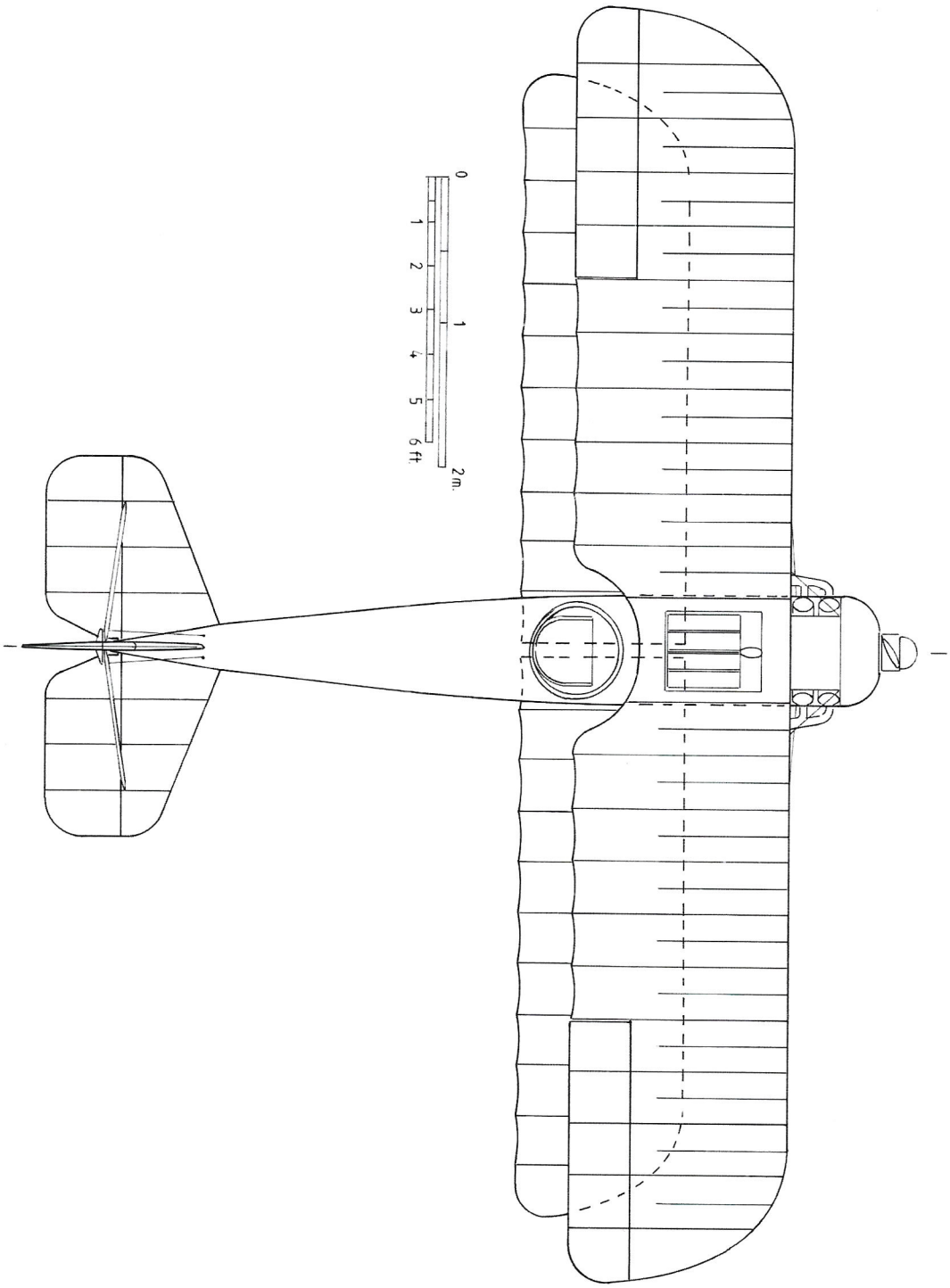

