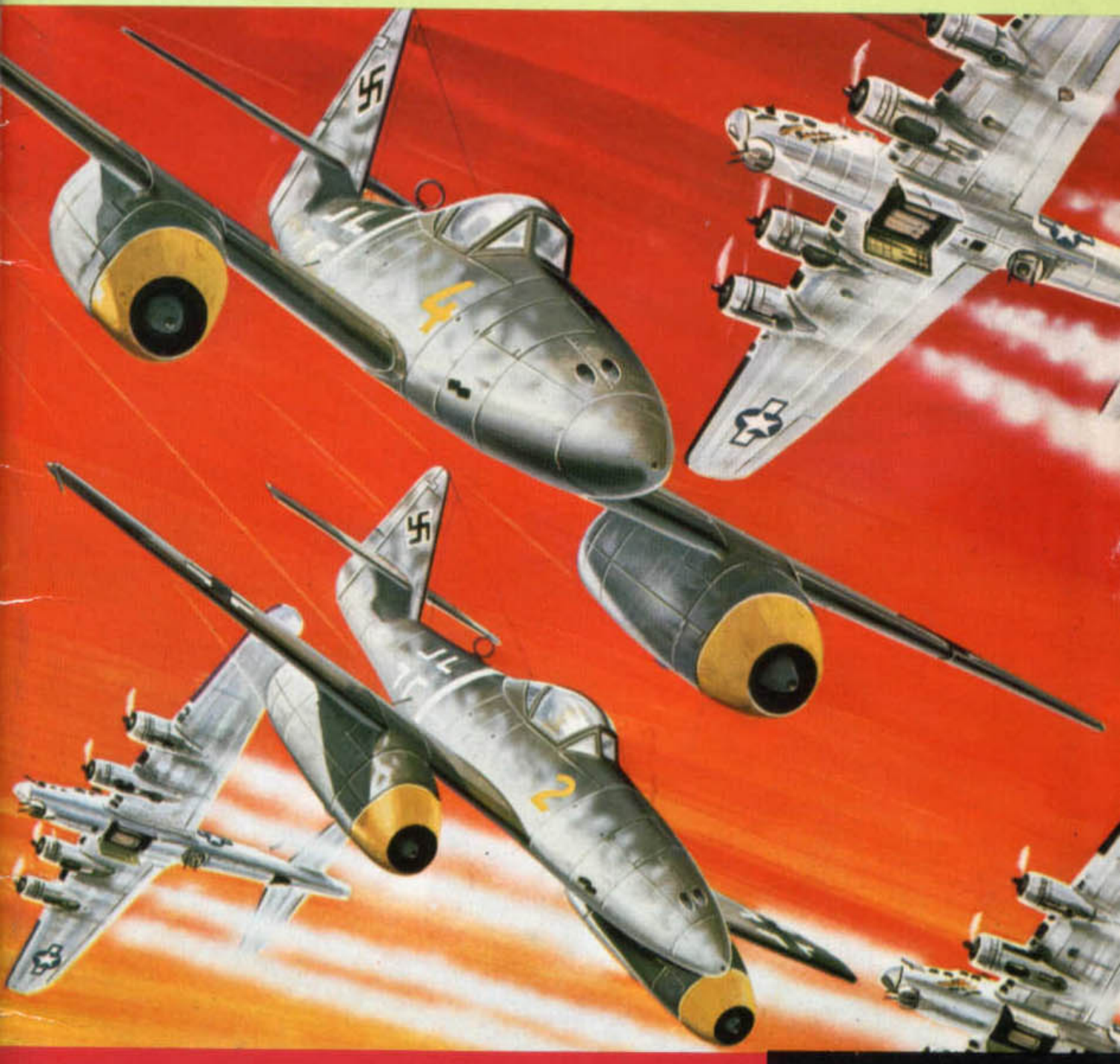
MESSERSCHMITT Me 262 Described Part 2

KENNETH A. MERRICK



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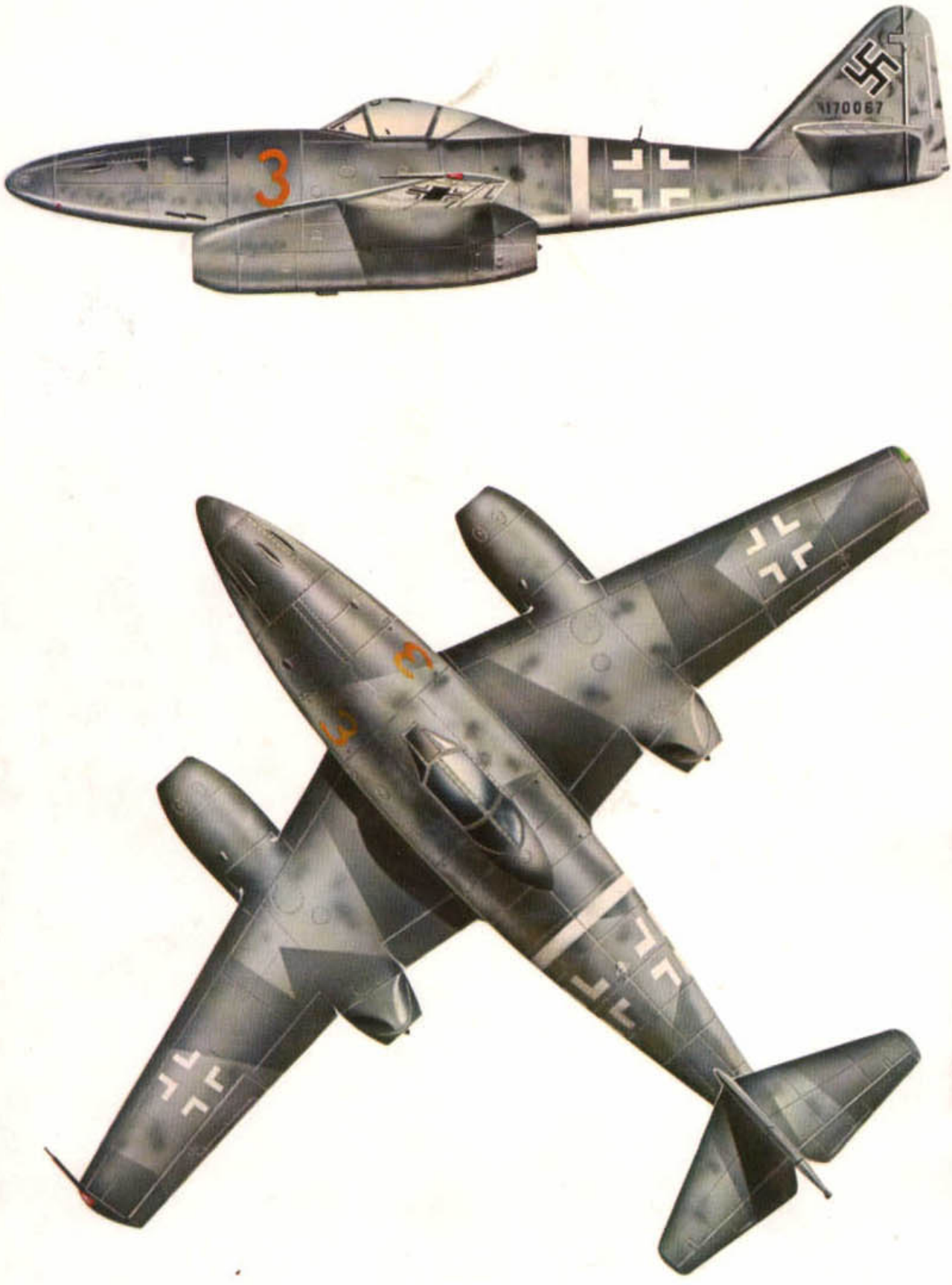
Cover. Deadly Me 262A-1a fighters of the Komando Nowotny slice through a formation of B-17s during the closing weeks of the air war over Germany in 1945. Painting by Australian artist Norman Clifford.

An Me 262A-1a in a state of disrepair. The dotted trestle marking on the underside of the nose is standard but the one under the rear fuselage is unusual. The national marking on the fuselage is lower than usual. Note the lack of any underwing marking.

The blanked off upper cannon ports and the long barrelled 20 mm. MG 151/20 cannon are shown here.



An Me 262A-1a, "Yellow 3", Werk-Nr 170067, of 1/KG (J) 54 at Giebelstadt in March 1945. The unit was assigned to "bad weather" interceptions, a task for which this machine's drab camouflage scheme of the three greys 74/75/76 was well suited. On its first combat mission on 25th February 1945, 1/KG 5(J) 54, on emerging from cloud, was "bounced" by Mustangs of the 38th Fighter Squadron and seven Me 262s were destroyed. The unit never recovered from this bitter blow and fewer than ten Allied kills were subsequently recorded.

Me 262A-2a, Werk. Nr. 111711, shows clearly its broad triangular fuselage and sharply swept wings. Lower: An Me 262 caught by the camera gun of a P-47 Thunderbolt.

Operational History and Development

On Monday evening, August 28th, 1944, two flights of P-47's of the 82nd Fighter Squadron were providing top cover to a combined dive bombing and ground strafing operation by the 78th Fighter Group west of Brussels. The flight, led by Major Joseph Myers, D.S.C., was flying at 11,000 feet when the leader spotted a fast, low-flying, twin-engined aircraft heading south. Immediately he and his number four, Lieutenant M. D. Croy Jr. dived after it but despite the steepness of their dive and an indicated airspeed of 450 m.p.h. they could not at first close the gap between themselves and the other aircraft. The two P-47's continued their dive to 5,000 feet with the remainder of the flight strung out well behind them. Finally the combined effects of full power and the speed built up in the 5,000 feet dive overcame the speed advantage of the enemy aicraft, an Me 262A-2a of *K.G.51* flown by *Feldwebel* Lauer, and Myers managed to close in to within 500 yards. Suddenly and without any warning Lauer cut his throttles and did a wheels up landing in a ploughed field, the high initial speed taking the Me 262 across several small fields before it came to rest and started to burn. Myers had opened fire just as the Me 262 had hit the ground, scoring strikes on the engines and cockpit and as soon as it had ground to a halt the rest of the P-47's proceeded to riddle it with machine gun fire. Lauer had scrambled from the wreckage and begun to run for cover when one of the P-47's turned its attention to him and he was forced to play dead until the American fighters had departed. Myers and Croy were credited with the kill, existing records pointing to this being the first Me 262 to fall victim to Allied fighters.

Kampfgeschwader 51 "Edelweiss," named *Konsatz Kommando Schenk* after its *Geschwader Kommodor Major* Wolfgang Schenk, was the first of the bomber units to receive the Me 262, *I/K.G. 51* under the command of *Major* Kurt Unrau exchanging its Me 410s for Me 262A-2a's, the third *Staffel* becoming operational at Rheine airfield in October. Later *II/K.G. 51* and the *Geschwader Stab* were also equipped with the Me 262 and were placed under the control of *Luftflotte 3*. A further experimental section of *K.G. 51* was *Einsatzkommando Edelweiss, Feldwebel* Lauer's Me 262 coming from this unit.

Despite the earlier criticisms levelled at the Me 262's use as a bomber some quite effective if not frequent results were obtained with it in this role. Nos. 416 and 417 Squadrons of 127 Wing based at Grave, Holland, received some very unwelcome attention from the Me 262's of *K.G.51* during the first three weeks of October, 1944. This began with a series of five raids on October 2nd which resulted in approximately thirty-five casualties. Four days later a single Me 262 returned and dropped anti-personnel bombs which landed in 421 Squadron's dispersal area, killing three people and wounding twelve others. Six days later another lone Me 262 dropped two canisters of anti-personnel bombs. This time No. 416 Squadron was on the receiving end, one of the bombs landing on the dispersal area where it killed five people and wounded ten others as well as destroying one Spitfire and damaging nine others. The damage was kept to a minimum only by the concerted efforts of the fire fighting personnel and F.-Lts. McColl and Harling who taxied two aircraft out of the danger area under extremely hazardous conditions. The proverbial thirteenth of the month resulted in another bombing attack on the Wing, this being followed by a week's respite before the Me 262's returned on October 21st, killing only one person but damaging eighteen aircraft. The appalling field conditions plus the attacks by K.G.51's Me 262's resulted in 127 Wing being moved to another airfield in Belgium.

