PTROTTILE PUBLICATIONS

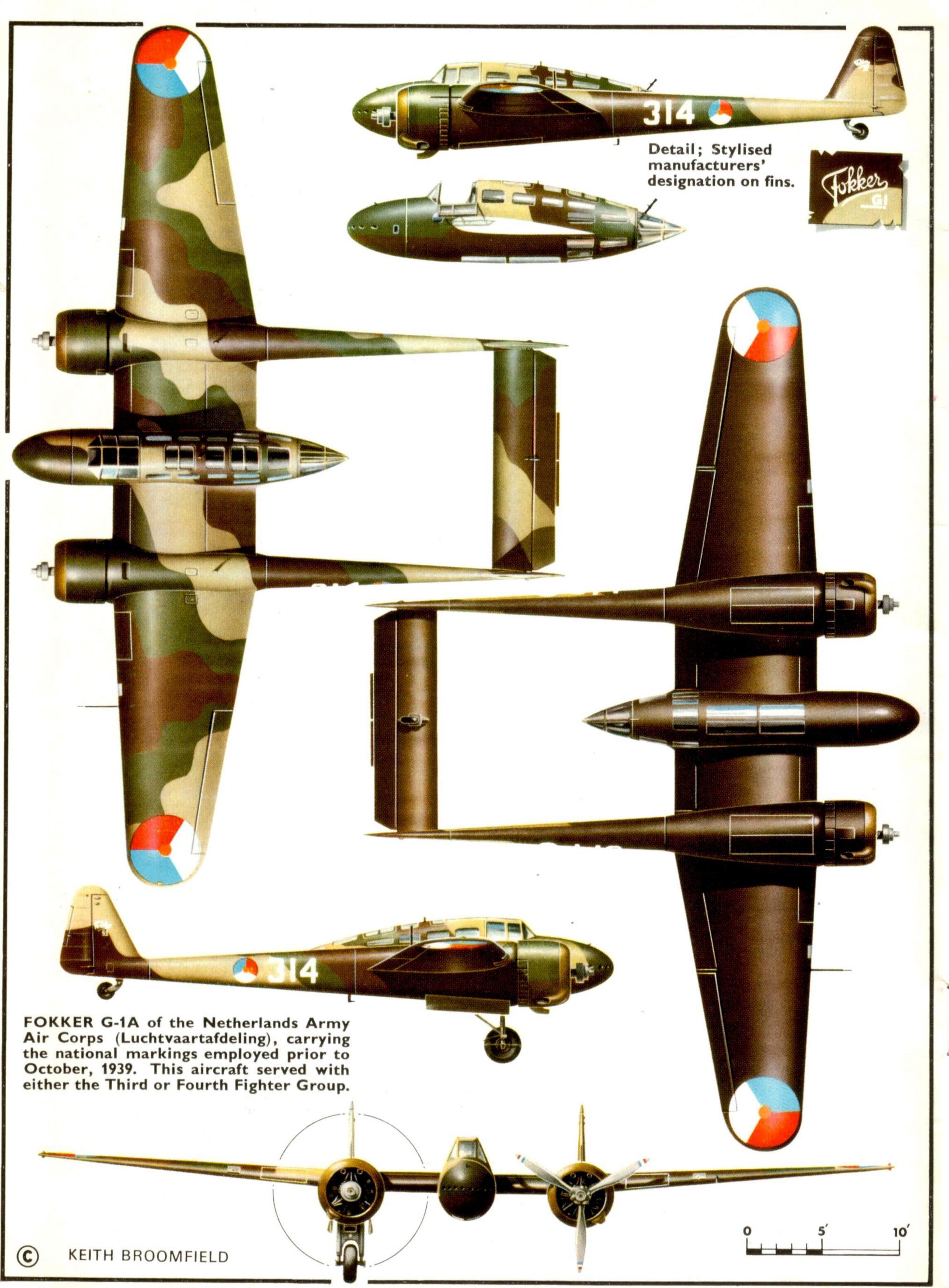
The Fokker G-1

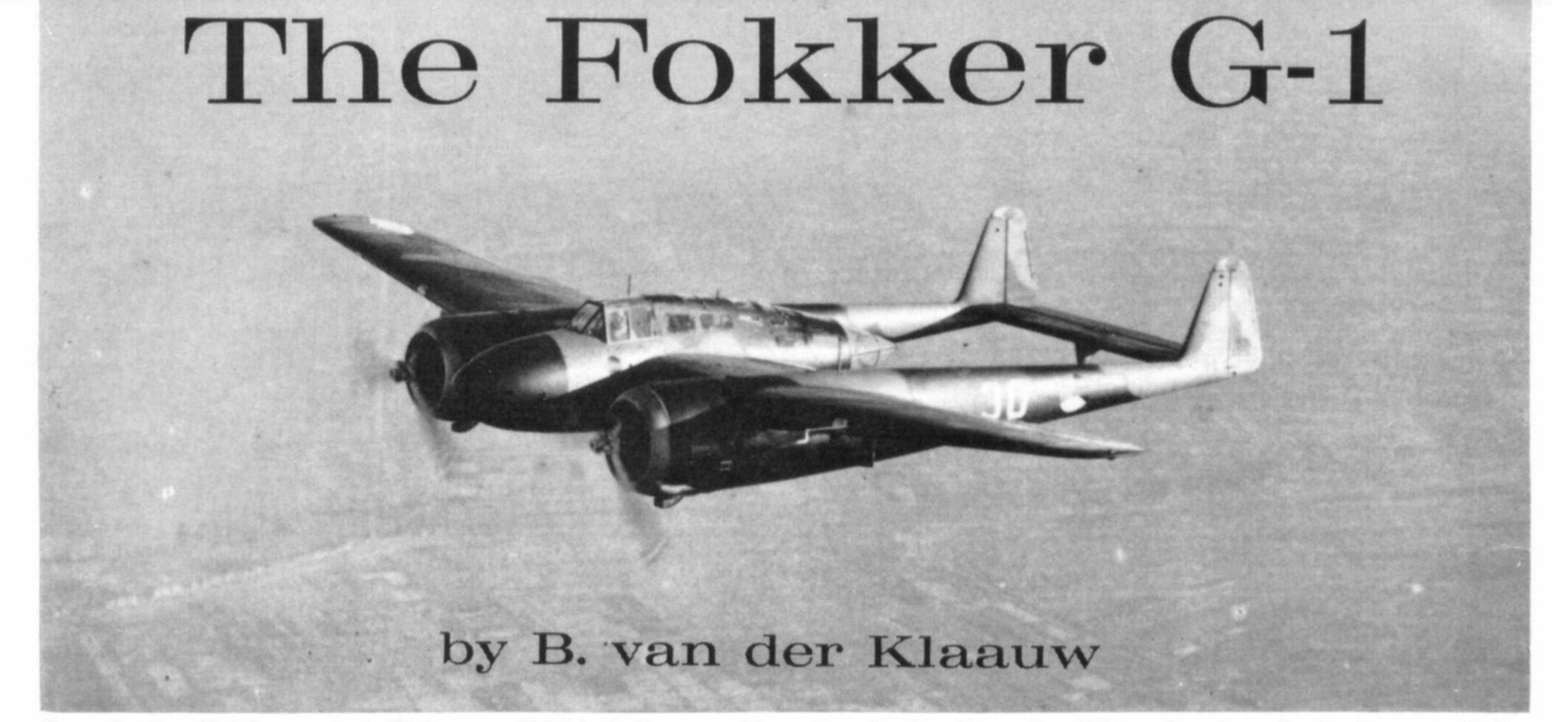
NUMBER

134

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A production G-1A on a test flight near Schiphol Airport. Note that the batch number (30) and early-style Luchtvaartafdeling markings have been applied, but the third numeral has still to be added to the code. (Unless otherwise indicated, all photographs appearing in this Profile are from the author's collection).

When on 13th November 1936 the gates of the Grand Palais in Paris opened for the fifteenth Salon de l'Aéronautique the stream of visitors entering the building soon found themselves right in front of an amazing new aircraft occupying the centre of the main hall. This aircraft, which was until then completely unknown, was a revolutionary conception and came as a great surprise to everyone except the makers: the Fokker Aeroplane Company of Amsterdam, Holland. It was designated as the G-1 and as such it was to start an entirely new category of Fokker aircraft. The G-1 featured a short centre fuselage and two tail booms, in front of which were mounted the two engines. This unfamiliar lay-out rendered the G-1 a formidable and very advanced long range fighter. Its armament consisted of two 23 mm. Madsen cannons plus two 7.9 mm. machine guns, all mounted fixed in the nose, while an additional 7.9 mm. machine gun was mounted in the movable tail cone and was to be operated by the rear gunner. Furthermore, 880 lbs. of bombs could be carried both internally and externally. The standard lay-out was for a crew of two but if desired room could be made for a third crew member.

