Fokker C.IV Bis

Aviation historian Andrey Averin has written four installments in the Russian monthly magazine M-Hobby (М-Гоббй) about the Fokker C.IVs supplied to the Soviet Union:

Part 1: M-Hobby Nov 2020 pp 36-43 First batch (C.IV Prima)
Part 2: M-Hobby Dec 2020 pp 44-52 Second batch (C.IV Bis)
Part 3: M-Hobby Jan 2021 pp 42-49 Technical Description of the C.IV
Part 4: M-Hobby Feb 2021 pp 50-55 C.IV in service with Dobrolet

This series of four was published under the title *A Dutch 'Ultimatum'*. A translation of Part 2 can be found below. The footnotes, references and afterword were added during the translation. The photos that go with this story, including translated captions, can be found here:
https://www.fokker-history.com/en-gb/russische-fokkers-02

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A Dutch 'Ultimatum' - Part 2

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M-Hobby (М-Гоббй) December 2020, pages 44-52

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Until almost the end of 1924, the Red Air Force's (RKKVF) need for aviation technology could only be met by purchasing aircraft abroad. Deliveries in 1922 and early 1923 only minimally filled the gaps left by the end of the Civil War, resulting from the massive depreciation of outdated and physically worn-out aircraft. Almost immediately after the signing of a contract in the spring of 1923 for 60 Fokker C.IVs[3] the Revolutionary Military Council (RVS) of the USSR granted a large loan to the Main Directorate of the Air Fleet (GUVF) for the purchase of new batches of aircraft of various kinds.

Unfortunately, events did not unfold in the best way. The execution of the deal was met with considerable difficulties and ended in a noisy scandal 'within small circles' and even in criminal proceedings. Although the Fokker D.XI

[1] Khimki is a suburb of Moscow
[2] Gennady Petrov maintains an archive of historical photographs from Russian aviation history. He also writes aviation books.
[3] This was the first series of C.IVs, designated C.IV Prima. Delivered late 1923.

fighter emerged as the 'hero' from this incident[4], the procurement program of the second batch of Fokker C.IVs[5] for the Red Air Force was 'the victim'.

On June 20, 1923, the Executive Board of the Air Fleet (GUVF) submitted a request by letter 1253/2401 to the representative of the Revolutionary Military Council (RVS) of the People's Commissariat for Foreign Trade (NKVT)[6] with the request to investigate the possibility of purchasing fighter aircraft, reconnaissance aircraft and light bombers. At the same time, special attention was paid to diversifying the supply chain. Fokker, Dornier, Junkers, De Havilland and Nieuport were mentioned as possible suppliers. The NKVT was able to smoothly distribute the technical specifications for the new aircraft within a month after they had been approved by the GUVF during a meeting on July 13. According to the technical requirements the reconnaissance aircraft, doubling as light bombers, had to be capable of reaching a top speed of 185 km/h at sea level, reaching a ceiling of at least 5,000 meters, carrying fuel for four hours of flight, and carrying a payload of 800 kg. The engine: a 450 hp Napier or a Liberty.

Application No. 278 from Spotekzak—a special department of the Ministry of Foreign Trade (NKVT) for urgent purchases, not the 'special branch of the Ministry of the Internal Affairs (NKVD)'—was not sent to the Trade Mission in Berlin until July 21. Since organizing a tender for the purchase of aircraft was a complex undertaking, they apparently didn't have to think twice, as they immediately summoned a Fokker representative to Berlin. The Trade Mission reported this in reply letter No. 0807 from August 25, 1923. Regarding the other counterparties[7]: it was said that the matter was being worked out, and the topic was not raised further in the correspondence.

On August 18, negotiations were held at the Berlin Trade Mission[8] with Mr. **Horter**, director[9] from the Fokker company, and an agreement was obtained from them to place an order for reconnaissance aircraft and fighters. Considering the expected production rate of eight aircraft per week, or a maximum of 30 aircraft per month, the deadline was set at approximately six months. Initially the order was for 180 aircraft, but on September 14 the NKVT sent an official request on behalf of the GUVF for the delivery of 200 aircraft of two different types: the Fokker D.XI with a 300 hp Hispano-Suiza engine and the Fokker C.IV with a 400 hp Liberty.

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[4] In a later publication, Andrey Averin draws a different conclusion. A lot went also wrong with the D.XI.

[5] The second series was designated C.IV Bis and ultimately consisted of 50 aircraft. Ordered 20 December 1923, delivered 29 October – 19 December 1924.