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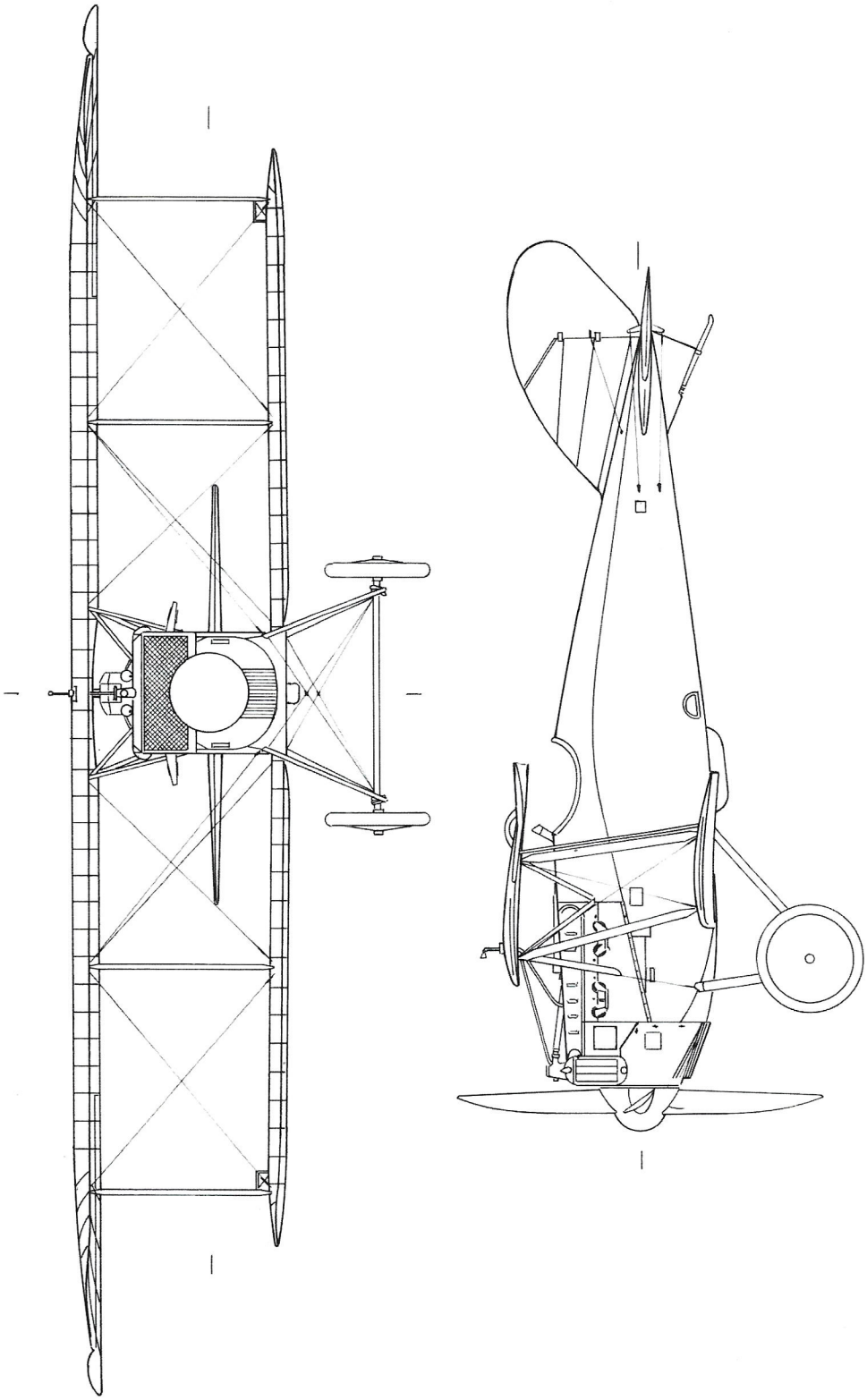

