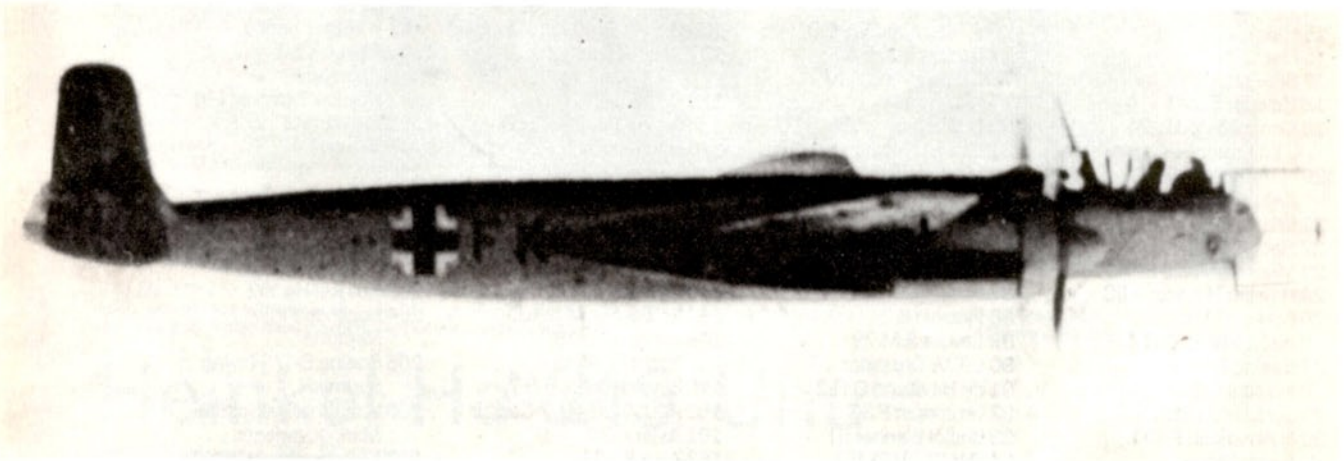
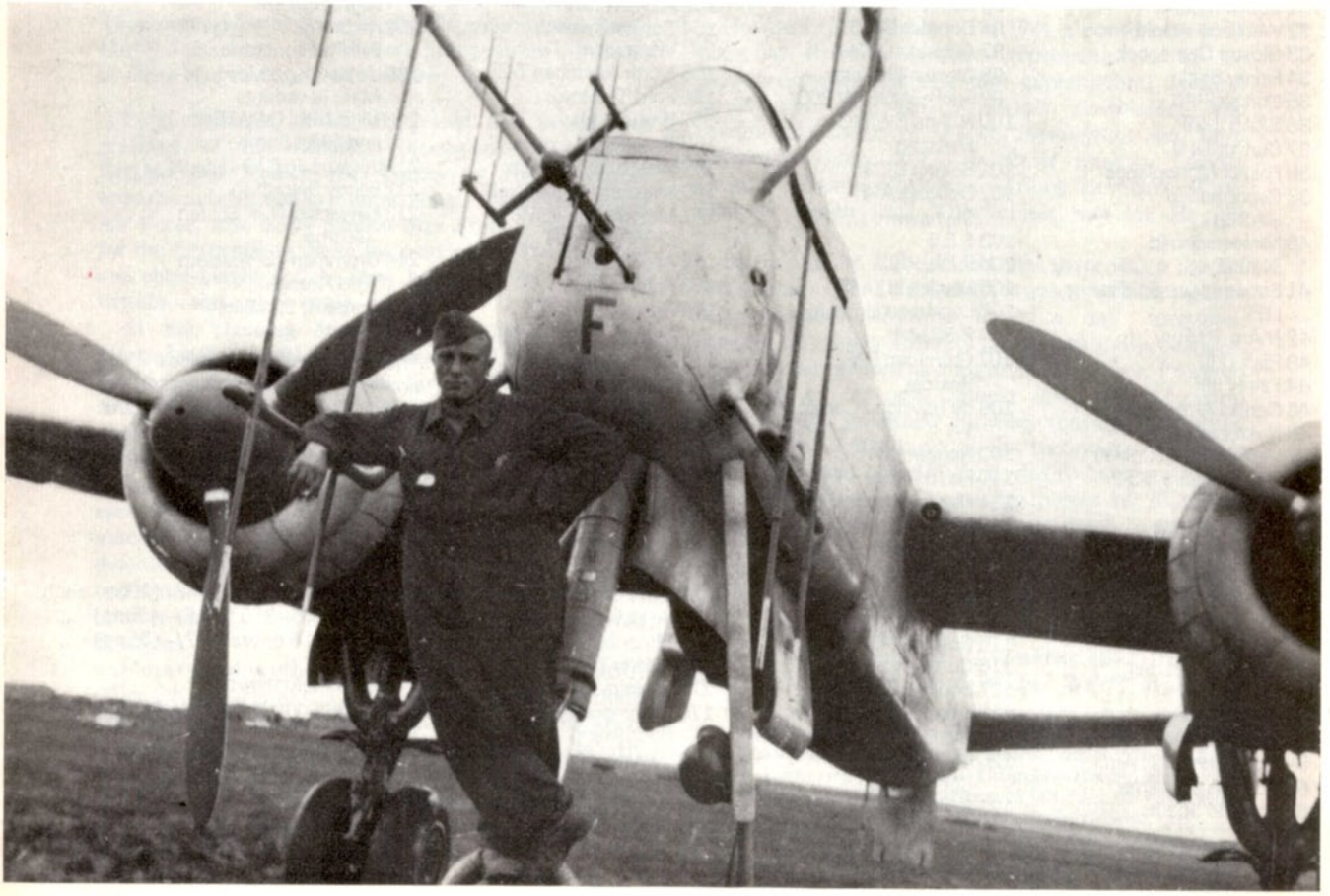
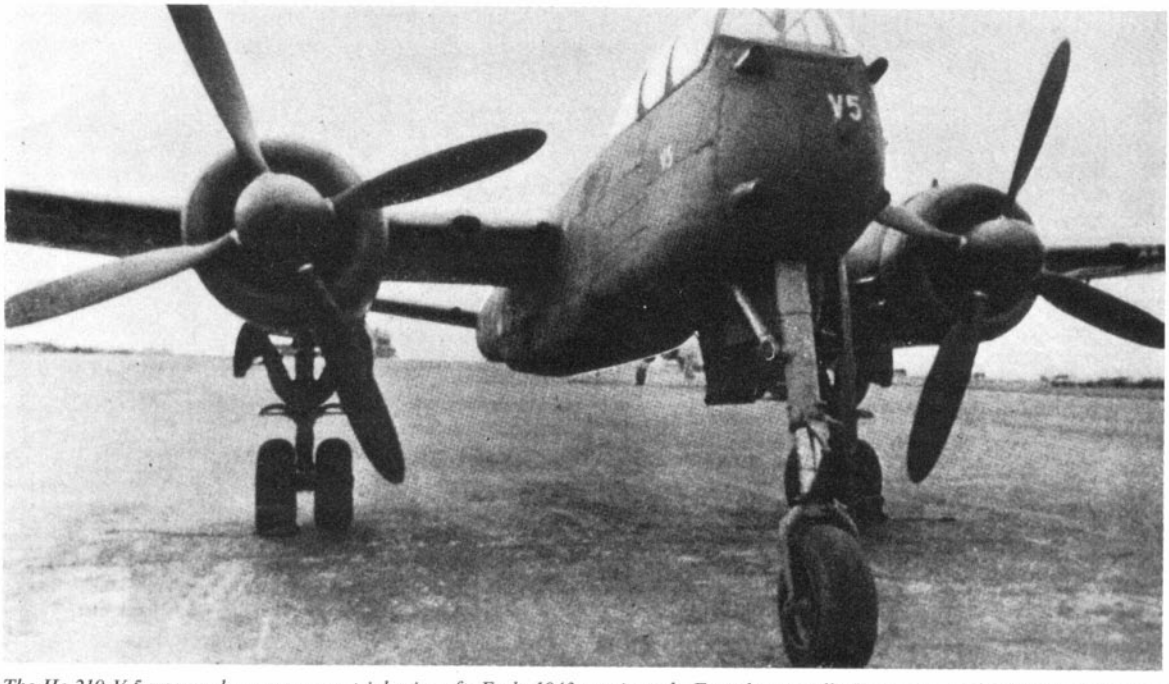
PROFILE 219

HEINKEL He 219 UHU







The He 219 V 5 was used as a weapons-trials aircraft. Early 1943 saw it at the Erprobungsstelle *Tarnewitz, and it was one of several early prototypes to serve with I./N.J.G.1 at Venlo. During the summer and autumn of 1944 it was used for 30 mm.* MK 108 *cannon tests, and was still flying from Ludwigslust in November that year.* (Photo: via *Ing.* Fred Haubner)

Heinkel He 219 Uhu

by Richard P. Bateson

THE name Uhu is given by the Germans to the Eagle Owl—*Bubo bubo*. The largest European owl, it hunts at dawn and dusk and is a solitary bird.

Early Summer, 1940. The rapid and progressive crushing of the Danish, Norwegian, Netherlands, Belgian and French Air Forces by their German opposite number had just taken place. The British Royal Air Force, also badly mauled over France, sat waiting for the *Luftwaffe* to make the next move. The stubborn and close-fought action—now known as the Battle of Britain—was yet to come.

At the planning departments of the *Reichsluftfahrtministerium* (RLM—the German Air Ministry) in Berlin, understandable jubilation was felt over the course of military events. Thus, scant attention was paid to a submission of a study by the firm of *Ernst Heinkel AG*, Rostock-Marienehe, for a new fast multi-purpose twin-engine aircraft. This design incorporated such advanced features as pressurised crew quarters, automatic pilot, remotely-controlled ventral and dorsal defensive barbettes and a nosewheel-type tricycle undercarriage. It was to fulfil long-range reconnaissance, bomber-escort, dive-bombing and torpedo-dropping functions.

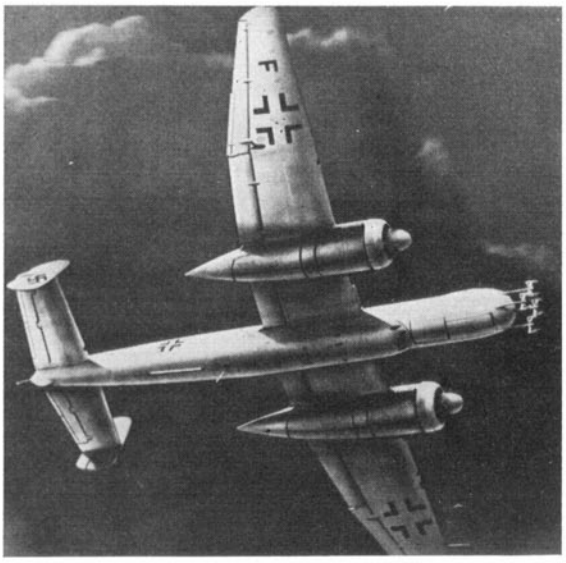
More than one official in the *RLM's LC** (Technical) office felt that Heinkel's team of designers sitting there on the sunny Baltic coast, should be turning their attention to the field of civil air transport. A greatly expanded *Deutsche Lufthansa* (the national airline) would be sure to need the very best airliners that the German aircraft industry could provide now that the war was nearly over.

However, on February 12, 1941 a conference took place at Rostock between representatives of the *Erprobungsstelle* (testing and experimental station) at Rechlin, the Air Ministry's *Technisches Amt* (Technical Office or *LC**), *Bauaufsicht des Luftfahrtministeriums* (*BAL* or *RLM* Factory Quality Control Organisation) and various members of the Heinkel design staff. The subject was the He 219 project.

Berlin's *RLM* had decided that there was a use for this concept after all. Initially, it was to be a long-range reconnaissance aircraft. Later a day horizontal bomber carrying a 2,205 lb. load. Eventually, perhaps, it could also be used as a night level bomber. Powered by a pair of the new *Daimler Benz DB 613* piston engines with governed blowers (basically, coupled *DB 603s* of 3,500 h.p.), in its reconnaissance form with a fuel load of 8,377 lb. it was to have a range of 1,863 miles flying at a cruising height of 26,231 ft. The bomber versions with fuel restricted to 6,172 lb. would have lesser range. Maximum climb and combat engine ratings were to produce speeds ranging from 348 m.p.h. at sea level to 422 m.p.h. at 29,510 ft.

By March 1941, prototype construction had been sanctioned, but on June 21 another edict from the Rudower Chaussee office of *LC 2/FP** at Berlin-

* At this time, the *RLM's Technisches Amt* was designated *LC*. The branch charged with aircraft development (*LC 2* under *Obersting*.—Engineer Colonel—Reidenbach) was sub-divided into eight departments (*LC 2/1* to *VIII*) each dealing with a class of aircraft or administrative task. *LC 2/FP* was a sub-section of *LC 2/VI* handling materials and accessories.



This striking artist's impression of a He 219 A-0 in flight shows the Uhu*'s initial configuration upon first entering service with I./N.J.G.1. Of particular interest are the clumsy* Matratze *(Mattress) antennas of the* FuG 202 Lichtenstein BC *radar. The effectiveness of* FuG 202 *was nullified by R.A.F. Bomber Command's use of "Window" on and after the devastating Hamburg raids of late July, 1943, and led to the introduction of* FuG 212 *and* FuG 220. (Photo: via *Ing.* Fred Haubner)

Adlershof changed the entire multi-purpose specification to that of a purely long-range reconnaissance aircraft. Modified cabin pressure differentials were needed as the operating altitude was raised to 29,529 ft. Opposition within the office of the *Generalluftzeugmeister* (Director-General of *Luftwaffe* Equipment —then *Generalleutnant* Ernst Udet) had resulted in the novel tricycle undercarriage layout being discarded. A conventional main and tailwheel landing gear was now written into the new stress directives.

Other changes were a maximum weight reduction of 4,298 lb. (from 31,415 lb. to 27,117 lb.), a wing span shortened by 8 ft. 3 in. (from 68 ft. 11 in. to 60 ft. 8 in.) with a consequent reduction of wing area by 140 sq. ft. (from 592 sq. ft. to 452 sq. ft.). A one-minute "maximum dash" speed of 453 m.p.h. at 29,529 ft. was also called for.

Back to the drawing board went *Oberingenieur* (Senior Engineer) Karl Schwärzler's Marienehe team.

A new blow to the smooth construction of a He 219 prototype was struck at a later Rostock conference on October 24, 1941, when yet another change was agreed between the *RLM* and *Ernst Heinkel AG*. Now the German Air Ministry required the long-range reconnaissance version to be dropped and replaced by a triple-rôle two man *Zerstörer* (Destroyer), night and high-altitude fighter (the latter having enlarged wings). The coupled *DB 613* motors had also run into serious trouble in the planning stage and the He 219 was now specified with two DB 603 engines of 1,750 h.p. Later versions would eventually have *DB 614* motors of 2,020 h.p. The *DB 614* was to have been a development of the earlier projected 24-cylinder air-cooled 2,660 h.p. *DB 604* piston engine.

By January 1942, the alternative night-fighter layout was finding increasing favour with *Generalleutnant* Josef Kammhuber commanding *XII. Fliegerkorps*—the German Night-Fighter Arm. It was now considered as a possible replacement for the Messerschmitt Bf 110 C and F variants, the Dornier Do 17 Z and Do 217 J, and the Junkers Ju 88 C, all of which as converted destroyers or bombers were being flown operationally as stop-gap night-fighters.

Some extra delay was inevitable as the direct result of revised Ministry requirements promulgated at a meeting at Marienehe on January 8, 1942. These reduced still further the maximum take-off weight of all three versions to 25,573 lb., wing-span dropped to 57 ft. 5 in. and the wing area was reduced to 431 sq. ft. Highest sea level speed was to be 332 m.p.h. rising to 435 m.p.h. at 39,372 ft. As before, the two *DB 603s* were eventually to be superseded by a pair of *DB 614s*.