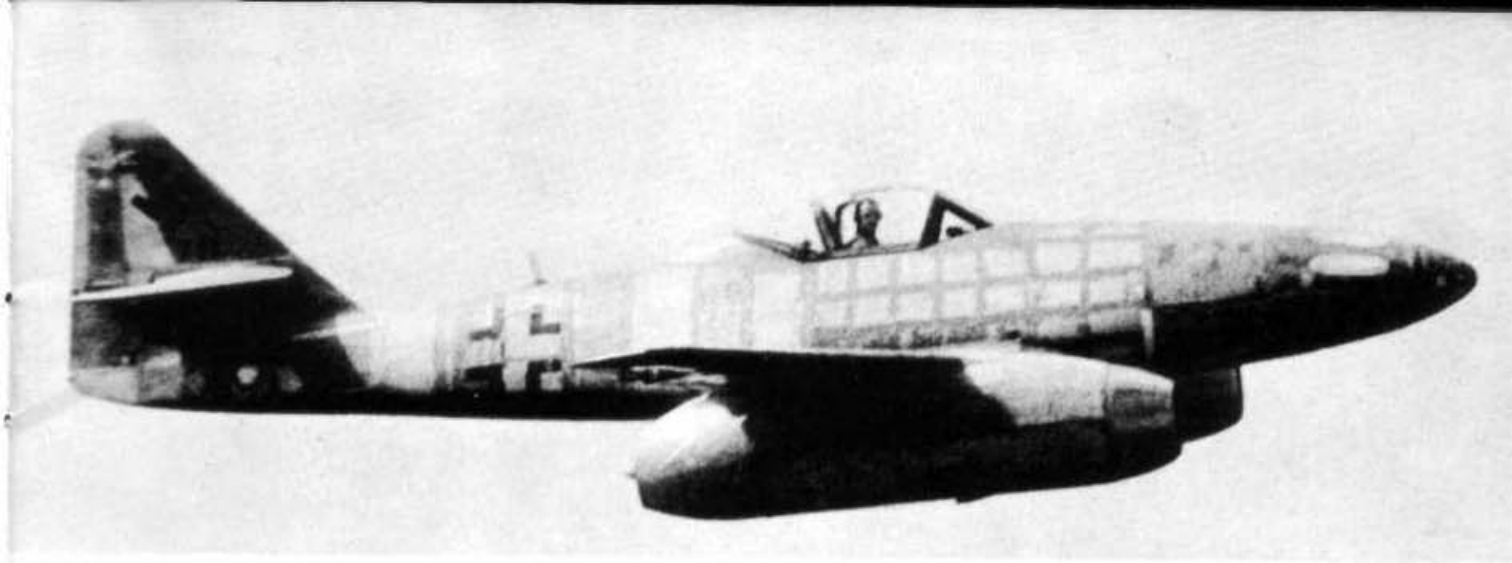
Me 262A-2a's of the Second Staffel of K.G.51 "Edelweiss".

Between July and October a further 211 bomber variants had been taken on charge by the *Luftwaffe*, the actual breakdown of figures being July 59, September 72, and October 65. However, a high proportion of these were lost in accidents and only a relatively small number were available for operational use during October. Nevertheless, the Me 262A-2a's began to appear in ever increasing numbers and in addition to the actions recorded, the British held position at Nijmegen, Holland, received regular attention in October. The bridge there was of vital importance to the Allies as was indicated by the weight of attacks mounted against it during the early part of the month—some 250 to 300 sorties for each twenty-four hour period. The anti-aircraft defences and fighter patrols were usually able to cope with attacks by conventional *Luftwaffe* types but proved to be ineffective against the Me 262's on all but one occasion. On October 5th a flight of five Spitfire IX's of 401 Squadron, R.C.A.F., were patrolling the Nijmegen area when an Me 262 passed 500 feet below them. The five Spitfires immediately dived and shot it down, this being the first air-to-air kill of an Me 262 recorded.

A variety of tactics were used by the jets, in most cases the aircraft attacking singly. During the day they would come in at about 25,000 feet in a shallow dive and release their bombs at 18,000 feet. Occasionally, paired attacks were employed with the leading aircraft at 6,000 feet, followed by another 4,000 yards behind and slightly lower. Night attacks were also carried out, the Me 262's arriving over the target area at approximately 12,000 feet and then diving to 8,000 feet to release their bombs. However, dusk attacks, carried out when visibility was at its poorest were carried out in true fighter-bomber style, the aircraft coming in at 1,000 feet and diving to 500 feet for the attack. The maximum diving speed of the aircraft was limited to 570 m.p.h. at a diving angle of some 35 deg. It was also imperative to empty the rear auxiliary 131.8 Imp. gal. fuel tank as failure to do so resulted in a violent nose up trim when the bombs were released with subsequent loss of control. The fact that the pilots were under no illusions as to the accuracy of the attacks was shown by the fact that in most cases anti-personnel bombs were used which in turn caused little material damage. Neverthless it was embarrassing to have enemy aircraft operating at will and with relative security over strategic Allied positions. Despite a system of radial and umbrella barrages used by anti-aircraft gunners no Me 262's were shot down by ground defences.

In November, 1944, an organized training programme was commenced for general *Luftwaffe* personnel, approximately fifty pilots being gathered from bomber and fighter units and fighter schools plus a selection of the more promising

Me 262A-2a's of K.G.51 bearing individual red letters thinly outlined in white.



The Me 262A-2a holds formation with the camera aircraft to show its clean lines . . .

trainee pilots at that time. A pre-jet flying course was undertaken consisting of twenty hours flying in standard piston-engined aircraft with simulated throttle handling restrictions to familiarize pilots with the throttle technique required for the turbojet aircraft. The jet training unit itself, III/*Erganzungsjagdgeschwader 2* was based at Lechfeld under the command of *Oberleutnant* Heinz Bär, the instructors and ground staff being drawn from the original Lechfeld test unit and Nowotny's old unit. On arrival all pilots, regardless of their experience were given three days of theoretical instruction in the operation and function of the turbojet engine, handling and flying characteristics of the Me 262 plus cockpit drill and practice in the use of the controls.

This was followed by a short course at Landsburg where the less experienced pupils gained twin-engined experience during five hours flying time on the Bf 110 and Si 204 aircraft, practising take-offs and landings, instrument flying and asymmetric handling. On completion of this time the pupils returned to the training unit at Lechfeld where they received a further day of theoretical training before beginning their practical instruction on the Me 262. This consisted of half a day devoted to the starting and stopping of the engines and taxying, this being most essential as the starting technique was both elaborate and rigid in its application. Incorrect handling led rapidly to engine damage and an accompanying fire hazard. Shutting down the engines was just as critical and incorrect handling caused the turbojets to smoke inwardly, once more producing a serious fire hazard. Taxying presented its own unique problems as the lack of a slipstream over the tail surfaces made the rudder virtually ineffective and the slow build-up of thrust made steering by engine power alone difficult. Engine exhaust was another new problem and extreme care had to be taken to avoid turning the tail of the aircraft towards inflammable objects.

Flying consisted of nine periods spread over approximately eight hours and broken down as detailed below:

1. Half an hour on circuits with only the two main tanks full.
2. Ditto.
3. One hour on general handling and aerobatics.
4. Ditto.
5. One hour on high altitude flying to 30,000 feet with full fuel load.
6. One hour on cross-country flying at an altitude of 12,000 to 15,000 feet.
7. One hour on formation flying in basic elements of two (*Rotte*), initially with an instructor and then with another pupil.
8. Ditto.
9. Gunnery practice—firing with the standard cannon armament at ground targets during five passes at the target, the first run being a dummy one.

Despite the good handling qualities of the Me 262 some difficulty had been experienced in conversion, particularly by the less experienced pilots. This resulted in twenty-three fatal accidents over a period of three months. The sources of these accidents fell into three main categories. The prime cause was undercarriage failure, the nosewheel being the major trouble. Turbojet failures were the next most frequent fault while

.then banks gently away.

Me 262A-1a, Werk. Nr. 112385, bearing the running wolf crest of J.G.7 stands in the doorway of its hangar.

tailplane failures accounted for some 10% of all accidents. The latter cause was one which plagued the Bf 109 for most of its earlier career, and was due to the same cause—engine vibration setting up sympathetic oscillations in the tailplane which eventually led to structural failure. Several unsuccessful attempts were made to overcome the undercarriage fault including perforated wheel discs fitted to assist wheel acceleration just before touchdown.

In an effort to minimise the accident rate a two-seat trainer was built up from a standard airframe and redesignated Me 262B-1a. The additional space for the second seat was gained by replacing the rear main fuel tank with two smaller ones, necessitating the repositioning of the fuel filler point on the starboard side of the fuselage. Two streamlined pylons were fitted beneath the nose to take either one 131.8 Imp. gal. or two 65.9 Imp. gal. drop tanks. The standard armament of four 30 mm. cannon was retained. Approximately fifteen of these machines were completed, most of them going initially to *III/(Erg.) J.G.2.*

Whenever an Me 262B-1a was available students had the opportunity of practising stalls, asymmetric landings and emergency undercarriage lowering procedures under the guidance of an instructor. Trainee Ar 234 pilots were also given instruction in the Me 262B-1a at Lechfeld before being posted to *K.G.76* at Altlonnewitz. A second training *Gruppe* had also been formed to instruct bomber pilots in the use of the Me 262 in this role. This was *IV/Erganzungskampfgeschwader 51* which supplied both pilots and aircraft to *K.G.51.*

Erprobungskommando 262 was disbanded in late September, 1944, its force of approximately fifteen aircraft being increased to between thirty and forty and split into two *Staffeln,* one at Achmer and the other at Hesepe near Osnabruck. This new unit which became operational on October 3rd was given the title *Kommando Nowotny* after its commanding officer *Major* Walter Nowotny, a practice not uncommon in *Luftwaffe* units The unit suffered its first operational losses on October 7th when *Leutnant* Kobert, flying Werk. Nr. 110405 and *Oberleutnant* Bley, flying Werk. Nr. 170307 were shot down just after take-off by Lieutenant Urban Drew in a P-51 of the 361st Fighter Group. This loss served to emphasize the Me 262's susceptibility to attack during take-off and landing. The Allies were quick to introduce "capping" patrols in an attempt to either prevent the jets taking off or to catch them on final landing approach. The *Luftwaffe* was equally quick to respond with heavy flak installations which made the standing fighter patrols rather unprofitable for the Allies. Nowotny's new unit did not have long to wait for action for within a few days *J.G. 54,* the famed "Green Hearts" were given the task of providing the necessary fighter umbrella. All concerned with the new unit worked with great enthusiasm and gradual progress was made despite the many difficulties encountered. Losses from technical failure and servicing faults were greater at first than those due to operational losses but the number of victories continued to rise steadily.

November 2nd was another significant day in the history of the Me 262 as this was the first recorded occasion of the use of rockets by jet aircraft. While over Bielfeld, American B-24s were attacked by two Me 262s which closed in to 150 yards and fired their rockets at the bombers. It has not been possible to definitely establish which unit these two Me 262s came from but it would appear likely that they were from Nowotny's wing. On November 8th, the wing was scrambled to intercept a large force of American bombers escorted by P-51's. Nowotny, flying Werk. Nr. 110400 was directing the attack and keeping up a running commentary when he was heard to say, "Just made third kill . . . left jet has failed . . . been attacked and hit . . ." shortly after which his aircraft dived into the ground six kilometres north of Bramsche. Nowotny was dead. This was the wing's last operation, Nowotny's death, coupled with the loss of four aircraft in one day led to the withdrawal of the unit for refitting and retraining at Lechfeld. Most of the pilots had had only very brief training due to the pressing operational requirements and this factor contributed strongly to the loss of twenty-six of the unit's aircraft. Against this could be offset the score of twenty-two confirmed kills and four probables during the unit's brief career. An attempt was now made to put the experience gained into a formal training programme while the remainder of the unit formed the nucleus of a new fighter wing, *Jagdgeschwader 7* which was named Nowotny in tribute to their late leader.