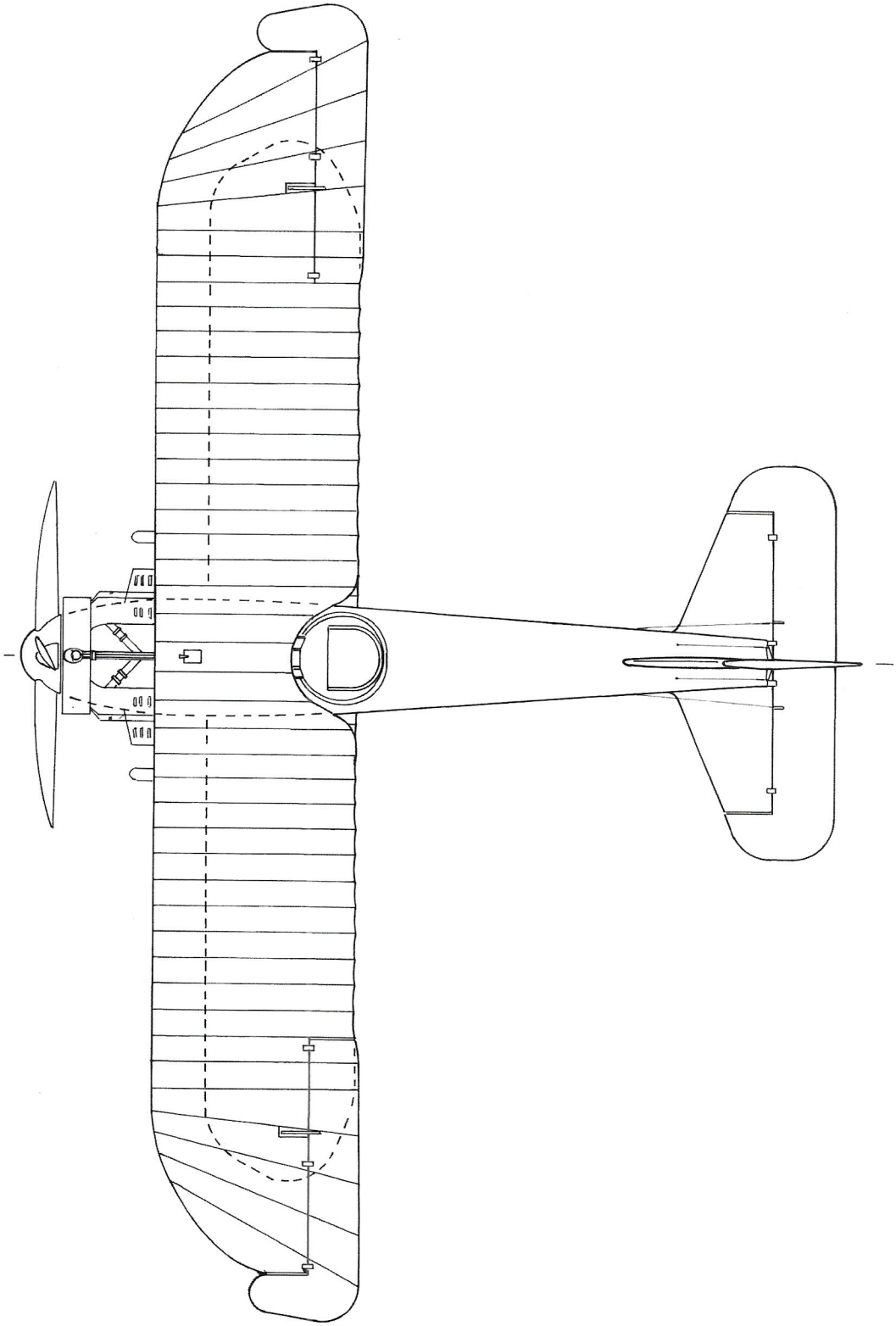