[6] The name of this representative of the RVS was Boris Goldberg. See next page.

[7] Apparently these were Dornier, Junkers, De Havilland and Nieuport.

[8] Address: Lützow Ufer 3, Berlin

[9] Wilhelm Horter was not the director of the NVNV (that was Anthony Fokker). Horter was the company manager.

Further negotiations were conducted by **Boris Goldberg**[10], who represented the Revolutionary Military Council within the NKVT. On October 1, they received a price offer in writing and on October 6, this list was decided upon. It was agreed to order 75 Fokker C.IVs and 125 Fokker D.XIs. The completion of the technical specifications for the delivery was entrusted to a special commission, in particular to **Aleksandr Levin**[11], a renowned pilot acting as senior technician within the GUVF acceptance service, and **Boris Goncharov**[12], Chairman of the Technical Section of the Scientific Committee. The preliminary elaboration of the draft treaty was carried out by a certain **Yarmarkin**[13], who would later flee from Berlin to France.

In October 1923 a technical committee chaired by **Aleksey Dmitrievich Shirinkin**[14] carried out evaluation tests in Amsterdam with the Fokker D.XI and Fokker D.XIII fighters, as well as control tests with Fokker C.IV No. 2360, to define the specifications for the delivery of the aircraft. This *Fokchet* was flown by **Shirinkin** and **Levin**, while the role of observer/gunner went to **Goncharov.** The tests were performed with a design load of 820 kg, which was in fact 804 kg because **Shirinkin** weighed only 64 kg[15]. The take-off weight was 2246 kg. The flights were operated from Schiphol Airport which, incidentally, wasn't so easy to deduce from the committee documents. Some members read the Dutch name the German way: Schifol[16], and that's how they'd recorded it. The mystery solved only thanks to a note from the local weather station attached to the report.

The technical committee made significant changes to the technical requirements document, the most important of which were changes to the armament. A second synchronous machine gun was added, and the installation of the 'dagger gun[17]' was modified. This weapon could fire at angles of 25-53 degrees vertically and 30 degrees horizontally in both directions. Admittedly, due to local regulations the modifications to the aircraft's floor installation had to be assessed using a wooden mock-up of a machine gun on one of the aircraft in the workshop, while the final acceptance of the completed aircraft did not even include firing the weapons. According to the specifications, all Fokker C.IVs of the second batch were to be equipped with bomb racks. Further modifications were ordered, with significant changes in particular to the fuel system.

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[10] Boris Isayevich Goldberg (1892-1946)

[11] Aleksandr Alekseyevich Levin (1896-1942)

[12] Boris Fyodorovich Goncharov (1882-19??)

[13] This is probably Yarmorkin, pilot at Deruluft (Andersson, *Red Stars 6*, p.14)

[14] Shirinkin (1897-1938) demonstrated the D.XI on 14 July 1923 during the National Aviation Day at Schiphol airport, Amsterdam (*Het Vliegveld* 1923 p.188; Andersson, *Soviet Aircraft and Aviation 1917-1941*, p.129; *Самолет* (Samolet) 2(4) 1924)

[15] Contemporary photos show that Shirinkin was small in stature

[16] ph was read as f

[17] Literal translation of кинжальный пулемет. It was a fifth machine gun that could shoot through an opening in the floor.

On December 20, 1923, a contract was concluded with the NV Nederlandsche Vliegtuigenfabriek for a total of just over five million Dutch florins (guilders)[18], which provided for the delivery of 75 Fokker C.IVs and 125 Fokker D.XIs. It was determined that the aircraft had to be delivered in Petrograd[19] by June 30, 1924 at the latest[20]. Fokker chose the English company ADC as sub-contractor to supply the engines - the same company that provided us with the Martinsydes[21].

The joy over the deal was short-lived. Serious problems arose with the purchase of both the Hispano and Liberty engines. Official negotiations took place in Berlin on February 27 and 28, 1924[22] where the possibility of changing the opposing party was raised[23], but a solution was not reached until late spring. A new agreement was concluded on May 23, and an additional clause to the contract was signed on May 28. The delivery deadline was postponed until the end of November, just before the ports were expected to freeze over. Due to the shortage of Liberty engines, the Soviets were forced to reduce the number of reconnaissance aircraft by 25, and to ensure the production of the 125 fighter aircraft, 25 Hispano-Suiza engines—which we had acquired as a bargaining chip—were transferred to the Dutch. The delivery schedule was to be as follows: July: 20 aircraft, August: 35, September and October: 50 each, and in November we would receive the remaining 20 aircraft.[24]