The G-1 was developed by Fokker as a private venture. In 1934 a design team headed by E. Schatzki, then Fokker's chief designer, discussed in deep secrecy the conception of a heavily armed twin

engined fighter with two tail booms, which could not only perform normal fighter duties but would also be capable of flying missions beyond the capacity of standard fighter aircraft of that time. Construction of a prototype was started in a secluded part of the Fokker works and when the 1936 Paris Salon was about to be opened the aircraft was brought to the French capital by ship, its appearance at the Salon being—as already mentioned—a complete surprise. The G-1 was introduced as a fighter, fighter-bomber and reconnaissance aircraft, being very easily convertible from one task to another; although we nowadays are more or less accustomed to military aircraft adaptable for a variety of duties, in 1936 this was a novelty. At the time of its appearance in Paris the aircraft had not yet flown; nevertheless, press comments did not hesitate to describe the Fokker aircraft as the most sensational discovery at the 1936 Salon.

Following good and well-established Fokker tradition the G-1 was of mixed construction. Its front fuselage was made of steel tubes and covered with dural and aluminium; the central part, which was incorporated into the wing, was of wood like the wing itself, while the rear fuselage was of light alloy construction. The two tail booms were entirely built of metal, only the rudders being fabric covered. The prototype was powered by two Hispano-Suiza

The first batch of G-1B's at Schiphol. Twelve aircraft originally intended for export to Finland were hurriedly signed over to the LVA in the spring of 1940 and pressed into service with improvised armament. The quality of the photograph makes it hard to distinguish the late-style national markings applied to these aircraft. No. 341, third machine from the left, is noteworthy; it was the former prototype, X-2.



The Fokker G-1 prototype at the 1936 Paris Salon, where it caused great comment; the Press hailed it as a sensation, although it had not flown at that time.

80-02 radialengines, giving 750 h.p. at 11,500 feet at 2,400 r.p.m. A maximum speed of 267-301 m.p.h. was quoted for the prototype aircraft.

DEVELOPMENT

After its successful appearance at the Paris Salon

the G-1 was brought back to the Netherlands, to be prepared for its first flight. The "custard-and-chocolate" colour scheme used during the exhibition was replaced by a dark brown upper surface and a duck-egg blue undersurface, and the aircraft was also given the civil B-class registration X-2. (The X-group of registrations in the pre-war years was specially allotted to Fokker for use on prototypes and experimental aircraft). All this was done in a hanger at the small civil airfield of Welschap, near Eindhoven, which from the security point of view was considered a much more suitable place than Schiphol Airport near Amsterdam.

The first flight with the G-1 prototype was made on 16th March 1937 from Welschap, the aircraft being piloted by Fokker's Czech test pilot Mares, who after the flight expressed complete satisfaction with the aircraft's behaviour. Later another Fokker test pilot, the German Emil Meinecke, also flew the aircraft. On 8th April he flew the aircraft to Amsterdam and on 13th and 14th April the G-1 was demonstrated before the Dutch Army Air Corps at Soesterberg Air Base. On later test flights Dutch military pilots were also allowed to fly the G-1.

Although the Dutch military authorities were very interested in the Fokker G-1, which was at that time a very advanced fighter aircraft, they did raise some objections. For instance, they opposed the use of the Hispano-Suiza engines because the Fokker T.V bombers and D.XXI fighters, which were already on order for the Army Air Corps, would be powered by Bristol Mercury engines and the introduction of a separate type of engine for the G-1 would result in undesirable complications in the Air Corps' maintenance and logistics system. Moreover the then rather new and untried Hispano Suiza engines had







The prototype at Welschap aerodrome, shortly before its maiden flight; this was on 16th March 1937, with Mares at the controls.

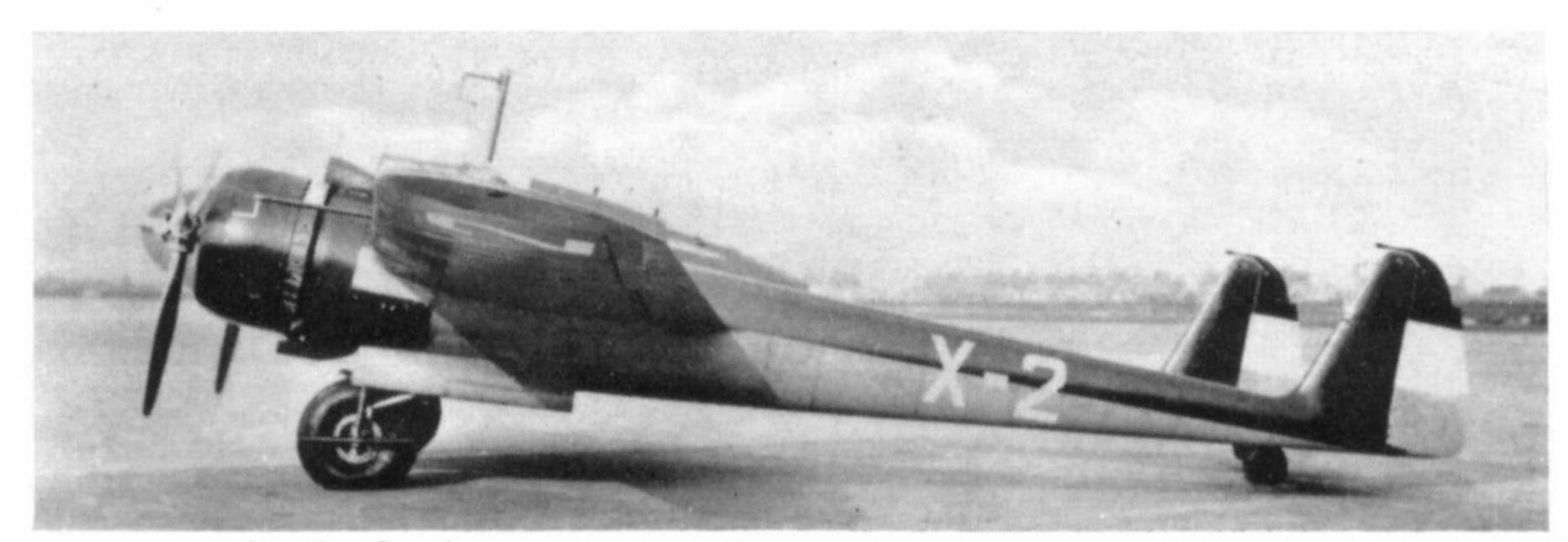


completely failed during a diving test, melted metal parts having been sucked into the exhausts and ejected against the tail surfaces! The prototype was then re-engined with two Pratt & Whitney Twin Wasp engines, also of 750 h.p. Some other modifications were introduced on the prototype when it had to be rebuilt following an accident in which it rammed the doors of a hangar at Schiphol Airport after the brakes failed; this happened on 4th July 1937.

There also were some differences of opinion within the Army Air Corps regarding the G-1's armament. Some of the experts believed that only machine guns should be fitted, giving the aircraft a fixed eight-gun







The prototype in its new paint scheme, seen here at Schipol after the substitution of Pratt & Whitney Twin Wasps for the original Hispano-Suiza powerplants.

X-2 during its stay at Soesterberg Air Base for military demonstrations; this photograph was taken on 13th April, 1937.

armament in the fuselage nose. Others however favoured a mixed cannon and machine gun armament. When finally, and after lengthy negotiations the Dutch Army Air Corps placed an order for 36 aircraft at the end of November 1937 this order was for a slightly larger and different version, later to be



designated as the G-1A. This was powered by two Bristol Mercury VIII engines of 830 h.p. and an armament of eight fixed 7.9 mm. machine guns in the nose was specified with a ninth similar gun in a movable position in the tail cone. In addition, 880 lbs. of bombs would be carried. A crew of two would be standard but the first four aircraft would be equipped to carry a third crew member.

THE G-1A VARIANT

As related above the G-1A, also dubbed "G-1 Mercury", was slightly larger and heavier than the prototype G-1; details of dimensions, weights and performances are given in the accompanying tables. Production of the aircraft ordered by the Dutch Army Air Corps was started immediately but was held up by delays in the delivery of the Bristol Mercury engines. Another problem which was raised during the production of the first aircraft was that the Dutch airworthiness authorities expressed some doubts as to whether the G-1A's rear fuselage would be strong enough to support the extra weight of a third crew member. To prove their point the Fokker engineers then devised a rather primitive load test with sand bags, putting a load of 1,550 lbs. at the required place in the fuselage; the G-1A passed this test with flying colours.