On the night of April 23-24, Rostock felt the weight of British bombs. The Heinkel plant on the southern outskirts of the town was selected as a target for crews of No. 5 Group, Royal Air Force Bomber Command. The town of Rostock was attacked on four successive nights. Each raid was more deadly than its predecessor. Although Marienehe airfield escaped on the first night the next raid caused scattered damage and some fires in the factory area. The third attack, April 25-26, destroyed a large number of He 219 drawings. The final and most accurate mission of April 26-27 reduced much of the modern Heinkel works to smoking rubble. Fortunately, the experimental shop with the partly completed He 219 V 1 (first prototype) escaped destruction. Buildings were taken over at Heidfeld* airfield near Wien (today, Vienna's Schwechat Airport), in Austria, and the threads of design and development work on the He 219 were slowly re-woven at the southern extremity of the Reich, 430 miles from Rostock

Vacillation by the *RLM* on the need for a second-generation night-fighter obviously had to stop. The Arado Ar 240 which had been tipped for this rôle had proved a dismal failure. Its top speed was some 28 mph lower than specified and handling of the aircraft at night made difficult by an outstandingly high wing-loading. It was considered inferior both in performance and defensive armament to the Ju 88 C it was intended to replace. Providentially, the He 219 was there to fill the vacuum.

As was explained at a meeting of Air Ministry departmental heads on June 14, 1942, the *Generalluftzeugmeister* (by now *Generalfeldmarschall*—Field Marshal—Erhard Milch) foresaw the He 219 as the most suitable type to replace the ill-starred Ar 240. As already imparted, it would serve in a dual rôle—*Zerstörer* and *Nachtjäger* (night-fighter)—and Milch added that it could probably be used in a fast-bomber capacity as well. He foresaw it operating with remotely-controlled rearwards-firing defensive armament. Finally, he called for the submission of a precise requirement for a Bf 110 night-fighter replacement by the end of that month; adding that investigations were to be made into how far the He 219 already met this requirement.

At another development conference on August 18, 1942, consideration was given to resurrecting, as a stop-gap measure, a pre-war *Zerstörer* design, the

*The *Fliegerhorst* (German Air Force Station) at Heidfeld —as it was known to local Austrians—is referred to as Schwechat (a suburb of Wien) in *RLM* and *Ernst Heinkel AG* papers.

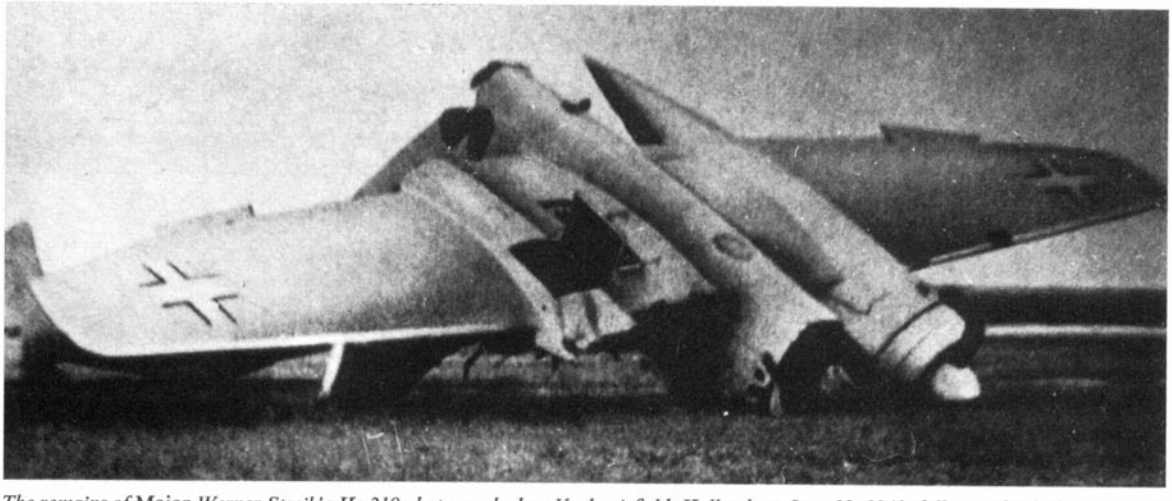
Focke-Wulf FW 187 *Falke* (Falcon), nine examples of which had flown. This idea was rejected and attention was given to night-fighting versions of the Messerschmitt Me 210 *Zerstörer* (another failed type, production of which had been cancelled on April 14 that year) and the Junkers Ju 188, a development of the well-tried Ju 88.

September 1, 1942 saw a firm commitment by the *RLM* for 12 *V-Muster* (prototypes), while another 173 pre-production He 219 A-Os were to be constructed between March 1943 and September 1944. Material for a further 117 aircraft was then being sought through *Sonderauschuss F 3* (special production commission for all Heinkel types) so that another assembly line at a yet undisclosed site could begin in January 1944.

Plans had already been laid for the use of plants at Budzyn near Kraśnik and Mielec—both in the *Generalgouvernement* (German-occupied Poland)—for He 219 work. These factories, were visited by a party of officials from Heinkels and the *Reichsministerium für Rüstung und Kriegsproduktion* (Reich Ministry for Armaments and War Production) during mid-July. *Professor Doktor* Ernst Heinkel, led the firms's delegation.

An important meeting was convened in Berlin on September 4. It was to review current night-fighter requirements. The choice of a successor to the Bf 110 G, Do 217 J and Ju 88 C designs (now increasingly operated with A.I. or airborne interception radar equipment) lay between the Ju 188, Me 210 and He 219.

The Me 210 had been flown experimentally on night operations, but before being produced as a night-fighter it would require a redesigned cockpit. It was not suitable for the installation of *GM 1* boosting (nitrous oxide injection to increase performance above the normally rated altitude of an aero-engine). Nor could it carry an internal bomb-load for intruder work due to lack of fuselage space. A re-designed wing would be necessary for operations above 39,372 ft. It was evaluated as a, *". . . slight development risk . . ."* and suitable for night-fighting over home territory.



The remains of Major *Werner Streib's He 219 photographed on Venlo airfield, Holland, on June 12, 1943, following his lucky escape on the type's inaugural combat mission the previous night. With wing top surfaces exposed, front fuselage ripped off and starboard DB 603 motor torn out, this was the spectacular* finis *to a flight in which the* Uhu*'s crew downed five multi-engined Royal Air Force bombers.*
(Photo: via the author)

Major *Werner Streib's He 219, G9+FB (identifying it as an aircraft of the* Gruppenstab *of* Nachtjagdgeschwader 1*'s first* Gruppe*) lies with a broken back on the Dutch airfield of Venlo. Both crew members escaped with bruises.* (Photo: via *Ing.* Fred Haubner)

The He 219—now specified with a tricycle undercarriage—and a wing-loading similar to that of the Me 210, could be expected to have far better landing characteristics than the latter type. The existing cockpit layout incorporated all the experience gained with night-fighters by the *Luftwaffe* up to that time. Its main disadvantage lay in the fact that no prototype had yet flown and was therefore something of an unknown quantity. Like the Me 210, high-altitude versions would need a revised wing. The *GL/C-E 2* department—*LC 2* redesignated—of the *RLM* marked the He 219, *"... a great development risk. Advance showing looks favourable, but basic idea not yet tried out."*

Obviously reflecting Milch's changed viewpoint, the Ju 188 received the highest accolade. It was already in service as a bomber. There were no flying problems. Its wing-loading was within the limits familiar to *Luftwaffe* operational units. The basic type was to be put into large-scale production. This was an important factor in justifying the assembly capacity, and guaranteed a quick increase in the supply of components if required. By carrying a third crew member, and with the possibility of internal bomb stowage, the requirements for a long-range night-fighter cum intruder could be fully met.

It was admitted, however, that the deadline for the *"final solution"*—a type provisionally designated Ju 188 N—would not be met until six months after the planned first flight of the He 219 V 1. An interim Ju 188 G with a normal bomber cockpit modified to night-fighting standards would equate in time to the availability of He 219s for flight trials. Other disadvantages were a 10% increase in raw materials required for Ju 188 production compared with He 219 needs and the fact that the Junkers design would be slower than its newer Heinkel rival.

Milch's pronouncement concluded, *"Due to a complete absence of risk* (with the Ju 188), *a near-complete night-fighter with a satisfactory performance can be introduced into service in contrast to the complete new development* (of a type)."

The future of the He 219 was once again in jeopardy.

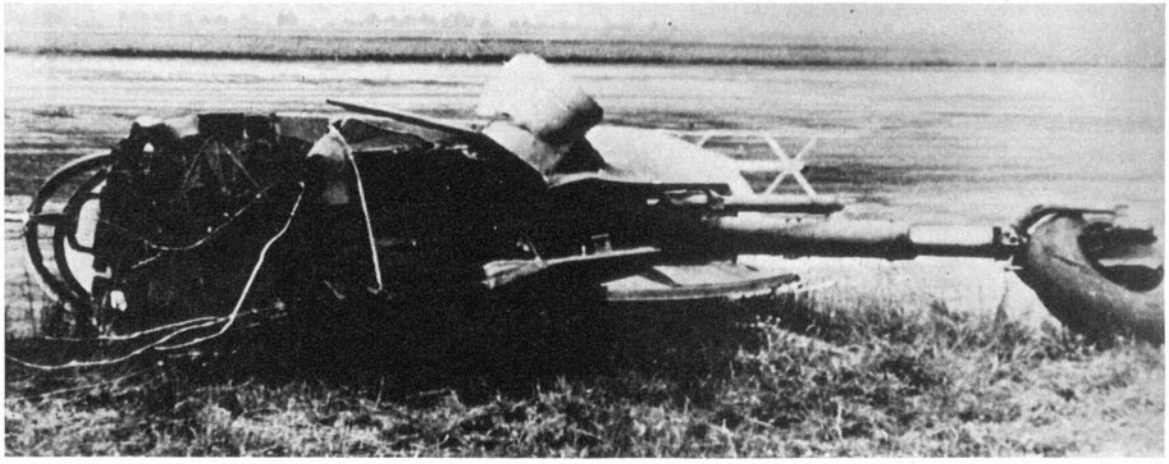
On November 15, 1942, the He 219 V 1 powered by two 1,750 h.p. *DB 603* As was flown successfully at Rostock. Early trials resulted in this first prototype reaching a speed of 382 m.p.h. at height and it was climbed to 30,513 ft. Take-off and landing characteristics were exceptionally good with the new tricycle undercarriage. Full-throttle runs disclosed considerable empennage oscillation, probably due to propeller wash on the rudders. This was cured by enlarging the vertical tail surfaces of the V 3 (third prototype) and subsequent aircraft. Some instability in flight was eliminated through lengthening the fuselage of the same prototype (by 3 ft. 5 in.).

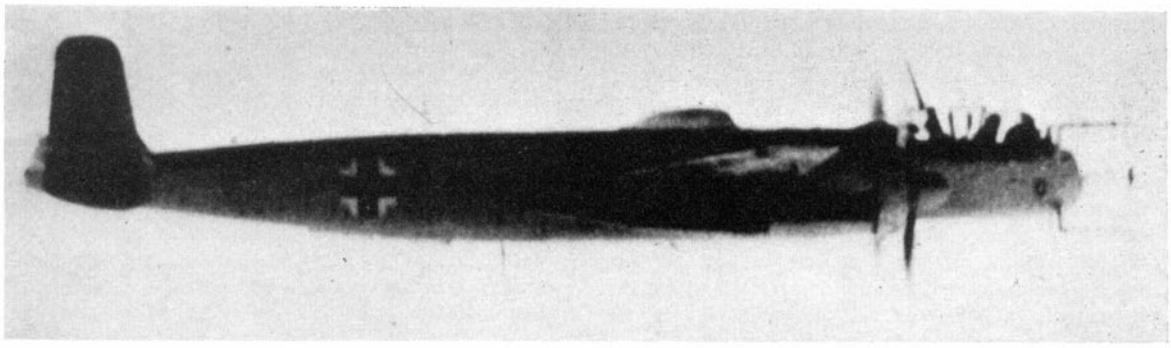
Twenty-one years after he blooded the Uhu, *Werner Streib, by then a* Brigadegeneral *(Brigadier-General) in the new West German Air Force, leads a delegation to Biggin Hill as a guest of the Royal Air Force. Here he shows great interest in a refurbished Messerschmitt Bf 110 G-4,* W.Nr. *730301, a type on which he scored many of his 66 victories.*
(Photo: Messerschmitt-Bölkow-Blohm GmbH ref. PA 170)

Major Werner Streib, *Kommandeur* (commander) of the first *Gruppe* of *Nachtjagdgeschwader 1* (*I./N.J.G.1*), was seconded to *Ernst Heinkel AG* where he participated in the flight trials of the He 219 from the seventh test flight onwards. The initial high performance of the V 1 (first prototype) was not shared by later prototypes, the fuselages of which were being manufactured at Mielec and then ferried to Wien-Schwechat by six-engine Messerschmitt Me 323 transports for mating with other main components.

Backers of the rival Ju 188 night-fighter were delighted by the results of a series of trials held during the first week of January 1943, in which a Ju 188

Miracle at Venlo. Well strapped in, both Major *Streib and his radar operator,* Unteroffizier *Fischer, survived this spectacular crash. The cockpit and front fuselage of the* Uhu *broke clean away from the main body of the aircraft. The* Matratze *aerials for the* FuG 202 Lichtenstein BC *radar can be discerned above the nose-wheel oleo strut.* (Photo: Heinz Nowarra *Archiv*)





Oberleutnant *Ernst-Wilhelm Modrow piloting He 219 A-0, G9+FK of 2./N.J.G.1, flies formation with* Oberleutnant *Werner Baake, later* Kommandeur *of* Nachtjagdgeschwader *1's first* Gruppe. *Photograph taken by Baake's radar-operator, Unteroffizier Waldbauer.* (Photo: via Peter Schneider)

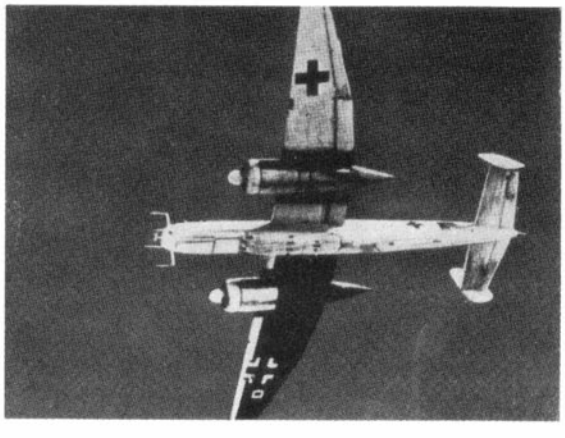
bomber with *ETC* bomb-slips and defensive armament removed, was pitted against the He 219 V 2. This showed that the He 219 did not come up to expectation. It was 19 m.p.h. slower than the Ju 188 at sea level; the Junkers design clocking 273 m.p.h. Milch now emphasised the need to produce a solution to the night-fighter question by, *". . . all available means . . ."*, including the possible replacement of existing types by the new all-wooden Tank Ta 154 *Moskito* (Mosquito) —*Focke-Wulf Flugzeugbau GmbH*'s answer to the He 219.

As late as January 28, 1943, no firm decision had been taken to mass-produce the He 219 as a night-fighter. *RLM* records show that a total of 1,128 Me 410s were on order in a *Zerstörer* capacity and these were to be supplemented by the limited construction of 127 He 219 *V-Muster* and pre-production A–Os. Also, 94 series He 219 A–1s were to be assembled. All these aircraft were to be used in the *Zerstörer* rôle. Adolf Galland, *General der Jagdflieger* (General of the Fighter Arm) envisaged the He 219 as a *Kampfzerstörer* (bomber-destroyer) attacking the U.S. Army Air Force daytime formations with heavy-calibre cannon and air-to-air rockets. The first-series He 219s were to be constructed in January 1944, rising to a final monthly total of 25 by September when production was to cease.

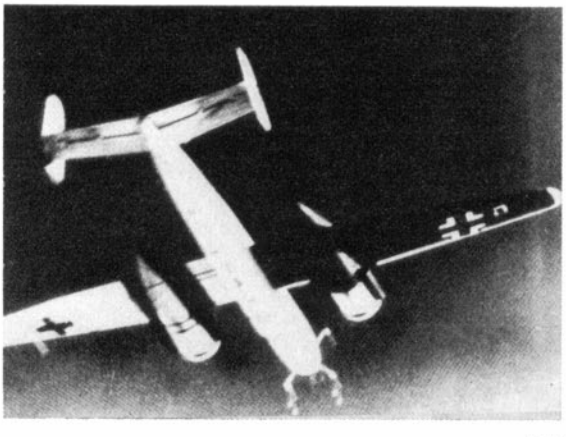
The potential menace of the R.A.F.'s Mosquito high-speed bomber was brought home to the highest echelons of the *RLM* on January 30, 1943, when at 11.00 on that day, three arrived unchallenged over Berlin. Their bombs stopped a broadcast speech that was about to be made to the Party faithful by *Reichsmarschall* (*Reichs* Marshal) Hermann Göring. *Luftwaffe* feathers were further ruffled that same afternoon when a repeat performance was laid on by three more R.A.F. Mosquito B.Mk.IVs at 16.00. This time they prevented Josef Göbbels, the Minister of Propaganda, from speaking. It was small consolation that one Mosquito from the second attack was shot down by the Berlin *flak* (anti-aircraft guns). From now on the problem of finding a *Moskito-Jäger* (Mosquito-hunter) was accorded high priority by the *Technisches Amt*.