Work seemed to be getting underway, but it soon became clear that the company had significantly overestimated its potential, both in terms of quality and the pace at which the order was being fulfilled. Looking ahead, it's worth considering the situation on August 25, 1924. Not a single machine had been delivered in July. On August 25, 24 D.XIs had been crated, one was ready to be packed, and the remaining 100 were in various stages of construction. At that point, still not a single C.IV had been delivered![25] Initially, our acceptance process followed the fairly strict 'Instructions of the Commission for the

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[18] 5,062,500 guilders (Marc Dierikx, *Anthony Fokker – Een vervlogen leven*, p. 210)

[19] One month after the contract was signed, on January 26, 1924, Petrograd was renamed Leningrad in honor of Lenin who had died five days earlier (on January 21) after three strokes.

[20] That makes 200 aircraft in six months = 33 per month. Slightly more than agreed with Horter on August 18th.

[21] The Martinsyde F.4 was a British fighter aircraft that became surplus to requirements after 1918. They were bought by the Aircraft Disposal Company Ltd (ADC) in London and subsequently sold to foreign customers. The Soviet Union purchased 41 which were delivered in two batches in 1922-1923. The engine was a Hispano-Suiza 8Fb, the same engine that powered the Fokker D.XI.

[22] Anthony Fokker was in the US from December 18, 1923 to March 15, 1924

[23] Were the Soviets looking for an engine supplier other than ADC? Or were they threatening to look for another aircraft manufacturer?

[24] Total: 20 + 35 + 50 + 50 + 20 = 175 (125 D.XI and 50 C.IV Bis)

[25] Between January and August 1924 Fokker reported no aircraft exported (Marc Dierikx, *Dwarswind*, p. 95)

Acceptance of Fokker C.IV and D.XI Aircraft.' Consumables, semi-finished products, purchased items, measuring equipment, calibrators and jigs, as well as assembly equipment, were subjected to inspection. The usual number of samples tested was 1% of the total sheet steel, 3% of the aluminum sheets, steel wire and steel cables, 5% of the tinned iron for the fuel tanks, copper and brass sheets, and copper and brass pipes. A quarter of all steel tires and rubber cords had to be tested. Exceptionally, wood knots were permitted if no larger than 5 mm in diameter. In the case of a certain heterogeneity in the batch of materials or in the event of non-compliance with the technical requirements, the Commission was entitled to test a larger number of samples, but this condition also had a converse effect: for a high-quality batch of material, the number of tested samples could be reduced.

Unfortunately, a number of unfortunate mistakes were made on our side. The work of the acceptance committee was structured in such a way that chairman **Shirinkin** lacked actual control and the inspectors were able to act independently, leading to unpleasant situations when another member of the commission accepted units or components that we had already rejected without comment. Responding professionally to this blatant mismanagement, the company succeeded in persuading the People's Commissariat for Foreign Trade (NKVT) and the Air Force to abolish the acceptance commission, and subsequently to sign a new contract with a delivery deferral until the end of 1925, almost completely removing our representatives from operational work.[26] Our pilots were no longer authorized to test the aircraft; only the Dutch were allowed to fly, although now not every aircraft was given a test flight, as stipulated in the contract, but only one in five. The engines' acceptance was limited to twenty minutes of ground testing. On August 8, 1924, this document was signed. It seemed the Dutch could celebrate a victory, but later it became clear they had kicked the ball in their own goal.

At the factory in Utrecht[27] where the wings were being made a particularly nasty situation developed. **Stepan Korol**[28] reported that train cars were being built here and that the wings were very sloppily assembled, with a large number of defects. This was clearly demonstrated when our inspectors quickly rejected 60 wing tanks, which the company had to remanufacture. A little later, **M.I. Gurevich**[29] reported that ten sets of wings had been rejected due to poor paint quality. The canvas, especially at the underside where blue paint had been applied, was not properly tensioned. The Dutch had to invite an English specialist, under whose supervision the wings were tautly tensioned

[26] From then on, the NVNV apparently held the Soviets in a stranglehold. Was that the *Dutch 'Ultimatum'*, the title that Andrey Averin has chosen for his publications on the Fokker C.IV?

[27] Werkspoor NV

[28] Stepan Georgievich Korol (1894-1975)

[29] The Soviet inspector's name at Werkspoor was Samuel Gurevich. He was not Mikhail I. Gurevich of MiG fame (Mikoyan & Gurevich).

and given a new, high-quality coat of paint. There were more such 'episodes'. At Fokker, they were in no hurry to draw conclusions and continued to act as if nothing had happened.