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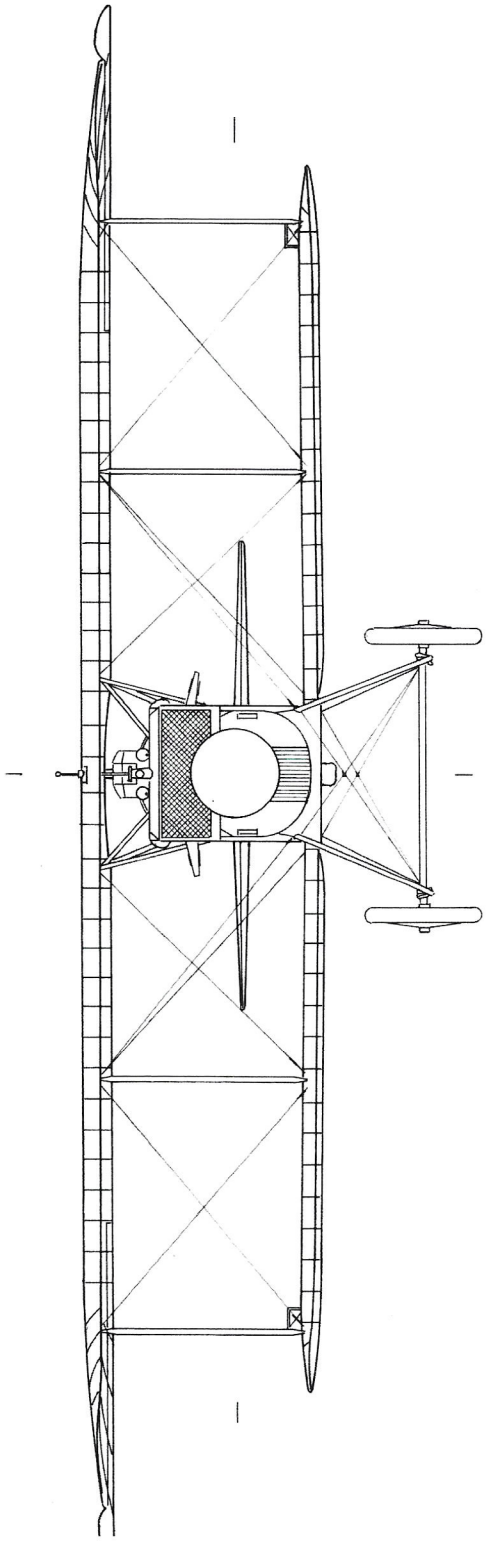