Determined efforts to kill the He 219 were still being made in February. *Stabsingenieur* (Staff Engineer) Friebel, speaking for *GL/C–E 2* at a meeting on February 11 attended by heads of departments at the *Reichsluftfahrtministerium,* said that as regards performance the Ju 88 and Ju 188 were completely adequate for night-fighting. It was felt that the Ta 154 was necessary due to the favourable (non-strategic)

Oberleutnant *Modrow banks G9+FK near Venlo airfield. This He 219 A-0 is fitted with nose-mounted* FuG 220 Lichtenstein SN 2 *plus the smaller central* FuG 212 Lichtenstein C-1 *radar array. The powerful 4-gun armament pack faired into the aircraft's belly was supplemented by two more fixed weapons, one mounted in each wing-root.* (Photo: via Peter Schneider)



Werner Baake shadows Modrow's Uhu *during a radio calibration sortie from Venlo on April 18, 1944. Many successful R.A.F. Mosquito night-fighter combats with He 219s were prefaced by the British crew closing with the* Uhu *from below and behind to make an initial visual identification. Another view of a He 219 A-0 showing the large drag-producing* Hirschgeweih *(Deer Antlers) radar antennas of the* FuG 220 Lichtenstein SN 2, *the tell-tale dihedral twin-finned empennage, long nacelles protruding aft from bulky radial engines and the graceful tapering wings—recognition features that figured in most subsequent combat reports.* (Photo: via the author)



materials position of its wooden construction. In the interests of reducing the number of night-fighter types, it was proposed that the He 219 be dispensed with, especially as the industrial aspect of building the type produced great difficulties. The worth of the He 219 cockpit layout was duly acknowledged and its use, possibly grafted on to a Ju 188, was being investigated.

That high passions were aroused by the whole matter can be seen from the last sentence of the relevant passage in the conference minute: *"The Generalfeldmarschall* (Erhard Milch) *orders that these points should be put to the Reichsmarschall* (Hermann Göring) *in the presence of General Kammhuber."*

By March 24, 1943, this particular crisis seemed past. Four He 219 prototypes had flown and the general opinion on the type was good enough for the RLM's production planning department to sanction the assembly of 120 He 219 A–Os (including the twelve initial prototypes) at Wien, while large-scale production of 628 He 219 A–1s was to be set in motion at Rostock. These were now to be built as night-fighters. The Marienehe line was to deliver the initial machine in January 1944, with production building up to 50 per month by March 1945. This peak was to be held till September 1945 when the contract was to be completed.

To meet the *RLM* deadline, a request was made by Heinkel for the supply of 800 men to work in their factories, of whom 480 skilled workers were to be sent to Schwechat where 660,000 hours of lost time had accumulated on the He 219 *V–Muster* programme.

April 20 in *Nazi* (National Socialist) Germany was a day of special significance. It was Adolf Hitler's birthday and a national holiday. To mark the occasion, eleven Mosquitos made the first nocturnal attack by the type on the German capital. Only one Mosquito was brought down, and this over the Netherlands coast when the British crew were nearly home and dry. Hitler's opinion of the *Nachtjagdflieger* reached a new low.

Still the controversy raged over the most suitable type for use in the night-fighting rôle. In an effort to decide once and for all if the He 219 could be flown successfully at night, Kammhuber (possibly supported by Hitler) ordered *Major* Streib to work-up a trials unit of He 219s within the *Gruppenstab* (Gruppe Staff flight) of his own formation, *I/N.J.G.1*, then based at Venlo, in the Netherlands, and currently operating Bf 110 night-fighters.

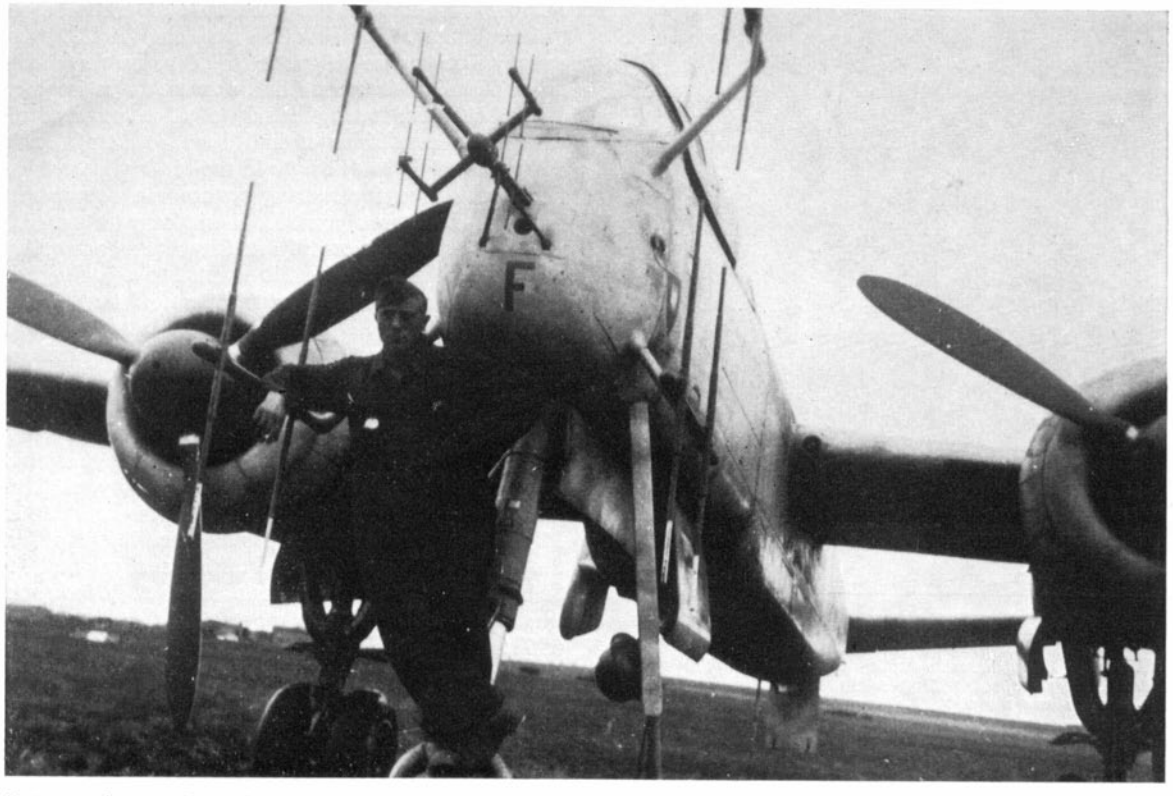
On the night of June 11–12, 1943, all Bomber Groups of the Royal Air Force mounted a large combined attack on the city of Düsseldorf. Four-motor Handley Page Halifaxes and Short Stirlings, as well as the latest Avro Lancaster, and the obsolescent two-motor Vickers-Armstrongs Wellington, all took part. 783 British aircraft took off; 693 found the target and bombed on markers laid by speedy de Havilland Mosquitos equipped with Oboe blind-bombing gear.

Aloft over the Netherlands in a He 219 that same night, was *Major* Streib. Vectored by radio to the vicinity of the bombers by a ground station, he was then guided to firing distance by his skilled radar-operator *Unteroffizier* (Corporal Officer-Candidate) Fischer. Interpreting the dancing cathodes of his *Lichtenstein BC* equipment, Fischer manoeuvred Streib again and again into a favourable position astern of the weaving British bombers. Five Royal Air Force "heavies" fell to the He 219's blasting cannon as the heart was torn out of Düsseldorf by the many that got through. No fewer than 38 R.A.F. bombers failed to return from this attack; a fraction under one-eighth of this total were accounted for by the team of Streib and Fischer.

Approaching the runway threshold at Venlo, low on fuel, his ammunition spent and with several instruments unserviceable, Streib selected flaps down for landing. Upon releasing the flap lever it failed to lock and the flaps abruptly returned to the "normal flight" position. The He 219 dropped like a stone and careered down the runway out of control. With catastrophic suddenness, the starboard engine seized solid, breaking away from the wing. Then the whole aircraft started to disintegrate. The cockpit and front-fuselage was ripped away from the remaining airframe by g forces. The two men trapped inside landed over 150 feet from where the rest of the wreckage finally subsided. By what must be considered a miracle by any standards, Streib and Fischer, bruised, shaken, but otherwise unhurt, emerged from the debris. Thus ended the *Uhu's* dramatic combat debut.

On August 26, 1943, another conference was held at Schwechat to discuss the stress directives on a high-

Although identified elsewhere as the He 219 V 16, it is more likely that this aircraft is the pre-production He 219 A-0, W.Nr. *190065, probably in use as a radar-trials machine. Note the central* FuG 212 Lichtenstein C-1 Morgenstern *(Morning Star) antenna carried on a post somewhat longer than standard. Another He 219 in the same pre-production series,* W.Nr. *190062, (coded RL+ AB) was flown at the* Erprobungsstelle *Rechlin in the summer of 1944 on DB 603 A/2 engine and Me P8 airscrew trials.* (Photo: via the author)



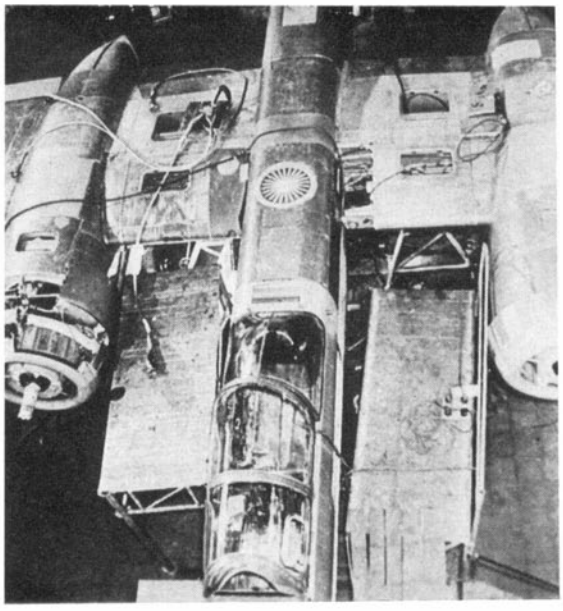
Posing on the nose-wheel of a He 219 A-0 at the Erprobungsstelle *Rechlin's Lärz airfield, mechanic Hermann Klauser provides scale for this the* Luftwaffe*'s heaviest operational night-fighter. It is thought that this aircraft belonged to* Nachtjagdgruppe 10.
(Photo: via Harold Thiele)

altitude development of the *Uhu,* later to be designated HE 219 B-1. This was envisaged as having an all-wood wing of 70 ft. 6 in. span, wing area of 523 sq. ft. and gross weight of 14 tons (30,864 lb.). Later this weight was further increased to some 32,500 lb. Powered by two Jumo 222 A/B or E/F motors of 2,500 h.p. each, it was to have a maximum sea-level speed of 342 m.p.h. rising to 422 m.p.h. at 37,731 ft. An economical cruising range of 1,585 miles on a total tankage of 836 gallons of fuel was estimated. By October 1944, this initial specification had extended from the three-seat B-1 via the similarly powered C-1 (with a fuselage lengthened by 11¾ in. and a 13·1 mm. *Rheinmetall-Borsig* MG 131 gun in the tail) and the D-1 night-fighter (two *Jumo 213*s of 1,700 h.p.) to the E-1 (two *Jumo 213 E*s or *DB 603 E*s) and the ultimate *Hütter 8-211,* an advanced derivation of these high-altitude versions with a long-span wing of exceptional high aspect ratio (15:1). The *Hü 211* was to be a long-range, high-speed two-man reconnaissance aircraft, with an outstanding range of 5,025 miles at 23,000 ft. Its total fuel capacity was 1,910 gallons.

Hannover was the target for 678 R.A.F. bombers on the night of September 27-28, 1943, 612 of them dropping their loads. Because of local terrain features, the *H2S* airborne target radar then carried by many of these British four-engined bombers proved of little use. The bulk of the bombs on this occasion fell away from the city in open country or on the surrounding villages. The *Luftwaffe,* too, was operating with inadequate radar, *Window* (bundles of metallized paper strips dropped by the raiders) jamming both ground stations and *Lichtenstein BC* alike. Despite this, 38 bombers (Halifaxes, Stirlings, Lancasters and Wellingtons among them) failed to return. *Major* Hans-Dieter Frank, *Kommandeur* of *I./N.J.G.1*—Streib had been promoted *Geschwaderkommodore* (*Geschwader* commanding officer) on July 1—piloting He 219 A-O, *W.Nr.* 190055 (coded G9+CB), collided with a friendly Bf 110 during this attack and was killed. Frank had been awarded the *Ritterkreuz* (Knight's Cross) while *Staffelkapitän* (*Staffel* commander) of *2./N.J.G.1* three months previously.

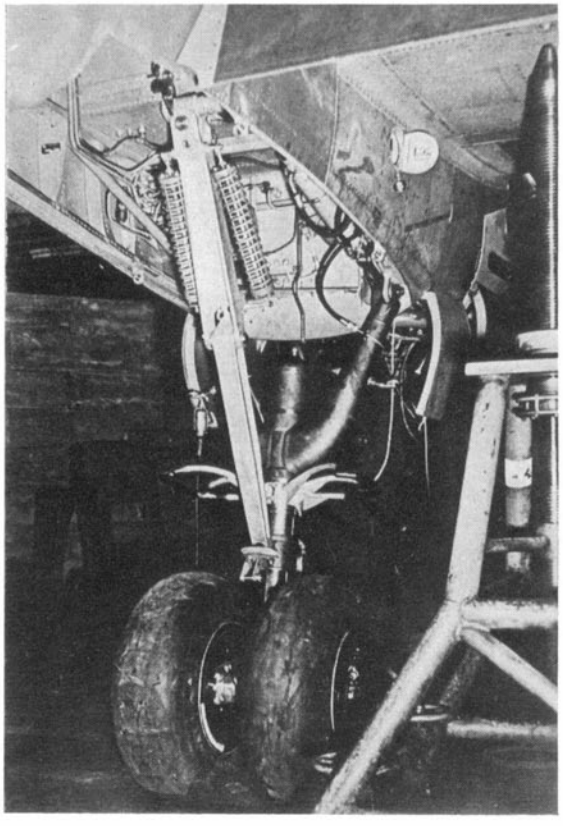
By the first week in November, 49 German night-fighters of all types had been delivered with the new *Lichtenstein SN-2* A.I. radar which was relatively immune to *Window* jamming. However, only 12 were in operational use. This was due to a critical lack of trained signals fitters at Twenthe *(II./N.J.G.1),* Gütersloh, Kassel and Neuruppin (all elements of

Another view of the He 219 A-0, individual letter "F", at Lärz airfield in the summer of 1944 with its sideways-hingeing cockpit canopy raised. (Photo: via Harold Thiele)



General view of an He 219 A under construction. The cartwheel-shaped object behind the crew quarters is the suppressed aerial for Peilgerät 6, *radio direction-finding equipment. Further aft, at approximately the wing trailing-edge line, a square fuselage cut-out shows where the pair of upwards-firing 30 mm.* MK 108 *cannon will be mounted.*
(Photo: Heinz Nowarra *Archiv* ref. 22616)

Main undercarriage housing of the He 219 A-0. With 840×300 mm.-size mainwheel tyres, the twin wheels were connected to the oleo leg via a rocker unit. Intensive landing trials, by day and night, were carried out at Rechlin with the He 219 V 8 to eliminate faults with the Uhu*'s tricycle landing gear.*
(Photo: Heinz Nowarra *Archiv* ref. 22618)



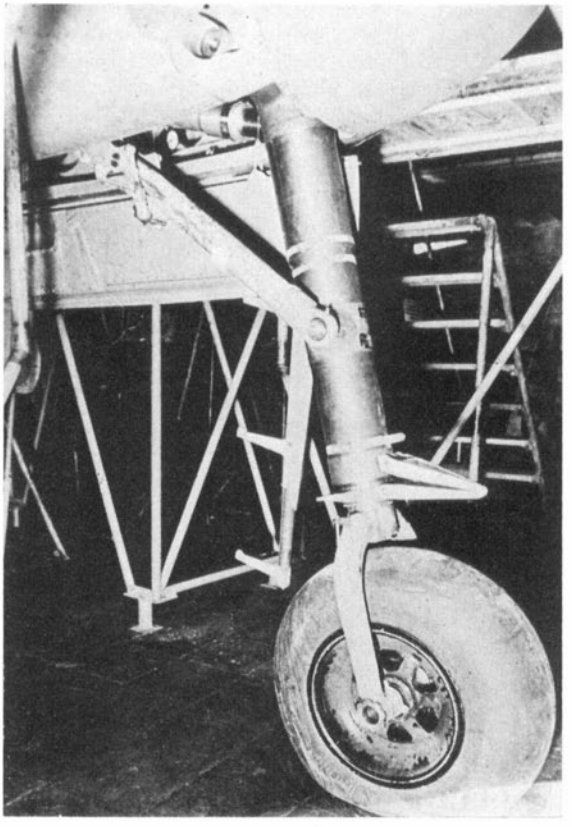
N.J.G.2) to service the delicate and complicated "black boxes". The situation with the He 219 was equally discouraging. *I./N.J.G.1* had by now received seven *Uhu* night-fighters. All seven were unserviceable.