At the end of August 1924, a new Soviet selection committee started working in the Netherlands on the basis of the preliminary acceptance regulations that had been approved on August 9[30]. This committee was chaired by **Evgeniy Gvaita**[31]. Despite his limited powers under the new contract, he managed to work more closely with the Dutch and ensured that the bulk of the order was shipped in 1924. On September 8, **Gvaita** reported that the first 24 D.XIs had been loaded on a freighter. A little earlier—on September 4th—a commission for the acceptance of imported aircraft was established in accordance with Order No. 62/s of the Chief of the Air Force. Its task was to verify the integrity of the packaging and the completeness of the delivery based on the waybills and inventories. The matter was under special supervision of various officials and supervisors so that after unloading the cargo, the acceptance certificates could be issued, if not on the same day, then certainly the next. According to this commission, the Fokker C.IVs arrived according to the following schedule:

on October 29: 6 machines[32],
on November 28: two batches of 6 and 18 aircraft,
on December 11: another 6,
on December 19: the remaining 16 *Fokchets*.
The serial numbers of these machines ranged from No. 4525 through 4575.[33]

The first aircraft had barely been loaded onto the ships when new reports arrived in Moscow about shortcomings of the Fokker C.IV. **S.P. Shelukhin**[34], member of the acceptance committee, had written a report that was discussed on October 6 during a meeting of the Technical Section of the Scientific Committee. In his opinion, the aircraft was heavy in design and construction, had insufficient speed and climb ability, had a very complex and inconvenient fuel system that 'required a special study', and also had a large vulnerability due to fuel tanks being located in the upper wing. He considered the location of the water tank and the position of the rudder system cables, which caused an 'undesirable and dangerous friction', to be inadequate.

The Scientific Committee remained generally skeptical about the comments made by **Shelukhin**. Remarkably, a certain faction had formed within the air

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[30] On the previous page it is August 8th.

[31] Evgeniy I. Gvaita (1896-1946) was director of Deruluft in 1920-21. Fluent in German and English. In 1922 Gvaita went to England to buy forty De Havilland DH-9s from ACD (Aircraft Disposal Company) (Andersson, *Soviet Aircraft and Aviation 1917-1941*, p.109).

[32] On October 10, 1924 a seagoing vessel left the Netherlands for Leningrad with the first 36 D.XIs and six C.IVs on board (Mikhail Maslov, *M-Hobby* 1/2006, p. 50).

[33] Note that the numbers mentioned by Andrej Averin are inconsistent. The delivery scheme counts 6 + 6 + 18 + 6 + 16 = 52 aircraft. Serial numbers 4525 through 4575 make 51 aircraft. On page 8 the number is 48 + 2 = 50.

[34] According to the city register of Amsterdam his name was P.S. (not S.P.) Shelukhin.

force that turned against this informant, and the technical section of the commission naturally had to take this into account. Therefore, the general conclusion was, despite factual shortcomings that comrade **Shelukhin** had not mentioned at all, that the aircraft should nevertheless be classified as a state-of-the-art reconnaissance aircraft. The point was that **Shelukhin**'s comments were mainly addressed '*to grandfather in the village*'[35].

The Fokker C.IVs of the second batch had undergone quite a few design changes as a result of the Soviet Union's experience with the machines of the first batch, and it was often difficult to understand which aircraft he specifically meant when he wrote to members of the technical section. As already mentioned, the new Fokkers had a heavier firepower and, at that time, there was no other reconnaissance aircraft with five machine guns in service in our air force[36].

All C.IVs of the second batch were required to be equipped with bomb racks. To improve directional control, the upper section of the vertical stabilizer was raised and the rudder frame was reinforced. In the tail section, brackets with support rollers were installed for the control cables for the rudder and the tailskid. The tailskid installation itself was redesigned. The steel heel was replaced by a quickly replaceable one made of ash, and its installation no longer required removing the fuselage covering. The tailskid maintenance hatch in the covering was given a more rational shape and was relocated, so that it remained accessible regardless of the elevator position. To route the control cables outward, fiber bushings were installed in the skin—on earlier machines, the cables ran through slots in the canvas, repeatedly rubbing against it. Two wooden slats—'stringers' (spars)—were added to the sides of the tail section of the fuselage for additional canvas support, reducing free spans and reducing the flapping of the canvas during flight, thus extending its lifespan.