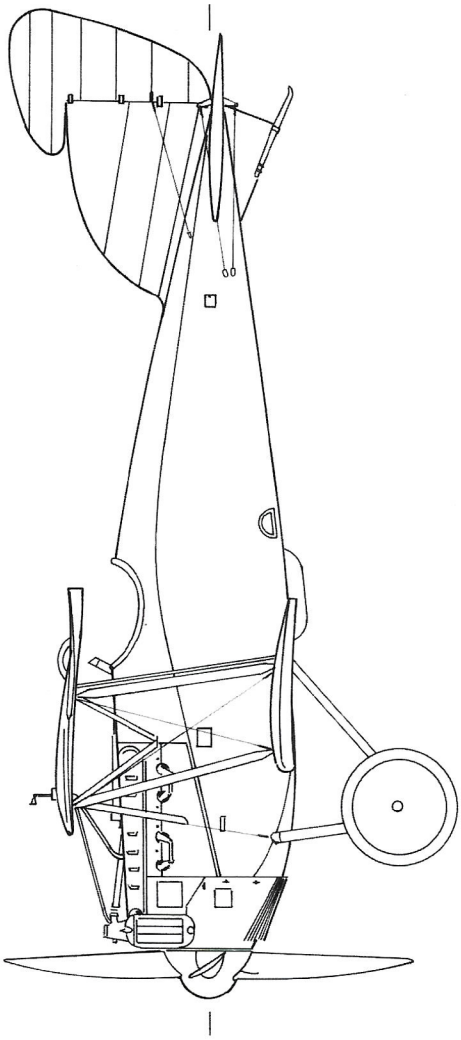