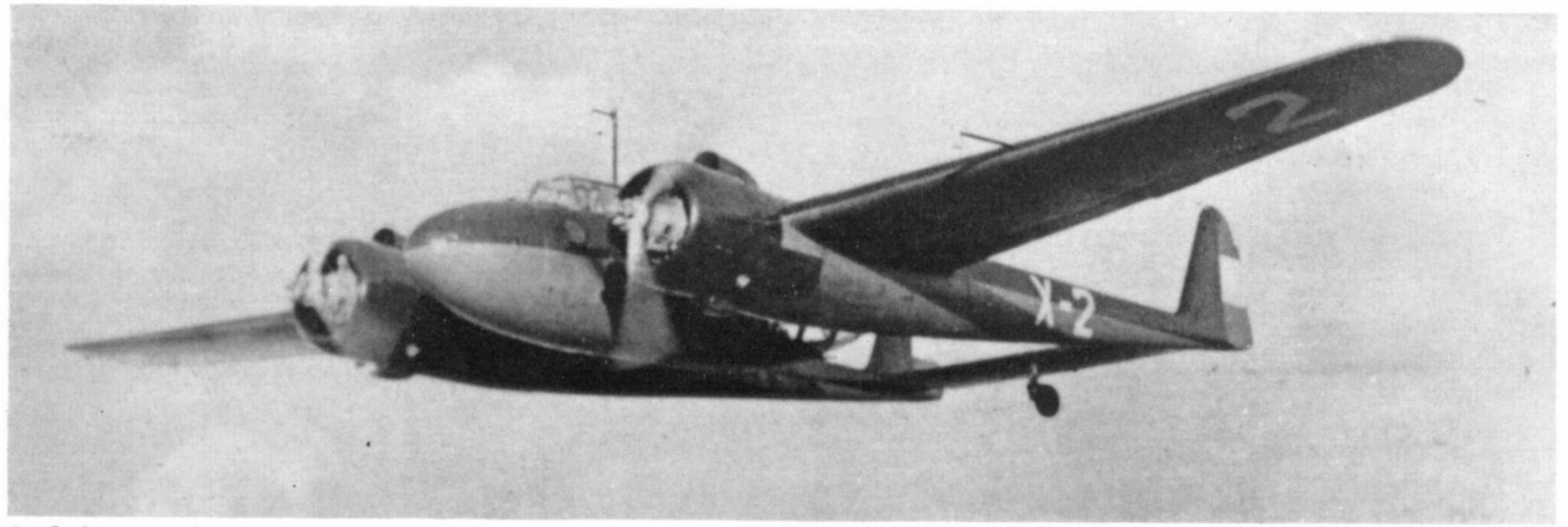
Dutch Air Legislation then produced another unexpected problem. The Dutch Aviation Code made

mention of only one navigation light at the fuselage's rear end whereas the G-1 had twin booms and, consequently, two rear ends. Modification of the Aviation Code, to include the possibility of equipping aircraft of twin fuselage layout with two tail lights, would be a long and complicated procedure, so a simple and very practical solution was found once the aircraft was in service: the bulb was removed from one of the two rear navigation lights and everything was according to regulations!

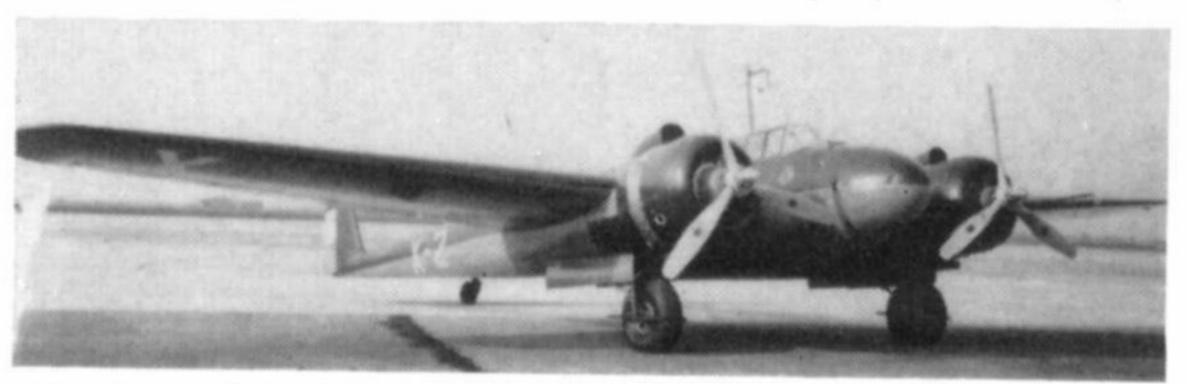
Of the 36 aircraft ordered, which received serial numbers from 301 to 336, No. 302 was the first to be ready, making its maiden flight on 11th April 1939 with Fokker test pilot Gerben Sonderman at the controls. This aircraft however was to remain with Fokker for further test flights and modifications. The first two aircraft which were actually delivered to the Air Corps were Nos. 304 and 305, both arriving at Soesterberg Air Base on 10th July 1939. Some interesting tests were carried out with the first production aircraft. In order to investigate the possibility of having the G-1A equipped for reconnaissance duties without having to remove the solid nose cone and its armament, aircraft No. 304 was fitted with a large perspex cupola under its fuselage, in place of the bomb stowage and release mechanism. It was hoped that with the aid of this device the observer, who was seated between the pilot and the

The prototype rammed a hangar at Schipol on 4th July 1937; several modifications were carried out while it was being rebuilt.





In-flight view of the X-2 after it was successfully rebuilt. Note rudder stripes.



This view of the prototype shows details of the Twin Wasps to advantage.

wireless-operator/rear gunner, could do his job very efficiently. The view from this cupola, which gave that particular G-1A the nickname "bath tub G-1", actually proved to be too limited and the available space in the aircraft for the observer was too cramped for him to perform his job properly, so the cupola was dropped and the device was not fitted to any other G-1A. In order to meet the requirement for long range reconnaissance aircraft the Army Air Corps then decided to order eighteen Dornier Do-215 aircraft from Germany. This order was actually placed with the German firm but owing to the intervention of the war they were never delivered.

Other experiments were carried out with aircraft No. 302. This aircraft was experimentally fitted with hydraulic dive brakes; they were placed on small extensions below the wing and lay horizontally during normal level flight; in a dive they were turned through 90 degrees. With this device fitted the G-1A was tested as a dive bomber and, among others, flown by a number of Swedish Air Force pilots. During one ones that did survive took a heavy toll of the attackers.