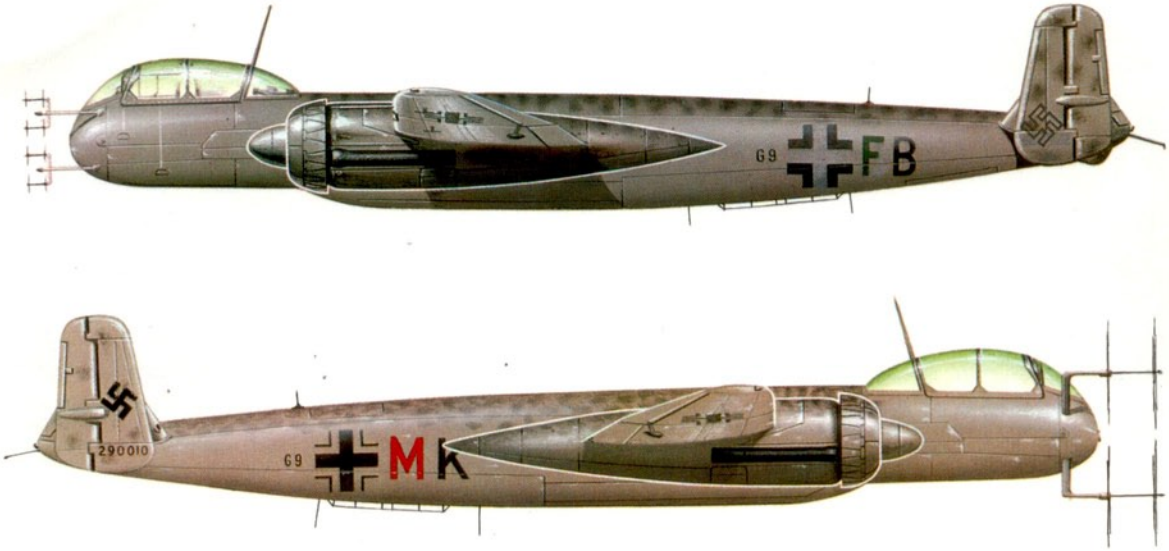
One *Uhu* had been the subject of a long list of complaints ever since it had been delivered from Schwechat. Flights at height in the bitter winter skies had shown that the heating system was completely inadequate. Frozen armoured windscreens were a source of particular complaint. Cases were occurring where the pilot of the He 219 was led to a favourable firing position by his radar operator but, when looking up from his instruments to administer the *coup de grâce,* he could not see the target and had to fire blind with little chance of success because of a completely iced-up canopy.

By December 1, 1943, 30 He 219 A-Os had been delivered from Schwechat. It is probable that this figure includes the 12 initial "true" prototypes. The planned production total for the *Uhu* was now 1,093. Mielec had been abandoned as an assembly plant for the He 219. The bulk of the Polish series was now to be built at the patched-up Marienehe factory. Rostock was to build 183 A-Os before starting the main series of 715 A-1s. Another 165 A-0s were to be assembled at Wien to complete the initial total of 195.

On the night of January 21-22, 1944, the Royal Air Force made a deep penetration to Magdeburg, south-west of Berlin on the Elbe river. One pilot defending Magdeburg that night was the Knight's Cross holder *Hauptmann* (Captain) Manfred Meurer,

Close-up of the Uhu*'s nose-wheel unit. Tyre size was 770×300 mm. The nose-wheel could swing through 90° to either side, but there was no automatic return to the straight-ahead position.*
(Photo: Heinz Nowarra *Archiv* ref. 22619)





Top: He 219 A-0 which made the *Uhu's* combat debut on the night of June 11/12, 1943 flown by *Major* Werner Streib with his radar-operator *Unteroffizier* Fischer. This aircraft was equipped with *FuG 202 Lichtenstein BC* A.I. radar operating on a frequency of 490 MHz, nose aerials being of the clumsy *Matratze* (Mattress) type.

He 219 A-2 of *2. Staffel Nachtjagdgeschwader 1* flown by 22 year-old *Leutnant* Kurt Heinz Fischer on a daylight training exercise from Münster-Handorf airfield on November 28, 1944. Surprised by Hawker Tempest F.Mk.Vs of No. 56 Squadron, R.A.F. on armed reconnaissance, this *Uhu* was shot down over Reckenfeld, near Greven in Westfalen, Fischer being killed.

By this time, the close-range *FuG 212 Lichtenstein C 1* A.I. radar equipment had been deleted and superseded by a revised *FuG 220 b Lichtenstein SN 2* with a modified pulse enabling a single *Hirschgeweih* array to cover the entire range spectrum.

Below: Captured by the Red Army, this He 219 A was later handed to the Czechoslovak Air Force by the Russians and used for experiments of an undisclosed nature at the Aviation Research Institute in Prague. It is seen here as flown during 1946 under the official Czechoslovak designation LB-79.

Above: War booty. This He 219 A-2 was shipped to the U.S.A. for evaluation after World War 2. The original Luftwaffe markings have been roughly overlaid with yellow paint.

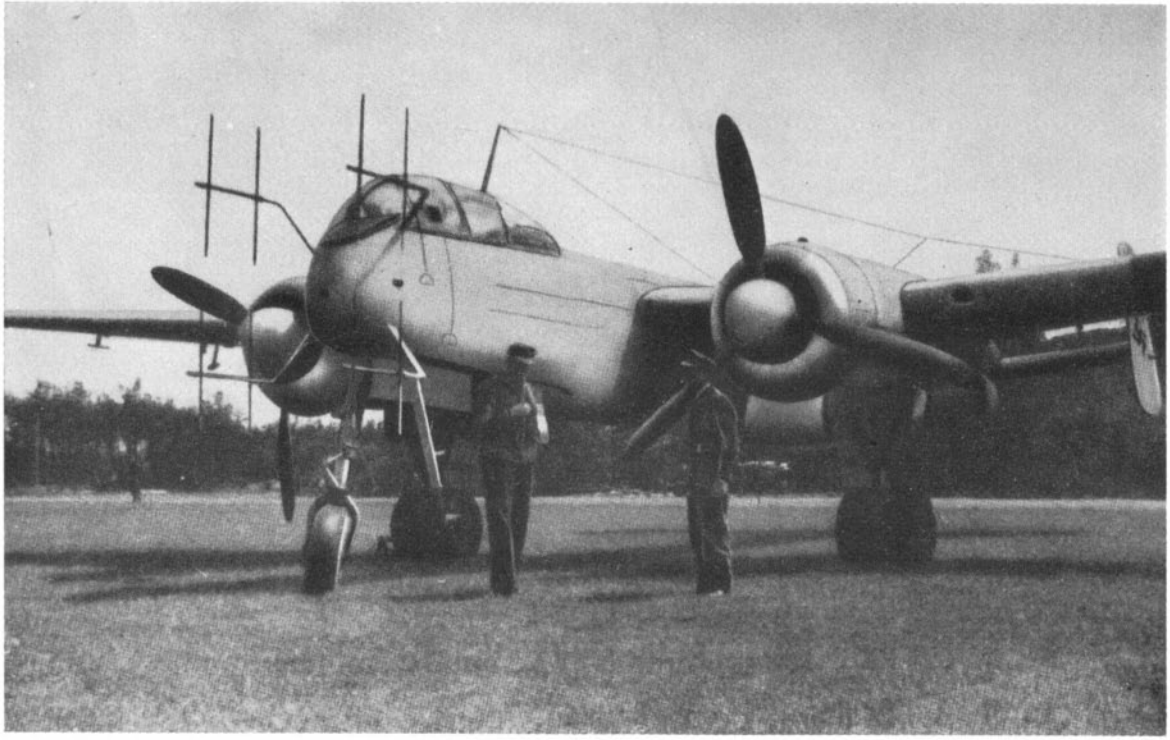
Used for exhaust flame-damper trials, the He 219 V 17 (coded PK+ QJ), is seen here badly damaged after suffering main undercarriage failure. (Photo: via *Ing.* Fred Haubner)

victor in 65 night battles with the British. Now *Kommandeur* of *I./N.J.G.1,* Meurer was flying *W.Nr.* 190070 (coded G9+BB), a He 219 A-0. Twelve miles east of Magdeburg, while attacking a Lancaster, he collided with his prey. With the aircraft locked together, two German and seven British airmen went spinning to their deaths.

During February 1944, a new night-fighter unit, *Nachtjagdgruppe 10* was formed. Like its day-fighter counterpart, *Jagdgruppe 10,* it was founded to evaluate new tactics, weapons and techniques that might be profitably adopted by the front-line *Geschwader.* Initially at *Staffel* strength it was to use both the He 219 and the few Ta 154 *Moskito* aircraft that were flown.

Partly due to a heavy loss rate, partly because of the need to concentrate on targets in Northern France prior to the planned invasion of the Continent, mass night raids over Germany by the R.A.F. slackened from April 1944. This reduction of the pressure on the German night-fighter force by the heavy bombers was accompanied by an increase in R.A.F. Mosquito bomber activity.

Hauptmann *Paul Förster,* Gruppenkommandeur *of I./N.J.G.1 and his radar-operator,* Feldwebel *Böhmer, stand in front of their He 219 A-0 at Venlo airfield in the summer of 1944. Förster was later killed in an* Uhu *crash.* (Photo: via the author)



Two He 219 prototypes (the V 4 and V 6) were used at the Erprobungsstelle *Rechlin for compressed-air ejector-seat trials during 1943–1944. One of these machines (coded DV+ DI), with main canopy removed, is seen in standard night-fighter camouflage but with the addition of red and white checks running the length of the fuselage. Similar coloured checks are painted vertically on the fin. This paint scheme was designed to assist in-flight kinetheodolite measurements of the ejected seat's trajectory.* (Photo: via the author)

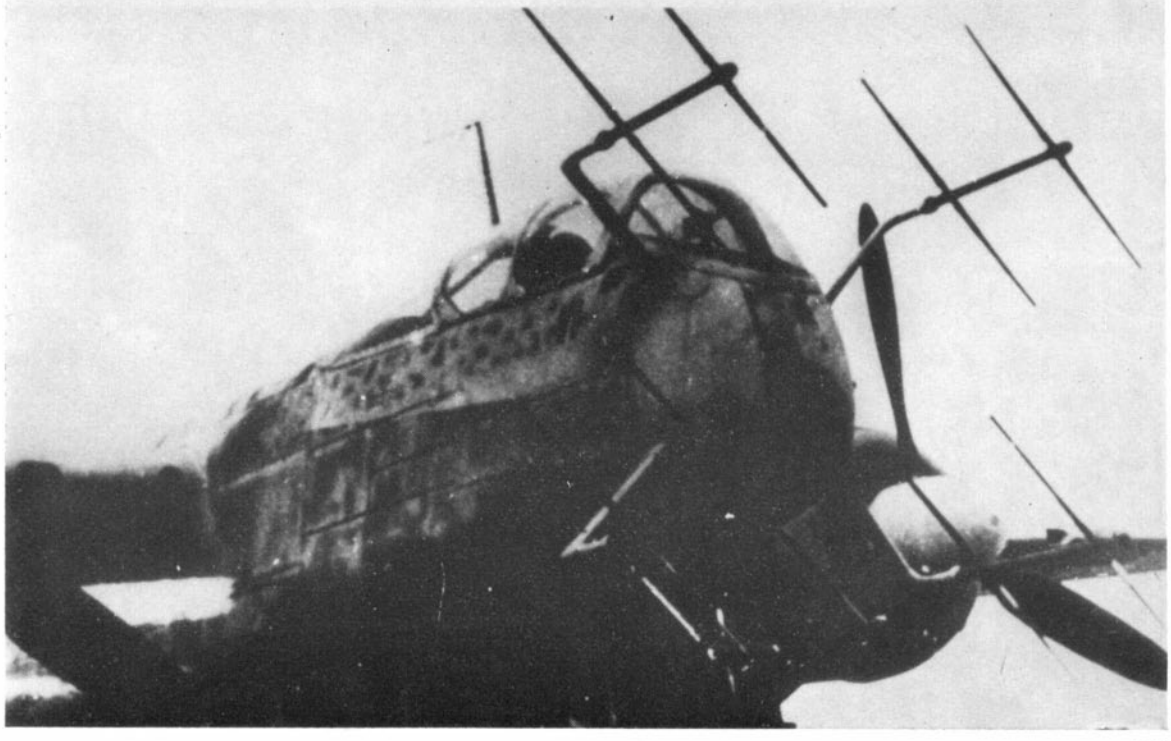
He 219 A-0 assembly at Schwechat was interrupted by a U.S. 15th A.A.F. heavy-bomber raid on April 23, 1944. The *Ernst Heinkel AG* facilities were blasted by this well-directed attack—one of a series of co-ordinated blows against aircraft production facilities throughout southern Germany and Austria.

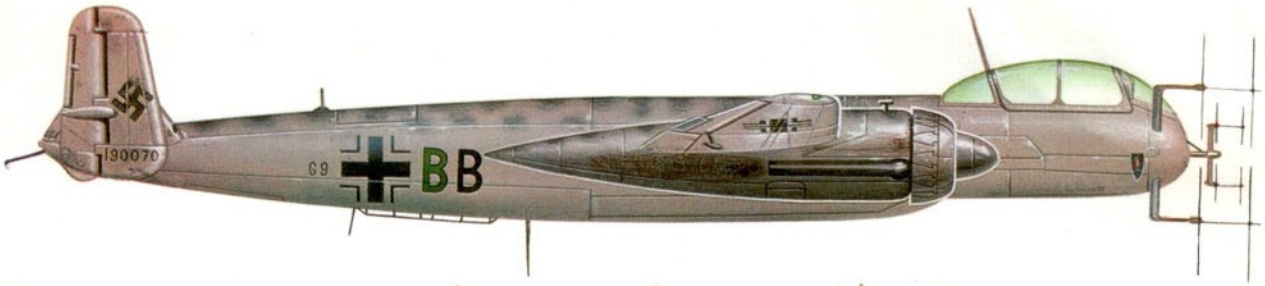
On April 21, 1944, the British Air Ministry, in an attempt to cut bomber losses inflicted by the still-growing *Luftwaffe* night-fighter arm, released the thimble-nosed Mosquito N.F.Mk.XIX—equipped with A.I. Mark VIII radar—for operations over German airspace. These now flew with the bombers *en route* to their targets; others orbited German night-fighter beacons or intruded against airfields used by enemy aircraft opposing the raids.