The organisation of *J.G.7* was entrusted to

An Me 262 reputed to have force landed in Switzerland through fuel shortage after engaging heavy bombers of the U.S.A.A.F.

Oberst Johannes Steinhoff, a very experienced fighter pilot and the former *Geschwader Kommadore* of *J.G.77*. During the early stages of its formation it was equipped with a small number of Bf 109G's to supplement its Me 262's which were still in short supply. The first part of the new unit to be formed was *III/J.G.7* under the command of another veteran fighter ace *Major* Erich Hohagen. This was followed soon afterwards by the *Geschwader Stab* which did not actually become operational until after *Major* Theodore Weissenburger had replaced Steinhoff. Command of *III/J.G.7* passed to *Major* Rudi Sinner when it became operational at Brandenburg-Briest in the December of that year. This *Gruppe* was not slow in scoring its first victory, a P-38 falling to Sinner over Fullsteinhorn on December 26th. Shortly after the *Gruppe* transferred to Parchim, near Schwerin, this becoming its permanent base. Its place at Brandenburg-Briest was taken by *I/J.G.7* under *Major* Desdorffer while *II/J.G.7* was based at Neümünster under the command of *Major* Erich Rudorffer. The last two mentioned *Gruppen* were never completely formed but continued to operate, nevertheless, along with *III/J.G.7* exclusively on bomber interception duties against the constant daily onslaught of the U.S.A.A.F. bomber formations.

Earlier successes with the unguided R_4M air to air rockets lead *Major* Sinner to instigate further testing of this potent weapon. His own *Gruppe* was joined in these tests by *Erprobungstelle Rechlin, Jagdgruppe 10* and Messerschmitts, Fritz Wendel carrying out the tests for the latter. This installation produced a further change in designation to Me 262A-1b.

Despite the introduction of a training programme, albeit a relatively high pressure one, accidents both from mishandling as well as technical failure still caused frequent losses. Often aircraft were lost either before they reached their allotted unit or before they could become operational as the following accident reports from *III/J.G.7* illustrate.

December 17th. Me 262 Werk. Nr. 170047 was being delivered from Brunswick-Waggum to Parchim but suffered an electrical short in the main switch panel, the starboard engine failing at the same time. The pilot let the speed fall

The slight inaccuracy of the fuselage cross shown here is due to misalignment of the fuselage access panel.

A line-up of Me 262's of the 10th Staffel of N.J.G11. In the foreground is an Me 262B-1a/U1 with an Me 262B-1a behind it. The former machine, along with the remaining Me 262A-1a's lined up was probably used for freelance "Wilde Sau" operations.

off too rapidly during the final approach to land and wrote off the undercarriage in the heavy landing that followed.

January 1st. Shortly after take off for an operational sortie the pilot of Me 262, Werk. Nr. 110407 had both engines cut simultaneously at 30,000 feet. Despite repeated attempts to restart them neither engine would do so and the pilot by means of a rapid dive to 12,000 feet was lucky to escape the attention of three P-51s. Finally he was forced to make a landing in a field in the Ulzen area, tearing off the undercarriage and fracturing the fuselage which resulted in 80% damage to the airframe.

The same day *Unteroffizier* Detjens, flying Werk. Nr. 500039, took off in company with his *Rottenfuhrer* for his first operational sortie and suffered undercarriage malfunction. Inexperience on Detjens's part coupled with fuel shortage after flying back to the airfield led to a forced landing.

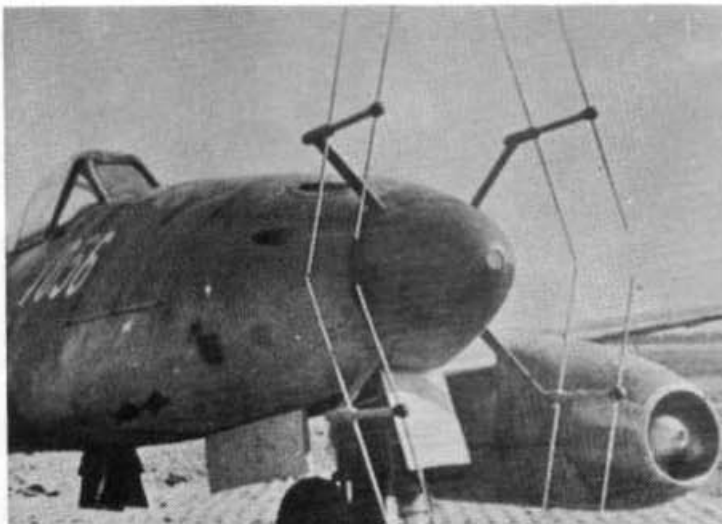
January 19th. Two Me 262's took off on a training flight, the pilot of Werk. Nr. 110775 unknowingly losing his starboard wheel in the process. Repeated attempts to raise the undercarriage failed and he returned to base where he made a normal approach and landing. The subsequent violent swing to the right was partially corrected at first by fierce braking but finally resulted in the complete collapse of the undercarriage with extensive damage to the starboard engine.

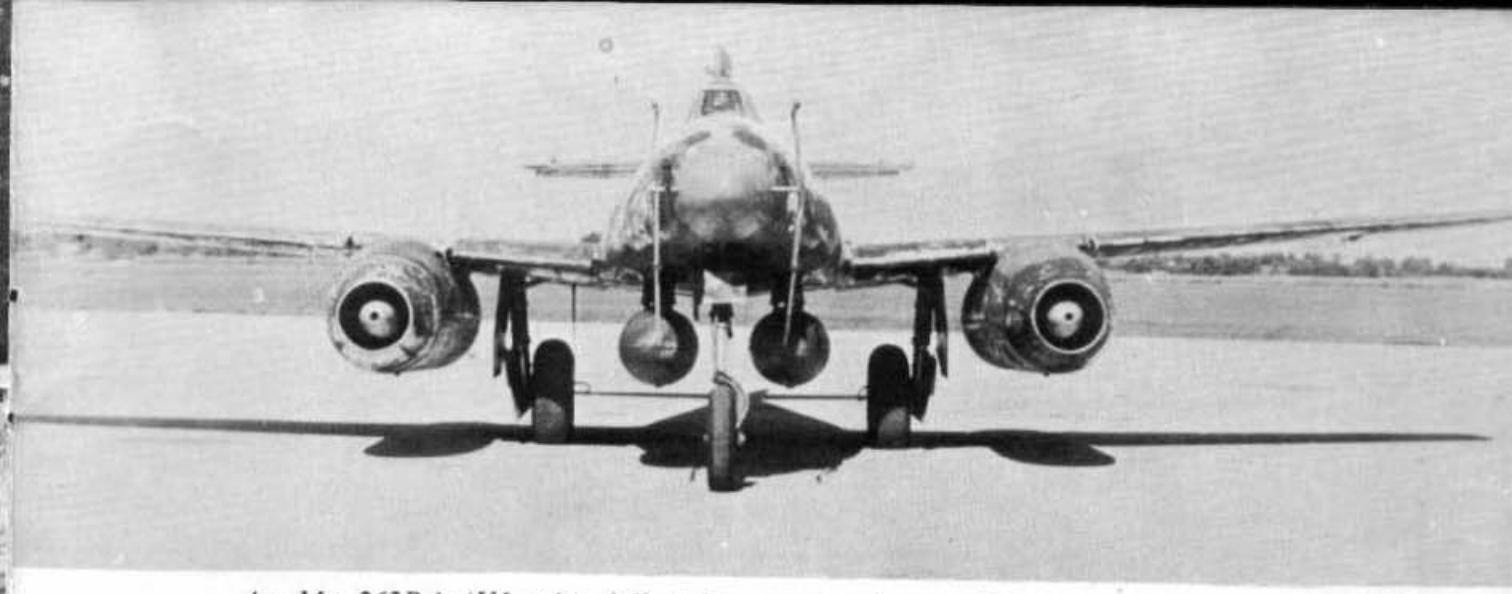
February 17th. Me 262 Werk. Nr. 111008 (Green 2) was undergoing a workshop test flight when it lost its starboard engine after ten minutes flying time. The pilot was able to restart the engine and returned to the airfield but was forced to overshoot and go round again due to an obstruction on the runway. During the second approach the starboard mainwheel failed to lock down and whilst trying to remedy this the starboard engine began to overheat badly, flames appearing from out of the cowling. The pilot instantly throttled back the damaged engine only to have it stop completely with a loud crash. The aircraft then yawed to starboard and dived into a young pine tree plantation at an angle of roughly 50 degrees.

Unexplained losses could not always be put down to inexperience on the part of the pilot for even the experienced acceptance pilots whose job it was to test each production aircraft sometimes lost their lives in plain view of witnesses and without any apparent reason. The following two brief examples are typical of this type of accident. *Oberfahnrich* Snurr was carrying out a workshop test flight on Werk. Nr. 110564 when it was observed to suddenly go into a vertical dive from 2,000 feet with fatal results. *Oberfahnrich* Ast looped Werk. Nr. 110479 at approximately 14,000 feet and went into a spin from which he did not recover, once more with fatal results.

January, 1945, brought with it the stark reality that the war could not last much longer yet quite naturally the *R.L.M.* continued to boost its fighter programme in an attempt to resecure a measure of air superiority over Germany and

Close-up of the Lichtenstein S.N.2 radar array. Difference in colour of nose cone in this shot is possibly due to use of different photographic film.





An Me 262B-1a/U1 with full radar array and two 65.9 Imp. gal. drop tanks.

thus bring some relief from the endless day and night pounding of the Allied bomber forces. The metaphorical wheel had turned its full circle and many former bomber units were being hastily retained to use fighter aircraft. Among these was *I/K.G.54* which gave up its Ju 88A-4s to be re-equipped with Me 262's and being redesignated *I/K.G.(J)54*. The *Gruppe* eventually became operational with approximately twenty-five Me 262s at Giebelstadt under the command of *Major* Bätcher. A further two ex-bomber units were also withdrawn for training and were re-equipped with the Me 262 during that fateful spring. *K.G.6* and *K.G.27* were slowly retrained to become fighter units under the revised designations *K.G.(J)6* and *K.G.(J)27* but neither unit became operational before the cessation of hostilities.

By the end of 1944 Germany's badly depleted night fighter force was finding itself hard pressed to cope with the increasing weight of the R.A.F. night raids. Night flying trials had already been carried out with the Me 262 by *Oberst* Herrmann of *J.G.300* and *Oberleutnant* Behrens of the Rechlin test centre in October of that year. Following their successful completion Fritz Wendel had undertaken a series of tests in a standard single seat Me 262 with a *Lichtenstein S.N.2* radar array fitted to the nose cone. The results of the test were very encouraging and three Me 262B-1a airframes were fitted with *FuG 218 Neptun V* airborne interception and tail warning radar and *FuG 350ZC Naxos* which was used to home on to the H_2S emissions, plus *FuG 16ZY*(R/T), *FuG 25a*(I.F.F.), *FuG 120a Bernadine* and *FuG 125 Hermine* radio equipment, the aircraft being redesignated Me 262B-1a/U1. Most aircraft of this type had the upper pair of cannon deleted and the lower pair of MK 108s replaced by a pair of long barrelled MG151 20 mm. cannon. This reduced the firepower considerably but was still potent enough to destroy a heavy bomber. The radar array was another necessary evil which reduced the maximum speed by up to 37 m.p.h. (60 k.p.h.).