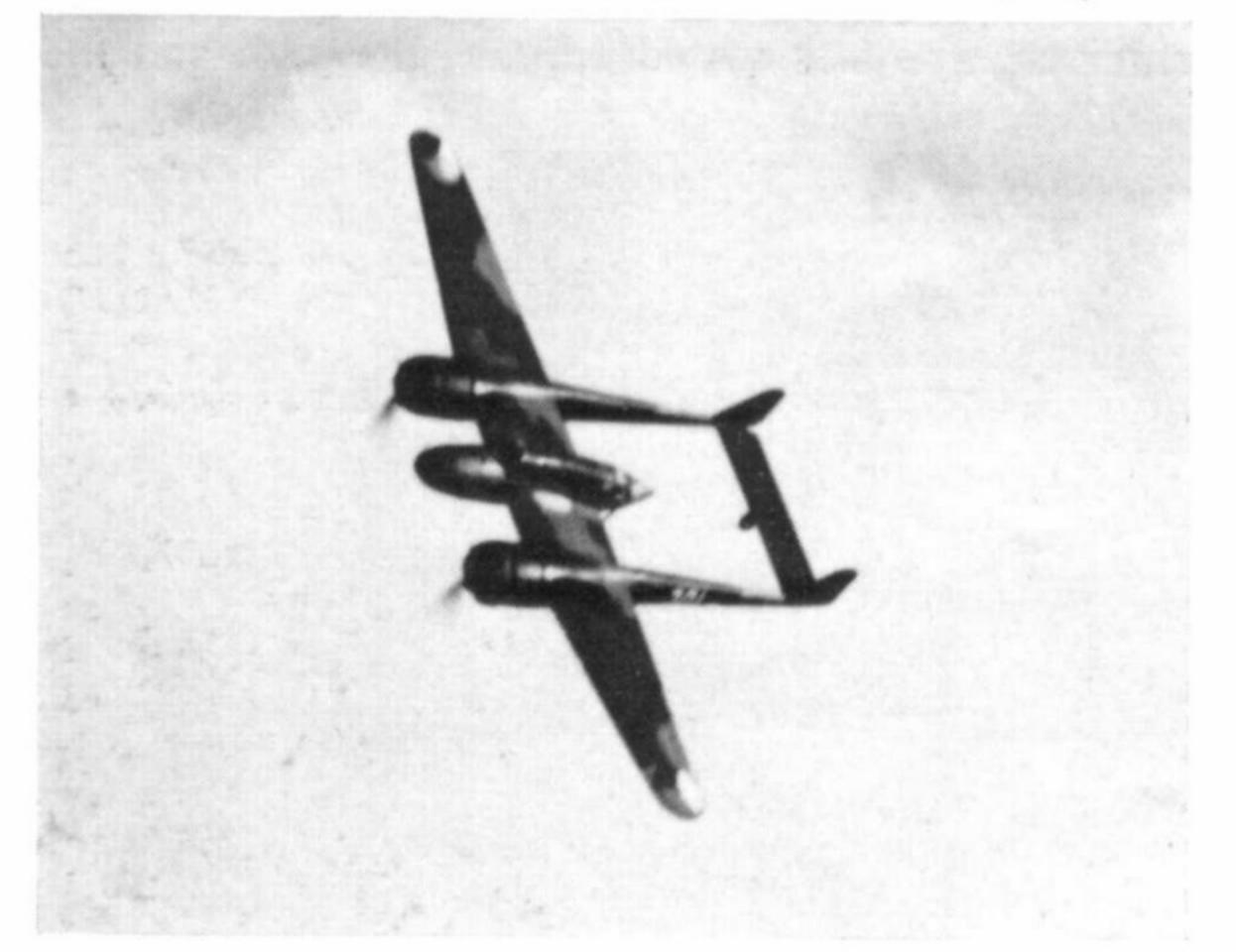
of these dive tests a speed of more than 400 m.p.h. was registered. But this device too was not fitted to any other aircraft and thus did not go beyond the experimental stage.

THE G-1A AT WAR

When in September 1939 the Dutch armed forces were mobilized the G-1A was in operational service with two Fighter Groups of the Dutch Army Air Corps. These were the Third Fighter Group, based at Waalhaven Airport near Rotterdam and the Fourth Fighter Group, based at Bergen Air Base near Alkmaar. The aircraft of both groups were frequently alerted for patrol duties when aircraft of the belligerent countries were reported to have crossed Dutch territorial air space. During this mobilization period of eight months two G-1A aircraft were lost. On 20th March 1940 a G-1A of the Third Fighter Group intercepted some R.A.F. Whitley bombers near Rotterdam, shooting one of them down; the aircraft burnt out when it hit the ground but the crew escaped without injuries and was subsequently interned.

When in the early morning of 10th May 1940 the German forces invaded the Netherlands, a total of twenty-three G-1A aircraft was ready for action: ten at Waalhaven and thirteen at Bergen. They were the most modern aircraft the Dutch could bring into the air against the invaders. During the first air attacks many G-1A aircraft were destroyed but the

Although coded 301, this was not in fact the first G-1A completed. The aircraft is shown here during factory flight tests; the military expressed doubt that the aircraft's structure could stand up to the weight of a third crewman, but Fokkers' demonstrated a rigorous flight programme with a loading equivalent to the weight of six men in the third crew member's flight station-1,550 lbs.!



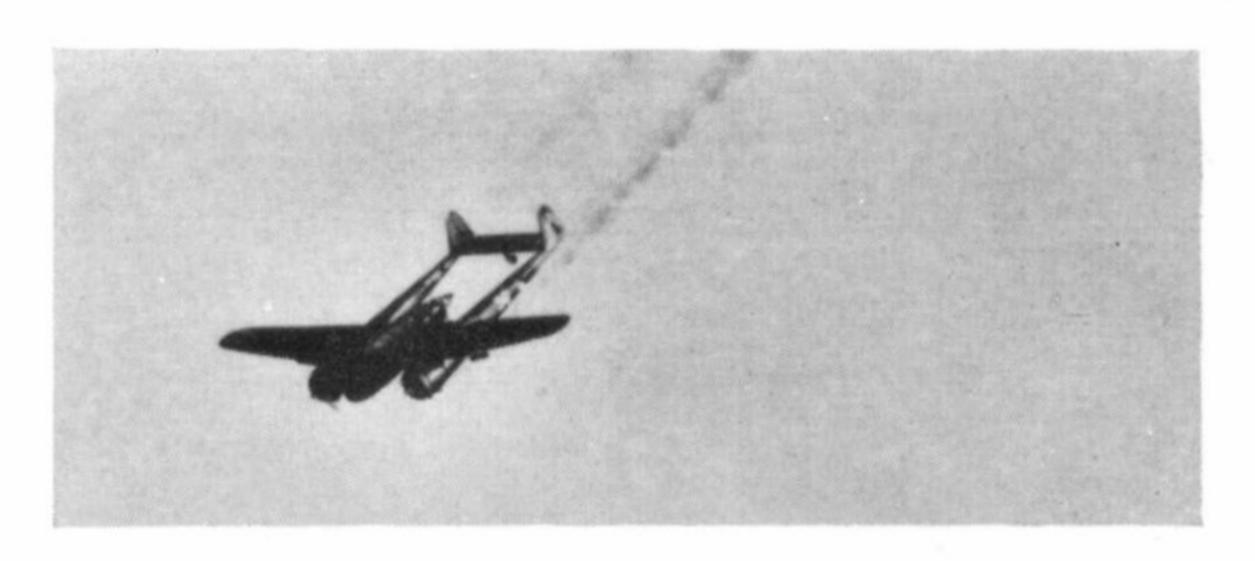


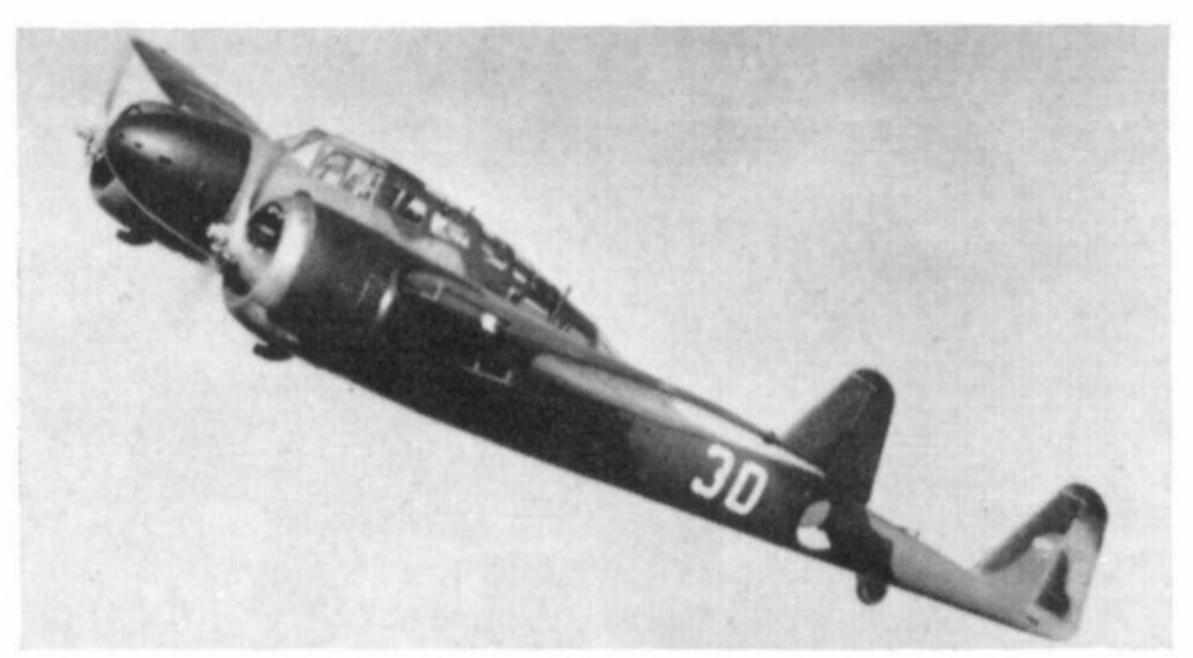
Of the Third Group, eight out of ten aircraft succeeded in getting into the air and between them they shot down fourteen German bombers. Their home base however had been attacked and occupied by German paratroopers and most of the surviving G-1A's had to crash-land somewhere in open country. They were subsequently destroyed by strafing German fighter patrols. At the end of the first day of combat only one of the Third Group's aircraft survived, this particular aircraft having landed at Schiphol. The aircraft of the Fourth Group at Bergen were less fortunate, all but one of them being either destroyed or badly damaged during the first air attacks. Hard-working maintenance crews nevertheless succeeded in making most of the damaged aircraft ready for operations again during the succeeding days. Bullet holes, for instance, were patched up by putting corks in them and covering them with sticking-plaster. To distract further German attackers four unrepairable G-1A aircraft were placed clearly visible on the airfield and these were indeed destroyed during a later German attack. In a remote corner of the base ground crews succeeded in repairing seven of the damaged G-1A's which later went into action against the enemy.