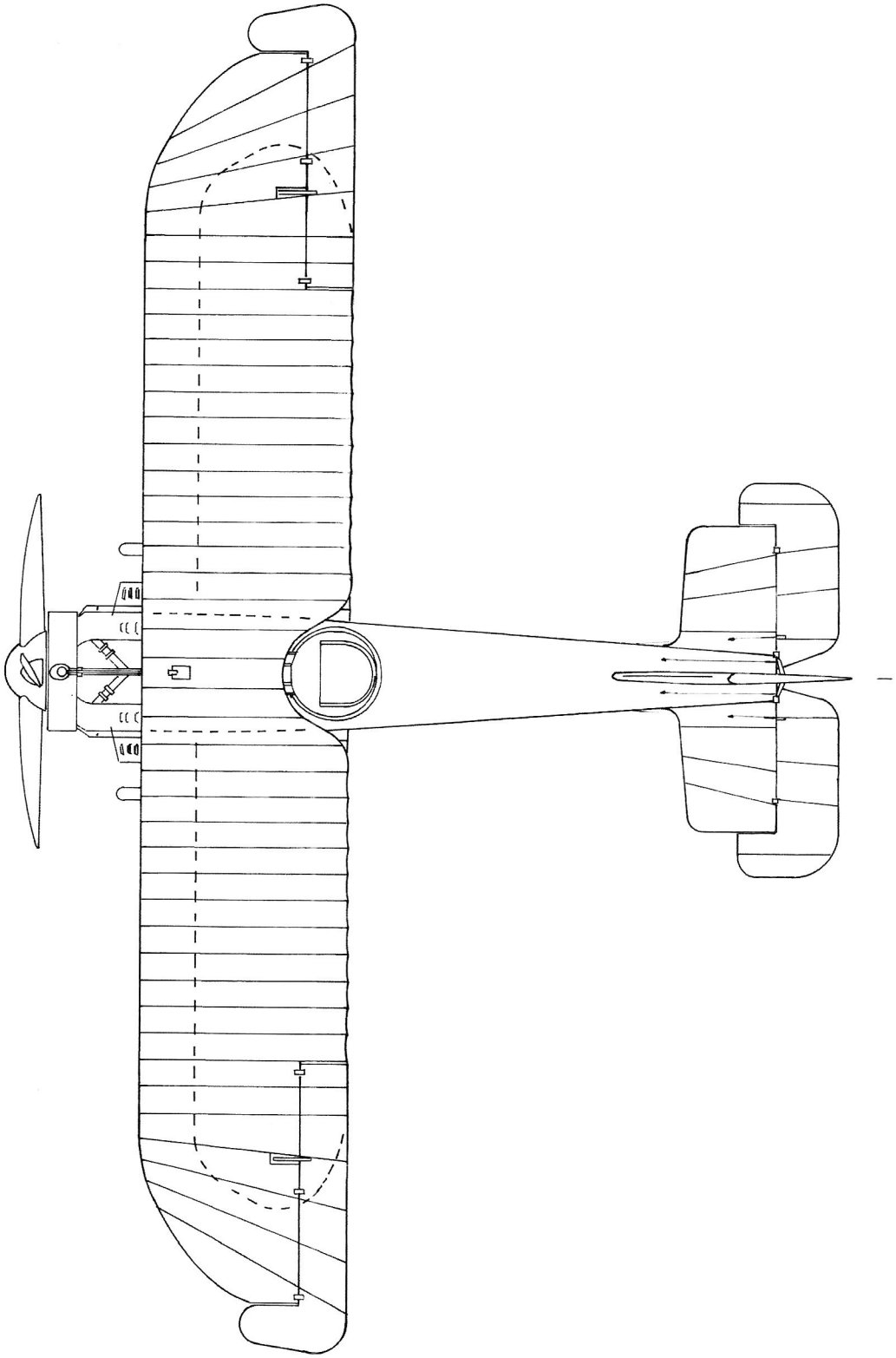
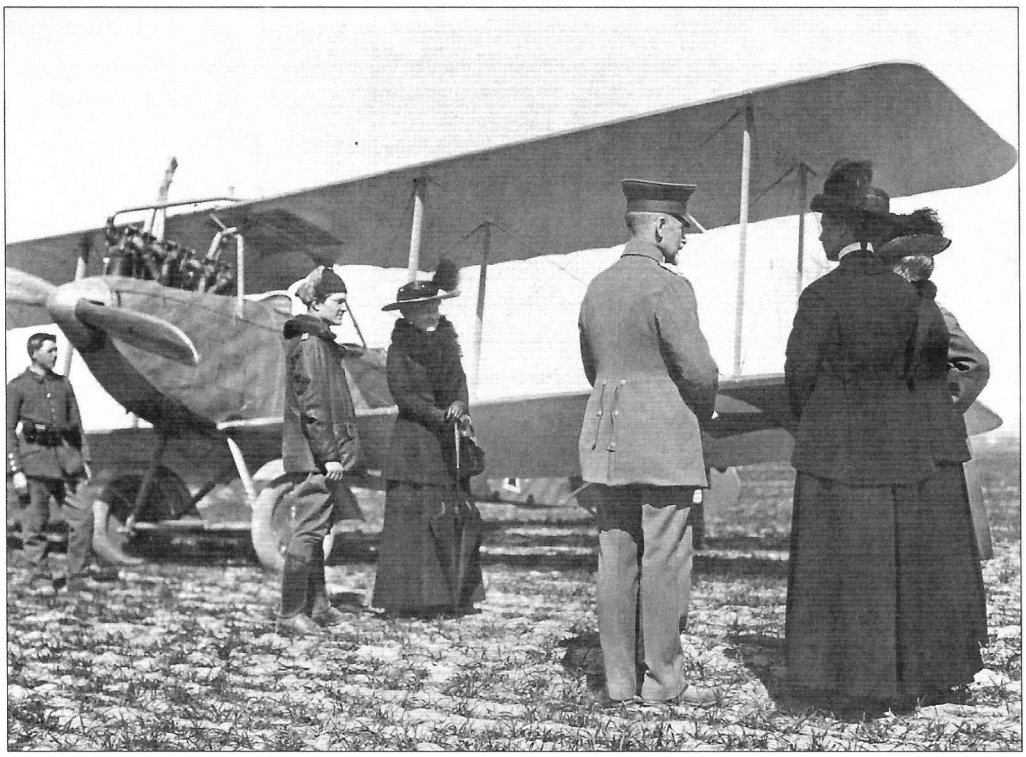