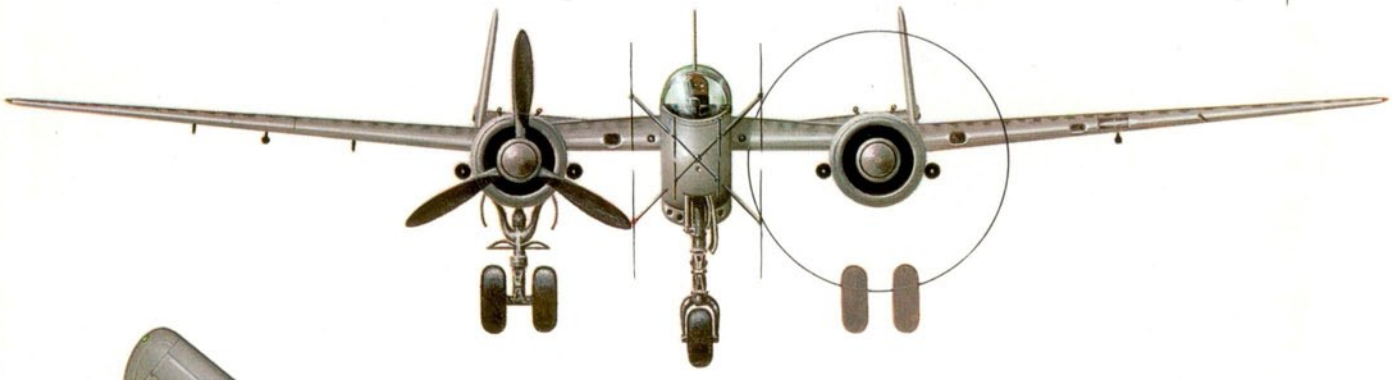
It was apparent that only the He 219 had a real chance of nailing a Mosquito in a stern chase. Even then, the margin of performance was so narrow that much depended upon the surface finish of the individual aircraft concerned, and whether their power-plants were in tip-top shape.

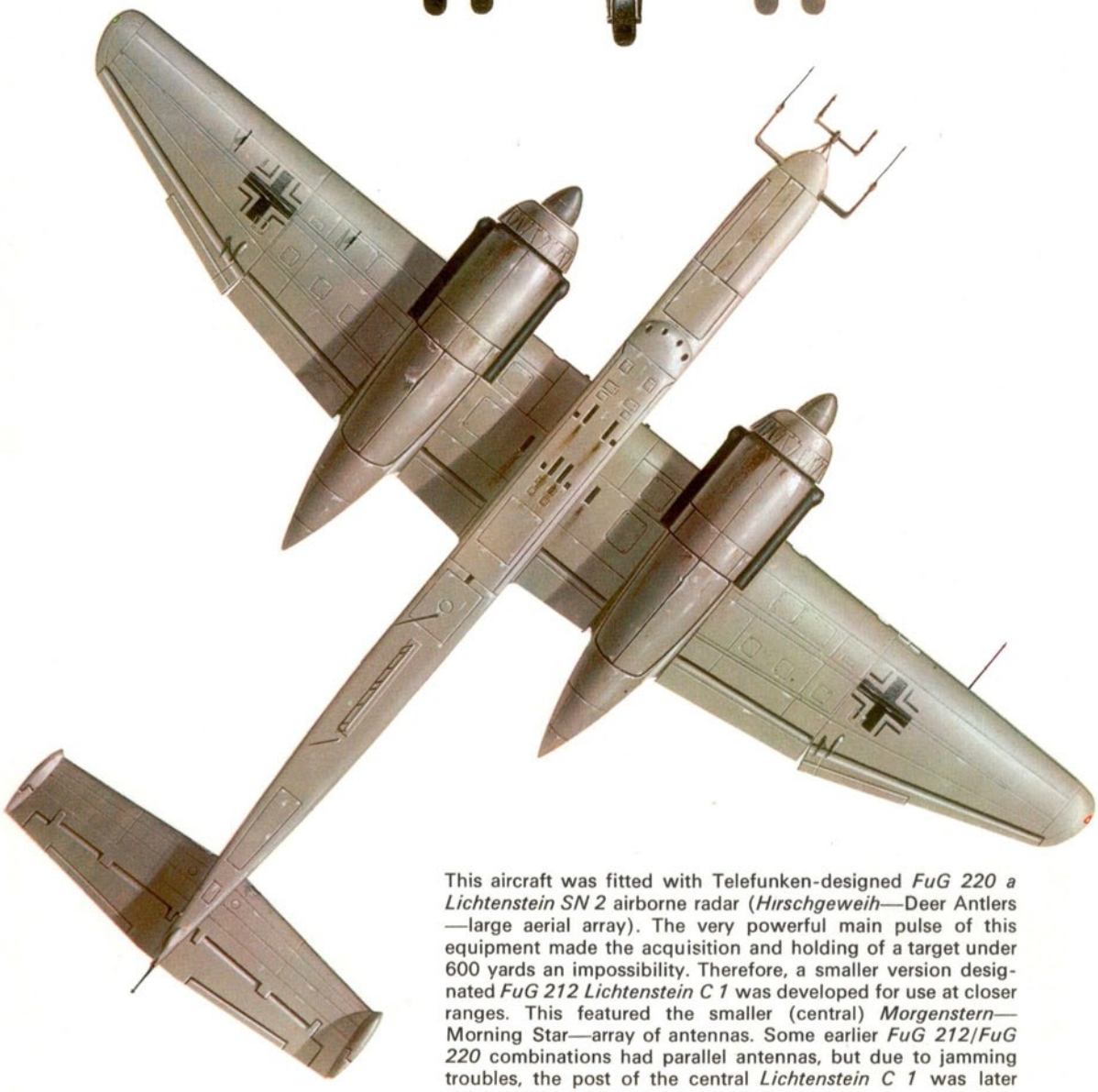
Five minutes before midnight on May 6, 1944, *Oberleutnant* (First Lieutenant) Werner Baake of *1./N.J.G.1* flying under the direction of his radar

Close-up of the Uhu*'s nose and associated* FuG 220 Lichtenstein SN 2 *radar aerials. First entering service with the* Luftwaffe*'s night-fighter arm in September, 1943 on Bf 110 and Ju 88 aircraft,* SN 2 *originally operated on a fixed frequency of 91 Mc/s, but following Allied jamming, later marks could be switched to varying frequencies in the range, 36 to 200 Mc/s. It was effective from four miles down to 650 feet.* (Photo: via the author)

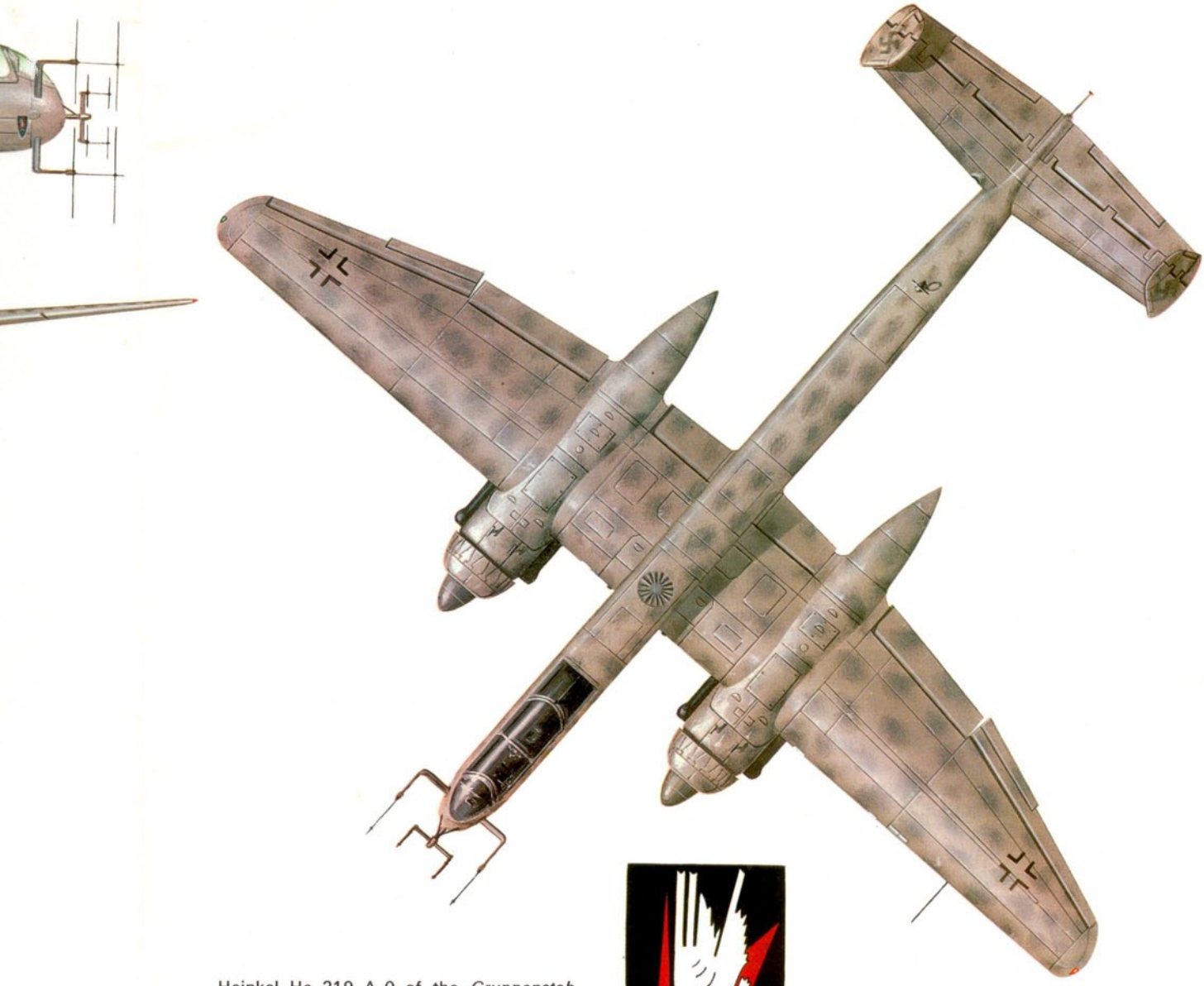








This aircraft was fitted with Telefunken-designed *FuG 220 a Lichtenstein SN 2* airborne radar (*Hirschgeweih*—Deer Antlers—large aerial array). The very powerful main pulse of this equipment made the acquisition and holding of a target under 600 yards an impossibility. Therefore, a smaller version designated *FuG 212 Lichtenstein C 1* was developed for use at closer ranges. This featured the smaller (central) *Morgenstern*—Morning Star—array of antennas. Some earlier *FuG 212/FuG 220* combinations had parallel antennas, but due to jamming troubles, the post of the central *Lichtenstein C 1* was later shortened and the aerials staggered.



Heinkel He 219 A-0 of the *Gruppenstab I./N.J.G.1* in which *Hauptmann* Manfred Meurer and *Oberfeldwebel* Gerhard Scheibe fatally collided with an Avro Lancaster of R.A.F. Bomber Command 12 miles east of Magdeburg on the night of January 21/22, 1944.

FT

A test pilot climbs into the semi-open cockpit of the He 219 prototype, DV+DI, used for ejector-seat trials. Initially ballast, then dummies were fired from this aircraft. Later, Wilhelm Buss, one of Germany's most experienced parachutists carried out live ejections from the He 219. The main masts for the nose-mounted radar antennas are retained on this Uhu.
(Photo: via the author)

operator, *Unteroffizier* Rolf Bettaque, caught a solitary R.A.F. Mosquito at 26,248 ft. and shot it down near Roermond. Apparently a straggler, it was 6,500 ft. lower than the remainder of the bomber force of Mosquitos continuing *en route* to their target.

By early June, two R.A.F. squadrons of Mosquito N.F.Mk.XIXs were being employed over German-held territory. These now had the even more sophisticated A.I. Mark X airborne radar. With a range of six miles, this equipment had the added advantage that the navigator was given a visual presentation of his aircraft's position in relation to that of his adversary. *Monica* tail-warning radar was soon to be fitted in these aircraft as well.

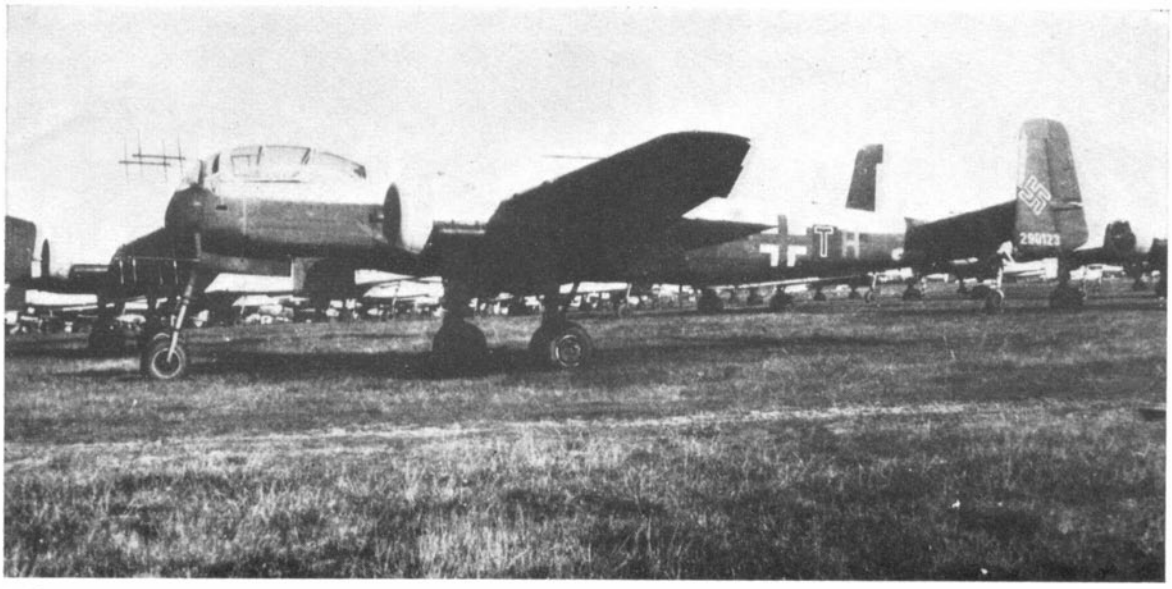
By a numerical coincidence, No. 219 Squadron, R.A.F., is credited with being the first unit to claim a He 219. Details are sparse, but on a defensive dawn patrol on June 3, 1944, Pilot Officer D. T. Tull and his observer, Pilot Officer P. J. Cowgill, flying a Mosquito N.F.Mk.XVII, serial HK 248, of the Squadron's "B" Flight, shot down an unidentified twin-engined aircraft. After much perusing of aircraft recognition books by Intelligence officers and others, it was decided that this was indeed an *Uhu*. German records do show a single He 219 lost during June, but there is no indication of the date.

At about 22.00 on June 10, 1944, *Oberleutnant* Josef Nabrich of *I./N.J.G.1* with *Unteroffizier* Fritz Habicht in the rear seat of a *Uhu* were patrolling the Zuider Zee at 32,000 ft. Ground control vectored them towards an approaching Mosquito formation detected slightly below their own height. Airborne from Venlo, their He 219 was stripped of armour and the four belly cannon to save weight and give them a slight edge over their British adversaries. Throughout April and May, Nabrich and Habicht had flown this lightened *Uhu* in vain attempts to intercept Mosquito bombers on the "milk run" to Berlin. This was their 21st sortie in two months. Prior to this night all they had got for their pains was acute air-sickness, to be shot at by their own *flak* and one inconclusive brush with a Mosquito night-fighter.

Habicht, his forehead glued to the hood of his primitive radarscope, suddenly got a "return" at a range of $3\frac{3}{4}$ miles. A Mosquito was flying east at great speed. It was Osnabrück before they closed the distance sufficiently to enable Nabrich to fire a short burst from his two *MG 151/20* 20-mm. wing-cannon. The Mosquito's port Merlin engine suddenly caught fire. The flames grew in intensity as the crippled intruder circled, losing height. Then, with a gigantic flash, its bomb-load ignited. Miraculously, both crew members, blown out of the disintegrating Mosquito, managed to open their parachutes and, on making successful "drops", were taken prisoner.