Nevertheless, on the last day of operations, 14th May, only two G-1A aircraft were left. They were reinforced from a rather unexpected source. A batch of 26 G-1B aircraft, ordered by the Finnish Air Force (see below), was seized by the Dutch government during the mobilization and a dozen of these were ready and waiting for their armament of 20 mm. Oerlikon cannons, which still had to be supplied by their manufacturers. During the days of war Fokker technicians and armament specialists of the Army Air Corps succeeded in fitting three of these aircraft with an improvized armament of four machine guns. These three aircraft were ready for action at Schiphol in the early morning of 14th May and together with the two remaining G-1A aircraft they made a successful attack on German troop concentrations. Most of the aircraft were however so badly damaged by German anti-aircraft fire that after returning to their base they were out of action for the rest of the day. It has proved to be impossible to assess just how many aircraft of the enemy were put out of action, either directly or indirectly, by the G-1's, but it is generally agreed that in their fight against great odds they did more than their fair share.

THE G-1A FOR EXPORT

Independent of the Dutch Army order Fokker continued the development of a smaller export version





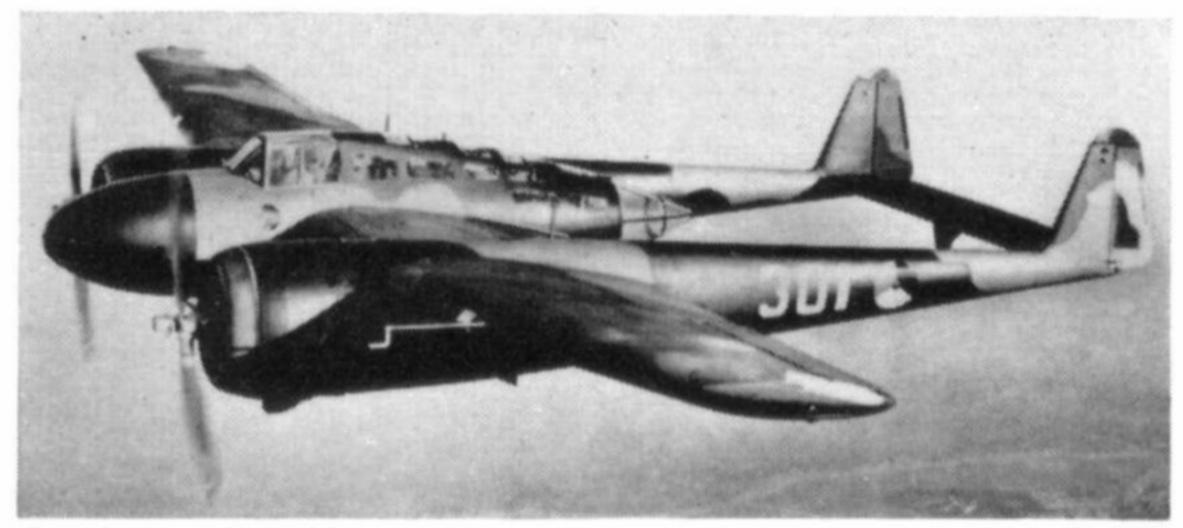


Various views of production G-1A's during factory tests. By the outbreak of hostilities, twenty-three G-1A's were in service with the Luchtvaartafdeling.

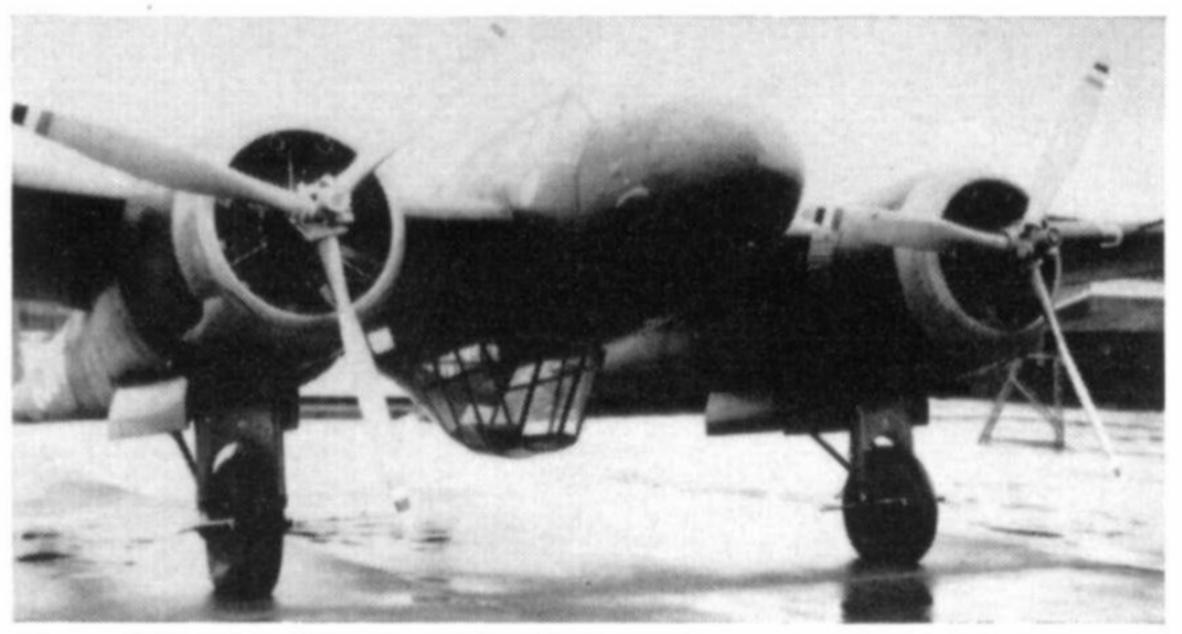
of the G-1. This resulted in an aircraft which was more like the prototype and was later dubbed G-1B, or "G-1 Wasp", as it was powered by two Pratt & Whitney Twin Wasp Jr. SB4-G engines of 750 h.p. The advanced and revolutionary conception of the G-1, which had already attracted so much attention at the 1936 Paris Salon, continued to receive wide attention from many parts and military experts from quite a number of countries came to Fokker to see the remarkable aircraft for themselves, and, eventually to fly it. For instance on 22nd September 1937 Finnish military authorities inspected the aircraft; while on 24th September 1937 the Turkish pilot Enver Akoylou flew it. One year later, on 23rd September 1938, Danish pilots tested the aircraft on its merits. This interest shown by many foreign

The Mercury-engined G-1A; note the extremely heavy nose armament of eight FN-Browning machine guns. For 1939, this was a formidable battery; had the aircraft been available in quantity at the time of the German invasion, there is no doubt that Luftwaffe losses would have been very severe.





G-1A Number 301 on patrol; two of these aircraft were lost during the mobilisation period prior to the German invasion.



No. 304, the "bath-tub" G-1, with experimental observer's gondola; in practice it was found that the observer's position was too cramped for efficiency, and the project was dropped.

nations led to the design of the G-1B, which was ready on the drawing board on 7th March 1939. The Finnish Air Force was the first to order this version, placing an order for 26 aircraft with Fokker. These aircraft were to be delivered unarmed as the Finns intended to install 20 mm. Oerlikon cannons in their own workshops. This Finnish order was soon followed by others: nine aircraft for Estonia, eighteen for Sweden, an unspecified number for Spain, while the Danish Air Force planned to have the G-1B built under licence in Denmark. Moreover, negotiations were in progress with various other countries and if the Second World War had not intervened the G-1B would without doubt have been one of the most successful types of Fokker aircraft.