In the second-batch Fokkers the cockpit floor was reinforced, and at the same time the fuselage truss was made stiffer by adding an additional spacer tube. The observer's seatbelt was initially very poorly designed and severely hampered his work, as he couldn't stand upright or lean forward properly. The new machines were equipped with belts with an automatic locking mechanism or, as they wrote at the time, a safety buckle which completely solved the problem. The water radiator cleaning/bleeding system was equipped with a control lever, and at the same time, sturdier radiator rails were installed—the original ones often warped. The water expansion tank in the second-batch aircraft was redesigned. The fuel system had undergone significant changes.

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[35] Quote from the story 'Vanka' by Anton Chekhov. A lonely orphan boy sends a letter to his grandfather, asking for help. The letter, posted to 'Grandfather in the village', was never delivered, let alone answered. It became a familiar expression in Russia.

[36] The C.IV Prima had one fixed Vickers machine gun and two movable Lewis machine guns. The C.IV Bis got two fixed Vickers machine guns, two movable Lewis machine guns and a fifth machine gun that could shoot through an opening in the floor.

An additional so-called 'frontal tank', designated No. 2, was installed in the center of the wing, at the front. The main fuselage tank was still designated No. 1, but the 'flat' tanks changed their numbers and became Nos. 3 and 4. They were now housed under a common cover and no longer functioned as part of the upper wing lining. Accordingly, the fuel line layout was completely changed.

After customs clearance in Leningrad, two aircraft went to the TsAS (Central Aviation Authority) in Moscow, the remaining 48 *Fokchets* were sent to Smolensk with the intention of forming the second and fourth reconnaissance squadron (ORAE) there[37]. How the 4th ORAE aircraft looked like is still a mystery, but some aircraft of the 2nd ORAE were marked with a distinctive feature that may have had roots in the Civil War history. It consisted of a circle with a small red star in the center and a tricolor pattern[38]. It could be a 'yin-yang plus', a Scandinavian triquetra, or a stylized cloverleaf. So far it has not been possible to clarify the meaning of this emblem.

It was apparently during the formation of these squadrons in Smolensk that the semi-official, but widely used designations for Dutch reconnaissance aircraft were introduced: *Fokchets* delivered in 1923 were called 'Fokker C.IV Prima', while those delivered in 1924 were called 'Fokker C.IV Bis'. This distinction lasted at least until the end of 1927, when Remaviazavod[39] No. 3 in Smolensk drew up extensive proposals for upgrading the 'Prima' to the 'Bis' level, although the benefits of this intervention were primarily seen by civilian specialists. Almost all modifications were implemented, with the exception of adjustments to the fuel system and the installation of a second forward-firing machine gun.

The 'Bis' was received with some suspicion in the Western Military District. Criticism of the Dutch scout was voiced by a top official: at the aforementioned meeting of the Technical Section of the Scientific Committee on October 6, in addition to the letter from **Shelukhin** a critical report from the Chief of the Air Force of the Western Military District was discussed. Apparently, he might have had reasons for a negative attitude toward the aircraft, as 32 Fokkers were in service within his district at the time, representing more than half of all Primas purchased. In addition to some aircraft from the 13th ORAO[40], the 15th ORAO, with seven aircraft, was also stationed in Vitebsk, as was the 3rd ORAO, which also had Fokker C.IVs. Several other units in the Western Military District were equipped with the Fokker C.IV. Unfortunately, not many documents from the 1923-24 period have survived – the presence of such aircraft in the 3rd ORAO, for example, can only be confirmed thanks to a report concerning a minor accident:

[37] By October 1925, the 2nd and 4th ORAE were each composed of 19 + 12 reserve C.IVs. (Andersson, *Soviet Aircraft and Aviation 1917-1941*, p. 18).
[38] In the Postscript section a picture is provided of this emblem.
[39] Aircraft repair factory
[40] ORAO: detached reconnaissance flight, usually consisting of 6 or 7 aircraft.

> "On January 25, 1925, red army pilot[41] Smirnov took off from Vitebsk airfield in aircraft No. 2304, performing a formation flight ordered by the squadron commander. Timoshin was his passenger. After completing this mission, "...during a crosswind landing, the pilot misjudged the touch-down due to the sun shining directly in his eyes and a glittering layer of snow on the airfield, and his starboard side struck the port wing of Fokker No. 2334... The cause of the accident and the damage...are attributable to negligence and inattention of the pilot, whose engine was functioning properly. He could clearly see the aircraft at the airfield and was heading for another aircraft on the runway, but did not take the time to react properly to the crosswind during landing and 'accidentally' collided with another aircraft. Only minor repairs were required to the aircraft. The passenger and the pilot were unharmed."