The next night the same *Uhu* and its crew were again successful. Tracking Mosquito bombers all the the way to Berlin, they had an even more difficult time closing the distance to their quarry. During the pre-

An artist's impression of an Uhu *with a belly-mounted BMW 109-003 gas turbine. The He 219 V 30 was flown to Rechlin in the summer of 1944 and the* Erprobungsstelle*'s engine department (E3) installed a jet engine in an effort to improve the performance of the night-fighter when employed on "Mosquito-hunting" duties. It is reputed that other He 219s were so modified as engine development test-beds following the decision to mass produce the He 162* Volksjäger *(People's Fighter) jet interceptor. It is just possible that one or more of these BMW 003-assisted* Uhus *were met in combat by R.A.F. Mosquitos at the end of the war.* (Photo: via *Ing.* Fred Haubner)



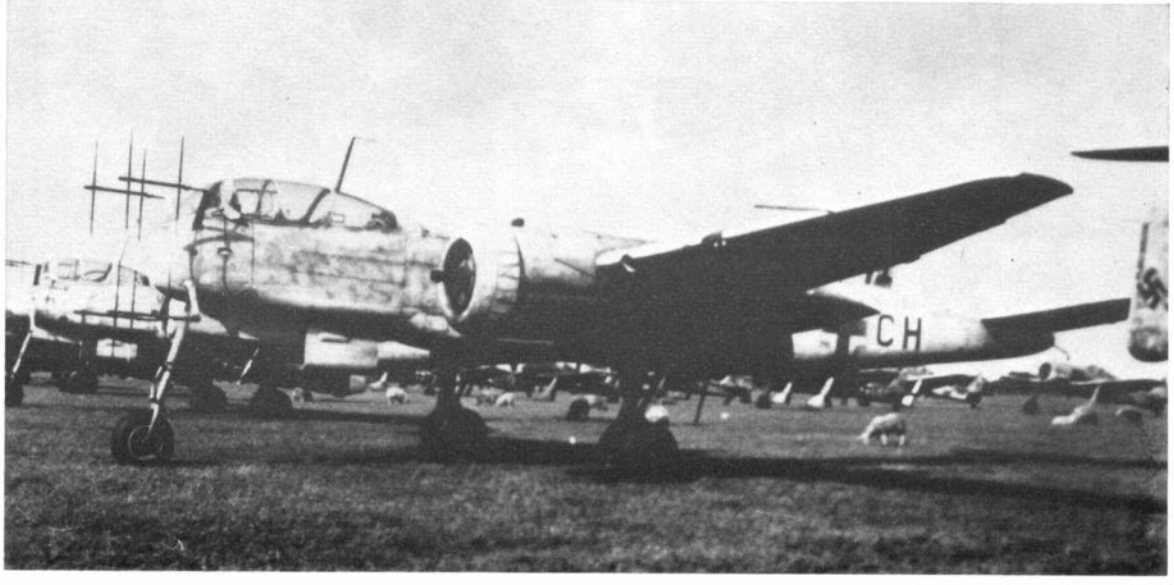
With airscrews removed on British orders, W.Nr. *290123, an* Uhu *of the first* Staffel *of* Nachtjagdgeschwader 1 *(1./N.J.G.1) stands abandoned on Sylt-Westerland airfield in the summer of 1945. This particular aircraft, G9+TH, carries a non-standard camouflage scheme with the individual letter "T" aft of the fuselage cross outlined in white to make it stand out from the dark matt finish.*
(Photo: D. Hincks—Newark Air Museum ref. 8331)

vious combat they had had a slight height advantage; this time there was none. West of Salzwedel, Habicht was near enough to identify the Mosquito visually. Two bursts of 20-mm. cannon fire and the R.A.F. bomber dived vertically into cloud. A minute later the heavens lit up for a brief instant, recording the German victory. However, the pounding given to the starboard *DB 603* proved too much and it seized "solid". Feathering the propeller, *Oberleutnant* Nabrich brought the *Uhu* down for an asymmetric power landing at Perleberg.

In an attempt to conserve aluminium, very scarce by this time in Germany, efforts were made to turn over to production of the three-seat, *DB 603 E*-powered He 219 A-5. This aircraft was to have the metal wing of earlier variants replaced by one of wood. On July 11, 1944, the *RLM* sent a top priority telex to Schwechat ordering assembly of the He 219 A-2 series to be superseded by A-5 production as soon as possible. The first five Vienna-built A-2s were due for delivery in September. There had been continuing trouble with the fuel-transfer system of the *Uhu*, and this problem was to be overcome with the A-5 which had revised tankage. Even so, there is no evidence that this order was ever carried out. Certainly, A-2s were still being constructed early in 1945.

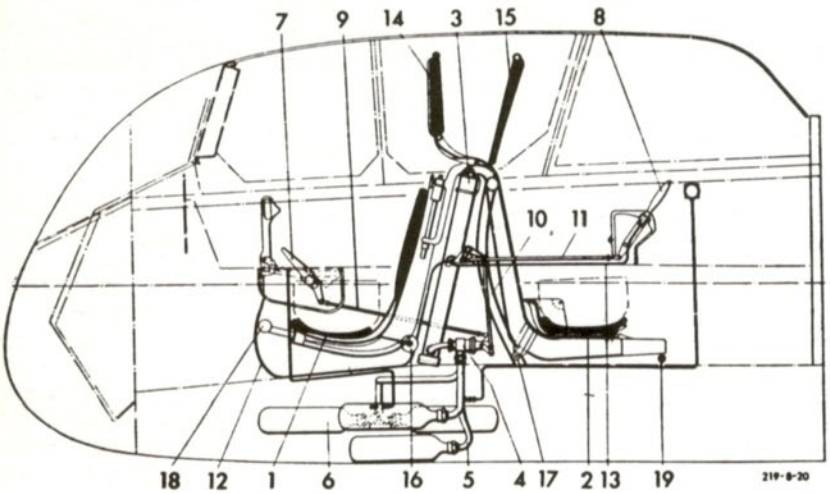
By the last day of July 1944, 105 He 219 A-0s had been assembled. These included the first of a batch

Sheep graze around the neglected Uhus *of the first* Staffel *of* Nachtjagdgeschwader 1 *at Sylt-Westerland. In the foreground is G9+CH. By the cessation of hostilities, only N.J.G. 1's first* Staffel *and the* Geschwaderstab *(at Eggebeck) were still operational with He 219s. The remainder of the first* Gruppe *had been disbanded.*
(Photo: D. Hincks—Newark Air Museum)



Prototype He 219 used as a test vehicle by the *Erprobungsstelle* Rechlin for flight trials of the Heinkel compressed-air ejector-seat. From the outset all production He 219s were fitted with ejection-seats. The first *Luftwaffe* crew to make a successful combat ejection were *Unteroffizier* Herter and *Gefreiter* Perbix of *2./N.J.G.1* on April 11, 1944. They both received a cash bounty of 1,000 *Reichsmarks* from *Professor Dr.* Ernst Heinkel for this feat.

T. Brittain © Profile Publications Ltd.



Key

1. Pilot's ejector-seat.
2. Observer's ejector-seat.
3. Compressed air cylinders.
4. Quick-release valves.
5. Compressed air lines.
6. Compressed air bottles.
7. Ejection handgrip for pilot.
8. Ejection handgrip for observer.
9. Operating linkage for pilot's quick-release valve.
10. 11. Operating linkage for observer's quick-release valve.
12. Click-stop bolts DUZ-cable (for pilot).
13. Click-stop bolts DUZ-cable (for observer).
14. Hinged head cushion for pilot.
15. Hinged head cushion for observer.
16. Pulleys.
17. Pulley brackets.
18. Foot rests.
19. Foot pedals.

Left: *The* Uhu's *compressed-air ejector-seats* in situ. *Taken at the Royal Aircraft Establishment, Farnborough, on November 24, 1945, this view looking aft shows the pilot's seat and head-rest, together with the back of the radar-operator's position.*
(*Photo: RAE negative No. 66469, Crown Copyright Reserved*)

Right: *Also photographed on November 24, 1945, another ejector-seat combination removed from a captured He 219. Identification of specific equipment can be made by reference to the accompanying drawing.*
(*Photo: RAE negative No. 66464, Crown Copyright Reserved*)

Taken on August 27, 1945 at the R.A.E. Farnborough, and allocated the official negative reference number 64739, this view of a captured Uhu *was one of a set of photographs later handed over to the Imperial War Museum's Photographic Department and made available to the general public.*
(Photo: Imperial War Museum ref. MH 4881)

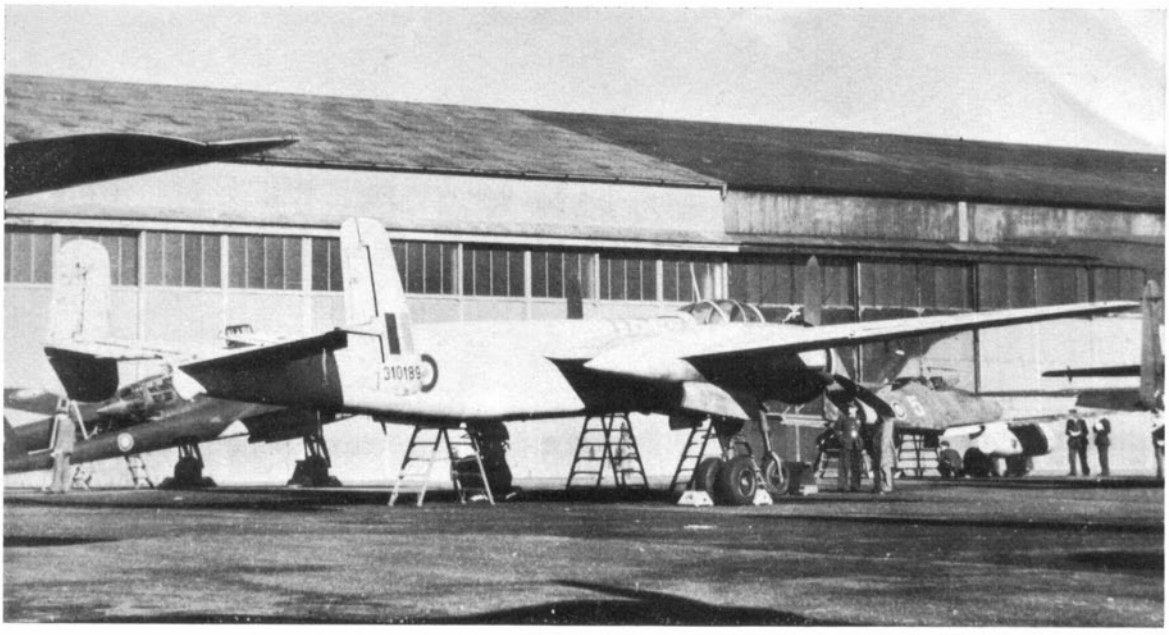
of 15 A-0s from the new line at Rostock. Thus, *I./N.J.G.1* with an official *Uhu* establishment of 36 possessed a round dozen of which only seven were serviceable. The establishment of *II. Gruppe* included nine He 219 A-0s, but these were still awaited from the factory and general re-equipment of *II./N.J.G.1* with the *Uhu* had been suspended. A similar situation affected *IV. Gruppe*. The official strength of *Nachtjagdgruppe 10* was 12 He 219s. The actual situation showed the *Gruppe* to be at 50 per cent of establishment, only three of these aircraft being airworthy.

V-Muster aircraft and some A-0 (pre-production) series were flying a variety of trials.

The parent company was employing the He 219 V 11 for general handling tests. Engine anti-icing and exhaust flame-muffler trials were in hand with the V 21 and V 22. The V 16 was flying by July with two *Jumo 222 B* motors and a bigger wing span as the precursor of the He 219 B-1. The V 23 was also modified to take these 2,200 h.p. engines.

At the *Erprobungstelle* Rechlin, the V 29 was being used for trials of de-icing equipment. The twelfth

One of five He 219s flown to the United Kingdom by Allied pilots, W.Nr. *310189 is shown in the static park at the Enemy Aircraft Exhibition held at Farnborough in October-November, 1945. The significance of the code, "VI", under the forward cockpit combing has not yet been resolved. This was carried on some operational* Uhus *and appears not to have been of British origin.*
(Photo: Flight International ref. 190075)

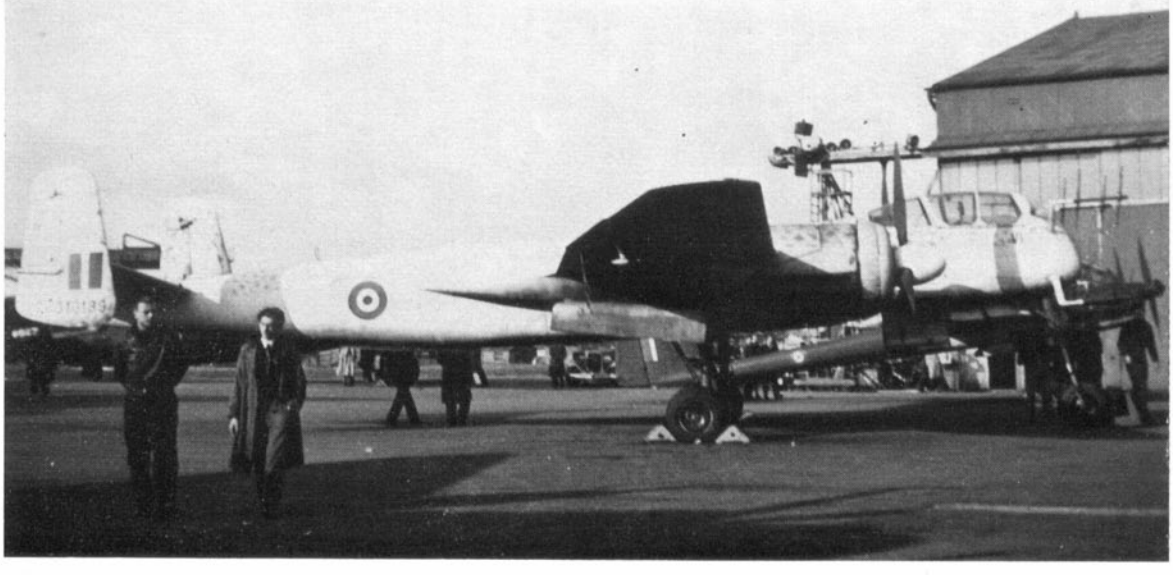


Other historians have stated that the He 219 A-7 became operational from January, 1944, and quote all captured examples brought back to Great Britain as being of the DB 603 G-powered A-7 sub-type. A recent study of Reichsluftfahrtministerium *production records show that the A-7 was in fact flown with DB 603 E motors and none could have been delivered before late December, 1944. It is more likely that most, if not all, of the* Uhus *flown to the United Kingdom were of the A-2 sub-type.* (Photo: via Blitz Publications)

pre-production *Uhu* (A0-12, *W.Nr.* 190062, RL+AB) was flying with experimental flame-dampers and a *Karcher* heating system. The V 30 was about to become the first He 219 to fly with an underslung jet engine. By installing a *BMW 109-003* gas turbine under the belly it was hoped that this would provide the answer to the problem of achieving a margin of performance over the troublesome R.A.F. Mosquito. Early trials proved disappointing. The drag of the jet engine was greater than anticipated and little improvement in top speed was achieved. With the *BMW 003* shut down, the He 219's performance became extremely poor.

The V 15 and V 25 were used for various radio trials. At this time, work was in progress to prove the installation of *FuG 16 ZY* V.H.F. telephony and fighter-control equipment. The now veteran V 5 weapons-trials prototype was still at Tarnewitz and being used to test the *MK 108 Schrägbewaffnung* (inclined armament) installation. Snags had developed with this pair of upwards-firing 30-mm. cannon; inspection of the test aircraft disclosing cracks in the

Another view of the Uhu, W.Nr. *310189 at the R.A.E. Farnborough. This machine was ferried from the collecting point at Schleswig-Land airfield to the Royal Aircraft Establishment on August 27, 1945. Prior to delivery it had been re-painted in British markings.* (Photo: Imperial War Museum ref. HU 2398)



An He 219 A-0 taxying at Karup-Grove airfield, Denmark, in the summer of 1944. This example with radar antennas removed was used by N.J.G.1 during the re-training of Bf 110 and Ju 88 pilots converting to the Uhu. *As far as is known, no dual-controlled training version of the He 219 was ever built.*
(Photo: via G. H. K. Thurow)

fuselage ribs caused by the heavy recoil. The V 33 was on loan to *Telefunken AG* for development flying of various types of radar antennas.