The Dutch Army Air Corps also showed interest in acquiring this smaller version of the G-1 and

originally planned to have two 20 mm. Hispano cannons and two 7.9 mm. machine guns installed in the aircraft. It soon became clear, however, that the installation of the Hispano cannons would result in centre of gravity difficulties. In consequence the Dutch decided to have Oerlikon cannons installed in their aircraft as well. A Dutch order for the G-1B was under consideration when the Second World War broke out and the Dutch government imposed a ban on the export of the batch of 26 aircraft ordered by Finland. The

The striking silhouette of the G-1A, immediately reminiscent of the P-38 Lightning.

Army Air Corps then approached Fokker with a proposal to take over these Finnish aircraft; negotiations on this subject were started on 9th October 1939 but they were protracted over a long period and it was not until 17th April 1940 that the definite purchase contract for the 26 Finnish aircraft was signed. Twelve of these had meanwhile been completed and were awaiting the arrival of the Oerlikon cannons. They were to be delivered to the Army Air Corps on 1st June 1940 but they were already transferred unarmed to various bases. Thus on tenth May three of them were at Schiphol, four at Waalhaven and five at Ockenburg, an auxiliary air base south of The Hauge. The three Schiphol-based aircraft were during the war fitted with an improvised armament of four 7.9 mm. machine guns, as related above. Serial numbers 337 to 362 were allotted to the 26 ex-Finnish G-1B's, an interesting detail being that No. 341 was the original prototype X-2, converted to production G-1B standard.

DUTCH NAVY INTEREST

A lesser-known fact is that at a certain time the Royal Netherlands Navy also developed a great interest in the acquisition of a number of G-1 aircraft, in order to defend naval bases against enemy air attacks. On 23rd September 1939 the Chief of the Dutch Naval Staff sent a request to the Supreme Commander of the Dutch Armed Forces to have twelve of the 23 G-1A aircraft at that time available from Fokker delivered to the Navy, awaiting the eventual delivery of a special navy version of the aircraft (unofficially dubbed as the G-1W). This request however was turned down. Nevertheless the requirement still existed as there was in fact no defence at all against air attacks on coastal and naval installations. Consequently the Naval Staff Chief decided to take up the matter again, which he did on 11th January 1940, proposing that, awaiting the delivery of G-1 aircraft to the navy, eight naval crews should be temporarily transferred to the Army Air Corps for a special training on this type of aircraft. He further requested that three G-1A aircraft should be based at the naval air base of De Kooy near Den Helder to enable the navy crews to maintain their flying skill.





G-1B No. 348 after capture by the Luftwaffe; note the painting-out of the orange rudder and the apparent retention of Dutch markings on the wings.

But the Dutch Air Defence Command was not in favour of such an arrangement. It emphasized that the defence of Dutch territory against enemy air attacks could best be entrusted to one single organization and, consequently, had strong objections against a separate naval fighter force. If the navy however had a redundancy of pilots, they were told, these could best be made available to the fighter units of the Army Air Corps. As can be expected the navy did not agree with this point of view and discussions on the subject were still going on when the Germans invaded the Netherlands; thus the navy never got even as far as placing an order for the G-1.

IN GERMAN SERVICE

As related above, twelve of the 26 G-1B aircraft (Nos. 337 to 348) were ready and waiting for their cannon armament at the time of the German invasion. After the capitulation of the Dutch armed forces on 14th May the Germans not only found some of the unarmed G-1B aircraft at their respective bases, but also occupied the Fokker works where work on the remaining fourteen aircraft was still in progress. They immediately ordered the completion of these and after they had been test-flown they were transferred to Germany where the *Luftwaffe* used them as fighter trainers.

All test flights were made by Fokker pilots under German supervision. To make an escape to Britain impossible they only allowed fuel for half an hour's flying to be put into the aircraft's tanks; while every aircraft was escorted during its flights by a German chase-plane, which had orders to shoot the Dutchmanned aircraft down if it tried to escape. Neverthe less, two Dutchmen succeeded in bringing the last aircraft of the batch safely to the other side of the North Sea.

The day was 5th May 1941 and the two men were Tj. Leegstra and P. C. J. Vos. The former, a test

pilot, held the Dutch altitude record at that time which he had established shortly before the war with a D.XXI aircraft (37,250 feet on 3rd September 1938). With the aid of some collaborators among the ground staff the tanks of this particular aircraft (c/n 5567), were filled to capacity with fuel. At about the same time the two men went to the German supervisor, explaining to him that in their opinion another test flight would be necessary right away, before the aircraft, which was due to be transferred to Germany the next day together with another, was ready for acceptance by the Luftwaffe. At first the German showed some reluctance but finally, after having enjoyed a few drinks in the Schiphol canteen, he agreed. The other G-1B, manned by two Luftwaffe pilots, was however ordered to accompany them.

At four o'clock in the afternoon the two aircraft took off from Schiphol and slowly climbed away in the direction of the Ysselmeer. This was eastward and thus did not arouse any suspicion on the part of the Germans. But once over the water the two Dutchmen started a series of sharp turns and other manoeuvres and succeeded in withdrawing behind the fairly heavy summer clouds over the Dutch coast. Having made sure that they had succeeded in shaking off their German escort the two Dutchmen set course for England. They crossed the coast somewhere near Lowestoft, and soon a patrol of R.A.F. Hurricanes intercepted the strange aircraft wearing German crosses over Yarmouth. The two Dutchmen immediately lowered their undercarriage and this persuaded the Hurricane pilots that this particular "enemy" aircraft was not to be shot at. They landed their aircraft somewhere in a field.

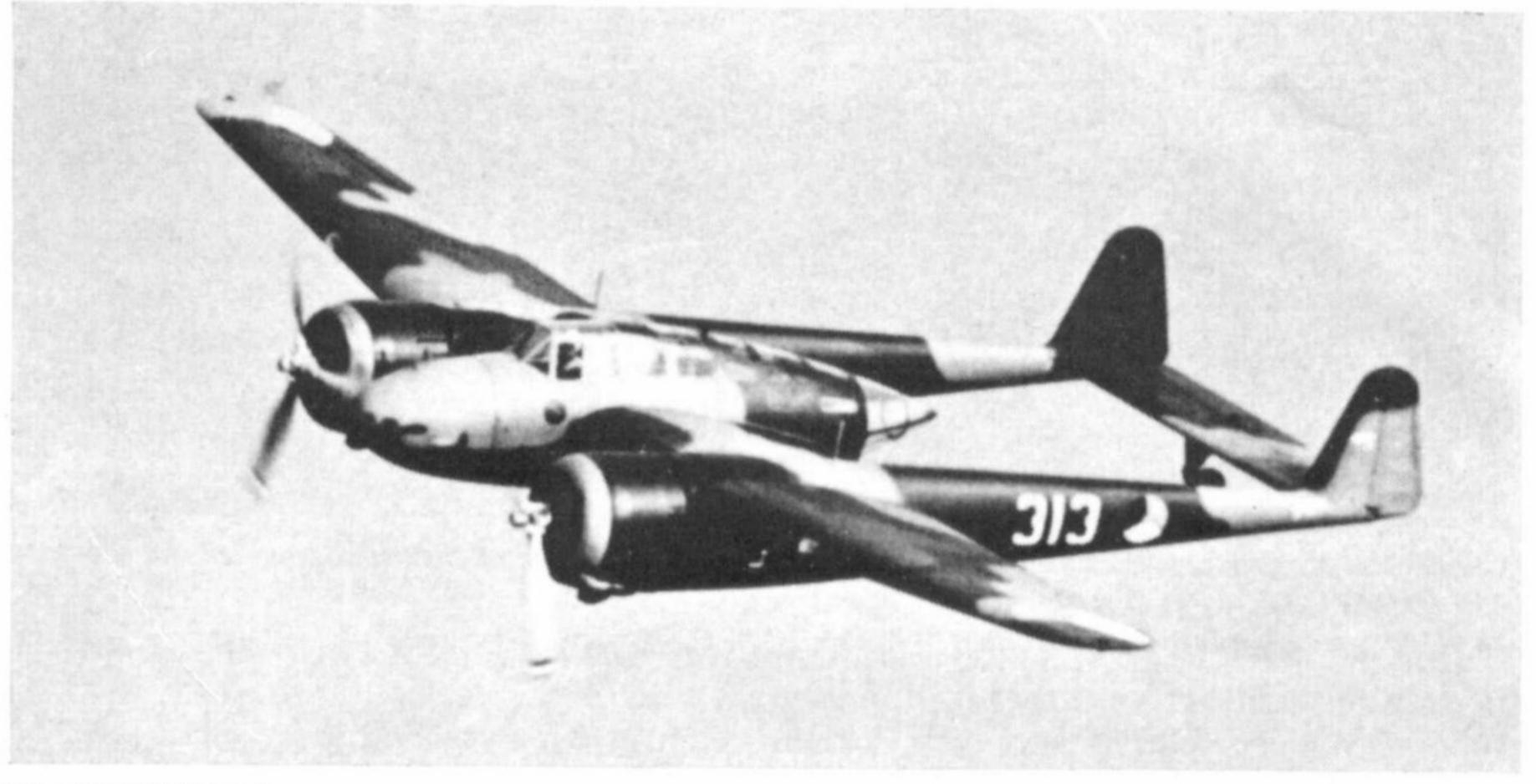
After a thorough examination by technicians of the Royal Aircraft Establishment the G-1B was finally given to Phillips and Powis Aircraft at Reading, builders of Miles aircraft, who were at that time designing an all-wooden fighter-bomber and thus

One of the G-1B's completed for the Luftwaffe; again, note the puzzling retention of Dutch markings.