In an attempt to increase the patrol endurance of these aircraft, it was proposed to tow a 197.8 Imp. gal. fuel tank, or *Diechselschlepp*, on an extension arm from the rear fuselage. Experiments along these lines had been in progress in Germany for many years and with the advent of jet aircraft and the consequent necessity for increased fuel loads, the *R.L.M.* had requested both the Messerschmitt and Arado firms to develop towed expendable fuel tanks. Two versions were developed and tested, one being a streamlined winged fuel tank fitted with an undercarriage and attached to the towing aircraft by a semi-rigid tube which fulfilled the dual purpose of a tow bar and a fuel feed pipe. However, the second type, which was an all-wing layout, appeared to be the more promising design, having a superior performance due to its cleaner profile. Further testing proved the strength and rigidity of the structure was impaired by the extraction of the fuel and further development was undertaken at the *Deutches Forshungsanstitut für Segelflug* (German Research Institute for Sailplanes) at Ainring, to which place the project was transferred in 1945. Unfortunately for Germany, the programme was halted by the cessation of hostilities before any further practical research could be undertaken.

An interesting off-shoot of this programme was the proposal to develop a towed bomb to increase the striking power of certain aircraft. As a result, a winged 500 kg. bomb, fitted with an undercarriage was developed for use with the Me 262. The target was to be attacked in a dive, an explosive charge jettisoning the wings, undercarriage and tow bar from the bomb. The Me 262 was then to pull out of its dive and leave the bomb to continue on to the target. The combination was tested at Rechlin and found to be satisfactory but once more it was just too late to see operational use.

The first of the Me 262B-1a/U1's crashed during trials, killing the radar operator but successful tests were carried out with the other two aircraft. It was intended to use this interim conversion type until the true night fighter version the Me 262B-2a came into service. This version had an increased fuselage length of 3 feet 11¼ inches, due to the insertion of two additional fuselage sections, one in front of and the other behind the cockpit. The internal fuel capacity was also increased by 257.2 Imp. gal. and the nose armament supplemented by two remotely operated obliquely mounted dorsal MK 108 cannon in a *Schräge Musik* installation immediately aft of the cockpit. Only one prototype of the Me 262B-2a was actually flight tested, the war finishing before a second prototype fitted with a centimetric radar set in a blunt tipped nose could be tested.

In February, *Oberleutnant* Walter carried out a series of trials with the Me 262 in the single-seat night fighter role using the old *Wilde Sau* tactics and scored several successes against R.A.F. Mosquitoes over Berlin. However, a small experimental night fighter unit titled *Kommando Stamp* had been set up under the command of *Major* Gerhard Stamp the *Gruppen Kommanduer* of *I/JG.300*. This experimental unit was in turn

The purposeful lines of the Me 262B-1a/U1 are brought out in this dramatic angle.

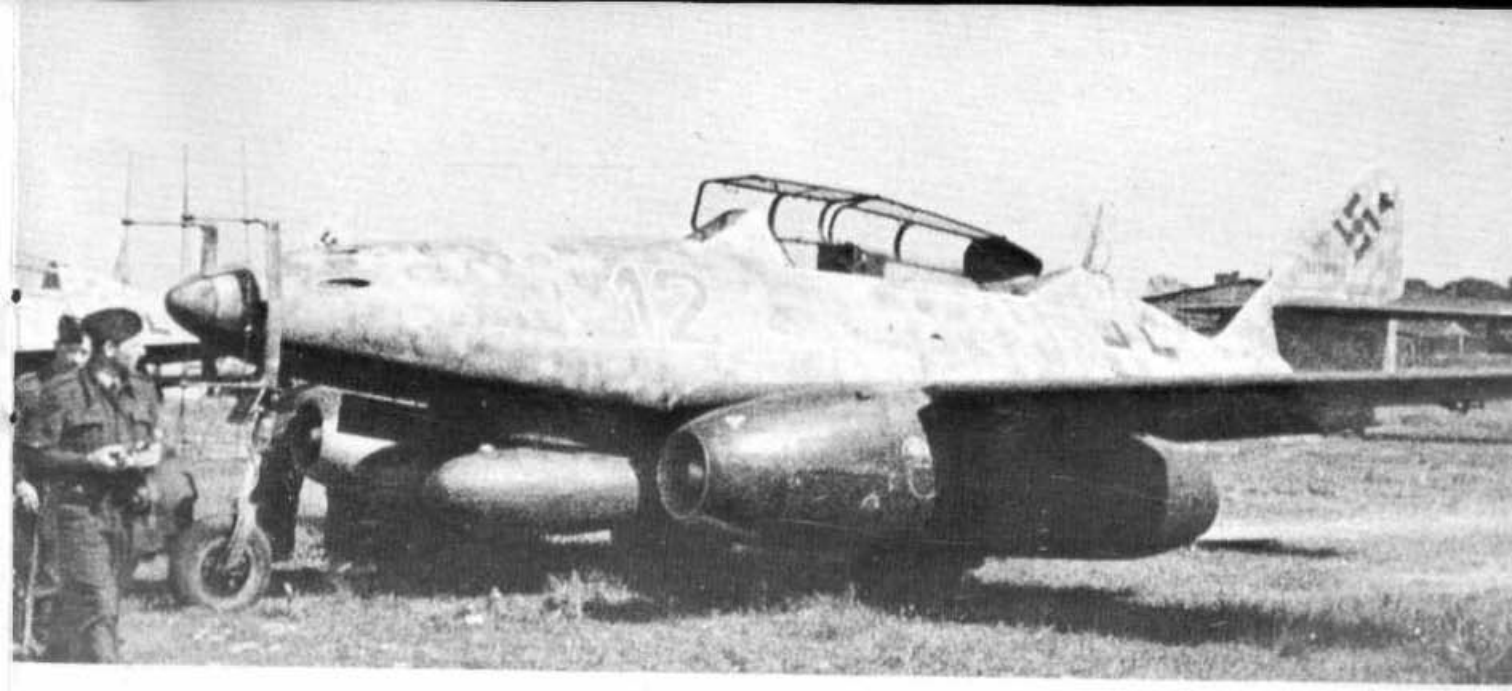
replaced by *Kommando Welter* under the command of *Major* Kurt Welter and equipped with approximately ten Me 262B1a/U1 night fighters, which operated in the defence of Berlin. By early April it had been absorbed by *N.J.G. 11* to become its 10th *Staffel*, the remaining *Staffeln* continuing to operate the Bf 109G-14.

As the impending defeat became more and more imminent, the highest possible priority was given to the fighter-interceptor variant of the Me 262, particular attention being centred upon the rocket boosted variants. The last requirement was becoming more pressing each day, due to the failing efficiency of the German early warning radar network, and the fact that the *Luftwaffe* was being forced to use makeshift airfields. The results of experiments into this problem resulted in the Me 262C-1a which utilised mixed power to overcome the problem. In addition to the normal turbojet engines, a Walter HWK 109-509A bi-fuel rocket motor was installed in the rear fuselage, necessitating the cropping of the lower rudder portion. Internal fuel tankage for the turbojets was reduced from the normal 564.9 Imp. gals. to 235.2 Imp. gals. Two fuel tanks, one containing 197.8 Imp. gals. of *T-Stoff* (hydrogen peroxide and water) and the other 131.8 Imp. gals. of *C-Stoff* (hydrazine hydrate and methyl alcohol) were installed in the fuselage for the rocket motor. Gerhard Lindner, Messerschmitt's assistant chief test pilot, took the aircraft up for its first test flight on February 27th, 1945. The aircraft proved to be capable of reaching 38,400 feet in 4.5 minutes from a standing start and attained a top speed of 629 m.p.h. The sole *Heimatschutzer I*, as it was called, was accidentally destroyed in its hangar by a German night fighter.

Shortly after this, the *Heimatschutzer II* or Me 262C-2b was test flown. This time power was provided by two B.M.W. 003R units each of which comprised a standard B.M.W. 003A turbojet of 1,760 lbs. static thrust and a B.M.W. 718 bi-fuel rocket motor which produced 2,700 lbs. static thrust for a period of three minutes. However, the B.M.W. 718 units were extremely unreliable being prone to explode at the least provocation. Difficulties were also encountered in providing satisfactory seals and gaskets for the rocket fuel tanks, and in consequence only one test flight was carried out. The airframe and armament were similar to those of the Me 262-1a, while the fuel tankage was similar to that of the Me 262C-1a. Due to these difficulties, a simplified version, the Me 262C-3, was developed with a jettisonable Walter rocket motor mounted externally beneath the fuselage centre section. Fuel was supplied via a flexible lead from a jettisonable fuel tank mounted a little way ahead of the rocket motor. No flight testing was ever carried out with this version. Several proposals were studied for a revised engine layout in an attempt to clean up the profile drag of the airframe and at the same time reduce the asymmetrical thrust problems encountered with single engined flight. Initially, three design studies resulted from these proposals, these being designated *Abfangjager H.G.I, H.G.II* and *H.G.III* respectively. In each case the engines were to be buried in an enlarged wing root, the tail pipes exhausting just aft of the wing trailing edge. The *H.G.I.* was to have been fitted with two B.M.W. 003 engines, while the *H.G.II* was to have had Heinkel HeS 011 engines. The *H.G.III* reverted to two standard Jumo 004B's.

In late November and early December of 1944 a special reconnaissance unit, *Sonderkommando Brauegg* had been formed under the command of the veteran photo-recce pilot of the East Front *Hauptman* Brauegg and equipped with the Me 262A-1a/U3. By the following spring it had been reformed becoming the *Gruppe Stab* and 2nd *Staffel* of *N.A.Gr.6*. A few Me 262A-5a's had also found their way on to the strength of the unit and it proved highly successful in obtaining information concerning Allied troop movements.

Such was the measure of success of the Me 262 in this role that a design study was produced for a further three more photo-recce versions. These were designated *Aufklarer I, IA* and *II* and would have borne little resemblance to the original Me 262 series, the Armstrong Whitworth built Seahawk naval fighter of the 1950s bearing a stronger resemblance to these machines. The *Aufklarer I* and *IA* were both to be fitted with two Jumo 004C engines, plus provision for two rocket assisted take off motors beneath the fuse-



Me 262B-1a/U1, Werk. Nr. 111980 of the 10th Staffel of N.J.G.11.

lage. Both versions were expected to reach a top speed of 680 m.p.h. and have a range of 935 miles. The *Aufklarer II* featured increased internal capacity and had an estimated top speed and range of 633 m.p.h. and 1,495 miles respectively. Simultaneously with the experiments on rocket boosting were a series of armament experiments aimed primarily at developing the aircraft's bomber destruction potential. These tests resulted in a series of projected variants of the basic aircraft which, however, were not realised.

The Me 262D was to have been fitted with the SG 500 *Jagdfaust* anti-bomber weapon comprising twelve rifled mortar barrels in the nose of the aircraft, and inclined forward and upward. Each barrel was to have contained a 50 mm. shell, these being fired in a single salvo when the aircraft was lined up with the belly of a bomber, while counterweights were to have been fired simultaneously downwards from the barrels to offset the recoil. A further version, the Me 262E, was to have been equipped with a heavy rocket armament of twenty-four R_4M missiles in a nose container in addition to the twenty-four carried beneath the wings, as on the Me 262A-Ib. The bomber variant was not neglected, three new versions being projected. The first and second of the proposed designs were bomber versions of the *Aufklarer* I and IA, each to carry a single 1,000 Kg. bomb and were expected to attain top speeds of 562 m.p.h. and 555 m.p.h. respectively. However, the third design featured a reversion to an enlarged form of the original airframe. The forward two-thirds of the fuselage were bulged in order to accommodate the alternative internal bomb load of a single 1,000 Kg. or two 500 Kg. bombs. The fixed armament was reduced to two MK 108 cannon but the internal fuel capacity was increased giving an estimated range of 1,120 miles. A top speed of 622 m.p.h. was anticipated.