Perhaps the most far-sighted experiments being carried out with the He 219 were the trials flown in the summer of 1944 with the V 4 and V 6. These were of the compressed-air ejector-seat, a field in which *Ernst Heinkel AG*—as in so many other areas of advanced aeronautical engineering—was the undisputed pioneer. The *Uhu* was the world's first production aircraft fitted with ejection-seats, and the only one of any air force in World War 2 from which aircrew saved their lives by ejecting in combat. Not until the Korean War, some six years later, did the other nations use such a seat in action.

With so many foreign workers among the labour force at Rostock, it is hardly surprising that the Anglo-American targeting staffs were well informed on the state of He 219 assembly. Acting on *'information received'*, supplemented by judicious interpreting of reconnaissance photographs of the Marienehe complex brought back by high-flying R.A.F. Mosquitos, it was decided to attack the Heinkel plant again.

On August 4, 1944, 117 four-engined bombers of the U.S. 8th A.A.F. took off from their English bases to strike at Marienehe. A repeat performance by the Americans was laid on for August 25. In all, some 676 tons of bombs were dropped on the long-suffering Heinkel factory in these two daylight attacks; only four bombers failed to return. The effect on *Uhu* production is uncertain.

At 00.05 on October 15, 1944, Flying Officer G. S. Irving of No. 125 Squadron, R.A.F., lifted his Mosquito N.F.Mk.XVII, serial HK 245, off the runway at Middle Wallop in Hampshire and headed for the Channel coast. His observer, Flying Officer G. Millington, after giving him a course to steer for the A.I. beacon coded *"JQ"*, settled down to tune his Mark X airborne interception radar. Since the British had first blotted out German defensive radar with *Window* over Hamburg 18 months before, the *Luftwaffe* had taken to using *Düppel*, as they termed these slivers of silvered foil. This latest Allied A.I. equipment, although not immune to interference from *Düppel*, was capable of better resolution than the earlier sets.

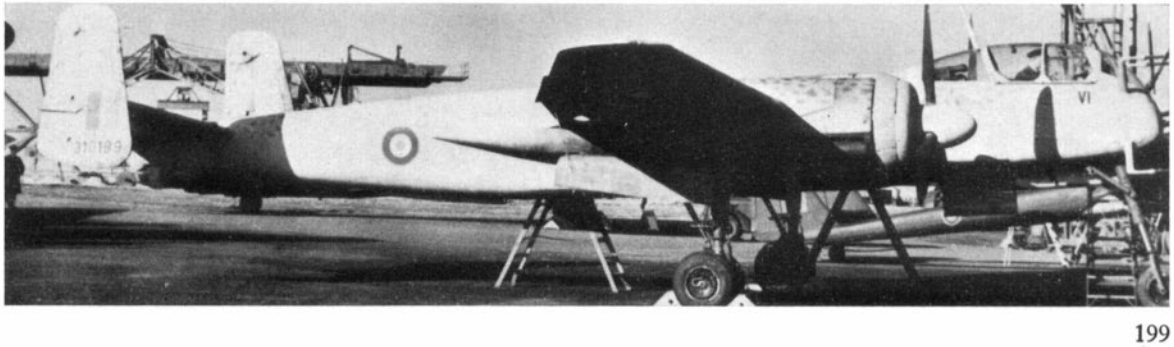
Suddenly, the night-fighter sector G.C.I. (ground control interception) station coded *Greengrocer*, at Brussels-Melsbroek, called HK 245 and instructed the crew to alter course for *"JP"*. Eight thousand feet below, on recently captured territory, a handy portable radio beacon—roughly the size of a large packing case and powered by a petrol motor—was transmitting a steady stream of coded pulses. In the night sky high above, Millington checked his position, the morse symbols *"JP"* showing clearly on the flickering radar tube.

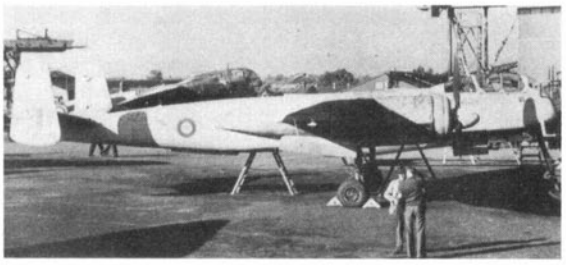
It was a dark night with 6/10ths patchy stratus cloud at 6,000 ft., but clear enough at their patrol height. *Greengrocer* handed them over to *Rejoice*. This forward unit passed them on to another mobile G.C.I. station, coded *Milkway*. For 45 minutes they flew up and down their patrol line. All was uneventful and routine. Suddenly, *Milkway* called that they were observing a second blip on their screen, three miles astern of the loitering Mosquito. Some miles away the sky was aglow as Duisburg endured a heavy British attack. Irving threw the Mosquito into a tight turn, continued for a full 360° and straightened out again. Millington got an instant contact on his Mark X at the range indicated by the ground station. The blip was moving fast in the direction of Duisburg, "jinking" all the time. Within minutes they had lost it in a mass of other "returns" as friendly bombers made for England away from the burning town.

At 02.20 *Milkway* alerted them to another unidentified aircraft approaching from the 11 o'clock position. At 2½-miles distance, Millington's radar indicated a contact approaching the Mosquito head-on and 2,000 feet above them. The R.A.F. night-fighter was hauled through 180° and a long chase ensued at 285 m.p.h (I.A.S.). The enemy aircraft, obviously flown by an old hand, was taking violent evasive action, changing course through as much as 50°, alternately diving and climbing.

The German aircraft also headed back towards Duisburg, and afraid of losing it in the radar clutter over the town, Irving thrust the two throttle levers

Work's number 310189 at Farnborough on November 7, 1945. This particular specimen was allocated the Air Ministry identification, "AM 22". It was flown to the Central Fighter Establishment at Tangmere following its arrival at the R.A.E. in August, and was presumably used for radar trials.
(Photo: via Blitz Publications)





Another view of "AM 22" at Farnborough on November 7, 1945. Other Uhus *given Air Ministry identifications were "AM 20" (used for braking tests), "AM 21" (the last He 219 to survive in England, being broken up early in 1948), "AM 43" and "AM 44".*
(Photo: via Blitz Publications)

Possibly originating from Karup-Grove in Denmark, this radarless Uhu *is seen parked in a revetment at Ford airfield in the summer of 1945.*
(Photo: Lt. Cdr. W. H. C. Blake, R.N.—Newark Air Museum ref. 5951)

through the emergency "gate". The Mosquito's Merlins were now giving of their best. The range between the two aircraft closed to 3,000 feet. Suddenly, two searchlights were unmasked. They converged and then their beams swivelled towards the east. As if taking this as a signal, the Mosquito's quarry altered course eastwards. By diving slightly and still at full power, Irving narrowed the range to 1,500 feet, the Mosquito indicating 340 m.p.h.

Slowly, the Mosquito overhauled the machine in front. The R.A.F. pilot now saw the whitish-green exhausts of the enemy aircraft, several hundred feet above. The British night-fighter crept up closer under the German machine. It looked to the Mosquito's crew as if it was a Dornier 217. Now the underwing croses were visible. Then the radial engines with long protruding nacelles and the pronounced tail dihedral proclaimed it to be a He 219.

Trailing back to 750 feet, Irving gave the *Uhu* a two-second burst with his four 20-mm. cannon. The port *DB 603* exploded. A second burst and the fuselage tanks ignited and the He 219 began a slow dive to starboard. A third jab on the gun button, this time aiming with slight deflection. The starboard nacelle tank erupted in yellow flame (this *Uhu* was probably an A-2). For a moment a thin layer of cloud was illuminated as the burning aircraft went spinning through it. Turning above the crippled He 219, the Mosquito's crew saw it strike the ground with a gigantic explosion.

On the last day of October, 1944, 187 He 219s had been completed. Of these, 114 were built at Wien-Schwechat; another 73 had been assembled at Rostock-Marienehe. Many of the pre-production A-0s continued to double as *V-Muster*. The highest recorded is the V 41, used as a test-bed at Schwechat for *Jumo 213 E* engine trials.

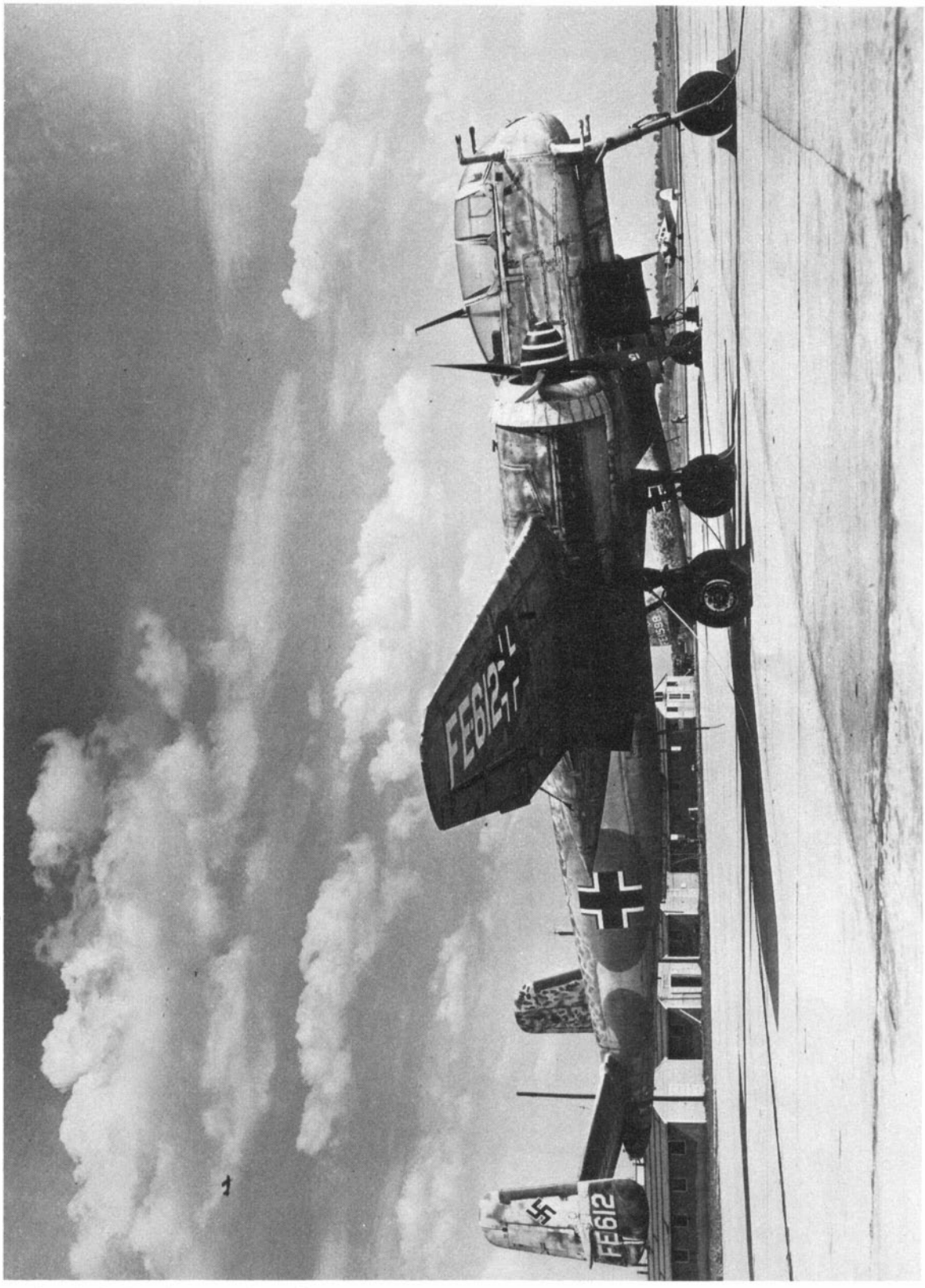
During daylight sweeps in November and December, 1944, Hawker Tempest F.Mk.Vs of No. 56 Squadron, R.A.F., shot down two He 219s and probably damaged a third in the vicinity of Münster-Handorf airfield. This is where *I./N.J.G.1* had moved when the continuing Allied advance no longer made Venlo tenable.

A Swannington-based Mosquito N.F.Mk. XIX of No. 157 Squadron, R.A.F., shot down another *Uhu* on the night of December 18 near Osnabrück, and two more were to be claimed by Mosquito units before the end of 1944.

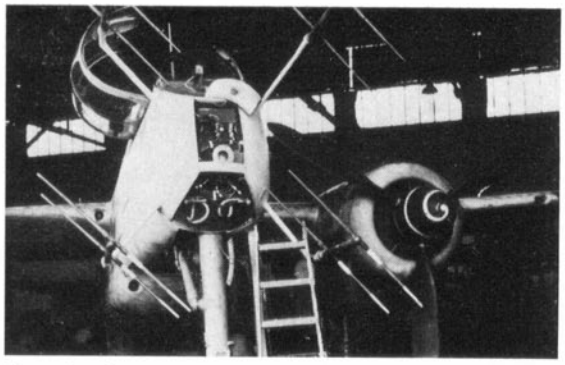
Captured returns of the *Generalquartiermeister 6. Abteilung* (Quartermaster-General's Department 6) show that on December 31, 1944, *I./N.J.G.1* had overcome previous maintenance problems with the *Uhu*, and all 40 He 219s on strength were serviceable. By contrast, the experimental *N.J.Gr.10* (still only a token *Staffel)* was reduced to five aircraft—a mixture of He 219s and Ta 154s—of which four were airworthy.

Ironically, now there were more He 219s available than trained crews. Only 11 operational crews were at Handorf on New Year's Eve 1944. Two other crews of limited experience were with *I./N.J.G.1*, but no fewer than 21 others were not considered sufficiently trained to be put on operations.

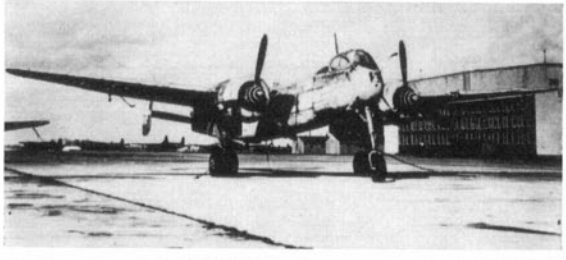
With gaily-coloured spirals on the spinners and individual letter "E" on the nose, this He 219 A was photographed at Ford airfield in the summer of 1945. Ford, famous post-war as a Naval Air Station, is now used as an open prison.
(Photo: Lt. Cdr. W. H. C. Blake, R.N.—Newark Air Museum ref. 5952)



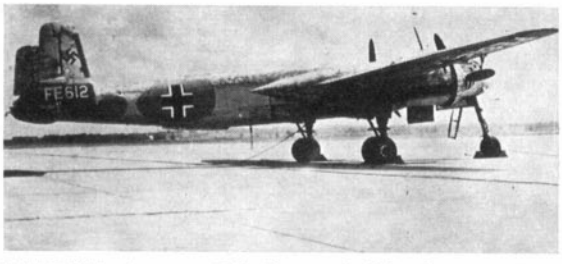
Far from the dark north-German skies and wearing a most unrepresentative paint scheme, one of the He 219 As taken to the United States stands in the hot sun at Freeman Field, Seymour, Indiana. "FE 612" was the identification bestowed on this Uhu *by the U.S.A.A.F. Technical Intelligence Headquarters at Wright-Patterson AFB, Dayton, Ohio.* (Photo: via David Anderton)



One of eight airworthy He 219s found by British forces in Denmark, this Uhu *was undergoing repairs to its* FuG 220 Lichtenstein SN 2 *airborne-interception radar. Photographed in a hangar at Karup-Grove all the Danish specimens (except one found at Kastrup) were discovered on this airfield.*
(Photo: Royal Danish Air Force)



Another viewpoint of "FE 612" taken post-war in the U.S.A. It is believed that this is the machine now preserved for future exhibition purposes by the National Air Museum, Washington, D.C. (Photo: via the author)



"FE 612" is the most widely illustrated of the three He 219 As taken to the U.S.A. post-war. Another of these American impressments was "FE-614" (also coded "T-2-614" for a time).
(Photo: via Harold Thiele)

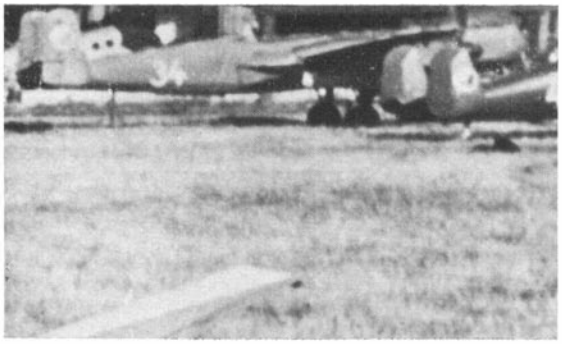
On New Year's Day, 1945, a No. 604 Squadron, R.A.F., Mosquito N.F.Mk.XXX—probably the most potent of the breed to clash with the *Uhu*—shot down an He 219 near Mönchengladbach. No. 157 Squadron scored again on the night of January 5, while Nos. 85 and 25 Squadrons' Mosquitos were also successful on the nights of January 16 and February 1, 1945, respectively.