Fokker's experience. The aircraft was reportedly left in the open air to see whether the wooden Fokker wing construction could stand the rigours of the British climate, something it apparently did very well because reports say that the aircraft was finally broken up after the war.

The Luftwaffe used about twenty G-1B aircraft but nothing is known about their whereabouts or their German service life.



FURTHER DEVELOPMENTS

At the beginning of this Profile it was pointed out that the G-1 marked the start of a new category of Fokker aircraft. This category did not have any further representatives although Fokker actually started the development of an aircraft which was designated G-2. This was to be a heavy twin-engined fighter aircraft, designed after a specification issued by the Dutch Army Air Corps in the summer of 1939. Fokker submitted four separate designs for this aircraft, numbered 154, 195, 198 and 199, of which the design marked 154 was the basic type from which the G-2 design was later developed. On 19th October 1939 the Army Air Corps notified Fokker about its intention to purchase twenty G-2 aircraft and the construction of a mock-up was started which was ready for inspection on 15th January 1940.

The G-2, as it was then, would have been a twinengined four-seat aircraft with a single fuselage, powered by two Mercedes DB-600H engines. The design featured twin fins and rudders and was not unlike the T-9 bomber built at the same time by Fokker. It was intended to be used as light bomber, strategic reconnaissance aircraft and heavy fighter, the reconnaissance version unofficially dubbed C-16. The war however intervened and consequently the very promising G-2 never materialized.

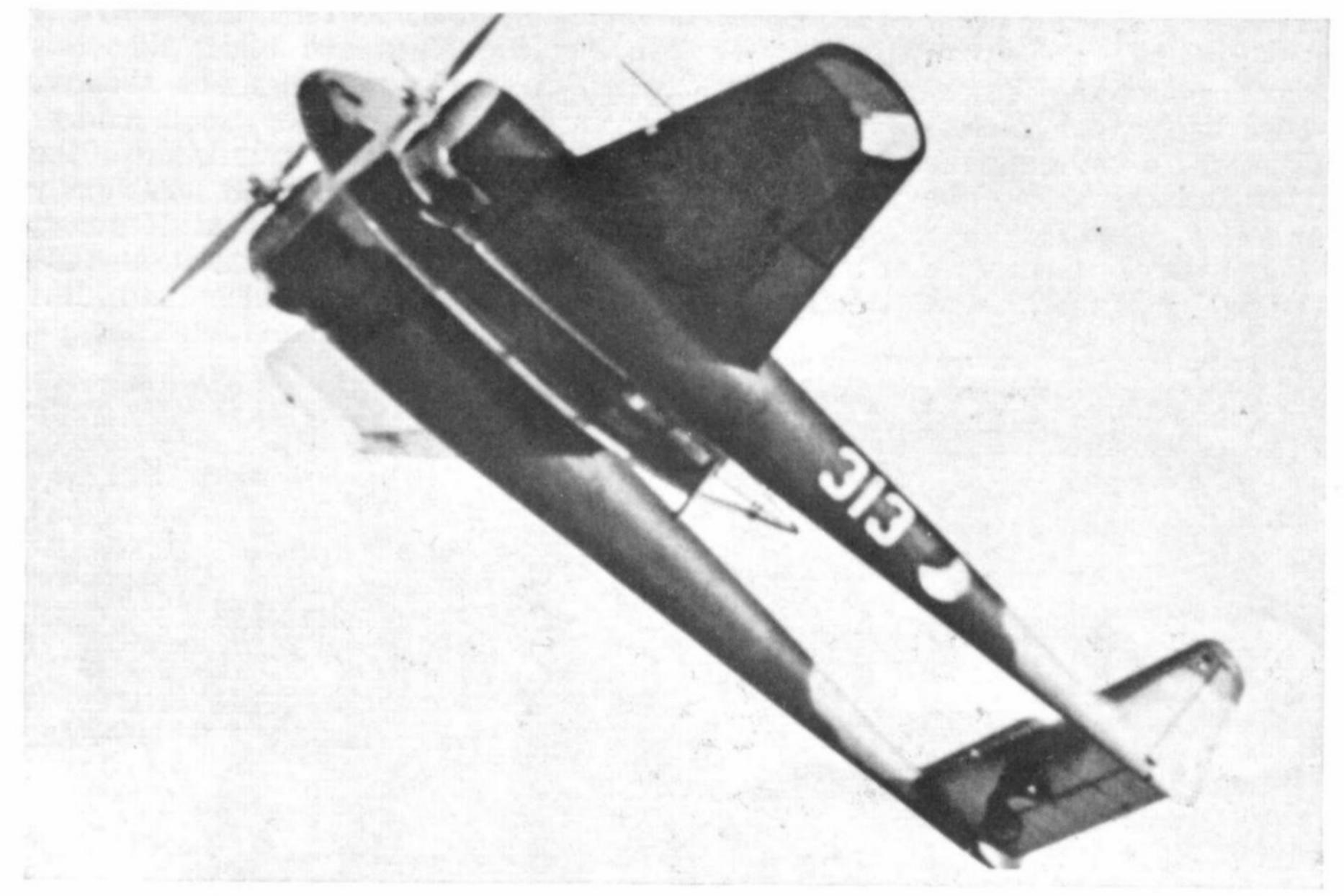
More directly related to the G-1 was a new bomber designed from Fokker, the T-6. When in 1937 the T-5 bomber, which was at that time being delivered to the Army Air Corps, proved to be disappointing it was clear that a new and faster bomber would be necessary in the not too distant future. The T-5 design did not lend itself for further development, but the G-1 did. Thus at a meeting between representatives of the Army Air Corps and Fokker the Air Corps specified that the new bomber should have a speed of 300 m.p.h. and a bomb load of at least 2,200 lbs.

Fokker then designed an enlarged version of the G-1, the centre fuselage of which would be about one and a half times as large as the G-1, allowing a crew of four to be accommodated. Further, a perspex bombing nose with movable armament should be fitted, which would render the T-6 capable of operating as an air defence fighter. The design in itself looked very promising but when it transpired that the T-9 bomber, under development for the Netherlands Indies Army Air Corps, would also be able to meet the requirements at home it was decided to drop the T-6 project.