An attempt was also made to increase the Me 262's firepower along slightly more conventional lines which resulted in the marrying of the Me 262A-1a airframe to the MK 114 50 mm. cannon. Theoretically this was an ideal combination for the Me 262 could then attack the heavy bomber formations from far beyond the range of the defensive fire as well as having the speed to outrun the fighter escort. However, there were drawbacks which weighed heavily against its use, not the least of which was the fact that the first shell had to be hand loaded. This meant that any stoppages in flight rendered the aircraft impotent until it could land and have the stoppage cleared. The cannon itself protruded for some seven feet ahead of the aircraft and being well ahead of the centre of gravity required the use of compensatory weights in rear fuselage, all of which helped to reduce the maximum speed to 525 m.p.h. Herr Bruno Nitzacke was put in

The engine cowls and undersurfaces of this machine were originally covered with a temporary black distemper. The markings shown here were not the original ones.

charge of the installation project which began in January, 1945, and was completed, from preliminary design to final installation, in the brief period of four weeks. The nose wheel underwent the most radical change, being modified to turn through ninety degrees and lie flat when retracted due to the size and location of the cannon feed system. Flight testing was carried out by Karl Baur between February and April, many hours being spent in trying to perfect the weapon. One of the faults that became rapidly apparent was the need for an increase in the size of the fin and rudder to compensate for the yawing motion set up after each shot was fired. Despite these problems the firing trials were quite successful and there is little doubt that the combination would have been quite effective had it reached operational status.

Initially four airframes were modified, the prototype installation differing slightly from the final version fitted to the other three in that the cannon fairing was carried down over the nose cone to the extent that the camera gun window was initially deleted. This was remedied on the other three machines and the camera gun installation left in place. Ten of these cannon "sets" were built, and components for another sixty were found by U.S. ground forces at Oetztal while Russian troops located a further five hundred near Berlin. *Major* Hergert of the *Luftwaffe* test pilot school was given the task of carrying out the initial combat tests but as far as can be ascertained these never eventuated. his Me 262, Werk. Nr. 170083 falling into the hands of the American ground forces that over-ran Lechfeld in April, 1945.

In January, 1945, Galland, who had been dismissed from his post as *General* of the fighters due to his outspokenness, was ordered by Hitler to form a new Me 262 fighter unit. This in itself was tacit admission by Hitler that his earlier "Blitz bomber" decision had been wrong. Given the official designation *Jagdverband 44* news of its formation soon spread and Galland wasted no time in gathering together a selection of some of the most experienced pilots in the *Luftwaffe*. Besides himself nine of these were holders of the revered *Ritterkreuz;* they were *Oberst* Gunther Lutzow, *Oberleutnant* Gerhard Barkhorn, *Oberleutnant* Wolfgang Spate, *Oberleutnant* Hans Gruenberg, *Oberleutnant* Alfred Heckmann, *Major* Erich Hohagen, *Major* Walter Krupinski, *Major* Karl-Heinz Schnell, and *Leutnant* Helmut Neumann. The initial personnel of *J.V.44* carried out a working up period with *1/J.G.7* at Brandenburg-Briest before transferring to Munchen-Riem on March 31st with a strength of approximately fifty pilots and twenty-five Me 262's.

Conditions were near to impossible, the aircraft having to be towed off the airfield as soon as they landed and dispersed under camouflage. Getting them on to the airfield for take off was equally difficult, since the airfield was under

Me 262A-1a/U3 showing clearly its large blister fairings for the RB 50/30 cameras.

Having landed at Perleberg on April 15th to refuel after a mission, this machine subsequently damaged its port engine during take-off through ingesting mud from the grass-covered airfield. The pilot landed again and three hours were spent replacing the damaged engine, hence the variation in cowling colours. Herr Hans Rumler (who provided this photo via Herr Hans Obert) is shown in the light coloured overalls and was the former mechanic of Werner Baumbach of K.G.30. He states that only a few days later he was forced to set fire to a perfectly serviceable Me 262 to prevent it falling into Russian hands as no pilot was available to fly it away.

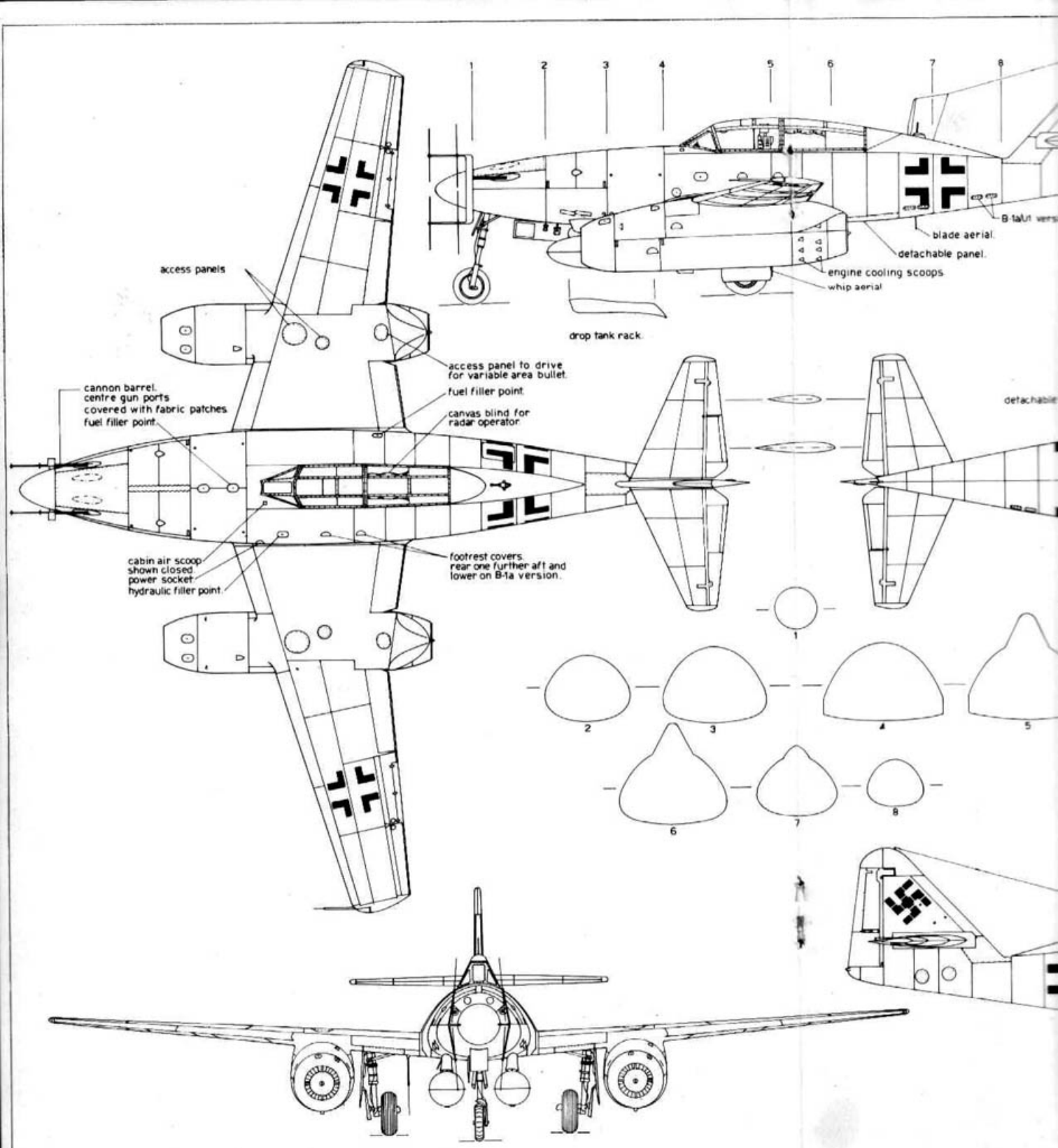
constant attention from American fighters. Thousands of labourers were kept constantly on the move in an attempt to keep a runway open between the bomb craters. Servicing difficulties were also experienced due to the chaotic conditions, and rarely were there more than sixteen Me 262's available for any one mission.

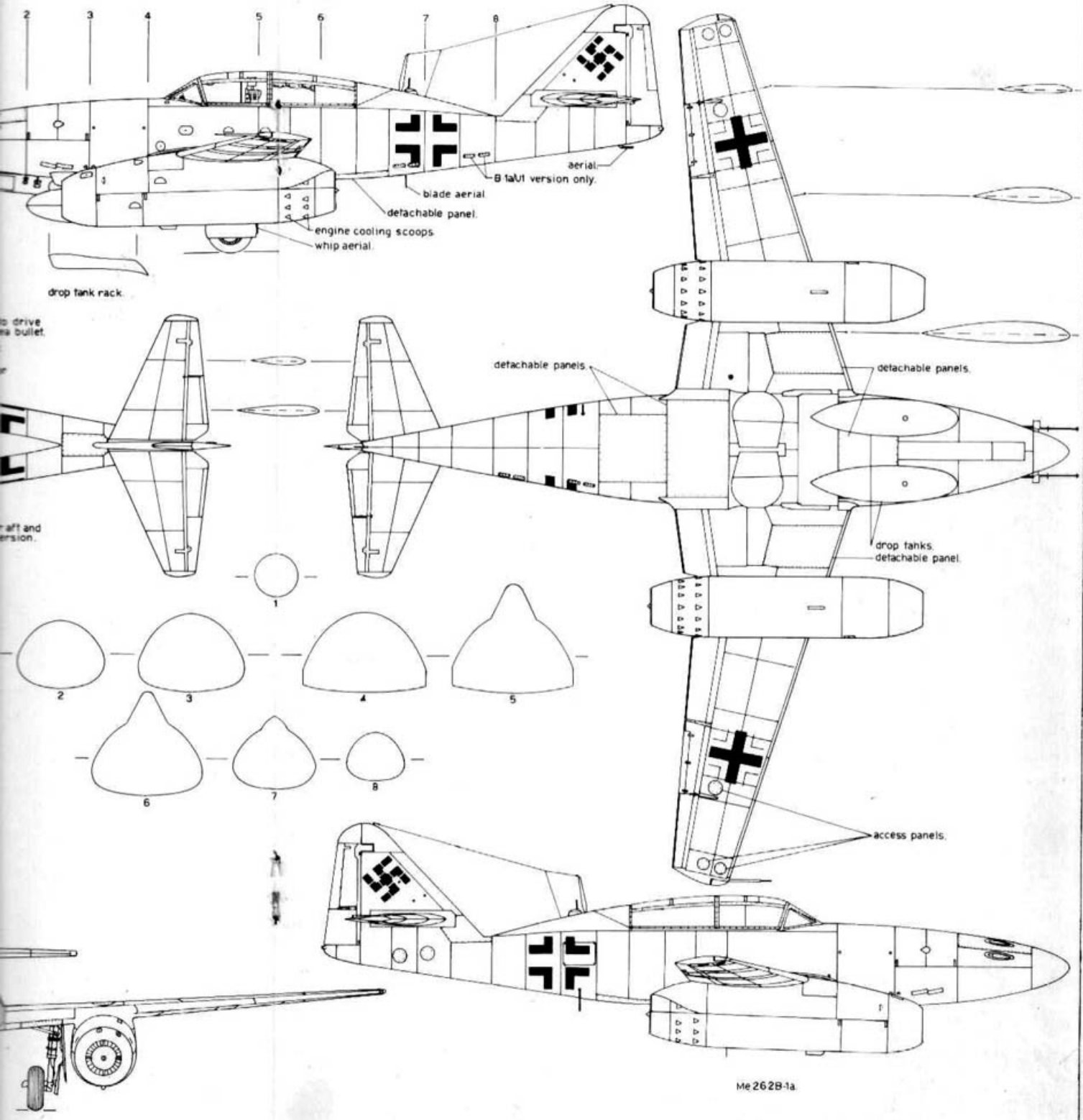
The introduction of the jet fighter had brought about a necessary revision of the fighter tactics and although *J.G.7* still used the standard *Schwarm*, i.e., element of four aircraft, *J.V.44* used the *Kette*, i.e., element of three aircraft. Due to the great speed attained by the Me 262 at low altitude and its relatively short endurance, assembly after take off was considerably harder to attain than with conventional piston engined aircraft. Thus it was essential that the aircraft of each element should take off as near to simultaneously as possible. The average runway would just take three Me 262's in line abreast formation. Formation handling qualities also favoured the *Kette* rather than the *Schwarm* due to the aircraft's large turning radius and poorer manoeuvrability. During turns the formation had to be held by cutting inside or overshooting rather than by using the throttles.