Let us return to the report of the Chief of the Air Force of the Western Military District. The speaker and at the same time the opponent was **B. F. Goncharov**[42] who, as already mentioned, was at that time the chairman of the Technical Section of the Scientific Committee. The question of the 'broad' body was raised again. **Goncharov** stated:

> "This is not the first time that the wide fuselage of the C.IV has raised eyebrows because it obstructs the visibility[43]. Still, once all the equipment is placed in the observer's cockpit, it becomes cramped and difficult to operate the machine guns. It should be noted that the fuselage of the DH-9A[44] drew criticism for being too narrow. Until now, the C.IV's observer's cabin was considered more comfortable, and its dimensions were taken into account in the design of new reconnaissance aircraft. Because of the extreme disagreement about the most desirable size for the observation cabin, I propose this matter to be resolved by a special committee. Regarding the position of the wings, only Parasols offer an impeccable view. Sesquiplanes, that is essentially what the C.IVs are, are much better outfitted than pure biplanes."

This does not mean the Scientific Committee defended the aircraft. All complaints were viewed from the perspective of compliance with the technical requirements. The members of the technical section agreed with the observations regarding the observer's seat belts and the routing of the control cables to the rudders, but they could not 'turn the tables' and attribute the problems in preparing repair workshops in the Western District to design flaws of the aircraft. **Goncharov** stated:

> "The maintenance of the C.IV aircraft was examined by a special committee and their recommendation, approved by the Committee, was that repairs are only possible if the necessary repair materials are made available in time... To facilitate repairs, the most complex and critical parts are included in the number of spare parts..."

The point is that the ZVO (the Western Military District) took the problem of organizing maintenance and repairs of these machines somewhat lightly. For

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[41] 'Красвоелет'

[42] In October 1923 Boris Goncharov was in the Netherlands to test the C.IV (see above).

[43] The wide hull obstructed the view downwards.

[44] At the time, the Soviet Union possessed a number of De Havilland DH-9As (Andersson, *Soviet Aircraft and Aviation 1917-1941*, p. 109).

example, **Sergey Khorkov**[45], Chief of the Staff of the Air Force, in his letter No. 1266/s from July 18, 1925, to the Revolutionary Military Council of the Soviet Union regarding the accidents:

> "In the 8th Western Military District, units were equipped with Fokker C.IV aircraft from the old production lines, which, due to their physical condition, should have undergone a factory inspection and an engine overhaul. As a result, accidents occurred with these aircraft. Upon receipt of a new batch of aircraft of the same system from abroad, parts of the aircraft were replaced."

It is unlikely that the Scientific Committee was aware of the text of this letter, but the technical section's position was as follows:

> "…the unsuitability of the workshops or the lack of facilities is by no means a defect of the aircraft. With the ever-increasing demands placed on fighter aircraft, the design of such aircraft will become increasingly complex, and consequently, repairs will also become more demanding."

The formation of the new squadrons in Smolensk at the beginning of 1925 proceeded as follows. The aircraft were handed over to the Fokker Aircraft Acceptance Commission of the Western Military District. The firearms were delivered separately from the aircraft—so in March, when the Commission had only four aircraft in its possession, it received 20 sets, each containing two synchronized Vickers machine guns, two Lewis machine guns for the gun ring and a dagger gun[46]. After completion of the acquisition procedures, the aircraft were transferred to either a mobile or permanent air base. They were then assigned to the squadrons. Although a squadron was equipped with 19 operational and 12 reserve aircraft, the squadron commanders had only operational vehicles at their disposal, and in quantities that often deviated from the standard.

On April 1, 1925, according to a survey of the headquarters of the Air Force of the Legal Military District, there were 80 *Fokchets* in the district – excluding the 1st ORAE[47], the 'Ultimatum' detachment – with the 2nd ORAE in Smolensk having 21 aircraft and the 4th ORAE, which had already moved to a permanent base in Vitebsk, having 23. The same number was held at the depot of permanent air base No. 1 in Smolensk – these were apparently considered the squadron's reserve aircraft. At that time, it was the largest group of aircraft of this type in the Red Army Air Force.