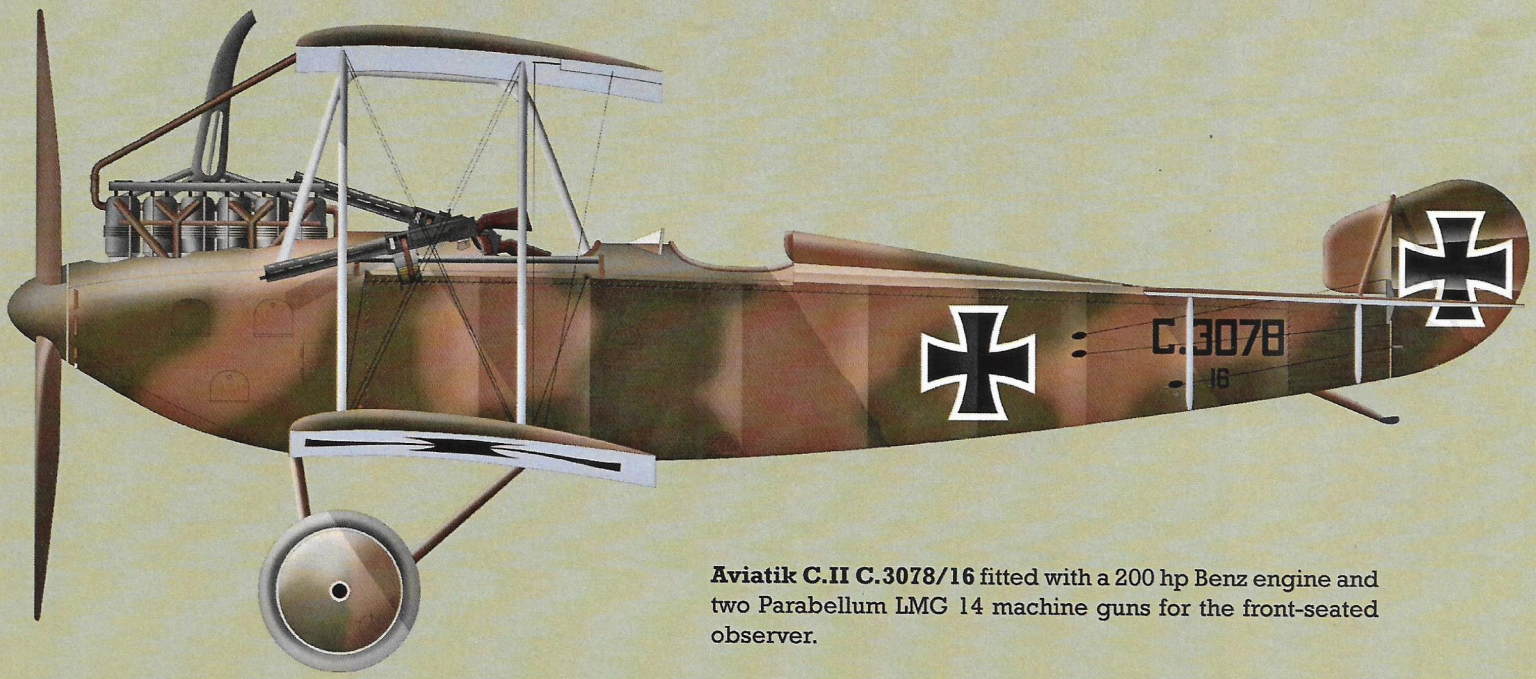


Afterword

Above: On May 3, 1917, *Rittmeister* Manfred von Richthofen, the famous Red Baron (second from left) with his close friend Fritz von Falkenhayn (at right) visited the *Kaiserin* (Empress) Augusta Victoria at Bad Homburg, and flew an Aviatik C.II to the meeting.

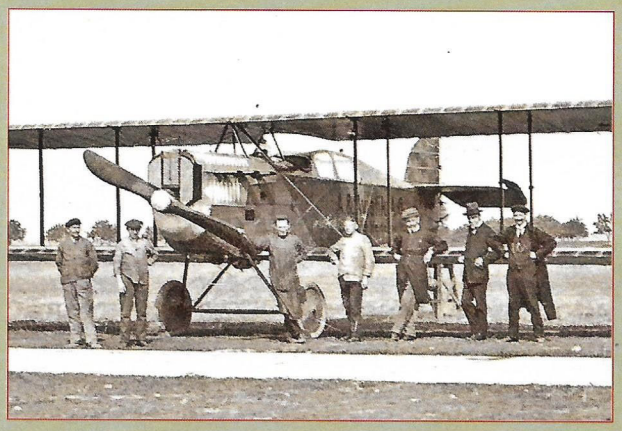


Right: *Rittmeister* Manfred von Richthofen (second from left) at his meeting with the *Kaiserin* (Empress) Augusta Victoria at Bad Homburg; the Aviatik C.II he flew to the meeting is in the background in an interesting striped camouflage.



Aviatik C.II C.3078/16 fitted with a 200 hp Benz engine and two Parabellum LMG 14 machine guns for the front-seated observer.

This book describes and illustrates the development of Aviatik aircraft in WWI with text, 160 photos (2 in color), 34 color profiles, production quantities and serial numbers of aircraft and aircraft dimensions and performance specifications. In addition, 7 Aviatik aircraft types are illustrated in 1/48 scale drawings. The book has 90 letter-size (8.5"x11") pages and is of interest to aviation historians, enthusiasts, and modelers alike.



Above: An Aviatik F-type "*Fernaufklärer*" type after having been converted to a passenger aircraft. The engine fitted was a V-12 of more than 300 hp.

Above: An Aviatik D.VII fighter being test flown French aviation personnel in the postwar period. The company name Aviatik can be seen painted on the underside of the lower wing surfaces.

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