On bomber interception missions, *J.V.44* usually operated at *Staffel* size, using three *Ketten* with one element leading and the other two on either flank slightly higher and further aft. The aircraft in each *Kette* were spaced approximately 100 yards apart vertically, and 150 yards apart horizontally, while the *Ketten* were spaced approximately 300 yards apart. Although rare, in the case of a mass flight using several *Staffeln*, the other *Staffeln* took up positions on both sides to the rear and slightly higher, or were staggered out in echelon to one side. The superior speed of the Me 262 eliminated the necessity for top cover. The high speed involved made it impractical for frontal attacks to be used and thus the primary concern of the formation was to get into a position roughly 5,000 yards to the rear of the bomber group with a height advantage of approximately 6,000 feet. The three *Ketten* would then form into line astern, dive to a position roughly 1,500 feet below and 1,500 yards to the rear of the bombers to gain speed, and then climb to fly straight and level for the last 1,000 yards. This initial dive raised the final closing speed to roughly 530 m.p.h. thus providing immunity from the escort fighters, although a lower speed would have been preferable for better marksmanship. The whole formation attacked the full width of the bomber group in order to split up the defensive fire.

After completing their firing run, the Me 262's would commence a shallow climb, passing over the highest section of the bombers as closely as possible, in order to make it difficult for the defending gunners to score any hits. The susceptibility of the turbojets to damage due to pieces of debris being sucked in made it unwise to pass under the bombers after the attack.

Most aircraft of *J.V.44* were fitted with an E.Z. 42 gyroscopic gun sight, but faulty installation rendered it useless in most cases, and it was locked so that it functioned like the ordinary *Revi* fixed reflector sight. In addition to the nose cannon, some of *J.V.44's* aircraft were equipped with twenty-four R_4M rockets, twelve under each wing. These were launched in .03 of a second and scattered to give a pattern covering the silhouette of a four-engined bomber at six hundred yards. Since the trajectory of these rockets was almost identical with that of the aircraft cannon,





Me 262B-1a

Ft 0 1 2 3 4 5 6

MESSERSCHMITT Me 262B 1a/U1

Left:

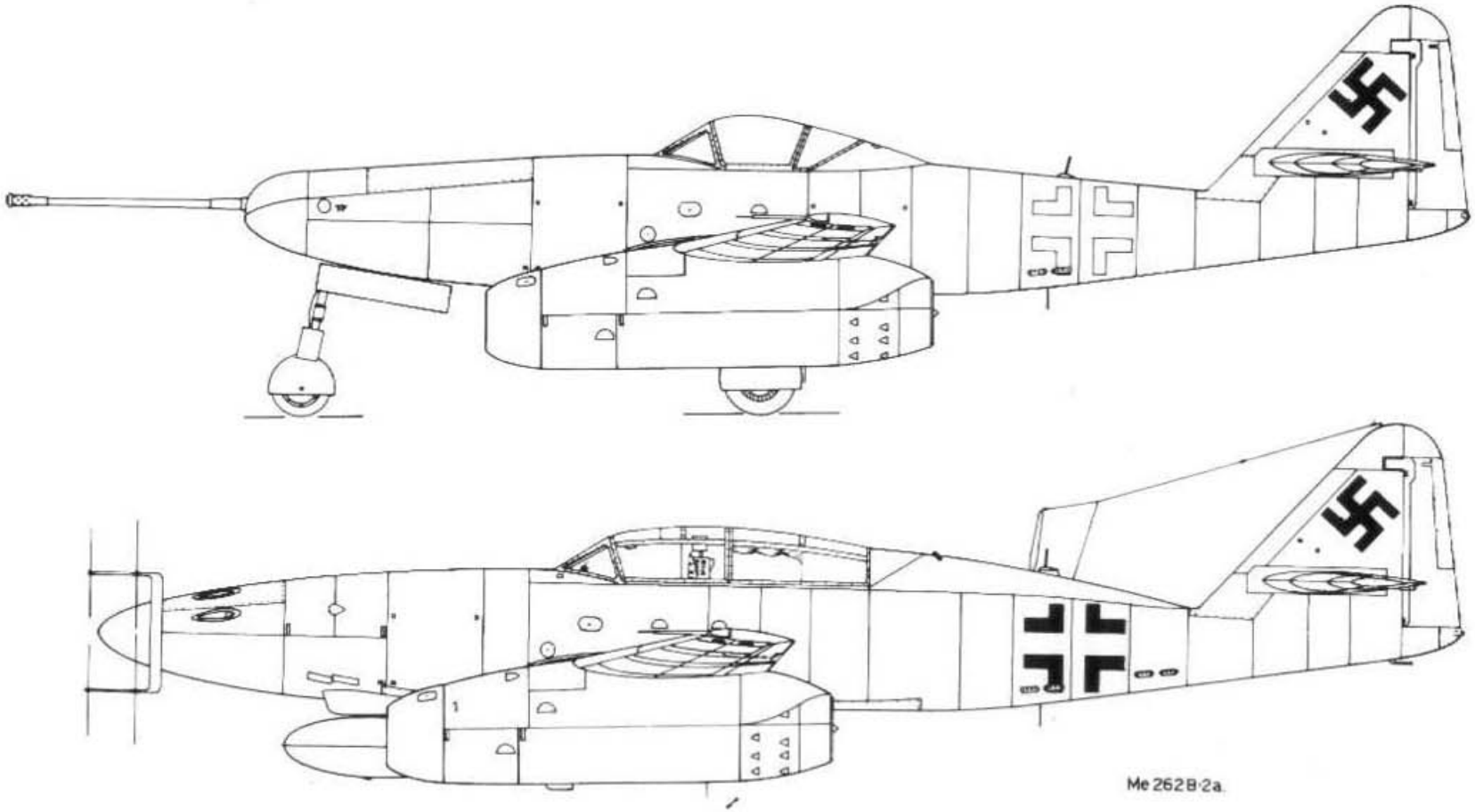
The second prototype MK 114 installation. The rebuilt nose section is in bare metal but the remainder of the aircraft is camouflaged.

Centre:

Werk. Nr. 170083, one of the four Me 262A-1a's modified to take the MK 114 installation. The feminine name was applied AFTER capture.

Right:

The fourth modified MK 114 aircraft.



The original prototype MK 114 installation showing the blister type fairing which obscured the camera gun window in the nose cone.

the standard gun sight could be used quite effectively. Lines were painted on the screen of the sight, spaced so that they would frame the wingspan of a B-17 Fortress at 650 yards.

When the first of the R_4M rockets had arrived, the mechanics and armourers had sweated prodigiously to fit four of the aircraft with this new weapon. Galland and three others took off to try them out and intercepted a formation of Marauders near Landsburg. Galland opened fire from about six hundred yards with a full salvo into the close flying formation and scored two definite hits. The first bomber caught fire and exploded while the second spiralled down with large portions of the right wing and tailplane missing. The accompanying Me 262's also attacked successfully. Galland and his pilots were highly excited, since the rockets could be launched from outside the effective range of the defensive fire of the bombers and a well aimed salvo would probably hit several aircraft simultaneously.

Controversy as to the exact role of the Me 262 existed between the pilots flying them. The use of the aircraft as a bomber interceptor was dictated mainly by the inability of the standard piston engined fighters to accomplish this due to the heavy escort fighter screens. Some of the jet pilots maintained that they should act in the pure fighter role, taking on the fighter escort and leaving the bombers for the standard fighters. The two principal points in favour of the Me 262 were its speed and climbing ability, which could always be used to gain height and surprise, the two basic advantages in aerial combat. On the other hand, the Me 262 was definitely inferior in close manoeuvring and once its opponents were warned the Me 262 pilot had to use extreme care in a turn to prevent overshooting his target, and thus laying himself open for attack. But at low level, the Me 262 showed its most marked superiority in the speed advantage over piston engined aircraft. This allowed it to hunt at low level using the clouds above to silhouette its prey and then climb to attack from underneath, tactics not feasible for the conventional Allied fighters.

Generally speaking the Me 262 was considered easier to fly than its predecessor, the Bf 109G, the low drag and absence of an airscrew allowing it to dive extremely rapidly. Because of this, care had to be exercised not to exceed the critical *Mach* number, as at aproximately 620 m.p.h. the control surfaces became ineffective. At speeds of 500 m.p.h. and above the ailerons and elevators tended to become very heavy and an extendable control column was developed, giving an increased mechanical advantage. Due to the high speeds involved it was extremely dangerous to bale out with the ordinary parachute then in use, and *J.V.44* pilots adopted a strip parachute for a short while. However, it was soon realised that the aircraft were most vulnerable at take off or landing and the strip parachute was discharded for the quick opening type.

Since the Me 262 had first appeared on the battlefront in Europe, Allied pilots had been encountering them if not in ever increasing numbers then at least in ever increasing frequency. It has been a constant source of controversy as to the exact number of Me 262's that actually saw combat service, for while production figures are available for most months these can serve only as a general guide. As has been recorded earlier many of these never actually participated in combat operations. An analysis of combat reports, where available, for Allied aircrews makes it possible to at least gain an approximate idea of the numbers. A breakdown of the known monthly production figures is given below in order to assist in clarifying these points, only two distinctions being made, that of bomber and fighter.

	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Me 262(B)	28	59	15	72	65				
Me 262(F)			5	19	52	101	124	160	280

The earliest recorded combat action with the Me 262 dated from July 25th, 1944, when an R.A.F. photo-recce Mosquito from 544 Sq. encountered and Me 262 in the Munich area at 29,000 feet. The navigator, F-O A. S. Lobban, sighted a twin-engined aircraft closing in very rapidly from 400 yards astern and instantly warned his pilot, Flt.-Lt. A. E. Wall, who immediately applied full power to the Mosquito. The Me 262 pilot, caught momentarily unawares overshot the Mosquito and was forced to swing around in a wide circle astern from which position he once more closed in for the attack, opening fire at 800 yards. Wall was forced to take evasive action

using the Mosquito's superior manoeuvrability to turn aside the other aircraft at each attack. Such was the ferocity of the manoeuvres that Wall thought that his aircraft had been hit when he heard two muffled explosions from underneath it. However, the explosions were not caused by cannon shells but by the outer hatch being torn off by the violent turns. The Me 262 missed the Mosquito but nevertheless forced the pilot to break off his mission and dive for the protection of the clouds below at 16,000 feet. When the Mosquito re-appeared some three minutes later the Me 262 had disappeared and Wall proceeded to Fermo airfield near Venice. This Me 262 was possibly from either *Erprobungskommando 262* or another special test unit *Versuchsverband Ob.d.L.* which tested the most advanced *Luftwaffe* types as well as captured Allied aircraft. Six Me 262's had been delivered to *I/Versuchsverband Ob.d.L.* in July for testing.