Despite the fact that almost all C.IV Bis aircraft went to the Western Military District, the management of the Scientific Experimental Airfield (NOA), which was gradually gaining influence, managed to acquire the new machine. In addition to the three existing Primas, the NOA received two Bisses – Nos. 4565 and 4566 – as early as January 1925. It is possible that these aircraft originated from the Central Aviation Authority (TsAS), but it cannot be ruled out that they had managed to 'confiscate' some aircraft originally intended for

[45] Sergej Gavrilovich Khorkov (1891-1938)
[46] Probably: A machine gun firing at close range.
[47] Reconnaissance Squadron

the District. In 1928, No. 4566 was included in the lists of the 11th OAE[48] of the Byelorussian District, but No. 4565 continued to serve military science for a long time. A damage report drawn up in the summer of 1929 has been preserved: the landing gear had been destroyed during testing of an experimental Heine propeller. Since the aircraft bore the badge of factory No. 39, this must not have been the first accident involving this aircraft.

In mid-August 1925, major maneuvers of the district air force took place in the Western Military District. The core of the attack force consisted of units armed with *Fokchets*. On August 1, the 1st and 4th ORAE were stationed in Vitebsk, with 16 and 30 aircraft respectively. The 2nd ORAE in Smolensk had 17 Fokker C.IVs. Ten reserve aircraft were stationed at permanent air base No. 1 and one at mobile air base No. 4; a further *Fokchet* was assigned to the Acceptance Commission.

In total, the air force had 245 reconnaissance aircraft on July 1, 1925:
- 88 x Fokker C.IV,
- 73 x Polikarpov R-1,
- 21 x Ansaldo A300/3,
- 63 x Junkers Ju-21.

This situation did not last long. The aviation industry gained momentum and the R-1[49] took slowly but surely on a dominant position in the air force. By April 1, 1926, there were already 144 of these aircraft, 85 of which were operational, and the delivery of another 72 aircraft was expected shortly thereafter. The number of Fokkers also went up slightly to 96; training aircraft not included in the fighter registration were 'refurbished', but only 32 serviceable Fokker C.IVs were in service. This likely played a role in the assignment of new squadron numbers, which began in 1926. Squadrons with Fokkers in service were, as it were, 'demoted to secondary roles'. As already mentioned, the 1st ORAE was assigned number 16, the 2nd ORAE became the 18th, and the 4th became the 22nd.

Complaints and suggestions were sent to the Scientific Committee not only by high-ranking officials, but also directly from units and individual military personnel. To collect this correspondence and organize feedback, the Bulletin of the Scientific Committee of the Air Force (NKUVVS) was launched in 1925. This magazine, with a circulation of several hundred copies, was distributed privately. The status of this document was quite high—it was endorsed by the Chief of the Air Force[50]. In terms of information it proved very useful, but today it can often serve to demonstrate how slowly reforms within the air force have taken place. For example, the problem of the leaking fuel tanks of the Fokker C.IV was mentioned in Bulletin No. 2 – authorized by Pyotr Baranov[51]. On

[48] The 11th squadron

[49] Soviet copy of the De Havilland DH-9A

[50] His name was Pyotr I. Baranov, see below

[51] Pyotr Ionovich Baranov (1892-1933) was appointed Chief of the Air Force of the Red Army

June 26, 1925, the defect was noted as a manufacturing error. It took almost two years to resolve the problem. Only in March 1927 a trial batch of flat tanks was made of 0.8 mm brass at Remaviazvod No. 3 for the 'Bis'. They were 3.5 kg heavier than the iron tanks, but they did not leak.

In 1928, the Fokker C.IV was gradually retired. The Primas were the first to be decommissioned but not all of these aircraft were scrapped, as Dobrolet took nearly three dozen into service. Moreover, the aircraft became popular as a liaison aircraft—or rather, a supply aircraft. The 5th and 9th Fighter Squadrons of the BVO[52] already had a Chioni-5 biplane for communications, but the Fokker could not only deliver a report but also, if necessary, drop spare parts or cartridges from the main airfield to a mobile base in the field. Officially, these units each had one C.IV. A few other planes went to UVO[53] branches and LVO[54] for the same purposes.

Some aircraft were transferred to newly formed units and auxiliary units. For example, it is known that in 1929, when the Soviet Union and China were fighting over the Trans-Manchurian Railway, Soviet troops in the Far East had several such aircraft at their disposal.[55]

The last Fokker registration sheet found so far dates from July 1, 1928. On that day, there were 17 Primas and 21 Bisses in the Byelorussian district. Indeed, it seems that there were no longer any squadrons equipped exclusively with the Fokker C.IV at that time. Nine aircraft were in Bobruysk[56], not assigned to units, and another eight were assigned to the 11th Squadron. Based on surviving accident reports, several Bisses remained in use with the 2nd reconnaissance squadron, at least until the autumn of 1930.