"*Gemse*"—Chamois—was the code name for a German radio beacon. It was located near the towns of Krefeld and Mönchengladbach. Orbiting above *Gemse* on the evening of February 3 were some half-dozen *Uhus* of *I./N.J.G.1*, ordered there to await enemy bombers approaching the *Ruhrgebiet*. Piloting G9+WH of *1. Staffel* was 20-year old *Unteroffizier* (Corporal Officer-Candidate) Günther Karl Heinrich Thurow. Facing aft, on his ejection-seat, was the radar operator, *Gefreiter* (Lance-Corporal) Neff, another officer trainee of 22 summers. For some 15 minutes, Thurow had been holding a height of approximately 26,000 ft. though his leisurely circles had followed an irregular pattern as to angular speed and altitude. This was standard "anti-Mosquito" procedure.

Without warning, his *Uhu* was suddenly struck by a fusillade of cannon shells. The starboard engine immediately caught fire. The unknown assailant was a Mosquito N.F.Mk.XXX, serial MT 281, of No. 410 (R.C.A.F.) Squadron from Amiens-Glisy in France. The crew was Flight Lieutenant B. N. Plumer, D.F.C., and his British navigator, Flight Lieutenant E. H. Collis.

Thurow threw his damaged He 219 into a steep turn to port and then dived for the ground. In like fashion, Plumer followed the *Uhu* into the dive but had to level-out the protesting Mosquito at 17,000 ft. when his airspeed indicator passed the 450 m.p.h. mark. Taking advantage of the He 219's superior diving characteristics, Thurow evaded his attacker, extinguished the engine fire and made for Handorf on the good engine. Approaching to land, he found that neither undercarriage nor flaps were serviceable. In the event, he was forced to carry out a belly landing at his base when the standby compressed-air emergency system also failed to work. Shortly after Thurow and Neff climbed out of their

Heinkel He 219 (either an A-2 or an A-7), W.Nr. *290060, in the summer of 1945 at Freeman Field, Seymour, Indiana. A good example of the type of slate-grey/blue-grey camouflage carried by operational* Uhus, *the fuselage* Balkankreuz *and unit codes have been painted out and the American national cockade substituted. "U.S.A.9" on the aft fuselage identifies the aircraft as one earmarked for shipment to the United States.* (Photo: Air Technical Service Command ref. X 7089 via John W. R. Taylor)



The only known photograph of a Czech Uhu. *Two captured examples, minus their radar equipment were handed over to the re-born Czech Air Force by the victorious Russians. Given the designation, LB-79, both were flown experimentally during 1946 by the Czech test pilot, Kovalinka, at the Aviation Research Institute, Prague.* (Photo: via Zdenek Titz)

battered—but repairable—*Uhu*, another He 219 crash-landed and burst into flames on the field.

By April 9, 1945, a total of 472 serviceable night-fighters were available to defend what was left of Hitler's Third Reich. With the early-warning radar chain shattered, communications in chaos and shortage of fuel so acute that some units could not fly a single mission, these figures were meaningless. For example, *I./N.J.G.1* had 51 aircraft on strength, of which 44 were airworthy. On paper, the unit consisted of *1. Staffel* with 22 He 219s, all but three being combat-ready. The dissolution of other *Staffeln* had swollen the *Geschwaderstab* artificially. It now had a mixture of Bf 110s and He 219s totalling 29 aircraft, of which 25 were serviceable. Finally, *7./N.J.G.5* (the residue of *III./N.J.G.5*) was also operating a few He 219s, though the bulk of its 32 serviceable night-fighters were either Bf 110s or Ju 88s.

It fell to No. 85 Squadron, R.A.F., to make the last *Uhu* claim. On the night of April 13-14, 1945, Flight Lieutenant K. Vaughan and his observer, Flight Sergeant R. D. McKinnon, shot down a two-motor aircraft which they swore was fitted with a belly-mounted jet engine. This was identified by the Senior Intelligence Officer at R.A.F. Station Swannington as an He 219.

When the armoured cars of the R.A.F. Regiment drove on to Eggebeck airfield in Schleswig Holstein early in May 1945, they found a small number of He 219s among the many German types assembled there. These belonged to the *Geschwaderstab* of *N.J.G.1* commanded by the *Kommodore, Oberstleutnant* Hans-Joachim Jabs. Across *Die Halligen*—the strip of sea separating the island of Sylt from the north German mainland—most of the remaining airworthy He 219s were bunched on the cramped airfield at Westerland. Here, *Hauptmann* Werner Baake, last *Kommandeur* of *I./N.J.G.1*, surrendered to the British.

Of a total of 268 He 219s constructed, 54 airworthy examples were located in what was to become the British Zone of Germany, or in Allied-liberated Scandinavia; 46 of these were broken-up on the airfields at which they were seized. Five were ferried back to the Royal Aircraft Establishment at Farnborough in Hampshire. An additional three were shipped to the U.S.A. for evaluation. At least two others fell into Soviet hands and were later presented by them to the re-born Czechoslovak Air Force.

Although the ejector-seats and radar equipment was quickly stripped, little enthusiasm seems to have been shown for the *Uhu* by the victorious Allied powers. Captain Eric M. Brown, R.N. (Retd.)—then a Lieutenant Commander and head of the Aerodynamics Flight at Farnborough—recalls that he never carried out a specific test flight in a captured He 219, though he ferried several from Karup-Grove in Denmark to the R.A.E.

He still retains a notebook in which he graded every aircraft type that he flew, together with brief one-line comments on their good points or major faults. These were numbered one (Outstanding) to eight (Poor). His epitaph on the *Uhu* reads, "*He 219 A-2: Grade 6. Underpowered. Poor lateral control at low speeds.*"

So the He 219 passed into history. Through the great foresight of the late General of the Air Force H. H. "Hap." Arnold, who decreed that one example of every type of World War 2 combat aircraft held by the U.S. Government should be preserved for posterity, a single *Uhu* still survives in the care of the poorly-funded but well-patronized Smithsonian Institution's National Air Museum at Washington, DC.

Series Editor: CHARLES W. CAIN

A dearth of good-quality, sharp and well-lit original illustrations of the He 219, led to much re-touching of Uhu *photographs in the immediate post-war period. Compare the "sit" of this aircraft with that of the U.S. official photograph (left). Discerning readers will see how the artist's brush has been put to good use to produce a completely fictional "He 219 A-5, QT+NY". The process did not end here. Behind the Iron Curtain, this same picture was further treated and appeared in Czech Air Force markings purporting to be an LB-79!* (Photo: via *Ing.* Fred Haubner)

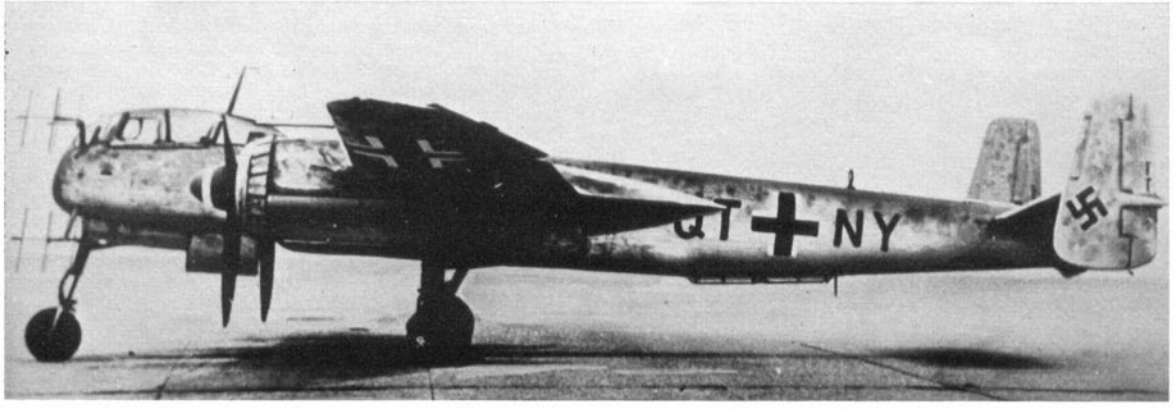


Table of Heinkel He 219 losses
(Information from official German sources)

	Operational losses over German territory							Non-operational losses over German territory		
	(1.) Flak			(2.) Fighters			(3.) Bombs*	(4.) Various causes		
	A	B	C	A	B	C	A	A	B	C
June 1944	–	–	2	1	–	–	–	4	3	3
July 1944	–	–	–	1	–	–	–	2	7	5
August 1944	–	–	1	1	–	–	–	1	7	3
September 1944	–	–	–	1	–	3	1	1	2	1
October 1944	–	–	–	1	–	–	–	3	1	2
November 1944	–	–	–	1	–	–	–	1	1	3
December 1944	–	–	–	5	–	–	–	6	–	2
January 1945	–	–	–	7	–	1	1	4	–	6
February 1945	1	–	1	5	2	1	–	1	4	2
March 1945	1	–	1	–	–	–	–	–	–	–
April 1945	No data									
May 1945	No data									

Key A: Total loss B: Damaged (requiring spares) ** C : Lightly damaged (not requiring spares)

*Aircraft listed as lost in bombing attacks do not include He 219s destroyed in the plants or lost on factory airfields prior to be taken over by the *Luftwaffe*.

**Aircraft in category 'B' that were too badly damaged to be repaired by the unit were transported (usually by rail) to the aircraft works of *Flugzeugwerk Eger GmbH* at Eger in the Sudetenland (now C.S.S.R.).

SPECIFICATION

Heinkel He 219 A–0 *Uhu* Night-Fighter

Dimensions
Span 60 ft. 8 in. *(18·5 m.)* ; length 51 ft. 0 in. *(15·54 m.)* ; height 14 ft. 5 in. *(4·40 m.)* ; wing area 479 ft² *(44·50 m.²)*; main-wheel track 16 ft. 5 in. *(5·0 m.)* ; main-wheel tyres 840 x 300 mm. ; nose-wheel tyre 770 x 300 mm.

Crew
Two (sitting back to back). Access to the cockpit via a rectractable ladder on the port side of the front fuselage. A one-piece cockpit canopy hinged sideways, opening to the right.

Powerplants
Two Daimler Benz DB 603 A 12-cylinder inverted-vee liquid-cooled engines. Three-blade constant-speed *V.D.M. (Vereinigte-Deutsche-Metallwerke)* propeller.

Fuel
Three fuselage tanks of 244 Imp. gals *(1108 l.)* (front), 110 Imp. gals *(500 l.)* (centre) and 218 Imp. gals *(990 l.)* (aft), respectively. Tanks located aft of the crew quarters. Two oil tanks, 19 Imp. gals *(85 l.)*, one located in each engine nacelle.

Armament
Two fixed forward-firing 20-mm. *Mauser MG 151/20 A* cannon (300 rounds per gun), one in each wing-root. Additionally, there were three standard armament combinations *(Rustsätze)*, *M1*, *M2* and *M3*. *M1* was a combination of four *MG 151/20A* cannon, *M2* four 30-mm. *Rheinmetall-Borsig MK 108* cannon and *M3* four 30-mm. *Rheinmetall-Borsig MK 103* cannon. All three separate combinations were mounted in a weapons pack faired into the under-fuselage. When the nosewheel was lowered a special trigger guard prevented the under-fuselage guns from being fired. Each weapon was supplied with 300 rounds of ammunition. Later, some He 219 A–0s were also fitted with a pair of upward-firing *MK 108* cannon (100 r.p.g.) in a *Schrägbewaffnung* mounting. Inclined at 65° to the aircraft's line of flight, aiming of these upward-firing weapons was done in conjunction with a *Revi 16G* gun-sight installed above the pilot's head, the sight being lined-up on the target via a simple *JMG-24* periscope mounted on the cockpit roof. Sighting of the forward-firing armament was done by a standard *Revi 16 B* reflector gun-sight.

Radio and radar equipment
FuG 10 P radio and navigational equipment; *FuG 16 ZE* (later *ZY)* radio equipment; *Fu B1 2 F* blind-landing equipment; *FuG 101 A* radio altimeter; *FuG 25 A* I.F.F. equipment; *FuG 212 Lichtenstein C–1* A.I. radar (later deleted); *FuG 220 Lichtenstein SN–2* A.I. radar.

Weights
Empty 21,730 lb. *(9,857 kg.)* ; Crew, fuel, oil and ammunition 5,930 lb., *(2,690 kg.)* ; Maximum take-off weight 27,661 lb. *(12,547 kg.)* ; Maximum landing weight 27,661 lb. *(12,547 kg.)* ; Wing loading 62 lb./ft.² *(281 kg./cm.²)* ; Strength group – *H5.*

Performance
Maximum level speed at 21,000 ft. *(6,410 m.)*, 385 m.p.h. *(616 km/h.)*; Maximum limiting speed (not to be exceeded) from sea-level *(0 m.)* to 22,967 ft. *(7,000 m.)*, 466 m.p.h. *(750 km/h.)* ; Flaps and undercarriage limiting speed 186 m.p.h. *(300 km/h.)* ; Range at a flying weight of 26,235 lb. *(11,900 kg.)* (576 Imp. gals *(2620 l.)* fuel and oil) : At 1,641 ft. *(500 m.)* and 295 m.p.h. *(475 km./h.)*, 900 miles *(1,450 km.)* At 14,765 ft. *(4,500 m.)* and 345 m.p.h. *(555 km./h.)*, 1,025 miles *(1,650 km.)* ; Maximum endurance at a flying weight of 26,235 lb. *(11,900 kg.)* (576 Imp. gals. *(2,620 l.)* fuel and oil) : At 1,641 ft. *(500 m.)* and 221 m.p.h. *(355 km./h.)*, 5.6 hours. At 14,765 ft. *(4,500 m.)* and 255 m.p.h. *(410 km./h.)*, 5.8 hours ; Landing speed at full load and 45° flap setting, approximately 100 m.p.h. *(161 km./h.)* ; Landing run in still air using brakes on firm ground, 2130 ft. *(649 m.)*.

Main source:
Werkschrift D. (Luft) T.2219 A–0, Teil 0, Januar 1944 and *Teil 8A, März 1944.*

Table of engine performance

Height Ft.	*M.*	Power setting	H.P.	R.P.M.	Boost lb./in.²	*ata*	Fuel consumed Gal./Hr.	*l./Hr.*
Sea level	0	Take-off and emergency	1,750	2,700	20.0	*1.40*	124.2	*565*
Sea level	0	Climb and combat	1,580	2,500	18.5	*1.30*	104.4	*475*
Sea level	0	Highest sustained	1,375	2,300	17.1	*1.20*	88.0	*400*
18,701	*5,700*	Emergency performance	1,620	2,700	20.0	*1.40*	117.6	*535*
18,701	*5,700*	Climb and combat	1,510	2,500	18.5	*1.30*	102.2	*465*
17,717	*5,400*	Highest sustained	1,400	2,300	17.1	*1.20*	90.1	*410*
16,405	*5,000*	Economical cruising	1,170	2,000	15.0	*1.05*	71.4	*325*

The last of an otherwise extinct breed. The Smithsonian Institution's National Air Museum retains one of the three He 219s that were shipped post-war to the United States. Currently (1970) it is in store at Silver Hill, Maryland.
(Photo: Neville Franklin—Newark Air Museum ref. 7827)

ACKNOWLEDGMENTS

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Prototype He 219 used as a test vehicle by the *Erprobungsstelle* Rechlin for flight trials of the Heinkel compressed-air ejector-seat. From the outset all production He 219s were fitted with ejection-seats. The first *Luftwaffe* crew to make a successful combat ejection were *Unteroffizier* Herter and *Gefreiter* Perbix of *2./N.J.G.1* on April 11, 1944. They both received a cash bounty of 1,000 *Reichsmarks* from *Professor Dr.* Ernst Heinkel for this feat.

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