Until October, 1944, only a few isolated encounters were made with the Me 262, contacts with Me 163's being far more frequent. However, with the formation of Nowotny's unit and the re-equipping of *K.G.51* the frequency naturally increased and Allied pilots began to file more and more combat reports concerning Me 262's. November commenced with the destruction of a single Me 262 but it possibly involved more U.S.A.A.F. fighters than any other single kill of the war! B-17's of the 1st Division of the 8th Air Force had bombed the synthetic oil plants at Gelsenkirchen and were over Holland on the way home when *Oberfahnrich* Banzhaff, flying Werk. Nr. 110386, appeared on the scene at 38,000 feet. Going into a dive he attacked the top section of the fighter escort at 32,000 feet, shooting down one of the P-51's in flames. He then continued his dive over the bomber formation with the rest of the P-51's in hot pursuit. They were joined by the P-47's of the 56th Fighter Group who were in turn joined by the P-51's of the 352nd Fighter Group. The Me 262 pilot continued his dive to 10,000 feet and then made a fatal error —a climbing turn through 180 degrees on to a northerly heading just above a cloud bank. The turn allowed the pursuing fighters to cut off some of the distance and both the P-51's and the P-47's were close enough to open fire. For a few minutes the German pilot continued to carry out violent evasive action but eventually he succumbed to the sheer weight of numbers and was forced to bale out of his blazing Me 262.

Contacts with Me 262's which had waned during the last half of November and early December began to increase again towards the end of the year. It is interesting to note that the bulk of these attacks were directed against photo-recce aircraft which, despite the presence of fighter escorts, received the undivided attention of the German jets. The year closed with an ominous report from one of these photo-recce pilots who had sighted a mass formation of approximately twenty-four Me 262's flying in formation south-west of Trier. Allied fighter and fighter bombers continued to make life as unpleasant as possible during the closing months of the war by constantly strafing and bombing the Me 262 bases in an attempt to keep them unserviceable. *K.G.(J)54* suffered what is thought to have been its first operational loss during one of these attacks. A P-51 of the 55th Fighter Group caught a lone Me 262 taking off from Giebelstadt airfield and shot it down. Typical of the intensity of this type of operation was the loss of an Me 262 from *III/J.G.7* a few days later. The pilot of Me 262 Werk. Nr. 130180 (Red 13), had taken off in company with others to attack a bomber formation but had been forced to abandon the mission due to a fuel leak which led to the starboard engine being shut down. By this time Parchim airfield was under attack and

Hans Fay's Me 262A-2a at Rhine-Main airfield in its original form complete with bomb racks.

A captured Me 262A-1a.

the pilot requested permission to land at Brandenburg-Briest but this was refused and he was ordered to land instead at Neuruppin. However, Allied fighter formations were present in large numbers there also and within a few minutes the Me 262 was spiralling down in flames with the wounded pilot drifting down by parachute.

Despite these attacks the Me 262 continued to appear in ever increasing numbers, a photo-recce Mosquito and its fighter escort being attacked by fourteen of them over Stettin on January 21st. The ensuing action continued for ten minutes without either side scoring, the P-51's turning into the Me 262's each time to break up their attacks and the Me 262's using their superior speed to upset the aim of the P-51 pilots. In their attempts to reduce the growing jet menace the Allies did not lose sight of the source of the trouble, the factories producing them, and on February 15th, B-24's of the 15th Air Force attacked those in the Regensburg area destroying twenty-three machines on the ground. These plants were not always easy to find for they were well dispersed. At least seven airfields were known to have been used for the final assembly and acceptance testing of Me 262's. These were Kitzingen, Leipheim, Neuburg, Obertraubling, Schwabisch Hall, Memmingen and Landsberg, the last two being used solely for acceptance testing. Neuburg was particularly suitable as it had a 2,200 yards concrete runway and the bulk of the acceptance pilots received their training there as well as the former bomber pilots in the *Erganzungsgruppen* of *K.G.40, K.G.51* and *K.G.54.*

The constant bombing and the chronic shortage of fuel played havoc with production, the Schwabisch Hall plant being held up for days by the lack of fuel for the trucks which were used to pick up the Jumo jet engines from the Junkers plant at Muldenstein. During March several very effective bombing raids were carried out and large numbers of Me 262's were destroyed, approximately sixty at Obertraubling and thirty at Leipheim. However, the raid on Neuburg was the most devastating, almost all the ground equipment and installations plus most of the tools and spare engines being destroyed along with eighty to one hundred Me 262's. Approximately sixty of these belonged to the *Erganzungsgruppen* while the remainder were fairly evenly distributed between the acceptance unit and the final assembly plant at Zell. Among the units bombed out during this raid was the *Fuehrerkurrierstaffel* under *Hauptman* Talk.

Me 262A-2a of 1/K.G.51 at Achmer, spring, 1945. The fuselage letter "Y" was white as were also the tips of the fin, rudder and nose cone.

The final assembly line at Obertraubling after a bombing attack by the 15th U.S.A.A.F.

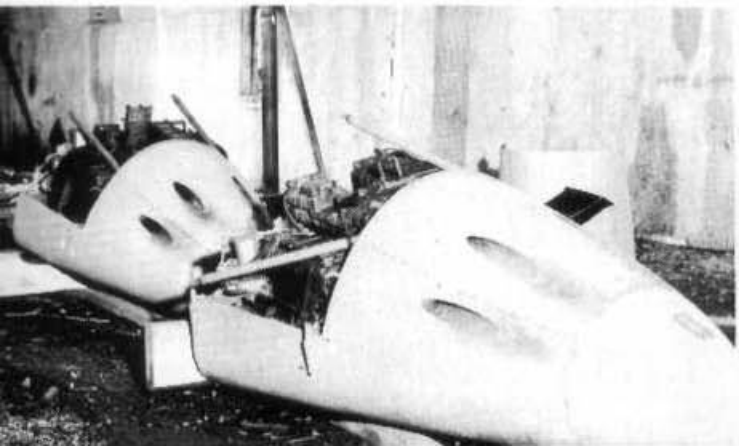
These raids had an interesting consequence for the Allies. Due to the rapid advance of the ground forces twenty-two Me 262's were in danger of being captured at Schwabisch Hall and at first it had been decided to destroy them as the runways were unserviceable. However, sufficient last minute repairs were made to allow the aircraft to be flown out to Neuburg. Among the pilots was one named Hans Fay. At approximately 1345 hours on March 30th the occupying troops were surprised to see a strange German aircraft circling the Rhein-Main airfield. Selecting the only remaining strip between the bomb craters the pilot brought his Me 262 in for a perfect landing. Hans Fay, a veteran test pilot and technical inspector, had just delivered the first fully operational Me 262 into Allied hands. Fay and his family were strongly anti-Nazi and had barely managed to keep out of trouble. He had been planning his escape for some months, only waiting for the Allied ground forces to occupy his parents' home town of Lachen Speyerdorf to ensure that no reprisals could be taken against them. The opportunity finally occurred in March and he took advantage of the ferry flight to carry out his plan. He was fourth to take off and on gaining altitude retracted his undercarriage only to find that it would not lock properly into place. Going down to approximately 400 feet he flew on with the undercarriage fully extended and landed at Rhein-Main as he doubted his ability to reach Lachen Speyerdorf.

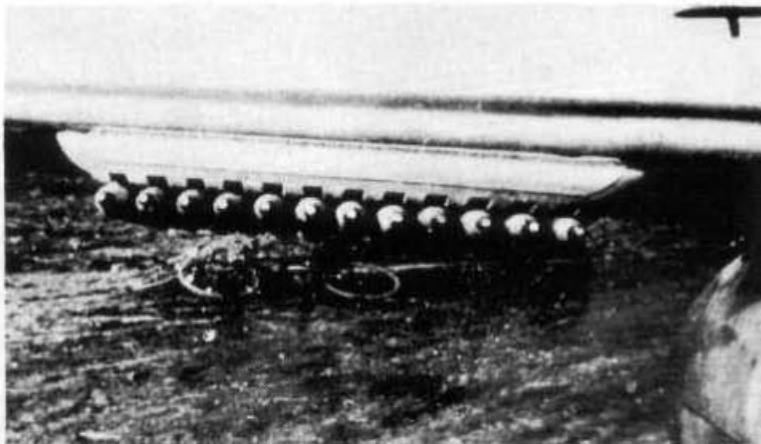
February 25th was a black day for the Me 262's of *I/K.G.(J)54*. At Giebelstadt a flight of P-51's of the 38th Squadron of the 55th Fighter Group caught them by surprise just as they were taking off. Despite the very accurate and intense flak the P-51's shot down six of the Me 262's in rapid succession. Twenty minutes later the leader of the P-51 flight destroyed a second Me 262 over Leipheim airfield. A seventh Me 262 was also lost that day, falling to the guns of a 334th Fighter Squadron aircraft near Naunberg.

March saw the German jets in action with a vengeance, making well co-ordinated and aggressive attacks on the heavy bomber formations. They also exhibited a change of tactics, pressing home their attacks exclusively against the bombers and avoiding the fighter escorts unless it was absolutely necessary. Typical of this type of operation was the use of some thirty-five Me 262's in a concentrated attack on the 8th Air Force bombers over Dresden on March 1st. These attacks soon began to take their toll of the bombers, the Me 262's having a particularly successful day on March 18th when thirty-seven of them attacked and destroyed thirteen heavy bombers plus two probables in the Berlin area for the loss of two of their own number. Retaliation for these mounting losses came on March 21st when the bombers of the 8th Air Force began a systematic bombing programme against all known airfields capable of operating jet aircraft. These brought an equally strong reaction from the Me 262's and thus the tempo of operations increased accordingly.

The R.A.F. although principally a night bomber force also operated on many occasions in daylight during the closing months of the war. March 30th was one such day, a mixed force of four hundred and sixty Lancaster and

Left: The shattered remains of two nose sections at Obertraubling. The compact cannon installation is readily apparent. Right: R4M rocket installation on Me 262A-1b.





Too few . . . too late.

Halifax heavy bombers having been despatched to attack the U-boat construction yards at Hamburg. The last wave of the attacking force was composed of aircraft from No. 6 Canadian Group and they arrived over the target at the same time as approximately twelve Me 262's of *III/J.G.7*. The bombers were flying in a loose stream formation and the fighter escort had already withdrawn. The results were disastrous. Sweeping in, the Me 262's savagely mauled the British heavies with their cannon and R$_1$M rockets, ten bombers being destroyed and six of them going down in the space of three minutes. The action was not entirely one-sided, at least one Me 262 going down in flames and several others being damaged or possibly destroyed.

The jet struggle reached its peak in April and then ebbed away, many of the veteran Me 262 pilots succumbing during these last few weeks of the war. *Major* Sinner of *III/J.G.7* fell to the guns of a flight of P-51's on April 4th near Parchim, five other Me 262's being lost from various units the same day. *Oberleutnant* Wolfgang Spate took over command in Sinner's place. However, the blackest day in the Me 262's history was April 10th, no less than twenty being destroyed by fighters and approximately another ten falling to the guns of the heavy bombers. This was poor consolation for their score of ten American bombers. These losses brought about the reduction of Me 262 operations and many of the smaller and partly formed units were disbanded, among them *I/J.G.7* and *I/K.G.(J)54* the aircraft being flown to Munchen-Riem and handed over to *J.V.44* which helped to swell the numbers of the latter unit to ninety-five aircraft.

Upper and lower Me 262A-2a, Werk. Nr. 111690, ex K.G. 51, which was tested at Farnborough post-war.

On April 25th the American and Russian forces met at the Elbe and the German front in Italy collapsed. The next day Galland led the unit on what turned out to be his last operational flight, and command of it passed to his successor Heinz Bar. A few days later the unit made its last move when approximately sixty of its aircraft flew to the airfield at Salzburg-Maxglan. Orders came from the *Reichs Chancellery* and the *Lutfwaffe* staff at Berchtesgaden to transfer the unit to Prague from whence it was supposed to participate in the defence of Berlin, but the situation was already hopeless.

On May 3rd *J.V.44's* aircraft were lined up in the open on the airfield, while overhead American fighters circled. But this time they did not attack; the end was near. Saltzburg stood ready to capitulate to General Dever's army which was approaching the town. As the first of the tanks rolled over the boundary of the airfield *J.V.44's* Me 262's went up in flames.