Postscript

(added by the translator; not part of Andrey Averin's text)

At least three Soviet pilots/technicians have been arrested and convicted in their home country after their work described in the above story was over:

on March 2, 1925

[52] Belarusian Military District

[53] Ukrainian Military District

[54] Leningrad Military District

[55] It is not known whether these C.IVs were involved in the fighting. There were also Fokker D.XIs stationed there. These were used during the conflict to escort R-1 bombers.

[56] City in Belarus

Aleksey Dmitrievich Shirinkin (1897-1938)
Алексей Дмитриевич Ширинкин

Test pilot. Chairman of the acceptance committee. Registered in Amsterdam from October 13, 1923 to September 16, 1924. Shirinkin married a Dutch woman on October 30, 1923. On February 7, 1938, during Stalin's 'Great Terror', Shirinkin was sentenced to death on suspicion of espionage and preparing a terrorist attack. He was executed the next day.

Evgeniy Ivanovich Gvaita (1896-1946)
Евгений Иванович Гвайта

Successor to Shirinkin. Chairman of the acceptance committee from August 1924. Registered in Amsterdam from August 1924 to March 1926. When his work as inspector at Fokker was completed, Gvашta returned to Moscow where his contract was terminated on April 1, 1926. Four months later, on August 9, 1926, he was arrested and taken to the Solovetsky Prison, a penal camp on a remote island near Archangelsk. The charge was that the equipment purchased from Fokker, which he was tasked to monitor and inspect, was defective.

Boris Fedorovich Goncharov (1882-19??)
Борис Федорович Гончаров

Chairman of the Technical Section of the Scientific Committee. Judging the Fokker C.IV for compliance with the technical requirements, Goncharov paid little attention to the problems the C.IV exhibited during service. Arrested in spring 1926 (before Gvaita). Charges of sabotage. On March 8, 1926 sentenced to ten years imprisonment in a labor camp.

Abbreviations

Fokchet = Фокчет = Soviet nickname for the Fokker C.IV.

GUVF = ГУВФ = Главное управление воздушного флота = Main Directorate of the Air Force, the highest military authority of Soviet Russia and the Soviet Union.

KVZhD = КВЖД = Китайско-восточной железной дороге = conflict between China and the Soviet Union regarding the Chinese Eastern Railway (1929)

NK = НК = Научный комитета = Scientific Committee

NKUVVS = НКУВВС = Scientific Committee of the Air Force

NKVD = NKВД = Народный комиссариат внутренних дел = People's Commissariat for Internal Affairs

NKVT = NKВТ = Народного комиссариата внешней торговли = Ministry of Foreign Trade

NOA = НОА = Научной Опытний Аеродром = Nauchnoj-Opytniy Aerodrome = Scientific Experimental Airfield. Test center for experimental aviation.

NVNV = N.V. Nederlandsche Vliegtuigenfabriek = Dutch Aircraft Factory Corporation

OKDVA = ОКДВА = Осóбая Краснознамённая Дальневостóчная áрмия = special 'Red Banner' troops in the Far East

Emblem used by the 2nd ARAE

ORAE = ОРАЭ = отдельная разведывательная авиационная эскадрилья = detached reconnaissance squadron (approx. 19 aircraft + reserve)

ORAO = ОРАО = отдельный разведывательный авиационный отряд = detached reconnaissance flight (6-7 aircraft)

Remaviazavod = Ремавиазавод = Aircraft repair factory

RGVA = РГВА = Российский государственный военный архив = Russian State Military Archive. A federal archive in Moscow, the largest repository of military-historical documents from the Soviet period.

RKKVF = РККВФ = Рабоче-Крестьянский флот = Red Air Fleet of Workers and Peasants. Auxiliary force within the Red Army, formed during the Civil war. Main tasks: combatting enemy aircraft, reconnaissance, air support for ground troops.

RVS = РВС = Революционный военный совет = Revolutionary military council

TsAS = ЦАС = Центральное авиационное управление = Central Aviation Authority

TU = ТУ = технические условия = technical specifications

USSR = СССР = Союз Советских Социалистических Республик = Union of Soviet Socialist Republics. Governed by the Communist Party from its founding in 1922 until its collapse in 1991.

ZVO = ЗВО = Западный военный округ = Western Military District

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