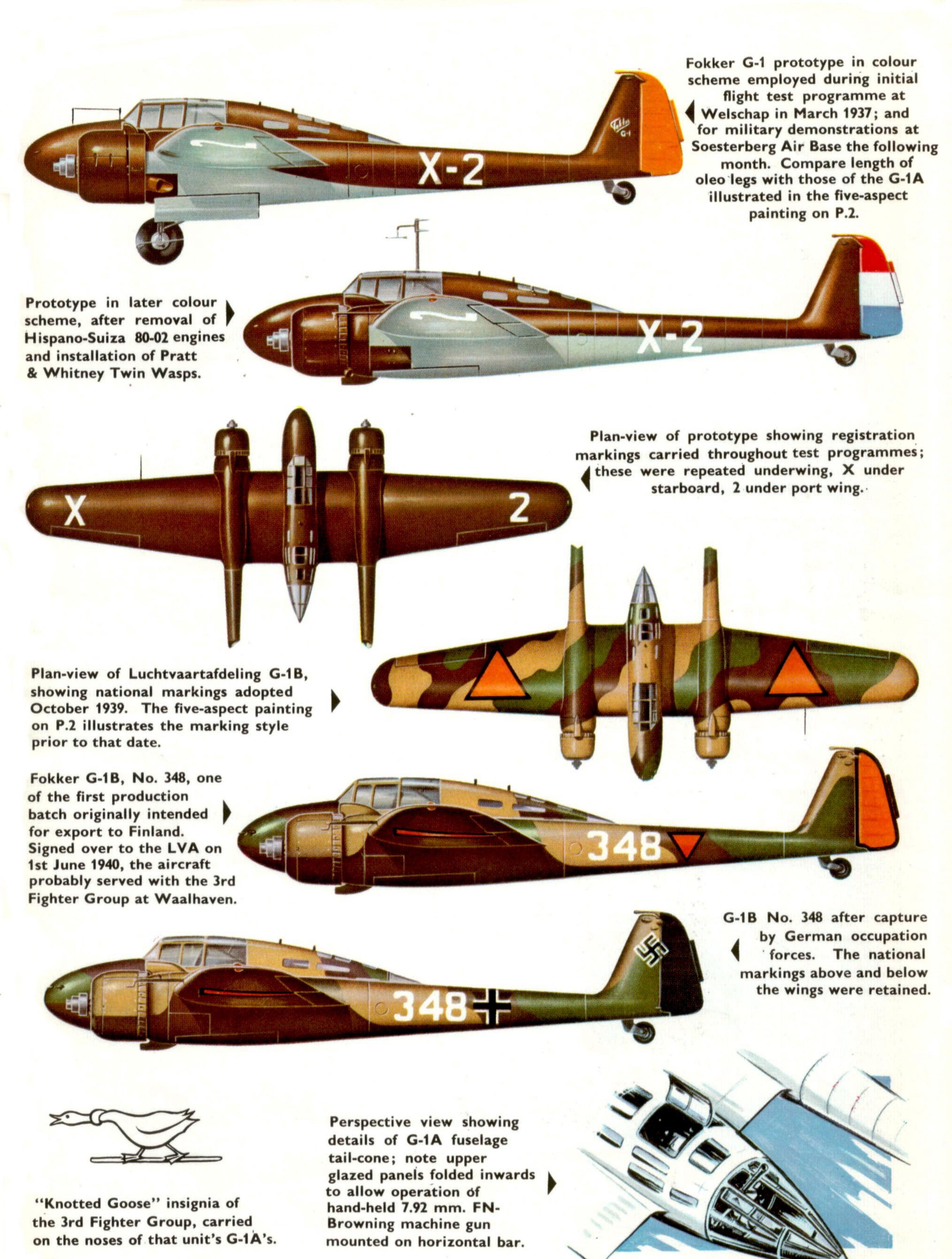
Total production of the G-1 was thus limited to

62 aircraft. It is a great pity that none of them survived to be preserved. Only a few parts could be saved during the war and these may at some time in the future be seen in a Dutch Air Force Museum which at the time of writing is still in the planning stage.

© B. van der Klaauw, 1966.



A good idea of the standard Dutch camouflage pattern may be gained from these views of No. 313 (above and left). Note also the non-retractable tail wheel centrally positioned under the elevator.



(C) KEITH BROOMFIELD



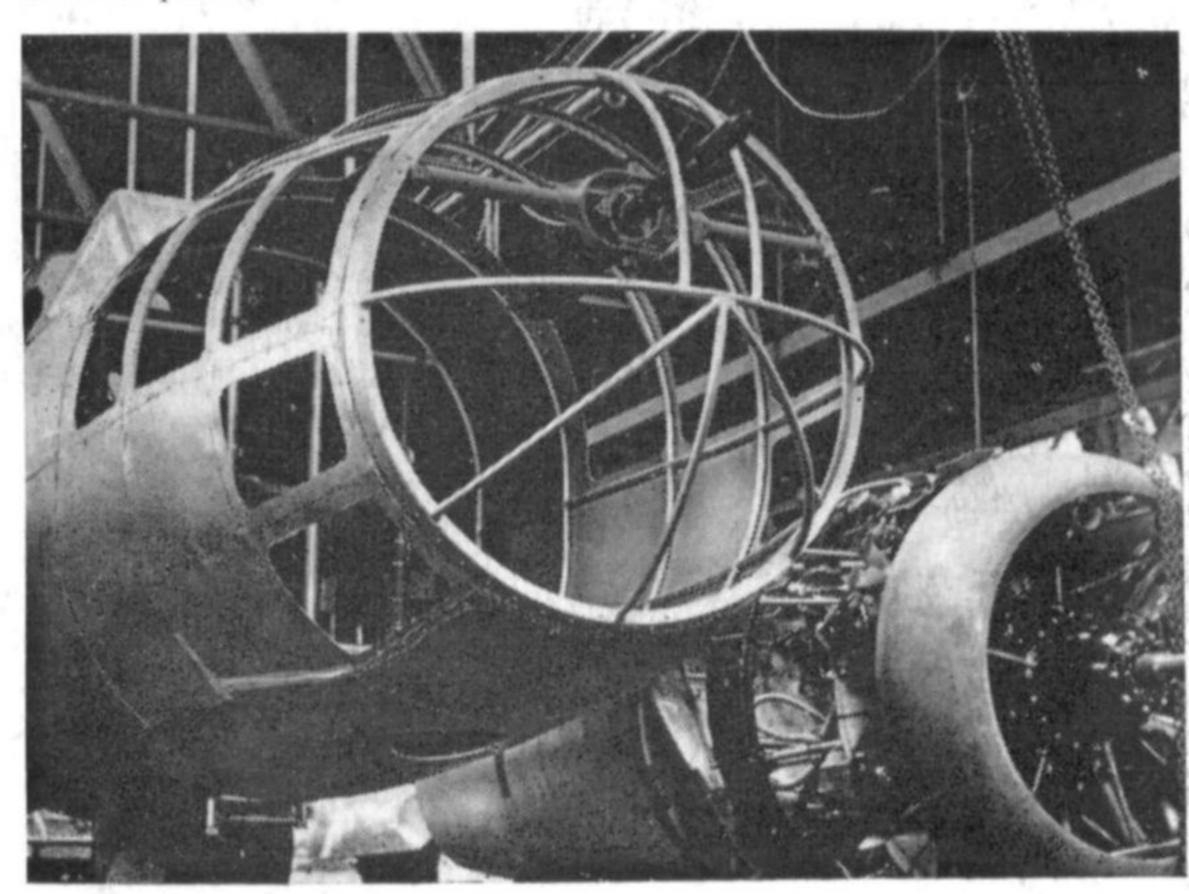
The G-1A's of the Third and Fourth Fighter Groups put up a spirited resistance to the German invasion of May 1940; although vastly outnumbered, they destroyed many German bombers and transports in the few sorties which they managed to mount. Eight aircraft from the Third Group succeeded in getting into the air before their base was destroyed, and shot down fourteen Luftwaffe bombers in a single action. Like No. 302 illustrated here, they later had no alternative but to crash-land in open country; German paratroopers were already in control of their home bases.

(Photo: courtesy Hugo Hooftman/Cockpit)

Readers may be interested to note other aircraft mentioned in the text which are also available as *Profiles*:

Focker D.XX1 Profile No. 63
Hawker Hurricane 1 ... Profile No. 111
Hawker Hurricane 11C ... Profile No. 24

A mock-up of the proposed G-2 under construction in the Fokker plant.



SPECIFICATION: FOKKER G-1 G-1A G-1B		
Power plant:	2 Bristol Mercury VIII 830 h.p.	2 Pratt & Whitney Twin Wasp Jr. SB4-G 750 h.p.
Armament:	8 × 7.9 mm. machine guns (fixed) 1 × 7.9 mm. machine gun (movable) 660 lbs. of bombs (300 kg.)	2×20 mm. Oerlikon cannon 2×7·9 mm. machine guns (fixed) 1×7·9 mm. machine gun (movable) 880 lbs. (400 kg.) of bombs.
Crew:	2—3	2
Dimensions: Wing span Overall length Height Wing area	56·3 ft. (17·15 m.) 37·9 ft. (11·50 m.) 11·1 ft. (3·40 m.) 412·26 sq. ft. (38·30 m²)	54·2 ft. (16·50 m.) 33·9 ft. (11·50 m.) 11·1 ft. (3·40 m.) 384·27 sq. ft. (35·70 m²)
Weights: Empty Gross	7,410 lbs. (3,360 kg.) 10,582 lbs. (4,800 kg.)	6,945 lbs. (3,150 kg.) 9,700 lbs. (4,400 kg.)
Performances: Max. speed Cruising speed Service ceiling Range	295 m.p.h. (475 km/h) 248 m.p.h. (400 km/h) 30,500 ft. (9,300 m) 876 miles (1,410 kms)	268 m.p.h. (432 km/h) 226 m.p.h. (364 km/h) 29,855 ft. (9,100 m.) 870 miles (1,400 kms.)

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