As stated earlier the exact numbers of Me 262's used in combat is still unknown. Some one hundred destroyed by U.S.A.A.F. fighters, another thirty accounted for by British fighters and at a conservative estimate another ten destroyed by heavy bombers give at least some idea of the extensive use made of this radical fighter. And so the short and meteoric career of this highly advanced aircraft came to an abrupt close. It had succumbed to an old formula: too few, too late.

ACKNOWLEDGEMENT

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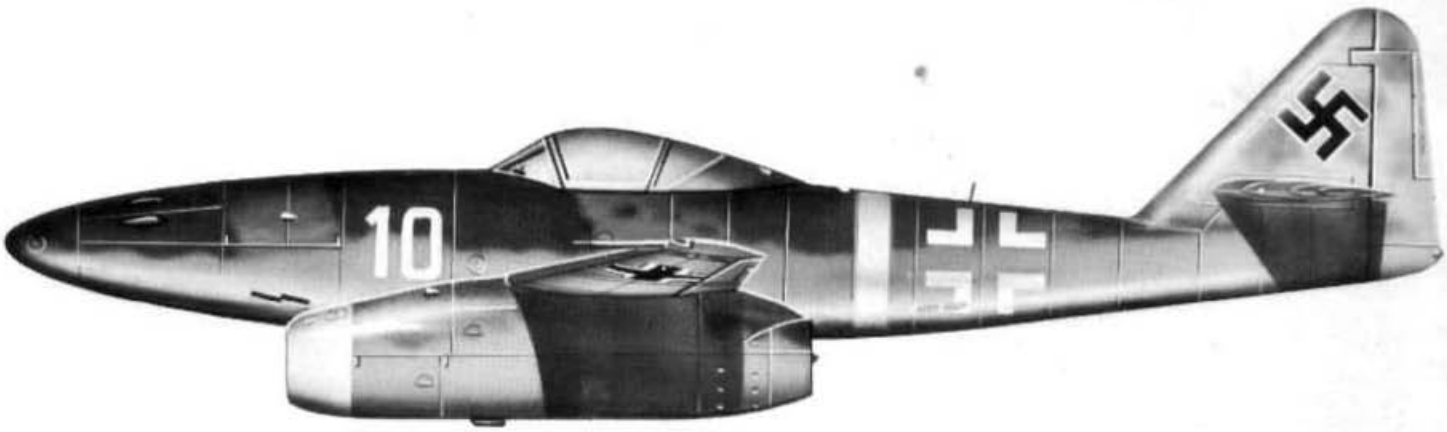
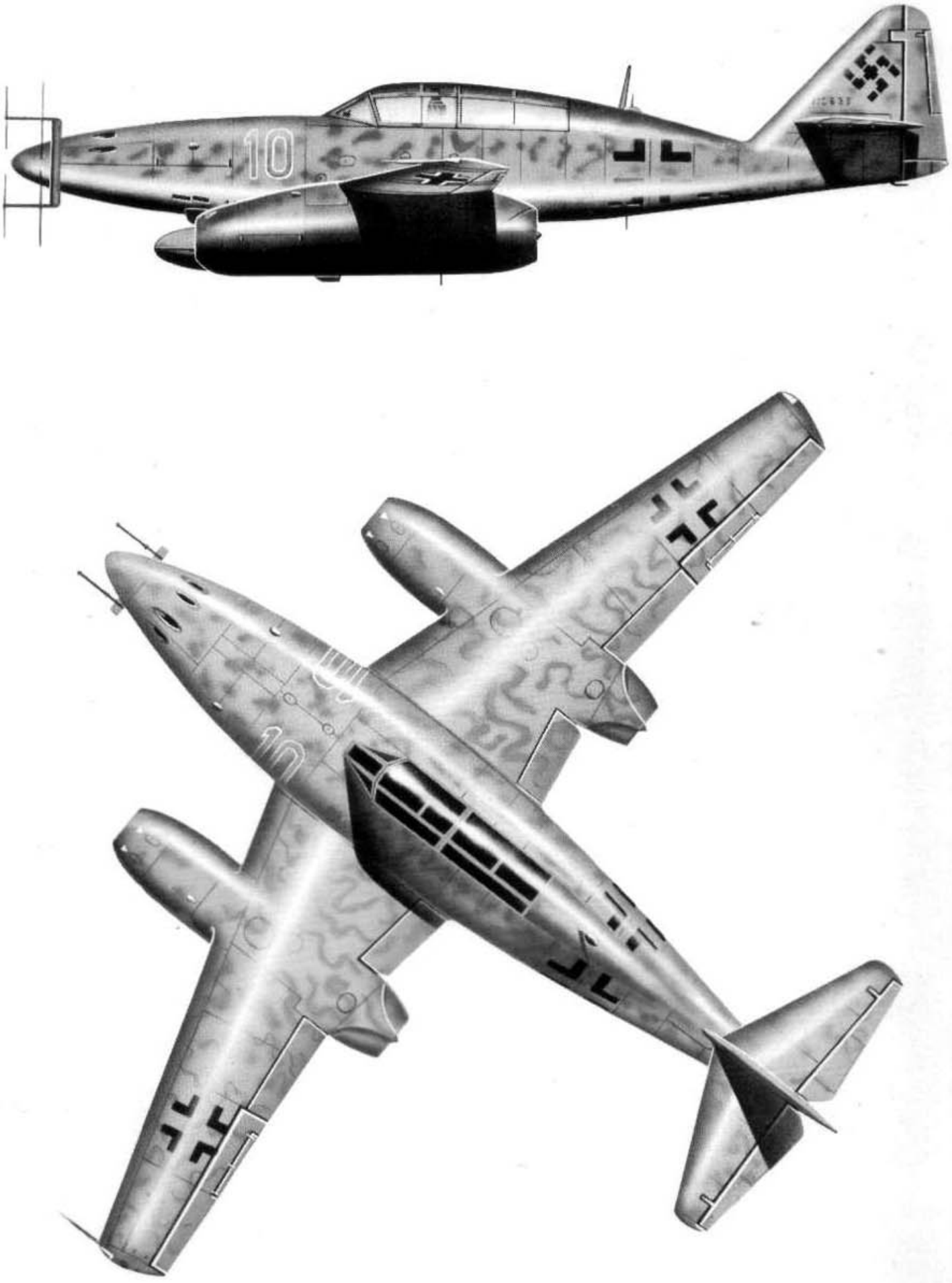
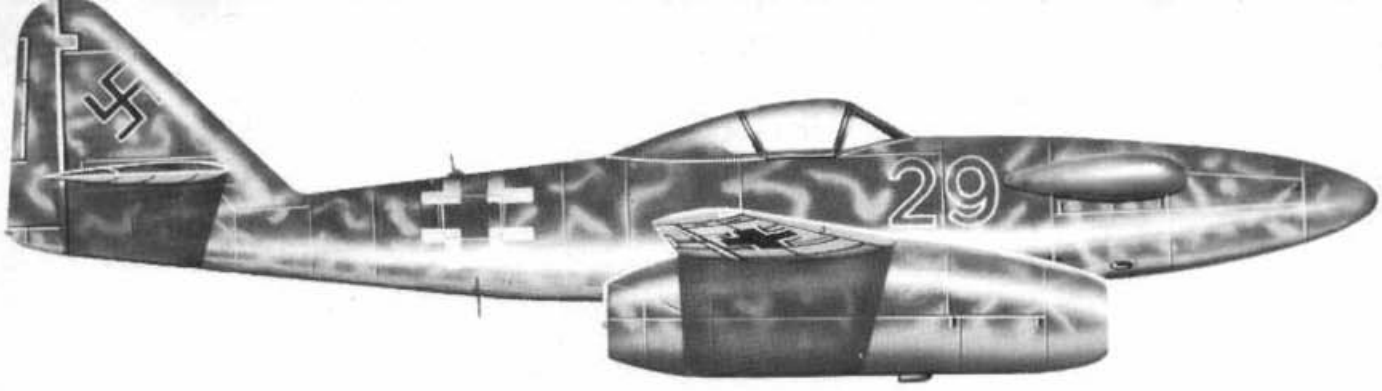
CAMOUFLAGE AND MARKINGS



An Me 262A-1a interceptor with a softly merging splinter pattern of dark olive green and blackish green on upper surfaces. Sides of the fuselage and fin were finished in blue grey which almost merged into the pale blue grey undersurfaces. Over this base colour mottled patches of dark blue grey were applied. The identification number was white with engine cowlings and fuselage band in yellow.



This Me 262B-1a/U1 of N.J.G.11 was finished in an overall base colour of pale whitish grey on upper surfaces over which dark grey was applied in the form of mottling on the fuselage and soft edged wavy lines on the wings and tailplane. Lower surfaces and sides of cowl were matt black, this being a washable temporary distemper. The red number 10 on the nose was thinly outlined in white.



The Me 262's of *K.G.51* used for the most part a type of colour scheme more appropriate to the heavier *Luftwaffe* aircraft. The main scheme of dark greens for the upper surfaces was in no way different to other Me 262's similarly finished but the method of blending them with the pale blue grey of the undersurface was. Instead of using the normal mottling methods on the sides of the fuselage and engine cowls the individual colours were blended by the use of soft wavy lines. The upper surfaces of the wings and tailplane were finished in the normal splinter type pattern but the dark olive green areas were oversprayed with blackish green mottling. Naturally not all the aircraft of this unit were finished in this fashion but most of them exhibited some vestige of this type of colour application.

The Me 262B-1a illustrated carried a more standard scheme of dark olive green and blackish green in a splinter pattern on the upper surfaces blending with the aid of blackish green mottling into the pale blue grey of the undersurfaces and fuselage sides. The nose cones of the engines and the band around the lower nose section were white as was also the skeleton number on the fuselage.

Single seat versions of the Me 262, as recorded earlier were used on occasions for night fighting duties and generally these machines were left in their normal day fighter camouflage. However, with the advent of the specialized Me 262B-1a/U1 the more normal current night fighter finish was applied to them. This scheme is illustrated by the Me 262B-1a/U1 of *N.J.G.II* shown opposite.

National Markings

The early prototypes appeared at a time when the standard national insignia was a black cross with a white surround edged in black. The swastika on the tail unit was also of the black, white bordered type. As the war progressed and colour schemes changed so also did the national insignia, becoming in most cases a white outlined type on the wing upper surfaces and fuselage sides. However, as far as can be ascertained the original type of black, white, black cross remained continuously in use on the undersurfaces of Me 262 wings throughout the war years regardless of their finish. The swastika, for the most part also remained unchanged, but occasional exceptions occurred as illustrated in some of the tone drawings.

In the closing stages of the war conditions became chaotic and in consequence some production Me 262's achieved brief operational status in bare metal finish. In these cases all national markings with the exception of those under the wings were of the black outlined type, the swastika being solid black.

Equipment Markings

All fuel and oil filling points were marked with a distinctive yellow triangle outlined in red and carrying the appropriate identifying marks in black in the centre of the triangle. Most Me 262's carried a line of small black rectangles underneath the nose section, the exact position varying slightly from machine to machine. A few carried it on the actual nose cone but the majority had it just behind the joint line on the main fuselage. A similar set of black rectangles appeared immediately beneath the rear fuselage-tail unit joint line. These markings denoted the position of the two fuselage jacking points and carried the appropriate instructional marking alongside. A similar type of marking, a broken black circle appeared on both sides of the engine cowlings on some Me 262's, the exact position once more varying slightly from aircraft to aircraft. It is believed that this was a form of datum marking. Serial numbers were applied across the fin just above the tailplane and generally appeared as a six-number combination in black, but as always there were exceptions. The last three numbers were also repeated on occasions on the nose cone or the nosewheel door. Unit markings among the *Kampfgeschwaderen* were rather unique in that the usual practice of the four-letter numeral combination was not adhered to. Instead a single letter or occasionally a number was applied between the trailing edge of the wing and the tailplane. The fighter, photo-recce and training machines usually carried a number on the side of the fuselage just forward of the wing leading edge.